Leasehold Mortgagee's Obligations During Foreclosure Period. As a condition to exercising its rights under the Leasehold Mortgage, the Leasehold Mortgagee must pay to the Port Authority all accrued but unpaid Company's Aggregate Port Authority Lease Obligations at the time the Leasehold Mortgagee delivers the Foreclosure Notice. Further, the Leasehold Mortgagee will thereafter be responsible for paying all current Company's Aggregate Port Authority Lease Obligations not paid by the Company under the Port Authority Lease from and after the date it elects to enforce its rights under the Leasehold Mortgage. See "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Conditions Precedent to Foreclosure—Foreclosure Period Payments.*" Pursuant to the Indenture, the Agency will establish a Foreclosure Payment Account held in the Mortgage Reserve Fund to be funded by the Company at the time the Company delivers the executed Leasehold Mortgage to the Trustee following satisfaction of the Reletting Rights Effective Date Conditions. See "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Conditions Precedent to Foreclosure—Foreclosure Period Payments,*" APPENDIX C—"SUMMARY OF CERTAIN PROVISIONS OF THE IDA LEASE AGREEMENT— Particular Covenants—*Certain Covenants with Respect to the Port Authority Lease, the Leasehold Mortgage, the City Attornment Agreement, the New City/American Lease and the Agreement Towards Entering Into a Lease*" and APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Mortgage Reserve Fund.*" There is no assurance, however, that the Company will have the funds necessary to fund the Foreclosure Payment Account of the Mortgage Reserve Fund. The amount required to be deposited in the Foreclosure Payment Account of the Mortgage Reserve Fund is estimated to be equal to three months of the Company's Aggregate Port Authority Lease Obligations in 2006, based on various assumptions. Amounts in the Foreclosure Payment Account may be used to preserve the rights of the Leasehold Mortgagee under the Port Authority Lease while the Leasehold Mortgagee is attempting to locate a Qualifying Replacement Tenant for the Premises (which might thereafter assume any further obligations that would accrue during the Foreclosure Period to preserve the effectiveness of the Leasehold Mortgage until it can gain possession of the Premises). Amounts required to be paid by the Company under the Port Authority Lease may be highly variable and are expected to increase over time, and after the earlier to occur of (i) December 22, 2031 and (ii) the 25th anniversary of the Redevelopment Work Completion Date, the rent payable by the Company under the Port Authority Lease will increase significantly. There can be no assurance that the Foreclosure Payment Account of the Mortgage Reserve Fund will, in fact, be adequate for its purpose, or that any Qualifying Replacement Tenant, if located, would be willing to assume any such further obligations that accrue during the Foreclosure Period. If the Foreclosure Payment Account of the Mortgage Reserve Fund is not sufficient, the Bondholders may be compelled to choose between providing additional funds to the Leasehold Mortgagee for that purpose on the one hand and losing their rights under the Leasehold Mortgage on the other hand.

One Time Right. The provisions of the Port Authority Lease governing the Leasehold Mortgage permit the Company to grant the Leasehold Mortgage one time only. Once the Leasehold Mortgagee begins to exercise its Reletting Rights, those Reletting Rights can never be exercised again whether or not a Qualifying Replacement Tenant is selected by the Leasehold Mortgagee and approved by the Port Authority. Once the Foreclosure Period begins, any failure of the Leasehold Mortgagee to file any notices, to make any payments or to comply with any

other relevant provision of the Port Authority Lease will terminate the Reletting Rights forever. In addition, the Port Authority Lease provides that subsequent tenants will not be allowed to mortgage their interests in the Premises. Thus, the Leasehold Mortgagee and the Bondholders will have no further rights or interests in the Premises following the assignment of the rights and obligations of the Company under the Port Authority Lease to a Qualifying Replacement Tenant.

Uncertain Gate Demand; Availability of Competing Facilities. The likelihood that the Leasehold Mortgagee would be able to find a Qualifying Replacement Tenant for the Premises would be affected by the supply of and demand for gates at the Airport and in the greater New York area. Such supply and demand cannot be predicted at this time and could be affected by such factors as an economic downturn in the area at the time the Leasehold Mortgagee is seeking a Qualifying Replacement Tenant. In addition, the requirements that any Qualifying Replacement Tenant for the Premises make certain payments as discussed further below under "*—Assumption of Bond Obligations*" and "*—Payment of Deferred Reletting Fee to the Port Authority*," particularly if competing facilities are available without those payment requirements, could make it difficult for the Leasehold Mortgagee to locate a Qualifying Replacement Tenant for the Premises. In any event, no assurance can be given as to whether the Leasehold Mortgagee can obtain a Qualifying Replacement Tenant.

See the Gate Demand Study prepared by Simat, Helliesen & Eichner, Inc. attached hereto as Appendix J. The assumptions, findings and opinions contained in the Gate Demand Study have not been adopted by, and do not necessarily represent the opinions or views of, the Agency or the Company.

Assumption of Bond Obligations. Finding a successor tenant that is willing to satisfy all payment requirements of a Qualifying Replacement Tenant and that also will assume all or part of the obligation to pay the Bonds then outstanding would be difficult, especially if there are other facilities available at the Airport. Also, such potential successor tenant could lease the Premises from the Port Authority at the end of the Foreclosure Period (up to 720 days) without making any such payments. A Qualifying Replacement Tenant is not required to assume all or any part of the obligation to pay the Bonds.

Requirement for Single Successor Tenant or Consortium of Tenants. The Port Authority Lease provides that the Leasehold Mortgagee may assign the Port Authority Lease only to a single tenant or to a consortium of tenants, each of which is jointly and severally responsible for the consortium's liabilities and meets certain requirements described under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Obligations of Qualifying Replacement Tenant; Qualification Standards,*" but not to multiple tenants that are not part of a consortium. This limits the availability of potential Qualifying Replacement Tenants.

Payment of Deferred Reletting Fee to the Port Authority. As a condition to assuming the Company's rights and interests with respect to the Premises, the Leasehold Mortgagee or a Qualifying Replacement Tenant must pay to the Port Authority at the time of such assumption a deferred reletting fee. See "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Obligations of Qualifying Replacement Tenant; Qualification Standards—Payment of Accrued Company Obligations and Deferred Reletting Fee.*" This fee, and the fact that the

Port Authority could lease the same property to the same tenant immediately following the expiration of the term of the Foreclosure Period under the Leasehold Mortgage (*i.e.*, up to 720 days) without regard to this fee, could impair the ability of the Leasehold Mortgagee to find a Qualifying Replacement Tenant willing to assume the Company's obligations with respect to the Leased Facilities under the IDA Lease Agreement and the Port Authority Lease.

Limitations on Successor Tenants. Any proposed replacement tenant is subject to approval of the Port Authority. In addition, both the Agreement Towards Entering Into a Lease and the City Attornment Agreement are subject to termination, at the option of the City, if a Qualifying Replacement Tenant succeeds to the Company's leasehold interest in the Port Authority Lease and such Qualifying Replacement Tenant has not been approved by the City. See APPENDIX H—"SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT TOWARDS ENTERING INTO A LEASE AND THE CITY ATTORNMENT AGREEMENT—Summary of Certain Provisions of the Agreement Towards Entering Into a Lease." As described above under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Obligations of Qualifying Replacement Tenant; Qualification Standards,*" the Port Authority is entitled to consider a number of factors in determining whether to provide its consent to a proposed replacement tenant selected by the Leasehold Mortgagee. Some of the factors the Port Authority may consider in deciding whether to approve a proposed replacement tenant provide the Port Authority with significant discretion to reject any proposed replacement tenant who is otherwise willing and able to assume the Company's rights and obligations under the Port Authority Lease with respect to the Premises.

Certain Considerations under the United States Bankruptcy Code

Bankruptcy of Company. In the event a bankruptcy case is filed with respect to the Company, a bankruptcy court could determine that the IDA Lease Agreement is an executory contract or unexpired lease pursuant to Section 365 of the United States Bankruptcy Code. In that event, a trustee in bankruptcy or the Company as a debtor-in-possession might reject the IDA Lease Agreement. Any rejection of the IDA Lease Agreement could result in a claim for damages against the Company in connection with the Series 2002 Bonds and all Additional Bonds, which claim would rank as that of a general unsecured creditor of the Company. If the IDA Lease Agreement were determined to be an unexpired lease of non-residential real property, under Section 502(b)(6) of the United States Bankruptcy Code the amount of such corresponding claim would be limited to the rent payable under the IDA Lease Agreement (without acceleration) for the greater of one year or 15% of the remaining term of the IDA Lease Agreement, but not to exceed three years, following the earlier of (a) the date the bankruptcy petition was filed, and (b) the date on which the Agency repossessed or the Company surrendered the Leased Facilities under the IDA Lease Agreement, plus any unpaid rentals under the IDA Lease Agreement (without acceleration) on the earlier of such dates. In this event, any claim with respect to Series 2002 Bonds and Additional Bonds that does not mature (absent acceleration) within the period of one year or 15% of the remaining term of the IDA Lease Agreement (but not in excess of three years) following the bankruptcy commencement date (*i.e.*, the earlier of (a) or (b) above) could be limited to the interest which would accrue on such Series 2002 Bonds during such period and may not permit a claim for the recovery of principal since it is anticipated that there will be no principal amortization of the Series 2002 Bonds and any

Additional Bonds until August 1, 2012. As a result, owners of the Series 2002 Bonds could suffer a substantial loss with respect to their investment in the Series 2002 Bonds. Moreover, even if the IDA Lease Agreement is not found to be an executory contract or unexpired lease, the treatment accorded the claim represented by the IDA Lease Agreement in the bankruptcy, through a plan of reorganization or otherwise, could adversely affect the funds available to pay the Series 2002 Bonds.

Pursuant to the terms of the Guaranties, the Company and AMR have separately unconditionally guaranteed to the Trustee, for the benefit of the owners of the Series 2002 Bonds and all Additional Bonds, the full and prompt payment of the principal and purchase price of, and premium, if any, on the Bonds when and as the same shall become due and payable as provided in the Indenture, whether at the stated maturity thereof, by redemption, acceleration or otherwise, and the full and prompt payment of the interest on the Bonds when and as the same shall become due and payable as provided in the Indenture. See APPENDIX E—"SUMMARY OF CERTAIN PROVISIONS OF THE GUARANTIES." The obligations covered by the Guaranties are intended by the parties to be independent of those set out in the IDA Lease Agreement (and thereby not subject to United States Bankruptcy Code limitations on claims for damages with respect to non-residential real property leases described above) and to be enforceable without regard to the validity or enforceability of the IDA Lease Agreement or any obligation of the Company contained therein. In the event a bankruptcy case were filed with respect to the Company or AMR, the Trustee may file a claim pursuant to the applicable Guaranty, independent of any claim under the IDA Lease Agreement, for the payment of all amounts, if any, required for the payment of the principal and purchase price of, premium, if any, and interest on the Bonds when due. Such claim, if allowed, would rank as that of a general unsecured creditor of the Company or AMR, respectively, unless the Leasehold Mortgage has become effective. A bankruptcy court could determine, however, that the Trustee's claim under the applicable Guaranty or the Guaranties should be limited to the same extent as the United States Bankruptcy Code limitation of claims for termination damages with respect to non-residential real property leases described above in connection with a claim under the IDA Lease Agreement and the Leasehold Mortgage would secure only such limited obligations of the Company and AMR. No assurance can be given that the Trustee's claims in connection with the applicable Guaranty or the Guaranties would not be so limited. In such an event, the applicable Guaranty or the Guaranties would provide no additional security for payments due on the Series 2002 Bonds.

No representation or warranty is made by the Company, AMR or any other party that any claim under the IDA Lease Agreement or the Guaranties will be allowed or that any recovery on any such claim will be permitted under the United States Bankruptcy Code. AMR is a holding company with no direct operations and no significant assets other than the stock of its subsidiaries. Therefore, in the event of a bankruptcy filing or monetary default by the Company, the value of the AMR Guaranty may be adversely affected.

If after the date, if any, that (i) the Leasehold Mortgage is recorded, or (ii) a new leasehold mortgage is executed and recorded covering the New City/American Lease, a bankruptcy case is filed with respect to the Company, a bankruptcy court could determine that the grant of the Leasehold Mortgage with respect to either the Port Authority Lease or the New

City/American Lease constituted a preference or a fraudulent transfer under the United States Bankruptcy Code and, therefore, the grant of the Leasehold Mortgage with respect to the Port Authority Lease or the New City/American Lease, as applicable, could be avoided or set aside. In addition, in either such a bankruptcy proceeding or a state court proceeding by an unpaid creditor, a court could find that the grant of the Leasehold Mortgage with respect to either the Port Authority Lease or the New City/American Lease constituted a fraudulent conveyance under state fraudulent conveyance laws and, therefore, the grant of the Leasehold Mortgage with respect to either the Port Authority Lease or the New City/American Lease, as applicable, could be avoided or set aside. The time periods applicable to preferences under the United States Bankruptcy Code, fraudulent transfer under the United States Bankruptcy Code and fraudulent conveyances under state law vary and therefore, if one or two such time periods have expired but at least one time period remains open, such mortgage grant remains subject to avoidance or set aside. Moreover, there is no assurance as to what standard a court would apply to determine if the Company was solvent at the relevant time period. In the event that the Leasehold Mortgage is avoided or set aside, the Company's and AMR's obligations under the respective Guaranties will not be secured by any leasehold mortgage of the Company's interest in the Premises and the only source of payment of the Bonds (including the Series 2002 Bonds) or recourse will be (i) the Equipment Security Agreement, (ii) the unsecured obligations of the Company under the IDA Lease Agreement and the Company Guaranty and (iii) the unsecured obligation of AMR under the AMR Guaranty.

Bankruptcy of City. The New York Local Finance Law (McKinney's Local Finance Law) currently authorizes the City to be a debtor under the applicable provisions of the United States Bankruptcy Code with respect to municipalities. If the City should file a proceeding under Chapter 9 of the United States Bankruptcy Code, it is possible that actions could be taken in that case, despite the existence of Section 929 of the United States Bankruptcy Code, which would impact or alter the Basic Lease, the Agreement Towards Entering Into a Lease, the City Attornment Agreement or, if in effect, the New City/American Lease. Such actions could adversely affect the security for the Series 2002 Bonds.

Possible Loss of Tax-Exempt Status of Interest on Series 2002 Bonds

On the date of delivery of and payment for the Series 2002 Bonds, Bond Counsel will render its opinion with respect to the tax-exempt status of the interest on the Series 2002 Bonds, the form of which opinion is set forth in APPENDIX I—"FORM OF OPINION OF BOND COUNSEL." See also "TAX MATTERS."

In the event the interest (and any original issue discount) on the Series 2002 Bonds is determined to be includable in gross income of holders or Beneficial Owners of the Series 2002 Bonds for federal tax purposes, the Series 2002 Bonds will be subject to mandatory redemption as described under "THE SERIES 2002 BONDS—Redemption Prior to Maturity—*Mandatory Redemption Without Premium Upon the Occurrence of a Determination of Taxability.*" In such event, there will be no adjustment in the interest rate on the Series 2002 Bonds and the owners will not be indemnified against losses sustained as a result of a determination that the interest (and any original issue discount) on the Series 2002 Bonds is not excludable from gross income for federal income tax purposes. Further, a determination that the interest (and any original issue

discount) on the Series 2002 Bonds is includable in gross income of the holders or Beneficial Owners may not occur for a substantial period of time after interest (and any original issue discount) first becomes includable in the gross income of the owners thereof for federal income tax purposes. Additionally, if the lien of the Indenture has been defeased pursuant to the provisions thereof summarized in Appendix D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Discharge of Indenture," the Series 2002 Bonds will not be subject to mandatory redemption upon the occurrence of a Determination of Taxability.

The loss of the exclusion of the interest (and any original issue discount) on any Series 2002 Bonds from gross income of the owners thereof for federal income tax purposes could be retroactive to the date of issuance of the Series 2002 Bonds. The tax liability of the owners of any Series 2002 Bonds for failure to include interest (and any original issue discount) on such Series 2002 Bonds in their gross income may extend to years for which interest (and any original issue discount) was received or accrued on such Series 2002 Bonds, or some portion thereof, and for which the relevant statute of limitations has not yet run. If all of the Series 2002 Bonds are redeemed as described under "THE SERIES 2002 BONDS—Redemption Prior to Maturity," then the failure by the Company to observe or perform a covenant or agreement in the IDA Lease Agreement or the inaccuracy of any representation or warranty made by the Company in the IDA Lease Agreement or the Series 2002 Tax Certificate (as defined in the first paragraph under "TAX MATTERS"), either of which results in a Determination of Taxability, shall not constitute an Event of Default under the IDA Lease Agreement or the Indenture and payment of the redemption price specified above shall constitute full and complete payment and satisfaction to the owners of the Series 2002 Bonds for any claims, damages, costs or expenses arising out of or based upon such failure by the Company.

TAX MATTERS

The Internal Revenue Code of 1986, as amended, and the temporary, proposed or final regulations promulgated thereunder (the *"Code"*) establishes certain requirements that must be met subsequent to the issuance and delivery of the Series 2002 Bonds in order that interest on the Series 2002 Bonds be and remain not includable in gross income of the Bondholders for federal income tax purposes pursuant to Section 103 of the Code. These continuing requirements include certain restrictions and prohibitions on the use of the proceeds of the Series 2002 Bonds and the Leased Facilities, restrictions on the investment of proceeds and other amounts and the rebate to the United States of certain earnings in respect of such investments. Pursuant to the Agency's and the Company's Series 2002 Tax Certificate as to Arbitrage and the Provisions of Sections 103 and 141-150 of the Internal Revenue Code of 1986, and accompanying attachments, executed by the Company dated the date of issuance of the Series 2002 Bonds (the *"Series 2002 Tax Certificate"*), the Company will make certain representations, certifications and covenants relating to such non-inclusion in gross income. The IDA Lease Agreement and the Series 2002 Tax Certificate will obligate the Company to do and perform all acts and things necessary and within its control to assure that interest on the Series 2002 Bonds not be included in gross income pursuant to Section 103 of the Code. Noncompliance with current requirements or future amendments may cause interest on the Series 2002 Bonds to become subject to federal income taxes retroactive to their date of issue, irrespective of the date on which such noncompliance occurs or is ascertained. **In the event of a Determination of Taxability, the**

Series 2002 Bonds are subject to mandatory redemption (unless the lien of the Indenture has been defeased) without interest rate adjustment and Bondholders will not be indemnified against losses (including but not limited to tax deficiencies, interest and penalties) sustained as a result of such Determination of Taxability. See "RISK FACTORS—Possible Loss of Tax-Exempt Status of Interest on Series 2002 Bonds."

In the opinion of Winston & Strawn, New York, New York, Bond Counsel, under existing statutes and court decisions and assuming continuing compliance by the Agency and the Company (and their successors) with covenants and the accuracy of the representations and certifications referenced above, interest on the Series 2002 Bonds will not be included in gross income for federal income tax purposes pursuant to Section 103 of the Code. Under the Code, however, such interest is treated as a preference item to be included in calculating alternative minimum taxable income for purposes of the alternative minimum tax imposed with respect to individuals and corporations. No opinion is expressed by Bond Counsel as to the non-inclusion of interest on any Series 2002 Bond in gross income during the period that such Series 2002 Bond is held by a "substantial user" of the Facility or a "related person" within the meaning of Section 147(a) of the Code.

In rendering the opinion described above with respect to the Series 2002 Bonds, Bond Counsel has relied upon and assumed the material accuracy of the representations, statements of intention and reasonable expectations and certifications of fact and compliance with covenants contained in the IDA Lease Agreement and the Series 2002 Tax Certificate, each to be delivered on the date of original issuance of the Series 2002 Bonds with respect to matters affecting the non-inclusion in gross income of interest on the Series 2002 Bonds for purposes of federal income taxation.

In addition, certain requirements and procedures contained or referred to in the Indenture, the IDA Lease Agreement, the Series 2002 Tax Certificate and other relevant documents and certificates may be changed and certain actions may be taken subsequent to the date of issue, under the circumstances and subject to the terms and conditions set forth in such documents or certificates, upon the advice or with the approving opinion of nationally recognized bond counsel. Winston & Strawn expresses no opinion as to the impact of any such change or action on the tax-exempt status of interest on any Series 2002 Bond if such change occurs or action is taken upon the advice or approval of bond counsel other than Winston & Strawn.

Under the Code, interest on the Series 2002 Bonds is to be taken into account in the computation of the foreign branch profits tax.

The Code further provides that interest on the Series 2002 Bonds is includable in the calculation of modified adjusted gross income in determining whether a portion of Social Security or railroad retirement payments are to be included in the taxable income of individuals.

The Code also imposes a tax on excess net passive income of certain S Corporations that have subchapter C earnings and profits. Passive investment income includes interest on tax exempt obligations. Moreover, the Code denies a deduction for interest on indebtedness incurred or continued to purchase or carry tax exempt obligations such as the Series 2002 Bonds.

The foregoing is not intended as an exhaustive list of potential collateral tax consequences of the ownership of, accrual or receipt of interest on or disposition of tax-exempt obligations such as the Series 2002 Bonds. Bondholders should consult their tax advisors with respect to the calculations of alternative minimum tax, foreign branch profits tax liability, the taxation of net passive income of S Corporations, collateral effects upon financial institutions and property and casualty insurance companies, the impact on the earned income credit, the deductibility of interest on obligations incurred or continued to purchase or carry the Series 2002 Bonds or the inclusion of Social Security or other retirement payments in taxable income. Bond Counsel expresses no opinion regarding any such collateral tax consequences.

The Series 2002 Bonds have been offered to the public at prices less than the principal amount thereof payable at maturity. If the first price at which a substantial amount of the Series 2002 Bonds of the same maturity is sold in the initial offering to the public (excluding bond houses, brokers, or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers) is less than the principal amount thereof payable at maturity, the difference between such price and principal amount constitutes original issue discount in respect of each Series 2002 Bond of the same maturity (the *"Discount Bonds"*). Bond Counsel is of the opinion that original issue discount, as it accrues, is not includable in gross income for federal income tax purposes, and is subject to the alternative minimum tax to the same extent as interest on the Series 2002 Bonds. Original issue discount accrues over the term of the Discount Bonds under the "constant yield method" described in regulations interpreting Section 1272 of the Code. Original issue discount may be treated as continuing to accrue even if payment of the Discount Bonds becomes doubtful in the event the Company encounters financial difficulties. The tax basis of a Discount Bond, if held by an original purchaser, can be determined by adding to such holder's purchase price of such Discount Bond, the original issue discount which has accrued. The portion of the original issue discount on a Discount Bond that accrues in each taxable year is included in the calculation of the alternative minimum tax to the same extent as interest on the Series 2002 Bonds and may have collateral tax consequences for the taxpayers referred to above. Accordingly, owners of Discount Bonds are advised that the accrual of original issue discount could cause an increase in tax liability although no cash will have been received in the year of accrual. Owners of Discount Bonds should consult their own tax advisors with respect to the calculation of the amount of the original issue discount which will be treated for federal income tax purposes as having accrued for any taxable year (or portion thereof) of the owners and with respect to other federal, state and local tax consequences of owning and disposing of the Discount Bonds.

Bond Counsel has not undertaken to advise in the future whether any events occurring after the date of issuance of the Series 2002 Bonds may adversely affect the tax status of interest on the Series 2002 Bonds. The Code has been continuously subject to legislative modifications, amendments and revisions and bills proposing further changes are regularly introduced in the United States Congress. No representation is made as to whether bills adversely affecting the tax-exempt status of interest on governmental obligations, such as the Series 2002 Bonds, or the economic value of owning such obligations, will be introduced or enacted, or if enacted, the effective date of any such legislation, and no assurances can be given that such bills or amendments will not materially and adversely affect the economic value of the Series 2002 Bonds or the federal and state tax consequences of ownership of the Series 2002 Bonds.

In the further opinion of Bond Counsel, interest on the Series 2002 Bonds is also exempt from personal income taxes imposed by the State of New York or any political subdivision thereof (including The City of New York), and the Series 2002 Bonds are exempt from all taxation directly imposed thereon by or under authority of said State, except for transfer and estate taxes.

Reference is made to Appendix I hereto for the proposed form of the approving opinion expected to be rendered by Bond Counsel in connection with the Series 2002 Bonds.

UNDERWRITING

Pursuant to the terms of a Bond Purchase Agreement (the *"Bond Purchase Agreement"*) among the Agency, the Company, AMR and Salomon Smith Barney Inc., as representative of the underwriters (the *"Underwriters"*), the Underwriters have agreed to purchase the Series 2002 Bonds at a purchase price of $475,974,867, which is the par amount of the Series 2002 Bonds less an underwriting discount of $2,625,000 and original issue discount of $24,891,800 plus accrued interest of $3,491,667. The Bond Purchase Agreement provides that the obligation of the Underwriters is subject to certain conditions precedent and that the Underwriters will be obligated to purchase all of the Series 2002 Bonds if any of the Series 2002 Bonds are purchased. The Series 2002 Bonds may be offered and sold to certain dealers (including dealers depositing such Series 2002 Bonds into investment trusts, accounts or funds) and others at prices lower than the initial public offering price. After the initial public offering, the public offering price of the Series 2002 Bonds may be changed from time to time by the Underwriters. The Company and AMR have agreed to indemnify the Underwriters and the Agency against certain liabilities or to contribute to any payments required to be made by the Underwriters relating to such liabilities, including liabilities under the federal securities laws.

In the ordinary course of their respective businesses, the Underwriters and certain of their respective affiliates have engaged, and expect in the future to engage, in commercial banking transactions with the Company and AMR.

CONTINUING DISCLOSURE

The Company and AMR, on the date of issuance of the Series 2002 Bonds, will enter into a Continuing Disclosure Undertaking (the *"Undertaking"*) for the benefit of the beneficial owners of the Series 2002 Bonds. Under the Undertaking, the Company and AMR are required to send certain information annually and provide notice of certain events to certain information repositories pursuant to the requirements of Section (b)(5) of Rule 15c2-12 (the *"Rule"*) adopted by the Securities and Exchange Commission (the *"Commission"*) under the Securities Exchange Act of 1934 (the *"Exchange Act"*). The information to be provided on an annual basis, the events that are required to be noticed on an occurrence basis and a summary of other terms of the Undertaking, including termination, amendment and remedies, are set forth below under "THE UNDERTAKING."

Each of the Company and AMR has represented that it is in compliance with all undertakings previously entered into by it pursuant to the Rule. A failure by the Company or AMR to comply with the Undertaking will not constitute an Event of Default under the IDA Lease Agreement, the Indenture or the Guaranties and beneficial owners of the Series 2002 Bonds are limited to the remedies described in the Undertaking. See "THE UNDERTAKING—Consequences of Failure of the Company or AMR to Provide Information." A failure by the Company or AMR to comply with the Undertaking must be reported in accordance with the Rule and must be considered by any broker, dealer or municipal securities dealer before recommending the purchase or sale of the Series 2002 Bonds in the secondary market. Consequently, such a failure may adversely affect the transferability and liquidity of the Series 2002 Bonds and their market price.

THE UNDERTAKING

The following is a brief summary of certain provisions of the Undertaking of the Company and AMR and does not purport to be complete. The statements made under this caption are subject to the detailed provisions of the Undertaking, a copy of which is available upon request from the Company.

Annual Financial Information Disclosure

Each of the Company and AMR covenants that it will disseminate its Annual Financial Information and its Audited Financial Statements (as described below) to the Commission. Each of the Company and AMR also covenants that it will send a notice to each Nationally Recognized Municipal Securities Information Repository (a *"NRMSIR"*) then recognized by the Commission for purposes of the Rule and to any public or private repository designated by the State of New York as the state information depository (the *"SID"*) and recognized as such by the Commission for purposes of the Rule on an annual basis indicating that its Annual Report on Form 10-K filed with the Commission, in accordance with the Exchange Act, constitutes its Annual Financial Information and Audited Financial Statements for that year.

"Annual Financial Information" of the Company or AMR means information of the type contained in the Annual Report on Form 10-K filed with the Commission by the Company or AMR, as the case may be, in accordance with the Exchange Act.

"Audited Financial Statements" means the audited financial statements of the Company and AMR, respectively, prepared in accordance with accounting principles generally accepted in the United States as in effect from time to time.

Events Notification; Material Events Disclosure

Each of the Company and AMR covenants that it will disseminate to each NRMSIR or to the Municipal Securities Rulemaking Board (the *"MSRB"*) and to the SID, if any, in a timely manner the disclosure of the occurrence of an Event (as described below) that is material, as materiality is interpreted under the Exchange Act. The *"Events"* are:

1. Principal and interest payment delinquencies;

2. Non-payment related defaults;

3. Unscheduled draws on debt service reserves reflecting financial difficulties (inapplicable to this transaction);

4. Unscheduled draws on credit enhancements reflecting financial difficulties (inapplicable to this transaction);

5. Substitution of credit or liquidity providers, or their failure to perform (inapplicable to this transaction);

6. Adverse tax opinions or events affecting the tax-exempt status of the security;

7. Modifications to the rights of security holders;

8. Bond calls;

9. Defeasances;

10. Release, substitution or sale of property securing repayment of the securities; and

11. Rating changes.

Consequences of Failure of the Company or AMR to Provide Information

The Company or AMR, as applicable, is required to give notice in a timely manner to each NRMSIR or to the MSRB and to the SID, if any, of any failure to provide disclosure of Annual Financial Information and Audited Financial Statements when the same is due under the Undertaking.

In the event of a failure of the Company or AMR to comply with any provision of the Undertaking, the beneficial owner of any Series 2002 Bond may seek specific performance by court order, to cause the Company or AMR to make such filings. The beneficial owners of 25% or more in principal amount of the outstanding Series 2002 Bonds may challenge the adequacy of the information provided under the Undertaking and seek specific performance by court order to cause the Company or AMR to provide the information required by the Undertaking. A default under the Undertaking will not be deemed an Event of Default under the IDA Lease Agreement, the Indenture or the Guaranties, and the sole remedy under the Undertaking in the event of any failure of the Company or AMR to comply with the Undertaking is an action to compel performance.

Amendment; Waiver

Notwithstanding any other provision of the Undertaking, the Company and AMR may amend the Undertaking, and any provision of the Undertaking may be waived, if:

(a) The amendment or the waiver is made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature or status of the Company or AMR or a change in the type of business conducted by the Company;

(b) The Undertaking, as amended, or the provision, as waived, would have complied with the requirements of the Rule at the time of the primary offering, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; or

(c) The amendment or waiver does not materially impair the interests of the beneficial owners of the Series 2002 Bonds, as determined either by parties unaffiliated with the Company or AMR (such as Bond Counsel), or by an approving vote of the Bondholders of each series pursuant to the terms of the Indenture at the time of the amendment.

Termination of Undertaking

The Undertaking will terminate as to the Company or AMR if the Company or AMR, as the case may be, no longer has any legal liability for any obligation on or relating to repayment of the Series 2002 Bonds under the Indenture, the IDA Lease Agreement or the Guaranties. The Company or AMR, as the case may be, is required to give notice to each NRMSIR or to the MSRB and to the SID, if any, in a timely manner if this paragraph is applicable.

Neither the Company nor AMR has any obligation to provide continuing disclosure pursuant to the Undertaking with respect to a series of Series 2002 Bonds that bear interest at an interest rate other than a Long-Term Interest Rate. The Undertaking terminates with respect to a series of the Series 2002 Bonds that bear interest at rates other than a Long-Term Interest Rate but must be reinstated, or a new continuing disclosure undertaking must be entered into, in connection with any subsequent adjustment of the interest rate on that series of the Series 2002 Bonds to a Long-Term Interest Rate, if required by law at such time.

Additional Information

Nothing in the Undertaking shall be deemed to prevent the Company or AMR, as the case may be, from disseminating any other information, using the means of dissemination set forth in the Undertaking or any other means of communication or including any other information in any Annual Financial Information or Audited Financial Statements or notice of occurrence of a material Event, in addition to that which is required by the Undertaking. If the Company or AMR, as the case may be, chooses to include any information from any document or notice of occurrence of a material Event in addition to that which is specifically required by the

Undertaking, the Company or AMR, as the case may be, shall not have any obligation under the Undertaking to update such information or include it in any future disclosure or notice of occurrence of a material Event.

Dissemination Agent

The Company or AMR may, from time to time, appoint or engage a dissemination agent to assist it in carrying out its respective obligations under the Undertaking and may discharge any such dissemination agent, with or without appointing a successor dissemination agent.

APPROVAL OF LEGAL PROCEEDINGS

Legal matters incident to the validity of the Series 2002 Bonds and with regard to the exclusion of interest on the Series 2002 Bonds from federal income taxation under existing law and regulations are subject to the approval of Winston & Strawn, New York, New York, Bond Counsel, and the Underwriters' obligation to purchase the Series 2002 Bonds is subject to the issuance of such opinion. A proposed form of such opinion is attached to this Official Statement as Appendix I. Legal matters pertaining to the Agency will be passed upon by Richard E. Marshall, Vice President for Legal Affairs. Certain legal matters will be passed upon for the Company and AMR by Anne H. McNamara, Senior Vice President and General Counsel of the Company and AMR. Certain legal matters will be passed upon for the Underwriters by their counsel, Chapman and Cutler, Chicago, Illinois.

MISCELLANEOUS

The foregoing summaries and the summaries contained in Appendices C, D, E, F, G and H do not purport to be complete and are expressly made subject to the exact provisions of the applicable documents. For details of all terms and conditions, reference is made to the IDA Lease Agreement, the Company Sublease, the Indenture, the Guaranties, the Equipment Security Agreement, the Port Authority Lease, the Port Authority Consent, the form of Leasehold Mortgage attached to the Port Authority Consent, the Agreement Towards Entering Into a Lease and the City Attornment Agreement, copies of which may be obtained from the Underwriters during the initial offering at the principal office of the Underwriters and, after the initial delivery of the Series 2002 Bonds, at the principal corporate trust office of the Trustee in New York, New York. Information concerning the Company and AMR is contained or incorporated by reference in Appendix A to this Official Statement. The Gate Demand Study prepared by Simat, Helliesen & Eichner, Inc. at the request of the Company is contained in Appendix J to this Official Statement. The assumptions, finding and opinions contained in the Gate Demand Study have not been adopted by, and do not necessarily represent the opinions or views of, the Agency or the Company.

The use of this Official Statement has been duly authorized by the Agency.

APPENDIX A

AMERICAN AIRLINES, INC.
AND
AMR CORPORATION

The information contained in this Appendix A to this Official Statement relates to and has been supplied by American Airlines, Inc. and AMR Corporation. The delivery of this Official Statement shall not create any implication that there has been no change in the affairs of American Airlines, Inc. or AMR Corporation since the date hereof or that the information contained or referred to in this Appendix A is correct as of any time subsequent to its date.

AMERICAN AIRLINES, INC.
AND
AMR CORPORATION

Statement of Available Information

Each of American Airlines, Inc. (*"American"*) and AMR Corporation (*"AMR"*) is subject to the information requirements of the Securities Exchange Act of 1934, as amended (the *"Exchange Act"*), and in accordance therewith files reports and other information with the Securities and Exchange Commission (the *"Commission"*). These filings are available to the public over the Internet at the Commission's web site at http://www.sec.gov. A prospective purchaser can call the Commission at 1-800-SEC-0330 for further information on the public reference rooms and copy charges. Reports, proxy statements and other information filed by American and AMR can be inspected and copied at the public reference facilities maintained by the Commission at 450 Fifth Street, N.W., Room 1024, Washington, D.C. 20549. Copies of such material can be obtained by mail from the Public Reference Section of the Commission at 450 Fifth Street, N.W., Washington, D.C. 20549, at prescribed rates.

Incorporation of Certain Documents by Reference

The following documents have been filed with the Commission and are incorporated herein by reference:

1. American's and AMR's Annual Reports on Form 10-K for the year ended December 31, 2001;

2. American's and AMR's Quarterly Reports on Form 10-Q for the quarters ended March 31, 2002 and June 30, 2002;

3. American's Current Reports on Form 8-K filed with the Commission on January 16, 2002 , June 13, 2002 and June 19, 2002; and

4. AMR's Current Reports on Form 8-K filed with the Commission on January 16, 2002, June 13, 2002, June 19, 2002 and July 18, 2002.

All documents filed by American or AMR pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of this Official Statement and prior to the termination of the offering of the Bonds offered hereby are deemed to be incorporated by reference into this Official Statement and to be part hereof from the date of filing of any such document. Any statement contained in a document incorporated or deemed to be incorporated by reference herein is deemed to be modified or superseded for purposes of this Official Statement to the extent that a statement contained herein or in any other subsequently filed document that also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded may not be deemed, except as so modified or superseded, to constitute a part of this Official Statement.

American will provide a copy of these filings (other than their exhibits, unless those exhibits are specifically incorporated by reference in the filings) at no cost by writing or telephoning American at the following address:

Corporate Secretary
American Airlines, Inc.
P.O. Box 619616
Mail Drop 5675
Dallas/Fort Worth Airport, Texas 75261-9616
(817) 963-1234

Persons receiving this Official Statement should rely only on the information incorporated by reference or provided in this Official Statement or any applicable Official Statement Supplement. Neither American nor AMR has authorized anyone to provide prospective purchasers with different information. If anyone provides different or inconsistent information, it should not be relied upon.

Certain Other Information

On January 25, 2002, February 22, 2002, March 22, 2002 and May 31, 2002 AMR furnished to the Commission certain actual and forecasted information, including information regarding American's unit costs, capacity, traffic, fuel costs and fuel consumption, pursuant to Item 9 of Form 8-K in accordance with the guidelines set forth in Regulation FD adopted by the Commission. American expects that AMR will continue to furnish similar information to the Commission on a regular basis during the second half of each month, other than months in which AMR issues a quarterly earnings release, and that in addition AMR may from time to time furnish other information, including but not limited to information with respect to fleet plans and revenue estimates, as it deems appropriate; *provided, however,* AMR shall have no obligation to furnish such information to the Commission.

On January 25, 2002, February 22, 2002, March 22, 2002 and May 31, 2002 American furnished to the Commission certain actual and forecasted information, including information regarding American's unit costs, capacity, traffic, fuel costs, fuel consumption and fleet plans, pursuant to Item 9 of Form 8-K in accordance with the guidelines set forth in Regulation FD adopted by the Commission. American expects that it will continue to furnish similar information to the Commission, including but not limited to information with respect to fleet plans and revenue estimates, as it deems appropriate; *provided, however,* American shall have no obligation to furnish such information to the Commission.

American will provide a copy of Forms 8-K furnished as described above at no cost upon request. Requests may be made by writing or telephoning American at the following address:

Corporate Secretary
American Airlines, Inc.
P.O. Box 619616
Mail Drop 5675
Dallas/Fort Worth Airport, Texas 75261-9616
(817) 963-1234

APPENDIX B

CERTAIN DEFINITIONS

"Accounts" means those accounts established pursuant to the Indenture and any accounts established pursuant to any Series Supplemental Indenture.

"Act" has the meaning set forth herein under "THE AGENCY."

"Act of Bankruptcy" means the commencement of a bankruptcy or similar proceeding by or against the Company or AMR, including, but not limited to, the following: the making of a general assignment for the benefit of creditors, the commencing of a voluntary case under the Bankruptcy Code or the filing of a petition thereunder, petitioning or applying to any tribunal for the appointment of a receiver, or any trustee for the Company or AMR or a substantial part of the assets of the Company or AMR, commencing any proceeding under any bankruptcy, reorganization, arrangement, readjustment of debt, dissolution or liquidation law or statute of any jurisdiction, whether now or hereafter in effect, or the appointment of a receiver or any trustee for the Company or AMR or any substantial part of any of the properties of the Company or AMR.

"Additional Bonds" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Affiliate" means any Person under common control with the Company. "Control" (including the related term "under common control with") of a Person will exist only when the following criteria are met: (i) the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such Person, whether through the ownership of voting securities, by contract or otherwise; and (ii) the ownership, either directly or indirectly, of more than 50% of the voting stock or other equity or ownership interest of such Person.

"Agency" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Agency's Reserved Rights" means, collectively,

(i) the right of the Agency in its own behalf to receive all Opinions of Counsel, reports, financial statements, certificates, insurance policies, binders or certificates, or other notices or communications required to be delivered to the Agency under the IDA Lease Agreement;

(ii) the right of the Agency to grant or withhold any consents or approvals required of the Agency under the IDA Lease Agreement;

(iii) the right of the Agency to enforce in its own behalf the obligation of the Company to complete the Project;

(iv) the right of the Agency to enforce or otherwise exercise in its own behalf all agreements of the Company with respect to ensuring that the Facility will always constitute a qualified "project" as defined in and as contemplated by the Act;

(v) the right of the Agency in its own behalf (or on behalf of the appropriate taxing authorities) to enforce, receive amounts payable under or otherwise exercise its rights under the IDA Lease Agreement relating to: sales and use tax exemptions; the leasing of the Facility; taxes; assessments and charges; insurance; advances made by the Agency; compliance with laws; restrictions imposed upon the Company with respect to dissolution and merger; indemnity; payment by the Company of the compensation and expenses of the Agency; certain filings of the Company of its Form 10-K and compliance and default certificates; the furnishing of security by the Company in the event of its contest of any liens; the condition or suitability of the Facility; the compliance by the Company with certain laws and guidelines relating to non-discrimination of employees; the enforcement of the redemption provision described herein under "THE SERIES 2002 BONDS—Redemption Prior to Maturity—*Extraordinary Optional Redemption Without Premium at the Option of the Agency Upon Failure to Operate the Facility as a Qualified Project*"; further assurances with respect to the perfection of the interests and rights granted to the Agency under the IDA Lease Agreement, the Indenture and the Leasehold Mortgage; current descriptions of the Facility; the filing of Uniform Commercial Code financing statements; certain covenants made by the Company with respect to the Port Authority Lease, the Leasehold Mortgage, the City Attornment Agreement, the New City/American Lease and the Agreement Towards Entering Into a Lease; the agreement by the Company to pay attorneys' fees and expenses of the Agency upon default; certain options with respect to the substitution and sale of Facility Equipment; the assignment of the IDA Lease Agreement or the subletting of the Facility; inspection of the Facility; the intention that the IDA Lease Agreement be a "net lease"; the waiver of a jury trial; and the consent to the Leasehold Mortgage; and

(vi) the right of the Agency in its own behalf to declare an Event of Default under the IDA Lease Agreement or with respect to any of the Agency's Reserved Rights subject to the limitations contained therein.

"*Agreement Towards Entering Into a Lease*" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"*Airport*" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"*AMR*" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"*AMR Guaranty*" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"*Authorized Representative*" means, (i) in the case of the Agency, the Chairman, Vice Chairman, Treasurer, Assistant Treasurer, Secretary, Assistant Secretary, Executive Director or Deputy Executive Director of the Agency, or any officer or employee of the Agency authorized

to perform specific acts or to discharge specific duties, (ii) in the case of the Company, its President, Treasurer, Executive Vice President, Senior Vice President, Vice President, Managing Director or any other person designated by the Company to act on behalf of the Company by a written certificate, containing a specimen signature of such person, which is duly executed on behalf of the Company and delivered to the other parties, and (iii) in the case of AMR, its President, Treasurer, Executive Vice President, Senior Vice President, Vice President, Managing Director or any other person designated by AMR to act on behalf of AMR by a written certificate, containing a specimen signature of such person, which is duly executed on behalf of AMR and delivered to the other parties.

"Bankruptcy Code" means the Bankruptcy Reform Act of 1978, as amended (Title 11 of the United States Code, as amended).

"Bankruptcy Rejection Date" has the meaning set forth herein under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Foreclosure of Leasehold Mortgage.*"

"Basic Lease" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Beneficial Owner" has the meaning set forth herein under "THE SERIES 2002 BONDS—Book-Entry-Only System."

"Bond Counsel" means Winston & Strawn or any other nationally recognized attorney or firm of attorneys experienced in matters relating to municipal bond law and the tax exemption of interest on bonds of states and their political subdivisions, as selected by the Agency.

"Bond Fund" means the Bond Fund created under the Indenture and described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Payments into Bond Fund*" and "—*Application of Bond Fund.*"

"Bond Interest Term Rate" means, with respect to each series of Bonds, a term, non-variable interest rate on such series of Bonds established periodically in accordance with the Indenture.

"Bond Purchase Fund" means any Bond Purchase Fund created for a series of Bonds under a Series Supplemental Indenture, which Fund will be held by the applicable Tender Agent and be used with respect to the tender and remarketing of Bonds.

"Bond Registrar" means the Trustee, acting as registrar for the Bonds as provided in the Indenture.

"Bondholder," "Holder of the Bonds," "Holder" or *"holder"* means any Person who is the registered owner of any Bonds or Bonds. So long as Cede & Co., as nominee of DTC, is the registered owner, references to "Bondholders" or "registered owners" herein mean Cede & Co., and not the Beneficial Owners of the Series 2002 Bonds. See "THE SERIES 2002 BONDS—Book-Entry-Only System."

"Bonds" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Bonds Default" has the meaning set forth herein under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Foreclosure of Leasehold Mortgage*."

"Book-Entry-Only System" has the meaning set forth herein under "THE SERIES 2002 BONDS—Book-Entry-Only System."

"Business Day" means any day which is not a Saturday, Sunday or a legal holiday in the State or a day on which banking institutions chartered by the State or the United States of America are legally authorized to close in The City of New York.

"Capitalized Interest Account" means any special trust Account of the Project Fund so designated and established pursuant to the Indenture and as described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Project Fund*."

"City" means The City of New York.

"City Approved Successor Lessee" has the meaning set forth herein in APPENDIX H—"SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT TOWARDS ENTERING INTO A LEASE AND THE CITY ATTORNMENT AGREEMENT—Summary of Certain Provisions of the Agreement Towards Entering Into a Lease—*Remedies; Termination by the City*.

"City Attornment Agreement" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Civil Aircraft Operator" (as used herein in the definition of Scheduled Aircraft Operator) means a Person engaged in civil transportation by aircraft or otherwise operating aircraft for civilian purposes, whether governmental or private. If any such Person is also engaged in the operation of aircraft for military, naval or air force purposes, he or she will be deemed to be a Civil Aircraft Operator only to the extent that he or she engages in the operation of aircraft for civilian purposes.

"Code" has the meaning set forth herein under "THE SERIES 2002 BONDS—Redemption Prior to Maturity—*Mandatory Redemption Without Premium Upon the Occurrence of a Determination of Taxability*."

"Company" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Company Guaranty" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Company Sublease" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Construction Account" means any special trust Account of the Project Fund so designated and established pursuant to the Indenture and as described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Project Fund*."

"Controlled Entity" means any Person, more than 50% of the voting stock or equity interest of which is owned by any obligor under any of the Security Documents (other than the Agency) or by another Controlled Entity of any such obligor.

"Credit Facility" means an irrevocable letter of credit, surety bond, loan agreement, standby bond purchase agreement, line of credit, municipal bond insurance policy or other agreement or arrangement used to provide liquidity and/or credit support for a series of Bonds, containing administrative provisions reasonably satisfactory to the Trustee or the provider of any policy of municipal bond insurance then insuring such series of Bonds and issued and delivered to the Trustee in accordance with the Indenture. No Credit Facility is being provided with respect to any series of the Series 2002 Bonds.

"Credit Facility Provider" means the issuer of any Credit Facility and any successors thereto. There is no Credit Facility and no Credit Facility Provider with respect to any series of the Series 2002 Bonds.

"Daily Interest Rate" means, with respect to each series of Bonds, a variable interest rate on such series of Bonds established in accordance with the Indenture.

"Debt Service Reserve Account" means any special trust Account of the Debt Service Reserve Fund so designated and established pursuant to the Indenture and as described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Debt Service Reserve Fund*."

"Debt Service Reserve Account Requirement" means, with respect to each series of Bonds, the amount, if any, required by any Series Supplemental Indenture authorizing the issuance of a series of Bonds, to be deposited and maintained in the Account within the Debt Service Reserve Fund established with respect to such series of Bonds. The applicable Debt Service Reserve Account Requirement with respect to each series of Series 2002 Bonds will be an amount equal to the lesser of (i) the greatest amount required in the then current or any future bond year to pay the sum of interest on the Outstanding Bonds of such series payable during such bond year, and the principal and sinking fund installments, if any, on the Outstanding Bonds of such series payable on August 1 of such bond year, excluding interest accruing on such Bonds from the dated date of such Bonds to the date of delivery thereof, (ii) an amount equal to 10% of the net proceeds of the sale of such series of Series 2002 Bonds, and (iii) 125% of the average of the principal, whether at maturity or on mandatory redemption, and interest becoming due over the term of such series of Series 2002 Bonds.

"Debt Service Reserve Fund" means the Debt Service Reserve Fund created under the Indenture and described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Debt Service Reserve Fund*."

"Deferred Reletting Fee" has the meaning set forth herein under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Obligations of Qualifying Replacement Tenant: Qualification Standards.*"

"Determination of Taxability" has the meaning set forth herein under "THE SERIES 2002 BONDS—Redemption Prior to Maturity—*Mandatory Redemption Without Premium Upon the Occurrence of a Determination of Taxability.*"

"Eligible Affiliate" means any Person controlled by the Company. "Control" (including the related term "controlled by") of a Person will exist only when the following criteria are met: (i) the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such Person, whether through the ownership of voting securities, by contract or otherwise; and (ii) the ownership, either directly or indirectly, of more than 50% of the voting stock or other equity or ownership interest of such Person.

"Eligible Personalty" means machinery, equipment, furniture, fixtures, apparatus and other items of tangible personal property, the acquisition of which is characterized (whether or not so characterized by the Company) in accordance with Accounting Standards of the Financial Accounting Standards Board, as a capital expenditure, to be used by the Company, the Affiliates, and the Eligible Affiliates at the Leased Facilities for the Project but excluding rolling stock, ordinary office supplies such as pencils, paper clips and paper and decorative items such as fine art, plants and objets d'art.

"Equipment Security Agreement" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Event of Default" with respect to any default under the IDA Lease Agreement, has the meaning set forth herein under APPENDIX C—"SUMMARY OF CERTAIN PROVISIONS OF THE IDA LEASE AGREEMENT—Events of Default; Remedies—*Events of Default*" and, with respect to any default under the Indenture, has the meaning set forth herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Events of Default; Remedies of Bondholders—*Events of Default; Acceleration of Due Date.*"

"Extended Basic Lease" has the meaning set forth herein in APPENDIX H—"SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT TOWARDS ENTERING INTO A LEASE AND THE CITY ATTORNMENT AGREEMENT—Summary of Certain Provisions of the Agreement Towards Entering Into a Lease—*Conditions Precedent.*"

"Facility" has the meaning set forth herein under "INTRODUCTORY STATEMENT" and also means, collectively, the Leased Facilities and the Facility Equipment.

"Facility Equipment" has the meaning set forth herein under "INTRODUCTORY STATEMENT" and also means such items of machinery, equipment, furniture, fixtures, furnishings, apparatus and other items of tangible personal property the acquisition of which is undertaken by use of the Sales Tax Letter or the Preliminary Sales Tax Letter and the acquisition of which is characterized (whether or not so characterized by the Company) in accordance with

Accounting Standards of the Financial Accounting Standards Board as a capital expenditure, to be used at the Premises by the Company, the Affiliates, and the Eligible Affiliates, but excluding rolling stock, ordinary office supplies such as pencils, paper clips and paper and decorative items such as fine art, plants and other objets d'art. Facility Equipment includes all property substituted for or replacing items of Facility Equipment in accordance with the provisions of the IDA Lease Agreement, and excludes all items of Facility Equipment so substituted for or replaced.

"Facility Improvement Materials" means construction materials, building materials, building supplies, and other tangible personal property which are used, depleted or consumed by the Company exclusively for the Project.

"Favorable Opinion of Bond Counsel" means an opinion of Bond Counsel, addressed to the Agency, the Company and the Trustee, to the effect that the action proposed to be taken is authorized or permitted by the laws of the State of New York and the Indenture and, if taken with respect to Tax-Exempt Bonds, will not adversely affect any exclusion from gross income for federal income tax purposes of interest on the Bonds.

"Fee Owner" has the meaning set forth herein under APPENDIX G—"SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY CONSENT AND THE LEASEHOLD MORTGAGE—Summary of Certain Provisions of the Port Authority Consent—*Termination of the Port Authority Consent With Respect to Leasehold Mortgage.*"

"Financed Property" means those items of Project Costs, Facility Equipment, Leased Personalty, Tenant Improvements and Facility Improvement Materials financed in whole or in part with the proceeds of the Bonds.

"Financing Documents" means the Company Sublease, the IDA Lease Agreement, the Indenture, resolutions adopted by the Agency authorizing the issuance of the Series 2002 Bonds, any resolutions adopted by the Agency in connection with the issuance and sale of Additional Bonds, the Leasehold Mortgage, the Guaranties, the Agreement Towards Entering Into a Lease, and the City Attornment Agreement; and *provided further*, the term *"Financing Document"* does not mean the Basic Lease, the Port Authority Lease or the Port Authority Consent.

"Foreclosure Payment Account" means any special trust Account of the Mortgage Reserve Fund so designated and established pursuant to the Indenture and as described herein under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Conditions Precedent to Foreclosure—Foreclosure Period Payments*," APPENDIX C—"SUMMARY OF CERTAIN PROVISIONS OF THE IDA LEASE AGREEMENT—Particular Covenants—*Certain Covenants with Respect to the Port Authority Lease, the Leasehold Mortgage, the City Attornment Agreement, the New City/American Lease and the Agreement Towards Entering Into a Lease"* and APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Mortgage Reserve Fund.*"

"Foreclosure Payment Account Requirement" means $18,600,000.

"Foreclosure Period" has the meaning set forth herein under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Conditions Precedent to Foreclosure—Foreclosure Proceedings and Removal of the Company.*"

"Funds" means those Funds established pursuant to the Indenture and described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Creation of Funds and Accounts*" and any Funds established pursuant to any Series Supplemental Indenture.

"General Airport Agreement" means that certain agreement and lease of premises entitled "John F. Kennedy International Airport Airline Lease," dated as of January 1, 1953 (as the same may have been supplemented, amended and extended) and bearing Port Authority file number designation AY-351 which governs the rights, privileges, duties and obligations of and between the Port Authority and the Company with respect to the Airport.

"Government Obligations" means (a) direct and general obligations of, or obligations unconditionally guaranteed by, the United States of America, (b) obligations of a Person controlled or supervised by and acting as an agency or instrumentality of the United States of America, the payment of which is unconditionally guaranteed as a full faith and credit obligation of the United States of America for the timely payment thereof, (c) municipal obligations the payment of principal (either to the maturity thereof or an earlier stated redemption date), redemption price, if any and interest on which is irrevocably secured by obligations described in clauses (a) or (b) above which have been deposited in an escrow arrangement which is irrevocably pledged to the credit of such municipal obligations and which municipal obligations are rated at the time of acquisition or purchase in the highest rating category by Moody's and S&P or (d) securities or receipts evidencing ownership interests in obligations or specified portions (such as principal or interest) of obligations described in clauses (a), (b) or (c) above, the full and timely payment of which securities, receipts or portions of obligations is unconditionally guaranteed as a full faith and credit obligation of the United States.

"Guaranties" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Guarantor" means each of the Company and AMR and their respective successors and assigns under the Guaranties.

"IDA Lease Agreement" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"IDA Lease Amendment" means any amendment to the IDA Lease Agreement entered into by and between the Company and the Agency pursuant to the IDA Lease Agreement and the Indenture in conjunction with the issuance of a series of Additional Bonds or otherwise.

"Indenture" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Interest Account" means any special trust Account of the Bond Fund so designated and established pursuant to the Indenture and as described herein under APPENDIX D—"SUMMARY

OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Payments into Bond Fund*" and "—*Application of Bond Fund.*"

"*Interest Payment Date*" has the meaning set forth herein under "THE SERIES 2002 BONDS—General."

"*Lease Assignment/Assumption and Consent Agreement*" has the meaning set forth herein under APPENDIX F—"SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY LEASE—Leasehold Mortgage and Reletting Rights—*Qualifying Replacement Tenant.*"

"*Lease Assignment/Assumption Commencement Date*" has the meaning set forth herein under APPENDIX F—"SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY LEASE—Leasehold Mortgage and Reletting Rights—*Qualifying Replacement Tenant.*"

"*Lease Default*" has the meaning set forth herein under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Foreclosure of Leasehold Mortgage.*"

"*Lease Payments Fund*" means the Lease Payments Fund created under the Indenture and described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Lease Payments Fund.*"

"*Leased Facilities*" has the meaning set forth herein under "INTRODUCTORY STATEMENT" and also means those certain facilities, structures, buildings, fixtures and improvements, exclusive of Facility Equipment, as will constitute a new air passenger terminal together with related arrival and departure access ramps and a passenger tunnel connecting Concourse C to the main terminal, to be located at the premises in the vicinity of Terminals 8 and 9 at the Airport, all as described in the Description of Leased Facilities in Exhibit B to the IDA Lease Agreement, together with any extensions, substitutions, repairs or additions thereto. The Leased Facilities do not include the land underlying the Facility.

"*Leased Personalty*" means one or more items of tangible personal property, in which the Agency acquires a leasehold interest under a Qualified Personalty Lease in accordance with the IDA Lease Agreement, to be used exclusively for the Project by the Company, the Affiliates, and the Eligible Affiliates. Leased Personalty does not include rolling stock. Notwithstanding the foregoing definition, Facility Equipment, Facility Improvement Materials and Eligible Personalty incorporated into or installed at the Leased Facilities in accordance with the Port Authority Lease will not constitute and will not be deemed to constitute Leased Personalty by virtue of the provisions of the Port Authority Lease.

"*Leasehold Mortgage*" has the meaning set forth herein under "INTRODUCTORY STATEMENT." All references to the Leasehold Mortgage herein are qualified by the fact that the Leasehold Mortgage will not be effective, the lien created by the Leasehold Mortgage will not attach, the Leasehold Mortgagee will not have the rights under the Leasehold Mortgage, the Leasehold Mortgage will not be dated, executed, delivered or recorded and the Reletting Rights will not be exercisable until the Reletting Rights Effective Date.

"Leasehold Mortgage Default" has the meaning set forth herein under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Foreclosure of Leasehold Mortgage.*"

"Leasehold Mortgage Extension Fee" has the meaning set forth herein under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Conditions Precedent to Foreclosure.*"

"Leasehold Mortgagee" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Legal Requirements" has the meaning set forth herein in APPENDIX C—"SUMMARY OF CERTAIN PROVISIONS OF THE IDA LEASE AGREEMENT—Maintenance, Taxes and Insurance—*Compliance with Law.*"

"Lessee's Property" has the meaning set forth herein in APPENDIX C—"SUMMARY OF CERTAIN PROVISIONS OF THE IDA LEASE AGREEMENT—Maintenance, Taxes and Insurance—*Maintenance, Alterations and Improvements.*"

"Long-Term Interest Rate" means, with respect to each series of Bonds, a term, non-variable interest rate on such series of Bonds established in accordance with the Indenture.

"Loss Event" has the meaning set forth herein in APPENDIX C—"SUMMARY OF CERTAIN PROVISIONS OF THE IDA LEASE AGREEMENT—Damage, Destruction and Condemnation."

"Maintenance Contracts" means contracts entered into by the Company as agent for the Agency for the maintenance, service or repair of Eligible Personalty or Leased Personalty used at the Leased Facilities by the Company, the Affiliates, and the Eligible Affiliates, exclusively for the Project, solely to the extent such contracts encompass Qualified Maintenance.

"Major Release" has the meaning set forth herein under APPENDIX G—"SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY CONSENT AND THE LEASEHOLD MORTGAGE—Summary of Certain Provisions of the Leasehold Mortgage—*Release of Part of Mortgaged Property.*"

"Master Indenture" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Maximum Port Authority Lease Expiration Date" has the meaning set forth herein in APPENDIX H—"SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT TOWARDS ENTERING INTO A LEASE AND THE CITY ATTORNMENT AGREEMENT—Summary of Certain Provisions of the Agreement Towards Entering Into a Lease—*Conditions Precedent.*"

"Minor Release" has the meaning set forth herein under APPENDIX G—"SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY CONSENT AND THE LEASEHOLD MORTGAGE—Summary of Certain Provisions of the Leasehold Mortgage—*Release of Part of Mortgaged Property.*"

"Moody's" means Moody's Investors Service, Inc., a corporation organized and existing under the laws of the State of Delaware, its successors and its and their assigns, and, if such corporation is dissolved or liquidated or no longer performs the functions of a securities rating agency, "Moody's" will be deemed to refer to any other nationally recognized securities rating agency designated by the Agency by notice to the Company and the Trustee.

"Mortgage Amount" means the amount equal to the lesser of (i) the principal amount of Bonds issued, determined without taking into account any prepayments, redemptions or refundings made pursuant to any of the Financing Documents, and (ii) $2,300,000,000.00.

"Mortgage Reserve Fund" means the Mortgage Reserve Fund created under the Indenture and described herein under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Conditions Precedent to Foreclosure—Foreclosure Period Payments,*" APPENDIX C—"SUMMARY OF CERTAIN PROVISIONS OF THE IDA LEASE AGREEMENT—Particular Covenants—*Certain Covenants with Respect to the Port Authority Lease, the Leasehold Mortgage, the City Attornment Agreement, the New City/American Lease and the Agreement Towards Entering Into a Lease*" and APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Mortgage Reserve Fund.*"

"Mortgagee Rights Period" has the meaning set forth herein in APPENDIX H—"SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT TOWARDS ENTERING INTO A LEASE AND THE CITY ATTORNMENT AGREEMENT—Summary of Certain Provisions of the Agreement Towards Entering Into a Lease—*Remedies; Termination by the City.*"

"Net Proceeds" means, with respect to a particular series of Bonds, the "net proceeds" of such Bonds, as such term is used in Section 142(a) of the Code and applicable Treasury Regulations.

"New Basic Lease" means a lease entered into by the City or its designee for the Airport commencing upon the date on which the Port Authority surrenders possession of the Airport to the City following the expiration or earlier termination of the Basic Lease (inclusive of any renewal or extension including any permitted holdover thereof). In the event a New Basic Lease is executed and delivered, all references in the IDA Lease Agreement and the other Security Documents to the Basic Lease will be deemed to mean and refer to such New Basic Lease.

"New City/American Lease" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Nonapproved Successor Lessee Event" has the meaning set forth herein in APPENDIX H—"SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT TOWARDS ENTERING INTO A LEASE AND THE CITY ATTORNMENT AGREEMENT—Summary of Certain Provisions of the Agreement Towards Entering Into a Lease—*Remedies; Termination by the City.*"

"Nonqualified Cost" means the Project Costs paid pursuant to the Indenture which are not Qualified Costs.

"Opinion of Counsel" means a written opinion of counsel, who may (except as otherwise expressly provided in the IDA Lease Agreement or any other Security Document) be counsel for the Company, AMR or the Agency and who is reasonably acceptable to the Trustee.

"Outstanding" when used with reference to a Bond or series of Bonds, as of any particular date or series, means all Bonds which have been issued, executed, authenticated and delivered under the Indenture, except:

(i) Bonds canceled by the Trustee because of payment or redemption prior to maturity or surrendered to the Trustee under the Indenture for cancellation;

(ii) any Bond (or portion of a Bond) for the payment or redemption of which, in accordance with the Indenture, there has been separately set aside and held in any Redemption Account of the Bond Fund either:

(A) moneys, and/or

(B) noncallable Government Obligations in such principal amounts, of such maturities, bearing such interest and otherwise having such terms and qualifications as are necessary to provide moneys,

in an amount sufficient to effect payment of the principal or applicable redemption price of such Bond (or portion thereof), together with accrued interest on such Bond to the payment or redemption date, which payment or redemption date will be specified in irrevocable instructions given to the Trustee to apply such moneys and/or Government Obligations to such payment on the date so specified, *provided* that, if such Bond (or portion thereof) is to be redeemed, notice of such redemption must have been given as provided in the Indenture or provision satisfactory to the Trustee must have been made for the giving of such notice; and

(iii) Bonds paid pursuant to the Indenture and Bonds in exchange for or in lieu of which other Bonds have been authenticated and delivered under the Indenture,

provided, however, that in determining whether the Holders of the requisite principal amount of Bonds Outstanding have given any request, demand, authorization, direction, notice, consent or waiver hereunder, any Bond or Bonds owned by the Company or any Affiliate of the Company will be disregarded and deemed not to be Outstanding, except that, in determining whether the Trustee is protected in relying upon any such request, demand, authorization, direction, notice, consent or waiver, only Bonds which a responsible officer of the Trustee actually knows to be so owned will be so disregarded. Bonds which have been pledged in good faith to a Person may be regarded as Outstanding for such purposes if the pledgee establishes to the satisfaction of the Trustee the pledgee's right to act with respect to such Bonds and that the pledgee is not the Company or any Affiliate or Controlled Entity of the Company.

"Paying Agent" means any paying agent for any series of Bonds appointed pursuant to the Indenture (and may include the Trustee) and its successor or successors and any other corporation which may at any time be substituted in its place pursuant to the Indenture.

"Permitted Encumbrances" means, as of any particular time,

(i) the Agreement Towards Entering Into a Lease, the City Attornment Agreement, the Basic Lease, the Port Authority Lease, the Company Sublease, the Leasehold Mortgage, the IDA Lease Agreement as amended, the Equipment Security Agreement, the Indenture as supplemented and amended and any other Security Documents;

(ii) liens to secure the performance of statutory obligations, surety or appeal bonds, performance bonds, completion bonds, government contracts or other obligations of a like nature, including liens in connection with workers' compensation, unemployment insurance and other types of statutory obligations or to secure the performance of tenders, bids, leases, contracts and other similar obligations incurred in the ordinary course of business;

(iii) liens for real estate taxes, assessments, levies and other governmental charges, the payment of which is not in default or that are being contested in good faith by appropriate proceedings in accordance with the provisions of the IDA Lease Agreement;

(iv) utility, access and other easements and rights of way, restrictions and exceptions that an Authorized Representative of the Company certifies to the Agency and the Trustee will not materially interfere with or impair the Company's use of the Facility as provided in the IDA Lease Agreement;

(v) such minor defects, irregularities, encumbrances, easements, rights-of-way (including agreements with any railroad the purpose of which is to service a railroad siding) and clouds on title as normally exist with respect to property similar in character to the Facility and as do not, in the Opinion of Counsel, either singly or in the aggregate, materially impair the property affected thereby for the purpose for which it was acquired and held by the Agency under the IDA Lease Agreement;

(vi) any mechanic's, workmen's, repairmen's, materialmen's, contractors', warehousemen's, carriers', suppliers' or vendors' lien or right in respect thereof if payment is not yet due and payable (or which, if past due, are being contested in good faith by appropriate proceedings), all if and to the extent permitted by the IDA Lease Agreement;

(vii) any mortgage, lien, security interest or other encumbrance which exists in favor of the Trustee or to which the Trustee consents;

(viii) any liens, security interests or other encumbrances created by the City or the Port Authority resulting from the acts or failure to act of the City or the Port Authority;

(ix) any lien, security interest or other encumbrance on any property or interests other than the interests of the Agency or the Company in the Company Sublease or the interests of the Agency, the Company or the Trustee in the IDA Lease Agreement or in amounts payable thereunder; and

(x) subleases of the Facility permitted under the IDA Lease Agreement.

"Person" means any individual, corporation, partnership, joint venture, association, joint stock company, trust, unincorporated organization or government or any agency or political subdivision thereof.

"Port Authority" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Port Authority Consent" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Port Authority Lease" has the meaning set forth herein under "INTRODUCTORY STATEMENT" and further means the Agreement of Lease entered into as of August 1, 1976 bearing Port Authority Agreement number AYB-085 as amended and supplemented, and as further amended, supplemented, and restated in an Amended and Restated Lease (No. AYB-085R), dated as of December 22, 2000, between the Port Authority and the Company, as the same may now or hereafter be amended, modified or supplemented from time to time. The term *"Port Authority Lease"* means and includes the foregoing agreement during any period when the City has become lessor under the Port Authority Lease in accordance with the provisions of the City Attornment Agreement.

"Possessory Rights and Remedies" means without limitation any possessory rights and remedies, such as, but not limited to, any rights to appointment of a receiver, any rights of entry, re-entry, redemption, eviction, possession, regaining or resumption of assigning, letting, re-sub-letting, or any similar rights with respect to the possession, sale, conveyance, transferring, mortgaging, pledging, assigning, letting, or re-subletting of the Facility.

"Preliminary Sales Tax Letter" means (i) the Preliminary Sales Tax Letter of the Agency dated July 27, 2000, (ii) the First Amended and Restated Preliminary Sales Tax Letter of the Agency dated January 1, 2002 and (iii) the Second Amended and Restated Preliminary Sales Tax Letter of the Agency dated July 1, 2002.

"Premises" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Primary Term" has the meaning set forth herein under APPENDIX C—"SUMMARY OF CERTAIN PROVISIONS OF THE IDA LEASE AGREEMENT—Issuance of Bonds and Additional Bonds; Lease of Facility and Rental Provisions—*Allocation of Rent*."

"Principal Account" means any special trust Account of the Bond Fund so designated and established pursuant to the Indenture and as described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Payments into Bond Fund*" and "—*Application of Bond Fund*."

"Prohibited Person" means (i) any Person (A) that is in default or in breach, beyond any applicable grace period, of its obligations under any written agreement with the Agency or the City, or (B) that directly or indirectly controls, is controlled by, or is under common control with a Person that is in default or in breach, beyond any applicable grace period, of its obligations under any written agreement with the Agency or the City, unless, in either case, such default or breach has been waived in writing by the Agency or the City, as the case may be, and (ii) any Person (A) that has been convicted in a criminal proceeding for a felony or any crime involving moral turpitude (other than, with respect to the Company or AMR, the felony conviction of the AMR arising out of *United States of America v. AMR Corporation,* United States District Court, Southern District of Florida, Miami Division, Case No. 99-00902-CR-HIGHSMITH) or that is an organized crime figure or is reputed to have substantial business or other affiliations with an organized crime figure, or (B) that directly or indirectly controls, is controlled by, or is under common control with a Person that has been convicted in a criminal proceeding for a felony or any crime involving moral turpitude or that is an organized crime figure or is reputed to have substantial business or other affiliations with an organized crime figure.

"Project" has the meaning set forth herein under "INTRODUCTORY STATEMENT" and also means solely with respect to the Redevelopment Work, the demolition of Terminals 8 and 9 at the Airport, the construction, acquisition, installation and equipping of the Facility by the Company, and the acquisition, construction, installation and equipping by the Company from time to time at the Leased Facilities of the Tenant Improvements, the Facility Improvement Materials, Facility Equipment, Leased Personalty and Maintenance Contracts, all for use by the Company, Affiliates and Eligible Affiliates solely for the construction, acquisition, installation and equipping of the Facility.

"Project Costs" means:

(i) all costs of engineering, architectural, construction and project management services with respect to the Project, including the cost of test borings, surveys, estimates, plans and specifications and for supervising construction, as well as for the performance of all other duties required by or consequent upon the proper construction of, and the making of alterations, renovations, additions and improvements in connection with the completion of, the Project;

(ii) all costs paid or incurred for labor, materials, services, supplies, machinery, equipment and other expenses and to contractors, suppliers, builders and materialmen in connection with the completion of the Project;

(iii) all costs of contract bonds and of insurance that may be required or necessary during the period of Project construction;

(iv) all costs paid or incurred in connection with the acquisition of the Leased Facilities or the Company's interest in the Leased Facilities;

(v) the fees and expenses of the Trustee, each Remarketing Agent, if any, and each Tender Agent, if any, paid during any period of construction of the Project provided such payments are capable of being characterized (whether or not so characterized by the Company) in accordance with Accounting Standards of the Financial Accounting Standards Board as capital expenditures;

(vi) the interest on Bonds of a series (or other indebtedness incurred by the Company for the construction of the Project) for the time specified in any Series Supplemental Indenture authorizing the issuance of a series of Bonds and executed and delivered by the Agency and the Trustee in accordance with the Indenture;

(vii) all costs which the Company is required to pay, under the terms of any contract or contracts, for the completion of the Project, including any amounts required to reimburse the Company for advances made for any item otherwise constituting a Project Cost or for any other costs incurred and for work done which are properly chargeable to the Project;

(viii) all fees and charges of the Port Authority which the Company is required to pay under the Port Authority Lease for (a) the review and approval of the plans and specifications relating to the Project, (b) obtaining the required permits and approvals under such plans and specifications for the construction and completion of the Project, (c) inspecting and/or supervising construction of the Project, and (d) reimbursement of other costs incurred in connection with the construction of the Project and related facilities;

(ix) subject to the limitations contained in the IDA Lease Agreement that the salary or other compensation paid to the officers or employees of the Company for work done by such officers or employees in connection with the Project will be included as a Project Cost only to the extent that such Persons were specifically employed for such particular purpose, such salary or other compensation does not exceed the actual cost thereof and would, if such Project Cost had been undertaken by the Company, be treated on the books of the Company as a capital expenditure in conformity with generally accepted accounting principles applied on a consistent basis, expenses for supervision by the officers or employees of the Company and expenses for work done by such officers or employees in connection with the Project;

(x) all other costs and expenses relating to the completion of the Project or the issuance of a series of Bonds including soft costs and the costs of funding any amounts to be held in any Account of the Debt Service Reserve Fund; and

(xi) costs of issuance.

"Project Fund" means the Project Fund created under the Indenture and described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Project Fund*."

"Qualified Costs" means the cost of exempt facilities, including facilities functionally related and subordinated thereto, as set forth in the Code.

"Qualified Financial Institution" means a bank or other financial services corporation or institution, a trust company, a national banking association (including the Trustee or its affiliates), a corporation subject to registration with the Board of Governors of the Federal Reserve System under the Bank Holding Company Act of 1956 or any successor provisions of law, a federal branch pursuant to the International Banking Act of 1978 or any successor provision of law, a domestic branch or agency of a foreign bank which branch or agency is duly licensed or authorized to do business under the laws of any state or territory of the United States of America, a savings bank, a savings and loan association, an insurance company or association chartered or organized under the laws of any state of the United States of America or a government bond dealer reporting to, trading with, and recognized as a primary dealer by the Federal Reserve Bank of New York (or an entity which owns a majority equity interest in such a government bond dealer) (a) in each case whose long term unsecured debt or whose claims paying ability is rated in either of the three highest Rating Categories (without qualification by symbols "+" or "-" or a numerical notation) by S&P or Moody's or whose debt is unconditionally guaranteed by a corporation whose long-term unsecured debt or whose claims paying ability is rated in one of such categories and (b) in each case whose short-term unsecured debt paying ability is rated as least A-1 by S&P and P-1 by Moody's, or whose debt is unconditionally guaranteed by a corporation whose short-term unsecured debt or whose claims-paying ability is rated in one of such categories.

"Qualified Investments" means, to the extent permitted by applicable law, the following:

(i) Government Obligations.

(ii) Commercial paper, rated at least P-1 by Moody's and at least A-1 by S&P, issued by a corporation or banking institution organized under the laws of the United States of America or any state thereof.

(iii) Direct and general long-term obligations of any state of the United States of America to which the full faith and credit of the state is pledged and which are rated in either of the two highest Rating Categories by Moody's and S&P.

(iv) Direct and general short-term obligations of any state of the United States to which the full faith and credit of the state is pledged and which are rated in the highest Rating Category by Moody's and S&P.

(v) Interest bearing demand or time deposits with or certificates of deposit issued by a national banking association or a state bank or trust company which is a member of the Federal Deposit Insurance Corporation (*"FDIC"*) which are

(a) continuously and fully insured by the FDIC, or (b) with a bank which has outstanding debt, or which is a subsidiary of a holding company which has outstanding debt, rated in either of the two highest Rating Categories by Moody's and S&P or (c) continuously and fully secured by obligations of the type described in (i) and (ii) above which have a market value at all times at least equal to the principal amount of the deposit and which are held by the Trustee or its agent or, in the case of uncertificated securities, are registered in the name of the Trustee as pledgee.

(vi) Money market funds registered under the Investment Company Act of 1940, whose shares are registered under the Securities Act of 1933, and, if rated by S&P, rated "AAAm-G," "AAAm," or "AAm" and, if rated by Moody's, rated "Aaa," "Aa1" or "Aa2," including funds for which the Trustee, its affiliates or subsidiaries provides investment advisory or other management services.

(vii) Any repurchase agreement with any bank or trust company organized under the laws of any state of the United States or any national banking association (including the Trustee or its affiliates) or government bond dealer reporting to, trading with, and recognized as a primary dealer by the Federal Reserve Bank of New York, which agreement is secured by Governmental Obligations.

(viii) Investment agreements for the investment of moneys held by the Trustee pursuant to the Indenture with a Qualified Financial Institution.

(ix) Asset backed securities rated Aaa by Moody's or AAA by S&P.

(x) Corporate medium term notes having a long term rating of A2 or above from Moody's or A or above from S&P or having a short term rating of A-1 or above from Moody's or P-1 or above from S&P.

"*Qualified Maintenance*" means, with respect to any item of Eligible Personalty or Leased Personalty, the acquisition or leasing of which would be characterized (whether or not so characterized by the Company) in accordance with Accounting Standards of the Financial Accounting Standards Board as a "capital expenditure," the replacement of parts (other than parts that contain materials or substances that are consumed in the operation of such property (*e.g.*, a toner cartridge) where such parts must be replaced whenever the substance is consumed) or the making of repairs, but does not include maintenance of the type constituting janitorial services.

"*Qualified Mortgage*" has the meaning set forth herein in APPENDIX H—"SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT TOWARDS ENTERING INTO A LEASE AND THE CITY ATTORNMENT AGREEMENT—Summary of Certain Provisions of the City Attornment Agreement."

"*Qualified Personalty Lease*" means the IDA Lease Agreement and any lease of one or more items of Leased Personalty to the Company on behalf of and as agent for the Agency, (1) which lease would be characterized (whether or not so characterized by the Company) in

accordance with Accounting Standards of the Financial Accounting Standards Board as a "capital lease," or (2) pursuant to which an option to purchase the subject property of such lease is granted thereunder by the lessor.

"Qualifying Replacement Tenant" means a major domestic or international Scheduled Aircraft Operator, or a consortium of such major domestic or international Scheduled Aircraft Operators each of which would be jointly and severally obligated to the Port Authority with respect to all of the consortium's obligations under the Port Authority Lease, who each meet all of the requirements set forth in Section 92, including but not limited to the entering into with the Port Authority of the Lease Assignment/Assumption and Consent Agreement, and thereby become the assignee/purchaser of the Port Authority Lease with respect to the Premises resulting from the exercise by the Leasehold Mortgagee of its Reletting Rights, whether by foreclosure and sale or by assignment in lieu of foreclosure.

"Rating Agency" means S&P if S&P is then rating the Bonds and Moody's if Moody's is then rating the Bonds, and such other nationally recognized securities rating agency, if any, as shall then rating the Bonds.

"Rating Category" means one of the generic rating categories of the Rating Agencies without regard to any refinement or gradation of such rating by a numerical modifier or otherwise.

"Rebate Fund" means the Rebate Fund created under the Indenture and described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Payments into Rebate Fund; Application of Rebate Fund.*"

"Record Date" has the meaning set forth herein under "THE SERIES 2002 BONDS—General."

"Redemption Account" means any special trust Account of the Bond Fund so designated and established pursuant to the Indenture and as described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Payments into Bond Fund*" and "—*Application of Bond Fund.*"

"Redevelopment Work" means the design and construction of the "Passenger Terminal Work" (as described and defined in Section 2B(a) of the Port Authority Lease) and the "Off-Premises Work" (as described and defined in Section 2B(a) of the Port Authority Lease).

"Redevelopment Work Completion Date" means the date appearing on the certificate issued by the Port Authority pursuant to the Port Authority Lease after substantial completion of the Redevelopment Work.

"Release Price" means, at any time of the calculation thereof, the Outstanding principal amount of the Bonds multiplied by a fraction the numerator of which equals the total annual revenues attributable to the proposed Released Property and the denominator of which equals the

total annual revenues attributable to the Leased Facilities prior to the release of such Released Property.

"Released Property" means the portions of the Leased Facilities which the Company, the Port Authority or, upon the effectiveness of the New/City American Lease, the City, have released from the Leased Facilities as described herein under APPENDIX C—"SUMMARY OF CERTAIN PROVISIONS OF THE IDA LEASE AGREEMENT—Particular Covenants—*Retention of Interest in the Facility.*"

"Reletting Election Notice" means the written notice required to be given by the Leasehold Mortgagee to the Port Authority pursuant to the Port Authority Lease affirmatively stating the Leasehold Mortgagee's election to (i) exercise its Reletting Rights thereunder and (ii) to exercise its rights under the Leasehold Mortgage to foreclose upon the Leasehold Mortgage or to have the Port Authority Lease with respect to the Premises assigned to a Qualifying Replacement Tenant in accordance with the provisions of the Port Authority Lease.

"Reletting Election Notice Service Date" has the meaning set forth herein under Appendix F—"Summary of Certain Provisions of the Port Authority Lease—Leasehold Mortgage and Reletting Rights—*Foreclosure Obligations.*

"Reletting Election Period" has the meaning set forth herein in Appendix F—"Summary of Certain Provisions of the Port Authority Lease—Leasehold Mortgage and Reletting Rights—*Election to Exercise Reletting Rights.*"

"Reletting Rights" mean the rights of the Trustee as Leasehold Mortgagee with respect to the Premises and the Leasehold Mortgage to obtain a Qualifying Replacement Tenant during the Foreclosure Period as provided in Section 92, *provided, however,* no Reletting Rights will commence or be deemed to have commenced until on or after the Reletting Rights Effective Date, if any, and further will commence only if there is a Leasehold Mortgage, which has been properly dated, executed, delivered and recorded strictly in compliance with the terms and provisions of Section 92 and the Port Authority Consent, and will terminate as provided in Section 92, including without limitation, upon the termination or expiration of the Leasehold Mortgage in accordance with Section 92.

"Reletting Rights Effective Date" means the date on which all of the Reletting Rights Effective Date Conditions have been fulfilled.

"Reletting Rights Effective Date Conditions" has the meaning set forth herein under "INTRODUCTORY STATEMENT" and in APPENDIX F—"SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY LEASE—Leasehold Mortgage and Reletting Rights—*Reletting Rights Effective Date Conditions.*"

"Required Conditions" has the meaning set forth herein under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Conditions to Execution, Delivery and Recording of the Leasehold Mortgage.*"

"Reserve Fund Facility" means a surety bond, insurance policy, letter of credit or investment agreement (which investment agreement must be a Qualified Investment) which constitutes any part of the Debt Service Reserve Account Requirement for a series of Bonds authorized to be delivered to the Trustee pursuant to the Indenture and/or a surety bond, insurance policy, letter of credit or investment agreement (which investment agreement must be a Qualified Investment) which constitutes any part of the Foreclosure Payment Account to be delivered to the Trustee pursuant to the Indenture.

"S&P" means Standard & Poor's Ratings Services, a Division of The McGraw-Hill Companies, Inc., a corporation organized and existing under the laws of the State, its successors and its and their assigns, and, if such corporation is dissolved or liquidated or no longer performs the functions of a securities rating agency, "S&P" will be deemed to refer to any other nationally recognized securities rating agency designated by the Agency by notice to the Trustee and the Company.

"Sales and Use Taxes" means New York State and local sales and/or compensating use taxes imposed pursuant to Sections 1105, 1107, 1108, 1109 and 1110 of the New York State Tax Law, as each of the same may be amended from time to time (including any successor provisions to such statutory sections).

"Sales Tax Letter" means that certain Sales Tax Letter of the Agency dated July 31, 2002.

"Sales Tax Savings" means all exemptions of Sales and Use Taxes actually realized by the Company pursuant to the IDA Lease Agreement, the Sales Tax Letter and the Preliminary Sales Tax Letter. The term *"Sales Tax Savings"* does not include any exemption from Sales and Use Taxes realized by the Company other than (i) pursuant to the provisions of Article 18-A of the General Municipal Law or (ii) pursuant to the Agency's involvement in the Project.

"Scheduled Aircraft Operator" means a Civil Aircraft Operator engaged in transportation by aircraft operated wholly or in part on regular flights to and from the Airport in accordance with published schedules; but so long as the Federal Aviation Act of 1958, or any similar federal statute providing for the issuance of Foreign Air Carrier Permits or Certificates of Public Convenience and Necessity or substantially similar permits or certificates, is in effect, no Person will be deemed to be a Scheduled Aircraft Operator unless it also holds such a permit or certificate.

"Section 92" means Section 92 of the Port Authority Lease, entitled "Reletting Rights-Leasehold Mortgagee," which section authorizes the Leasehold Mortgage and provides for the Reletting Rights of the Trustee, as Leasehold Mortgagee, thereunder.

"Section 92(d) Provisions" has the meaning set forth herein under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Execution, Delivery and Recording of the Leasehold Mortgage After Reletting Rights Effective Date.*"

"Security Documents" means, with respect to all Bonds, the Equipment Security Agreement, the Company Sublease, the IDA Lease Agreement, the Guaranties, the Indenture, the Agreement Towards Entering Into a Lease, the City Attornment Agreement and the Leasehold Mortgage and, with respect to a particular series of Bonds, the applicable Tax Certificate, and any and all other documents or instruments delivered to the Trustee in connection with the provision of the security for such series of Bonds; *provided* that in no event will the Port Authority Lease, the New City/American Lease or the Port Authority Consent be or be deemed to be Security Documents.

"Series 2002 Bonds" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Series Supplemental Indenture" means any indenture supplemental to or amendatory of the Indenture authorizing the issuance of a series of Bonds and executed and delivered by the Agency and the Trustee in accordance with the Indenture.

"Sinking Fund Installment" means the amount required by the Indenture, if any, as payable on a single future date for the retirement of any Outstanding Bonds which are expressed to mature after such future date, but does not include any amounts payable by reason only of the maturity of a Bond.

"Sinking Fund Installment Account" means any special trust Account of the Bond Fund so designated and established pursuant to the Indenture and as described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Custody and Investment of Funds—*Lease Payments Fund*" and "—*Payments into Bond Fund.*"

"State" means the State of New York.

"Tax Certificate" means, with respect to a series of Tax-Exempt Bonds, any Tax Certificate as to Arbitrage and the Provisions of Sections 103 and 141-150 of the Internal Revenue Code of 1986, dated the date of original issuance of such series of Bonds, executed by Authorized Representatives of the Agency and the Company and delivered to the Agency, the Company and the Trustee, and will include any and all amendments thereof and supplements thereto thereafter made in conformity therewith and the Indenture.

"Tax-Exempt Bond (or series of Tax-Exempt Bonds)" means any Bond (or series of Bonds) issued with the intent of the Agency, expressed in the applicable Series Supplemental Indenture, that interest on such Bond (or on the Bonds of such series) be excluded pursuant to Section 103 of the Code from the gross income of the owners thereof for federal income tax purposes.

"Tenant Improvements" means all improvements, renovations and upgrades to the Leased Facilities including the installation of Facility Improvement Materials relating thereto for use by the Company, the Affiliates, and the Eligible Affiliates solely for the purposes of the construction of the Project and for which Sales Tax Savings will have been taken pursuant to the IDA Lease Agreement and the Sales Tax Letter.

"Tender Agent" means, with respect to a series of Bonds, the initial and any successor tender agent appointed in accordance with the Series Supplemental Indenture authorizing the issuance of such series of Bonds and executed and delivered by the Agency and the Trustee in accordance with the Indenture.

"Triggering Events" has the meaning set forth herein under APPENDIX F—"SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY LEASE—Termination by Port Authority."

"Trust Estate" means all property, interests, revenues, funds, contracts, rights and other security granted to the Trustee under the Security Documents.

"Trustee" has the meaning set forth herein under "INTRODUCTORY STATEMENT."

"Weekly Interest Rate" means, with respect to each series of Bonds, a variable interest rate on such series of Bonds established in accordance with the Indenture.

"Wrongful Recording of the Leasehold Mortgage" has the meaning set forth herein under APPENDIX F—"SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY LEASE—Leasehold Mortgage and Reletting Rights—*Reletting Rights Effective Date Conditions*."

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APPENDIX C

SUMMARY OF CERTAIN PROVISIONS OF THE IDA LEASE AGREEMENT

The following is a brief summary of certain provisions of the IDA Lease Agreement and does not purport to be comprehensive or complete. Reference is made to the IDA Lease Agreement for the complete provisions.

The Project

General. The Company warrants it is conveying to the Agency a valid leasehold interest in the Leased Facilities on or prior to delivery and payment for the Series 2002 Bonds and that it will convey to the Agency good legal title to items of the Facility Equipment (subject to any interests in title of the Port Authority or the City in such Facility Equipment) the costs of which are to be reimbursed with the proceeds of a series of Bonds, in each case free and clear of all liens, claims, charges, encumbrances, security interests and servitudes other than Permitted Encumbrances, all against payment therefor by the Agency from the proceeds of the Series 2002 Bonds deposited in the applicable Construction Account of the Project Fund to the extent permitted by the IDA Lease Agreement and the Indenture. The Agency and the Company agree that the leasehold interest conveyed to the Agency under the Company Sublease is subject to the Company Sublease, the Port Authority Consent, the Basic Lease and the Port Authority Lease.

As promptly as practicable after receipt of the proceeds of sale of any series of Bonds and out of said proceeds of sale and proceeds of sales of subsequent series of Bonds, the Company will, on behalf of the Agency, proceed with the Project through the acquisition and installation of Facility Improvement Materials, Facility Equipment, the leasing of Leased Personalty, the entering into of Maintenance Contracts, the entering into of Qualified Personalty Leases and the making of Tenant Improvements to the Leased Facilities. The cost of the Project shall be paid from each Construction Account of the Project Fund established under the Indenture.

The Company covenants that it has obtained or will obtain or cause to be obtained all necessary approvals, consents, permits, authorization and licenses from any and all governmental agencies and appropriate authorities requisite to the effectuation by the Company of the Tenant Improvements and the acquisition of the Facility Improvement Materials, the Facility Equipment, Leased Personalty and Maintenance Contracts and the operation and use of the same and shall furnish copies of the same to the Agency promptly upon request by the Agency therefor, all of which will be done in compliance in all material respects with all federal, State and local laws, ordinances and regulations applicable thereto, and with the conditions and requirements of the Port Authority, the Basic Lease, the Port Authority Consent and the Port Authority Lease and all policies of insurance required to be maintained hereunder and under the Port Authority Lease with respect to the Leased Facilities. Upon completion of the Project, the Company will promptly obtain or cause to be obtained all required occupancy permits, authorizations and licenses from appropriate authorities, if any be required, authorizing the occupancy, operation and use of the Facility for the purposes contemplated by the IDA Lease Agreement, except if such non-compliance shall not materially adversely affect the Agency, and

upon the written request of the Agency or the Trustee therefor, shall furnish copies of the same to the Agency and the Trustee.

Subject to any interest in title of the Port Authority or the City in Facility Improvement Materials and Facility Equipment installed as part of the Facility as Tenant Improvements and exclusive of materials or equipment not constituting Financed Property, possession of which is conveyed to the Agency subject to the Basic Lease, the Port Authority Lease, the Port Authority Consent, and the Company Sublease, title to all said Facility Equipment and leasehold title to Facility Improvement Materials acquired as part of the Project shall vest in the Agency immediately upon the execution by the Company as agent for the Agency of a contract, lease, bill of sale, invoice or purchase order therefor and upon delivery to or installation at the Leased Facilities or payment therefor, whichever shall occur first. The Company shall take all action reasonably necessary to protect such title of the Agency in such Facility Improvement Materials and Facility Equipment against claims of any third parties.

Subject to any interest in title of the Port Authority or the City in Facility Improvement Materials and Facility Equipment installed as part of the Facility as Tenant Improvements, and exclusive of materials or equipment not constituting Financed Property, possession of which is conveyed to the Agency subject to the Basic Lease, the Port Authority Lease, the Port Authority Consent and the Company Sublease, the Company shall, within a reasonable time after the acquisition of such Facility Improvement Materials and Facility Equipment by or on behalf of the Company, convey or cause to be conveyed to the Agency by bill(s) of sale with full warranties of title good title to any item of such Facility Improvement Materials or Facility Equipment which has not theretofore been conveyed to the Agency, free and clear of all liens, claims, charges, security interests and encumbrances other than Permitted Encumbrances. The Company shall take all action necessary to so vest title to such Facility Improvement Materials and Facility Equipment in the Agency and to protect such title against claims of any third parties.

The Company agrees that none of the Facility Improvement Materials, Facility Equipment, Leased Personalty or Maintenance Contracts shall be located or used at any location other than at the Leased Facilities and none of the Facility Improvement Materials, Facility Equipment, Leased Personalty or Maintenance Contracts shall be acquired, leased or undertaken other than for the purposes of the Project, except as provided in the IDA Lease Agreement.

In the event moneys in the Project Fund are not sufficient to pay the costs necessary to complete the Project in full, the Company shall pay that portion of such costs of the Project as may be in excess of the moneys therefor in the Project Fund and shall not be entitled to any reimbursement therefor from the Agency, the Trustee or the Holders of any of the Bonds (except from the proceeds of Additional Bonds issued for that purpose), nor shall the Company be entitled to any diminution of the rents payable or other payments to be made under the IDA Lease Agreement.

Sales and Use Tax Benefits. Any exemption from Sales and Use Taxes resulting from or occasioned by Agency's involvement with the Project shall be limited to the acquisition and installation of Facility Improvement Materials, Facility Equipment, the leasing of Leased Personalty, the entering into of Maintenance Contracts, the entering into of Qualified Personalty

Leases and the making of Tenant Improvements to the Leased Facilities effected by or for the Company as agent for the Agency, it being the intent of the parties to the IDA Lease Agreement that no operating expenses of the Company and no purchase of equipment or other personal property other than Facility Equipment or Facility Improvement Materials shall be subject to an exemption from Sales and Use Taxes because of the Agency's involvement with the Project. The Company shall be entitled to Sales Tax Savings pursuant to the Sales Tax Letter and/or the IDA Lease Agreement in the maximum amount set forth in the Sales Tax Letter until the earliest of (i) August 31, 2010, (ii) the completion of the Project, (iii) the termination of the IDA Lease Agreement, (iv) receipt by the Company of notice from the Agency of the termination of the Sales Tax Letter, or (v) the termination of the Sales Tax Letter pursuant to the terms of the IDA Lease Agreement.

Issuance of Bonds and Additional Bonds; Lease of Facility and Rental Provisions

Issuance of Additional Bonds. The Agency and the Company recognize that under the provisions of and subject to the conditions set forth in the Indenture, the Agency is authorized to enter into Series Supplemental Indentures and issue one or more series of Additional Bonds for the purpose of paying Project Costs. If an Event of Default shall not exist under the IDA Lease Agreement, the Agency, in its sole discretion, will consider the issuance of Additional Bonds in a principal amount as is specified in a written request in accordance with the applicable provisions set forth in the Indenture. In conjunction with the issuance of each series of Additional Bonds pursuant to the Indenture, the Agency and the Company shall enter into an IDA Lease Amendment amending the IDA Lease Agreement providing, among other things, for the payment by the Company of such rentals as are necessary in order to pay the principal, redemption price, if applicable, purchase price of, and interest on such Additional Bonds and any other costs in connection therewith. The proceeds of sale of each series of Additional Bonds shall be deposited and applied in accordance with the Indenture. Any completion, repair, relocation, replacement, rebuilding, restoration, additions, extensions, improvements or substitutions financed by Additional Bonds shall become a part of the Facility and shall be included under the IDA Lease Agreement to the same extent as if originally included under the IDA Lease Agreement.

Lease of the Facility. Subject to the Basic Lease, the Port Authority has subleased the Leased Facilities to the Company pursuant to the Port Authority Lease, and the Company has, subject to the Basic Lease, the Port Authority Lease, the Port Authority Consent, the Agreement Towards Entering Into a Lease and the City Attornment Agreement, sub-subleased the Leased Facilities to the Agency pursuant to the Company Sublease. Pursuant to the IDA Lease Agreement, the Agency will sub-sub-sublease the Leased Facilities to the Company and the Company will sub-sub-sublease such Leased Facilities from the Agency, in each case subject to the Basic Lease, the Port Authority Lease, the Company Sublease, the Port Authority Consent, the Agreement Towards Entering Into a Lease and the City Attornment Agreement and the New City/American Lease (if then effective), and the Agency shall lease the Facility Equipment to the Company and the Company shall lease the Facility Equipment from the Agency, for the term of and subject to the terms of the IDA Lease Agreement. The Company shall at all times during the term of the IDA Lease Agreement occupy, use and operate the Facility, or cause the Facility to be occupied, used and operated, as a qualified "project" in accordance with the provisions of the

Act, and in accordance with the Basic Lease, the Port Authority Lease, the Port Authority Consent, the Agreement Towards Entering Into a Lease, the City Attornment Agreement and the New City/American Lease (if then effective), and for the general purposes specified in the IDA Lease Agreement.

Duration of Term. The term of the IDA Lease Agreement shall commence on the date of execution and delivery of the IDA Lease Agreement and shall terminate on the termination of the Company Sublease unless terminated earlier pursuant to the terms of the IDA Lease Agreement.

Rental Provisions. The Company covenants to make rental payments which the Agency agrees shall be paid by the Company in immediately available funds directly to the Trustee on or prior to each Interest Payment Date, date of acceleration, principal payment date (whether principal is due by scheduled maturity, acceleration or otherwise) or redemption date for the Bonds for deposit in the Lease Payments Fund (to the extent amounts then on deposit in such Lease Payments Fund shall not be available and sufficient therefor) in an amount equal to the sum of (i) with respect to interest due and payable on the Bonds, an amount equal to the interest due and payable on the Bonds on such Interest Payment Date, principal payment date, redemption date or date of acceleration, (ii) the principal amount of the Bonds then Outstanding due on such Interest Payment Date, principal payment date or date of acceleration (whether at maturity or by redemption or acceleration or otherwise as provided in the Indenture), (iii) the Sinking Fund Installments, if any, due on the Bonds on such Interest Payment Date, and (iv) the redemption price of the Bonds to be redeemed which will become due on such redemption date together with accrued interest to the date of redemption.

If the amount on deposit and available in the Lease Payments Fund is not sufficient to pay the principal of, Sinking Fund Installments for, redemption premium, if any, and interest on such Bonds when due (whether at maturity or by redemption or acceleration or otherwise as provided in the Indenture), the Company shall pay the amount of such deficiency in immediately available funds to the Trustee for deposit in the Lease Payments Fund and such payment shall constitute rental payments under the IDA Lease Agreement.

The Company further covenants to make rental payments which the Agency agrees shall be paid by the Company in immediately available funds directly to the applicable Tender Agent for deposit into the applicable Bond Purchase Fund on or prior to each Purchase Date for the Bonds in an amount equal to the purchase price for such Bonds tendered or deemed tendered for purchase.

As security for the payment of amounts due under the Guaranties, the Company shall grant a leasehold mortgage lien on and security interest in its leasehold interest under the Port Authority Lease. The lien of the Leasehold Mortgage will be superior to the lien on lease payments made under the IDA Lease Agreement and granted to the Trustee pursuant to the Indenture. Pursuant to the Indenture, the Agency will pledge and assign to the Trustee as security for the Bonds all of the Agency's non-possessory right, title and interest in the IDA Lease Agreement (except for the Agency's Reserved Rights), including all rental payments under the IDA Lease Agreement, and in furtherance of said pledge the Agency will unconditionally assign such rental payments to the Trustee for deposit in the Lease Payments

Fund and/or the applicable Bond Purchase Fund as the case may be in accordance with the Indenture. The Company consents to the pledge and assignment of the IDA Lease Agreement.

The Company covenants and agrees (i) in accordance with clauses (ii) and (iii) described below in this paragraph, to cause any Account of the Debt Service Reserve Fund established with respect to a particular series of Bonds to be maintained at the applicable Debt Service Reserve Account Requirement relating to such series of Bonds, subject to withdrawals therefrom and to deficiencies therein based on a valuation of the assets thereof, (ii) to replenish any withdrawals from such Account of the Debt Service Reserve Fund, to the extent necessary to cause such Account of the Debt Service Reserve Fund to be funded at the applicable Debt Service Reserve Account Requirement, by paying 12 monthly installments to the Trustee in an amount equal to one-twelfth of such withdrawal, in immediately available funds, the payment of such installments to commence on the first Business Day in the calendar month immediately succeeding such withdrawal, and (iii) to replenish any deficiencies in such Account of the Debt Service Reserve Fund based on a valuation of the assets thereof by paying 12 monthly installments to the Trustee in an amount equal to one-twelfth of such valuation deficiency, in immediately available funds, the payment of such installments to commence on the first Business Day in the calendar month immediately succeeding such valuation.

Allocation of Rent. The Agency and the Company acknowledge the intent of the Company, and the Company covenants that solely for federal income tax purposes the Leased Facilities and each unit of Facility Equipment constituting Financed Property are to be treated as property that is governmentally owned (within the meaning of Section 142(b) of the Code) and leased to the Company pursuant to the terms of the IDA Lease Agreement, the Port Authority Lease and the New City/American Lease (if then effective). Payments made pursuant to the IDA Lease Agreement entered into with respect to such property are to be characterized as rental payments (or interest in respect of deferral or acceleration of rental payments) in respect of the right to possession of such property conveyed to the Company thereby.

Ownership of the Facility Equipment. It is the intent of the parties to the IDA Lease Agreement that solely for federal income tax purposes, the Agency will be treated as the owner and lessor of the Facility Equipment constituting Financed Property not deemed owned by the Port Authority or the City under the Port Authority Lease, the Basic Lease or the New City/American Lease (if then effective) (the *"IDA Equipment"*). The parties to the IDA Lease Agreement thereby agree that neither the Agency, nor any person controlled by, in control of, or under common control with the Agency or the Company, directly or indirectly, will at any time take any action or file any return or other document that is inconsistent with the foregoing assumption.

Notwithstanding any other provision of the IDA Lease Agreement to the contrary, except for the Company's right to purchase equipment as provided in the IDA Lease Agreement and described in this APPENDIX C under "—Options," or for the Port Authority's right to purchase the Facility Equipment in connection with a proposed foreclosure of the Leasehold Mortgage as described herein under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Conditions Precedent to Foreclosure—Right of Port Authority to Terminate the Leasehold Mortgage Prior to Foreclosure,*" upon expiration of the duration of the term of the

IDA Lease Agreement, all remaining IDA Equipment shall be transferred by the Agency to the City or the designee of the City.

Obligation of Company Unconditional. The obligation of the Company to pay the rent and all other payments provided for in the IDA Lease Agreement as amended by any IDA Lease Amendments and to maintain the Facility in accordance with the IDA Lease Agreement shall be absolute and unconditional, irrespective of any defense or any rights of setoff, recoupment or counterclaim or deduction and without any rights of suspension, deferment, diminution or reduction it might otherwise have against the Agency, the Port Authority, the City, the Trustee or the Holder of any Bond, and the obligation of the Company shall arise whether or not the Project has been completed as provided in the IDA Lease Agreement, whether or not the Company's rental payments are or become subject to any lien, and whether or not the Basic Lease, the Port Authority Lease or the New City/American Lease shall have been terminated or shall have expired. The Company will not suspend or discontinue any such payment or terminate the IDA Lease Agreement (other than such termination as is provided for thereunder) for any cause whatsoever, and the Company waives all rights now or hereafter conferred by statute or otherwise to quit, terminate, cancel or surrender the IDA Lease Agreement or any obligation of the Company under the IDA Lease Agreement except as permitted by the IDA Lease Agreement or to any abatement, suspension, deferment, diminution or reduction in the rentals or other payments thereunder.

Payment of Purchase Price of Tendered Bonds. Any payment by the Company to a Tender Agent of amounts necessary to pay the applicable purchase price of Bonds pursuant to the Indenture shall be in immediately available funds and paid to such Tender Agent at its principal corporate trust office on the date set forth in the Indenture.

The Company approves and agrees to be bound by the provisions of the Indenture regarding the purchase, offer, sale and delivery of each series of Bonds required to be tendered for purchase thereunder. The Company shall have all of the rights and obligations provided in the Indenture with respect to the Company in connection with such transactions and the appointment of the Tender Agent and the Remarketing Agent for such series of Bonds thereunder. The Agency shall have no obligation or responsibility with respect to the purchase of any series of Bonds or any related arrangements, except that the Agency, at the expense of the Company, shall cooperate in the making of any such arrangements.

Maintenance, Taxes and Insurance

Maintenance, Alterations and Improvements. During the term of the IDA Lease Agreement, the Company will keep the Leased Facilities and the Facility Equipment in good and safe operating order and condition, ordinary wear and tear excepted, will occupy, use and operate the Facility in the manner for which it was designed and intended and contemplated by the Port Authority Lease, the Port Authority Consent, the New City/American Lease (if then effective) and the IDA Lease Agreement and will, except as provided in the IDA Lease Agreement, make all replacements, renewals and repairs thereto (whether ordinary or extraordinary, structural or nonstructural, foreseen or unforeseen) necessary to ensure the continued operation of the Facility. All replacements, renewals and repairs shall be made and installed in compliance with

the requirements of the governmental bodies having jurisdiction therefor. The Agency shall be under no obligation to replace, service, test, adjust, erect, maintain or effect replacements, renewals or repairs of the Facility, to effect the replacement of any inadequate, obsolete, worn-out or unsuitable parts of the Facility, or to furnish any utilities or services for the Facility, and the Company agrees to assume full responsibility therefor.

The Company shall have the right to make such alterations of or additions to the Facility or any part thereof from time to time as it in its discretion may determine to be desirable for its uses and purposes, *provided* that (i) such additions or alterations are effected in compliance with all applicable legal requirements, (ii) such additions or alterations do not change either the nature of the Facility so that it would not constitute a qualified "project" under the Act nor the nature of the Financed Property so that it would not constitute an exempt "airport facility" within the meaning of Section 142(a)(1) of the Code, and (iii) such additions or alterations are effected in accordance with the Basic Lease, the Port Authority Consent, the Port Authority Lease and the New City/American Lease (if then effective). All alterations of and additions to the Facility shall constitute a part of the Facility, subject to the IDA Lease Agreement, the Leasehold Mortgage, the Equipment Security Agreement, the Port Authority Lease, the Port Authority Consent, the Company Sublease, the Basic Lease and the New City/American Lease (if then effective), and the Company shall deliver or cause to be delivered to the Agency appropriate documents as may be necessary to subject such property to the IDA Lease Agreement and, in the case of the Leased Facilities, the Company Sublease.

The Company shall have the right to install or permit to be installed at the Leased Facilities, machinery, equipment and other tangible personal property not constituting part of the Facility Equipment (the *"Lessee's Property"*) without subjecting such property to the IDA Lease Agreement, the Leasehold Mortgage or the Equipment Security Agreement. The Agency shall not be responsible for any loss of or damage to the Lessee's Property. Subject to the terms of the Port Authority Lease or the New City/American Lease, if any, the Company shall have the right to create or permit to be created any mortgage, encumbrance, lien or charge on, or conditional sale or other title retention agreement with respect to, the Lessee's Property, *provided* that such mortgage, encumbrance, lien or charge or conditional sale or title retention agreement does not create or constitute a lien or encumbrance on the Facility except for Permitted Encumbrances.

The Company shall not create, permit or suffer to exist any mortgage, encumbrance, lien, security interest, claim or charge against the interest of the Agency or the Company in the Company Sublease or the IDA Lease Agreement or the amounts payable thereunder with respect to any series of Bonds, other than Permitted Encumbrances.

Payment of Impositions. The Company shall pay when the same shall become due all taxes and assessments (excluding Sales and Use Taxes for which an exemption has been granted pursuant to the Preliminary Sales Tax Letter and the Sales Tax Letter and the provisions thereof), general and specific, if any, levied and assessed upon or against the IDA Lease Agreement, the Company Sublease, the Leasehold Mortgage, the interest of the Trustee under the Indenture, any estate or interest of the Agency or the Company in the Facility, or the rentals or other payments under the IDA Lease Agreement during the term of the IDA Lease Agreement, and all charges, special district charges, assessments and other governmental charges and impositions

whatsoever, foreseen or unforeseen, ordinary or extraordinary, under any present or future law, and charges for public or private utilities or other charges incurred in the occupancy, use, operation, maintenance or upkeep of the Facility, all of which are called "*Impositions*." The Agency shall promptly forward to the Company any notice, bill or other statement received by the Agency concerning any Imposition. The Company may pay any Imposition in installments if so payable by law, whether or not interest accrues on the unpaid balance.

The Company may contest in good faith the validity, existence or applicability of any Imposition if (i) in the Opinion of Counsel, such contest shall suspend the execution or enforcement of such Imposition against any of the rentals or other amounts payable under the IDA Lease Agreement or the interest of the Company or the Agency under the IDA Lease Agreement or the Company Sublease or the interest of the Leasehold Mortgagee under the Leasehold Mortgage or the interest of the Trustee under the Indenture, and (ii) such contest shall not result in the Agency or the Trustee being in any danger of any criminal liability for failure to comply therewith. In the event that any Imposition shall be imposed upon the Agency's interest in the Facility, the IDA Lease Agreement or the rentals or other payments thereunder, the Company shall pay the same as required by the IDA Lease Agreement, and the Company shall be subrogated to the Agency's right, if any, to contest the validity of such Imposition.

Insurance. At all times throughout the term of the IDA Lease Agreement, including without limitation during any period of construction or reconstruction of the Facility, the Company shall maintain or cause to be maintained property and casualty insurance and other policies of insurance relating to the Project for the benefit of the Company, the Agency and the Trustee, with insurance companies having a minimum Best's rating of "A-" (Excellent) and Financial Size Category VII or larger, or as otherwise deemed satisfactory to the Agency, and authorized to do business in the State, against the following risks, loss, damage and liability (including liability to third parties) and in such amounts as are set forth below:

(i) (A) Workers' compensation insurance in amounts required by law, (B) Employers' liability insurance, including (I) coverage of bodily injury by accident in the amount of $1,000,000 each accident and (II) bodily injury by disease in the amount of $1,000,000 per employee with a $1,000,000 policy limit,

(ii) Excess employers' liability insurance with minimum limits of $25,000,000 per occurrence, and

(iii) Such other insurance in such amounts and against such insurable hazards as the Agency from time to time may reasonably require, *provided* that such insurance is generally obtainable and is customarily obtained by air carriers (or their affiliates) of comparable creditworthiness as the Company and which are operators of similar facilities at the Airport at commercially reasonable rates.

In addition to the other obligations relating to insurance required under the IDA Lease Agreement, the Company, during the construction of the Facility up to the date of completion, in its own name as insured and including the Agency and the Trustee as additional insureds shall maintain and pay the premiums on a policy or policies of comprehensive general liability

insurance, including, but not limited to, premises-operations, products-completed operations, explosion, collapse and underground property damages, personal injury and independent contractors, with a broad form property damage endorsement, and with a contractual liability endorsement covering the obligations assumed by the Company pursuant to the applicable sections of the Port Authority Lease, and comprehensive automobile liability insurance covering owned, nonowned and hired vehicles and environmental impairment liability insurance covering both gradual and sudden and accidental occurrences, on a claims-made basis, with a one year extended reporting period and which shall be site specific and include on-site and off-site clean-up and with a contractual liability endorsement covering the obligations assumed by the Company pursuant to the environmental indemnification requirements set forth in the IDA Lease Agreement. The said comprehensive general liability insurance policy required during construction of the Project shall have a limit of not less than $100,000,000 combined single limit per occurrence for bodily injury and property damage liability on a per location/per aggregate basis. The said comprehensive automobile liability insurance shall have a limit of not less than $25,000,000 combined single limit per accident for bodily injury and property damage liability. The said environmental impairment liability insurance shall have a limit of not less than $10,000,000 combined single limit per occurrence for death bodily injury and property damage liability for both gradual and sudden occurrences. A comprehensive general liability insurance policy with asbestos removal/abatement coverage, with respect solely to said asbestos removal/abatement portions of the construction work, shall have a limit of not less than $5,000,000 combined single limit per occurrence for bodily injury and property damage liability and each such policy shall be project specific with respect to said portions of the construction work. The Company must also maintain an "all risk" builders risk policy in an amount not less than the completed value of the work being performed, including coverage for items stored off-site and time in transit for an amount sufficient to cover fully any loss. Professional liability (errors and omissions) insurance for any architect, engineer or other person or entity providing professional services to the Company and/or employed in connection with the design/build or maintenance of the Facility, with limits in an amount of not less than $1,000,000, must be maintained as well. The foregoing shall be in addition to all policies of insurance otherwise required by the IDA Lease Agreement, or the Company may provide such insurance by requiring each contractor or subcontractor engaged by it for the construction work to procure and maintain such insurance including such contractual liability endorsement, said insurance, whether procured by the Company or by a contractor or subcontractor engaged by it as aforesaid, not to contain any exclusion for bodily injury to or sickness, disease or death of any employee of the Company or of any of its contractors or subcontractors which would conflict with or in any way impair coverage under the contractual liability endorsement. Further, the Company shall provide and maintain or shall require each contractor engaged by it for the construction work, or any portion thereof, to provide and maintain contractor's property and equipment coverage for the full value of such property and equipment with the Agency insured thereunder as its interests may appear. All of the said policy or policies of insurance shall also provide or contain an endorsement providing that the protection afforded the Company thereunder with respect to any claim or action against the Company by a third person shall pertain and apply with like effect with respect to any claim or action against the Company by the Agency or the Trustee and shall also provide or contain an endorsement providing that the protection afforded the Agency or the Trustee thereunder and with respect to any claim or action against the Agency and the Trustee by the Company shall be the same as the protection afforded the Company thereunder with respect

to any claim or action against the Company by a third person as if the Agency or the Trustee were the named insureds thereunder, but such endorsement shall not limit, vary, change, or affect the protection afforded the Agency or the Trustee thereunder as an additional insured. It is specifically understood and agreed that the Agency shall have the right upon notice to the Company given from time to time and at any time to require the Company to increase any or all of the foregoing limits to reasonably commercial amounts and the Company shall promptly comply therewith and shall promptly submit a certificate or certificates evidencing the same to the Agency and the Trustee.

In addition to all other insurance required under the IDA Lease Agreement, the Company, during the term of the IDA Lease Agreement in its own name as insured and including the Agency and the Trustee as additional insureds, shall maintain and pay the premiums on a policy or policies of property insurance, to insure all buildings, structures, improvements, installations, facilities and fixtures now or in the future located on the Premises covered by the IDA Lease Agreement against all risks of physical loss or damage (including, but not limited to flood and earthquake risks) if available, and if not available, then against such hazards and risks as may now or in the future be included under the Standard Form of Fire Insurance Policy of the State of New York, and also covering boiler and machinery hazards and risks in a separate insurance policy or as an additional coverage endorsement to the aforesaid policies in the form as may now or in the future be prescribed as of the effective date of said insurance by the rating organization of the State, comprehensive general liability insurance, including premises-operations, products liability, liquor liability and completed operations, and covering bodily injury, including death, and property damage liability, broadened to include or equivalent separate policies covering aircraft liability, none of the foregoing to contain care, custody or control exclusions, and providing for coverage in the limits set forth below, and comprehensive automobile liability insurance covering owned, nonowned and hired vehicles providing for coverage in the limits set forth below. As to the said comprehensive general liability insurance the Company may, in lieu of the foregoing requirement with respect to care, custody and control exclusions, elect, in its own name as insured and including the Agency and the Trustee as additional insureds as their interests may appear, to maintain and pay the premiums on a baggage legal liability, a cargo legal liability and a real property legal liability policy or policies in the limits set forth below. The said property insurance policy shall be written on an "all risk" basis with an agreed amount endorsement attached. The said comprehensive general liability insurance policy shall have a limit of not less than $100,000,000 combined single limit per occurrence for bodily injury and property damage liability. The said comprehensive automobile liability insurance shall have a limit of not less than $25,000,000 combined single limit per accident for bodily injury and property damage liability.

The minimum limits as to the aforesaid baggage legal liability, cargo legal liability and real property legal liability policy and policies shall be as follows:

Baggage Legal Liability	$10,000,000
Cargo Legal Liability	$10,000,000
Real Property Legal Liability (Fire Legal Liability)	$10,000,000

All of the said policy or policies of insurance shall also provide or contain an endorsement providing that the protections afforded the Company thereunder with respect to any claim or action against the Company by a third person shall pertain and apply with like effect with respect to any claim or action against the Company by the Agency or the Trustee and shall also provide or contain an endorsement providing that the protections afforded the Agency and the Trustee thereunder and with respect to any claim or action against the Agency or the Trustee by the Company shall be the same as the protections afforded the Company thereunder with respect to any claim or action against the Company by a third person as if the Agency or the Trustee were the named insureds thereunder, but such endorsement shall not limit, vary, change, or affect the protection afforded the Agency and the Trustee thereunder as additional insureds. The said policy or policies of insurance shall also provide or contain a contractual liability endorsement covering the obligations assumed by the Company under the Port Authority Lease and any analogous provision of the New City/American Lease (if then effective).

All insurance required under the IDA Lease Agreement shall be procured and maintained in financially sound and generally recognized responsible insurance companies authorized to write such insurance in the State.

The Company shall, at its own cost and expense, make all proofs of loss and take all other steps necessary or reasonably requested by the Agency to collect from insurers for any loss covered by any insurance required to be obtained under the IDA Lease Agreement. The Company shall not do any act, or suffer or permit any act to be done, whereby any insurance required by the IDA Lease Agreement would or might be suspended or impaired.

In addition to notifying its insurer(s) in accordance with the policies, the Company shall provide prompt written notice to the Agency and the Trustee as soon as reasonably possible of any accident or loss relating to the Facility likely to exceed 50% of the applicable coverage limits. The limits of insurance set forth in the IDA Lease Agreement shall in no way be construed to limit the Company's, its contractors' or its subcontractors' liability under the IDA Lease Agreement. All insurance provided by the Company, its contractors and its subcontractors shall be primarily as regards the liabilities under the IDA Lease Agreement, and any insurance maintained by the Agency shall be in excess and not contributing with the Company's, its contractors' or its subcontractors' insurance.

Compliance with Law. The Company agrees that it will, throughout the term of the IDA Lease Agreement and at its sole cost and expense and subject to the provisions of the IDA Lease Agreement, promptly observe and comply or cause to be observed and complied with, in all material respects, all federal, State and local statutes, codes, laws, acts, ordinances, orders, judgments, decrees, rules, regulations and authorizations, whether foreseen or unforeseen, ordinary or extraordinary, which shall now or at any time hereafter be binding upon or applicable

to the Company, any occupant, user or operator of the Facility or any portion thereof (including without limitation those relating to zoning, land use, environmental protection, air, water and land pollution, toxic wastes, hazardous wastes, solid wastes, wetlands, health, safety, equal opportunity, minimum wages, and employment practices) (the *"Legal Requirements"*). The Company shall not occupy, use or operate the Facility or allow the Facility or any part thereof to be occupied, used or operated for any unlawful purpose or in violation of any certificate of occupancy affecting the Facility or that may constitute a nuisance, public or private, or make void or voidable any insurance then in force with respect thereto. The Company shall indemnify and hold harmless the Indemnified Parties (as defined in this Appendix C under "—Particular Covenants—*Indemnification*") from and against all loss, cost, liability and expense (a) in any manner arising out of or related to any violation of or failure to comply with any Legal Requirement or (b) imposed upon the Company or any of the Indemnified Parties by any Legal Requirement; in case any action or proceeding is brought against any of the Indemnified Parties in respect to any Legal Requirement, the Company shall upon notice from any of the Indemnified Parties defend such action or proceeding.

The Company may contest in good faith the validity, existence or applicability of any of the Legal Requirements if (i) in the Opinion of Counsel, such contest shall suspend the execution or enforcement of any lien against any of the rentals or other amounts payable under the IDA Lease Agreement or the interest of the Company or the Agency under the IDA Lease Agreement, the interest of the Trustee under the Indenture or the interest of the Leasehold Mortgagee under the Leasehold Mortgage or the Company Sublease (and as evidenced by a certificate of an Authorized Representative of the Company) shall not result in the Facility or any material part thereof or interest therein being in any material risk of being sold, forfeited or lost, and shall not materially adversely affect the Company's ability to pay and perform its obligations hereunder or under any other Security Document, and (ii) such contest shall not result in the Agency, the Leasehold Mortgagee or the Trustee being in any danger of any criminal liability for failure to comply therewith.

Damage, Destruction and Condemnation

In the event that at any time during the term of the IDA Lease Agreement the whole or part of the Facility shall be damaged or destroyed, or taken or condemned by a competent authority for any public use or purpose, or by agreement (to which the Company shall consent in writing) between the Agency and those authorized to exercise such right, or if the temporary use of the Facility shall be so taken by condemnation or agreement (a *"Loss Event"*):

(i) the Agency shall have no obligation to rebuild, replace, repair or restore the Facility,

(ii) there shall be no abatement, postponement or reduction in the rent or other amounts payable by the Company under the IDA Lease Agreement, and

(iii) the Company will promptly give written notice of any material Loss Event to the Agency and the Trustee, generally describing the nature and extent thereof.

Upon the occurrence of a Loss Event, insurance proceeds with respect to the Leased Facilities shall be applied as required under the Basic Lease and the Port Authority Lease or the New City/American Lease (if then effective).

If all or substantially all of the Facility shall be taken or condemned, or if the taking or condemnation renders the Facility unsuitable for use by the Company as contemplated under the IDA Lease Agreement, and such taking or condemnation shall not be subject to appeal or further appeal, the Company shall exercise its option to terminate the IDA Lease Agreement pursuant to the terms of the IDA Lease Agreement and cause all Bonds Outstanding to be redeemed pursuant to the Indenture, and the Company shall pay to the Trustee for deposit ratably in each of the Redemption Accounts of the Bond Fund an amount that, when added to the total amount then in all of the Bond Fund and available for that purpose, shall be sufficient to retire and redeem the Bonds in whole at the earliest possible date (including, without limitation, principal and interest to the maturity or redemption date) and to pay the expenses of redemption, the fees and expenses of the Agency, the Bond Registrar, the Trustee and the Paying Agents, together with all other amounts due under the Indenture and under the IDA Lease Agreement, and such amount shall be applied, together with such other available moneys in the Bond Fund, if applicable, to such redemption or retirement of the Bonds on said redemption or maturity date.

The Agency and the Company shall cooperate and consult with each other in all matters pertaining to the settlement, compromising, arbitration or adjustment of any claim or demand on account of any Loss Event, but the settlement, compromising, arbitration or adjustment of any such claim or demand shall be subject to the approval of the Company.

The Company waives the provisions of Section 227 of the New York Real Property Law or any law of like import now or hereafter in effect.

Particular Covenants

Dissolution or Merger of Company; Restrictions on Company. The Company covenants and agrees that at all times during the term of the IDA Lease Agreement, it will (i) maintain its corporate existence, (ii) continue to be a corporation subject to service of process in the State and duly qualified to do business as a foreign corporation in the State, (iii) not liquidate, wind-up or dissolve or otherwise dispose of all or substantially all of its property, business or assets, and (iv) not consolidate with or merge into another corporation. The Company may, however, without violating the foregoing, consolidate with or merge into another corporation, or sell or otherwise transfer all or substantially all of its property, business or assets to another such corporation (and thereafter liquidate, wind-up or dissolve or not, as the Company may elect) if (y) such consolidation, merger, sale or transfer shall not cause the Company to be in default under the terms of the Port Authority Lease, the City Attornment Agreement, the Agreement Towards Entering Into a Lease, the Port Authority Consent, the Leasehold Mortgage, upon the effectiveness thereof, the Equipment Security Agreement, any other Security Agreement or the New City/American Lease (if then effective) and (z) (i) the Company is the surviving, resulting or transferee corporation, as the case may be, or (ii) in the event that the Company is not the surviving, resulting or transferee corporation, as the case may be, such corporation (A) is not a Prohibited Person, (B) is a solvent corporation subject to service of process in the State and

either incorporated in or duly qualified to do business as a foreign corporation in the State, and (C) assumes in writing, by means of an instrument that is delivered to the Agency and the Trustee, all of the obligations of the Company contained in the Port Authority Lease, the City Attornment Agreement, the Agreement Towards Entering Into a Lease, the Port Authority Consent, the New City/American Lease (if then effective) and any leasehold mortgage thereon, the IDA Lease Agreement, the Company Sublease, the Leasehold Mortgage (if then effective), the Equipment Security Agreement, and all other Security Documents to which the Company shall be a party, and in the Opinion of Counsel, such corporation shall be bound by all of the terms applicable to the Company of the IDA Lease Agreement, the Port Authority Lease, the Company Sublease, the Agreement Towards Entering Into a Lease, the Port Authority Consent, the City Attornment Agreement, the New City/American Lease (if then effective) and any leasehold mortgage thereon, the Leasehold Mortgage (if then effective), the Equipment Security Agreement and all other Security Documents to which the predecessor Company corporation shall have been a party and such action does not legally impair the security for the Holders of the Bonds afforded by the Security Documents.

Indemnification. The Company shall at all times protect and hold the Agency, the Trustee, the Bond Registrar and the Paying Agents (collectively, the *"Indemnified Parties"*) harmless of, from and against any and all claims (whether in tort, contract or otherwise), demands, expenses and liabilities for losses, damage, injury and liability of every kind and nature and however caused, including reasonable costs, disbursements and expenses (including reasonable legal fees and expenses) and taxes (of any kind and by whomsoever imposed), other than, with respect to the Agency, losses arising from the gross negligence or willful misconduct of the Agency, or, with respect to any other Indemnified Party, losses arising from the negligence or willful misconduct of such other Indemnified Party, arising upon or about the Facility or resulting from, arising out of, or in any way connected with (i) the financing of the costs of the Facility and the marketing, issuance, sale and remarketing of the Agency's Bonds for such purpose (including all expenses and liability relating to any Internal Revenue Service audit or inquiry with respect to the Bonds), (ii) the planning, design, acquisition, site preparation, construction, renovation, equipping, installation or completion of the Project or any part thereof or the effecting of any work done in or about the Facility, (iii) any defects (whether latent or patent) in the Facility, (iv) any violation of or failure to comply with or requirement to comply with any Legal Requirement (v) the maintenance, repair, replacement, restoration, rebuilding, upkeep, use, occupancy, ownership, leasing, subletting or operation of the Facility or any portion of the Facility, or (vi) the Port Authority Lease, the Agreement Towards Entering Into a Lease, the City Attornment Agreement, the New City/American Lease, if any, the Company Sublease, the IDA Lease Agreement, the Indenture, the Leasehold Mortgage, the Equipment Security Agreement or any other Security Document or other document or instrument delivered in connection with the IDA Lease Agreement or the enforcement of any of the terms or provisions thereof or the transactions contemplated thereby. Such indemnification described above shall be binding upon the Company for any and all claims, demands, expenses, liabilities and taxes set forth in the IDA Lease Agreement and shall survive the termination of the IDA Lease Agreement. No Indemnified Party shall be liable for any damage or injury to the person or property of the Company or its directors, officers, employees, agents or servants or persons under the control or supervision of the Company or any other Person who may be about the Facility, due to any act or negligence of any Person other than for the gross negligence or willful

misconduct of the Agency or the negligence or willful misconduct of any other Indemnified Party.

The Company releases each Indemnified Party from, and agrees that no Indemnified Party shall be liable for, and agrees to indemnify and hold each Indemnified Party harmless against, any expense, loss, damage, injury or liability incurred because of any lawsuit commenced as a result of action taken by such Indemnified Party with respect to any of the matters described in clauses (i) through (vi) of the preceding paragraph or at the direction of the Company with respect to any of such matters described above. An Indemnified Party shall promptly notify the Company in writing of any claim or action brought against such Indemnified Party in which indemnity may be sought against the Company pursuant to the indemnification provisions of the IDA Lease Agreement described herein; such notice shall be given in sufficient time to allow the Company to defend such claim or action. The failure of an Indemnified Party to give such notice in sufficient time shall not constitute a defense hereunder nor in any way impair the obligations of the Company under the indemnification provisions of the IDA Lease Agreement, if (i) any officer or management-employee of the Company shall have actual knowledge of such claim or action, or (ii) any officer or professional staff of such Indemnified Party who shall have responsibility with respect to the handling of such claim or action shall not have actual knowledge thereof; *provided* that if any such officer or professional staff referred to in clause (ii) of this sentence shall have had actual knowledge thereof in reasonably sufficient time to give notice thereof to the Company and shall have failed to do so, and an officer or management-employee of the Company referred to in clause (i) of this sentence shall not have actual knowledge of such claim or action, such failure will reduce the liability of the Company under the indemnification provisions of the IDA Lease Agreement by the amount of actual damages resulting from such failure, but such failure will not otherwise relieve the Company from its obligations under the indemnification provisions of the IDA Lease Agreement. In the event the Company shall have suffered actual damages by reason of a circumstance referred to in the preceding sentence for which the Company's liability to an Indemnified Party is not to be reduced, such Indemnified Party shall (at the sole cost and expense of the Company) take such action to mitigate damages (including seeking to open any default judgment as might exist) as may be reasonably requested by the Company.

In addition to and without limitation of all other representations, warranties and covenants made by the Company under the IDA Lease Agreement, the Company further represents, warrants and covenants therein that the Company has not used Hazardous Materials (as defined below) in acquiring, constructing, renovating, expanding or equipping the Facility in any manner that violates federal, state or local laws, ordinances, rules, regulations, or policies governing the use, storage, treatment, transportation, manufacture, refinement, handling, production or disposal of Hazardous Materials, and other than as disclosed to the Indemnified Parties, the Company has no actual knowledge of the presence or use of any Hazardous Materials on the Leased Facilities in a manner that would violate any such laws, ordinances, rules, regulations or policies. The Company shall comply with and require compliance by all tenants and subtenants of the Leased Facilities, in the generation, manufacture, refining, transport, treatment, storage, handling, disposal, transfer, production or processing of Hazardous Materials, with all applicable federal, state and local laws, ordinances, rules and regulations, whenever and by whomever triggered, and shall obtain and comply with, and require that all tenants and

subtenants of the Leased Facilities obtain and comply with, any and all approvals, registrations or permits required thereunder. The Company shall defend, indemnify, and hold harmless each Indemnified Party from and against any claims, demands, penalties, fines, liabilities, settlements, damages, costs, or expenses of whatever kind or nature, known or unknown, contingent or otherwise, arising out of, or in any way related to, (w) the presence, disposal, release, or threatened release of any Hazardous Materials with respect to the Leased Facilities that are on, from, or affecting the soil, water, vegetation, buildings, personal property, persons, animals, or otherwise; (x) any personal injury (including wrongful death) or property damage (real or personal) arising out of or related to such presence, disposal, release, or threatened release of Hazardous Materials; (y) any lawsuit brought or threatened, settlement reached, or government order relating to such presence, disposal, release, or threatened release of Hazardous Materials, and/or (z) any violation of laws, orders, regulations, requirements or demands of government authorities, which are based upon or in any way related to such presence, disposal, release or threatened release of Hazardous Materials including, without limitation, reasonable attorney and consultant fees and expenses, investigation and laboratory fees, court costs, and litigation expenses. For purposes of this paragraph, *"Hazardous Materials"* includes, without limit, any flammable explosives, radioactive materials, hazardous materials, hazardous wastes, hazardous or toxic substances, or related materials defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. Sections 9601, *et seq.*), the Hazardous Materials Transportation Act, as amended (49 U.S.C. Sections 1801 *et seq.*), the Resources Conservation and Recovery Act, as amended (42 U.S.C. Sections 6901, *et seq.*), and in the regulations adopted and publications promulgated pursuant thereto, or any other federal, state or local environmental law, ordinance, rule, or regulation. The provisions of the IDA Lease Agreement described in this paragraph shall be in addition to any and all other obligations and liabilities the Company may have to any Indemnified Party at common law, and shall survive the termination of the IDA Lease Agreement.

In the event any claim, action, suit or proceeding shall be brought against an Indemnified Party within the protections provided by the Company under the indemnification provisions of the IDA Lease Agreement described herein, the Company shall, promptly after being so requested by such Indemnified Party, at the sole cost and expense of the Company, assume and direct the defense thereof, with counsel reasonably satisfactory to such Indemnified Party (counsel selected by the Company's insurance carrier being deemed to be so acceptable), and in such event the Company shall not be liable to such Indemnified Party for any legal or other expenses incurred by such Indemnified Party in connection with the defense thereof; *provided, however,* that unless and until the Company assumes the defense of any such action at the request of such Indemnified Party, the Indemnified Party shall have the right to conduct the defense of such action at the Company's expense; and *provided, further,* that if an Indemnified Party reasonably concludes that there may be defenses available to it or them that are different from or in addition to the defenses available to the Company (in which case the Company will not have the right to direct the defense of such claim, action, suit or proceeding on behalf of such Indemnified Party), reasonable legal and other expenses incurred by such Indemnified Party will be paid by the Company. If the Company shall not promptly employ counsel to have charge of the defense of any such claim, action, suit or proceeding, reasonable legal and other expenses incurred by such Indemnified Party shall be borne by the Company.

The indemnifications and protections set forth in the indemnification provisions of the IDA Lease Agreement and described herein shall be extended, with respect to each Indemnified Party, to its members, directors, officers, employees, agents and servants and persons under its control or supervision.

The covenants of the Company contained in the indemnification provisions of the IDA Lease Agreement and described herein shall remain in full force and effect after the termination of the IDA Lease Agreement until the later of (i) the expiration of the period stated in the applicable statute of limitations during which a claim or cause of action may be brought and (ii) payment in full or the satisfaction of such claim or cause of action and of all expenses and charges incurred by the Indemnified Party relating to the enforcement of the provisions thereof herein described.

Retention of Interest in the Facility. The Agency shall not sell, assign, encumber (other than pursuant to the Equipment Security Agreement, or the granting clauses of the Indenture), convey or otherwise dispose of its interest in the Facility or any part thereof or interest therein (including its interest in the IDA Lease Agreement, and in the rentals payable under the IDA Lease Agreement and in the Company Sublease) during the term of the IDA Lease Agreement, except as set forth therein, without the prior written consent of the Company, the Trustee and the Leasehold Mortgagee and any purported disposition without such consent shall be void.

The Agency and the Trustee, will, however, at the written direction of the Company and/or the Port Authority and at the written direction of the Company and/or the City during any period, if any, that the New City/American Lease shall be in effect, so long as there exists no Event of Default under the IDA Lease Agreement, grant such rights of way or easements over, across or under the Leased Facilities, or grant such permits or licenses in respect to the use thereof, free from the leasehold estate of the IDA Lease Agreement and the Company Sublease as shall be necessary or convenient for the operation or use of the Facility (or as shall be desirable for the use of another parcel of property at the Airport or for use by the City, the Port Authority or a public utility), *provided* that such leases, rights-of-way, easements, permits or licenses shall not materially adversely affect the use or operation of the Facility and shall not violate the provisions of the Leasehold Mortgage. The Agency and the Trustee agree, at the sole cost and expense of the Company, the Port Authority or the City, as the case may be, to execute and deliver any and all instruments necessary or appropriate to confirm and grant any such right of way or easement or any such permit or license and to release the same from the leasehold estate of the IDA Lease Agreement.

So long as there exists no Event of Default under the IDA Lease Agreement, the Company and/or the Port Authority may, and the Company and/or the City may during any period, if any, that the New City/American Lease shall be in effect, from time to time by written direction to the Agency and the Trustee direct the Agency and the Trustee to release and remove from the IDA Lease Agreement and the leasehold estate created thereby any unimproved part of the Leased Facilities (on which none of the improvements, including the buildings, structures, improvements, related facilities, fixtures or other property comprising the Facility are situated; *provided* the foregoing "improvements" shall not include roadways, runways, parking areas, curbs, gutters, landscaping and utility facilities) on the condition that such release and removal

shall constitute only a Minor Release. Upon any such request by the Company and/or the Port Authority or the Company and/or the City, as the case may be, the Agency and the Trustee shall, at the sole cost and expense of the Company, the Port Authority or the City, as the case may be, execute and deliver any and all instruments necessary or appropriate to so release and remove such portion of the Leased Facilities; *provided*, that no such release shall be effected unless there shall be delivered to the Trustee and the Agency a certificate of an Authorized Representative of the Company stating that (i) the proposed Minor Release will not have a material adverse effect on the use of the remaining Leased Facilities as a passenger terminal facility comparable to the passenger terminal facility immediately prior to such release (such determination to be based upon a report or appraisal of a nationally recognized airport engineering, traffic or consulting firm selected by the Company and acceptable to the Trustee to be appended to such certification of the Company), (ii) there exists no Event of Default under the Security Documents, and (iii) simultaneously with such release, the part of the Leased Facilities which is the subject of such Minor Release shall be eliminated from the Port Authority Lease or the New City/American Lease, as the case may be.

In the event that, pursuant to the Port Authority Lease or the New City/American Lease, any portion of the Leased Facilities is released from the Port Authority Lease or the New City/American Lease, if any, and such release constitutes a Major Release, the Company shall pay as additional rent to the Trustee on behalf of the Agency an amount equal to the Release Price and such Release Price shall be applied by the Trustee to the redemption of Bonds in accordance with the Indenture. See "THE SERIES 2002 BONDS—Redemption Prior to Maturity—*Mandatory Redemption Without Premium Upon the Release of a Portion of the Leased Facilities*."

No conveyance or release effected shall entitle the Company to any abatement or diminution of the rents payable under the IDA Lease Agreement.

Redemption Under Certain Circumstances; Special Covenants. Upon the determination by resolution of the board members of the Agency that the Company is operating all or substantially all of the Facility, or is allowing all or substantially all of the Facility to be operated, other than as a qualified "project" in accordance with the Act (as in effect on the date of original issuance and delivery of the Series 2002 Bonds) and the failure of the Company within 60 days (or such longer period as may be established under the IDA Lease Agreement as described in the proviso to this sentence) of the receipt by the Company of a copy of said resolution, together with written notice of such noncompliance from the Agency to cure such noncompliance (a copy of which notice shall be sent to the Trustee), the Company covenants and agrees that it shall, on the immediately succeeding Interest Payment Date following the termination of such 60 day (or longer) period for which sufficient notice of redemption can be given in accordance with the requirements of the Indenture, pay to the Trustee advance rentals in immediately available funds in an amount sufficient to redeem all Outstanding Bonds in whole at a redemption price equal to 100% of the unpaid principal amount of the Outstanding Bonds, together with interest accrued to the date of redemption and without premium, *provided, however*, that if such noncompliance cannot be cured within such period of 60 days with diligence (and is capable of being cured) and the Company promptly commences the curing of such noncompliance and thereafter prosecutes the curing thereof with diligence and to the

Agency's reasonable satisfaction, such period of time within which the Company may cure such failure shall be extended for such additional period of time as may be necessary to cure the same with diligence and the Agency shall notify the Trustee and the Bondholders of any such extension. The Agency shall give to the Company and the Trustee prior written notice of the meeting at which the members of the Agency are to consider such resolution, which notice shall be no less than 60 days prior to such meeting. See "THE SERIES 2002 BONDS—Redemption Prior to Maturity—*Extraordinary Optional Redemption Without Premium at the Option of the Agency Upon Failure to Operate the Facility as a Qualified Project.*"

The Company shall be conclusively deemed to be operating all or substantially all of the Facility (or causing all or substantially all of the Facility to be operated) as a qualified "project" in accordance with the Act if all or substantially all of the Facility shall be operated for general airport purposes substantially similar in nature to that conducted by the Company or other air carriers at the City's airports and other equivalent airports.

Upon the occurrence of the circumstances requiring a mandatory redemption of any series of Bonds pursuant to the applicable Series Supplemental Indenture, the Company shall pay, or cause the prepayment of, its lease rental obligations upon the circumstances and in the manner set forth in the Indenture or any such Series Supplemental Indenture.

Company's Covenants as to Tax Exemption. To the extent compliance is within the control of the Company, the Company covenants to comply with each requirement of the Code necessary to maintain the exclusion of interest on the Tax-Exempt Bonds (other than interest on Bonds accruing while owned by a "substantial user" or a related person (within the meaning of Section 147 of the Code)) from gross income for federal income tax purposes pursuant to Section 103 of the Code. In furtherance of the foregoing, the Company covenants that it shall not fail to take any action or consent to the failure to take any action which such failure to act or consent would cause the interest on the Tax-Exempt Bonds to be includable in gross income for federal income tax purposes under Section 103 of the Code. In furtherance of the covenant described in the preceding sentence, the Company agrees to comply with the terms, provisions and conditions in the each of the applicable Tax Certificates, including, without limitation, the making of any payments and filings required thereunder.

The Company covenants that it will not take any action or fail to take any action that may be taken by the Company with respect to the Tax-Exempt Bonds that would cause such Tax-Exempt Bonds to be "arbitrage bonds," within the meaning of such term as used in Section 148 of the Code and the regulations promulgated thereunder, as amended from time to time.

The obligation of the Company to make any payments required under the applicable Tax Certificates shall be absolute and unconditional, and the failure of the Agency, the Trustee or any other Person to execute or deliver or cause to be executed or delivered any documents or to take any action required under the IDA Lease Agreement or otherwise shall not relieve the Company of such obligations.

So long as it is necessary in order to maintain the exclusion of interest on the Tax-Exempt Bonds from gross income for federal income tax purposes, the covenants contained in the IDA

Lease Agreement described in the three preceding paragraphs shall survive the discharge and satisfaction of the Tax-Exempt Bonds (in accordance with the Indenture) and the term of the IDA Lease Agreement.

The Company agrees that the covenants, representations, warranties, and statements of expectation contained or incorporated by reference in the IDA Lease Agreement and described in this subheading shall be accurate and true and complied with as of the date on which each series of Tax-Exempt Bonds is issued and at all times thereafter until such series of Tax-Exempt Bonds are fully discharged and no longer accruing interest. The Company further agrees that if such discharge date is earlier than the final stated maturity date of such series of Tax-Exempt Bonds, the Company must continue to comply with the representations, certifications and covenants contained in or incorporated by reference in the IDA Lease Agreement and described in this subheading until such final maturity date unless the Company receives a Favorable Opinion of Bond Counsel.

The Company agrees that except to the extent that such use would not adversely affect the exclusion pursuant to Section 103 of the Code of interest on any Tax-Exempt Bonds from gross income of the owners thereof, no part of the proceeds of any Bonds or any funds held under the Indenture shall at any time be used directly or indirectly for any purpose that would cause any component of the Project to be financed with the proceeds of the Tax-Exempt Bonds (other than components the cost of which was a Nonqualified Cost) to become a facility not within those facilities referred to in Section 142(a)(1) of the Code.

The Company agrees and covenants that no requisition shall be paid from Net Proceeds of the Tax-Exempt Bonds for any Project Cost which is not a Qualified Cost (other than costs of issuance) until the date on which the aggregate Qualified Costs theretofore and thereupon paid equals or exceeds 95% of the total costs of the Project theretofore and thereupon paid from the Net Proceeds of the Tax-Exempt Bonds. After such date, the Company, as agent for the Agency, may pay any requisition that, after payment thereof, results in 95% or more of the remaining Net Proceeds of the Tax-Exempt Bonds theretofore and thereupon requisitioned or transferred being used to pay Qualified Costs, unless the Company receives an opinion of Bond Counsel to the effect that the Company may disregard such covenant without adversely affecting the exclusion from gross income of the interest on the Tax-Exempt Bonds for federal income tax purposes, in which case the Company may pay any such requisition without regard to such covenant. The representations, warranties, covenants and statements of expectation of the Company set forth in each applicable Tax Certificate are incorporated in the IDA Lease Agreement.

Certain Covenants with Respect to the Port Authority Lease, the Leasehold Mortgage, the City Attornment Agreement, the New City/American Lease and the Agreement Towards Entering Into a Lease. At least five Business Days prior to the execution of any material amendment, supplement or modification to the New City/American Lease, if any, the City Attornment Agreement or the Agreement Towards Entering Into a Lease, the Company shall deliver a copy of same in substantially final form to each of the Agency and the Trustee. The Company further covenants that it shall not (i) terminate, (ii) surrender, or (iii) materially amend the City Attornment Agreement, or the Agreement Towards Entering Into a Lease without the Trustee's prior written consent.

The Company shall not modify, amend, supplement or extend Section 92 or any analogous provision of the New City/American Lease, nor shall the Company enter into any amendment of the Port Authority Lease or the New City/American Lease which shall only affect a Qualifying Replacement Tenant under the Port Authority Lease or successor lessee under the New City/American Lease and shall not affect the originally named Company, without the prior consent of the Trustee in each case.

The Company shall not enter into any termination agreement with respect to the Port Authority Lease or the New City/American Lease (if then effective), nor surrender or abandon its interest in the Leased Facilities under the Port Authority Lease or the New City/American Lease other than as contemplated by the IDA Lease Agreement and described herein. The foregoing provision shall not in any way limit or modify the Company's obligations under the Port Authority Lease.

The Company shall use commercially reasonable good faith efforts to obtain the certificate of the Port Authority certifying that there has been substantial completion of the Redevelopment Work.

Upon the execution, delivery and recording of any mortgage of the Company's leasehold interest in the New City/American Lease, the Company shall pay any Mortgage Recording Tax due with respect to the recording thereof.

The Company covenants that (i) on or before the date it delivers to the Trustee the executed Leasehold Mortgage in accordance with the provisions of the IDA Lease Agreement described in the third succeeding paragraph, it shall pay to the Trustee for deposit into the Foreclosure Payment Account of the Mortgage Reserve Fund an amount equal to the Foreclosure Payment Account Requirement and (ii) it will replenish any deficiencies in the Foreclosure Payment Account based upon the valuation of the assets thereof in accordance with the Indenture.

In the event the Basic Lease has not been extended for a term at least equal to the final maturity date of the Bonds, the Company shall, beginning at such time as it reasonably deems appropriate, use commercially reasonable good faith efforts to obtain and execute, not later than 30 days prior to the expiration date of the Basic Lease, the New City/American Lease and the mortgage described in the third immediately succeeding paragraph. Simultaneously with the execution of the New City/American Lease, the Company and the Agency shall, to the extent necessary to preserve the Agency's leasehold interest in the Leased Facilities, execute and deliver an amended and restated Company Sublease to provide for the sublease of the Leased Facilities under the New City/American Lease from the Company to the Agency and, if necessary, an amended and restated IDA Lease Agreement to provide for the sublease of the Lease Facilities from the Agency to the Company.

The Company and the Agency each covenants and agrees that it shall comply with the Section 92(d) Provisions in connection with the recordation of the Leasehold Mortgage. In the event that any recordation of the Leasehold Mortgage shall constitute a Wrongful Recording of the Leasehold Mortgage, the Company expressly covenants, represents and agrees that it shall

cooperate with the Port Authority and the Trustee, and shall promptly take or cause to be taken any and all actions requested by the Port Authority or the Trustee or required under applicable law, to remove and discharge the Leasehold Mortgage and any lien created by such Wrongful Recording of the Leasehold Mortgage, including but not limited to the execution and filing of all appropriate instruments related thereto. Notwithstanding the foregoing, any failure of the Company to comply with the Section 92(d) Provisions or any Wrongful Recording of the Leasehold Mortgage shall not constitute a breach of the IDA Lease Agreement in the event such failure or Wrongful Recording of the Leasehold Mortgage is cured as provided in the IDA Lease Agreement and described in this paragraph or, in the case of a Wrongful Recording of the Leasehold Mortgage, such Wrongful Recording of the Leasehold Mortgage is waived in writing by the Port Authority. After the Redevelopment Work has been completed, the Company shall take such actions as are necessary to satisfy the conditions set forth in subsections (i) and (v) of Section(d)(1) of Section 92 as described herein in clauses (a) and (e) of the first paragraph under APPENDIX F—"SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY LEASE—Leasehold Mortgage and Reletting—*Reletting Rights Effective Date Conditions*," and the Company shall take the action contemplated to be taken by it under subsections (i), (ii) and (v) of Section (d)(3) of Section 92 as described herein in the fifth paragraph under APPENDIX F—"SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY LEASE—Leasehold Mortgage and Reletting Rights—*Reletting Rights Effective Date Conditions*."

The Company covenants and agrees that it shall, in accordance with the Section 92(d) Provisions, execute the Leasehold Mortgage and deliver two execution copies of the same to the Trustee no later than 21 Business Days after the Reletting Rights Effective Date. Simultaneously with such delivery, the Company shall deliver to the Trustee an Opinion of Counsel reasonably satisfactory to the Trustee and the Agency as to the validity and enforceability of the Leasehold Mortgage and the Company shall direct the Trustee to record the Leasehold Mortgage in the appropriate recording office of the City. Prior to the delivery of the Leasehold Mortgage to the Trustee for recording, the Company shall present the Leasehold Mortgage to the Agency for execution by the Agency and upon the request of the Company, the Agency shall execute the same. Simultaneously with such execution, the Agency shall deliver an opinion of the Vice President for Legal Affairs of the Agency in form reasonably satisfactory to the Trustee and the Company as to the validity and enforceability of the obligations of the Agency under the Leasehold Mortgage.

In the event the Basic Lease shall have expired and the Company occupies the Leased Facilities under the New City/American Lease, the Company shall use commercially reasonable good faith efforts to negotiate, execute and deliver to the Leasehold Mortgagee, not later than 30 days prior to the expiration date of the Basic Lease, a leasehold mortgage of the Company's leasehold interest under the New City/American Lease having substantially similar terms and provisions as the Leasehold Mortgage; *provided, however*, that if the Company, using such efforts, can obtain from the City only the right to grant to the Leasehold Mortgagee a leasehold mortgage that is substantially similar to comparable leasehold mortgages then permitted by the City to be granted by one or more similarly situated air carriers on leasehold interests in property at the Airport, the Company shall be deemed to have satisfied such obligation if it shall execute and deliver such a leasehold mortgage to the Leasehold Mortgagee.

The Company covenants that it will construct at the Premises not less than 55 aircraft loading and unloading gate positions of which at least 35 are to accommodate widebody aircraft and of which at least two are to accommodate narrowbody aircraft, or such other number of aircraft gate positions as shall have been approved in writing by the Director of the Port Authority's Aviation Department as being the number of aircraft gate positions as shall satisfy the requirement of item (i) in the definition of "Required Conditions" set forth herein in the first paragraph under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Conditions to Execution, Delivery and Recording of the Leasehold Mortgage.*"

Events of Default; Remedies

Events of Default. Any one or more of the following events shall constitute an "Event of Default" under the IDA Lease Agreement:

(a) Failure of the Company to make any rental payment that has become due and payable by the terms of the IDA Lease Agreement which results in an Event of Default under the Indenture;

(b) Failure of the Company to observe and perform any covenant, condition or agreement on its part to be performed (except as described in the preceding paragraph) as described in this Appendix C under "—Issuance of Bonds and Additional Bonds; Lease of Facility and Rental Provisions—*Lease of the Facility*" (the last sentence thereof) and the fifth paragraph under "—*Rental Provisions*," the last paragraph of "—Maintenance, Taxes and Insurance—*Maintenance, Alterations and Improvements*," "—*Payment of Impositions*," "—*Compliance with Law*," the third paragraph under "—Damage, Destruction and Condemnation," "—Particular Covenants—*Dissolution or Merger of Company; Restrictions on Company*," and "—*Certain Covenants with Respect to the Port Authority Lease, the Leasehold Mortgage, the City Attornment Agreement, the New City/American Lease and the Agreement Towards Entering Into a Lease*" (except as described in clause (i) of the fifth paragraph thereof) and in the provisions of the IDA Lease Agreement with respect to the discharge of liens and assignment or sublease (with respect to an assignment or transfer of the IDA Lease Agreement) of the IDA Lease Agreement and (1) continuance of such failure for a period of 60 days after receipt by the Company of written notice specifying the nature of such default from the Agency, the Trustee or the Holders of more than 25% in aggregate principal amount of the Bonds Outstanding, or (2) if by reason of the nature of such default the same can be remedied, but not within the said 60 days, the Company fails to proceed with reasonable diligence after receipt of said notice to cure the same or fails to continue with reasonable diligence its efforts to cure the same and the same shall not be cured within 360 days;

(c) Certain representations or warranties made by the Company in the IDA Lease Agreement shall prove to be false, misleading or incorrect in any material respect as of the date made, and, if the damage caused by such false, misleading or incorrect representation or warranty is capable of being remedied, the failure of the Company for 360 days after receipt by the Company of written notice specifying such false, misleading or incorrect representation or warranty from the Agency, the Trustee or the Holders of

more than 25% in aggregate principal amount of the Bonds Outstanding, to remedy such damage;

(d) An Event of Default under the Indenture shall occur and be continuing that shall result in the acceleration of the principal of any Outstanding Bonds; or

(e) Failure of the Company to fully fund the Foreclosure Payment Account in an amount equal to the Foreclosure Payment Account Requirement as required in the IDA Lease Agreement and described in this Appendix C in the fifth paragraph under "—Particular Covenants—*Certain Covenants with Respect to the Port Authority Lease, the Leasehold Mortgage, the City Attornment Agreement, the New City/American Lease and the Agreement Towards Entering Into a Lease*."

Remedies on Default. Whenever any Event of Default shall have occurred and be continuing under the IDA Lease Agreement, the Agency, or the Trustee where so provided, may take any one or more of the following remedial steps:

(a) The Trustee, as and to the extent provided in the Indenture, may cause all principal installments of rent payable under the IDA Lease Agreement for the remainder of the term of the IDA Lease Agreement to be immediately due and payable, whereupon the same, together with the accrued interest thereon to the date of such acceleration, shall become immediately due and payable; *provided, however,* that upon the occurrence of an Event of Default under the Indenture due to the occurrence of an Act of Bankruptcy, all principal installments of rent payable under the IDA Lease Agreement for the remainder of the term of the IDA Lease Agreement, together with the accrued interest thereon to the date of such acceleration, shall immediately become due and payable without any declaration, notice or other action of the Agency, the Trustee, the Holders of the Bonds or any other Person being a condition to such acceleration;

(b) Solely in conjunction with the exercise by the Trustee as mortgagee of its rights and remedies under the Leasehold Mortgage, the Trustee, or the Agency, with the prior written consent of the Trustee, may, subject to compliance with the provisions of the IDA Lease Agreement pertaining to assignment or sublease and without terminating the IDA Lease Agreement, re-let or sublease the Facility to a Qualifying Replacement Tenant Lessee for the account of the Company, holding the Company liable for the difference in the rent and other amounts payable by the sublessee in such subletting, and the rents and other amounts payable by the Company under the IDA Lease Agreement;

(c) The Agency, with the prior written consent of the Trustee, or the Trustee, may terminate the IDA Lease Agreement, and all of the estate, right, title and interest therein granted or vested in the Company shall cease and terminate. No such termination of the IDA Lease Agreement shall relieve the Company of its liability and obligations under the IDA Lease Agreement and such liability and obligations shall survive any such termination; and

(d) The Trustee may take whatever action at law or in equity (subject to the limitations set forth in the Indenture and described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Events of Default; Remedies of Bondholders—*Limitation of Remedies*") as may appear necessary or desirable to collect the rent then due and thereafter to become due, or to enforce performance or observance of any obligations, agreements or covenants of the Company under the IDA Lease Agreement the enforcement of which shall not have been expressly reserved only to the Agency.

The Agency, without the consent of the Trustee or any Bondholder, may proceed to enforce the Agency's Reserved Rights by an action for damages, injunction or specific performance, by requiring the surrender by the Company to the Agency of the Sales Tax Letter for suspension or cancellation and/or termination.

In the event that the Company fails to make any rental payment required by the IDA Lease Agreement, the installment so in default shall continue as an obligation of the Company with interest thereon at the rate or rates borne by the Bonds until the amount in default shall have been fully paid.

No action taken pursuant to any remedy described under this subheading shall, except as expressly provided in the IDA Lease Agreement, relieve the Company from its obligations under the IDA Lease Agreement, all of which shall survive any such action.

Remedies Cumulative. IDA Lease Agreement shall be cumulative and shall not exclude any other rights and remedies of the Agency or the Trustee allowed by law with respect to any default under the IDA Lease Agreement. Failure by the Agency or the Trustee to insist upon the strict performance of any of the covenants and agreements therein set forth or to exercise any rights or remedies upon default by the Company thereunder shall not be considered or taken as a waiver or relinquishment for the future of the right to insist upon and to enforce by mandatory injunction, specific performance or other appropriate legal remedy a strict compliance by the Company with all of the covenants and conditions thereof, or of the rights to exercise any such rights or remedies.

Limitation on Remedies Upon an Event of Default. The exercise of remedies under the IDA Lease Agreement by the Agency, the Trustee or the Holders of Bonds with respect to an Event of Default thereunder shall be subject to the provisions of the Indenture described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Events of Default; Remedies of Bondholders—*Limitation of Remedies.*"

Non-Default Remedies. Notwithstanding any provision of the IDA Lease Agreement to the contrary, the Agency, or the Trustee on behalf of the Agency, shall have the right to enforce any covenant or obligation of the IDA Lease Agreement the breach of which would not constitute an Event of Default thereunder by any action for damages, injunction or specific performance and any such action shall be limited by and subject to the provisions of the Indenture described herein under APPENDIX D—"SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE—Events of Default; Remedies of Bondholders—*Limitation of Remedies.*"

Options

Removal, Sale and Substitution of Facility Equipment Constituting Financed Property. The Company may, *provided* that there shall not exist and be continuing an Event of Default under the IDA Lease Agreement, remove any unit of Facility Equipment constituting Financed Property, not subject to the Port Authority Lease, the Basic Lease or the New City/American Lease, as the case may be, whether obsolete or not; *provided, however,* that the Company shall promptly replace any such Facility Equipment so removed with equipment of the same or a different kind but that is of at least equal value and capable of performing the same function as efficiently as the Facility Equipment so removed, *provided further* that such replacement equipment is free of all mortgages, liens, charges, encumbrances, claims and security interests other than Permitted Encumbrances and the replacement equipment shall be deemed Facility Equipment covered by the IDA Lease Agreement and the Equipment Security Agreement. Prior to any such replacement by the Company, (i) the Company shall deliver to the Agency a certificate by an Authorized Representative of the Company setting forth a complete description, including make, model and serial numbers, if any, of such Facility Equipment to be replaced and such Facility Equipment to be substituted, and the cost of each; (ii) the Company shall deliver or cause to be delivered to the Agency and the Trustee appropriate documents conveying to the Agency title to any such replacement equipment and subjecting such replacement equipment to the IDA Lease Agreement; and (iii) the Company and the Agency shall deliver or cause to be delivered to the Trustee appropriate documents subjecting such replacement equipment to the lien and security interest of the Leasehold Mortgage and the Equipment Security Agreement. Any Facility Equipment constituting Financed Property removed by the Company pursuant to the IDA Lease Agreement as described in this paragraph shall become the absolute property of the Company and may be sold or otherwise disposed of by the Company without accounting to the Agency with respect thereto. The Company agrees to pay all costs and expenses (including reasonable counsel fees and disbursements) incurred in subjecting to the IDA Lease Agreement and the lien and security interest of the Leasehold Mortgage or Equipment Security Agreement of any property installed or placed on the Premises as part of the Facility pursuant to the IDA Lease Agreement.

The Company shall have the right, (i) *provided* that there shall not exist and be continuing an Event of Default under the IDA Lease Agreement, and (ii) *provided* that any such sale shall not adversely affect operations at the Leased Facility, to compel the sale of any unit of Facility Equipment constituting Financed Property for any reason (whether during the term of the IDA Lease Agreement or at the expiration thereof). The Company shall give notice of its election to have such Facility Equipment sold by delivering to the Agency a certificate signed by a representative of the Company (i) stating the Company's desire to have such Facility Equipment sold and that removal of such Facility Equipment will not adversely affect operations at the Leased Facility, (ii) containing a complete description, including the make, model and serial number, if any, of any Facility Equipment to be sold and (iii) setting forth the original cost of such unit of Facility Equipment.

Provided that there shall not exist and be continuing an Event of Default under the IDA Lease Agreement, the Company shall have the right (the *"Right of First Refusal"*) to purchase any unit of Facility Equipment constituting Financed Property to be sold, subject to the

procedures set forth in the IDA Lease Agreement. The Right of First Refusal must be exercised by written notice to the Agency. If the Right of First Refusal is exercised, then, subject to the provisions set forth in the IDA Lease Agreement, the Agency shall convey to the Company, and the Company shall purchase from the Agency, the Agency's interest in the unit of Facility Equipment.

Upon the sale of any unit of Facility Equipment constituting Financed Property described in the third preceding paragraph: (i) the Agency shall convey the unit of Facility Equipment without representation or warranty, other than that such unit of Facility Equipment is free and clear of all liens created solely by the Agency, by a duly executed and acknowledged bill of sale of such Facility Equipment, (ii) upon the date fixed for any purchase of the Agency's interest in such unit of Facility Equipment, the purchaser shall pay to the Trustee the fair market value of such equipment as determined by the Company pursuant to a certificate of the Company, by wire transfer of immediately available funds, (iii) in the event any such purchase occurs within three years of the acquisition of such Facility Equipment by the Agency and such acquisition was exempt from the payment of Sales and Use Taxes by virtue of the Sales Tax Letter, the Company shall pay to the Agency an amount equal to the Sales Tax Savings granted with respect to the acquisition of such Facility Equipment, (iv) the Agency shall execute and deliver to the purchaser, at the purchaser's expense, such other documents as the purchaser may request in order to effect such conveyances as are customary in similar transfers, and (v) the Trustee shall deposit the proceeds of the sale in any Redemption Account(s) of the Bond Fund (as specified by the Company) to be applied to the prepayment of Bonds then Outstanding. In the event that the application of such proceeds of the sale to the payment of the Bonds as described in clause (v) above would adversely affect the exclusion pursuant to Section 103 of the Code of interest on any Tax-Exempt Bonds from the gross income of the owners thereof for federal income tax purposes, the Company shall have the option to cause the sale of such unit of Facility Equipment (regardless of its exercise of the Right of First Refusal) and to exercise its Right of First Refusal without having the proceeds of the sale applied to the payment of the Bonds. Upon the sale of such Facility Equipment, the Company shall no longer have any obligation to the Agency with regard to such Facility Equipment under the IDA Lease Agreement.

No such removal or replacement shall be effected if (w) such removal or replacement would change the nature of the Facility as a qualified "project" as defined in and as contemplated by the Act, or change the nature of the Financed Property so that it would cease to be an exempt "airport facility" within the meaning of Section 142(a)(1) of the Code, (x) such removal or replacement would cause the Company to be in breach or default of the Port Authority Lease, the Agreement Towards Entering Into a Lease or the New City/American Lease (if then effective), (y) such removal or replacement would impair the usefulness, structural integrity or operating efficiency of the Facility or (z) there shall exist and be continuing an Event of Default.

The Company shall not, without the prior written consent of the Agency, and except as permitted under the IDA Lease Agreement, remove any Financed Property from the Facility.

The removal from the Facility of any Facility Equipment pursuant to the IDA Lease Agreement shall not entitle the Company to any abatement or reduction in the rentals or other amounts payable by the Company under the IDA Lease Agreement.

Option to Purchase or Invite Tenders of Bonds. The Company shall have the option, at any time during the term of the IDA Lease Agreement, to purchase Bonds for its own account, whether by direct negotiation, through a broker or dealer, or by making a tender offer to the Holders thereof. In the event the Company or any Affiliate shall hold a majority in aggregate principal amount of the Bonds Outstanding for a period in excess of 180 days and the Company shall have not delivered to the Agency and the Trustee either (i) a certificate of an Authorized Representative of the Company that the reason for such holding is an inability to effect the remarketing of such Bonds at a reasonable price and that upon a return of favorable market conditions the Company intends to remarket such Bonds, or (ii) an opinion of Bond Counsel to the effect that such holding of Bonds by the Company (y) will not permanently cause the interest on the Bonds to become includable in gross income for federal income tax purposes, nor (z) adversely affect the validity of the Bonds, then the Company shall cause all such Bonds so held to be delivered to the Trustee for cancellation. The Agency shall at all times make available or cause to be made available to the Company its registration books (maintained at the principal corporate trust office of the Trustee) containing the names and addresses of the Bondholders if known.

Right to Prepay Rentals. With respect to each series of Bonds, the Company shall have the option to make prepayments of rent under the IDA Lease Agreement. Any such prepayment shall be deposited in the applicable Redemption Account of the Bond Fund (as specified by the Company) to effect the defeasance of the lien of the Indenture with respect to such series in whole or the redemption in whole or in part of such series of Bonds, all in accordance with the terms of the Indenture; *provided, however,* that no optional partial redemption of Bonds may be effected through advance rental payments under the IDA Lease Agreement if there shall exist and be continuing an Event of Default with respect to the Bonds. The Company shall exercise its option to make such advance rental payments by delivering a written notice of an Authorized Representative of the Company to the Trustee in accordance with the Indenture, with a copy to the Agency, setting forth (i) the amount of the advance rental payment, (ii) the principal amount and series of Bonds Outstanding requested to be redeemed with such advance rental payment (which principal amount shall be in such minimum amount or integral multiple of such amount as shall be permitted in the Indenture), (iii) in the case of any partial redemption, the maturities of principal amounts of Bonds of such series and maturities to be redeemed, and (iv) the date on which such principal amount of Bonds are to be redeemed, which date shall not be sooner than 40 days from the date of such Company notice. Such advance rental payment shall be paid to the Trustee in immediately available funds on or before the redemption date and shall be in an amount that, when added to the amount on deposit in the Bond Fund and available therefor, will be sufficient to pay the redemption price of the Bonds to be redeemed, together with interest to accrue to the date of redemption and all expenses of the Agency (in the event of a redemption in whole or defeasance of the lien of the Indenture), the Bond Registrar, the Trustee and the Paying Agents in connection with such redemption. In the event all the Bonds are to be redeemed in whole or otherwise retired, the Company shall further pay on or before such redemption date, in legal tender, to the Agency, the Trustee, the Bond Registrar and the Paying Agents, as the case may be, all fees and expenses owed such party or any other party entitled thereto under the IDA Lease Agreement or the Indenture together with all other amounts due and payable under the IDA Lease Agreement and the other Security Documents.

Force Majeure. In case by reason of force majeure either party to the IDA Lease Agreement shall be rendered unable wholly or in part to carry out its obligations under the IDA Lease Agreement, then except as otherwise expressly provided in the IDA Lease Agreement, if such party shall give notice and full particulars of such force majeure in writing to the other party within a reasonable time after occurrence of the event or cause relied on, the obligations of the party giving such notice (other than the obligations of the Company to make the rental payments or other payments required under the IDA Lease Agreement, or to comply with the sections described under "—Maintenance, Taxes and Insurance—*Insurance*," "—Particular Covenants—*Indemnification*," "—Particular Covenants—*Company's Covenants as to Tax Exemption*" and "—Particular Covenants—*Certain Covenants with Respect to the Port Authority Lease, the Leasehold Mortgage, the City Attornment Agreement, the New City/American Lease and the Agreement Towards Entering Into a Lease*," and the sections of the IDA Lease Agreement regarding compensation and expenses, filings, discharge of liens and non-recourse to the officers and directors of the Agency), so far as they are affected by such force majeure, shall be suspended during the continuance of the inability then claimed which shall include a reasonable time for the removal of the effect thereof, but for no longer period, and such party shall endeavor to remove or overcome such inability with all reasonable dispatch. The term "force majeure", as employed herein, shall mean acts of God, terrorism, strikes, lockouts or other industrial disturbances, acts of the public enemy, orders of any kind of the government of the United States or of the State or any civil or military authority, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, hurricanes, storms, floods, washouts, droughts, arrest, restraining of government and people, civil disturbances, explosions, partial or entire failure of utilities, shortages of labor, material, supplies or transportation, or any other similar or different cause not reasonably within the control of the party claiming such inability. It is understood and agreed that the settlement of existing or impending strikes, lockouts or other industrial disturbances shall be entirely within the discretion of the party having the difficulty and that the above requirements that any force majeure shall be reasonably beyond the control of the party and shall be remedied with all reasonable dispatch shall be deemed to be fulfilled even though such existing or impending strikes, lockouts and other industrial disturbances may not be settled but could have been settled by acceding to the demands of the opposing person or persons.

Termination of the Agreement. After full payment of the Bonds or provision for the payment in full thereof having been made in accordance with the Master Indenture, the Company shall terminate the IDA Lease Agreement by paying the fees and expenses of the Agency, the Trustee, the Bond Registrar and the Paying Agents and all other amounts due and payable under the IDA Lease Agreement and the other Security Documents, together with any amounts required to be rebated to the federal government pursuant to the Indenture or each of the applicable Tax Certificates and by giving the Agency notice in writing of such termination and thereupon such termination shall forthwith become effective, subject, however, to the survival of certain obligations of the Company under the IDA Lease Agreement.

Assignment or Sublease. (a) The Company shall not sublet nor permit to be sublet all or substantially all of the Facility, without the prior written consent of the Agency (which consent shall not be unreasonably withheld or delayed). No consent of the Agency shall be required for any subletting by the Company of less than all or substantially all of the Facility.

(b) No consent of the Agency shall be required for any assignment or transfer of the IDA Lease Agreement pursuant to the provisions of the IDA Lease Agreement described in this Appendix C under "—Particular Covenants—*Dissolution or Merger of Company; Restrictions on Company*."

(c) Any assignment or transfer of the IDA Lease Agreement (other than as described in clause (b) above) shall require the prior written consent of the Agency, which consent shall not be unreasonably withheld or delayed.

(d) With respect to any subletting in whole or in part of the Facility, the Company shall nevertheless remain liable to the Agency for the payment of all rent and for the full performance of all of the terms, covenants and conditions of the IDA Lease Agreement and of the Leasehold Mortgage or any other Security Document to which it shall be a party.

(e) With respect to any assignment or transfer of the IDA Lease Agreement for which no consent of the Agency shall be required as above described, or for which consent of the Agency shall be both required and have been given, such assignee or transferee of the Company shall assume in writing and agree to keep and perform all of the terms of the IDA Lease Agreement on the part of the Company to be kept and performed from the date of original execution and delivery of the IDA Lease Agreement.

(f) In addition to the conditions described above for any assignment or transfer of the IDA Lease Agreement (other than an assignment or transfer pursuant to the provisions of the IDA Lease Agreement described herein under "—Particular Covenants—*Dissolution or Merger of Company; Restrictions on Company*"), or any subletting in whole or in part of the Facility, the following conditions, as applicable, shall also apply:

(i) any sublessee in whole of the Facility and any assignee or transferee of the IDA Lease Agreement shall in each case be subject to service of process in the State, and, if a corporation, shall be qualified to do business in the State,

(ii) in the case of any assignment or transfer, there shall be delivered to the Agency and the Trustee (y) a Favorable Opinion of Bond Counsel and (z) an Opinion of Counsel to the assignee or transferee of the IDA Lease Agreement to the effect that such Person has duly and validly assumed all obligations of the Company under the IDA Lease Agreement and that such assumption constitutes the valid and binding obligation of such Person enforceable against such Person in accordance with its terms,

(iii) in the case of any Sublease in whole of the Facility, there shall be delivered to the Agency and the Trustee (y) an Opinion of Counsel to the Company to the effect that the IDA Lease Agreement continues in full force and effect as the legal, valid and binding obligation of the Company enforceable against the Company in accordance with its terms, and (z) a Favorable Opinion of Bond Counsel,

(iv) any assignee, transferee or sublessee shall agree to use the Facility as a qualified "project" within the meaning of the Act,

(v) any assignment, transfer or sublease shall not violate any provision of the Basic Lease, the Port Authority Lease, the Company Sublease, the Port Authority Consent, the Agreement Towards Entering Into a Lease, the City Attornment Agreement, the New City/American Lease (if then effective), the IDA Lease Agreement, the Leasehold Mortgage or any other Security Document,

(vi) in the case of any sublease, such sublease shall in no way diminish or impair the Company's obligation to carry the insurance required under the IDA Lease Agreement and described in this Appendix C under "—Maintenance, Taxes and Insurance—*Insurance*,"

(vii) in the case of any assignment, transfer or sublease in whole or substantially in whole, there shall have been delivered to the Trustee written evidence from each Rating Agency by which the Bonds are then rated to the effect that such action will not result in the reduction or withdrawal of the then applicable rating(s) on the Bonds, and

(viii) at least ten Business Days prior to the execution of any proposed assignment, transfer or sublease, the Company shall furnish to the Agency a substantially final draft of same, and, after execution thereof, shall then furnish a copy of such executed document.

Any consent by the Agency to any act of assignment, transfer or sublease shall be held to apply only to the specific transaction thereby authorized. Such consent shall not be construed as a waiver of the duty of the Company, or the successors or assigns of the Company, to obtain from the Agency, to the extent required under the IDA Lease Agreement, consent to any other or subsequent assignment, transfer or sublease, or as modifying or limiting the rights of the Agency under such covenant by the Company set forth in the IDA Lease Agreement.

Notwithstanding any assignment or transfer of the IDA Lease Agreement (other than an assignment or transfer of the IDA Lease Agreement by operation of, and effected in accordance with the requirements of, the provisions of the IDA Lease Agreement described in this Appendix C under "—Particular Covenants—*Dissolution or Merger of Company; Restrictions on Company*"), the Company shall not be released from its obligations to make rental payments pursuant to the IDA Lease Agreement described in this Appendix C under "—Issuance of Bonds and Additional Bonds, Lease of Facility and Rental Provisions—*Rental Provisions*" unless 100% of the Holders of Outstanding Bonds shall have consented to such release.

Benefit of and Enforcement by Trustee. The Agency and the Company agree that the IDA Lease Agreement is executed in part to induce the purchase by others of the Bonds and for the further securing of the Bonds, and accordingly all covenants and agreements on the part of the Agency and the Company (except to the extent of any of the Agency's Reserved Rights that are stated in the Indenture to be enforceable only by the Agency) as set forth in the IDA Lease Agreement are declared to be for the benefit of the Holders from time to time of the Bonds and may be enforced as provided in the Indenture on behalf of the Bondholders by the Trustee.

No Recourse under the IDA Lease Agreement or on Bonds. All covenants, stipulations, promises, agreements and obligations of the Agency contained in the IDA Lease Agreement shall be deemed to be the covenants, stipulations, promises, agreements and obligations of the Agency, and not of any member, director, officer, employee or agent of the Agency in his or her individual capacity, and no recourse shall be had for the payment of the principal or purchase price of, or Sinking Fund Installments, redemption premium, if any, or interest on, the Bonds or for any claim based thereon against any member, director, officer, employee or agent of the Agency or any natural person executing the Bonds.

APPENDIX D

SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE

The following is a brief summary of certain provisions of the Indenture and does not purport to be comprehensive or complete. Reference is made to the Indenture for full and complete provisions.

Authorization and Issuance of Bonds

Authorized Amount of Bonds; Pledge Effected by the Master Indenture. The Bonds will be issued in multiple series as provided in the Indenture. No Bond of any series may be authenticated and delivered under the Indenture except in accordance with the terms of the Indenture. Except as provided in the Indenture, the total aggregate principal amount of Bonds of any series that may be authenticated and delivered under the Indenture is limited to $2.3 billion.

The proceeds of the Bonds deposited in the Project Fund and certain of the lease rentals, receipts and revenues payable by the Company under the IDA Lease Agreement, including moneys which are required to be set apart, transferred and pledged to the Bond Fund, to the Lease Payments Fund or to certain special funds (including the investments, if any, thereof) (subject to disbursements from such Funds in accordance with the provisions of the Indenture, and when so disbursed, such amounts shall be released automatically from the lien and security interest of the Indenture) are pledged by the Indenture for the payment of the principal, redemption price, if applicable, Sinking Fund Installments, if applicable, purchase price of, and interest on the Bonds. Amounts on deposit in any Account held in the Debt Service Reserve Fund with respect to a series of Bonds are pledged solely to secure the payment of the principal of and interest on the Bonds of such series. Amounts in the Rebate Fund (including amounts on deposit therein) shall not be subject to any assignment, pledge, lien or security interest in favor of the Trustee or any Bondholder or any other Person.

Except as may otherwise be expressly provided in the Indenture, each series of Bonds shall be entitled to the benefit of the continuing pledge and lien created by the Indenture to secure the full and final payment of the principal, redemption price, if applicable, Sinking Fund Installments, if applicable, purchase price of, and the interest thereon. Each series of Bonds issued under the Indenture shall be secured by the Guaranties and the obligations of the Company and AMR under their respective Guaranties will be secured by the Leasehold Mortgage; but, as provided in Section 92, the Port Authority Consent and the Leasehold Mortgage shall not attach, the Leasehold Mortgagee shall have no rights under the Leasehold Mortgage, the Leasehold Mortgage shall not be dated, executed, delivered or recorded and the Reletting Rights shall not be exercisable until the Reletting Rights Effective Date. Each series of Bonds issued under the Indenture shall be special obligations of the Agency, secured and payable (except to the extent payable out of proceeds from the sale of such series of Bonds or the income from the temporary investments thereof) by the Agency solely out of the revenues or other receipts, funds or moneys pledged therefor pursuant to the Indenture and from any amounts otherwise available under the Indenture for the payment of such Bonds, from amounts payable under the Guaranties, from amounts payable under the Equipment Security Agreement and from

amounts payable to the Trustee as Leasehold Mortgagee under the Leasehold Mortgage. The Bonds shall be additionally secured by a pledge and assignment of the Agency's right, title and interest in and to the IDA Lease Agreement (excluding the Agency's Reserved Rights) and, except for the Equipment Security Agreement, shall not be secured by any other lien on or security interest or other possessory interest in the Facility or by any leasehold interest of the Port Authority, the Company or the Agency or any fee or leasehold interest of the City in the Facility. In the event the Company shall fail to make any payment under the IDA Lease Agreement or shall otherwise default under the IDA Lease Agreement, and, as a result thereof, the principal of the Bonds is declared or becomes due and payable, none of the Agency, the Trustee (except as mortgagee under the Leasehold Mortgage and except as secured party under the Equipment Security Agreement), or any Holder of any of the Bonds shall have any rights or remedies with respect to the Facility or the leasehold interest of the Port Authority, the Agency or the Company or any fee or leasehold interest of the City but shall only have the rights under the IDA Lease Agreement (exclusive of Possessory Rights and Remedies and subject to the provisions of the Indenture described below under "—Events of Default; Remedies of Bondholders—*Limitation of Remedies*"), including the right to enforce against the Company the obligation of the Company to pay lease rental payments sufficient to enable the Agency to pay the principal, redemption price, if applicable, Sinking Fund Installments, if applicable, purchase price of, and interest on the Bonds and the right under the Indenture to realize upon any of the Funds. Except as set forth in Section 92 and any corresponding provision of the New City/American Lease, neither the Port Authority nor the City shall have any obligation whatsoever with respect to the Bonds. All covenants, stipulations, promises, agreements and obligations of the Agency contained in the Indenture shall be deemed to be covenants, stipulations, promises, agreements and obligations of the Agency and not of any member, officer, director, employee or agent thereof in his individual capacity, and no resort shall be had for the payment of the principal of, purchase price, redemption price and Sinking Fund Installments, if any, of and interest on the Bonds or for any claim based thereon or under the Indenture against any such member, officer, director, employee or agent or against any natural person executing the Bonds.

The Bonds shall never constitute a debt of the State nor the City, and neither the State nor the City shall be liable thereon, nor shall the Bonds be payable out of any funds of the Agency other than those pledged therefor.

Any payments paid to the Trustee by the Company are deemed paid by the Agency and any payments made to the Company by the Trustee are deemed paid by the Trustee to the Agency and by the Agency to the Company.

Supplemental Indentures. Each series of Bonds issued under the Indenture shall be issued pursuant to an applicable Series Supplemental Indenture authorizing the issuance of such series of Bonds. Each Series Supplemental Indenture shall specify the following:

(1) The authorized principal amount of such series of Bonds.

(2) The purpose or purposes for which such series of Bonds is being issued, which shall be limited to the purpose of payment or reimbursement of Project Costs.

(3) The dated date or dates, the maturity date or dates and principal amounts of each maturity of the Bonds of such series, the amount and date of each Sinking Fund Installment, if any, and the Record Date or Record Dates of the Bonds of such series.

(4) The interest rate or rates, if any, of the Bonds of such series or the manner of determining such rate or rates, the date from which interest on the Bonds of such series shall accrue, the first date on which interest on the Bonds of such series are payable and the date or dates on which the interest rate on Bonds bearing a variable rate of interest are adjusted and the date or dates on which interest on such Bonds are paid, or the manner of determining the same and the manner in which interest is to be paid on such Bonds.

(5) The provisions regarding tender for purchase or redemption thereof and payment of the purchase price or redemption price thereof, if any, *provided* that each Series Supplemental Indenture shall contain the following redemption provisions:

(i) in the event that the Company Sublease shall have terminated, the Bonds shall be subject to mandatory redemption in whole prior to maturity at a redemption price equal to 100% of the unpaid principal amount of the Bonds, together with accrued interest to the date of redemption, and without premium;

(ii) in the event that any portion of the Leased Facilities is released from the Port Authority Lease or the New City/American Lease, as the case may be, the Company Sublease and the IDA Lease Agreement, and such release constitutes a Major Release, the Bonds shall be subject to mandatory redemption at par in a principal amount (rounded down to the nearest authorized denomination) equal to the Release Price; and

(iii) the Bonds shall be subject to extraordinary mandatory redemption prior to maturity at any time at a redemption price of 100% of the unpaid principal amount thereof plus accrued interest thereon, if any, to the redemption date to the extent and as soon as practical following the Trustee's receipt of any moneys received by the Trustee as a result of the exercise by the Port Authority of its purchase rights under Section 92(v) of the Port Authority Lease or the exercise by the City of any comparable purchase rights contained in the New City/American Lease.

(6) The denomination or denominations of and the manner of numbering and lettering the Bonds of such series.

(7) The redemption price or redemption prices, if any, and, subject to the article of the Master Indenture entitled "Redemption of Bonds," the redemption terms, if any, for the Bonds of such series.

(8) Provisions for the sale of the Bonds of such series and for the delivery thereof.

(9) The form of the Bonds of such series and the form of the Trustee's certificate of authentication thereon, and whether any Bonds of such series are to be available only through the Book-Entry-Only System and the depository therefor; *provided* that each Bond shall contain the following provision:

> "Each Holder of this Bond (by the purchase or transfer and acceptance hereof) acknowledges and agrees that the IDA Lease Agreement and the Company Sublease are and will be subject in all respects to the terms and conditions of the Basic Lease, the Port Authority Lease and the Port Authority Consent and, upon the effectiveness thereof, the New City/American Lease and, except with respect to the City Attornment Agreement or except upon the effectiveness of the New City/American Lease, the termination or expiration of the Basic Lease or the Port Authority Lease may result in the termination of the IDA Lease Agreement and the Company Sublease in accordance with the provisions thereof; *provided, however,* that no such termination will relieve the Company from its obligations to pay rent under the IDA Lease Agreement, including under Section 3.4 or 3.8 of the IDA Lease Agreement, or release the Company or AMR from its guaranty obligations under the Guaranties. Each Holder of this Bond (by purchase or transfer and acceptance hereof) acknowledges that the only right and interest that the Agency shall have in the Leased Facilities is to sublease the Leased Facilities to and from the Company and impose upon the Company the obligations set forth in the IDA Lease Agreement. Each Holder of this Bond (by purchase or transfer and acceptance hereof) further agrees that neither the Agency, the Bondholder, nor the Trustee (except as Leasehold Mortgagee under and pursuant to the Leasehold Mortgage) shall have any other interest in the Leased Facilities or the Port Authority Lease (including, but not limited to, any rights to perform the rights or obligations of the Company under the Port Authority Lease (except for those rights pursuant to the Leasehold Mortgage or Section 92) or otherwise, any rights of possession, entry, re-entry, redemption, eviction or regaining or resumption of possession, any right to the appointment of a receiver or to sell, convey, transfer, mortgage, acquire, pledge, assign, let or resublet the Leased Facilities, the Project or the Port Authority Lease or any part thereof or any rights created thereby or the letting thereunder) under (i) the Financing Documents, (ii) the Act, (iii) the Real Property Actions and Proceedings Law of the State or (iv) the Real Property Law of the State; or otherwise. Further, the Bondholder acknowledges that it shall not have any claim, interest, remedy, right or action against the Port Authority or the Leased Facilities or under the Port Authority Lease at law or in equity arising out of or in connection with the Act, the Financing Documents or the

Project (other than the interests, rights and remedies granted to the Leasehold Mortgagee under or pursuant to the Leasehold Mortgage or Section 92). In addition to and without limiting the foregoing, the Bondholder hereby acknowledges and agrees that in the event there shall be a conflict between the provisions of the Leasehold Mortgage and Section 92 of the Port Authority Lease, Section 92 of the Port Authority Lease shall govern. Copies of the Indenture, the Basic Lease, the Port Authority Lease, the Company Sublease, the IDA Lease Agreement, the Leasehold Mortgage and the Port Authority Consent are on file at the principal corporate trust office of the Trustee in New York, New York and reference is made to such documents for the provisions relating, among other things, to the terms and security of the Bonds, the charging and collection of rentals for the Facility, the custody and application of the proceeds of the Bonds, the rights and remedies of the Holders of the Bonds, and the rights, duties and obligations of the Agency, the Company, the City of New York, the Port Authority and the Trustee. Except as set forth in Section 92 of the Port Authority Lease, the Port Authority shall have no obligation whatsoever with respect to the Bonds, the Bondholders or the Trustee."

(10) Directions for the application of the proceeds of the Bonds of such series.

(11) The maximum maturity date for the Bonds, which shall not exceed December 1, 2036.

(12) Whether the Bonds issued under such Series Supplemental Indenture will be Tax-Exempt Bonds.

(13) Any other provisions deemed advisable by an Authorized Representative of the Agency, not in conflict with the provisions of the Indenture or of any Series Supplemental Indenture.

All Bonds of a series of like maturity shall be identical in all respects, except as to denominations, numbers and letters, and except that Bonds of a series of like maturity may be Bonds which bear a variable rate of interest and Bonds which bear interest at a fixed rate.

Custody and Investment of Funds

Creation of Funds and Accounts. The Agency hereby establishes and creates the following special trust Funds (and authorizes the creation of the following Accounts comprising such Funds):

(1) Project Fund

(a) Construction Account
(b) Capitalized Interest Account

(2) Bond Fund

(a) Principal Account
(b) Interest Account
(c) Redemption Account
(d) Sinking Fund Installment Account

(3) Rebate Fund

(4) Lease Payments Fund

(5) Debt Service Reserve Fund

(a) Series 2002A Debt Service Reserve Account
(b) Series 2002B Debt Service Reserve Account

(6) Mortgage Reserve Fund

(a) Foreclosure Payment Account

All of the Funds and Accounts created under the Indenture shall be held by the Trustee, or in one or more depositories in trust for the Trustee. All moneys and investments deposited with or in trust for the Trustee shall be held in trust and applied only in accordance with the Indenture and shall be trust funds for the purposes of the Indenture.

Project Fund. As soon as practicable after the delivery of a series of Bonds, the Trustee shall deposit in the appropriate Account in the Project Fund the amount required to be deposited therein pursuant to the applicable Series Supplemental Indenture. The amounts in the Project Fund shall be subject to a security interest, lien and charge in favor of the Trustee for the benefit of the Holders of the Bonds until disbursed as provided in the Indenture. The Trustee shall apply the amounts in each Construction Account of the Project Fund to the payment of Project Costs, or reimbursement of Project Costs to the extent the same have been paid by or on behalf of the Company (as agent of the Agency) or the Agency. The Trustee shall apply any amounts held in each applicable Capitalized Interest Account in accordance with the Indenture.

The Trustee is authorized by the Indenture to disburse from each Construction Account (as designated by the Company pursuant to a requisition submitted under the Indenture) of the Project Fund the amount required for the payment of Project Costs and is directed to issue its checks, or, at the request of the Company (as agent of the Agency) or the Agency, to wire funds, for each disbursement from each Construction Account of the Project Fund, upon a requisition submitted to the Trustee and signed by an Authorized Representative of the Company (as agent

of the Agency). The Trustee will not be required to issue such disbursement sooner than five Business Days after the submission of such requisition. Such requisition shall be substantially as set forth in the Form of Requisition attached to the Indenture as Appendix B. Each such requisition shall be accompanied by bills or invoices (stamped "paid" if reimbursement is to be made to the Company) supporting Project Costs to which such requisition pertains. The Trustee shall be entitled to conclusively rely on such requisition. The Trustee shall keep and maintain adequate records pertaining to each Construction Account of the Project Fund and all disbursements therefrom.

The Trustee shall on written request furnish to the Agency and the Company a written statement of disbursements from the Project Fund, enumerating, among other things, item, cost, amount disbursed, date of disbursement and the person to whom payment was made, together with copies of all bills or invoices submitted to the Trustee for such disbursement.

The completion of the Project shall be evidenced as set forth in the IDA Lease Agreement. Upon such completion, the balance in each Construction Account of the Project Fund in excess of the amount, if any, stated in the completion certificate referred to in the IDA Lease Agreement for the payment of any remaining part of the Project Costs shall, at the written direction of the Company, (i) be ratably and equally deposited into each Redemption Account held under the Bond Fund and applied ratably and equally to the retirement of the Bonds by purchase or redemption at the earliest date permissible under the Indenture, *provided* that, prior to such application, a Favorable Opinion of Bond Counsel shall be received and (ii) be invested at a yield not in excess of the applicable Bond Yield (as defined in the applicable Tax Certificate); *provided, however,* the Company, on behalf of the Agency, may apply such balance to any other lawful purpose under the Act in connection with the Facility, *provided* that a Favorable Opinion of Bond Counsel is received by the Trustee and the Agency.

In the event the Company shall be required to or shall elect to cause the Bonds to be redeemed in whole pursuant to the IDA Lease Agreement or the Indenture, the balance in each of the Construction Accounts of the Project Fund (in excess of any amount that the Trustee is directed to transfer to the Rebate Fund pursuant to each applicable Tax Certificate and the Indenture) shall be ratably and equally deposited into each Redemption Account held under the Bond Fund and applied ratably and equally to the retirement of the Bonds by purchase or redemption. In the event the unpaid principal amount of the Bonds shall be accelerated upon the occurrence of an Event of Default under the Indenture, the balance in the Project Fund shall be deposited ratably and equally into each of the Interest Accounts and Principal Accounts held under the Bond Fund and shall be applied as provided in the Indenture.

Proceeds of Bonds deposited in any Capitalized Interest Account shall be applied as follows:

(1) prior to the completion of the Project, on each Interest Payment Date amounts in each applicable Capitalized Interest Account shall first be deposited in the Lease Payments Fund to the extent moneys in such fund are insufficient to meet principal and/or interest payments then due and owing under the Indenture with respect to an

applicable series of Bonds and second, be drawn by the Trustee at the direction of the Company (as agent for the Agency) for the payment of Project Costs, if any;

(2) on or after the Interest Payment Date next succeeding the date of completion of the Project, the moneys remaining in any Capitalized Interest Account shall at the direction of the Company be applied pursuant to the relevant provisions of the Indenture; and

(3) At any time prior to the completion of the Project, upon the written request of the Company and designation in writing of a certain amount by the Company, the Trustee will transfer such amounts from any Capitalized Interest Account to one or more Construction Accounts as specified by the Company and apply such amounts as provided in the relevant sections of the Indenture.

Lease Payments Fund. The Trustee shall deposit in the Lease Payments Fund the amounts so stated to be deposited therein pursuant to the IDA Lease Agreement, the Indenture or the applicable Series Supplemental Indenture.

Except as provided in the Indenture, on or before any Interest Payment Date relating to a series of Bonds the Trustee shall transfer to the applicable Principal Account, Interest Account, Redemption Account, and/or Sinking Fund Installment Account from the Lease Payments Fund an amount sufficient so that the payments required to be made from the Bond Fund pursuant to the Indenture on such Interest Payment Date may be made.

After making the payment described in the immediately preceding paragraph, amounts, if any, remaining in the Lease Payments Fund shall be deposited equally and ratably to the credit of each Account held in the Debt Service Reserve Fund in an amount, if any, equal to the amount necessary to make the amount on deposit in such Accounts equal to the applicable Debt Service Reserve Account Requirement and thereafter any remaining excess in the Lease Payments Fund shall be returned to the Company.

If, on any Interest Payment Date relating to a series of Bonds, any principal payment date or redemption date, as the case may be, the amount on deposit in the Lease Payments Fund or the Bond Fund is insufficient to make all payments with respect to the principal, redemption price, if applicable, Sinking Fund Installments, if applicable, and interest on such series of Bonds which are required to be made on such date, the Trustee shall promptly give telephonic notice (to be promptly confirmed in writing) stating the amount of such deficiency to the Company and the Agency. Promptly upon receipt of such notice, the Company shall, as provided in the IDA Lease Agreement, pay the amount of such deficiency in immediately available funds. Upon receipt of such funds, the Trustee shall deposit them in the Lease Payments Fund.

If, on any Purchase Date, the amount on deposit in the applicable Bond Purchase Fund relating to a series of Bonds is insufficient to make all payments with respect to purchase price, if any, on such series of Bonds which are required to be made on such date, the Trustee shall promptly give telephonic notice (to be promptly confirmed in writing) stating the amount of such deficiency to the Company and the Agency. Promptly upon receipt of such notice, the Company

shall, as provided in the IDA Lease Agreement, pay the amount of such deficiency in immediately available funds. Upon receipt of such funds, the Trustee shall deposit them in the applicable Lease Payments Account established in the applicable Bond Purchase Fund.

Payments into Bond Fund. The Trustee shall promptly deposit the following receipts into the Bond Fund:

(a) Excess amounts in any Construction Account held in the Project Fund required to be deposited (subject to any transfer required to be made to the Rebate Fund in accordance with directions received pursuant to the applicable Tax Certificate and the Indenture) in the applicable Redemption Account of the Bond Fund as described in this Appendix D under the fourth paragraph and the first sentence of the fifth paragraph of "*—Project Fund*," which shall be kept segregated from any other moneys within such Account.

(b) Amounts transferred from the Lease Payments Fund to the Bond Fund as described in this Appendix D under "*—Lease Payments Fund*" above, which shall be deposited *first* to the applicable Interest Account, in the amount required to make the payments described in paragraph (a) in this Appendix D under "*—Application of Bond Fund*" below, *second* to the applicable Sinking Fund Installment Account, in the amount required to make the payments described in paragraph (c) in this Appendix D under "*—Application of Bond Fund*" below, *third* to the applicable Principal Account, in the amount required to make the payments described in paragraph (b) in this Appendix D under "*—Application of Bond Fund*" below, and *fourth* to the applicable Redemption Account, in the amount required to make the payments described in paragraph (d) in this Appendix D under "*—Application of Bond Fund*" below. Advance rental payments received by the Trustee for deposit into the Lease Payments Fund pursuant to the IDA Lease Agreement shall be deposited in the applicable Redemption Account.

(c) The excess amounts referred to in the third sentence of paragraph (d) in this Appendix D under "*—Application of Bond Fund*" below, which shall be credited to the applicable Interest Account of the Bond Fund.

(d) Any amounts transferred from an applicable Redemption Account as described in paragraph (h) in this Appendix D under "*—Application of Bond Fund*" below, which shall be deposited to the applicable Interest Account, the applicable Principal Account and the applicable Sinking Fund Installment Account of the Bond Fund, as the case may be and in such order of priority, and applied solely to the payment of the principal of and interest on the applicable series of Bonds.

(e) All other receipts when and if required by the IDA Lease Agreement, by the Indenture, or by the Leasehold Mortgage (excluding any payment required to be made to the Port Authority under the Port Authority Lease) pursuant to the Leasehold Mortgagee's exercise of remedies thereunder, or by the Equipment Security Agreement, the Guaranties or any other Security Document to be paid into the Bond Fund, which

shall be credited (except as otherwise provided in the Indenture) to the applicable Redemption Account of the Bond Fund.

Application of Bond Fund. (a) The Trustee shall, on an Interest Payment Date with respect to a series of Bonds, pay or cause to be paid to the respective Paying Agents therefor out of the applicable Interest Account in the Bond Fund the interest due on such series of Bonds and further pay out of the applicable Interest Account of the Bond Fund any amounts required for the payment of accrued interest upon any redemption (including any mandatory sinking fund redemption) of such series of Bonds.

(b) The Trustee shall, on each principal payment date with respect to a series of Bonds, pay or cause to be paid to the respective Paying Agents therefor out of the applicable Principal Account of the Bond Fund the principal amount, if any, due on such series of Bonds (other than such as shall be due by mandatory sinking fund redemption), upon the presentation and surrender (if applicable) of the requisite Bonds of such series.

(c) There shall be paid from the applicable Sinking Fund Installment Account of the Bond Fund to the respective Paying Agents on each sinking fund payment date for a series of Bonds in immediately available funds the amounts required for such Sinking Fund Installment due and payable with respect to such series of Bonds which are to be redeemed from Sinking Fund Installments on such date (accrued interest on such Bonds being payable from the applicable Interest Account of the Bond Fund), all as may be set forth in the applicable Series Supplemental Indenture. Such amounts shall be applied by the Paying Agents to the payment of such Sinking Fund Installment when due. The Trustee shall call for redemption, in the manner provided in the Indenture, Bonds of such series for which Sinking Fund Installments are applicable in a principal amount equal to the Sinking Fund Installment then due with respect to such Bonds. Such call for redemption shall be made even though at the time of mailing of the notice of such redemption sufficient moneys therefor shall not have been deposited in the applicable Sinking Fund Installment Account of the Bond Fund.

(d) Amounts in the applicable Redemption Account of the Bond Fund established with respect to a series of Bonds shall be applied, at the written direction of the Company, as promptly as practicable, to the redemption of such series of Bonds at prices not exceeding the redemption price thereof applicable on the earliest date upon which such Bonds are next subject to redemption plus in each case accrued interest to the date of redemption. Any amount in the applicable Redemption Account not so applied to the redemption of such series of Bonds by 30 days prior to the next date on which the Bonds are so redeemable shall be applied, subject to the provisions described in paragraph (a) above of this subheading, to the redemption of such series of Bonds on such redemption date; *provided* that if such amount aggregates less than $100,000, such amount need not be then applied to such redemption. Any amounts deposited in such applicable Redemption Account and not applied within 12 months of their date of deposit to the redemption of, or as described in paragraph (e) below of this subheading, the purchase of such series of Bonds (except if held in accordance with the Indenture) shall be transferred to the applicable Interest Account. Upon the redemption of Bonds of a maturity of any series, an amount equal to the principal of such Bonds so redeemed or an amount of Bonds purchased by the Company and surrendered for cancellation as provided in the Indenture shall, in the order

designated by the Company, be credited against the next ensuing and future Sinking Fund Installments, if any, for that maturity of that series of Bonds until the full principal amount of such Bonds so redeemed or purchased shall have been so credited. The portion of any such Sinking Fund Installment remaining after the deduction of such amounts so credited shall constitute and be deemed to be the amount of such Sinking Fund Installment for the purposes of any calculation thereof under the Indenture. The Bonds of any maturity of a series to be redeemed shall be selected by the Trustee (at the written direction of the Company) in the manner provided in the Indenture. Amounts in any applicable Redemption Account to be applied to the redemption of Bonds of a series shall be paid to the respective Paying Agents on or before the redemption date and applied by them on such redemption date to the payment of the redemption price of such series of Bonds being redeemed plus interest on such Bonds accrued to the redemption date.

(e) In lieu of Bonds of any maturity of a series being redeemed through a mandatory sinking fund redemption, the Company, on behalf of the Agency, may negotiate or arrange for the purchase of Bonds of that maturity of such series by the Trustee on behalf of the Agency in such manner (through brokers or otherwise, and with or without receiving tenders) as it shall in its discretion determine. The Company, on behalf of the Agency, shall cause such Bonds to be delivered to the Trustee for cancellation. The Trustee, upon presentation by the Company to the Trustee of Bonds of such series to be purchased accompanied by a written request of an Authorized Representative of the Agency (given at the written direction of the Company) to the Trustee requesting payment therefor, shall provide monies for payment of the purchase price for any such Bonds from the moneys deposited in the applicable Redemption Account of the Bond Fund and the payment of accrued interest shall be made out of moneys deposited in the applicable Interest Account of the Bond Fund. Bonds so purchased and delivered shall be canceled by the Trustee.

(f) The Agency shall receive a credit in respect of Sinking Fund Installments for any Bonds of a series which are subject to mandatory sinking fund redemption and which are delivered by the Agency or the Company to the Trustee on or before the thirtieth day next preceding any Sinking Fund Installment payment date and for any Bonds which prior to said date have been purchased or redeemed (otherwise than through the operation of the applicable Sinking Fund Installment Account) and canceled by the Trustee and not theretofore applied as a credit against any Sinking Fund Installment. Each Bond of a series so delivered, canceled or previously purchased or redeemed shall be credited by the Trustee at 100% of the principal amount thereof against the obligation of the Agency on such Sinking Fund Installment payment date with respect to such series of Bonds, and the principal amount of such series of Bonds to be redeemed by operation of the applicable Sinking Fund Installment Account on the due date of such Sinking Fund Installment shall be reduced accordingly, and any excess over such principal amount shall be credited to future Sinking Fund Installments in the manner directed by the Company, and the principal amount of such series of Bonds to be redeemed by application of Sinking Fund Installment payments shall be accordingly reduced.

(g) The Company shall, on or before the thirtieth day next preceding each Sinking Fund Installment payment date, furnish the Trustee with the certificate of an Authorized Representative of the Company indicating whether or not and to what extent the provisions

described in this Appendix D under "—*Application of Bond Fund*" are to be availed of with respect to such Sinking Fund Installment payment relating to a series of Bonds, stating, in the case of the credit provided for, that such credit has not theretofore been applied against any Sinking Fund Installment relating to such series of Bonds and confirming that immediately available cash funds for the balance of the next succeeding prescribed Sinking Fund Installment payment relating to such series of Bonds will be paid on or prior to the next succeeding Sinking Fund Installment payment date.

(h) Moneys in the applicable Redemption Account of the Bond Fund established with respect to a series of Bonds which are not set aside or deposited for the redemption or purchase of such series of Bonds shall be transferred by the Trustee to the applicable Interest Account, to the applicable Principal Account or to the applicable Sinking Fund Installment Account of the Bond Fund.

Debt Service Reserve Fund. Within the Debt Service Reserve Fund there shall be created and held under the Indenture a separate Account for each series of Bonds issued thereunder for which the applicable Series Supplemental Indenture establishes a Debt Service Reserve Account Requirement greater than $0. The Trustee shall deposit to the credit of the applicable Account within the Debt Service Reserve Fund for a series of Bonds such proceeds of the sale of such series of Bonds, if any, as shall be prescribed in the applicable Series Supplemental Indenture, and any moneys that are delivered to the Trustee by the Company for the purposes of such applicable Account of the Debt Service Reserve Fund.

In lieu of or in substitution for moneys required to be deposited into an Account within the Debt Service Reserve Fund, the Company may deposit or cause to be deposited with the Trustee a Reserve Fund Facility for the benefit of the holders of Bonds of a series for all or any part of the Debt Service Reserve Account Requirement for such series of Bonds; *provided* (i) that any such surety bond or insurance policy shall be issued by an insurance company or association reasonably consented to by the Agency and either (A) the claims paying ability of such insurance company or association is rated in the highest rating category accorded by a nationally recognized insurance rating agency or (B) obligations insured by a surety bond or an insurance policy issued by such company or association are rated, without regard to qualification of such rating by symbols such as "+" or "-" or numerical notation, in the highest rating category at the time such surety bond or insurance policy is issued by Moody's and S&P or, if the Bonds of such series are not rated by both Moody's and S&P, by whichever of said rating services that then rates such Bonds and (ii) that any letter of credit shall be issued by a bank, a trust company, a national banking association, a corporation subject to registration with the Board of Governors of the Federal Reserve System under the Bank Holding Company Act of 1956 or any successor provision of law, a federal branch pursuant to the International Banking Act of 1978 or any successor provision of law, or a domestic branch or agency of a foreign bank which branch or agency is duly licensed or authorized to do business under the laws of any state or territory of the United States of America, the unsecured or uncollateralized long term debt obligations of which, or long term obligations secured or supported by a letter of credit issued by such person, are rated at the time such letter of credit is delivered, without regard to qualification of such rating by symbols such as "+" or "-" or numerical notation, in at least the second highest rating

category by Moody's and S&P or, if the Bonds of such series are not rated by Moody's and S&P, by whichever of said rating services that then rates such Bonds.

Moneys held for the credit of an applicable Account of the Debt Service Reserve Fund for a series of Bonds shall be withdrawn by the Trustee and deposited to the credit of the applicable Interest Account, Principal Account, Redemption Account or Sinking Fund Installment Account of the Bond Fund at the times and in the amounts required to comply with the provisions of the Indenture described in paragraphs (a), (b), (c) and (d) of this Appendix D under "*—Application of Bond Fund*" above with respect to such series of Bonds; provided that no payment under a Reserve Fund Facility shall be sought unless and until moneys are not available in the applicable Account of the Debt Service Reserve Fund and the amount required to be withdrawn from such Account of the Debt Service Reserve Fund pursuant to the provisions of the Indenture described in this subheading cannot be withdrawn therefrom without obtaining payment under such Reserve Fund Facility; provided further, that, if more than one Reserve Fund Facility is held for the credit of such Account of the Debt Service Reserve Fund at the time moneys are to be withdrawn therefrom, the Trustee shall obtain payment under each such Reserve Fund Facility, pro rata, based upon the respective amounts then available to be paid thereunder.

With respect to any demand for payment under any Reserve Fund Facility, the Trustee shall make such demand for payment in accordance with the terms of such Reserve Fund Facility at the earliest time provided therein to assure the availability of moneys on the Interest Payment Date for which such moneys are required.

If upon any valuation it is determined that the moneys and investments held for the credit of an applicable Account of the Debt Service Reserve Fund are in excess of those necessary to maintain the Debt Service Reserve Account Requirement for the related series of Bonds, an amount equal to such excess shall be withdrawn by the Trustee and deposited, *first*, ratably and equally to satisfy any deficiency then existing in any other Account held in Debt Service Reserve Fund and, *second*, in the Bond Fund or, prior to completion of the Project, in the applicable Construction Account in accordance with the direction of the Company; *provided, however,* that if such amount results from the substitution of a Reserve Fund Facility for any securities in such applicable Account of the Debt Service Reserve Fund, such amount shall not be deposited in the Bond Fund or the applicable Construction Account unless in the opinion of Bond Counsel such application will not adversely affect the exclusion of interest on any Tax-Exempt Bonds from gross income for federal income tax purposes.

Notwithstanding the provisions described in this subheading, if, upon any Bond of a series having been deemed to have been paid in accordance with the provisions of the Indenture described in this Appendix D under "—Discharge of Indenture" below or redeemed prior to maturity from the proceeds of Bonds, bonds, notes or other obligations issued for such purpose, the moneys and investments held for the credit of the applicable Account of the Debt Service Reserve Fund will exceed the Debt Service Reserve Account Requirement for the related series of Bonds, then the Trustee shall, simultaneously with such redemption or a deposit made in accordance with such provisions of the Indenture, withdraw all or any portion of such excess from the applicable Account of the Debt Service Reserve Fund upon the direction of an

Authorized Representative of the Company and either (i) apply such amount to the payment of the principal or redemption price of and interest on Bonds of such series secured by said Account of the Debt Service Reserve Fund or to fund any reserve for the payment of the principal and Sinking Fund Installments of or interest on the bonds, notes or other obligations, if any, issued to provide for payment of such Bonds of such series secured by said Account of the Debt Service Reserve Fund or (ii) pay such amount to the applicable Construction Account if, in the opinion of Bond Counsel, application of such moneys to the payment of Project Costs will not adversely affect the exclusion of interest on any Tax-Exempt Bonds from gross income for federal income tax purposes; *provided that* after such withdrawal the amount remaining in the applicable Account of the Debt Service Reserve Fund shall not be less than the Debt Service Reserve Account Requirement for such series of Bonds.

Except as otherwise provided in any Series Supplemental Indenture, the Trustee shall value each Account held in the Debt Service Reserve Fund at least ten days prior to each Interest Payment Date, upon the written request of the Company and upon a withdrawal from any Account of the Debt Service Reserve Fund as described in the immediately preceding paragraph. If upon a valuation, the aggregate of the moneys and investments held for the credit of any Account held in the Debt Service Reserve Fund is less than the applicable Debt Service Reserve Account Requirement for the related series of Bonds, the Trustee shall promptly notify the Agency and the Company of such deficiency and, except as otherwise provided in the applicable Series Supplemental Indenture authorizing the Bonds secured by such Account of the Debt Service Reserve Fund, the Agency shall cause the Company to deliver to the Trustee moneys or investments the value of which is sufficient to increase the amount on deposit in such Account of the Debt Service Reserve Fund to an amount equal to the Debt Service Reserve Account Requirement for such series of Bonds as described in the last paragraph under APPENDIX C—"SUMMARY OF CERTAIN PROVISIONS OF THE IDA LEASE AGREEMENT —Issuance of Bonds and Additional Bonds; Lease of Facility and Rental Provisions —*Rental Provisions*."

Payments into Rebate Fund; Application of Rebate Fund. The Rebate Fund and the amounts deposited therein shall not be subject to a security interest, pledge, assignment, lien or charge in favor of the Trustee, the Company or any Bondholder or any other Person.

Deposits into the Rebate Fund shall be made pursuant to the applicable Tax Certificate, the terms of which are incorporated by reference in the Indenture, and amounts on deposit in the Rebate Fund that are required to be paid to the United States Department of the Treasury pursuant to the Code shall be paid at the times and in the amounts set forth in or determined in accordance with the applicable Tax Certificate.

Investment of Funds and Accounts. Amounts in the Rebate Fund, Lease Payments Fund, Bond Fund, Debt Service Reserve Fund, Project Fund and Mortgage Reserve Fund may, if and only to the extent then permitted by law, be invested but only in Qualified Investments (except that any amounts held in any account established within the Bond Fund pursuant to the provisions of the Indenture described in this Appendix D under "—Discharge of Indenture" below shall be invested solely in Government Obligations). Any investment authorized in the Indenture and described herein is subject to the condition that no portion of the proceeds derived from the sale of any series of Tax-Exempt Bonds shall be used, directly or indirectly, in such

manner as to cause any such Tax-Exempt Bonds to be "arbitrage bonds" within the meaning of Section 148 of the Code. Such investments shall be made by the Trustee only at the specific written request of an Authorized Representative of the Company. Except for amounts held in the Mortgage Reserve Fund, any investment under the Indenture shall be made in accordance with the applicable Tax Certificate, and the Company shall so certify to the Trustee with each such investment direction as described below. Such investments shall mature in such amounts and at such times as may be necessary to provide funds when needed to make payments from the applicable Fund or Account in which such investment is held. Net income or gain received and collected from such investments shall be credited and losses charged to the applicable Fund or Account for which such investment shall have been made; *provided, however,* that such net income or gain shall be credited to (i) the applicable Interest Account of the Bond Fund with respect to the investment of amounts held in the applicable Interest Account, Principal Account, Redemption Account or Sinking Fund Installment Account of the Bond Fund, (ii) the applicable Construction Account of the Project Fund with respect to the investment of amounts held in such Construction Account until completion of the Project and the applicable Redemption Account of the Bond Fund with respect to investment of amounts held in such Construction Account of the Project Fund subsequent to completion of the Project and (iii) the applicable Account of the Debt Service Reserve Fund with respect to the investment of amounts held in said Account of the Debt Service Reserve Fund.

At the written request of the Company and at least ten days prior to each Interest Payment Date, the Trustee shall notify the Company of the amount of such net investment income or gain received and collected subsequent to the last such rental payment under the IDA Lease Agreement and the amount then available in the various Accounts of the Bond Fund and any amounts then available in the Lease Payments Fund.

Upon the written direction of an Authorized Representative of the Company, the Trustee shall sell at the best price obtainable by it, or present for redemption or exchange, any obligations in which moneys shall have been invested to the extent necessary to provide cash in the respective Funds or Accounts to make any payments required to be made therefrom, or to facilitate the transfers of moneys or securities between various Funds and Accounts as may be required from time to time pursuant to the provisions of the Indenture. As soon as practicable after any such sale, redemption or exchange, the Trustee shall give notice thereof to the Agency and the Company.

Neither the Trustee nor the Agency shall be liable for any loss, fee, tax or other charge arising from, or any depreciation in the value of, any obligations in which moneys of the Funds and Accounts shall be invested or in connection with any liquidation of an investment under the Indenture. The investments authorized by the Indenture and described herein shall at all times be subject to the provisions of applicable law, as amended from time to time.

Qualified Investments shall be valued at the market value of such investments, inclusive of accrued interest.

Mortgage Reserve Fund. There shall be established under the Indenture a separate Mortgage Reserve Fund within which there shall be created a Foreclosure Payment Account.

The Trustee shall deposit to the credit of the Foreclosure Payment Account any amounts provided by the Company under the IDA Lease Agreement as described in the sixth paragraph under APPENDIX C—"SUMMARY OF CERTAIN PROVISIONS OF THE IDA LEASE AGREEMENT—Particular Covenants—*Certain Covenants with Respect to the Port Authority Lease, the Leasehold Mortgage, the City Attornment Agreement, the New City/American Lease and the Agreement Towards Entering Into a Lease.*"

In lieu of or in substitution for Bond proceeds or moneys required to be deposited into the Mortgage Reserve Fund the Company may deposit or cause to be deposited with the Trustee a Reserve Fund Facility for all or any portion of the Foreclosure Payment Account Requirement for the benefit of the Holders of the Bonds; *provided* (i) that any such surety bond or insurance policy shall be issued by an insurance company or association reasonably consented to by the Agency and either (A) the claims paying ability of such insurance company or association is rated in the highest rating category accorded by a nationally recognized insurance rating agency or (B) obligations insured by a surety bond or an insurance policy issued by such company or association are rated, without regard to qualification of such rating by symbols such as "+" or "-" or numerical notation, in the highest rating category at the time such surety bond or insurance policy is issued by Moody's and S&P or, if the Bonds of such series are not rated by both Moody's and S&P, by whichever of said rating services that then rates such Bonds and (ii) that any letter of credit shall be issued by a bank, a trust company, a national banking association, a corporation subject to registration with the Board of Governors of the Federal Reserve System under the Bank Holding Company Act of 1956 or any successor provision of law, a federal branch pursuant to the International Banking Act of 1978 or any successor provision of law, or a domestic branch or agency of a foreign bank which branch or agency is duly licensed or authorized to do business under the laws of any state or territory of the United States of America, the unsecured or uncollateralized long term debt obligations of which, or long term obligations secured or supported by a letter of credit issued by such person, are rated at the time such letter of credit is delivered, without regard to qualification of such rating by symbols such as "+" or "-" or numerical notation, in at least the second highest rating category by Moody's and S&P or, if the Bonds of such series are not rated by Moody's and S&P, by whichever of said rating services that then rates such Bonds.

Moneys, or any Reserve Fund Facility held in the Foreclosure Payment Account, shall be applied or drawn upon by the Trustee either (i) to pay the Port Authority any amounts due under Section 92 (or any similar amounts to the City under the New City/American Lease) or (ii) subsequent to a Notice of Termination, a Bonds Default or a Bankruptcy Rejection Date (as such terms are defined herein under APPENDIX F—"SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY LEASE—Leasehold Mortgage and Reletting Rights—*Election to Exercise Reletting Rights*" and "—*Extensions of Foreclosure Period*" or any similar provision of the New City/American Lease), in the event that the Trustee determines that it is not in the best interest of the Bondholders to make the payments described in (i) above, or if the Trustee is so directed by Bondholders in accordance with the Indenture, amounts then held in the Foreclosure Payment Account may be used to pay debt service on the Bonds.

The Trustee shall be obligated to value the Foreclosure Payment Account on the first day of each calendar month. If upon a valuation, the total amount of the moneys and the principal

amount of investments held for the credit of the Foreclosure Payment Account is less than the Foreclosure Payment Account Requirement, the Trustee shall promptly notify the Agency and the Company of such deficiency, and the Agency shall cause the Company to deliver to the Trustee moneys or investments the value of which is sufficient to increase the amount on deposit in such Foreclosure Payment Account to an amount equal to the Foreclosure Payment Account Requirement. If upon any such valuation it is determined that the moneys and investments held for the credit of the Foreclosure Payment Account are in excess of those necessary to maintain the Foreclosure Payment Account Requirement, an amount equal to such excess shall, *first*, be applied ratably and equally to satisfy any deficiency then existing in any Account held in the Debt Service Reserve Fund and, *second*, be withdrawn by the Trustee and paid to the Company.

Particular Covenants

Agency's Obligations Not to Create a Pecuniary Liability. Each and every covenant made in the Indenture, including all such covenants described in this paragraph and the two succeeding paragraphs, is predicated upon the condition that any obligation for the payment of money incurred by the Agency shall not create a debt of the State nor the City and neither the State nor the City shall be liable on any obligation so incurred, and the Bonds and any other obligation for the payment of money incurred by the Agency under the Indenture shall not be payable out of any funds of the Agency other than those pledged therefor but shall be payable by the Agency solely from the Funds available to the Trustee, the amounts payable by the Company under the IDA Lease Agreement pledged to the payment thereof in the manner and to the extent described in the Indenture, amounts payable to the Trustee as Secured Party under the Equipment Security Agreement and amounts payable to the Leasehold Mortgagee under the Leasehold Mortgage, and nothing in the Bonds, in the IDA Lease Agreement, in the Indenture, in the Equipment Security Agreement or in any other of the Security Documents shall be considered as pledging any other funds or assets of the Agency.

Payment of Principal and Interest. The Agency covenants that it will, from the sources contemplated under the Indenture, promptly pay or cause to be paid the principal, redemption price, if applicable, Sinking Fund Installments, if applicable, purchase price of, and interest on the Bonds, together with interest accrued to but not including the date of redemption, at the place, on the dates and in the manner provided in the Indenture and in the Bonds according to the true intent and meaning thereof. All covenants, stipulations, promises, agreements and obligations of the Agency contained in the Indenture shall be deemed to be covenants, stipulations, promises, agreements and obligations of the Agency and not of any member, officer, director, employee or agent thereof in his individual capacity, and no resort shall be had for the payment of the principal, redemption price, if applicable, Sinking Fund Installment, if applicable, purchase price of, or interest on the Bonds or for any claim based thereon or under the Indenture against any such member, officer, director, employee or agent or against any natural person executing the Bonds. Neither the Bonds, the redemption price, if any, the Sinking Fund Installment, if any, or the purchase price thereof or interest thereon, shall ever constitute a debt of the State or of the City and neither the State nor the City shall be liable on any obligation so incurred, and the Bonds shall not be payable out of any funds of the Agency other than those pledged therefor. The Agency shall not be required under the Indenture or any other of the Security Documents to expend any of its funds other than (i) the proceeds of the Bonds, (ii) the

lease rentals, revenues and receipts, rental income and other moneys held or derived from or in connection with the Facility and payable by the Company under the IDA Lease Agreement as amended by any IDA Lease Amendment and pledged to the payment of the Bonds, and (iii) any income or gains therefrom.

Performance of Covenants; Authority. The Agency covenants that it will faithfully perform at all times any and all covenants, undertakings, stipulations and provisions contained in the Indenture, in any and every Bond executed, authenticated and delivered under the Indenture and thereunder and in all proceedings pertaining to the Indenture or thereto. The Agency covenants that it is duly authorized under the Constitution and laws of the State, including particularly and without limitation the Act, to issue the Bonds authorized by the Indenture and to execute the Indenture, to lease the Facility pursuant to the IDA Lease Agreement, to assign the IDA Lease Agreement, and to pledge the lease rentals, revenues and receipts pledged under the Indenture in the manner and to the extent set forth therein; that all action on its part for the issuance of the Bonds of a series and the execution and delivery of the Master Indenture have been duly and effectively taken; and that each series of Bonds in the hands of the Holders thereof are and will be the valid and enforceable special obligations of the Agency according to the import thereof.

Events of Default; Remedies of Bondholders

Events of Default; Acceleration of Due Date. Each of the following events is defined as and shall constitute an "Event of Default" under the Indenture:

(1) Failure in the payment of the interest on any Bond when the same shall become due and payable and if no Credit Facility is in effect with respect to such Bond, the continuation of such failure for five Business Days;

(2) Failure in the payment of the principal or redemption price, if any, of, or Sinking Fund Installment for, any Bond, when the same shall become due and payable, whether at the stated maturity thereof or upon proceedings for redemption thereof or otherwise, or interest accrued thereon and the continuation of such failure for five Business Days;

(3) Failure to duly and punctually pay the purchase price of any Bond tendered or deemed tendered for purchase pursuant to a Series Supplemental Indenture;

(4) Failure of the Agency to observe or perform any covenant, condition or agreement in any Bond or under the Indenture on its part to be performed (except as described in subparagraphs (1), (2) and (3) immediately above) and (A) continuance of such failure for a period of 60 days after receipt by the Agency and the Company of written notice specifying the nature of such default from the Trustee or the Holders of at least 25% in aggregate principal amount of the Bonds Outstanding, or (B) if by reason of the nature of such default the same can be remedied, but not within the said 60 days, the Agency or the Company fails to proceed with reasonable diligence after receipt of said

notice to cure the same or fails to continue with reasonable diligence its efforts to cure the same and the same shall not be cured within 360 days;

(5) The occurrence of an "Event of Default" under the IDA Lease Agreement or the occurrence of an event of default under the Company Guaranty, the AMR Guaranty or the Leasehold Mortgage;

(6) The occurrence of an Act of Bankruptcy; provided, that with respect to the filing of an involuntary petition in bankruptcy or other commencement of a bankruptcy or similar proceeding against the Company or AMR, such petition or proceeding shall remain undismissed or unstayed for a period of 90 days;

(7) (A) The date of termination of the Port Authority Lease as set forth in the notice from the Port Authority to the Trustee pursuant to the Port Authority Lease to the effect that the Port Authority will terminate the Port Authority Lease pursuant to the provisions thereof or (B) the date of termination of the New City/American Lease as set forth in a notice from the City to the Trustee in accordance with the New City/American Lease to the effect that the City will terminate the New City/American Lease pursuant to the provisions thereof; *provided, however,* such termination of the New City/American Lease shall not result in an Event of Default under the Indenture if the Company is reinstated as or becomes tenant as described in the Port Authority Lease; or

(8) Receipt by the Leasehold Mortgagee of one or more Information Statements under the Port Authority Lease showing that the total unpaid rentals, fees, charges and other amounts under the Port Authority Lease exceeds $9,877,000 and failure of the Company to pay said amounts in accordance with the provisions of the Port Authority Lease within 20 days after notice of the same from the Leasehold Mortgagee.

Upon the happening and continuance of an Event of Default described in subparagraphs (4), (5) or (8) above, the Trustee may, or at the direction of the Holders of at least 25% in aggregate principal amount of the Bonds Outstanding (by notice in writing to the Agency, the Company and AMR) the Trustee shall, declare the principal of all the Bonds then Outstanding, and the interest accrued thereon, to be due and payable immediately, and upon such declaration the same shall become and be immediately due and payable, anything contained in the Indenture or in any of such Bonds to the contrary notwithstanding. Upon such declaration, the same shall become and be immediately due and payable, and the principal installments of rent payable under the IDA Lease Agreement (together with interest accrued thereon to the date of such declaration) shall also become and be immediately due and payable, and to the extent any Bonds in default are secured by a Credit Facility the Trustee shall promptly draw on any Credit Facility then in effect with respect to such Bonds to the extent permitted by the terms thereof in an amount equal to the principal of, and accrued interest on, such Bonds.

Upon the happening of any Event of Default described in subparagraphs (1), (2), (3), or (7) above, the Trustee shall immediately declare the principal of all the Bonds then Outstanding, and the interest accrued thereon, to be due and payable immediately, and upon such declaration the same shall become and be immediately due and payable, anything contained in the Indenture

or in any of such Bonds to the contrary notwithstanding. Upon such declaration, the same shall become and be immediately due and payable, and principal installments of rent payable under the IDA Lease Agreement (together with interest accrued thereon to the date of such declaration) shall become immediately due and payable, and to the extent any Bonds in default are secured by a Credit Facility the Trustee shall promptly draw on any Credit Facility then in effect with respect to such Bonds to the extent permitted by the terms thereof in an amount equal to the principal of, and accrued interest on, such Bonds. Upon the occurrence and continuance of an Event of Default described in subparagraph (7) above, the Agency or the Trustee shall terminate the IDA Lease Agreement, and all of the estate, right, title and interest therein granted or vested in the Company shall cease and terminate.

If there shall occur an Event of Default described in subparagraph (6) above, the unpaid principal of all the Bonds Outstanding and the interest accrued thereon (and all installments of rent under the IDA Lease Agreement) shall be due and payable immediately without the necessity of any declaration or other action by the Trustee or any other Person.

The right of the Trustee or of the Holders of at least 25% in aggregate principal amount of the Bonds Outstanding to make any such declaration as aforesaid, however, is subject to the condition that if, at any time before such declaration, all overdue installments of principal of and interest on all of the Bonds which shall have matured by their terms and the unpaid redemption price of the Bonds or principal portions thereof to be redeemed have been paid by or for the account of the Agency, and all other Events of Default with respect to such Bonds have been otherwise remedied, and the reasonable and proper charges, expenses and liabilities of the Trustee shall either be paid by or for the account of the Agency or provision satisfactory to the Trustee shall be made for such payment, and all defaults with respect to the Bonds have been otherwise remedied as described in this heading, then in every such case any such default and its consequences shall *ipso facto* be deemed to be annulled, but no such annulment shall extend to or affect any subsequent default or impair or exhaust any right or power consequent thereon; *provided, however,* that if the Holders of at least 25% in aggregate principal amount of the Bonds Outstanding shall have directed such declaration of acceleration, the Trustee shall not annul such declaration and its consequences without the prior consent of the Holders of greater than 50% in aggregate principal amount of the Bonds Outstanding.

Pursuant to the IDA Lease Agreement the Agency has granted to the Company full authority for the account of the Agency to perform any covenant or obligation the non-performance of which is alleged in any notice received by the Company to constitute a default under the Indenture, in the name and stead of the Agency with full power to do any and all things and acts to the same extent that the Agency could do and perform any such things and acts with power of substitution. The Trustee agrees to accept such performance by the Company as performance by the Agency.

Enforcement of Remedies. Upon the occurrence and continuance of any Event of Default under the Indenture, *provided* that the Trustee has delivered the notice required thereby, then and in every case the Trustee may proceed, and upon the written request of the Holders of at least 25% in aggregate principal amount of the Bonds Outstanding shall proceed, to protect and enforce the rights of the Bondholders and its rights under the Act, the IDA Lease Agreement, the

Indenture, the Leasehold Mortgage, the Guaranties, the Equipment Security Agreement and under any other of the Security Documents forthwith by such suits, actions or special proceedings in equity or at law, or by proceedings in the office of any board or officer having jurisdiction, whether for the specific performance of any covenant or agreement contained in the Indenture or in any other of the Security Documents or in aid of the execution of any power granted in, but solely as provided in, the Indenture, the Leasehold Mortgage, the Company Guaranty, the AMR Guaranty, the Equipment Security Agreement or in any other of the Security Documents or in the Act or for the enforcement of any legal or equitable rights or remedies as the Trustee, being advised by counsel, shall deem most effectual to protect and enforce such rights or to perform any of its duties under the Indenture or under any other of the Security Documents. In addition to any rights or remedies available to the Trustee under the Indenture or elsewhere, upon the occurrence and continuance of an Event of Default the Trustee may take such action, without notice or demand, as it deems advisable.

In the enforcement of any right or remedy with respect to the Bonds under the Indenture, the Leasehold Mortgage, the Company Guaranty, the AMR Guaranty, the Equipment Security Agreement or any other of the Security Documents, the Bonds or under the Act, the Trustee shall be entitled to, and shall sue for, enforce payment on and receive any or all amounts then or during any default becoming, and any time remaining, due from the Agency or from the Company relating to interest, principal, purchase price, Sinking Fund Installments, redemption price, or otherwise, under any of the provisions of the Indenture, or of the Bonds, and unpaid, with interest on overdue payments at the rate or rates of interest specified in the Bonds, together with any and all costs and expenses of collection and of all proceedings under the Indenture, the Leasehold Mortgage, the Equipment Security Agreement, the Company Guaranty, the AMR Guaranty or under any such other of the Security Documents and under the Bonds, without prejudice to any other right or remedy of the Trustee or of the Bondholders, and to recover and enforce judgment or decree against the Agency, but solely as provided in the Indenture, the Leasehold Mortgage, the Company Guaranty, the AMR Guaranty, the Equipment Security Agreement and in the Bonds, for any portion of such amounts remaining unpaid, with interest, costs and expenses, and to collect (but solely from the moneys in the Bond Fund and other moneys available therefor to the extent provided in the Indenture) in any manner provided by law, the moneys adjudged or decreed to be payable. The Trustee shall file proofs of claim and other papers or documents as may be necessary or advisable in order to have the claims of the Trustee and the Bondholders allowed in any judicial proceedings relative to the Company, AMR, any of the other obligors under any other of the Security Documents, the Agency or their creditors or property.

Regardless of the occurrence of an Event of Default, the Trustee, if requested in writing by the Holders of at least 25% in aggregate principal amount of the Bonds then Outstanding, and in each case furnished with security and indemnity satisfactory to it, shall institute and maintain such suits and proceedings with respect to the Bonds as it may be advised shall be necessary or expedient to prevent any impairment of the security under the Indenture, the Company Guaranty, the AMR Guaranty, the Equipment Security Agreement, the Leasehold Mortgage or any other of the Security Documents by any acts which may be unlawful or in violation of the Indenture, the Equipment Security Agreement, the Company Guaranty, the AMR Guaranty, the Leasehold Mortgage or any other of the Security Documents or of any resolution authorizing any Bonds,

and such suits and proceedings as the Trustee may be advised shall be necessary or expedient to preserve or protect its interests and the interests of the Bondholders; *provided* that such request shall not be otherwise than in accordance with the provisions of law and of the Indenture.

No action taken pursuant to the provisions of the Indenture and described above shall be inconsistent or contrary to the terms and provisions of the Indenture described in this Appendix D under "*—Limitation of Remedies*" below.

Application of Revenues and Other Moneys After Default. All moneys received by the Trustee pursuant to any right given or action taken under the provisions of the Indenture, the Equipment Security Agreement, the Company Guaranty, the AMR Guaranty or the Leasehold Mortgage or under any other of the Security Documents shall, after payment of the costs and expenses of the proceedings resulting in the collection of such moneys and of the expenses, liabilities and advances incurred or made by the Trustee, be deposited into the Bond Fund and all moneys so deposited and available for payment of the Bonds shall be applied, subject to the Indenture, as follows:

Unless the principal of all of the Bonds shall have become or have been declared due and payable,

First - To the payment to the persons entitled thereto of all installments of interest then due on such Bonds, in the order of the maturity of the installments of such interest and, if the amount available shall not be sufficient to pay in full any particular installment, then to the payment ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or privilege; and

Second - To the payment to the persons entitled thereto of the unpaid principal or redemption price, if any, of any of the Bonds which shall have become due (other than Bonds or principal installments called for redemption for the payment of which moneys are held pursuant to the provisions of the Indenture), in the order of their due dates, and, if the amount available shall not be sufficient to pay in full the Bonds or principal installments due on any particular date, then to the payment ratably, according to the amount of principal due on such date, to the persons entitled thereto without any discrimination or privilege.

If the principal of all the Bonds shall have become or have been declared due and payable, to the payment to the Bondholders of the principal and interest (at the rate or rates expressed in the Bonds) then due and unpaid upon such Bonds and, if applicable, to the redemption price of the Bonds without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any Bond over any other Bond, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto without any discrimination or preference.

If the principal of all the Bonds and interest thereon shall have been declared due and payable, and if such declaration shall thereafter shall have been rescinded and annulled, then, subject to the provisions of the Indenture described in the immediately preceding paragraph,

which shall be applicable in the event that the principal of all the Bonds shall later become due and payable, the moneys shall be applied in accordance with the provisions of the Indenture described in the second preceding paragraph.

Notwithstanding the foregoing provisions, amounts drawn under any Credit Facility held with respect to a particular series of Bonds shall be applied solely to the payments of amounts due on such series of Bonds secured by such Credit Facility.

Whenever moneys are to be applied pursuant to the provisions of the Indenture and described under this heading, such moneys shall be applied at such times, and from time to time, as the Trustee shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future. Whenever the Trustee shall apply such funds, it shall fix the date (which shall be an Interest Payment Date unless the Trustee shall deem another date more suitable) upon which such application is to be made and upon such date interest on the amounts of principal to be paid on such dates shall cease to accrue; *provided, however,* that if the principal or redemption price of the Bonds Outstanding, together with accrued interest thereon, shall have been declared to be due and payable as the result of an Event of Default, such date of declaration shall be the date from which interest shall cease to accrue. The Trustee shall give such written notice to all Bondholders as it may deem appropriate of the deposit with it of any such moneys and of the fixing of any such date, and shall not be required to make payment to the Holder of any Bond until such Bond shall be presented to the Trustee for appropriate endorsement or for cancellation if fully paid.

Majority Bondholders Control Proceedings. Anything in the Indenture to the contrary notwithstanding, the Holders of a majority in aggregate principal amount of the Bonds then Outstanding shall have the right, at any time, by an instrument or instruments in writing executed and delivered to the Trustee, to direct the method and place of conducting all proceedings to be taken in connection with the enforcement of the terms and conditions of the Indenture, or for the appointment of a receiver or any other proceedings; *provided,* that such direction shall not be otherwise than in accordance with the provisions of law and of the Indenture, and *provided, further*, if a series of Bonds is secured by a Credit Facility, for so long as such applicable Credit Facility is outstanding and no default specified in the Indenture has occurred and is continuing with respect to such Bonds, the applicable Credit Facility Provider shall have the right to direct all proceedings on behalf of the holders of the Bonds of such series secured thereby and to vote the Bonds of such series secured thereby for all purposes under the Indenture.

Individual Bondholder Action Restricted. No Holder of any Bond shall have any right to institute any suit, action or proceeding at law or in equity for the enforcement of any provisions of the Indenture or any other Security Documents with respect to such Bond or the execution of any trust under the Indenture or for any remedy under the Indenture or any other Security Documents, unless such Holder shall have previously given to the Trustee written notice of the occurrence of an Event of Default as provided in the Indenture, and the Holders of at least 25% in aggregate principal amount of the Bonds then Outstanding shall have filed a written request with the Trustee, and shall have offered the Trustee reasonable opportunity either to exercise the powers granted in the Indenture or such other Security Documents or by the Act or by the laws

of the State or to institute such action, suit or proceeding in its own name, and unless such Holders shall have offered to the Trustee adequate security and indemnity against the costs, expenses and liabilities to be incurred therein or thereby (other than costs, expenses and liabilities related to acceleration), and the Trustee shall have refused to comply with such request for a period of 60 days after receipt by it of such notice, request and offer of indemnity, it being understood and intended that no one or more Holders of Bonds shall have any right in any manner whatever by his, its or their action to affect, disturb or prejudice the pledge created by the Indenture, or to enforce any right under the Indenture, except in the manner provided in the Indenture; and that all proceedings at law or in equity to enforce any provision of the Indenture shall be instituted, had and maintained in the manner provided in the Indenture and, subject to the provisions of the Indenture, be for the equal benefit of all Holders of the Outstanding Bonds.

Nothing contained in the Indenture, in any other Security Document or in the Bonds shall affect or impair the right of any Bondholder to payment of the principal, redemption price, if applicable, Sinking Fund Installments, if applicable, purchase price of, and interest on any Bond at and after the maturity thereof, or the obligation of the Agency to pay the principal or redemption price, if applicable, Sinking Fund Installment, if applicable, purchase price of, and interest on each of the Bonds to the respective Holders thereof at the time, place, from the source and in the manner expressed in the Indenture and in said Bonds.

Effect of Discontinuance of Proceedings. In case any proceedings taken by the Trustee on account of any Event of Default shall have been discontinued or abandoned for any reason, or shall have been determined adversely to the Trustee, the Trustee and the Bondholders shall be restored, respectively, to their former positions and rights under the Indenture, and all rights, remedies, powers and duties of the Trustee shall continue as in effect prior to the commencement of such proceedings.

Notice of Default. The Trustee shall promptly mail to the Agency, to the registered Holders of Bonds, to the Company and to AMR, by first class mail, postage prepaid, written notice of the occurrence of any (i) Event of Default with respect to the Bonds and (ii) the receipt by the Trustee as Leasehold Mortgagee of a Notice of Termination pursuant to and as defined in the Port Authority Lease as amended or any similar notice of termination of or default under the New City/American Lease or the Agreement Towards Entering Into a Lease. The Trustee shall not, however, be subject to any liability to any Bondholder by reason of its failure to mail any notice described under this subheading.

Waivers of Default. The Trustee shall waive any default under the Indenture and its consequences and rescind any declaration of acceleration upon the written request of the Holders of greater than 50% in aggregate principal amount of all the Bonds then Outstanding; *provided, however,* that there shall not be waived without the consent of the Holders of all the Bonds Outstanding (a) any default in the payment of the principal, purchase price or redemption price of any Outstanding Bonds at the date specified therein or (b) any default in the payment when due of the interest on any such Bonds, unless, prior to such waiver, all arrears of interest, with interest (to the extent permitted by law) at the rate borne by the Bonds on overdue installments of interest in respect of which such default shall have occurred, and all arrears of payment of principal, purchase price and redemption price with respect to such Bonds when due, as the case

may be, and all expenses of the Trustee in connection with such default shall have been paid or provided for; and in case of any such waiver or rescission, or in case any proceeding taken by the Trustee on account of any such default shall have been discontinued or abandoned or determined adversely to the Trustee, then and in every such case the Agency, the Trustee and the Bondholders shall be restored to their former positions and rights under the Indenture, respectively, but no such waiver or rescission shall extend to any subsequent or other default, or impair any right consequent thereon.

Limitation of Remedies. The Agency and the Trustee represent to and agree with the Port Authority that (a) the only right and interest that the Agency shall have in the Leased Facilities is to sublease the Leased Facilities to and from the Company and impose upon the Company the obligations set forth in the IDA Lease Agreement and (b) neither the Agency, nor the Bondholders, nor the Trustee (except as Leasehold Mortgagee under or pursuant to the Leasehold Mortgage) shall have any other interest in the Leased Facilities or the Port Authority Lease (including but not limited to, any rights to perform the rights or obligations of the Company under the Port Authority Lease (except for those rights pursuant to the Leasehold Mortgage or Section 92) or otherwise, any rights of possession, entry, re-entry, redemption, eviction or regaining or resumption of possession, any right to the appointment of a receiver or to sell, convey, transfer, mortgage, acquire, pledge, assign, let or resublet the Leased Facilities, the Project or the Port Authority Lease or any part thereof or any rights created thereby or the letting thereunder under (i) the Security Documents, (ii) the Act, (iii) the Real Property Actions and Proceedings Law of the State or (iv) the Real Property Law of the State; or otherwise. Further, the Company, the Agency and the Trustee have represented to and agree with the Port Authority that neither they nor the Bondholders shall have any claim, interest, remedy, right or action against the Port Authority or the Leased Facilities or under the Port Authority Lease at law or in equity arising out of or in connection with the Act, the Security Documents or the Project (other than the interests, rights and remedies under or pursuant to the Leasehold Mortgage or Section 92).

Leasehold Mortgage and Section 92. In addition to and without limiting the foregoing, the Trustee and each Bondholder acknowledges and agrees under the Indenture that in the event there shall be a conflict between the provisions of the Leasehold Mortgage and Section 92, Section 92 shall govern.

Trustee and Paying Agents

The Trustee, in its capacity as the Trustee, the Paying Agent or the Bond Registrar, shall be under no obligation to institute any suit, or to take any remedial action under the Indenture (other than accelerating the Bonds when required by the Indenture), or under any other Security Documents or to enter any appearance or in any way defend in any suit in which it may be made defendant, or to take any steps in the execution of the trusts created by the Indenture or in the enforcement of any rights and powers under the Indenture, or under any other Security Documents, until it shall be indemnified to its satisfaction against any and all reasonable expenses for services, costs, outlays and counsel fees and other disbursements, and against all liability not due to its willful misconduct or negligence; *provided, however,* that the Trustee shall nevertheless be obligated to make payments (from the sources specified in the Indenture) on the

Bonds when due as provided in the Indenture or in a Series Supplemental Indenture, all at the times and in the manner specified therein.

Discharge of Indenture

Bonds of a series will be deemed paid for all purposes of the Indenture when (x) the interest rate or interest rates in effect with respect to such series of Bonds cannot by their terms and under the applicable Series Supplemental Indenture be adjusted prior to the date on which the Bonds of such series are to be redeemed or their maturity date, if earlier, and the Bonds of such series are not subject to optional tender for purchase prior to the date on which such Bonds are to be redeemed or their maturity date, if earlier, (y) payment of the principal of and the maximum amount of interest that may become due on such series of Bonds to the due date of such principal and interest, including all regularly scheduled interest payments (whether to maturity, upon redemption, acceleration or otherwise) either (i) has been made in accordance with the terms of such series of Bonds or (ii) has been provided for by depositing with the Trustee in an account held in the Bond Fund by the Trustee (1) moneys sufficient to make such payment and/or (2) noncallable Government Obligations maturing as to principal and interest in such amounts and at such times as will ensure the availability of sufficient moneys to make such payment without regard to the reinvestment thereof; and (z) all compensation and expenses of the Trustee (as well as the fees and expenses of its counsel) pertaining to the Bonds of such series have been paid or provided to the satisfaction of the Trustee. When a Bond of a series is deemed paid, it will no longer be secured by or entitled to the benefits of the Indenture except for payment from moneys or Government Obligations under clause (y)(ii) above and except that it may be transferred, exchanged, registered, discharged from registration or replaced as provided in the Indenture.

Notwithstanding the foregoing, no deposit under clause (y)(ii) above shall be deemed a payment of a Bond of a series until (A) notice of redemption of such Bond is given in accordance with the Indenture or in accordance with the applicable Series Supplemental Indenture or, if the Bond is not to be redeemed or paid within the next 60 days, until the Company has given the Trustee, in form satisfactory to the Trustee, (i) irrevocable instructions to notify, as soon as practicable, the holder of the Bond of such series that the deposit required by clause (y)(ii) above has been made with the Trustee and that the Bond of such series is deemed to be paid under the Indenture and stating the maturity or redemption date upon which moneys are to be available for the payment of the principal of the Bond of such series, and (ii) in the event the amounts deposited pursuant to (y)(ii) above are to be invested in Government Obligations, a report or opinion addressed to the Trustee of an independent certified public accountant or firm of independent certified public accountants satisfactory to the Trustee to the effect that such deposit is an amount sufficient to effect such payment; or (B) the maturity of the Bond of such series.

When all Outstanding Bonds are deemed paid as provided in the Indenture, and all fees and expenses and other amounts due and payable in respect thereof to the Trustee and the Agency under the Indenture, the IDA Lease Agreement and the Equipment Security Agreement and any other amounts required to be paid to the United States government in accordance with each applicable Tax Certificate or pursuant to the Indenture shall be paid in full, then, subject to the paragraph below, the lien of the Leasehold Mortgage, the lien of the Equipment Security

Agreement, the obligations of the Company under the Company Guaranty and of AMR under the AMR Guaranty, the pledge under the Indenture of any lease rentals, revenues or receipts payable by, or any guaranteed obligation of, the Company under the IDA Lease Agreement, and the estate and rights granted under the Indenture and all covenants, agreements and other obligations of the Agency to the Holders of all of the Bonds under the Indenture in respect of the Bonds shall thereupon cease, terminate and become void and be discharged and satisfied and the Bonds shall thereupon cease to be entitled to any lien, benefit or security under the Indenture, except as to moneys or securities held by the Trustee or the Paying Agents as provided in the Indenture and described under this heading. At the time of such cessation, termination, discharge and satisfaction, in respect of all of the Bonds, (1) the Trustee shall cancel and discharge the lien of the Indenture and execute and deliver to the Company all such instruments as may be appropriate to satisfy such liens and to evidence such discharge and satisfaction, (2) the Trustee and the Paying Agents shall pay over or deliver to the Agency for payment to the Company or on its order, as a rebate of rent, all moneys or securities held by them pursuant to the Indenture which are not required (i) for the payment of principal of, purchase price, redemption price, and Sinking Fund Installments, if any, of or interest on Bonds not theretofore surrendered for such payment or redemption, (ii) for the payment of all such other amounts due or to become due under the Security Documents, or (iii) for the payment of any amounts the Trustee has been directed to pay to the United States government in accordance with any Tax Certificate or the Indenture and (3) the Trustee shall return each Guaranty to the respective Guarantor.

Prior to any defeasance of a series of Bonds becoming effective as described above, there shall have been delivered to the Agency and the Trustee an opinion of Bond Counsel, addressed to the Agency and the Trustee, to the effect that (i) interest on any Tax-Exempt Bonds of such series being discharged by such defeasance will not become includable in gross income for federal income tax purposes by reason of such defeasance and (ii) the Bonds of such series have been paid within the meaning and with the effect expressed in the Indenture.

No provision described under this heading, including any defeasance of Bonds, shall limit the rights of the Holder of any Bonds to tender such Bonds for purchase, exchange, register, discharge from registration or replace Bonds, nor limit the rights of the Trustee or the Paying Agents to compensation in accordance with their agreements theretofore existing, until such Bonds shall have been paid in full. Bonds delivered to the Trustee for payment shall be canceled by the Trustee pursuant to the Indenture.

The Trustee shall hold in trust money and/or Government Obligations deposited with it and as described above under this heading and shall apply the deposited money and the money from the Government Obligations in accordance with the Indenture only to the payment of principal of, interest on, or purchase price of, the Bonds of such series defeased in accordance with the Indenture.

When the Bonds have been paid in full, the Trustee shall so notify the Company.

Amendments of Indenture

Supplemental Indentures Without Bondholders' Consent. The Agency and the Trustee may, from time to time and at any time, enter into amendments or supplements to the Indenture, including any Series Supplemental Indenture (a "*Supplemental Indenture*"), without the consent of the Bondholders for any of the following purposes:

(1) To cure any formal defect, omission or ambiguity in the Indenture or in any description of property subject to the lien thereof.

(2) To grant to or confer upon the Trustee for the benefit of the Bondholders any additional rights, remedies, powers, authority or security which may lawfully be granted or conferred and which are not contrary to or inconsistent with the Indenture as theretofore in effect.

(3) To add to the covenants and agreements of the Agency in the Indenture other covenants and agreements to be observed by the Agency which are not contrary to or inconsistent with the Indenture as theretofore in effect.

(4) To add to the limitations and restrictions in the Indenture other limitations and restrictions to be observed by the Agency which are not contrary to or inconsistent with the Indenture as theretofore in effect.

(5) To confirm, as further assurance, any pledge under, and the subjection to any lien or pledge created or to be created by, the Indenture, of revenues or other income from or in connection with the Facility or of any other moneys, securities or funds, or to subject to the lien or pledge of the Indenture additional revenues, properties or collateral.

(6) To modify or amend such provisions of the Indenture as shall, in the opinion of Bond Counsel delivered to the Agency, be necessary to assure the exclusion of the interest on the Tax-Exempt Bonds from gross income for federal income tax purposes.

(7) To authorize the issuance of a series of Additional Bonds and to prescribe the terms, forms and details thereof consistent with the Indenture.

(8) To effect any other change in the Indenture which, in the judgment of the Trustee, is not to the material prejudice of the Trustee or the Bondholders.

(9) To make any change not materially adversely affecting any Bondholder's rights to provide for or to implement the provisions of any Credit Facility with respect to a particular series of Bonds.

(10) With respect to any Bonds of a series entitled to the benefits of a Credit Facility, to make any change (other than changes permitted in paragraph (9) above) to provide for or to implement the provisions of such Credit Facility, only if the changes to

the Indenture become effective on a purchase date on which the Bonds of such series are subject to mandatory tender for purchase.

(11) To evidence the succession of a new Trustee or the appointment by the Trustee or the Agency of a co-trustee.

(12) To make any change not materially adversely affecting any Bondholder's rights requested by the Rating Agency in order to secure or maintain a rating on the Bonds.

(13) To modify, amend or supplement the Indenture or any supplement thereto in such manner as to permit the qualification thereof under the Trust Indenture Act of 1939 or any similar federal statute thereafter in effect or to permit the qualification of the Bonds for sale under the securities laws of the United States of America or of any of the states of the United States of America, and, if they so determine, to add to the Indenture or any Supplemental Indenture such other terms, conditions and provisions as may be permitted by said Trust Indenture Act of 1939 or similar federal statute.

(14) To modify or amend the provisions of the Indenture as shall, in the Opinion of Counsel, be necessary to conform the provisions of the Indenture to the New City/American Lease and/or the provisions of a leasehold mortgage of the Company's leasehold interest under the New City/American Lease.

Before the Agency and the Trustee shall enter into any Supplemental Indenture described above, there shall have been filed with the Trustee an Opinion of Counsel stating that such Supplemental Indenture is authorized or permitted by the Indenture and complies with its terms, and that upon execution it will be valid and binding upon the Agency in accordance with its terms.

Supplemental Indentures With Bondholders' Consent. Subject to the terms and provisions contained in the Indenture, the Holders of greater than 50% in aggregate principal amount of the Bonds then Outstanding shall have the right, from time to time, to consent to and approve the entering into by the Agency and the Trustee of any Supplemental Indenture with respect to the Bonds as shall be deemed necessary or desirable by the Agency for the purpose of modifying, altering, amending, adding to or rescinding, in any particular, any of the terms or provisions contained in the Indenture. Nothing contained in the Indenture shall permit, or be construed as permitting, (i) a change in the times, amounts or currency of payment of the principal, redemption price, Sinking Fund Installments, purchase price of, or interest on any Outstanding Bond, a change in the terms of redemption or maturity of the principal of or the interest on any Outstanding Bond, a reduction in the principal amount of or the redemption price of any Outstanding Bond or the rate of interest thereon (except upon conversion), any extension of the time of payment thereof, a change in the mechanics for any interest rate determination method applicable to any Bond, or a change in the terms of the purchase, in any case without the consent of the Holder of such Bond, (ii) the creation of a lien upon or pledge of revenues or rental income from or in connection with the Facility and payable by the Company under the IDA Lease Agreement other than the lien or pledge created by the Indenture, the Equipment

Security Agreement, and the Leasehold Mortgage, except as provided in the Indenture with respect to Additional Bonds, (iii) a preference or priority of any Bond or Bonds over any other Bond or Bonds, (iv) a reduction in the aggregate principal amount of Bonds required for consent to such Supplemental Indenture, or (v) a modification, amendment or deletion with respect to any of the terms described in this paragraph, without, in the case of items (i) through and including (v) of this section, the written consent of 100% of the Holders of the Outstanding Bonds (*provided* that a change affecting less than all of Outstanding Bonds shall require the approval only of the Holders of the Outstanding Bonds so affected). For the purposes described in this paragraph, Bonds shall be deemed to be affected by a modification or amendment of the Indenture if the same adversely affects or diminishes the rights of the Holders of such Bonds. The Trustee may in its discretion determine whether or not, in accordance with the foregoing provisions, such Bonds would be affected by any modification or amendment of the Indenture and any such determination shall be binding and conclusive on the Agency and all Holders of such Bonds. The Trustee may receive an opinion of counsel, including an opinion of Bond Counsel, as conclusive evidence as to whether such Bonds would be so affected by any such modification or amendment of the Indenture.

If at any time the Agency shall determine to enter into any Supplemental Indenture for any of the purposes described in the immediately preceding paragraph, it shall cause notice of the proposed Supplemental Indenture to be mailed, postage prepaid, to all Bondholders. Such notice shall be prepared by the Company and shall briefly set forth the nature of the proposed Supplemental Indenture, and shall state that a copy thereof is on file at the offices of the Trustee for inspection by all Bondholders. Any change affecting less than all Bonds shall require notice to only to the Holders of the Bonds so affected.

Subject to the terms and provisions contained in the Indenture, within one year after the date of such notice, the Agency and the Trustee may enter into such Supplemental Indentures in substantially the form described in such notice only if there shall have first been filed with the Trustee (i) the written consents of Holders of not less than a majority of or 100% of, as the case may be, the aggregate principal amount of the Bonds then Outstanding (*provided* that a change affecting less than all of the Outstanding Bonds shall require approval only of the Holders of Outstanding Bonds so affected) and (ii) an Opinion of Counsel stating that such Supplemental Indenture is authorized or permitted by the Indenture and complies with its terms, and that upon execution it will be valid and binding upon the Agency in accordance with its terms. Each valid consent shall be effective only if accompanied by proof of the holding, at the date of such consent, of the Bonds with respect to which such consent is given. A certificate or certificates by the Trustee that it has examined such proof and that such proof is sufficient in accordance with the Indenture shall be conclusive that the consents have been given by the Holders of such Bonds described in such certificate or certificates. Any such consent shall be binding upon the Holder of the Bonds giving such consent and upon any subsequent Holder of such Bonds and of any Bonds issued in exchange therefor (whether or not such subsequent Holder thereof has notice thereof), unless such consent is revoked in writing by the Holder of such Bonds giving such consent or a subsequent Holder thereof by filing such revocation with the Trustee prior to the execution of such Supplemental Indenture.

Upon the execution of any Supplemental Indenture as described under this heading, the Indenture shall be deemed to be modified and amended in accordance therewith and the respective rights, duties and obligations under the Indenture of the Agency, the Trustee and all Holders of the affected Bonds then Outstanding shall thereafter be determined, exercised and enforced under the Indenture, subject in all respects to such modifications and amendments.

Rights of Company. Anything in the Indenture to the contrary notwithstanding, any Supplemental Indenture shall not become effective unless and until the Company shall have given its written consent to such Supplemental Indenture signed by an Authorized Representative of the Company.

Amendments of Related Transaction Documents

Amendments of Security Documents Not Requiring Consent of Bondholders. The Agency and the Trustee may consent, without the consent of or notice to the Bondholders, to any amendment, change or modification of any of the Security Documents (i) for the purpose of curing any ambiguity or formal defect or omission therein, (ii) which, in the judgment of the Trustee, based upon an opinion of Bond Counsel, is not materially to the prejudice of the Trustee, the Agency or the Holders of the Bonds, (iii) which, in the opinion of Bond Counsel delivered to the Agency, shall be necessary to assure the exclusion of the interest on the Tax-Exempt Bonds from gross income for federal income tax purposes, or (iv) which, in the Opinion of Counsel, shall be necessary to conform the provisions of such Security Documents to the New City/American Lease and/or the provisions of a leasehold mortgage of the Company's leasehold interest under the New City/American Lease. The Trustee shall have no liability to any Bondholder or any other person for any action taken by it in good faith as described in this paragraph.

Amendments of Security Documents Requiring Consent of Bondholders. Except as described in the immediately preceding paragraph, the Agency and the Trustee shall not consent to any amendment, change or modification of any of the Security Documents affecting any Bonds, without mailing of notice and the written approval or consent of the Holders of greater than 50% in aggregate principal amount of the Bonds at the time Outstanding given and procured as set forth in the Indenture; *provided, however,* there shall be no amendment, change or modification to (i) the obligation of the Company to make lease rental payments with respect to any Bonds under the IDA Lease Agreement, or (ii) the Company's or AMR's obligations under the Guaranties, without the prior written approval of the Holders of 100% in aggregate principal amount of all Bonds at the time Outstanding given and procured as provided in the Indenture. If at any time an obligor under a Security Document shall request the consent of the Trustee to any such proposed amendment, change or modification, the Trustee shall cause notice of such proposed amendment, change or modification to be mailed in the same manner as is provided in the Indenture with respect to Supplemental Indentures. Such notice shall be prepared by the Agency or the Company and shall briefly set forth the nature of such proposed amendment, change or modification and shall state that copies of the instrument embodying the same are on file at the principal corporate trust office of the Trustee for inspection by all Bondholders. For the purposes described in this paragraph, Bonds shall be deemed to be affected by a modification or amendment to a Security Document if the same adversely affects or diminishes the rights of

the Holders of such Bonds. The Trustee may in its discretion determine whether or not, in accordance with the foregoing described provisions, the Bonds would be affected by any modification or amendment to a Security Document and any such determination shall be binding and conclusive on the Agency and all Holders of the Bonds. The Trustee may receive an opinion of counsel, including an opinion of Bond Counsel, as conclusive evidence as to whether the Bonds would be so affected by any such modification or amendment to a Security Document.

APPENDIX E

SUMMARY OF CERTAIN PROVISIONS OF THE GUARANTIES

The Company and AMR will execute separate Guaranties. Except as noted below, the Guaranties contain substantially the same terms and provisions. The following is a brief summary of certain provisions of the Guaranties and does not purport to be comprehensive or complete. Reference is made to the Guaranties for the complete provisions. As used in this Appendix E, the term "Guarantor" means American Airlines, Inc. or AMR Corporation, as applicable, as guarantor under its respective Guaranty.

Guaranty of the Bonds

Each Guarantor will execute and deliver to the Trustee its respective Guaranty, pursuant to which it will unconditionally guarantee to the Trustee for the benefit of the owners of the Bonds outstanding under the Indenture, including the Series 2002 Bonds: (a) the full and prompt payment of the principal, purchase price and premium, if any, on the Bonds when and as the same shall become due and payable, whether at the stated maturity thereof, by acceleration, call for redemption or otherwise and (b) the full and prompt payment of interest on the Bonds and, to the extent permitted by law, interest on overdue interest and premium, when and as the same shall become due and payable. The obligations of each Guarantor under its Guaranty will be absolute, unconditional and immediately enforceable when each payment is due thereunder and will remain in full force and effect until such date as the Indenture is discharged and satisfied in accordance with the terms of the Indenture.

Assignment; Dissolution or Merger; Ability to Incur Debt

Under the AMR Guaranty, AMR may assign the AMR Guaranty to any Person. Except as provided in the immediately succeeding paragraph, no such assignment pursuant to the immediately preceding sentence will release AMR from any of its obligations under the AMR Guaranty unless 100% of the Holders of the Outstanding Bonds have consented to such release. The Company may not assign its obligations under the Company Guaranty; *provided* that the Company may assign the Company Guaranty to any Person to whom it assigns the Port Authority Lease in its entirety (by operation of law or otherwise) as provided in the Port Authority Lease (and described in APPENDIX F—"SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY LEASE—Assignment and Sublease") or to whom it assigns the New City/American Lease in its entirety pursuant to the New City/American Lease. Consistent with the provisions of the AMR Guaranty, except as provided in the immediately succeeding paragraph, no assignment of the Company Guaranty pursuant to the immediately preceding sentence will release the Company from any of its obligations under the Company Guaranty unless 100% of the Holders of the Outstanding Bonds have consented to such release.

Each Guarantor agrees that during the term of its respective Guaranty it will not dissolve or otherwise dispose of all or substantially all of its assets and will not consolidate with or merge into another entity unless the surviving entity or transferee, as applicable, is a solvent corporation or other solvent entity and, concurrently with such transaction, irrevocably and unconditionally

assumes in writing, by means of an instrument which is delivered to the Agency and the Trustee, all of the obligations of such Guarantor under such Guaranty (unless such Guarantor is the survivor, in which case no such written assumption will be required). Upon any dissolution, disposition, merger or consolidation in accordance with the preceding sentence, the successor entity formed by such consolidation or into which such Guarantor is merged or to which such disposition is made will succeed to, and be substituted for, and will exercise every right and power of, such Guarantor under its respective Guaranty with the same effect as if such successor entity had been named as the Guarantor therein. Upon any dissolution or disposition in accordance with the next preceding sentence where the applicable Guarantor is not the surviving entity, such Guarantor shall automatically be released from all of its obligations under its respective Guaranty. Under the Company Guaranty, the provisions described in this paragraph are also subject to the requirement that the guarantor under the Company Guaranty must at all times be the Person that is the "Lessee" under the Port Authority Lease and the New City/American Lease.

The Guaranties do not contain any restriction on the ability of AMR or the Company to incur debt or, except as described in the preceding paragraph, to sell or otherwise transfer any portion of its assets.

Events of Default

The following constitute "Events of Default" under each Guaranty:

(a) the applicable Guarantor fails under such Guaranty to make any payment with respect to the principal or purchase price or premium, if any, on the Bonds;

(b) the applicable Guarantor fails under such Guaranty to make any payment with respect to interest on the Bonds and such default continues for five Business Days from the date such payment was due;

(c) the applicable Guarantor fails to observe and perform any other covenant in such Guaranty and such failure continues for more than 60 days after written notice of such failure (which shall be deemed given when delivered or when mailed by registered or certified mail) has been given to such Guarantor by the Trustee;

(d) Any warranty, representation or other statement by the applicable Guarantor contained in such Guaranty is false or misleading in any material respect as of the date made; or

(e) the dissolution or liquidation of the applicable Guarantor or the commencement by the applicable Guarantor of a voluntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect; the entry of a decree or order for relief in respect of the applicable Guarantor by a court of competent jurisdiction in an involuntary case under any applicable bankruptcy, insolvency or similar law now or hereafter in effect or appointing a receiver, liquidator, assignee, custodian, trustee, sequestrator (or similar official) of the applicable Guarantor or for any substantial

part of its property and the failure of such decree, order or appointment to be discharged within 90 days after such decree, order or appointment; the assignment by the applicable Guarantor of all or substantially all its assets for the benefit of creditors or the entry by the applicable Guarantor into an agreement of composition with creditors; or the taking of any action by the applicable Guarantor in furtherance of the foregoing. The term "dissolution or liquidation of the applicable Guarantor" may not be construed to include cessation of the corporate existence of the applicable Guarantor resulting from either a merger or consolidation of the applicable Guarantor into or with another entity or dissolution or liquidation of the applicable Guarantor following a transfer of all or substantially all of its assets as an entirety under the conditions permitting such actions with respect to the applicable Guarantor contained in such Guaranty and described above under "—Assignment; Dissolution or Merger; Ability to Incur Debt."

Upon an Event of Default under a Guaranty, the Trustee will have the right to proceed first and directly against the applicable Guarantor under such Guaranty without resorting to any security held by the Agency or the Trustee under the Indenture.

Governing Law

Each Guaranty is governed by the laws of the State of Texas.

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APPENDIX F

SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY LEASE

The following is a summary of certain provisions of the Port Authority Lease and does not purport to be comprehensive or complete. Reference is made to the Port Authority Lease for the complete provisions.

General

The Company has leased from the Port Authority, pursuant to the Port Authority Lease, the Premises on which the Facility is to be located at the Airport. The Port Authority Lease is subject to the Basic Agreement between the City and the Port Authority under which the City, the fee owner of the real property comprising the majority of the Airport and existing improvements thereon, has leased such real estate to the Port Authority. The current expiration date of the Basic Lease is December 31, 2015, subject to earlier termination in certain circumstances.

Redevelopment Work

The Company has agreed to submit to the Port Authority for its approval the Company's comprehensive plan for the redevelopment of the Premises. The Company has agreed that its comprehensive plan for the Redevelopment Work (which will include construction work both on and off the Premises) will include, among other things:

(a) A three level main passenger terminal building and a two level remote passenger terminal building consisting of approximately 1.9 million total square feet of floor space for both buildings.

(b) Not less than fifty-five aircraft loading and unloading gate positions, of which at least thirty-five are to accommodate wide-body aircraft and of which at least two are to accommodate narrowbody aircraft, together with all associated and related areas and facilities, including, without limitation, passenger boarding gate lounges; and

(c) Related mechanical areas, concession areas, utility conduits, fuel systems, roadways, aircraft ramp and apron areas, grading and landscaping and ground transportation systems.

All such Redevelopment Work, whether on or off the Premises, is at the Company's sole cost and expense and must be in conformance with the design criteria contained in the Port Authority Tenant Construction Review Manual, as the same may be amended from time to time.

All Redevelopment Work must be done in accordance with the terms and conditions set forth in the Port Authority Lease which include, among other things, the following:

(a) The Company must assume the risk of loss or damage to all of the Redevelopment Work prior to its completion and the risk of loss or damage to all property of the Port Authority and others and the risk of personal injury and death to all people arising out of or in connection with the performance of the Redevelopment Work. In the event of such loss or damage, the Company is required to forthwith repair, replace and make good the Redevelopment Work and the property of the Port Authority without cost or expense to the Port Authority.

(b) The Company has advised the Port Authority that it intends to expend not less than $850 million with respect to the Redevelopment Work and shall complete the Redevelopment Work by December 22, 2007.

(c) Prior to entering into a contract for any part of the Redevelopment Work, the Company must submit to the Port Authority for its approval the names of the contractors to whom the Company proposes to award said contracts. The Port Authority has the right to disapprove any contractor who is unacceptable to it. The Company must include in all such contracts such provisions and conditions as the Port Authority reasonably requires.

(d) The Company must furnish or require its architect to furnish a full-time resident engineer during the construction period of the Redevelopment Work.

(e) The Company has agreed to be solely responsible for any plans and specifications used by it and for any loss or damages resulting from the use thereof, notwithstanding their approval by the Port Authority and notwithstanding the incorporation therein of Port Authority recommendations or requirements.

(f) The Port Authority has the right, through its duly designated representatives, to inspect the Redevelopment Work and the plans and specifications relating to it, at any and all reasonable times during its progress and from time to time, in its discretion, to take samples and perform testing in any part of the Redevelopment Work.

(g) The Company must pay or cause to be paid all claims lawfully made against it by its contractors, subcontractors, materialmen and workmen, and all claims lawfully made against it by other third persons arising out of or in connection with or because of the performance of the Redevelopment Work, and must cause its contractors and subcontractors to pay all such claims lawfully made against them.

(h) The Company has agreed to procure and maintain insurance, including commercial general liability insurance, premises, operations, products liability, and builder's risk insurance.

(i) The Company has agreed that it will put into effect prior to the commencement of any of the Redevelopment Work an affirmative action program and

minority business enterprise program and women-owned business enterprise program in accordance with the provisions of the Port Authority Lease.

In general, title to the Redevelopment Work passes to the City as the same or any part thereof is erected, constructed or installed and as the same becomes a part of the Premises. When the Redevelopment Work is substantially completed and ready for use, the Company must advise the Port Authority to such effect and shall deliver to the Port Authority a certificate signed by an authorized officer of the Company and also signed by the Company's licensed architect or engineer certifying that the Redevelopment Work has been constructed in accordance with the approved plans and specifications and the provisions of the Port Authority Lease and in compliance with all applicable laws, ordinances and governmental rules, regulations and orders. Thereafter, the Redevelopment Work will be inspected by the Port Authority and if it has been completed as certified by the Company and the Company's licensed architect or engineer, as aforesaid, a certificate to such effect shall be delivered to the Company, subject to the condition that all risks thereafter with respect to the construction and installation of the Redevelopment Work and any liability for negligence or other reason shall be borne by the Company. The Company must not use or permit the use of the Redevelopment Work for the purposes set forth in the Port Authority Lease until such certificate is received from the Port Authority, and the Company shall not use or permit the use of the Redevelopment Work or any portion thereof even if such certificate is received if the Port Authority states in any such certificate that the same cannot be used until other specified portions are completed.

Term

The expiration date of the Port Authority Lease is December 30, 2015, *provided, however,* that if there is any extension or replacement of the Basic Lease (*"Applicable Airport Lease Extension Agreement"*) then the expiration date is the date which is the first to occur of (A) the day prior to the date of expiration of the Applicable Airport Lease Extension Agreement, (B) December 21, 2036 and (C) the day immediately preceding the 30th anniversary of the Redevelopment Work Completion Date; *provided, however,* in the event there shall be a transfer of title to and ownership of the fee in the Airport to the Port Authority, the expiration date shall be the first to occur of (B) and (C). Notwithstanding the foregoing, in the event that the Required Conditions have not occurred prior to December 30, 2015, then the Port Authority Lease will automatically terminate without notice to the Company on December 30, 2015, notwithstanding any Applicable Airport Lease Extension Agreement.

Following execution of any Applicable Airport Lease Extension Agreement, the Port Authority may, at its option, tender to the Company a proposed supplement to the Port Authority Lease with such terms and provisions as the Port Authority deems appropriate. However, no such proposed supplement may change the location or size of the Premises or the rentals under the Port Authority Lease, except that the Port Authority may require the Company to pay to the Port Authority an additional rental (*"Additional Rental"*) equal to the Port Authority's increased costs under or arising out of or resulting from said Applicable Airport Lease Extension Agreement. If the Company does not execute such proposed supplement within 25 days, the Port Authority may terminate the Port Authority Lease as of the 46th day after the original tender of such proposed supplement.

Rent

As of December 22, 2000, the effective date of the amended and restated Port Authority Lease, the Company agreed to pay the Port Authority ground rent and building rent equaling approximately $20,190,000 per year, such amount being subject to annual increases based upon a percentage of the percentage increase of the consumer price index.

In addition to general abatement provisions covering casualty and condemnation, the Company benefits from partial rent abatement of the existing buildings as it reaches the following investment targets in connection with the construction of the Project:

(i) For the period commencing on the date which is the later of (i) December 22, 2002 and (ii) the first of the month following the month that the Company's investment totals $283,333,050, through the date which is the later of (i) December 21, 2004 and (ii) the last day of the month during which the Company investment totals $566,666,100, the building rentals abate by 33.33%; and

(ii) For the period commencing on the date which is the later of (i) December 22, 2004 and (ii) the first of the month following the month that the Company's investment totals $566,666,100, through the date which is the earlier of the day preceding the (i) the first day of the month after all of the Required Conditions have been met (*"Building Rental End Date"*) and (ii) December 22, 2010, the building rentals abate by 66.66%;

provided however, if the Company does not complete construction of the new terminal and satisfy the Required Conditions by December 22, 2010, then the abatements described above will no longer be effective and the Company will be required to pay the full amount of building rent until the Building Rental End Date, whenever that occurs.

The Company is obligated to pay "Terminal Rental" (as defined below) on the new terminal contemplated by the Project from and after the date which is the earlier of (1) December 22, 2031 and (2) the 25th anniversary of the Redevelopment Work Completion Date (*"Terminal Rental Commencement Date"*). On the Terminal Rental Commencement Date, the Port Authority will take a certain terminal rental rate (calculated as set forth in the Port Authority Lease) and multiply it by the number of square feet of interior space in the new terminal building (such calculated figure being referred to herein as the *"Terminal Rental"*). As of the Terminal Rental Commencement Date, the Company has agreed to pay 33.33% of the Terminal Rental, as adjusted annually by a percentage of the percentage increase of the consumer price index. The percentage of Terminal Rental payable by the Company gradually increases to 66.67% of the Terminal Rental over set adjustment periods until the Company is obligated to pay 100% of the Terminal Rental.

Termination by Port Authority

The Port Authority Lease is subject to earlier termination by the Port Authority in the event that:

(a) The Company becomes insolvent or takes the benefit of any present or future insolvency statute, or makes a general assignment for the benefit of creditors, or files a voluntary petition in bankruptcy or a petition or answer seeking an arrangement or its reorganization or the readjustment of its indebtedness under the federal bankruptcy laws or under any other law or statute of the United States or of any state thereof, or consents to the appointment of a receiver, trustee or liquidator of all or substantially all of its property; or

(b) By order or decree of a court, the Company is adjudged bankrupt or an order is made approving a petition filed by any of its creditors or by any of the stockholders of the Company, seeking its reorganization or the readjustment of its indebtedness under the federal bankruptcy laws or under any law or statute of the United States or any state thereof, *provided* that if any such judgment or order is stayed or vacated within 60 days after the entry thereof, any notice of cancellation shall be and become null, void and of no effect; or

(c) By or pursuant to, or under authority of any legislative act, resolution or rule, or any order or decree of any court or governmental board, agency or officer having jurisdiction, a receiver, trustee, or liquidator shall take possession or control of all or substantially all of the property of the Company, and such possession or control shall continue in effect for a period of 60 days; or

(d) The Company voluntarily abandons, deserts or vacates the Premises or discontinues its operations at the Airport, or after exhausting or abandoning any right of further appeal, the Company, because of an act or omission of the Company, is prevented for a period of 30 days by action of any governmental agency (other than the Port Authority) having jurisdiction thereof, from conducting its operations at the Airport; or

(e) Any lien is filed against the Premises because of any act or omission of the Company and is not discharged within 30 days after the Company receives notice thereof; or

(f) Except as otherwise provided in the Port Authority Lease, the letting under the Port Authority Lease of the interest or estate of the Company under the Port Authority Lease is transferred directly by the Company or passes to or devolves upon, by operation of law or otherwise, any other person, firm or corporation; or

(g) A petition under any part of the federal bankruptcy laws or an action under any present or future insolvency law or statute is filed against the Company and is not dismissed within 90 days after the filing thereof; or

(h) Except as otherwise provided in the Port Authority Lease, the Company, without the prior written approval of the Port Authority, becomes a possessor or merged corporation in a merger, a constituent corporation in a consolidation, or a corporation in dissolution (except that a merger or consolidation shall not be grounds for termination if the resulting corporation has a financial standing as of the date of the merger or consolidation at least as good as that of the Company, by which is meant that its working capital, its ratio of current assets to current liabilities, its ratio of fixed assets to fixed liabilities and its net worth shall be at least as favorable as that of the Company); or

(i) The Company fails to pay the rentals or to make any other payment required under the Port Authority Lease when due to the Port Authority and continues in its failure to pay rentals or to make any other payments required under the Port Authority Lease for a period of 20 days after receipt of notice by it from the Port Authority to make such payments; or

(j) The Company fails to keep, perform and observe each and every other promise, covenant and agreement set forth in the Port Authority Lease on its part to be kept, performed, or observed, within 30 days after receipt of notice of default from the Port Authority (except where fulfillment of its obligation requires activity over a period of time, and the Company has commenced to perform whatever may be required for fulfillment within 30 days after receipt of notice and continues such performance without interruption except for causes beyond its control); or

(k) The occurrence of a "change of control" (as defined in the Port Authority Lease) which either (i) results in a detectable decrease in the amount of, and a change in the nature of, the Company's scheduled passenger aircraft operations at the Airport or (ii) has the effect of causing the Port Authority Lease to become the only asset or a greater portion of the assets of the Company than prior to such "change in control."

The Port Authority Lease is subject to termination upon the expiration or termination of the Basic Lease.

The term of the Port Authority Lease is also subject to termination, resulting in the Company being deemed a hold-over tenant, on a month-to-month periodical basis, due to the occurrence of any of the following (referred to as *"Triggering Events"*):

(a) Failure by the Company to make payment as provided in two or more of the categories listed below:

(i) payment of monthly installments of rent to the Port Authority on the first day of each calendar month;

(ii) payment of all sums, including, without limitation, flight fees and fuel gallonage fees under the General Airport Agreement, or otherwise, on or before the 20th day of the following calendar month;

(iii) payment of all sums due to the Port Authority under the Port Authority Lease or otherwise, and outstanding for more than 30 days, appearing on a statement of account rendered by the Port Authority to the Company.

(b) As a result of a default by the Company, other than a default arising due to compliance by the Company with any applicable law or directive or (*provided* that the Company has satisfied the Port Authority that it is reasonable to comply therewith) with any requirement, whether having the force of law or not, of any governmental or regulatory authority to which the Company is subject, unless such default results in the Company becoming bound to repay prematurely any of its indebtedness for borrowed moneys as described in (i) below (not being that in respect of which the default has occurred) and steps are taken to obtain repayment thereof:

(i) the Company becomes bound to repay prematurely any of its indebtedness for borrowed moneys having an outstanding aggregate principal amount of at least $25 million or its equivalent in any other currency or currencies (the *"Specified Amount"*) and steps are taken to obtain repayment thereof; or

(ii) any such indebtedness having an outstanding aggregate principal amount of at least the Specified Amount or any guarantee or indemnity by the Company of any indebtedness of any Person for borrowed moneys having an outstanding aggregate principal amount of at least the Specified Amount is not, when due, paid by the latest of (A) its due date, (B) the expiry of any applicable grace period and (C) if payment is prevented by any applicable law 15 days after the first date on which payment is permitted,

unless the Company satisfies the Port Authority that such acceleration, default or failure to pay is being contested in good faith by the Company or unless the Company demonstrates to the Port Authority that such acceleration, default or failure to pay has arisen from events other than those which would signify a deterioration in the Company's financial position or an inability to meet its financial obligations under such indebtedness; or

(c) a creditor takes possession of, or an administrative or other receiver is appointed for, the whole or a substantial part of the assets of the Company and such taking of possession or appointment is not released, discharged or canceled within 60 days; or

(d) a distress, execution or seizure before judgment is levied or enforced upon or sued out against a substantial part of the assets of the Company and is not discharged, dismissed or stayed within 60 days thereof; or

(e) the Company stops payment generally or is unable to pay its indebtedness generally as and when it falls due (otherwise than for the purposes of a solvent reconstruction, amalgamation or merger the terms of which have previously been

approved in writing by the Port Authority) or ceases or threatens to cease to carry on all or substantially all of its business; or

(f) the Company makes an assignment for the benefit of creditors generally or admits in writing its inability to pay its indebtedness generally as it becomes due or takes corporate action in furtherance of any such action.

Any such month-to month periodical tenancy is terminable by either the Port Authority or the Company in accordance with law. If four consecutive calendar quarters have elapsed after a Triggering Event has occurred during which time the Company is in occupancy of the Premises as a month-to-month tenant, and during such period none of the Triggering Events have occurred or continue to occur, the Company is not in default in the payment of rental or any other provision of its month-to-month tenancy and neither the Port Authority nor the Company has terminated the month-to-month tenancy by notice to the other, then upon request by either party to the other, the Company and the Port Authority will enter into a supplementary agreement to be prepared by the Port Authority and to be promptly executed by the Port Authority or the Company which provides for the re-establishment of a tenancy between the Port Authority and the Company on a fixed term basis in accordance with all of the terms and provisions of the Port Authority Lease, and upon said execution the Port Authority Lease, as the same may theretofore have been supplemented, amended or extended, shall have the fixed term stated in the Port Authority Lease.

Reallocation of Gate Positions

The Port Authority is permitted to reallocate gate positions, as well as aircraft ramp and terminal facilities, leased to the Company under the Port Authority Lease to other airlines on six months' notice to the Company if the Company does not satisfy usage requirements set forth in the Port Authority Lease. The Company would be compensated by such other airlines for such a reallocation.

Termination by the Company

Except as otherwise described in the immediately succeeding paragraph, the Company may terminate the Port Authority Lease prior to its expiration if:

(a) the Company is prevented from operating its air transportation system to and from the Airport by reason of its inability to use a substantial part of all of the runways and taxiways (as defined in the Port Authority Lease):

(i) for a period of longer than 30 consecutive days as a result of any condition of the Airport not due to the fault of the Company;

(ii) for a period of longer than 90 consecutive days as a result of a permanent injunction issued by any court of competent jurisdiction;

(iii) for a period of longer than 90 consecutive days as a result of any order, rule or regulation of the FAA or other governmental agency having jurisdiction over the operations of the Company with which the Company is unable to comply at reasonable cost or expense; or

(b) the Port Authority fails to perform any of its obligations under the Port Authority Lease within 20 days after receipt of a notice of default thereunder from the Company (except where fulfillment of its obligation requires activity over a period of time, and the Port Authority has commenced to perform whatever may be required for fulfillment within 20 days after receipt of notice and continues such performance without interruption, except for causes beyond the control of the Port Authority).

Notwithstanding the provisions of the Port Authority Lease described in subparagraphs (a) and (b) above, the Company shall not have the right to terminate the Port Authority Lease without the consent of the Leasehold Mortgagee prior to the date that the Leasehold Mortgage and the Reletting Rights of the Leasehold Mortgagee automatically terminate pursuant to Section 92 as described in this Appendix F under "—Leasehold Mortgage and Reletting Rights—*Automatic Termination.*"

Assignment and Sublease

The Company has agreed that it will not sell, convey, transfer, mortgage, pledge or assign the Port Authority Lease or any part of the Premises, or any rights created thereby or the letting thereunder or any part thereof without the prior written consent of the Port Authority; *provided, however*, that the Port Authority Lease may be assigned in its entirety (by operation of law or otherwise) without such consent to any successor in interest of the Company which is or is to be a Scheduled Aircraft Operator satisfying the conditions set forth in the Port Authority Lease, and into which the Company merges or with which the Company consolidates, or which succeeds to the assets of the Company or the major portion of its assets related to its air transportation system, if immediately following the merger, consolidation or assignment either (i) the entity which then is the Company has a Tangible Net Worth equal to at least 95% of that of the Company immediately preceding the merger, consolidation or assignment or (ii) the entity which then is the Company has Debt (as defined below) that is rated by both Rating Agencies (as defined below) at or above Investment Grade (as defined below); *provided* that if the Company's Debt is then not rated by both Rating Agencies and is only rated by one of the Rating Agencies, the rating then given by that Rating Agency rating the Company's Debt shall be used (together, the *"Financial Tests"*); or, in the event neither of the Financial Tests is satisfied, if the Company prior to the effectuation of such assignment submits to the Port Authority the Consent Security Deposit (as defined below). As used in the preceding sentence, the term *"Tangible Net Worth"* shall mean the difference between the Company's total assets and the sum of (i) the Company's intangible assets and (ii) the Company's total liabilities; the term "Debt" shall mean all obligations of the entity which then is the Company that are evidenced by indebtedness which are considered or known as senior unsecured long-term indebtedness; the term "Grade" shall mean that evaluation of the quality of such Debt as determined by the Rating Agencies (as hereinafter defined); the term *"Rating Agencies"* shall mean Standard & Poor's Ratings Services, a division of The McGraw-Hill Companies, Inc. and/or Moody's Investors Service,

Inc. or, in the event of the cessation of business of either, another nationally recognized rating agency firm or firms which is in the business of evaluating the degree of financial risk associated with debt securities and makes such information available to the investment community and as may be designated as a rating agency at any such time during the term of the Port Authority Lease by the Port Authority; the term *"Investment Grade"* shall mean a Grade of "BBB-" or higher by Standard & Poor's Ratings Services, a division of The McGraw-Hill Companies, Inc. or "Baa3" or higher by Moody's Investors Service, Inc. or such other equivalent designation that any of such Rating Agencies may use publicly in the future to designate the relative investment qualities of debt securities and to differentiate between those investments that are investment grade and those that are not.

In the event that the Company becomes the possessor (surviving) corporation in a merger without the prior written approval of the Port Authority and neither of the Financial Tests is satisfied, the Company shall submit to the Port Authority within 15 days following such merger all appropriate information and documentation sufficient to allow the Port Authority to determine whether the Financial Tests are satisfied. Thereafter if the Port Authority determines that neither of the Financial Tests is satisfied, the Port Authority shall by written notice advise the Company of the same and the Company shall submit the Consent Security Deposit (as defined below) to the Port Authority not later than 15 business days following said notice from the Port Authority (the *"Consent Security Deposit Delivery Date"*).

The *"Consent Security Deposit"* shall mean an aggregate amount equal to (i) the sum of all of the monetary obligations (including without limitation rent, fees, and charges of any type whatsoever) payable to the Port Authority by the Company arising out of or in connection with or due from its activities, operations, leases, permits or other agreements at the Airport, during the 12 calendar month period immediately preceding the calendar month of the date of the merger, consolidation or assignment, such sum under this clause (i) being limited, however, to the aggregate of the three highest monthly totals of said monetary obligations for any three calendar months during said 12 calendar month period with said sum to be determined by the Port Authority; plus (ii) the sum of all of the monetary obligations (including without limitation rent, fees, and charges of any type whatsoever), if any, payable to the Port Authority by the entity with which the Company merges or consolidates or to which the Lease is assigned arising out of or in connection with or due to its activities, operations, leases, permits or other agreements, if any, at the Airport, during the 12 calendar month period immediately preceding the calendar month of the date of the merger, consolidation or assignment, such sum under this clause (ii) being limited, however, to the aggregate of the three highest monthly totals of said monetary obligations for any three calendar months during said 12 calendar month period, with said sum to be determined by the Port Authority. In the event the Consent Security Deposit is delivered, the terms, provisions and conditions governing the use of said Consent Security Deposit shall be set forth in the assumption instrument referred to therein.

Leasehold Mortgage and Reletting Rights

Notwithstanding the provisions of the Port Authority Lease limiting assignments and transfers of the Premises, the Company has the right (exercisable one time only) to execute the Leasehold Mortgage and to date, execute and deliver the same in accordance with the Port

Authority Lease. The Leasehold Mortgage may mortgage only the leasehold interest of the Company or of a permitted assignee in the permitted Premises under the Port Authority Lease; *provided, however*, that if an assignee is granting a Leasehold Mortgage, it also must have assumed all of the obligations of the Company under the Port Authority Consent and all of the obligations of the Company under the Company Guaranty to pay principal, interest, purchase price and premium on the Bonds. The Leasehold Mortgage may secure only the obligations of (i) the Company (including permitted successors) under the Company Guaranty to pay principal, interest, purchase price and premium on the Bonds and (ii) AMR (including permitted successors) under the AMR Guaranty to pay principal, interest, purchase price and premium on the Bonds.

Reletting Rights Effective Date Conditions. The Leasehold Mortgage will not be effective, (i) the lien created by the Leasehold Mortgage will not attach, (ii) the Leasehold Mortgagee will have no rights under the Leasehold Mortgage, (iii) the Leasehold Mortgage will not be executed, dated, delivered or recorded and (iv) the Reletting Rights will not be exercisable, unless all of the following conditions (the *"Reletting Rights Effective Date Conditions"*) are satisfied:

(a) the Port Authority shall have received from the Company certain certificates certifying that there has been substantial completion of the Redevelopment Work;

(b) the Redevelopment Work Completion Date shall have occurred;

(c) the Company shall have received from the Port Authority its certificate certifying that there has been substantial completion of the Redevelopment Work;

(d) the Company shall have spent not less than $850 million of qualified costs for the Redevelopment Work and the Company shall have received from the Port Authority either (i) an Audit Confirmation Notice (as defined below) confirming such expenditure or (ii) a Reliance Notice (as defined below) stating that it will rely on the Company's statement that it has spent such amount; and

(e) the Port Authority shall have received from the Company a certificate signed by a responsible officer of the Company certifying that the Premises contain not less than fifty-five aircraft loading and unloading gate positions of which at least thirty-five are to accommodate wide-body aircraft and of which at least two are to accommodate narrowbody aircraft, or such other number of aircraft gate positions as shall have been approved in writing by the Director of the Port Authority's Aviation Department.

The Leasehold Mortgagee shall, at such time it deems appropriate following receipt of the Company's notice to the Leasehold Mortgagee that the Reletting Rights Effective Date Conditions have been satisfied, with the Leasehold Mortgage attached thereto, record or present for recording the Leasehold Mortgage in the appropriate filing office as required by and in compliance with all applicable law.

Any dating, execution, delivery or recording of the Leasehold Mortgage prior to the satisfaction of all of the Reletting Rights Effective Date Conditions or in violation or contravention of any of the terms, provisions, covenants and conditions of the Port Authority Lease or the Port Authority Consent, including any recording of a form of the Leasehold Mortgage which is not the same as the form attached to the Port Authority Consent or any dating, executing, delivery or recording of the Leasehold Mortgage which is in violation of any term, covenant, condition, provision or representation in the Port Authority Lease or the Port Authority Consent (each a *"Wrongful Recording of the Leasehold Mortgage"*) will constitute a material breach of the Port Authority Lease by the Company and an event of default under the Port Authority Lease permitting the Port Authority to terminate the Port Authority Lease, in addition to any other rights or remedies the Port Authority may have, legal, equitable or otherwise, under the Port Authority Lease or otherwise; and any Wrongful Recording of the Leasehold Mortgage will not constitute the Leasehold Mortgagee as the leasehold mortgagee nor entitle the Leasehold Mortgagee to any of the Reletting Rights or rights thereunder or any other rights against the Port Authority Lease or the Premises or the Port Authority. The Company has agreed to cooperate with the Port Authority and promptly take any action requested or required by the Port Authority or required by applicable law to remove and discharge the Leasehold Mortgage and any lien created by such Wrongful Recording of the Leasehold Mortgage, including the execution and filing of all appropriate instruments; and the Company will ensure that its agreements with the Leasehold Mortgagee, including the Indenture and the Leasehold Mortgage, incorporate such provisions, including similar obligations of the Leasehold Mortgagee.

The right of the Port Authority to terminate the Port Authority Lease based on the Wrongful Recording of the Leasehold Mortgage will not be subject to the Reletting Rights of the Leasehold Mortgagee, and the Leasehold Mortgagee will not have any rights to cure such default by the Company.

For purposes of determining whether the Company has made an investment in the Redevelopment Work of not less than $850 million to meet the Reletting Rights Effective Date Conditions, the Port Authority will, within one year after it receives a certificate from the Company, not later than December 1, 2014, stating that it has spent at least $850 million of qualified costs for the Redevelopment Work, send to the Company, with a copy to the Leasehold Mortgagee, a written notice that either (i) a Port Authority audit confirms an investment in the Redevelopment Work by the Company of not less than $850 million (an *"Audit Confirmation Notice"*), or (ii) a Port Authority audit does not confirm an investment in the Redevelopment Work by the Company of not less than $$850 million or (iii) the Port Authority elects to rely on the Company's certificates as submitted by the Company to the Port Authority without completion of an audit (a *"Reliance Notice"*). If the Port Authority audit does not confirm an investment in the Redevelopment Work by the Company of not less than $850 million, the Company can submit additional certificates and the Port Authority will have a year from submission of any such certificates to confirm or disaffirm (or choose to rely on) such certificates.

Automatic Termination. The Leasehold Mortgage and the Reletting Rights will automatically terminate upon the earliest to occur of:

(a) the expiration, surrender or termination of the Basic Lease, except that the Leasehold Mortgage and the Reletting Rights (but only if the Leasehold Mortgage or Reletting Rights have not terminated pursuant to the provisions of the Port Authority Lease described in the immediately succeeding paragraphs (b) through (j) of this subheading, or for any other reason) will not terminate solely by reason of the termination of the Basic Lease if the City Attornment Agreement is effective upon termination of the Basic Lease, to the extent and for the period, if any, that the Fee Owner, pursuant to the terms of the City Attornment Agreement, recognizes the Leasehold Mortgage and the Reletting Rights;

(b) the expiration, surrender or termination of the Port Authority Lease, except that the Leasehold Mortgage and the Reletting Rights (but only if the Leasehold Mortgage has not terminated pursuant to any of the provisions of the Port Authority Lease described in the immediately preceding paragraph (a) of this subheading or in the immediately succeeding paragraphs (c) through (j) of this subheading) (i) will not terminate solely by reason of the termination of the Basic Lease if the City Attornment Agreement is effective upon termination of the Basic Lease, to the extent and for the period, if any, that the Fee Owner, pursuant to the terms of the City Attornment Agreement, recognizes the Leasehold Mortgage and the Reletting Rights and (ii) will not terminate solely due to a deemed termination of the Port Authority Lease solely due to the occurrence of a Triggering Event;

(c) the termination of the consent granted under the Port Authority Consent as to the Leasehold Mortgage;

(d) the termination, expiration or surrender (including, without limitation, discharge or release) of both of (i) the Company Guaranty (except that if payment obligations of the Company (including its permitted successors under the Company Guaranty) thereunder with respect to the payment of principal, interest, purchase price and premium on the Bonds remain outstanding and unpaid, then upon the date when there are no such payment obligations remaining outstanding and unpaid); and (ii) the AMR Guaranty (except that if payment obligations of AMR (including its permitted successors under the AMR Guaranty) thereunder with respect to the payment of principal, interest, purchase price and premium on the Bonds remain outstanding and unpaid, then upon the date when there are no such obligations remaining outstanding and unpaid);

(e) the date on which no Bonds are Outstanding;

(f) the expiration of the Reletting Election Period without the timely exercise by the Leasehold Mortgagee of its election to exercise its Reletting Rights by service of its Reletting Election Notice on the Port Authority in accordance with the terms set forth in Section 92;

(g) the date of any written notice given by the Leasehold Mortgagee stating that it will not exercise its Reletting Rights;

(h) the effective date of the letting, pursuant to Section 92, of the Premises (whether for the full term of the Port Authority Lease or otherwise) to a Qualifying Replacement Tenant, whether resulting from a foreclosure of the Leasehold Mortgage, the exercise by the Leasehold Mortgagee of its Reletting Rights, an assignment in lieu of foreclosure or otherwise without the occurrence of the Lease Assignment/Assumption Commencement Date;

(i) the effective date of a Lease Assignment/Assumption and Consent Agreement; and

(j) the expiration or earlier termination or cancellation of the Foreclosure Period.

The Leasehold Mortgagee may not assign or transfer the Leasehold Mortgage to any person other than a successor trustee. Each successor trustee will be obligated to hold the Leasehold Mortgage subject to all the terms and provisions of the relevant section of the Port Authority Lease as if it were the original Leasehold Mortgagee. The rights of the Leasehold Mortgagee, as leasehold mortgagee, are as specified in the Leasehold Mortgage and the Port Authority Lease and are subject to, controlled by and dependent upon the terms, covenants, conditions and provisions set forth in the Port Authority Lease and the Port Authority Consent.

Until the Leasehold Mortgage has terminated, without the prior written consent of the Leasehold Mortgagee, (a) no amendment may be made to the provisions of the Port Authority Lease concerning Reletting Rights; and (b) no amendment may be made to the Port Authority Lease that affects only a Qualifying Replacement Tenant, without affecting the Company.

Neither a Qualifying Replacement Tenant nor any other person purchasing or succeeding to the leasehold under the Port Authority Lease has any right to pledge or mortgage the leasehold under the Port Authority Lease or any portion of the Premises.

Election to Exercise Reletting Rights. On and after the Reletting Rights Effective Date, the Port Authority will send to the Leasehold Mortgagee a copy of each notice of default given under the Port Authority Lease at the same time as such notice is sent to the Company. The Leasehold Mortgagee may cure any default with respect to the Premises as if, and with the same force and effect, as though cured by the Company. However, the Port Authority is not required to deliver to the Leasehold Mortgagee any notice of termination based on a Wrongful Recording of the Leasehold Mortgage and the Leasehold Mortgagee has no rights to cure a Wrongful Recording of the Leasehold Mortgage.

If on or after the Reletting Rights Effective Date the Port Authority elects to terminate the letting of the Premises under the Port Authority Lease, then, except as otherwise provided in the Port Authority Lease with respect to a Wrongful Recording of the Leasehold Mortgage, the Port Authority shall at the same time send a copy of the written notice of such termination (the *"Notice of Termination"*) to the Leasehold Mortgagee (the *"Notice of Termination Service Date"*). The Notice of Termination shall specify the effective time and date of such termination (the *"Notice of Termination Effective Date"*), which date must not be before the 30th day

following the Notice of Termination Service Date, subject to extension as provided in the Port Authority Lease. The serving of the Notice of Termination on the Leasehold Mortgagee shall trigger the Reletting Rights and the period during which the Leasehold Mortgagee must elect whether to exercise the Reletting Rights (the *"Reletting Election Period"*) unless the Leasehold Mortgagee has previously exercised its Reletting Rights based on a Bonds Default or a Bankruptcy Rejection Date (as defined below).

The Leasehold Mortgagee has the right to extend the Reletting Election Period for two additional 30-day periods beyond the original Notice of Termination Effective Date, but only if the Leasehold Mortgage pays to the Port Authority the extension fees provided in the Port Authority Lease and described below. Under certain circumstances the Reletting Election Period will be deemed to commence on a date other than the Notice of Termination Service Date. Upon the occurrence of a Bonds Default (as defined below), the Reletting Election Period shall be deemed to commence on the date of such Bonds Default and, upon the occurrence of a Company Bankruptcy (as defined below), the Reletting Election Period shall be deemed to commence on the Bankruptcy Rejection Date. Prior to the end of the Reletting Election Period, the Leasehold Mortgagee must affirmatively elect whether it will exercise its Reletting Rights or its right to foreclose on the Leasehold Mortgage or have the Port Authority Lease assigned to a Qualifying Replacement Tenant.

A *"Bonds Default"* is defined as either (i) a failure to make payment of any and all amounts required when due for the payment of the principal, purchase price, premium or interest on the Bonds resulting in the occurrence and continuance of an event of default under and as defined in the Indenture, or (ii) a failure to make payment under the Guaranties with respect to the payment of any and all amounts required when due for the payment of the principal, purchase price, premium or interest on the Bonds, which failure has resulted in the occurrence and continuance of an event of default under and as defined in the Indenture; *provided, however,* if any of the foregoing arises out of an act or omission of the Leasehold Mortgagee, despite the payment of any such amounts to the Leasehold Mortgagee, then such event of default shall not be a Bonds Default.

A *"Bankruptcy Rejection Date"* is defined as the later of (x) the date set forth in the order of the relevant bankruptcy court as the effective date of the rejection by the Company (or deemed rejection) of the Port Authority Lease and (y) the actual date of such order by the relevant bankruptcy court.

Foreclosure Obligations. The Foreclosure Period will commence upon the delivery by the Leasehold Mortgagee to the Port Authority of the Reletting Election Notice and the payment of the amounts described below, and will continue for up to 270 days thereafter, but is extendable to up to an aggregate total maximum period of 720 days (subject to certain provisions which toll the running of the Foreclosure Period) under certain circumstances and upon meeting certain conditions and paying certain amounts as described below. The Leasehold Mortgage sets out the Reletting Rights of the Leasehold Mortgagee under the Leasehold Mortgage to obtain a Qualifying Replacement Tenant during the Foreclosure Period.

The Leasehold Mortgagee must pay, as a condition to the commencement of the Foreclosure Period, the following: (the *"Leasehold Mortgagee's Foreclosure Period Obligations"*) during the Foreclosure Period:

(a) All amounts due and owing to the Port Authority under the Port Authority Lease which have accrued for any and all periods up to the actual date of service on the Port Authority by the Leasehold Mortgagee of its Reletting Election Notice, *provided* that such service is duly and timely made in accordance with the terms and provisions of the Port Authority Lease (the *"Reletting Election Notice Service Date"*).

(b) All amounts due and owing by the Company to the Port Authority under the General Airport Agreement and any successor or replacement agreement or arrangement covering the payment of flight fees and fueling fees which have accrued for a period of sixty (60) days up to the Reletting Election Notice Service Date; to the extent such amounts have not been paid to the Port Authority by the Company or the Leasehold Mortgagee prior to the commencement of the Foreclosure Period.

After the initial commencement of the Foreclosure Period and at all times during the continuation of the Foreclosure Period, including any and all extensions thereof (and in addition to the other payments due to the Port Authority), the Leasehold Mortgagee must pay to the Port Authority the following amounts on a current basis (the *"Leasehold Mortgagee's Foreclosure Period Current Basis Payments"*), as and when due under the Port Authority Lease and under the General Airport Agreement (and any successor or replacement agreement or arrangement covering the payment of flight fees and fueling fees), to the extent such amounts are not paid by the Company:

(a) All amounts due and owing to the Port Authority under the Port Authority Lease on a current basis as the same become due and payable to the Port Authority under the Port Authority Lease commencing as of the first day of the Foreclosure Period.

(b) All amounts due and owing to the Port Authority by the Company under the General Airport Agreement and any successor or replacement agreement or arrangement covering the payment of flight fees and fueling fees on a current basis accrued on or after the commencement of the Foreclosure Period as the same become due and payable to the Port Authority commencing as of the first day of the Foreclosure Period to the extent such amounts have not been paid to the Port Authority by the Company or the Leasehold Mortgagee.

At all times during the Foreclosure Period, the Leasehold Mortgagee will use all reasonable efforts to preserve the value of the Premises until the Leasehold Mortgagee has possession of the Premises under the Port Authority Lease, and thereafter shall fulfill all obligations under the Port Authority Lease with respect to the preservation of the Premises. Immediately upon the commencement of the Foreclosure Period, the Leasehold Mortgagee will use commercially reasonable efforts to obtain a Qualifying Replacement Tenant for the Premises for the balance of the term under the Port Authority Lease or such lesser term as it proposes to lease, subject to the consent of the Port Authority.

Upon any commencement of the Foreclosure Period, the Leasehold Mortgagee will (to the extent permitted by law) promptly and diligently and in good faith commence and continue and seek to complete proceedings to foreclose upon the Leasehold Mortgage and, in the event the Company fails to vacate the Premises, seek eviction of the Company therefrom; *provided* that in the event the Leasehold Mortgagee continues diligently to continue and complete the foreclosure proceedings (including the eviction of the Company) and, through no fault of its own, is unable to complete foreclosure proceedings by the 90th day from the initial commencement of the Foreclosure Period, then, *provided* that not less than five days prior to the expiration of such initial 90-day period the Leasehold Mortgagee gives written notice to the Port Authority, the initial Foreclosure Period shall be deemed extended for up to an additional 90 days and shall expire on the earlier of (i) the Lease Assignment/Assumption Commencement Date or (ii) the 180th day from the initial commencement of the Foreclosure Period; *subject, however*, to the further condition that during the 91st to 180th days of the Foreclosure Period the Leasehold Mortgagee performs and pays all of the Leasehold Mortgagee's Foreclosure Period Obligations, including, without limitation, the payment to the Port Authority of the Leasehold Mortgagee's Foreclosure Period Current Basis Payments.

Extensions of Foreclosure Period. In the event the Leasehold Mortgagee, during the initial 90 days of the Foreclosure Period, commenced in good faith and thereafter at all times diligently continued proceedings to foreclose upon the Leasehold Mortgage (including the eviction of the Company), and the Leasehold Mortgagee, through no fault of its own, is unable to complete foreclosure proceedings by the 180th day from the commencement of the Foreclosure Period, then, *provided* that not less than five days prior to the expiration of such 180-day period the Leasehold Mortgagee gives written notice to the Port Authority, the Foreclosure Period shall be deemed extended for up to an additional 90 days and shall expire on the earlier of (i) the Lease Assignment/Assumption Commencement Date or (ii) 270th day from the initial commencement of the Foreclosure Period; *subject, however,* to the following further conditions:

(a) that during the 181st to 270th days of the Foreclosure Period, the Leasehold Mortgagee performs and pays all of the Leasehold Mortgagee's Foreclosure Period Obligations, including, without limitation, the payment to the Port Authority of all the Leasehold Mortgagee's Foreclosure Period Current Basis Payments; and

(b) that, unless the Foreclosure Period commenced solely on the basis of a Bonds Default and there has been no subsequent Notice of Termination Service Date or Bankruptcy Rejection Date (a *"Subsequent Non-Bonds Default"*), the Leasehold Mortgagee shall pay to the Port Authority for the 181st to 270th day period a Leasehold Mortgage Extension Fee in the amount of $8,090,000, payable in installments and subject to proration.

Unless each of the following conditions is satisfied prior to the 270th day of the Foreclosure Period, there shall be no further extension of the Foreclosure Period beyond the 270th day: (i) the Leasehold Mortgagee has previously identified and proposed to the Port Authority a proposed Qualifying Replacement Tenant pursuant to and in accordance with the terms and provisions of the Port Authority Lease, (ii) such proposed Qualifying Replacement Tenant meets all of the requirements for being approved, as determined by, and to the

satisfaction of, the Port Authority, and (iii) such proposed Qualifying Replacement Tenant, the Leasehold Mortgagee, the Company and the Port Authority have executed the Lease Assignment/Assumption and Consent Agreement subject to, and under which, such proposed Qualifying Replacement Tenant will become the Qualifying Replacement Tenant, commencing upon the successful completion by the Leasehold Mortgagee of the foreclosure and eviction proceedings prior to the expiration of the Foreclosure Period (if and as extended). The foregoing pre-conditions shall be in addition to the conditions set forth below which the Leasehold Mortgagee must satisfy with respect to each of the following additional extensions of the Foreclosure Period.

In the event the Leasehold Mortgagee, during the initial 90 days of the Foreclosure Period, commenced in good faith and thereafter at all times diligently continued proceedings to foreclose the Leasehold Mortgage and to evict the Company from the Premises and the Leasehold Mortgagee, through no fault of its own, was unable to complete foreclosure proceedings by the 270th day from the commencement of the Foreclosure Period and the pendency of the foreclosure proceedings in the State of New York is the sole impediment to such completion, then, *provided* that not less than five days prior to the expiration of such 270-day period the Leasehold Mortgagee gives written notice to the Port Authority, the Foreclosure Period shall be deemed extended for up to an additional 90 days and shall expire on the earlier of (i) the Lease Assignment/Assumption Commencement Date or (ii) the 360th day from the commencement of the Foreclosure Period; *subject, however*, to the following further conditions:

(a) that during the 271st to 360th day extension of the Foreclosure Period, the Leasehold Mortgagee performs and pays all of the Leasehold Mortgagee's Foreclosure Period Obligations, including without limitation the payment to the Port Authority of all the Leasehold Mortgagee's Foreclosure Period Current Basis Payments; and

(b) that, unless the Foreclosure Period commenced solely on the basis of a Bonds Default and there has been no Subsequent Non-Bonds Default, the Leasehold Mortgagee pays to the Port Authority for the 271st to 360th day extension a Leasehold Mortgage Extension Fee in the amount of $8,090,000, payable in installments and subject to proration.

In the event the Leasehold Mortgage, during the initial 90 days of the Foreclosure Period, commenced in good faith and thereafter at all times diligently continued proceedings to foreclose the Leasehold Mortgage and to evict the Company from the Premises and the Leasehold Mortgagee, through no fault of its own, was unable to complete foreclosure proceedings by the 360th day from the commencement of the Foreclosure Period and the pendency of the foreclosure proceedings in the State of New York is the sole impediment to such completion, then, *provided* that not less than five days prior to the expiration of such 360-day period the Leasehold Mortgagee gives written notice to the Port Authority, the Foreclosure Period shall be deemed extended for an additional period which shall expire on the earlier of (i) the Lease Assignment/Assumption Commencement Date or (ii) the 540th day from the initial commencement of the Foreclosure Period; *subject, however*, to the following further conditions:

(a) that during the 361st to 540th day extension of the Foreclosure Period, the Leasehold Mortgagee performs and pays all of the Leasehold Mortgagee's Foreclosure Period Obligations, including without limitation the payment to the Port Authority of the Leasehold Mortgagee's Foreclosure Period Current Basis Payments; and

(b) that, unless the Foreclosure Period commenced solely on the basis of a Bonds Default and there has been no Subsequent Non-Bonds Default, the Leasehold Mortgagee pays to the Port Authority for the 361st to 540th day extension a Leasehold Mortgage Extension Fee in the amount of $32,361,000, payable in installments and subject to proration.

In the event the Leasehold Mortgage, during the initial 90 days of the Foreclosure Period, commenced in good faith and thereafter at all times diligently continued proceedings to foreclose the Leasehold Mortgage and to evict the Company from the Premises and the Leasehold Mortgagee, through no fault of its own, is unable to complete foreclosure proceedings by the 540th day from the commencement of the Foreclosure Period and the pendency of the foreclosure proceedings in the State of New York is the sole impediment to such completion, then, *provided* that not less than five days prior to the expiration of such 540-day period the Leasehold Mortgagee gives written notice to the Port Authority, the Foreclosure Period shall be deemed extended for a final period which shall expire on the earlier of (i) the Lease Assignment/Assumption Commencement Date or (ii) the 720th day from the initial commencement of the Foreclosure Period; *subject, however*, to the following further conditions:

(a) that during the 541st to 720th day extension of the Foreclosure Period the Leasehold Mortgagee performs and pays all of the Leasehold Mortgagee's Foreclosure Period Obligations, including without limitation the payment to the Port Authority of all the Leasehold Mortgagee's Foreclosure Period Current Basis Payments; and

(b) that, unless the Foreclosure Period commenced solely on the basis of a Bonds Default and there is no Subsequent Non-Bonds Default, the Leasehold Mortgagee pays to the Port Authority for the 541st to 720th day extension a Leasehold Mortgage Extension Fee in the amount of $48,541,000, payable in installments and subject to proration.

In the event that the Foreclosure Period initially commences as a result solely of a Bonds Default, the Leasehold Mortgage Extension Fees will not be payable unless and until there occurs a Subsequent Non-Bonds Default. In the event of such Subsequent Non-Bonds Default the obligation of the Leasehold Mortgagee to pay to the Port Authority the Leasehold Mortgage Extension Fees commences as follows: (i) if the Subsequent Non-Bonds Default occurs during the initial 90 days of the Foreclosure Period the actual date of said Subsequent Non-Bonds Default will be treated as the first day of the Foreclosure Period and the Leasehold Mortgage Extension Fees commence on the 181st day following the Subsequent Non-Bonds Default at the rate applicable on the 181st day thereof; and (ii) if such Subsequent Non-Bonds Default occurs after the 90th day of the Foreclosure Period, the 90th day of the Foreclosure Period will be treated as the first day of the Foreclosure Period and the Leasehold Mortgage Extension Fees will, where the Subsequent Non-Bonds Default occurs between the 91st and the 270th days of

the Foreclosure Period, commence on the 271st day of the Foreclosure Period at the rate applicable on the 181st day thereof; and where the Subsequent Non-Bonds Default occurs between the 271st and the 720th days of the Foreclosure Period the Leasehold Mortgage Extension Fees will commence on the actual date of the Subsequent Non-Bonds Default at the rate applicable on the 90th day preceding such actual date.

For illustrative purposes only the following two examples of the foregoing are provided:

Example 1. If the Foreclosure Period commenced based on a Bonds Default only and the Subsequent Non-Bonds Default occurred on the 20th day after such commencement of the Foreclosure Period, the 20th day of the Foreclosure Period would be treated as day 1 for purposes of the determination of the applicable Leasehold Mortgage Extension Fee and the obligation of the Leasehold Mortgagee to pay to the Port Authority the Leasehold Mortgage Extension Fees would commence on the 200th day of the Foreclosure Period at the installment rate set forth above for (the 181st to 270th day period); alternatively, if the Subsequent Non-Bonds Default occurred on the 150th day after such commencement of the Foreclosure Period, the 90th day of the Foreclosure Period would be treated as day 1 and said 150th day would be treated as day 60 for purposes of the determination of the applicable Leasehold Mortgage Extension Fee and the obligation of the Leasehold Mortgagee to pay to the Port Authority the Leasehold Mortgage Extension Fees would commence 121 days thereafter (i.e. on the 271st day of the Foreclosure Period) at the installment rate applicable on the 181st day as set forth above (the 181st-270th days rate) and continue thereafter during the Foreclosure Period and payable on the first day of each 30-day period thereafter occurring during the Foreclosure Period at the installment rates applicable to the 271st to 360th day period, the 361st to 540th day period and the 541st to 720th day period.

Example 2. If the Foreclosure Period commenced based on a Bonds Default only and the Subsequent Non-Bonds Default occurred on the 70th day after such commencement of the Foreclosure Period, the 70th day of the Foreclosure Period would be treated as day 1 for purposes of the determination of the applicable Leasehold Mortgage Extension Fee and the obligation of the Leasehold Mortgagee to pay to the Port Authority the Leasehold Mortgage Extension Fees would commence on the 251st day of the Foreclosure Period at the installment rate set forth above for the 181st to 270th day period and continue thereafter during the Foreclosure Period and payable on the first day of each 30-day period thereafter occurring during the Foreclosure Period at the installment rates applicable to the 271st to 360th day period, the 361st to 540th day period and the 541st to 720th day period; alternatively, if the Foreclosure Period commenced based on a Bonds Default only and the Subsequent Non-Bonds Default occurred on the 600th day after such commencement of the Foreclosure Period, the 90th day of the Foreclosure Period would be treated as day 1 and the said 600th day would be treated as day 510 for purposes of the determination of the applicable Leasehold Mortgage Extension Fee and the obligation of the Leasehold Mortgagee to pay to the Port Authority the Leasehold Mortgage Extension Fees would commence on the 600th day of the Foreclosure Period at the installment rate which would be in effect on the 510th day at the 361st - 540th days rate and continue thereafter during the Foreclosure Period and payable on the first day of each 30-day period thereafter occurring during the Foreclosure Period at the 30-day installment rates applicable to the 361st to 540th day period and the 541st to 720th day period.

The failure of the Leasehold Mortgage to pay the Leasehold Mortgagee's Foreclosure Period Obligations when due shall result in the automatic cancellation of the Leasehold Mortgagee's Reletting Rights (and of any Foreclosure Period) and of the Leasehold Mortgage. The failure of the Leasehold Mortgagee to timely pay any of the Leasehold Mortgagee's Foreclosure Period Obligations or to fully and duly perform any of the Leasehold Mortgagee's Foreclosure Period Obligations shall result in the termination of the Foreclosure Period and the Reletting Rights and the Leasehold Mortgage automatically without any further act on the part of the Port Authority and any Notice of Termination previously stayed shall become fully effective. The failure of the Leasehold Mortgagee to pay any Leasehold Mortgage Extension Fee when due shall result in the automatic termination and non-extension of the Foreclosure Period and the automatic termination of the Leasehold Mortgage and the Reletting Rights without any further act on the part of the Port Authority and any Notice of Termination previously stayed shall become effective.

If the Foreclosure Period is terminated or expires and the Leasehold Mortgagee has failed to obtain a Qualifying Replacement Tenant for the Premises in accordance with the Port Authority Lease, the Reletting Rights and the Leasehold Mortgage shall terminate automatically and the Leasehold Mortgagee shall have no further rights or obligations with respect to reletting, the Port Authority's termination under the Notice of Termination shall be deemed effective with respect to the Premises and the Port Authority Lease with respect to the Premises shall be deemed terminated effective immediately on such expiration of the Foreclosure Period in accordance with the Port Authority Lease. The Port Authority, in addition to pursuing any or all of its rights and remedies under the Port Authority Lease, or otherwise, shall be entitled to elect to use, alter or demolish any of the improvements on the Premises free of any claim, right or interest of the Company, the Leasehold Mortgagee, the Agency or the Bondholders.

In the event of the occurrence of either the filing by the Company of a voluntary petition under the United States Bankruptcy Code or the filing of an involuntary petition against the Company under the United States Bankruptcy Code, and the pendency of proceedings pursuant thereto (a *"Company Bankruptcy"*), the Port Authority Lease provides for suspension of the Foreclosure Period.

In the event of the failure of the Leasehold Mortgagee to exercise its Reletting Rights by the timely service of its Reletting Election Notice and the payment to the Port Authority of the Leasehold Mortgagee's Foreclosure Period Commencement Payments in accordance with the Port Authority Lease, the Port Authority Lease and the letting of the Premises shall be deemed terminated, and the Port Authority, in addition to pursuing any or all of its rights and remedies under the Port Authority Lease, or otherwise, shall be entitled to elect to use, alter or demolish any of the improvements on the Premises free of any claim, right or interest of the Company or the Leasehold Mortgage.

Qualifying Replacement Tenant. No entity, party or person other than a Qualifying Replacement Tenant will be entitled to become the owner of or acquire any interest in the Port Authority Lease pursuant to a judgment of foreclosure and sale or as a result of an assignment in lieu of foreclosure or as a result of the exercise by the Leasehold Mortgagee of its Reletting Rights or otherwise; and any entity, person or party proposed to become a Qualifying

Replacement Tenant (a *"Proposed Replacement Tenant"*) will become a Qualifying Replacement Tenant only if the Leasehold Mortgagee duly exercises its Reletting Rights. In determining whether to approve or disapprove a Proposed Replacement Tenant, the Port Authority will consider all relevant factors, including but not limited to, the following factors, but the Port Authority has agreed to analyze all such factors in a reasonable manner:

(a) whether the Proposed Replacement Tenant will be able to fulfill all of the Company's obligations under the Port Authority Lease with respect to the Premises throughout the balance of the term of the letting or such lesser term as it proposes to lease;

(b) whether the financial standing of the Proposed Replacement Tenant as of the effective date of its acquisition of the leasehold under the Port Authority Lease is sufficient, in the opinion of the Port Authority, to assure the Port Authority that the Proposed Replacement Tenant will be able to fulfill all of the Company's obligations with respect to the Premises under the Port Authority Lease throughout the balance of the term of the letting of the Premises or such lesser term as it proposes to lease (which determination may require the submission to the Port Authority of such security or guaranty in such form and amount as the Port Authority may find satisfactory and submission of such financial statements and other financial information as the Port Authority may require);

(c) whether the Proposed Replacement Tenant and any officer, director or partner thereof and any person, firm or corporation having an outright or beneficial interest in 20% or more of the monies invested in the Proposed Replacement Tenant, if said Proposed Replacement Tenant is a corporation or partnership, by loans thereto, stock ownership therein or any other form of financial interest (a *"Related Person"*) has as of the date of the proposed assignment/assumption a good reputation for integrity and financial responsibility and has not been convicted of or is not under current indictment for any crime and is not currently involved in material civil anti-trust or fraud litigation (other than as a plaintiff);

(d) whether the Port Authority has had any Unfavorable Experience (as defined below) with the Proposed Replacement Tenant, or any Related Person. *"Unfavorable Experience"* means any one or more of the following: (A) a material default by such Proposed Replacement Tenant or any such Related Person of any obligation (monetary or non-monetary) to the Port Authority; (B) any assertion made by such Proposed Replacement Tenant or any such Related Person against the Port Authority in any frivolous, false, malicious, or unsupportable claim, demand or allegation or suit or proceeding; (C) any act or omission of such Proposed Replacement Tenant or any such Related Person causing or resulting in any loss, damage or injury to the Port Authority or the imposition or threatened imposition of any fine or penalty on the Port Authority or the commencement or threatened commencement of any action, suit or proceeding against the Port Authority; (D) any failure or refusal of such Proposed Replacement Tenant or any such Related Person to comply with any law, governmental order, directive, ordinance or requirement, including without limitation, environmental

requirements, at any Port Authority facility; (E) any failure to comply with, or breach of, the Port Authority's Code of Ethics and Financial Disclosure by such Proposed Replacement Tenant or any such Related Person; or (F) any breach by such Proposed Replacement Tenant or any such Related Person of any fiduciary obligation, trust, confidence or other duty to the Port Authority or of any confidentiality agreement with the Port Authority;

(e) whether the Proposed Replacement Tenant or any Related Person is in conflict of interest, as defined under the laws of the States of New York and New Jersey or Port Authority policy, with any Commissioner of the Port Authority as of the date of the proposed assignment; and

(f) whether the Proposed Replacement Tenant or any Related Person has filed a voluntary petition in bankruptcy or has been adjudicated a bankrupt within five (5) years prior to the date of the proposed assignment.

The Proposed Replacement Tenant also must agree in the Lease Assignment/Assumption and Consent Agreement to pay all of the rentals, fees, charges and other amounts payable under and in accordance with the Port Authority Lease. The Proposed Replacement Tenant must use and occupy the Premises for the purposes set forth in the Port Authority Lease and agree in the Lease Assignment/Assumption and Consent Agreement to use and occupy the Premises in accordance with all of the terms and conditions of the Port Authority Lease.

No Proposed Replacement Tenant shall become a Qualifying Replacement Tenant, or have any right to possess, use or occupy the Premises, unless and until an assignment and assumption agreement, in the event of an assignment in lieu of foreclosure, or an assumption agreement, in the event of a foreclosure, whereby the Proposed Replacement Tenant, effective on a date prior to or simultaneously with the expiration of the Foreclosure Period, assumes the obligations of the Company as if it were the original tenant under the Port Authority Lease, has been executed by the Port Authority, the Company (except in the case of an assumption agreement, in the event of a foreclosure, in which case the signature of the Company shall not be required), the Proposed Replacement Tenant and the Leasehold Mortgagee (said fully executed agreement in either case, the *"Lease Assignment/Assumption and Consent Agreement"*).

In addition, no Port Authority consent will be granted to any Qualifying Replacement Tenant and no Proposed Replacement Tenant or any other entity, person or party shall become a Qualifying Replacement Tenant until either (i) the Leasehold Mortgagee or the Proposed Replacement Tenant has paid to the Port Authority in a single lump sum payment the full amount of the Deferred Reletting Fee (as defined below), or (ii) at the election of the Qualifying Replacement Tenant, in lieu of such single lump sum payment, the Qualifying Replacement Tenant has agreed to pay the Deferred Reletting Fee over time as additional rental, commencing as of the commencement date of the Lease Assignment/Assumption and Consent Agreement (the *"Lease Assignment/ Assumption Commencement Date"*).

The *"Deferred Reletting Fee"* is the amount derived by the following formula:

$$DRF = MA \times Y \times C$$

Where *"DRF"* is the Deferred Reletting Fee.

"MA" is an amount equal to the lesser of (i) the principal amount of Bonds issued (without taking into account any prepayments, redemptions or refundings) and (ii) $2,300,000,000.

"Y" is a fraction the numerator of which is the greater of (a) the number of full years remaining during the term of the Port Authority Lease as of the Reletting Election Notice Service Date and (b) five, and the denominator of which is the number of years between the closing date of the sale of the Series 2002 Bonds and the earlier of (x) the day preceding the 30th anniversary of the Redevelopment Work Completion Date and (y) December 21, 2036.

"C" is (i) 2% if the Foreclosure Period commenced because of a Bonds Default and no subsequent lease termination or Bankruptcy Rejection Date occurred during the Foreclosure Period, (ii) 3% if the Foreclosure Period commenced because of a termination of the Port Authority Lease or a Bankruptcy Rejection Date, and no Bonds Default subsequently occurred, or (iii) 4% if the Foreclosure Period commenced because of a Bonds Default and a termination of the Port Authority Lease or Bankruptcy Rejection Date subsequently occurred, or if the Foreclosure Period commenced because of a termination of the Port Authority Lease or Bankruptcy Rejection Date and a Bonds Default subsequently occurred.

Port Authority Right to Terminate Leasehold Mortgage. The Leasehold Mortgagee may not foreclose the Leasehold Mortgage or have the Company's interest assigned in lieu of such foreclosure unless at least 30 days prior to commencing such foreclosure or requesting such assignment in lieu of foreclosure the Leasehold Mortgagee has given the Port Authority written notice of its intention to foreclose or to have the Port Authority Lease assigned with respect to the Premises. Such notice is to state the principal amount of the Bonds then outstanding, the amount of accrued and unpaid interest thereon, and the per diem interest that will accrue on the principal amount of the Bonds then outstanding from and after the giving of such notice. The Port Authority has the right, following the giving of such notice by the Leasehold Mortgagee, to terminate the Leasehold Mortgage and thus prevent foreclosure of the Leasehold Mortgage by paying to the Trustee an amount equal to the principal amount of the Bonds outstanding, including per diem interest to the date of purchase.

Insurance

The Company has agreed to keep insured, to the replacement value thereof, all buildings, structures, improvements, installments, facilities and fixtures now or in the future located on the Premises against all risks of physical loss or damage (including flood and earthquake risks), to the extent set forth in the Port Authority Lease.

Damage to or Destruction of the Premises

If all, or any part of, the Premises is damaged by fire, the elements, the public enemy or other casualty, the Company has agreed to promptly remove all debris resulting from such damage from the Premises, and to the extent, if any, that the removal of debris under such circumstances is covered by insurance, such insurance proceeds will be made available to the Company and the Company will use such proceeds for such purpose.

If all, or any part of, the Premises is damaged by fire, the elements, the public enemy or other casualty, but not rendered untenantable or unusable for a period of 90 days, the Company has agreed to repair the Premises with due diligence in accordance with the plans and specifications for the Premises as they existed prior to such damage by and at the expense of the Company and if such damage is covered by insurance the proceeds of such insurance will be made available to and be used by the Company for such repair.

If all, or any part of, the Premises is destroyed or so damaged by fire, the elements, the public enemy or other casualty as to be untenantable or unusable for a period of 90 days, or if within 90 days after such damage or destruction the Company notifies the Port Authority in writing that in its opinion said Premises will be untenantable or unusable for a period of 90 days, then the Company shall proceed with due diligence to make the necessary repairs or replacements to restore such Premises in accordance with the plans and specifications for the Premises as the same existed prior to such damage or destruction; or, with the approval of the Port Authority, make such other repairs, replacements or changes as may be desired by the Company. If such destruction or damage was covered by insurance, the proceeds of such insurance shall be made available to and used by the Company for such restoration.

The obligation of the Company to repair or replace shall be limited to the amount of the insurance proceeds, *provided* the Company has carried insurance to the extent and in accordance with the Port Authority Lease. Any excess of the proceeds of insurance over the costs of the restoration shall be retained by the Port Authority.

Indemnity and Liability Insurance

The Company has agreed to indemnify and hold harmless the Port Authority, its commissioners, officers, employees and representatives from and against all claims and demands of third persons (including reimbursement of the Port Authority's costs and expenses, including legal expenses) including, but not limited to, claims and demands for death or personal injuries, or for property damages, arising out of a breach or default of any term or provision of the Port Authority Lease, or out of the use or occupancy of the Premises by the Company or by others with its consent, or out of any other acts or omissions of the Company, its officers, employees, guests, representatives, customers, contractors, invitees or business visitors on the Premises, or arising out of the acts or omissions of the Company, its officers and employees elsewhere at the Airport (excepting only claims and demands arising from the sole negligence of the Port Authority), including claims and demands of the City from which the Port Authority derives its rights in the Airport, for indemnification, arising by operation of law or through agreement of the Port Authority with the City.

The Company has agreed to maintain commercial general liability insurance, including premises-operations, products, completed operations, liquor liability and covering bodily injury, including death, and property damage liability, broadened to include, or equivalent separate policies covering, aircraft liability; commercial automobile liability insurance covering owned, non-owned and hired vehicles; environmental impairment liability insurance covering both gradual and sudden and accidental occurrences; and other liability insurance coverage, all with minimum limits, endorsements, limits on exclusions and other requirements as set forth in the Port Authority Lease.

Condemnation

Upon the acquisition by condemnation or the exercise of the power of eminent domain by any entity having a superior power of eminent domain of a permanent interest in all or any part of the Premises or of a permanent interest in all or any part of the public landing area, the Port Authority has agreed to purchase from the Company, and the Company has agreed to sell to the Port Authority, the Company's leasehold interest (excluding personal property) in the Premises, except that in the event of such an acquisition of less than all of the Premises, the Port Authority has agreed to purchase and the Company will be required to sell only so much of the Company's leasehold interest in the Premises as so acquired. The consideration to be paid by the Port Authority to the Company will be an amount equal to the unamortized redevelopment investment, if any, of the Company in the Premises or, in the event of an acquisition of a portion of the Premises, an amount equal to the unamortized redevelopment investment, if any, of the Company in the acquired Premises.

Remedies

The Company's obligations under the Port Authority Lease will survive a termination, cancellation or re-entry by the Port Authority and will remain in full force and effect for the full term of, or the letting under, the Port Authority Lease and the amount of damages or deficiency owed by the Company to the Port Authority shall be due and payable to the Port Authority to the same extent, at the same time and in the same manner as if no termination, cancellation, or re-entry had occurred. The Port Authority may maintain separate actions each month to recover the damage or deficiency then due or, at its option and at any time, may sue to recover the full deficiency less the proper discount, for the entire unexpired term.

The Port Authority, upon termination, cancellation or re-entry, may occupy the Premises or may relet the Premises, and has the right to permit any persons, firm or corporation to enter and use the Premises. Such reletting may be of only a part of the Premises or a part of the Premises together with other space, and for a period of time the same as or different from the balance of the term remaining under the Port Authority Lease and on terms and conditions the same as or different from those set forth in the Port Authority Lease. The Port Authority, upon termination, cancellation or re-entry, has the right to repair or to make structural or other changes in the Premises, including changes which alter the character of the Premises and the suitability of the Premises for the Company's purposes under the Port Authority Lease, without affecting, altering or diminishing the obligations of the Company under the Port Authority Lease.

APPENDIX G

SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY CONSENT AND THE LEASEHOLD MORTGAGE

The following is a brief summary of certain provisions of each of the Port Authority Consent and the Leasehold Mortgage and does not purport to be comprehensive or complete. Reference is made to the Port Authority Consent and the Leasehold Mortgage for the complete provisions.

Summary of Certain Provisions of the Port Authority Consent

In connection with the issuance of the Bonds by the Agency for the financing of the Redevelopment Work, the Company has requested the consent of the Port Authority to the Company Sublease, the IDA Lease Agreement and the Leasehold Mortgage. The Port Authority has agreed to give such consent under, and in accordance with the terms and provisions of, the Port Authority Consent.

General. The Port Authority Consent provides that:

(a) except as otherwise expressly set forth therein and described in paragraph (b) below, the fact that certain provisions of the Port Authority Consent, the Company Sublease, the IDA Lease Agreement and/or the Leasehold Mortgage refer to and/or incorporate the Port Authority Lease and/or provisions thereof will not limit or be deemed to have limited or in any way affected the rights and ability of the Company and the Port Authority to amend, supplement, delete or otherwise change the terms and provisions of the Port Authority Lease, including without limitation any provisions of the Port Authority Lease referred to or incorporated in the Company Sublease and the IDA Lease Agreement, and the Company and the Port Authority will be as free to amend, supplement, delete or otherwise change the terms and provisions of the Port Authority Lease or any of them as if the Port Authority Consent, the Company Sublease, the IDA Lease Agreement, the Indenture, the Leasehold Mortgage, the Guaranties, the Agreement Towards Entering Into a Lease, the New City/American Lease, the City Attornment Agreement and resolutions of the Agency authorizing the issuance of the Bonds had never been entered into and the Bonds had never been issued;

(b) until the Leasehold Mortgage is terminated as provided in the Port Authority Consent and described below in this Appendix G under "—Summary of Certain Provisions of the Port Authority Consent—*Termination of the Port Authority Consent With Respect to Leasehold Mortgage*":

(i) no amendment may be made to Section 92 without the prior written consent of the Leasehold Mortgagee; and

(ii) no amendment which only affects a Qualifying Replacement Tenant, without affecting the Company, may be made to the Port Authority Lease without the prior written consent of the Leasehold Mortgagee;

(c) except as otherwise expressly set forth in Section 92, neither the Port Authority Consent nor anything contained therein nor the Company Sublease, the IDA Lease Agreement, the Indenture, the Leasehold Mortgage, the Guaranties, the Agreement Towards Entering Into a Lease, the New City/American Lease, the City Attornment Agreement or any resolutions of the Agency authorizing the issuance of the Bonds nor anything contained therein will limit or affect or be deemed to have limited or affected the right of the Port Authority to terminate the Port Authority Lease;

(d) neither the Port Authority Consent nor anything contained therein nor the issuance of the Bonds will be or be deemed to be a waiver by or consent of the Port Authority to any breach or default of the Port Authority Lease; and

(e) neither the Port Authority Consent nor anything contained therein, nor the Company Sublease, the IDA Lease Agreement, the Indenture, the Leasehold Mortgage, the Guaranties, the Agreement Towards Entering Into a Lease, the New City/American Lease, the City Attornment Agreement or any resolutions of the Agency authorizing the issuance of the Bonds, nor the issuance of the Bonds (including the issuance of Bonds with a maturity extending beyond the expiration date of the Port Authority Lease), nor the completion of, nor failure to complete, the Redevelopment Work or any portion thereof, nor the expenditure of monies or Bond proceeds thereon, will grant or be deemed to have granted any rights whatsoever in the Company or any of the parties related to the Bond financing to an extension or renewal of the Port Authority Lease beyond the expiration date of the Port Authority Lease or such further expiration date as the Port Authority and the Company may agree upon, or (except as provided in the Agreement Towards Entering Into a Lease, the New City/American Lease or the City Attornment Agreement) to lease, use or occupy the Premises or any part thereof after the expiration or earlier termination or surrender of the Port Authority Lease, or to be reimbursed by the Port Authority for the Company's cost of completing the Redevelopment Work or any portion thereof.

No Extension of Basic Lease. The Port Authority Consent also provides that it does not obligate the Port Authority to extend the Basic Lease.

Covenants With Respect to the Leasehold Mortgage. Each of the Company, the Trustee, each Bondholder, AMR and the Agency agrees that the Leasehold Mortgage will not be enforceable prior to the Reletting Rights Effective Date and that it will not attempt to deliver, file, record or enforce the Leasehold Mortgage prior to the Reletting Rights Effective Date. Such parties also agree that only the Trustee has the right to record the Leasehold Mortgage after the Reletting Rights Effective Date and that any Wrongful Recording of the Leasehold Mortgage will constitute a material breach of the Port Authority Lease by the Company and an event of default under the Port Authority Lease permitting the Port Authority to terminate the Port Authority Lease in accordance with the provisions thereof, in addition to and without limiting

any other rights or remedies the Port Authority may have, legal, equitable or otherwise, under the Port Authority Lease, the Port Authority Consent or otherwise; and any such Wrongful Recording of the Leasehold Mortgage will not constitute the Trustee as the Leasehold Mortgagee nor entitle the Trustee to any of the Reletting Rights or any other rights thereunder or any other rights against the Port Authority Lease or the Premises.

Termination of the Port Authority Consent With Respect to Subleases. The Port Authority Consent provides that the consent granted thereunder as to the Company Sublease and the IDA Lease Agreement will automatically terminate and end, without notice to the Company or any of the Trustee, the Agency, AMR or any Bondholder, upon the earliest to occur of the following:

(a) the expiration, surrender or termination of the Basic Lease;

(b) the expiration, surrender or termination of the Port Authority Lease;

(c) the expiration or earlier termination of the Company Sublease;

(d) the expiration or earlier termination of the IDA Lease Agreement, as amended;

(e) the date on which no Bonds are Outstanding; or

(f) the date which is the earlier to occur of (i) the day immediately preceding the 30th anniversary of the Redevelopment Work Completion Date or (ii) December 21, 2036.

Termination of the Port Authority Consent With Respect to Leasehold Mortgage. The Port Authority Consent provides that the consent granted thereunder as to the Leasehold Mortgage and the Reletting Rights associated therewith will become null and void, and the consent granted thereunder as to the Leasehold Mortgage will automatically terminate and end, without notice to the Company or any of the Trustee, the Agency, AMR or any Bondholder, upon the earliest to occur of the following:

(a) the expiration, surrender or termination of the Basic Lease, except that the Leasehold Mortgage and the Reletting Rights (but only if the Leasehold Mortgage has not terminated pursuant to any of the provisions of the Port Authority Consent described in the immediately succeeding paragraphs (b) through (i) of this subheading, or for any other reason), will not terminate solely by reason of the termination of the Basic Lease if the City Attornment Agreement is effective upon termination of the Basic Lease, to the extent and for the period, if any, that the City, or its successor in interest, including, without limitation, any tenant under a lease for the Airport into which the City enters, but in any event excluding the Port Authority, its affiliates and their respective successors in interest (the *"Fee Owner"*), pursuant to the terms of the City Attornment Agreement, recognizes the Leasehold Mortgage and the Reletting Rights;

(b) the expiration, surrender or termination of the Port Authority Lease, except that the Leasehold Mortgage and the Reletting Rights (but only if the Leasehold Mortgage has not terminated pursuant to any of the provisions of the Port Authority Consent described in the immediately preceding paragraph (a) of this subheading or in the immediately succeeding paragraphs (c) through (i) of this subheading) (i) will not terminate solely by reason of the termination of the Basic Lease if the City Attornment Agreement is effective upon termination of the Basic Lease, to the extent and for the period, if any, that the Fee Owner, pursuant to the terms of the City Attornment Agreement, recognizes the Leasehold Mortgage and Reletting Rights and (ii) will not terminate solely due to a deemed termination of the Port Authority Lease solely due to the occurrence of a Triggering Event;

(c) the termination, expiration or surrender (including without limitation discharge or release) of both of (i) the Company Guaranty (except that if payment obligations of the Company (including its permitted successors as the guarantor thereunder provided each such permitted successor is then the lessee under the Port Authority Lease), thereunder with respect to the payment of principal, interest, purchase price or premium on the Bonds remain outstanding and unpaid, then upon the date when there are no such payment obligations remaining outstanding and unpaid); and (ii) the AMR Guaranty (except that if payment obligations of AMR (including its permitted successors as the guarantor thereunder) thereunder with respect to the payment of principal, interest, purchase price or premium on the Bonds remain outstanding and unpaid, then upon the date when there are no such obligations remaining outstanding and unpaid);

(d) the date on which no Bonds are Outstanding;

(e) the expiration of the Reletting Election Period without the timely and effective exercise by the Leasehold Mortgagee of its election to exercise its Reletting Rights by service of its Reletting Election Notice on the Port Authority in accordance with the terms set forth in Section 92;

(f) the date of any written notice given by the Leasehold Mortgagee stating its election not to exercise its Reletting Rights under the Leasehold Mortgage;

(g) the effective date of the letting, pursuant to Section 92, of the Premises (whether for the full term of the Port Authority Lease or otherwise) to a Qualifying Replacement Tenant, whether resulting from a foreclosure of the Leasehold Mortgage, the exercise by the Leasehold Mortgagee of its Reletting Rights, an assignment in lieu of foreclosure or otherwise without the occurrence of the Lease Assignment/Assumption Commencement Date;

(h) the Lease Assignment/Assumption Commencement Date; and

(i) the expiration or earlier termination or cancellation of the Foreclosure Period.

Defaults. The Port Authority Consent provides that any breach or default of any of the terms and conditions of the Port Authority Consent by the Company constitutes a material breach of the Port Authority Lease and permits the Port Authority to terminate the Port Authority Lease in accordance with its terms, unless the Company has cured such breach or default within 30 days after receipt of notice of default thereunder from the Port Authority (except where fulfillment of its obligations requires activity over a period of time, and the Company has commenced to perform whatever may be required for fulfillment within 30 days after receipt of notice and continues such performance without interruption except for causes beyond its control).

Summary of Certain Provisions of the Leasehold Mortgage

Subject to Port Authority Lease and Consent. The Leasehold Mortgage is given in accordance with, and pursuant to, subject to, controlled by and dependent upon, the Port Authority Lease, including without limitation Section 92 and the Port Authority Consent.

Mortgaged Property. Upon the satisfaction of the Reletting Rights Effective Date Conditions, the Company will execute, deliver and record the Leasehold Mortgage, creating a lien on the Company's interest in the Mortgaged Property. The *"Mortgaged Property"* consists of (a) the leasehold estate held by the Company in real and personal property under, and created by, the Port Authority Lease (including all holdover, month-to-month and statutory tenancies arising out of the Port Authority Lease), (b) all modifications, extensions and renewals of the Port Authority Lease and (c) all casualty and condemnation compensation or insurance payments to which the Company may become entitled and which are not required to be used for the rebuilding of the Premises or to be paid to or retained by the landlord under the Port Authority Lease or the City.

Leasehold Mortgage Default. The term *"Leasehold Mortgage Default"* has the meaning set forth herein under "SECURITY FOR THE BONDS—Leasehold Mortgage and Reletting—*Foreclosure of Leasehold Mortgage.*"

Remedies and Rights. At any time while a Leasehold Mortgage Default remains uncured, at the option of the Leasehold Mortgagee, to be exercised in accordance with the applicable provisions of the Indenture and Section 92, the Leasehold Mortgagee may pursue the following remedies:

(i) *Foreclosure.* The Leasehold Mortgagee may institute any one or more actions of mortgage foreclosure against the Mortgaged Property, or take such other action at law or in equity for the enforcement of the Leasehold Mortgage and realization on the security therein or elsewhere provided for, as the law may allow, and may proceed therein to final judgment and execution for payment of the obligations due under the Company Guaranty and the AMR Guaranty which are secured by the Leasehold Mortgage (the *"Secured Obligations"*), together with interest from the date of default at the rate then in effect under the Indenture, and all costs of suit and attorneys' fees and expenses. The Company, for itself and anyone claiming by, through or under it, agrees that the Leasehold Mortgagee shall in no manner, in law or in equity, be limited, except

as therein provided and as provided in Section 92, in the exercise of its rights in the Mortgaged Property or in any other security thereunder or otherwise appertaining to the Secured Obligations, whether by any statute, rule or precedent which may otherwise require said security to be marshaled in any manner, and the Company, to the extent permitted by law, for itself and others as described above, expressly waives and releases any right to or benefit thereof. The failure to make any tenant or subtenant a defendant to a foreclosure proceeding shall not be asserted by the Company as a defense in any proceeding instituted by the Leasehold Mortgagee to collect the Secured Obligations or any deficiency remaining unpaid after the foreclosure sale of the Mortgaged Property.

(ii) *Excess Monies.* Subject to, controlled by, and dependent upon Section 92, and the Port Authority Consent, the Leasehold Mortgagee may apply on account of the Secured Obligations any unexpended monies still retained by the Leasehold Mortgagee that were paid by the Company to the Leasehold Mortgagee or the Trustee in accordance with the Indenture (A) for the payment of, or as security for the payment of, taxes, assessments or other governmental charges, insurance premiums or any other charges or (B) to secure the performance of some act by the Company.

(iii) *Remedies Under Section 92.* Subject to, controlled by and dependent upon Section 92 and the Port Authority Consent, the Leasehold Mortgagee may pursue any remedies set forth in Section 92, including its right to relet the Premises, in accordance with and subject to Section 92.

(iv) *Other Remedies.* Subject to, controlled by and dependent upon Section 92 and the Port Authority Consent, the Leasehold Mortgagee shall have the right, from time to time, to bring an appropriate action to recover any sums required to be paid by the Company and/or AMR under the terms of the Company Guaranty and/or the AMR Guaranty, as they become due, without regard to whether or not any other liabilities shall be due, and without prejudice to the right of the Leasehold Mortgagee thereafter to bring an action of mortgage foreclosure, or any other action, for any default by the Company existing at the time the earlier action was commenced.

Performance of Obligations. The Company will perform all of its obligations under the Port Authority Lease (including without limitation its obligations under Section 92) and the Port Authority Consent and the IDA Lease Agreement notwithstanding the existence of the Leasehold Mortgage. The Company shall neither modify, amend, supplement or extend Section 92 of the Port Authority Lease, nor enter into any amendment of the Port Authority Lease which shall only affect a Qualifying Replacement Tenant without affecting the originally named Company, without the prior consent of the Leasehold Mortgagee in each case. The Company shall not enter into any termination agreement with respect to the Port Authority Lease, surrender the leasehold estate created by the Port Authority Lease nor abandon the Premises.

Release of Part of Mortgaged Property. If the Leasehold Mortgagee and the Port Authority wish to eliminate certain portions of the Premises from the Port Authority Lease, such property may be released from the Leasehold Mortgage in accordance with the provisions of the Leasehold Mortgage described in the two immediately succeeding paragraphs.

A *"Minor Release"* is a release of part of the Premises with respect to which, together with the parts of the Premises previously released, the Company certifies will not have a material adverse effect on the use of the remaining Premises as a passenger terminal facility comparable to the passenger terminal facility on the Premises immediately prior to such release. A Minor Release will be permitted only if (a) the Company has provided the Leasehold Mortgagee and the Agency with a certificate stating that such release meets the conditions described in the immediately preceding sentence and clauses (b) and (c) of this paragraph, (b) at the time of such Minor Release there exists no uncured Leasehold Mortgage Default or event which, with the passage of time or the giving of notice or both, would constitute a Leasehold Mortgage Default, (c) simultaneously with such release, the parcel which is the subject of such Minor Release shall be eliminated from the Port Authority Lease and (d) the Company shall have delivered to the Leasehold Mortgagee a Favorable Opinion of Bond Counsel.

A *"Major Release"* (any proposed release that is not a Minor Release) will be permitted only if the Company shall cause the conditions applicable to a Minor Release to be satisfied (other than the delivery of certification described in the first sentence of the immediately preceding paragraph), and shall pay to the Leasehold Mortgagee a release price equal to the amount that bears the same ratio to the then outstanding principal amount of the Bonds secured by the Leasehold Mortgage as the Allocable Revenues bear to the Total Revenues (each as defined below in this paragraph). The Company shall provide to the Leasehold Mortgagee an appraisal, engineering or similar consultant's report prepared by an independent nationally recognized airport engineering, traffic or consulting firm selected by the Company which shall specify the portion of the total annual revenues (the *"Total Revenues"*) attributable to the Premises which are reasonably estimated to be allocable to the proposed released property (the *"Allocable Revenues"*). In preparing such report, such consultant may look at historic or projected revenue amounts, or both, in its professional judgment.

Subordination; Creation of Liens and Indebtedness; Sale of Mortgaged Property. The lien of the Leasehold Mortgage is subordinate to the fee estate held by the City in the Premises and to the leasehold estate held by the Port Authority pursuant to the Basic Lease. Subject to, controlled by and dependent upon the Port Authority Lease and the Port Authority Consent, the Company shall not (x) create or suffer to be created any lien or charge upon or pledge of the Mortgaged Property or any part thereof except the lien, charge and pledge created by the Leasehold Mortgage and Permitted Encumbrances, (y) incur any indebtedness or issue any evidences of indebtedness, other than the Company Guaranty, secured by a lien on or pledge of the Mortgaged Property or (z) sell, convey, transfer, lease, mortgage or encumber the Premises or any part thereof except as specifically permitted under the Port Authority Lease, the Port Authority Consent, the IDA Lease Agreement, the Indenture and the Leasehold Mortgage, so long as the Leasehold Mortgage is in effect.

Defense of Leasehold Estate. The Company shall defend the leasehold estate of the Company in and to the Mortgaged Property and every part thereof for the benefit of the Holders of the Bonds, and the Company agrees to warrant and defend such leasehold estate against the claims and demands of all persons.

Term. Notwithstanding anything to the contrary contained in the Leasehold Mortgage, the Leasehold Mortgage shall terminate no later than 11:59 p.m. on December 31, 2015 unless (a) it has previously been terminated or (b) the Port Authority Lease is extended in accordance with its terms, in which event the Leasehold Mortgage shall continue in effect until 11:59 p.m. on the new current expiration date of the Port Authority Lease.

No City Approval. The Company and the Leasehold Mortgagee acknowledge and agree that the form of the Leasehold Mortgage has not been approved or consented to by the City.

APPENDIX H

SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT TOWARDS ENTERING INTO A LEASE AND THE CITY ATTORNMENT AGREEMENT

The following is a brief summary of certain provisions of each of the Agreement Towards Entering Into a Lease and the City Attornment Agreement and does not purport to be comprehensive or complete. Reference is made to the Agreement Towards Entering Into a Lease and the City Attornment Agreement for the complete provisions.

Summary of Certain Provisions of the Agreement Towards Entering Into a Lease

General. The Agreement Towards Entering Into a Lease obligates the City, upon satisfaction of the conditions precedent specified therein and described in the next succeeding paragraph (i) to deliver, or cause to be delivered, to the Company on or before October 31, 2013 (subject to extension as provided therein, as it may be so extended, the *"Draft Delivery Date"*), a draft of a new lease or sublease for the Premises, and (ii) to negotiate or cause its designee to negotiate, in good faith, and to execute and deliver on or before December 31, 2014 (subject to extension as provided therein) a new lease or sublease of the Premises (which new lease or sublease is referred to in this Official Statement as the *"New City/American Lease"*).

Conditions Precedent. The obligation of the City to enter into the New City/American Lease is contingent upon the satisfaction of the following conditions precedent:

(a) No extension or renewal of the Basic Lease nor the entering into by the City and the Port Authority (directly or through one or more entities or affiliates) of a new lease of the Airport, whereby the term of the letting of the Airport to the Port Authority continues without interruption and is extended to a date subsequent to December 31, 2015 (such extended, renewed or new lease being herein referred to as the *"Extended Basic Lease"*), can have occurred, the stated expiration date of which is on or after the earlier to occur of (i) the day immediately preceding the 30th anniversary of the Redevelopment Work Completion Date and (ii) December 21, 2036 (such earlier date being herein referred to as the *"Maximum Port Authority Lease Expiration Date"*); or if an Extended Basic Lease shall have been entered into with a shorter stated expiration date, the Port Authority Lease shall have been extended to a date which is one day before such shorter stated expiration date of the Extended Basic Lease;

(b) The City cannot have transferred fee title and ownership of the Airport to the Port Authority or any affiliate thereof;

(c) All applicable governmental approvals for the New City/American Lease must have been granted;

(d) The Port Authority Lease cannot have terminated prior to the stated expiration date thereof (as it may have been extended) and the Company is in possession of the Premises as tenant under the Port Authority Lease; *provided, however,* that the Port

Authority Lease will not be deemed terminated solely because of a termination of the Basic Lease if the Fee Owner has recognized the Company as its direct tenant and the Company has attorned to the Fee Owner as its direct landlord pursuant to the City Attornment Agreement;

(e) No default or event which would permit termination of the Port Authority Lease or the exercise by the landlord of any dispossess remedy at law or equity or the commencement of the exercise of any Reletting Rights on notice or otherwise and no event of default and no Triggering Event (individually, a *"Port Authority Lease Event of Default"* and, collectively,, *"Port Authority Lease Events of Default"*) can have occurred which has not been remedied (*provided* that no waiver of the underlying circumstances thereof by the Port Authority will be effective without the City's consent);

(f) There cannot be outstanding any material default under the Port Authority Lease, or any event which, upon the giving of notice and/or the passage of time, would ripen into a Port Authority Lease Event of Default, nor can the Company have committed or permitted any act or omission which would have constituted a material default under the Port Authority Lease or a Port Authority Lease Event of Default had the Port Authority not waived such default, event or the underlying circumstance thereof without the City's written consent, which waiver may reasonably have a material adverse effect on the City, the Premises or the Airport at any time during the term of the New City/American Lease;

(g) No event of default can have occurred under the Indenture, the IDA Lease Agreement or any other document or instrument securing and/or evidencing the Bonds which has or could have resulted in an acceleration of any of the Bonds and which has not been remedied (other than an event of default caused solely by a wrongful failure of the Agency to perform any covenant, condition or agreement in the Indenture);

(h) The execution and delivery of the New City/American Lease, and the performance by the Company of its obligations thereunder, cannot constitute a breach of any covenant, representation or condition of the Port Authority Lease;

(i) The Project must have been completed, all of the Required Conditions must have been met and the Company must have invested at least (1) $283,000,000 by not later than December 21, 2003 and (2) $850,000,000 by not later than December 31, 2008 (through Bond proceeds or equity) in the Project (subject to *force majeure* delays in construction described in the Agreement Towards Entering Into a Lease, not to exceed four years in the aggregate);

(j) If improvements to the Premises have suffered major damage or destruction, such improvements must have been restored or the Company must be proceeding with due diligence to such restoration to the reasonable satisfaction of the City, *provided* that completion of the restoration at the Company's expense and to the reasonable satisfaction of the City must be a requirement and covenant of the Company in the New City/American Lease;

(k) No representation or warranty under the Agreement Towards Entering Into a Lease can have been false or incomplete in any material respect when made, nor can any event of default under the Agreement Towards Entering Into a Lease have occurred which remains uncured after the applicable cure period; and

(l) No Change in Control with respect to the Company can have occurred without the City's prior written consent. For purposes of the Agreement Towards Entering Into a Lease, "*Change in Control*" has the same meaning as in the Port Authority Lease except that wherever "20%" is used in the definition of Change in Control in the Port Authority Lease, it will be deemed to be "10%" for purposes of the Agreement Towards Entering Into a Lease.

Possession. The City will not be liable to the Company if the City is unable to deliver possession of the Premises or perform its obligations under the New City/American Lease because the Port Authority continues to use or occupy the Premises, or refuses to vacate or surrender the Airport, or any portion thereof, after the stated expiration of the Basic Lease.

Obligation to Pay Rent. The Company is obligated to pay all rent and impositions under the New City/American Lease notwithstanding any failure by the City to give possession of the Premises to the Company or to perform its obligations under the New City/American Lease if the City is unable to do so because the Port Authority continues to use, occupy or possess the Premises, or otherwise continues to use, possess or occupy or refuses to surrender or vacate the Airport, or any portion thereof, after the stated expiration or earlier termination of the Basic Lease.

Events of Default. The following constitute events of default under the Agreement Towards Entering Into a Lease:

(a) the Company's failure to observe or perform any of the terms, conditions, covenants or agreements of the Agreement Towards Entering Into a Lease or the City Attornment Agreement, and such failure continues for 30 days after receipt of written notice from the City, or if such failure cannot be remedied within 30 days, the Company's failure to proceed diligently to cure such failure;

(b) any material representation or warranty made by the Company therein is incomplete or incorrect in any material respect as of the time made or, with respect to continuing representations or warranties, as of the time to which it speaks;

(c) to the extent permitted by law, if the Company makes an assignment for the benefit of creditors;

(d) to the extent permitted by law, pursuant to the Bankruptcy Code, the Company files a voluntary petition, a petition is filed against the Company and an order for relief is entered, or the Company files a petition or an answer seeking, consenting to, or acquiescing in, any reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief under the present or any future federal

bankruptcy code or any other present or future applicable federal, state or other bankruptcy or insolvency statute or law, or seeks, or consents to, or acquiesces in, or suffers the appointment of, any trustee, receiver, custodian, assignee, sequestrator, liquidator or other similar official of the Company, or of all or any substantial part of its properties, or of the Premises or any interest of the Company therein, or the Company takes any membership, partnership or corporate action in furtherance of any action described in subparagraphs (c), (d), (e) or (h) of this paragraph;

(e) to the extent permitted by law, if within 60 days after the commencement of a proceeding against the Company seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief under the present or any future federal bankruptcy code or any other present or future applicable federal, state or other bankruptcy or insolvency statute or law, such proceeding has not been dismissed, or if, within 120 days after the appointment, without the consent or acquiescence of the Company, of any trustee, receiver, custodian, assignee, sequestrator, liquidator or other similar official of the Company, or of all or any substantial part of its properties, or of the Premises or any interest of the Company therein, such appointment is not vacated or stayed on appeal or otherwise, or if, within 120 days after the expiration of any such stay, such appointment is not vacated;

(f) if (i) the Port Authority Lease has been terminated prior to its stated expiration date (as it may have been extended), *provided, however,* that the Port Authority Lease will be deemed not to have been terminated solely because of a termination of the Basic Lease if the Fee Owner recognizes the Company as its direct tenant and the Company has attorned to the Fee Owner as its direct landlord pursuant to the City Attornment Agreement; (ii) a Port Authority Lease Event of Default has occurred which has not been remedied, *provided* that no waiver of the underlying circumstances thereof without the City's consent will be effective; (iii) there is outstanding a material default under the Port Authority Lease, or any other event, which upon the giving of notice and/or the passage of time could ripen into a Port Authority Lease Event of Default, *provided, however,* that the Company will have the right to cure such default or event under any applicable cure period, *provided* that no such cure period can extend beyond the Draft Delivery Date; or (iv) the Company commits or permits any act or omission which would constitute a material default under the Port Authority Lease or a Port Authority Lease Event of Default had the Port Authority not waived the same or the underlying circumstances thereof without the City's consent, which waiver may reasonably have a material adverse effect on the City, the Premises or the Airport at any time during the term of the New City/American Lease and which default or event is not, after notice from the City, remedied within the applicable time period permitted to cure such default or event under the Port Authority Lease, *provided, however,* that no such cure period can extend beyond the Draft Delivery Date;

(g) if an event of default occurs under the Indenture, the IDA Lease Agreement or any other document or instrument securing and/or evidencing any of the Bonds and has not been cured, remedied or waived;

(h) to the extent permitted by law, if the Company admits, in writing, that it is unable to pay its debts as such debts become due;

(i) if (i) a levy under execution or attachment is made against the Premises or any part thereof, the income directly attributable thereto, the Agreement Towards Entering Into a Lease or the rights created thereby and such execution or attachment is not vacated or removed by court order, bonding or otherwise within a period of 120 days from the Company's receipt of notice thereof; or (ii) a levy under execution or attachment in an amount equal to or greater than $250,000,000 is made against the Company or any of its properties (other than the Premises or any part thereof, the income therefrom or the rights created thereby) and such execution or attachment is not vacated, discharged, dismissed or removed by court order, bonding or otherwise within a period of 120 days from the Company's receipt of notice thereof;

(j) if (i) certain principals or officers of the Company fail to submit to or cooperate with any investigation or update as required by the Agreement Towards Entering Into a Lease, or (ii) the City determines pursuant to any such investigation or update that such principal or officer is a Prohibited Person, or (iii) any 10% or greater shareholder of the Company is an airline company, or is wholly or substantially owned directly or indirectly by one or more airline companies, that is not permitted to operate as such in the United States;

(k) if the Company fails to have invested, or fails to have caused to have been invested, at least (i) $283,000,000 by not later than December 21, 2003; and (ii) $850,000,000 by not later than December 31, 2008 (through Bond proceeds or equity) in the Project (subject to delays in construction caused by *force majeure*, which may not exceed four years in the aggregate);

(l) if the Company fails to complete the construction of the Project within the time provided in the Port Authority Lease; or

(m) if the Port Authority exercises its rights to terminate the Leasehold Mortgage by tendering payment to the Leasehold Mortgagee of the total amount (including principal and interest to the date of payment) of the Bonds then outstanding.

Remedies; Termination by the City. If an event of default occurs under the Agreement Towards Entering Into a Lease, the City, in addition to any other remedy available to it, may elect to proceed by appropriate judicial proceedings, either at law or in equity, to enforce performance or observance by the Company of the applicable provisions of the Agreement Towards Entering Into a Lease for breach thereof. If (i) subject to the rights of the Trustee as Leasehold Mortgagee pursuant to the Agreement Towards Entering Into a Lease with respect to an event of default thereunder occurring and continuing during the Mortgagee Rights Period (as hereinafter defined), an event of default occurs thereunder, or (ii) a Nonapproved Successor Lessee Event (as hereinafter defined) has occurred, or (iii) the City and the Company have entered into the New City/American Lease by December 31, 2014 (or such later date to which such date may be extended pursuant to the Agreement Towards Entering Into a Lease), or

(iv) the City and the Company have failed to enter into a New City/American Lease, then the City may, at its option, terminate the Agreement Towards Entering Into a Lease upon written notice to the Company, and the Agreement Towards Entering Into a Lease will expire and terminate upon delivery of such notice to the Company. If (a) an Extended Basic Lease has been entered into, the stated expiration date of which is on or after the Maximum Port Authority Lease Expiration Date, or (b) the City has transferred fee title and ownership of the Airport, including the Premises, to the Port Authority, or (c) by December 31, 2014 (or such later date to which such date may be extended pursuant to the Agreement Towards Entering Into a Lease), the New City/American Lease has not been fully executed and delivered as provided therein, then the Agreement Towards Entering Into a Lease will automatically expire and terminate without further notice.

A *"Nonapproved Successor Lessee Event"* means an event pursuant to which, without the prior written consent of the City (such consent, during the Mortgagee Rights Period, as hereinafter defined, not to be arbitrarily or capriciously withheld), any person, firm or entity becomes or has the right to become a Qualifying Replacement Tenant or otherwise has the right to become the owner of or acquire any interest in all or any portion of the Company's interest in the Port Authority Lease or the leasehold estate created thereby pursuant to a judgment of foreclosure and sale or as a result of an assignment in lieu of foreclosure or as a result of the exercise by the mortgagee of any reletting or surrender rights or otherwise or as the result of the purchase of a mortgage. *"Mortgagee Rights Period"* means the period of time between the Reletting Rights Effective Date, if any, and the first to occur of (i) the date of the redemption, cancellation, defeasance, discharge or payment of the Bonds, the repayment, or guarantee of repayment, of which has been secured by the Leasehold Mortgage, (ii) the date of termination, cancellation, extinguishment, ending, discharge or release of the lien or the instrument creating the lien (*e.g.* the Leasehold Mortgage), (iii) the termination, expiration or ending of the Reletting Rights, (iv) the date of termination or expiration of the Port Authority Lease (unless, with respect to a termination described in this clause (iv) such termination is solely the result of the termination of the Port Authority Lease, and the Fee Owner has recognized the Port Authority Lease pursuant to the City Attornment Agreement and the rights of the Company thereunder, including its right to mortgage its leasehold to secure repayment, or the guarantee of repayment, of the Bonds), and (v) the date of commencement of the New City/American Lease.

Upon any expiration or termination of the Agreement Towards Entering Into a Lease (whether on account of any reason permitted or enumerated by the Agreement Towards Entering Into a Lease) or by operation of law or equity, all rights of the Company, of any Leasehold Mortgagee, and of any person, firm or entity claiming by, through or under the Company or any Leasehold Mortgagee (including, without limitation, any City Approved Successor Lessee, as hereinafter defined), and all obligations of and restrictions on the City thereunder or by reason thereof, will terminate, except such as survive by their express terms and the City will have the right to dispose, convey, lease, assign or transfer the Premises or enter into any agreement to do so without any restriction or limitation on or liability to the City whatsoever (subject to the provisions of the New City/American Lease if the Agreement Towards Entering Into a Lease was terminated as described in clause (iii) of the second sentence of the second immediately preceding paragraph and subject to the provision described below in this Appendix G under "—Summary of Certain Provisions of the Agreement Towards Entering into a Lease—*Request*

for and Execution of New Agreement," if applicable upon a termination of the Agreement Towards Entering Into a Lease as described in clause (i) of the second sentence of the second immediately preceding paragraph).

A *"City Approved Successor Lessee"* means a Qualifying Replacement Tenant, who is not a Prohibited Person (or other person, firm or entity with whom or which the City will not then generally do business), approval of whom or which has been sought by the Leasehold Mortgagee at least 60 days prior to the appointment of such Qualifying Replacement Tenant, and written approval of whom or which has been given by the City and delivered to the Leasehold Mortgagee, it being understood and agreed that the City will not arbitrarily or capriciously withhold, or unreasonably delay (a period of less than 60 days after receipt of all reasonably relevant information being considered reasonable), its approval.

Leasehold Mortgagee's Termination Rights. The City and the Company agree that the Company will not be permitted to terminate the Agreement Towards Entering Into a Lease without the consent of the Trustee, as Leasehold Mortgagee, except for a termination by reason of failure of the City and/or the Company to negotiate, execute or deliver the New City/American Lease. The City will accept performance by the Trustee of any covenant, condition or agreement on the Company's part to be performed under the Agreement Towards Entering Into a Lease, except for the obligation to negotiate, execute and deliver the New City/American Lease, with the same force and effect as though performed by the Company, provided that such performance by the Trustee constitutes performance in full of such covenant, condition or agreement, with no allowances being made for the fact that the Trustee does not have possession of the Premises.

If, during the Mortgagee Rights Period, the Agreement Towards Entering Into a Lease is terminated solely by reason of an event of default thereunder (excluding a termination by reason of a failure of the City and/or the Company to negotiate, execute or deliver the New City/American Lease), the City will give prompt notice thereof to the Trustee as Leasehold Mortgagee. Such termination will not be effective until 30 days after delivery of such notice to the Trustee, and, if such event of default is capable of cure by the Trustee without possession of the Premises and the Trustee notifies the City in writing within such 30 day period of its intention to cure such event of default, then the Agreement Towards Entering Into a Lease will not terminate and the Trustee will then have 60 days to cure the event of default from the date it delivers such cure notice to the City. If the event of default is not cured within such 60 day period, the City may then terminate the Agreement Towards Entering Into a Lease with written notice to the Trustee and the Company.

Request for and Execution of New Agreement. If, within two years after the receipt of the City's notice to the Trustee as Leasehold Mortgagee as described in the immediately preceding paragraph that the Agreement Towards Entering Into a Lease has been terminated solely by reason of an event of default (other than by reason of the exception described in said paragraph), the Trustee requests the City to enter into a new agreement with a City Approved Successor Lessee (*provided* that during said two year period the Trustee has performed all of the Company's obligations under the Agreement Towards Entering Into a Lease and under Section 92 of the Port Authority Lease to the extent not performed by the Company), then,

within 60 days after the City has received such request, the City will execute and deliver a new agreement with the City Approved Successor Lessee. The new agreement will contain all of the covenants, conditions, limitations and agreements contained in the Agreement Towards Entering Into a Lease (including, without limitation, the obligation to enter into a new city attornment agreement) (with such reasonable modification thereof to reflect the fact that the new agreement and the new city attornment agreement are with a successor lessee as well as the fact that the Trustee as Leasehold Mortgagee no longer has any rights), *provided* that the City will not be deemed to have represented or covenanted that such new agreement or new city attornment agreement will be superior to claims of the Company, its other creditors or a receiver or trustee for the Company. In no event will the City be required to (A) enter into a new agreement or new city attornment agreement (i) after the date which is 90 days before the Draft Delivery Date or (ii) with any person, firm or entity which does not have possession of the Premises as tenant under the Port Authority Lease or (iii) if an event has occurred (other than the event giving rise to the termination of the original Agreement Towards Entering Into a Lease) which has or would permit (or would have permitted if the Agreement Towards Entering Into a Lease were still in effect) termination of the Agreement Towards Entering Into a Lease or such new agreement or new city attornment agreement or (iv) if the Mortgagee Rights Period has terminated or expired or (v) after a New City/American Lease has been entered into (even if the letting thereunder is not yet effective), or (B) enter into a new city attornment agreement after the Basic Lease has terminated.

The provisions described in the immediately preceding paragraph notwithstanding, the City will not be obligated to enter into a new agreement with a City Approved Successor Lessee unless the City Approved Successor Lessee (i) except in the case of an event of default described in subparagraph (b) (which is particular to the Company), subparagraphs (c) through (e), subparagraphs (g) through (j) and subparagraph (l) above in this Appendix H under "—*Events of Default*," promptly after receipt from the City of its statement of the default(s) required to be cured, cures all such default(s) (which are capable of being cured by someone other than the Company) then existing under the Agreement Towards Entering Into a Lease (as though the Agreement Towards Entering Into a Lease had not been terminated), or if such default is not capable of prompt cure, diligently prosecutes cure of such default, as applicable, and (ii) delivers to the City a statement, in writing, acknowledging that the City, by entering into such new agreement with such City Approved Successor Lessee will not have or be deemed to have waived any defaults or events of default then existing under the Agreement Towards Entering Into a Lease or existing immediately before termination of the Agreement Towards Entering Into a Lease (other than the defaults or events of default described in subparagraph (b) (which are particular to the Company), subparagraphs (c) through (e), subparagraphs (g) through (j) and subparagraph (l) above in this Appendix H under "—Summary of Certain Provisions of the Agreement Towards Entering Into a Lease—*Events of Default*," which the City will be deemed to have waived as against the City Approved Successor Lessee but as to which the City's recourse will be against the Company), notwithstanding that any such defaults or event of default existed prior to the execution of such new agreement and that the breached obligations which gave rise to the defaults or event of default are also obligations under such new agreement.

Indictment. If any grand jury files an indictment charging the Company or certain principals or officers of the Company with having committed an intentional felony in connection

with the Project, or any related matter, then the City is required to convene a hearing. Such hearing will be held not less than 45 days after written notice has been given to the indicted party and the Company to determine whether it is in the best interest of the City to require the indicted party to assign its interest in the Agreement Towards Entering Into a Lease or in the Company.

Any failure of the indicted party, following a conviction, to assign its interest in the Agreement Towards Entering Into a Lease or in the Company to an assignee reasonably satisfactory to the City will be deemed a default by the Company under the Agreement Towards Entering Into a Lease. As used in this paragraph, an "*assignee reasonably satisfactory to the City*" means any person or entity who is (x) the Leasehold Mortgagee or (y) neither (i) a Prohibited Person nor (ii) controlled by, controlling, or under common control with an indicted party and who is either (A) a person or entity (including an affiliate of the indicted party) who is financially capable of performing the indicted party's obligations as set forth under the Agreement Towards Entering Into a Lease or (B) a Person (other than an affiliate of the indicted party) who is acting in a fiduciary capacity as an independent trustee for the benefit of the indicted party for the purpose of actively managing the Agreement Towards Entering Into a Lease or the indicted party's interest in the Company, as the case may be.

Disposition of the Airport. The City may (i) transfer, sell, lease, assign, grant, dispose of or license any interest in, and/or make alternative arrangements for the operation and/or management of all or any portion of, the Airport, including the Premises; *provided, however,* that if the Agreement Towards Entering Into a Lease has not terminated, such transferee, vendee, lessee, assignee, grantee, licensee, manager or operator will take its interest subject to the Agreement Towards Entering Into a Lease for the period thereof, and (ii) assign or delegate to another person or entity succeeding to the rights or interests of the City with respect to the Premises, without recourse, all or any rights and obligations of the City under the Agreement Towards Entering Into a Lease, *provided* that if the Agreement Towards Entering Into a Lease has not terminated, such person or entity succeeding to the rights or interests of the City takes its interest subject to the Agreement Towards Entering Into a Lease.

Covenants of the Company. The Company has agreed to take the Premises in "as-is" condition and waives any claim against the City on account of any physical defect or defect in title to the Premises. The City makes no representations or warranties during the term of the Agreement Towards Entering Into a Lease, nor does it make any representations or warranties in or during the term of the New City/American Lease, as to the condition or state of title with respect to the Premises, including, without limitation, the existence or non-existence of any liens or encumbrances or conditions or defects in title. The Company expressly agrees that it will take its leasehold interest under the New City/American Lease subject to the then existing state of title.

The Company has agreed that the City has been out of possession and control of the Airport, inclusive of the Premises, and that the Port Authority has been in possession and control of the Airport, since the commencement of the Basic Lease, and that such possession and control by the Port Authority will continue until the surrender by the Port Authority of the Airport to the City. Further, the Company stipulates and agrees that the Company has been in possession and control of Terminal 8 on the Premises since April 11, 1956 and of Terminal 9 on the Premises

since December 1, 1989 and that such possession and control will continue throughout the term of the Port Authority Lease and throughout the term of the New City/American Lease.

The Company has agreed that the City makes no representation or warranty of the legality of the use of the Premises for the purposes contemplated in the Port Authority Lease or in the Agreement Towards Entering Into a Lease, or that all discretionary or non-discretionary public approvals necessary for the City to execute and deliver the New City/American Lease have been obtained or that all procedures requisite to such execution and delivery have been satisfied. The Company has agreed that the City has made no representation or warranty (i) as to which, if any, public approvals are requisite to the execution and delivery of the New City/American Lease, and (ii) that any necessary public approvals have been obtained or are obtainable for the execution and delivery of the New City/American Lease.

The Company has agreed to and with the City that it will invest, or cause to have been invested, at least (i) $283,000,000 by not later than December 21, 2003; and (ii) $850,000,000 by not later than December 31, 2008 (through Bond proceeds or equity) in the Project (subject to delays in construction caused by *force majeure*, which may not exceed four years in the aggregate). The Company has further agreed that the development and construction of the Project will be financed only by (i) the Company's own equity, (ii) the Bonds and (iii) general corporate debt which is not secured by the Project.

The Company has agreed to cooperate in studies conducted by the City and with City proposals to mitigate impacts of the Project. The Company has represented that it has obtained an environmental liability policy providing environmental liability coverage for the period of construction of the Project and a pollution legal liability site policy for environmental liabilities at the Premises. The Company has covenanted to cause the City to be named as an additional insured on such policies. The Company has covenanted that it will comply with the terms and conditions of the Port Authority Lease relating to environmental matters at the Premises.

The City and the Company agree to cooperate in good faith with each other to obtain all applicable governmental approvals for the New City/American Lease, it being understood that such covenant and agreement on the part of the City is made, and such cooperation will be, solely in its proprietary capacity and not in its governmental capacity.

Indemnification. The Company has agreed to indemnify and hold the City harmless from and against any damages, expenses (including reasonable attorneys' fees) and liability arising from the claims of any broker, finder, consultant, person, firm or corporation, based upon or alleging negotiations, dealings or communications with the Company or its representatives.

The Company has agreed to indemnify and hold harmless the City and its officials, officers, agents, representatives and employees from and against any and all liabilities, claims, demands, penalties, fines, settlements, damages, costs, expenses and judgments (i) except for gross negligence or intentional misconduct on the part of the City, for personal injury or property damage in connection with, or arising out of events occurring on or at or in connection with, the Premises or the Agreement Towards Entering Into a Lease, including any liability which the City may have to the Port Authority on account of, or in connection with, the Agreement Towards

Entering Into a Lease, the City Attornment Agreement or the New City/American Lease or (ii) in connection with hazardous materials stored, transported, disposed of, released or present at the Premises.

Assignment by the Company. The Agreement Towards Entering Into a Lease may not be assigned, transferred, pledged or otherwise encumbered by the Company without the written consent of the City, which consent will be given or withheld in the City's sole and absolute discretion, *provided, however,* that the Agreement Towards Entering Into a Lease may be assigned in its entirety without such consent to any successor in interest of the Company who becomes tenant under the Basic Lease and which is or is to be a Scheduled Aircraft Operator (*provided* that such operator is not a Prohibited Person), and with or into which the Company has merged or consolidated, or which has succeeded to the assets of the Company or the major portion of its assets related to its air transportation system, but in any such event, such assignment will not take effect before the assignee is actually engaged in the business of scheduled transportation by aircraft, and *provided, further,* that such succeeding entity or purchaser satisfies the financial tests set forth in the Port Authority Lease and/or provides the consent security deposit to the Port Authority as required, and executes and delivers to the City an instrument in a form satisfactory to the City assuming the obligations of the Company as if it was the original party to the Agreement Towards Entering Into a Lease.

Mortgages Not Recognized. The City has not consented to the Port Authority Lease, the Port Authority Consent or Leasehold Mortgage, nor any other mortgage, lien, pledge, encumbrance or security interest in connection with the Port Authority Lease; none of the Port Authority Lease, the Port Authority Consent or the Leasehold Mortgage and no other mortgage, lien, pledge or encumbrance on or in connection with the Port Authority Lease will be effective with respect to, or will encumber or burden, any New City/American Lease, the estate or interest of the City in the Premises, or any property located thereon or therein, nor will the City be required to recognize or permit any of the foregoing. The foregoing does not limit the Fee Owner's obligations, if any, under the City Attornment Agreement to recognize the Company or to recognize a Qualified Mortgage in the circumstances and on the terms provided therein.

Summary of Terms of the New City/American Lease. The Agreement Towards Entering Into a Lease provides that the New City/American Lease will contain, among other terms, the following basic terms, and, at the option of the City or its designee, more particular and such additional terms and conditions as the City (or its designee) deems appropriate in good faith. All references to the City in the following section include any such designee.

- The New City/American Lease is to expire on the earlier of (i) the day immediately preceding the 30th anniversary of the Redevelopment Work Completion Date and (ii) December 21, 2036 (the "*Stated Expiration Date*").

- Ground rent is to be in the amount payable immediately prior to the expiration of the Port Authority Lease, increased annually, starting as of the commencement date of the New City/American Lease, by an amount equal to the greater of (a) 4% or (b) one-half of the increase in the consumer price index over the immediately preceding lease year. The Company is to pay to the City rent on improvements located at the Premises in the same

amounts as would have been payable under the Port Authority Lease if the Port Authority Lease had been extended and was still in effect, *provided however*, that such amount may not be less than the fair market rental, determined by appraisal, and abated, or escalated, by the same percentage by which rental would have been abated or escalated, if any, if the Port Authority Lease had been extended and was still in effect. The Company also is required to pay to the City all other rental of a type payable under the Port Authority Lease (including, without limitation, handling fees, and all rental associated with advertising, concessions, the retail program, and consumer services), in amounts not less than such amounts to be paid under the Port Authority Lease.

- If during the period of the New City/American Lease it is customary for ground tenants or ground subtenants of air passenger terminals at the Airport, or for persons otherwise having occupancy rights at terminals at the Airport which rights are of comparable magnitude as the Company, to pay real property taxes or to make payments in lieu of real property taxes, then the Company will pay (as rental or as otherwise directed by the City) to the City all real property taxes assessed and levied against the Premises or, if the Premises are exempt from the payment of real property taxes, payments in lieu thereof, in the full amount which would have been payable as real property taxes if the Premises were not exempt from real estate taxes. Similarly, if it is customary for such ground tenant, subtenant or person to pay any impositions (as described in the Agreement Towards Entering Into a Lease) or make payments in lieu thereof, the Company will pay said impositions or make payments in lieu thereof.

- The New City/American Lease is required to provide for appropriate rent abatement in the event of substantial restrictions on use or reduction in the size of the Premises, as a consequence of condemnation or governmental action over which the Company has no control.

- The Company will be required to comply with all applicable laws, including all building codes and permit requirements, all FAA rules and the City's rules respecting similar facilities at the Airport. The Company will be required to operate the property in a non-discriminatory manner and to continue the affirmative action program under applicable federal law and regulations. The Company also will be required to render the Premises legal for occupancy in accordance with applicable law within definitive time periods as set forth in the New City/American Lease.

- The Company will be required to repair, clean and maintain the Premises or cause them to be repaired, cleaned and maintained. At the City's option, condition surveys of the Premises will be performed by the Company, the frequency and scope of which, as well as the determination of a qualified third party to conduct the survey, to be negotiated by the parties in good faith and included in the New City/American Lease. The Company will be required to comply with all recommendations of such surveys and to be responsible for the cost of preparing such surveys.

- The New City/American Lease is to contain condemnation, casualty and destruction provisions, without limitation, that are then usual and customarily included in leases from the

City to a tenant for similar IDA bond-financed projects, including, without limitation, the City's agreement to make any insurance proceeds available to, at the City's option, either (a) restore the Premises or (b) if the New City/American Lease is terminated, retire or defease the Bonds.

- The New City/American Lease is to contain insurance and indemnity provisions and coverage amounts which are appropriate in the City's determination in good faith for the size and nature of the operations being conducted at the Premises as well as the City's potential liability or financial exposure. Such insurance and indemnity provisions to be included in the New City/American Lease are to be at least as protective of the City as such provisions are protective of the Port Authority in the Port Authority Lease, it being understood and agreed, however, that the City is not agreeing to such provisions and reserves the right to reject any of them in whole or in part. To the extent the insurance and indemnity provisions are more protective of the City than of the Port Authority in the Port Authority Lease, and the added cost thereof is prohibitive or, in the Company's good faith judgment, not reasonably supportable economically by the Project, the parties may treat the New City/American Lease negotiations as having failed after good faith efforts, thereby terminating the Agreement Towards Entering Into a Lease.

- The City has not consented to the Port Authority Lease, the Port Authority Consent or the Leasehold Mortgage, nor any other mortgage, lien, pledge, encumbrance or security interest in connection with the Port Authority Lease; none of the Port Authority Lease, the Port Authority Consent or the Leasehold Mortgage, and no other mortgage, lien, pledge or encumbrance on or in connection with the Port Authority Lease will be effective with respect to, or will encumber or burden, any New City/American Lease, the estate or interest of the City in the Premises, or any property located thereon or therein, nor will the City be required to recognize or permit any of the foregoing. The Company cannot sell, convey, transfer, mortgage, pledge, assign or sublet the leasehold or the Premises, except for assignments and sublets made with the City's prior written consent in its sole and absolute discretion. Notwithstanding the foregoing, and provided that (i) the Reletting Rights Effective Date has occurred under the Port Authority Lease, (ii) the Leaseholder Mortgage and/or the Reletting Rights have not terminated, expired or ended under the Port Authority Lease, and (iii) the Mortgagee Rights Period did not terminate or expire prior to the expiration of the Port Authority Lease, the City agrees not to unreasonably withhold its consent to a new leasehold mortgage and associated reletting rights in favor of the Trustee (who is not a Prohibited Person) negotiated in good faith as part of the negotiation for the New City/American Lease, it being understood that the City may in good faith have different, but reasonable, requirements than the Port Authority's requirements and/or may, at its option, insist on any or all of the provisions of the Leasehold Mortgage and Reletting Rights and on all or any of the protections afforded the Port Authority in connection with the Leasehold Mortgage and associated Reletting Rights or elsewhere. Any consent by the City to a leasehold mortgage, reletting rights or the exercise of such rights, will require payment of various fees to the City, including but not limited to those payments, in substantially the same terms and amounts, as set forth and defined in the Port Authority Lease as Deferred Reletting Fee or Deferred Reletting Fee Rental and Deferred Reletting Fee Payment Amount, Leasehold Mortgagee's Notice of Termination Effective Date First Extension Fees, Leasehold Mortgagee's Notice of

Termination Effective Date Second Extension Fees, and Leasehold Mortgagee's Foreclosure Period Payments including Leasehold Mortgagee's Foreclosure Period Commencement Payments, Leasehold Mortgagee's Foreclosure Period Current Basis Payments and Foreclosure Period Extension Fee (but defined for purposes of this Official Statement as the Leasehold Mortgage Extension Fee). The City may require fees as a condition of its approval of any proposed sublease. Reasonable exceptions for assignments to affiliates and as a result of mergers/consolidations will be included, it being understood that the City's provisions regarding Prohibited Persons and persons with whom the City will not generally do business will be adhered to at the City's option. Security deposits will be required for all assignments not meeting minimum financial conditions, to be specified in the New City/American Lease.

- The Company is not to permit a Change in Control (as defined in the New City/American Lease) of the Company without the City's prior written consent.

- Default provisions are to include, with respect to monetary defaults, a cure period of 20 days after receipt of written notice from the City and, with respect to non-monetary defaults (other than insolvency and bankruptcy types of defaults as to which there may be no notice or cure period), a cure period of 30 days after receipt of written notice from the City (which cure period, if such default, other than for bankruptcy or insolvency types of defaults, is not susceptible of cure within said 30-day period, may be extended to the extent necessary to complete such cure *provided* that the Company has commenced such cure within said 30-day period and diligently pursues such cure to completion). If the Company fails to cure any default within the applicable periods, the City will have the right, without limitation, to terminate the New City/American Lease.

- The Company will be required to seek to maximize its use of the air passenger facility at the Premises (based on then current levels at the Airport) and to seek to keep the Premises fully occupied and used.

- The City will have the right, but not the obligation, to sell and furnish to the Company, or cause to be sold and furnished to the Company, electricity, water and sewage services. If the same are not supplied by the City, the Company will be required to arrange for such services directly with the provider. The Company will be responsible for costs of all underground utilities affected by the Project and the cost of any additional capacities required to be installed by the City or its successors in connection with the Company's operations at, or use or possession of, the Premises.

- The Company will be required to comply with any applicable governmental or regulatory environmental requirements with respect to the operation of the Premises and with respect to any hazardous materials introduced in or on the Premises from and after the date on which possession of the Premises initially was delivered to the Company. The Company will be required to deliver to the City, prior to execution of the New City/American Lease, a complete environmental report with respect to the environmental condition of the Premises. The Company will be required to comply with all its environmental obligations contained in

the Port Authority Lease. The Company will be required to provide the City with an appropriate environmental indemnity.

- The Company will be required to operate a "premier world class" retail program, defined as one that consistently scores within the top ten percent of industry recognized surveys. If the Company has an asset manager or retains a developer of its concessions program, it will absorb all associated costs. In such event, the asset manager or developer and any of its affiliates may not operate or have an equity ownership in any concession at the Premises. The Company is required to deliver the Premises to all future concessionaires inclusive of utilities brought to the site and demising walls. The City and the Company will conduct an annual joint review of its comprehensive retail plan, including the determination as to appropriate modifications.

- The Company will be required to actively participate in any customer service initiatives that the City may undertake. The Company will be required to provide services at the Premises for the benefit of the traveling public in a manner consistent with any airport standards that are developed by the City in consultation with the airlines for first-class airport terminals. The Company will be required to cooperate with the City and other airlines serving the traveling public at the Airport in maintaining these airport standards through working groups and other means to be negotiated by the parties.

- The Company will ensure that during the term of the New City/American Lease, through the enforcement of contractual provisions and all other commercially reasonable efforts, the prices for goods at concessions and elsewhere, including food and beverage and retail items, at the Premises are not set at a premium and are the same as for those sold off the Premises in the City at comparable retail establishments (*i.e.*, "street pricing").

- To the extent not done prior to commencement of the New City/American Lease, the Company will be required to be responsible for relocating all underground utilities affected by its operations at, or use or possession of, the Premises and the cost of any additional capacities required to be installed. Utilities will be at the Company's expense and of a nature and from a source to be negotiated by the parties in light of the then existing utilities structure at the Airport.

- The Company has agreed to the construction and operation of a passenger station on the Premises. The Company will permit the construction of the station, connector and guideway structures on the Premises. The Company will provide and be responsible for the vertical circulation in or adjacent to the terminal and appropriate signage in the terminal and Premises which will be appropriate to the operation of AirTrain or any other means of mass transit to be developed for the Airport. The Company also agrees to use the system (or any such successor) when it is completed. Any changes to the station/connector design will be at the Company's expense.

- The New City/American Lease will contain conditions (waivable in the City's sole and absolute discretion) that must be satisfied by the Company at all times after execution and immediately prior to the effectiveness of the letting under the New City/ American Lease, it

being understood that such conditions will be substantially similar to the Conditions Precedent described in this Appendix H under "—Summary of Certain Provisions of the Agreement Towards Entering Into a Lease—*Conditions Precedent*" with such reasonably appropriate modifications and supplements as the City reasonably deems necessary in light of then existing circumstances.

Summary of Certain Provisions of the City Attornment Agreement

Pursuant to the City Attornment Agreement, the City and the Company have agreed that, in the event of a termination of the Port Authority Lease as described in the next succeeding paragraph, the Company will attorn to the Fee Owner and recognize the Fee Owner as its landlord, and the Fee Owner will accept such attornment, and the Port Authority Lease will continue as a direct lease between the Company and the Fee Owner in accordance with its terms. Such attornment will provide the Fee Owner with all rights of the Port Authority under the Port Authority Lease, and the Company will be obligated to the Fee Owner to perform all of the obligations of the Company thereunder. In addition, the Company will provide or cause to be provided to the Fee Owner all the rights and protections afforded the Port Authority (when it was lessor under the Port Authority Lease) under the Leasehold Mortgage and under the Port Authority Consent (collectively, the *"Mortgage and Consent Protections"*). Such attornment and Mortgage and Consent Protections will be effective and self-operative as of the date of the termination of the Port Authority Lease without the execution of any further instrument.

Subject to the other provisions of the City Attornment Agreement if the Basic Lease is terminated prior to its stated expiration date (as it may be extended), the Port Authority Lease will continue as a direct lease between the Company and the Fee Owner in accordance with its terms and the Port Authority Lease will not be deemed terminated for any purpose other than as regards the Port Authority (*provided* that at the time of the Basic Lease termination, unless waived by the City in its sole and absolute discretion, the Company is not a Prohibited Person and has not defaulted under the Port Authority Lease and no event exists which would permit the Port Authority to terminate the Port Authority Lease or to exercise any dispossess remedy, and *provided further* that the Company has possession of the Premises as tenant under the Port Authority Lease and no event has occurred which would permit the commencement of the exercise of the Reletting Rights on notice or otherwise and no Qualifying Replacement Tenant has been appointed and no Triggering Event has occurred). As of the date of termination of the Basic Lease and subject to the proviso of the immediately preceding sentence, the Fee Owner agrees that it will recognize the Port Authority Lease and the rights of the Company thereunder (including without limitation its rights to mortgage its leasehold as provided therein to secure repayment, or the guarantee of repayment, of the Bonds (a mortgage thus granted for such purpose being referred to herein as a *"Mortgage"*)) and to not disturb the Company's possession of the Premises.

Neither the Fee Owner, nor anyone claiming by, through or under the Fee Owner, will be (a) liable for any act or omission of any prior landlord under the Port Authority Lease except for acts or omissions that are then continuing and are subject to being cured by the Fee Owner; (b) subject to any counterclaims, offsets or defenses which the Company may have against the prior landlord under the Port Authority Lease; (c) bound by any advance payment of rent or other

charges payable under the Port Authority Lease or to any other person; (d) bound by any obligation, with certain exceptions, to make any payment to the Company under the Port Authority Lease; (e) bound by any modification or amendment of the Port Authority Lease which reduces the rent payable under the Port Authority Lease or any other charges payable thereunder or shortens or lengthens the term thereof, or otherwise adversely affects the rights of the landlord thereunder or amends the Reletting Rights or similar rights afforded to any mortgagee, unless the Fee Owner has given its written consent; (f) liable for any environmental hazards at the Premises; (g) obligated to repair or restore the Premises if a condemnation occurs; (h) subject to any cancellation or termination rights requiring payment by the landlord of a fee or penalty for such cancellation or termination, unless the Fee Owner voluntarily exercises such right for other than a casualty or condemnation; (i) obligated to recognize, permit or be subject to (A) any mortgage, lien, claim, encumbrance or security interest which is not a Qualified Mortgage (as defined below) or any rights or purported rights thereunder or (B) any Reletting Rights or similar type of rights other than by a Permitted Mortgagee (as defined below) in connection with a Qualified Mortgage held by such Permitted Mortgagee; or (j) obligated to recognize any rights of the Company, or anyone claiming by, through or under the Company (including without limitation, any mortgagee), after the earlier of (A) the stated expiration date of the Basic Lease and (B) the expiration date of the Port Authority Lease as described under the first paragraph under APPENDIX F—"SUMMARY OF CERTAIN PROVISIONS OF THE PORT AUTHORITY LEASE—Term," subject to earlier termination.

A "*Qualified Mortgage*" means a mortgage which is an IDA Mortgage (as defined below) (i) which by its terms does not extend to or affect, or represent a lien or encumbrance on, the estate or interest of the Fee Owner in the Premises or any property located therein or thereon, (ii) which includes a provision stating that "This instrument does not extend to or affect, or represent a lien or encumbrance on, the estate or interest of the fee owner of the premises that are the subject of this instrument or any property located therein or thereon, and in the event of any inconsistent provision in this instrument this provision shall prevail," (iii) is held by a Permitted Mortgagee, and (iv) under which the Port Authority, its successors and assigns (other than the Fee Owner), does not have any rights. A "*Permitted Mortgagee*" means The Bank of New York or another trustee who is not a Prohibited Person who has been appointed pursuant to and in accordance with the Indenture and to whom the prior Permitted Mortgagee has assigned or transferred the Qualified Mortgage. "*IDA Mortgage*" means a mortgage lien on all of the Company's interest in the Port Authority Lease and the leasehold estate created thereby which is (i) made to secure payment of all or any portion of the Bonds pursuant to the guaranty of payment thereof of the Company and the guaranty of payment thereof of AMR, (ii) which complies with the provisions described in clause (i) of the definition of Qualified Mortgage above and which includes the provision set forth in clause (ii) of the definition of Qualified Mortgage above, and (iii) in no event attaches to or encumbers the leasehold estate or is otherwise effective unless and until the Reletting Rights Effective Date has occurred. Further, to constitute an "*IDA Mortgage*" the lien will not attach or encumber the leasehold estate or otherwise be effective before the Reletting Rights Effective Date, if any, and will terminate and in no event extend beyond the Mortgagee Rights Period.

Upon the request of either the Company or the Fee Owner, the other party shall promptly execute and deliver to the requesting party an agreement or other instrument in recordable form

evidencing the recognition and attornment under the City Attornment Agreement and/or the Mortgage and Consent Protections.

Notwithstanding any other provision of the City Attornment Agreement, neither the Fee Owner (if the Fee Owner is the City) nor any of its agencies is required to recognize the Company or its otherwise permitted successor in interest as the City's direct tenant under the Port Authority Lease if the Company or such otherwise permitted successor in interest is a Prohibited Person.

The Fee Owner is not liable for damages or restitution to the Company if the Fee Owner is unable to deliver possession of the Premises or unable to perform its obligations under the Port Authority Lease because the Port Authority continues to use or occupy the Premises or refuses to vacate any portion of the Airport after the termination of the Basic Lease. Notwithstanding any failure by the Fee Owner to give possession of the Premises to the Company or to perform its obligations under the Port Authority Lease, the Company remains obligated to pay all rental and other charges to the Fee Owner and all impositions to the appropriate regulatory authority under the Port Authority Lease.

The City Attornment Agreement will automatically terminate if the Fee Owner has transferred fee title and ownership of the Airport, including the Premises, to the Port Authority, or any affiliate thereof, directly or indirectly, through one or more entities. Additionally, the City Attornment Agreement will terminate at the Fee Owner's option, upon written notice to the Company, upon any termination of the Agreement Towards Entering Into a Lease for any reason whatsoever, other than (i) solely because of the entry into a New City/American Lease or (ii) the entry into an Extended Basic Lease the stated expiration date of which is on or after the Maximum Port Authority Lease Expiration Date. Further, in the event the City Attornment Agreement survives the termination of the Agreement Towards Entering Into a Lease due solely to such entry into a New City/American Lease or Extended Basic Lease with an expiration date on or after the Maximum Port Authority Lease Expiration Date, the City Attornment Agreement will nevertheless terminate at the City's option upon notice to the Company if an event occurs thereafter which would have permitted termination of the Agreement Towards Entering Into a Lease or the City Attornment Agreement if the Agreement Towards Entering Into a Lease were still in effect, or an event occurs permitting termination (or constituting a failure of a condition to the effectiveness) of the New City/American Lease. Upon any termination of the City Attornment Agreement, all rights and obligations thereunder will terminate, and the City's right to dispose, convey, lease, assign or transfer the Premises or enter into any agreement to do so will not be restricted or limited by the City Attornment Agreement or any agreement or instrument entered into pursuant to or to evidence the terms of the City Attornment Agreement.

The City Attornment Agreement will inure to the benefit of the Fee Owner and the Company and their respective permitted successors in interest and their permitted successors and assigns and will be binding upon the successor in interest of the parties thereto and their permitted successors and assigns. Except as otherwise expressly described in this paragraph, the City Attornment Agreement cannot be assigned, transferred, pledged or otherwise encumbered by the Company without the written consent of the City, which consent will be given or withheld in the City's sole and absolute discretion, *provided, however*, that the City Attornment

Agreement may be assigned in its entirety without such consent to any successor in interest of the Company which becomes tenant under the Port Authority Lease and is or is to be a Scheduled Aircraft Operator, and with or into which the Company has merged or consolidated, or which has succeeded to the assets of the Company or the major portion of its assets related to its air transportation system, but in any such event, such assignment will not take effect before the assignee is actually engaged in the business of scheduled transportation by aircraft, and *provided, further*, that such succeeding entity or purchaser (whether it be the Company or any other entity or purchaser) satisfies the financial tests in the Port Authority Lease, and/or provides the consent security deposit as required, and executes and delivers to the City an instrument in a form satisfactory to the City assuming the obligations of the Company as if it was the original party to the City Attornment Agreement.

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APPENDIX I

FORM OF OPINION OF BOND COUNSEL

July __, 2002

New York City Industrial
Development Agency
110 William Street
New York, New York 10038

Ladies and Gentlemen:

We have examined a record of proceedings of the New York City Industrial Development Agency (the *"Agency"*), a corporate governmental agency constituting a body corporate and politic and a public benefit corporation organized and existing under the laws of the State of New York, and other proofs submitted to us relative to the issuance and sale of the $120,000,000 New York City Industrial Development Agency Special Facility Revenue Bonds, Series 2002A (American Airlines, Inc. John F. Kennedy International Airport Project) (the *"Series 2002A Bonds"*) and $380,000,000 New York City Industrial Development Agency Special Facility Revenue Bonds, Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (the *"Series 2002B Bonds"* and collectively with the Series 2002A Bonds, the *"Series 2002 Bonds"*).

The Series 2002 Bonds are issued under and pursuant to (i) the New York State Industrial Development Agency Act (constituting Title 1 of Article 18-A of the General Municipal Law, Chapter 24 of the Consolidated Laws of the State of New York), as amended, and Chapter 1082 of the 1974 Laws of New York, as amended (collectively, the *"Act"*); (ii) a Master Indenture of Trust, dated as of July 1, 2002 (the *"Master Indenture"*), as supplemented by a First Series Supplemental Indenture of Trust, dated as of July 1, 2002, with respect to the Series 2002A Bonds (the *"First Series Supplemental Indenture"*) and a Second Series Supplemental Indenture of Trust, dated as of July 1, 2002 with respect to the Series 2002B Bonds (the *"Second Series Supplemental Indenture"* and collectively with the Master Indenture and the First Series Supplemental Indenture, the *"Indenture"*), by and between the Agency and The Bank of New York (the *"Trustee"*); and (iii) resolutions of the Agency adopted on October 23, 2001 and November 23, 2001 authorizing the Series 2002 Bonds and certain actions relating thereto.

The Series 2002 Bonds are dated July 1, 2002 and are issuable as fully registered bonds, without coupons, in authorized denominations of $100,000 or any integral multiple of $5,000 in excess of $100,000.

The Series 2002 Bonds are subject to redemption prior to maturity, in the manner and upon the terms and conditions set forth in the Indenture.

The Series 2002 Bonds are being issued to provide funds to finance a portion of the cost of a project (the *"Project"*) which consists of (i) the demolition of Terminals 8 and 9 at John F. Kennedy International Airport in Queens, New York (the *"Airport"*) on land owned by the City (as hereinafter defined) (the *"Premises"*), and (ii) the acquisition, construction and equipping of a new approximately 2,000,000 square foot air passenger terminal together with related arrival and departure access ramps, parking facilities on the Premises and a passenger tunnel connecting Concourse C to the new terminal, all to be used and managed as a passenger facility located at the Airport by American Airlines, Inc., a Delaware corporation (the *"Lessee"*). The Series 2002 Bonds will also provide funds to reimburse the Lessee for the payment of such Project costs, to pay costs of issuance related to the Series 2002 Bonds and to fund applicable accounts of the Debt Service Reserve Fund.

The Airport is leased by the City of New York (the *"City"*) to The Port Authority of New York and New Jersey (the *"Port Authority"*) pursuant to an Agreement of Lease dated April 17, 1947, as amended and supplemented (the *"Basic Lease"*), by and between the City and the Port Authority. The Premises have been subleased by the Port Authority to the Lessee pursuant to an agreement of lease entered into as of August 1, 1976 being Port Authority Agreement No. AYB-085 as amended and supplemented and as further amended, supplemented, and restated in an Amended and Restated Lease (No. AYB-085R) dated December 22, 2000 between the Port Authority and the Lessee, as the same may now or hereafter be amended, modified or supplemented from time to time (the *"Port Authority Lease"*). The Lessee and the Agency have entered into a Company Sublease Agreement dated as of July 1, 2002 (the *"Company Sublease"*). Pursuant to the Company Sublease, the Lessee will sub-sublease to the Agency certain improvements located on the Premises (the *"Leased Facilities"*). The Leased Facilities consists of only the improvements which are to be made or acquired pursuant to the IDA Lease Agreement, dated as of July 1, 2002 by and between the Agency and Lessee (the *"IDA Lease Agreement"*), and financed with the proceeds of the Series 2002 Bonds and Additional Bonds (herein defined) issued from time to time under the Indenture (the *"Bonds"*). Pursuant to the IDA Lease Agreement the Agency has sub-sub-subleased to the Lessee the Leased Facilities, and has leased to the Lessee the systems, machinery, equipment and other tangible personal property acquired and installed or to be acquired and installed at the Leased Facilities as part of the Project and financed in whole or in part with the proceeds of the Bonds (the *"Facility Equipment"*). The Leased Facilities and the Facility Equipment are referred to collectively herein as the "Facility."

The Lessee will be obligated under the IDA Lease Agreement to make lease rental payments to the Trustee in an amount sufficient to pay the principal and purchase price of, redemption premium, if any, and interest on the Bonds, including the Series 2002 Bonds. The Indenture permits the issuance of additional bonds (the *"Additional Bonds"*) ranking on a parity with the Series 2002 Bonds, provided that the maximum principal amount of bonds issued under the Indenture shall not exceed $2,300,000,000. Payment of the principal and purchase price of, premium, if any, and interest on the Bonds (including the Series 2002 Bonds) issued under the Indenture will be guaranteed by the Lessee pursuant to a Guaranty dated as of July 1, 2002 from the Lessee to the Trustee (the *"Lessee Guaranty"*) and will also be guaranteed by AMR Corporation (*"AMR"*) pursuant to a Guaranty dated as of July 1, 2002 from AMR to the Trustee (the *"AMR Guaranty"*). The Bonds will be additionally secured pursuant to an Equipment

Security Agreement dated as of July 1, 2002 among the Agency, the Lessee and the Trustee (*"the Equipment Security Agreement"*).

We are of the opinion that:

1. The Agency has the right and power to enter into the Indenture, the IDA Lease Agreement, the Company Sublease and the Equipment Security Agreement, and the Indenture, the IDA Lease Agreement, the Company Sublease and the Equipment Security Agreement have been duly authorized, executed and delivered by the Agency, and, assuming due authorization, execution and delivery by the other parties thereto, are in full force and effect in accordance with their terms and are valid and binding upon the Agency and enforceable in accordance with their respective terms and no other authorization by the Agency for the Indenture, the IDA Lease Agreement, the Company Sublease or the Equipment Security Agreement is required.

2. The Indenture creates the valid pledge which it purports to create of the lease rentals payable or receivable under the IDA Lease Agreement and the moneys and securities from time to time held by the Trustee under the terms of the Indenture, subject only to the provisions of the Indenture permitting the application thereof for the purposes and on the terms and conditions set forth in the Indenture.

3. The Agency has the right and power to authorize, execute and deliver the Series 2002 Bonds, and the Series 2002 Bonds have been duly authorized, executed and delivered by the Agency. The Series 2002 Bonds are valid and binding special obligations of the Agency, are enforceable in accordance with their terms and the terms of the Indenture and are payable as to principal and purchase price, redemption premium, if any, and interest from moneys on deposit in the funds and accounts maintained under the Indenture, all as provided in the Indenture. The Series 2002 Bonds are entitled to the benefit of the Indenture.

4. The Internal Revenue Code of 1986, as amended to the date hereof (the *"Code"*), imposes certain requirements that must be met subsequent to the issuance and delivery of the Series 2002 Bonds in order that interest on the Series 2002 Bonds be and remain not included in gross income for Federal income tax purposes. Pursuant to the Tax Certificate executed by the Lessee and the Agency dated the date hereof (the *"Tax Certificate"*), the Lessee has made certain representations, certifications and covenants relating to such non-inclusion in gross income. The IDA Lease Agreement and the Tax Certificate obligate the Lessee to do and perform all acts and things necessary and within its control to assure that interest on the Series 2002 Bonds not be included in gross income pursuant to Section 103 of the Code. Noncompliance with current requirements or future amendments may cause interest on the Series 2002 Bonds to be subject to federal income taxes retroactive to the date of issue of the Series 2002 Bonds, irrespective of the date on which such noncompliance occurs or is ascertained.

In our opinion, under existing statutes and court decisions, assuming continuing compliance by the Agency and the Lessee (and their successors) with the aforementioned covenants and the accuracy of the aforementioned representations and certifications, interest on the Series 2002 Bonds is not included in gross income for Federal income tax purposes, except that we express no opinion as to the exclusion from gross income of interest on any Series 2002

Bond for any period during which such Series 2002 Bond is held by a "substantial user" of the Facility or a "related person" within the meaning of Section 147(a) of the Code. Interest on the Series 2002 Bonds will be treated as a preference item to be included in calculating the alternative minimum taxable income for purposes of the alternative minimum tax imposed with respect to individuals and corporations.

The Series 2002 Bonds are initially offered to the public at a price less than the principal amount thereof payable at maturity. If the first price at which a substantial amount of the Series 2002 Bonds is sold in the initial offering to the public (excluding bond houses, brokers or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers) is less than the principal amount thereof payable at maturity, the difference between such price and principal amount constitutes original issue discount. We are of the opinion that original issue discount, as it accrues, is not includable in gross income for federal income tax purposes and is subject to the alternative minimum tax to the same extent as is interest on the Series 2002 Bonds. Original issue discount accrues over the term of the Series 2002 Bonds under the "constant yield method" described in regulations interpreting Section 1272 of the Code, with certain adjustments.

5. The interest (and accrued original issue discount) on the Series 2002 Bonds is exempt from personal income taxes imposed by the State of New York or any political subdivision thereof (including the City) and is exempt from all taxation directly imposed by or under the authority of said State except for transfer and estate taxes.

Except as stated in paragraphs 4 and 5 above, we express no opinion as to any other Federal or state tax consequences of the ownership or disposition of the Series 2002 Bonds.

We have examined one of the Series 2002 Bonds in fully registered form and, in our opinion, the form of said Series 2002 Bond is regular and proper.

Certain requirements and procedures contained or referred to in the Indenture and other relevant documents may be changed and certain actions may be taken, under the circumstances and subject to the terms and conditions set forth in such documents, upon the advice or with the approving opinion of Bond Counsel. Furthermore, we express no opinion as to the impact of any such change or action on the tax-exempt status of interest on any Series 2002 Bond, if such change occurs or action is taken upon the advice or approval of Bond Counsel other than Winston & Strawn.

The foregoing opinions are qualified to the extent that the enforceability of the Series 2002 Bonds, the Indenture, the Basic Lease, the Port Authority Lease, the Company Sublease, the IDA Lease Agreement and the Equipment Security Agreement may be limited by bankruptcy, moratorium or insolvency or other laws affecting creditors' rights generally and by application of general rules of equity (regardless of whether such enforceability is considered in a proceeding at law or in equity). In addition, we express no opinion as to the severability of any provision of the Indenture, the Company Sublease, the IDA Lease Agreement or the Equipment Security Agreement in the event that the modification of the foregoing agreements resulting from

a severed provision constitutes a material change to the original intention of the parties to such agreements.

In rendering the foregoing opinions, we have assumed that each of the Basic Lease and the Port Authority Lease are in full force and effect. In rendering this opinion, we have not made any investigation of, do not express an opinion as to, and are not passing upon any matters relating to, title to the Facility.

In rendering the foregoing opinions, we have reviewed the opinions of Anne H. McNamara, Senior Vice President and General Counsel of AMR Corporation and American Airlines, Inc., dated the date hereof, as to certain matters relating to the Lessee and have assumed the due authorization, execution and delivery of the Company Sublease, the IDA Lease Agreement and the Equipment Security Agreement by the Lessee. We understand that you have received said opinions with respect to such matters.

In rendering the foregoing opinions, we have reviewed the opinion of Emmet, Marvin & Martin, LLP, counsel to the Trustee, dated the date hereof, as to certain matters relating to the Trustee and have assumed the due authorization, execution and delivery of the Indenture by the Trustee. We understand that you have received such opinion with respect to such matters.

Our opinions set forth herein are based upon the facts in existence and the laws in effect on the date hereof and we disclaim any obligation to update our opinions herein, regardless of whether changes in such facts or laws come to our attention after the delivery hereof.

Very truly yours,

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APPENDIX J

GATE DEMAND STUDY

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July 15, 2002

BLUE SKY MEMORANDUM

$500,000,000*

New York City Industrial Development Agency
Special Facility Revenue Bonds
(American Airlines, Inc. John F. Kennedy International Airport Project)
$ 92,955,000* Series 2002A
$ 96,590,000* Series 2002B
$144,465,000* Series 2002C
$165,990,000* Series 2002D

Salomon Smith Barney Inc.
As Representative of the Underwriters

Ladies/Gentlemen:

This Memorandum relates to the requirements of the "Blue Sky" laws of the jurisdictions listed with respect to the above-referenced Bonds (hereinafter the *"Bonds"*). The Memorandum is based upon an examination of Section 18 of the Securities Act of 1933, as amended (*"Section 18"*) and of the securities laws of the several jurisdictions and the rules and regulations, where published, of the authorities administering such laws, all, as to such jurisdictions, as set forth in the CCH Blue Sky Law Reporter or upon informal interpretive advice or "no-action" letters obtained from certain securities commissions or their representatives relating to the Bonds or similar securities. It is noted, however, that the securities laws of certain jurisdictions provide that the burden of claiming an exemption is upon the person claiming the exemption and that informal interpretive advice and "no-action" letters are not necessarily binding upon a court of law.

We call attention to the fact that the authorities responsible for administering the securities laws of the various jurisdictions have broad discretionary powers with respect to the

*Preliminary, subject to change

offer and sale of securities, including the power to withdraw exemptions granted by the applicable statutes and the power to impose additional requirements with respect to securities offerings and the information which must be furnished by the proposed issuers and underwriters. This Memorandum is, of course, subject to any changes made in the securities laws of the jurisdictions by reason of such discretionary powers, to the extent that the same are not preempted by Section 18. Furthermore, we have not obtained any opinions from members of the bar of any jurisdiction or formal rulings from regulatory commissions or other administrative bodies or officials.

This Memorandum does not purport to cover the requirements under any of the laws of the jurisdictions enumerated herein with respect to the registration or licensing of dealers, brokers, salesmen, the form or substance of advertising or the legality of investments in the Bonds by any institutional investor which is subject to statutory or other restrictions as to its investments.

SECTION I

Sales by Persons Registered or Licensed as Dealers or Brokers

A.

In the following jurisdictions, no action need be taken to qualify the Bonds and the Bonds may be sold or offered to anyone therein. Such offers and sales may be made only by sellers which are registered or licensed appropriately as dealers, brokers, sales persona or sales agents within the applicable jurisdiction or who are properly exempted from such jurisdiction's registration of licensing requirements:

Alabama
Alaska
Arizona
Arkansas
California
Colorado
Connecticut
Delaware
District of Columbia
Florida
Georgia
Hawaii
Idaho
Illinois
Indiana
Iowa
Kansas
Kentucky
Louisiana
Maine
Maryland
Massachusetts
Michigan
Mississippi
Missouri
Montana
Nebraska
Nevada
New Jersey
New York
North Carolina
North Dakota
Ohio
Oklahoma
Oregon
Pennsylvania
Puerto Rico
Rhode Island
South Carolina
South Dakota
Tennessee
Texas
Utah
Vermont
Virginia
West Virginia
Wisconsin
Wyoming

B.

In the following jurisdictions, appropriate action is required by either the filing of notice and/or payment of fees before the Bonds may be sold or offered to anyone therein other than in exempt transactions. Pursuant to your request, no such action is being taken in these jurisdictions, therefore, no offers or sales of the Bonds may be made to anyone in these jurisdictions other than in exempt transactions. Such offers and sales may be made only by sellers which are registered or licensed appropriately as dealers, brokers, sales persona or sales agents within the applicable jurisdiction or who are properly exempted from such jurisdiction's registration of licensing requirements:

Minnesota	New Mexico	Washington
New Hampshire		

SECTION II

PERMISSIBLE SALES TO INSTITUTIONS AND BY PERSONS NOT REGISTERED OR LICENSED AS DEALERS OR BROKERS

In the following jurisdictions, except as noted, no action need be taken to qualify the Bonds and the seller need not be registered or licensed as a dealer or broker to offer for sale or sell the Bonds to the persons and institutions described in the footnotes, as well as to dealers or brokers registered or licensed in such jurisdictions, subject to the conditions, if any, set forth in the footnotes:

Alabama (1)
Alaska (2)
Arizona (3)
Arkansas (2)
California (4)
Colorado (5)
Connecticut (6)
Delaware (12)
District of Columbia (7)
Florida (8)
Georgia (9)
Hawaii (2)
Idaho (10)
Illinois (11)
Indiana (2)
Iowa (2)
Kansas (13)
Kentucky (10)
Louisiana (14)
Maine (15)
Maryland (38)
Massachusetts (16)
Michigan (39)
Minnesota (17)
Mississippi (2)
Missouri (2)
Montana (10)
Nebraska (18)
Nevada (19)
New Hampshire (34)
New Jersey (20)
New Mexico (21)
New York (22)
North Carolina (2)
North Dakota (35)
Ohio (23)
Oklahoma (36)
Oregon (24)
Pennsylvania (25)
Puerto Rico (26)
Rhode Island (27)
South Carolina (2)
South Dakota (28)
Tennessee (29)
Texas (30)
Utah (12)
Vermont (31)
Virginia (32)
Washington (37)
West Virginia (2)
Wisconsin (33)
Wyoming (2)

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(1) Any bank, savings institution, credit union, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, pension or profit-sharing trust, or other financial institution or institutional buyer, whether the purchaser is acting for itself or in some fiduciary capacity.

(2) Any bank, savings institution, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, pension or profit-sharing trust, or other financial institution or institutional buyer, whether the purchaser is acting for itself or in some fiduciary capacity; *provided*, that any seller who is not registered as a dealer

or broker-dealer in the state has no place of business there and effects transactions therein exclusively with or through the foregoing classes of purchasers.

(3) Any bank, savings institution, insurance company, agency or instrumentality of the United States or of a state, or any person a principal part of whose business consists of buying securities; provided, that any seller who is not registered as a dealer or broker-dealer in the state must have no place of business there and effects transactions therein exclusively with dealers.

(4) Any bank, savings and loan association, trust company, insurance company, investment company registered under the Investment Company Act of 1940, pension or profit-sharing trust (other than a pension or profit-sharing trust of the issuer, a self employed individual retirement plan or individual retirement account), or a wholly-owned subsidiary of any such institutional investor, or such other institutional investor or governmental agency or instrumentality as the Commissioner of Corporations may designate by rule, whether the purchaser is acting for itself or as trustee (the other institutional investors and governmental agencies or instrumentalities designated by the Commissioner by rule being any organization described in Section 501(c)(3) of the Internal Revenue Code, as amended December 29, 1981, which has total assets, including endowment, annuity and life income funds, of not less than $5,000,000 according to its most recent audited financial statement, any corporation with a consolidated net worth of not less than $14,000,000 according to its most recent audited financial statement, and any wholly-owned subsidiary of any such institutional investor, the federal government, any agency or instrumentality thereof, any corporation wholly-owned by the federal government, any state, city, city and county, or county, or any agency or instrumentality of a state, city, city and county, or county, or any state university or state college, and any retirement system for the benefit of employees of any of the foregoing public agencies); *provided*, that the purchaser represents that it is purchasing for its own account (or for such trust account) for investment and not with a view to or for sale in connection with any distribution of the security (any offer to resell or resale made in compliance with Rule 144A (17 CFR 230.144A) of the Securities and Exchange Commission being considered as not in connection with a distribution for this purpose); provided further, as to all of the foregoing, that any seller not registered as a broker-dealer in California has no place of business in California and either effects transactions exclusively with a broker-dealer or is a broker-dealer registered under the Securities Exchange Act of 1934 who has not previously had any certificate denied or revoked under the California Corporate Securities Law of 1968 or any predecessor statute and does not direct offers to sell or buy into California other than to broker-dealers and the institutional investors (other than self-employed individual retirement plans) or governmental agencies or instrumentalities listed above, or any offer to resell or resale of restricted securities made in compliance with Rule 144A (17 CFR 230.144A) of the Securities and Exchange Commission.

(5) Any broker-dealers licensed or exempt from licensing under the Colorado Securities Act (except when the seller is acting as a clearing broker-dealer for such broker-dealers); financial or institutional investors (*"financial or institutional investor"* means a

depository institution (*"depository institution"* means any of the following, whether acting for itself or others in a fiduciary capacity: a person that is organized or chartered, or is doing business or holds an authorization certificate, under the laws of a state or of the United States which authorize the person to receive deposits, including deposits in savings, share, certificate, or other deposit accounts, and that is supervised and examined for the protection of depositors by an official or agency of a state or the United States; and a trust company or other institution that is authorized by federal or state law to exercise fiduciary powers of the type a national bank is permitted to exercise under the authority of the comptroller of the currency and is supervised and examined by an official or agency of a state or the United States. The term does not include an insurance company or other organization primarily engaged in the insurance business); an insurance company; a separate account of an insurance company; an investment company registered under the federal Investment Company Act of 1940; a business development company as defined in the federal Investment Company Act of 1940; any private business development company as defined in the federal Investment Advisers Act of 1940; an employee pension, profit-sharing, or benefit plan if the plan has total assets in excess of five million dollars or its investment decisions are made by a named fiduciary, as defined in the federal Employee Retirement Income Security Act of 1974, that is a broker-dealer registered under the federal Securities Exchange Act of 1934, an investment adviser registered or exempt from registration under the federal Investment Advisers Act of 1940, a depository institution, or an insurance company; an entity, but not an individual, a substantial part of whose business activities consist of investing, purchasing, selling, or trading in securities of more than one issuer and not of its own issue and that has total assets in excess of five million dollars as of the end of its latest fiscal year; a small business investment company licensed by the federal small business administration under the federal Small Business Investment Act of 1958; and any other institutional buyer); and individuals who are existing customers of the broker-dealer and whose principal places of residence are not in this state; provided, seller is registered as a broker-dealer under the federal Securities Exchange Act of 1934 and has no place of business in this state.

(6) Any state bank and trust company, national banking association, savings bank, savings and loan association, federal savings and loan association, credit union, federal credit union, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, as amended, pension or profit-sharing trust, or other financial institution or institutional buyer, whether the purchaser is acting for itself or as a trustee; *provided*, that any seller who is not registered as a broker-dealer in Connecticut has no place of business there and effects transactions therein exclusively with or through the foregoing classes of purchasers.

(7) Any financial or institutional investor (*"financial or institutional investor"* means any of the following, whether acting for itself or others in a fiduciary capacity: a depository institution (*"depository institution"* means: a person that is organized, chartered, or holding an authorization certificate under the laws of a state or of the United States to receive deposits, including a savings, share, certificate or deposit account, and that is supervised and examined for the protection of depositors by an official or agency of a

state or the United States; a trust company or other institution that is authorized by federal or state law to exercise fiduciary powers of the type a national bank is permitted to exercise under the authority of the Comptroller of the Currency and is supervised and examined by an official or agency of a state or the United States; and "*depository institution*" does not include an insurance company or other organization primarily engaged in the insurance business, or a Morris Plan bank, industrial loan company, or a similar bank or company unless its deposits are insured by a federal agency); an insurance company; a separate account of an insurance company; an investment company registered under the Investment Company Act of 1940; a business development company as defined in the Investment Company Act of 1940; an employee pension, profit-sharing or benefit plan if the plan has total assets in excess of $5 million, or if investment decisions are made by a named fiduciary, as defined in the Employee Retirement Income Security Act of 1974, that is either a broker-dealer registered under the Securities Exchange Act of 1934, an investment adviser registered or exempt from registration under the Investment Advisers Act of 1940, a depository institution, or an insurance company; a "qualified institutional buyer" as defined in SEC Rule 144A; a broker-dealer; an accredited investor as defined in SEC Rule 501(a); a limited liability company with net assets of at least $500,000; and any other financial institution or institutional buyer; *provided*, that the seller has no place of business in the District of Columbia and effects transactions therein exclusively with the foregoing classes of purchasers.

(8) Any bank or trust company, savings institution, insurance company, investment company as defined by the Investment Company Act of 1940, or pension plan or profit-sharing trust, or qualified institutional buyer as defined by rule of the Department of Banking and Finance in accordance with Securities and Exchange Commission Rule 144A (17 C.F.R. 230.144(A)(a)), whether any of such entities is acting in its individual or fiduciary capacity; *provided* that such offer or sale of securities is not for the direct or indirect promotion of any scheme or enterprise with the intent of violating or evading any provision of the Florida Securities and Investor Protection Act.

(9) Any bank, savings institution, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, as now or hereafter amended, real estate investment trust, small business investment corporation, pension or profit-sharing plan or trust, or other financial institution, whether the purchaser is acting for itself or in some fiduciary capacity.

(10) Any bank, savings institution, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, pension or profit-sharing trust, qualified institutional buyer under SEC Rule 144A, or other financial institution or institutional buyer, whether the purchaser is acting for itself or in some fiduciary capacity.

(11) Any corporation, bank, savings bank, savings institution, savings and loan association, trust company, insurance company, building and loan association, pension fund or pension trust, employees' profit-sharing trust, other financial institution (including, but not limited to, a manager of investment accounts on behalf of other than natural persons

who, with affiliates, exercises sole investment discretion with respect to such accounts; *provided*, that such accounts exceed 10 in number and have a fair market value of not less than $10,000,000 at the end of the calendar month preceding the offering of the securities) or institutional investor (including, but not limited to, any investment company, university, or other organization whose primary purpose is to invest its own assets or those held in trust by it for others; trust accounts and individual or group retirement accounts in which a bank, trust company, insurance company or savings and loan institution acts in a fiduciary capacity; and foundations and endowment funds exempt from taxation under the Internal Revenue Code, a principal business function of which is to invest funds to produce income in order to carry out the purpose of the foundation or fund), any government or political subdivision or instrumentality thereof, whether the purchaser is acting for itself or in some fiduciary capacity; or any partnership or other association engaged as a substantial part of its business or operations in purchasing or holding securities, or any trust in respect of which a bank or trust company is trustee or co-trustee; or any employee benefit plan within the meaning of Title I of ERISA if (i) the investment decision is made by a plan fiduciary as defined in Section 3(21) of ERISA and such plan fiduciary is either a bank, savings and loan association, insurance company, registered investment adviser or an investment adviser registered under the Investment Advisers Act of 1940 or (ii) the plan has total assets in excess of $5,000,000 or (iii) in the case of a self-directed plan, investment decisions are made solely by persons that are described in this paragraph; any entity in which at least 90% of the equity is owned by (i) persons described above, (ii) any natural person who has, or is reasonably believed to have, a net worth or joint net worth with that person's spouse, at the time of the offer, sale or issuance, in excess of $1,000,000 or any natural person who had, or is reasonably believed to have had, an individual income or joint income with that person's spouse, in excess of $200,000 in the current year or any entity that is not a natural person and in which at least 90% of the equity interest is owned by natural persons described in this clause (ii), and (iii) directors, executive officers or general partners of the issuer of the securities being sold; or any plan established and maintained by, and for the benefit of the employees of, any state or political subdivision or agency or instrumentality thereof if such plan has total assets in excess of $5,000,000; or any organization described in Section 501(c)(3) of the Internal Revenue Code of 1986, any Massachusetts or similar business trust, or any partnership, if such organization, trust, or partnership has total assets in excess of $5,000,000.

(12) Any bank, savings institution, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, pension or profit-sharing trust, or other financial institution or institutional buyer, whether the purchaser is acting for itself or in some fiduciary capacity; *provided*, that any seller who is not registered as a dealer or broker-dealer in the state has no place of business there and effects transactions therein exclusively with or through the foregoing classes of purchasers. "Institutional buyer" includes qualified institutional buyers under SEC Rule 144A.

(13) Any underwriter, bank, savings institution, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, pension or profit-sharing trust, or other financial institution or institutional buyer; *provided*, that the

financial institution is acting for its own account or as a bona fide trustee of a trust organized or existing other than for the purpose of acquiring the Bonds.

(14) Any bank; savings institution, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, as now or hereafter amended, real estate investment trust, small business investment corporation, pension or profit-sharing plan or trust, qualified institutional buyer in compliance with SEC Rule 144 or Rule 144A, or other financial institution, whether the purchaser is acting for itself or in some fiduciary capacity.

(15) Existing customers of the seller who represent that they have no principal residence in Maine; *provided*, that the seller has no place of business in Maine and is registered as a broker-dealer in the state of its principal place of business and under the Securities Exchange Act of 1934; broker-dealers licensed or exempt under the Revised Maine Securities Act, except when the broker-dealer is acting as a clearing broker-dealer for such other broker-dealers; financial and institutional investors acting for themselves or in a fiduciary capacity (*"financial and institutional investor"* includes, but is not limited to, depository institutions and depository institution holding companies (*"depository institution"* means a person, other than an insurance company or other organization primarily engaged in the insurance business, which is: organized, chartered or holding an authorization certificate under the laws of any state or of the United States which authorizes the person to receive deposits, including a savings, share, certificate or deposit account; and supervised and examined for the protection of depositors by an official or agency of any state or the United States. "*Depository institution*" also includes any trust company or other institution which is authorized by state law to exercise fiduciary powers similar to those permitted to national banks under the authority of the United States Comptroller of the Currency, but does not include any industrial bank, Morris Plan Bank or industrial loan bank); insurance companies; separate accounts of insurance companies; investment companies as defined by the Investment Company Act of 1940; business development companies as defined in the Investment Company Act of 1940; entities, other than natural persons, a substantial part of whose business consists of investing, purchasing, selling or trading in securities of more than one issuer and not of its own issue whose gross assets exceeded $1,000,000 at the end of its latest fiscal year; employee pension and profit sharing or benefit plans other than those of the issuer, self-employed individual retirement plans or individual retirement accounts; *provided*, that the investment decision is made by a plan fiduciary as defined in Section 3, subsection 21 of the United States Employee Retirement Income Security Act of 1974, which is either a depository institution, insurance company, or an investment adviser registered under the Maine Securities Act, or the plan has total assets in excess of $5,000,000; small business investment companies licensed by the United States Small Business Administration under Section 301(c) or (d) of the Small Business Investment Act of 1958; not for private profit entities as defined in Section 501(c)(3) of the Internal Revenue Code with total assets in excess of $5,000,000); *provided*, that any seller who is not registered as a broker-dealer in Maine is registered as a broker-dealer under the Securities Exchange Act of 1934 and effects transactions in Maine exclusively with or through the foregoing classes of purchasers.

(16) Any bank, savings institution, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, pension or profit-sharing trust, or other financial institution or institutional buyer ("*Institutional Buyer*" includes, but is not limited to, the following: (1) a Small Business Investment Company licensed by the U.S. Small Business Administration under the Small Business Investment Act of 1958, as amended; (2) a private business development company as defined in s.202(a)(22) of the Investment Advisors Act of 1940, as amended; (3) a Business Development Company as defined in s.2(a)(48) of the Investment Company Act of 1940, as amended; (4) an entity with total assets in excess of $5 million and which is either: (a) a company (whether a corporation, a Massachusetts or similar business trust or a partnership) not formed for the specific purpose of acquiring the securities offered; a substantial part of whose business activities consists of investing, purchasing, selling or trading in securities issued by others and whose investment decisions made by persons who are reasonably believed by the seller to have such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of investment; or (b) an organization described in Section 501(c)(3) of the Internal Revenue Code; and (5) a Qualified Institutional Buyer as defined in 17 CFR 230.144A(a)), whether the purchaser is acting for itself or in some fiduciary capacity; *provided*, that any seller who is not registered as a dealer or broker-dealer in the state has no place of business there and effects transactions therein exclusively with or through the foregoing classes of purchasers.

(17) Any bank, savings institution, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, or other financial institution or institutional buyer ("*financial institution or institutional buyer*" includes, but is not limited to: (1) any corporation with a class of equity securities registered under Section 12(b) or 12(g) of the Securities Exchange Act of 1934, as amended, and (2) any "*qualified institutional buyer*" within the meaning of Rule 144A, and any person who is an "*accredited investor*" within the meaning of Rule 501(a), adopted by the Securities and Exchange Commission under the Securities Act of 1933, as amended) whether the purchaser is acting for itself or in some fiduciary capacity; *provided*, that any seller who is not registered as a broker-dealer in Minnesota has no place of business there and effects transactions therein exclusively with or through the foregoing classes of purchasers.

(18) Any bank, savings institution, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, pension or profit-sharing trust ("*pension or profit-sharing trust*" means an employee benefit plan, as defined in Title I of the Employee Retirement Income Security Act of 1974 ("*ERISA*"), if (i) the investment decisions are made by a "*plan fiduciary,*" as defined in Section 3(21) of ERISA, which is either a bank, insurance company or registered investment adviser or (ii) the employee benefit plan has total assets in excess of $5,000,000) or other financial institution or institutional buyer ("*financial institution or institutional buyer*" meaning (i) any bank as defined in Section 3(a)(2) of the Securities Act of 1933, whether acting in its individual or fiduciary capacity; (ii) any insurance company as defined in Section 2(13) of the Securities Act of 1933; (iii) any business development company as defined in Section 2(a)(48) of the Investment Company Act of 1940; and (iv) any small business

investment company licensed by the United States Small Business Administration, pursuant to Section 301(c) or (d) of the Small Business Investment Company Act of 1958), or to an individual accredited investor (*"individual accredited investor"* includes (i) any natural person whose individual net worth, or joint net worth with that person's spouse, at the time of his or her purchase, exceeds one million dollars, or (ii) any natural person who had an individual income in excess of two hundred thousand dollars in each of the two most recent years or joint income with that person's spouse in excess of three hundred thousand dollars in each of those years and has a reasonable expectation of reaching the same income level in the current year) or to a broker dealer whether the purchaser is acting for itself or in some fiduciary capacity.

(19) Any financial or institutional investor (*"financial or institutional investor"* means a depository institution; insurance company; a separate account of an insurance company; an investment company as defined in the Investment Company Act of 1940; an employee pension, profit-sharing, or benefit plan if the plan has total assets in excess of $5,000,000 or its investment decisions are made by a named fiduciary, as defined in the Employee Retirement Income Security Act of 1974, that is either a broker-dealer registered under the Securities Exchange Act of 1934, an investment adviser under the Investment Advisers Act of 1940, a depository institution, or an insurance company, and any other institutional buyer, whether the purchaser is acting for itself or others in a fiduciary capacity other than as an agent); *provided*, that the seller either is registered or is not required to be registered as a broker-dealer under the Securities Exchange Act of 1934 and has no place of business in Nevada and effects transactions therein exclusively with the foregoing classes of purchasers.

(20) Any bank, savings institution (*"savings institution"* means any savings and loan association or building and loan association operating pursuant to the Savings and Loan Act of New Jersey, any federal savings and loan association and any association organized under the laws of any state whose accounts are insured by the Federal Savings and Loan Insurance Corporation and which are subject to supervision and examination by the Federal Home Loan Bank Board, and any credit union licensed and supervised under the Credit Union Act of New Jersey or licensed and supervised by the National Credit Union Administration), trust company, insurance company, investment company as defined in the Investment Company Act of 1940, pension or profit-sharing trust, or other financial institution or institutional buyer, whether the purchaser is acting for itself or in some fiduciary capacity; *provided*, that any seller who is not registered as a broker-dealer in New Jersey effects transactions exclusively with or through the foregoing classes of purchasers.

(21) Any broker-dealer licensed or exempt under the New Mexico Securities Act, or financial or institutional investor (*"financial or institutional investor"* includes a depository institution, insurance company, separate account of an insurance company, investment company as defined in the Investment Company Act of 1940, a business development company as defined by the Investment Company Act of 1940, a small business investment company licensed by the United States Small Business Administration under Section 301(c) or (d) of the Small Business Investment Act of 1958, or employee

pension, profit-sharing or benefit plan, *provided*, that the plan has total assets in excess of $5,000,000, or, investment decisions are made by a plan fiduciary, as defined in the Employee Retirement Income Security Act of 1974, which is either a broker-dealer registered under the Securities Exchange Act of 1934, an investment adviser registered or exempt from registration under the Investment Advisors Act of 1940, a depository institution or an insurance company, whether acting for itself or others in a fiduciary capacity, other than as an agent); *provided*, that any seller who is not registered as a broker-dealer in New Mexico is registered as a broker-dealer under the Securities Exchange Act of 1934, has no place of business in New Mexico and effects transactions therein exclusively with or through the foregoing classes of purchasers.

(22) Any bank (*"bank"* means a state or national bank, trust company or savings institution incorporated under the laws and subject to the examination, supervision and control of any state or of the United States or of any insular possession thereof), syndicate, corporation or group formed for the specific purpose of acquiring such securities for resale to the public directly or through other syndicates or groups, or any person purchasing such securities on the floor of any securities exchange registered as a national securities exchange under the Securities Exchange Act of 1934; and, *as part of a private placement*, any bank, corporation, savings institution, trust company, insurance company, investment company, as defined in the federal investment company act of nineteen hundred forty, pension or profit-sharing trust, or other financial institution or institutional buyer, whether the purchaser is acting for himself or itself or in some fiduciary capacity.

(23) An unlicensed Ohio dealer may sell to any licensed Ohio dealer. In addition, a licensed Ohio dealer may sell to the issuer, a dealer or an institutional investor. "*Institutional investor*" means any corporation, bank (defined to include any bank, trust company, savings and loan association, savings bank or credit union organized under the laws of the United States or any state), insurance company, pension fund or pension fund trust, employees' profit sharing fund or employees' profit sharing trust, any association engaged, as a substantial part of its business or operations, in purchasing or holding securities, or any trust in respect of which a bank is trustee or co-trustee.

(24) Any bank, savings institution, trust company, insurance company, investment company, pension or profit-sharing trust, or other financial institution or institutional buyer (including, but not limited to, qualified institutional buyer under SEC Rule 144A, the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation, the Federal Housing Administration, the United States Veterans Administration and the Government National Mortgage Association), or to a mortgage broker or a mortgage banker, whether the purchaser is acting for itself or in a fiduciary capacity when the purchaser has discretionary authority to make investment decisions.

(25) Any institutional investor (*"institutional investor"* means any bank, insurance company, pension or profit-sharing plan or trust, investment company as defined in the Investment Company Act of 1940, other financial institution or any person, other than an individual, which controls any of the foregoing, the Federal government, any state, or any agency or political subdivision thereof or any person so designated by regulation of the

Pennsylvania Securities Commission; the other institutional investors designated by regulation of such commission being (1) any corporation or business trust or wholly-owned subsidiary of such person (a) which has a tangible net worth, which shall include net worth less the amount of all items of goodwill, pre-operating, deferred and development expenses, patents, trademarks, licenses or other similar accounts, on a consolidated basis of not less than $10,000,000, as reflected on its most recent audited financial statements ("most recent" audited financial statements meaning audited financial statements dated not more than 16 months prior to the date of the transaction in which such person proposes to purchase securities), and (b) which has been in existence for 18 months; (2) any college, university or other public or private institution which has received exempt status under Section 501(c)(3) of the Internal Revenue Code of 1954 and which has total endowment or trust funds, including annuity and life income funds, of not less than $5,000,000 according to its most recently audited financial statements; *provided*, that the aggregate dollar amount of the securities being sold to such person shall not exceed 5% of such endowment or trust funds; (3) a wholly-owned subsidiary of any bank (*"bank"* means any bank, banking and trust company, savings bank, trust company or private bank, as defined in the Banking Code of 1965, or any savings and loan association, as defined in the Savings Association Code of 1967 or any successor statutes thereto, or any banking institution, trust company or savings and loan institution organized under the laws of the United States, or of any state, territory or the District of Columbia, or a receiver, conservator or other liquidating agent of any of the foregoing); (4) a person, except an individual or an entity whose security holders consist entirely of one individual or group of individuals who are related, which is organized primarily for the purpose of purchasing, in nonpublic offerings, securities of corporations or issuers engaged in research and development activities in conjunction with a corporation and which complies with certain conditions; (5) a Small Business Investment Company as defined in Section 103 of the Small Business Investment Act of 1958 which meets certain conditions; (6) a Seed Capital Fund, as defined in Section 2 and authorized in Section 6 of the Small Business Incubators Act; (7) a Business Development Credit Corporation, as authorized by the Business Development Credit Corporation Law; (8) a person whose security holders consist solely of institutional investors or broker-dealers; (9) a person as to which the issuer reasonably believed qualified as an institutional investor at the time of the offer or sale of the securities on the basis of written representations made by the purchaser to the issuer), whether the buyer is acting for itself or in some fiduciary capacity; and (10) a qualified institutional buyer as that term is defined in Rule 144A under the Securities Act of 1933, or any successor rule thereto, *provided*, that any seller who is not registered as a broker-dealer in Pennsylvania has no place of business there, and effects transactions therein exclusively with or through the foregoing classes of purchasers.

(26) Any bank, savings institution, trust company, insurance company, investment company as defined in the Investment Companies Act of Puerto Rico, pension or profit-sharing trust, or other financial institution or institutional buyer, whether the purchaser is acting for itself or in some fiduciary capacity; *provided*, that any seller who is not registered as a broker-dealer in Puerto Rico has no place of business there and effects transactions exclusively with or through the foregoing classes of purchasers.

(27) Any registered or exempt broker-dealer or financial or institutional investor (*"financial or institutional investor"* means any of the following, whether acting for itself or another in a fiduciary capacity: a depository institution (*"depository institution"* means: a person which is organized, chartered, or holding an authorization certificate under the laws of a state or of the United States which authorizes the person to receive deposits, including a savings, share, certificate or deposit account, and which is supervised and examined for the protection of depositors by an official or agency of a state or the United States; a trust company or other institution that is authorized by federal or state law to exercise fiduciary powers of the type a national bank is permitted to exercise under the authority of the comptroller of the currency and is supervised and examined by an official or agency of a state or the United States; and "*depository institution*" does not include an insurance company or other organization primarily engaged in the insurance business, or a Morris plan bank, industrial loan company, or a similar bank or company unless its deposits are insured by a federal agency); an insurance company; a separate account of an insurance company; an investment company as defined in the Investment Company Act of 1940; an employee pension, profit sharing or benefit plan if the plan has total assets in excess of five million dollars ($5,000,000), or if investment decisions are made by a plan fiduciary, as defined in the Employee Retirement Income Security Act of 1974, which is either a broker-dealer registered under the Securities Exchange Act of 1934, an investment adviser registered or exempt from registration under the Investment Advisers Act of 1940, a depository institution, or an insurance company; and any other institutional buyer (*"Institutional buyer"* includes qualified institutional buyers under SEC Rule 144A); *provided*, that the seller either is registered or is not required to be registered as a broker-dealer under the Securities Exchange Act of 1934 and has no place of business in Rhode Island and effects transactions therein exclusively with the foregoing classes of purchasers.

(28) Any bank, savings institution, trust company, insurance company, savings and loan association, investment company as defined in the Investment Company Act of 1940, pension or profit sharing trust or other financial institution or other institutional buyer (*"financial institution"* or *"institutional buyer"* means an endowment or trust fund of a charitable organization specified in Section 170(b)(1)(A) of the Internal Revenue Code (as amended through April 1, 1990); an issuer who has any class of securities registered under Section 12 of the Securities Exchange Act of 1934 and any wholly owned subsidiary of such issuer; and any other corporation, partnership or association which has been in existence for 10 years or whose net assets exceed $500,000 and whose principal purpose as stated in its articles, by-laws or other organizational instrument is investment in securities), whether such person is acting for itself or as a trustee; *provided*, that any seller who is not registered as a broker-dealer in the state has no place of business there and effects transactions therein exclusively with or through the foregoing classes of purchasers.

(29) Any institutional investor (*"institutional investor"* means any bank, trust company, insurance company, investment company registered under the Investment Company Act of 1940, as amended, a holding company which controls any of the foregoing, a trust or fund over which any of the foregoing has or shares investment discretion, or any other

person engaged as a substantial part of its business in investing in securities, unless such other person is within the definition of a broker-dealer, in each case having a net worth in excess of $1,000,000); *provided*, that any seller who is not registered as a broker-dealer in Tennessee has no place of business there, is registered as a broker-dealer with the Securities and Exchange Commission or the National Association of Securities Dealers, and effects transactions in Tennessee exclusively with or through the foregoing classes of purchasers.

(30) Any registered dealer actually engaged in buying and selling securities; any bank, trust company, building and loan association, insurance company, surety or guaranty company, savings institution (including any federally chartered credit union or savings and loan association or federal savings bank, and any credit union or savings and loan association chartered under the laws of any state of the United States); investment company as defined in the Investment Company Act of 1940; small business investment company as defined in the Small Business Investment Act of 1958, as amended; an accredited investor under SEC Rule 501(a)(1)-(4), (7) and (8), excluding, however, any self-directed employee benefit plan with investment decisions made solely by persons that are accredited investors under SEC Rule 501(a)(5)-(6); any qualified institutional buyer under SEC Rule 144A; or any corporation, partnership, trust, estate, or other entity (excluding individuals) having net worth of not less than $5 million or a wholly-owned subsidiary of such entity, as long as the entity was not formed for the purpose of acquiring the Bonds; *provided,* that such financial institutions or other institutional investors are acting for their own account or as a bone fide trustee of a trust organized and existing other than for the purpose of acquiring the Bonds.

(31) Any qualified institutional buyer under SEC Rule 144A, or broker-dealer registered or exempt by the Vermont Securities Act; *provided*, that seller has no place of business in the State of Vermont.

(32) Any corporation, investment company, or pension or profit-sharing trust.

(33) Any bank, savings institution, savings bank, credit union, trust company, insurer, broker-dealer, investment adviser or savings and loan association, *provided* that the purchaser or prospective purchaser is acting for itself or as trustee with investment control; any investment company as defined in the Investment Company Act of 1940, or pension or profit-sharing trust (*provided* that such trust is administered by a bank, savings institution, savings bank, credit union, trust company, insurer, broker-dealer, investment adviser or savings and loan association that has investment control); the State of Wisconsin or any of its agencies or political subdivisions; the federal government or any of its agencies or instrumentalities; or any other financial institution or institutional investor designated by rule or order of the Wisconsin Securities Commissioner ("*financial institution or institutional investor*" includes any endowment or trust fund of a charitable organization specified in section 170(b)(1)(A) of the Internal Revenue Code; any issuer which has a class of securities registered under section 12 of the Securities Exchange Act of 1934 and any wholly owned subsidiary thereof; any other corporation, partnership or association operating a small business investment company licensed under the Small Business Investment Act of 1958 or a corporation, partnership or association

whose net assets exceed $1,000,000 and either whose principal purpose as stated in its articles, by-laws or other organizational instrument is investing in securities or whose primary business is investing in developmental stage companies or eligible small business companies as defined in the regulations of the Small Business Administration at 13 CFR 108.2; any "qualified institutional buyer" as defined and listed in Section 230.144A under the Securities Act of 1933 as amended inclusive to October 22, 1992, whether acting for its own account or the accounts of other qualified institutional buyers that in the aggregate owns and invests on a discretionary basis at least $100 million in securities of issuers that are not affiliated with the qualified institutional buyer; any entity, all of the equity owners of which are persons or institutions described herein, acting for its own account or the accounts of other persons designated herein; any "individual accredited investor" including any director, executive officer, or general partner of the issuer of the securities being offered or sold, or any director, executive officer, or general partner of a general partner of that issuer, any natural person whose individual net worth or joint net worth with that person's spouse at the time of his or her purchase exceeds $1,000,000, or any natural person who had an individual income in excess of $200,000 in each of the two most recent years or joint income with that person's spouse in excess of $300,000 in each of those years and has a reasonable expectation of reaching the same income level in the current year, *provided* the issuer reasonably believes that the individual accredited investor either alone or with an investor representative, has such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of the prospective investment; or any "accredited investor" as listed in Section 230.501(a)(1),(2),(3) or (7) under Regulation D under Sections 3(b) and 4(2) of the Securities Act of 1933), *provided* that any seller who is not registered as a broker-dealer in the state effects transactions in the state exclusively for the account of or exclusively in offers to sell or sales to the foregoing classes of purchasers.

(34) Any offer or sale to a bank savings institution, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, pension or profit sharing trust, or other financial institution or institutional buyer, or to a broker-dealer, whether the purchaser is acting for itself or in some fiduciary capacity.

(35) A bank, savings institution, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, pension or profit-sharing trust or similar benefit plan, or other financial institution or qualified institutional buyer, or to a dealer, whether the purchaser is acting for itself or in some fiduciary capacity.

(36) Other broker-dealers or financial or institutional investors, whether acting for themselves or as trustees (*"financial or institutional investor"* means any of the following, whether acting for itself or others in a fiduciary capacity: (1) a depository institution (hereinafter defined); (2) an insurance company; (3) a separate account of an insurance company; (4) an investment company as defined in the Investment Company Act of 1940; (5) an employee pension, profit-sharing, or benefit plan if the plan has total assets in excess of $5,000,000 or its investment decisions are made by a named fiduciary, as defined in the Employee Retirement Income Security Act of 1974, that is either a broker-dealer registered under the Securities Exchange Act of 1934, an investment advisor registered or

exempt from registration under the Investment Advisers Act of 1940, a depository institution (hereinafter defined) or any insurance company; (6) a qualified institutional buyer as defined in Rule 144A adopted by the United States Securities and Exchange Commission; or (7) any other institutional buyer. A *"depository institution"* means: (1) a person that is organized, chartered or holding an authorization certificate under the laws of a state or of the United States which authorizes the person to receive deposits, including a savings, share, certificate, or deposit account, and which is supervised and examined for the protection of depositors by an official or agency of a state or the United States; or (2) a trust company or other institution that is authorized by federal or state law to exercise fiduciary powers of the type a national bank is permitted to exercise under the authority of the Comptroller of the Currency and is supervised and examined by an official or agency of a state or the United States. The term *"depository institution"* does not include an insurance company or other organization primarily engaged in the insurance business or a Morris Plan bank, industrial loan company, or a similar bank or company unless its deposits are insured by a federal agency); *provided,* that any seller who is not registered as a broker-dealer in the state has no place of business there and effects transactions therein exclusively with or through the foregoing classes of purchasers.

(37) Any bank, savings institution, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, pension or profit-sharing trust, qualified institutional buyer under SEC Rule 144A, or other financial institution or institutional buyer, whether the purchaser is acting for itself or in some fiduciary capacity. (The Administrator has interpreted the term *"institutional buyer"* to mean: (1) a corporation, business trust, or partnership or wholly owned subsidiary of such an entity, which has been operating for at least 12 months and which has a net worth on a consolidated basis of at least $10,000,000 as determined by the entity's most recent audited financial statements, such statements to be dated within 16 months of the transaction made in reliance upon this exemption; (2) any entity which has been granted exempt status under Section 501(c)(3) of the Internal Revenue Code of 1986 and which has a total endowment or trust funds of $5,000,000 or more according to its most recent audited financial statements, such statements to be dated within 16 months of the transaction made in reliance upon this exemption; or (3) any wholly owned subsidiary of a bank, savings, institution, insurance company or investment company as defined in the Investment Company Act of 1940. The Administrator has further found that the term "institutional buyer" does not include a natural person, individual retirement account (IRA), Keogh account or other self-directed pension plan.)

(38) An investment company as defined in the Investment Company Act of 1940, an investment adviser with assets under management of not less than $1,000,000, a broker-dealer, bank, trust company, savings and loan association, insurance company, employee benefit plan with assets of not less than $1,000,000, or governmental agency or instrumentality whether acting for itself or or other financial institution or institutional buyer, whether the purchaser is acting for itself or as a trustee or a fiduciary with investment control or other institutional investor designated by rule or order; *provided*, that any seller who is not registered as a dealer or broker-dealer in the state has no place

of business there and effects transactions therein exclusively with or through the foregoing classes of purchasers. "Institutional investor" is designated as an accredited investor under Rule 501(a)(1)-(3), (7) and (8) or a qualified institutional buyer under SEC Rule 144A.

(39) Any bank, savings institution, trust company, insurance company, investment company as defined in the Investment Company Act of 1940, the federal national mortgage association, the federal home loan mortgage corporation, or the government national mortgage association, pension or profit-sharing trust, the assets of which are managed by an institutional manager, the treasurer of this state, other financial institution, broker dealer, whether the purchaser is acting for itself or in some fiduciary capacity, or a lender approved by the federal housing administration and who has satisfied any additional requirements established by the administrator by rule or order; *provided*, that any seller who is not registered as a dealer or broker-dealer in the state has no place of business there and effects transactions therein exclusively with or through the foregoing classes of purchasers.

CHAPMAN AND CUTLER

CONTINUING DISCLOSURE UNDERTAKING
FOR THE PURPOSE OF PROVIDING
CONTINUING DISCLOSURE INFORMATION
UNDER SECTION (b)(5) OF RULE 15c2-12

This Continuing Disclosure Undertaking (the *"Agreement"*) is executed and delivered by American Airlines, Inc. (the *"Company"*) and AMR Corporation (*"AMR"*) in connection with the issuance of $500,000,000 in aggregate principal amount of New York City Industrial Development Authority Special Facility Revenue Bonds, Series 2002A (American Airlines, Inc. John F. Kennedy International Airport Project) (the *"Series 2002A Bonds"*) and Special Facility Revenue Bonds, Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (the *"Series 2002B Bonds"*). The Series 2002A Bonds and the Series 2002B Bonds (collectively, the *"Series 2002 Bonds"*) will be issued pursuant to and secured by a Master Indenture of Trust dated as of July 1, 2002 (the *"Master Indenture"*), as supplemented by a First Series Supplemental Indenture of Trust dated as of July 1, 2002 (with respect to the Series 2002A Bonds) and a Second Series Supplemental Indenture of Trust dated as of July 1, 2002 (with respect to the Series 2002B Bonds) (collectively, the *"Indenture"*) between the Agency and The Bank of New York, New York, New York, as trustee (the *"Trustee"*).

In connection with the issuance of the Bonds, the Company will enter into an IDA Lease Agreement with the Issuer dated as of July 1, 2002 (the *"IDA Lease"*). Payments of principal and purchase price of and interest and redemption premium, if any, on each series of the Bonds will be guaranteed by AMR pursuant to a Guaranty from AMR to the Trustee dated as of July 1, 2002 (the *"AMR Guaranty"*) and by the Company pursuant to a Guaranty from the Company to the Trustee dated as of July 1, 2002 (the *"Company Guaranty"*).

In consideration of the issuance of the Bonds by the Issuer and the purchase of such Bonds by the beneficial owners thereof, the Company and AMR (each for itself only) covenant and agree as follows:

1. PURPOSE OF THIS AGREEMENT. This Agreement is executed and delivered by the Company and AMR as of the date set forth below, for the benefit of the beneficial owners of the Bonds and in order to assist the Participating Underwriters (as defined below) in complying with the requirements of the Rule (as defined below). The Company and AMR each represent that they will be the only obligated persons with respect to the Bonds at the time the Bonds are delivered to the Participating Underwriters and that no other person is expected to become so committed at any time after issuance of the Bonds.

2. DEFINITIONS. The terms set forth below shall have the following meanings in this Agreement, unless the context clearly otherwise requires.

Annual Financial Information means the financial information and operating data described in *Exhibit I.*

Annual Financial Information Disclosure means the dissemination of disclosure concerning Annual Financial Information and the dissemination of the Audited Financial Statements as set forth in Section 4.

Audited Financial Statements means the audited financial statements of the Company and AMR, as the case may be, prepared pursuant to the standards and as described in *Exhibit I*.

Commission means the Securities and Exchange Commission.

Dissemination Agent means any agent designated as such in writing by the Company or AMR and that has filed with the Company or AMR a written acceptance of such designation and such agent's successors and assigns.

Event means the occurrence of any of the events set forth in *Exhibit II*.

Exchange Act means the Securities Exchange Act of 1934, as amended.

Material Event means the occurrence of an Event that is material, as materiality is interpreted under the Exchange Act.

Material Events Disclosure means dissemination of a notice of a Material Event as set forth in Section 5.

MSRB means the Municipal Securities Rulemaking Board.

NRMSIRs means, as of any date, all Nationally Recognized Municipal Securities Information Repositories then recognized by the Securities and Exchange Commission for purposes of the Rule. As of the date of this Agreement, the NRMSIRs are:

Bloomberg Municipal Repository
100 Business Park Drive
Skillman, New Jersey 08558
Phone: (609) 279-3225
Fax: (609) 279-5962
Email: Munis@Bloomberg.com

DPC Data Inc.
One Executive Drive
Fort Lee, NJ 07024
Phone: (201) 346-0701
Fax: (201) 947-0107
Email: nrmsir@dpcdata.com

FT Interactive Data
Attn: NRMSIR
100 William Street

New York, New York 10038
Phone: (212) 771-6999
Fax: (212) 771-7390 (Secondary Market Information)
(212) 771-7391 (Primary Market Information)
Email: NRMSIR@FTID.com

Standard & Poor's J. J. Kenny Repository
55 Water Street
45th Floor
New York, NY 10041
Phone: (212) 438-4595
Fax: (212) 438-3975
Email: nrmsir_repository@sandp.com

The names and addresses of all current NRMSIRs should be verified each time information is delivered to the NRMSIRs pursuant to this Agreement.

Participating Underwriter means each broker, dealer or municipal securities dealer acting as an underwriter in the primary offering of the Bonds.

Rule means Rule 15c2-12 adopted by the Commission under the Exchange Act, as the same may be amended from time to time.

SID means the public or private repository designated by the State as the state information depository and recognized as such by the Commission for purposes of the Rule. As of the date of this Agreement there is no SID.

State means the State of New York.

Undertaking means the obligations of the Company and AMR pursuant to Sections 4 and 5.

All capitalized terms not otherwise defined herein shall have the meanings ascribed to them in the Indenture.

3. CUSIP NUMBER/FINAL OFFICIAL STATEMENT. The CUSIP numbers of the Bonds are 64971SBG3 (Series 2002A) and 64971SBJ7 (Series 2002B). The Final Official Statement relating to the Bonds is dated July 25, 2002 (the *"Final Official Statement"*).

4. ANNUAL FINANCIAL INFORMATION DISCLOSURE. Subject to Section 9 of this Agreement, the Company and AMR each hereby covenants that it will disseminate its Annual Financial Information and its Audited Financial Statements (in the form and by the dates set forth in *Exhibit I*) to the Commission. The Company and AMR each hereby covenants that it will send a notice to each NRMSIR and to the SID, if any, on an annual basis indicating that its respective Annual Report on Form 10-K filed with the Commission in accordance with the Exchange Act constitutes its respective Annual Financial Information and Audited Financial

Statements for that year. The Company and AMR are required to deliver such information in such manner and by such time so that such entities receive the information by the dates specified.

If any part of the Annual Financial Information can no longer be generated because the operations to which it is related have been materially changed or discontinued, the Company or AMR, as the case may be, will disseminate a statement to such effect as part of its Annual Financial Information for the year in which such event first occurs.

If any amendment is made to this Agreement, the Annual Financial Information for the year in which such amendment is made (or in any notice or supplement provided to each NRMSIR and the SID) shall contain a narrative description of the reasons for such amendment and its impact on the type of information being provided.

5. EVENTS NOTIFICATION; MATERIAL EVENTS DISCLOSURE. Subject to Section 9 of this Agreement, the Company and AMR each hereby covenants that it will disseminate in a timely manner Material Events Disclosure (a) to each NRMSIR or to the MSRB and (b) to the SID, if any. Notwithstanding the foregoing, notice of optional or unscheduled redemption of any Bonds or defeasance of any Bonds need not be given under this Agreement any earlier than the notice (if any) of such redemption or defeasance is given to the Bondholders pursuant to the Indenture.

6. DUTY TO UPDATE NRMSIRs/SID. Each of the Company and AMR shall determine, in the manner it deems appropriate, the names and addresses of the then existing NRMSIRs and SID each time it is required to file information with such entities.

7. CONSEQUENCES OF FAILURE OF THE COMPANY OR AMR TO PROVIDE INFORMATION. The Company or AMR, as applicable, shall give notice in a timely manner to each NRMSIR or to the MSRB and to the SID, if any, of any failure by it to provide Annual Financial Information Disclosure when the same is due hereunder.

In the event of a failure of the Company or AMR to make timely filings under Section 4 or Section 5 of this Agreement, the beneficial owner of any Bond may seek mandamus or specific performance by court order, to cause the Company or AMR, as the case may be, to make such filings. The beneficial owners of 25% or more in principal amount of the Bonds outstanding may challenge the adequacy of the information provided under this Agreement and seek specific performance by court order to cause the Company or AMR to provide the information as required by this Agreement. A default under this Agreement shall not be deemed an Event of Default under the Indenture, the IDA Lease, the AMR Guaranty, the Company Guaranty or any other agreement, and the sole remedy under this Agreement in the event of any failure of the Company or AMR to comply with this Agreement shall be an action to compel performance.

8. AMENDMENTS; WAIVER. Notwithstanding any other provision of this Agreement, the Company and AMR may amend this Agreement, and any provision of this Agreement may be waived, if:

(a) The amendment or waiver is made in connection with a change in circumstances that arises from a change in legal requirements, change in law, change in the identity, nature or status of the Company or AMR or change in the type of business conducted by the Company;

(b) This Agreement, as amended, or the provision, as waived, would have complied with the requirements of the Rule at the time of the primary offering, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; or

(c) The amendment or waiver does not materially impair the interests of the beneficial owners of the Bonds, as determined either by parties unaffiliated with the Issuer, the Company or AMR (such as the Trustee or Bond Counsel), or by an approving vote of Bondholders pursuant to the terms of the Indenture at the time of the amendment.

9. TERMINATION OF UNDERTAKING. The Undertaking of the Company or AMR shall be automatically terminated hereunder when the Company or AMR, as the case may be, shall no longer have any legal liability for any obligation on or relating to repayment of the Bonds under the Indenture, the IDA Lease, the AMR Guaranty or the Company Guaranty. The Company or AMR, as applicable, shall give notice in a timely manner to each NRMSIR or to the MSRB and to the SID, if any, if this Section is applicable.

10. DISSEMINATION AGENT. Each of the Company and AMR may, from time to time, appoint or engage a Dissemination Agent to assist it in carrying out its obligations under this Agreement and may discharge any such Dissemination Agent, with or without appointing a successor Dissemination Agent.

11. ADDITIONAL INFORMATION. Nothing in this Agreement shall be deemed to prevent the Company or AMR from disseminating any other information, using the means of dissemination set forth in this Agreement or any other means of communication, or including any other information in any Annual Financial Information Disclosure or notice of occurrence of a Material Event, in addition to that which is required by this Agreement. If the Company or AMR chooses to include any information from any document or notice of occurrence of a Material Event in addition to that which is specifically required by this Agreement, neither the Company nor AMR shall have any obligation under this Agreement to update such information or include it in any future disclosure or notice of occurrence of a Material Event.

12. BENEFICIARIES. This Agreement has been executed in order to assist the Participating Underwriters in complying with the Rule; however, this Agreement shall inure solely to the benefit of the Company, AMR, any Dissemination Agent and the beneficial owners of the Bonds, and shall create no rights in any other person or entity.

13. RECORDKEEPING. The Company and AMR shall maintain records of all Annual Financial Information Disclosure and Material Events Disclosure, including the content of such disclosure, the names of the entities with whom such disclosure was filed and the date of filing such disclosure.

14. ASSIGNMENT. The Company shall not transfer its obligations under the IDA Lease or the Company Guaranty unless the transferee agrees to assume all obligations of the Company under this Agreement or to execute an Undertaking under the Rule. AMR shall not transfer its obligations under the AMR Guaranty unless the transferee agrees to assume all obligations of AMR under this Agreement or to execute an Undertaking under the Rule.

15. GOVERNING LAW. This Agreement shall be governed by the laws (other than the conflicts of law provisions) of the State of New York.

16. APPLICABILITY AND TERMINATION. Anything to the contrary herein not withstanding, the Company and AMR shall have no obligation to provide continuing disclosure pursuant to this Agreement with respect to any series of Bonds that bears interest at an interest rate other than a Long-Term Interest Rate. If all series of the Bonds bear interest at rates other than Long-Term Interest Rates, this Agreement shall terminate.

AMERICAN AIRLINES, INC.

By: Susan Beaners
Its: _____
Address: MD 5662
P.O. Box 619616
Dallas/Fort Worth Airport, Texas
75261-9616
Attention: Treasurer

AMR CORPORATION

By: _____
Its: _____
Address: MD 5662
P.O. Box 619616
Dallas/Fort Worth Airport, Texas
75261-9616
Attention: Treasurer

Date: July 31, 2002

EXHIBIT I

ANNUAL FINANCIAL INFORMATION AND TIMING AND AUDITED FINANCIAL STATEMENTS

"Annual Financial Information" means information of the type contained in the Company's or AMR's (as the case may be) Annual Report on Form 10-K filed with the Commission pursuant to the Exchange Act. All or a portion of the Annual Financial Information and the Audited Financial Statements as set forth below may be included by reference to other documents, including other official statements (subject to the following sentence), that have been submitted to each NRMSIR and to the SID, if any, or filed with the Commission. If the information included by reference is contained in a final Official Statement, the final Official Statement must be available from the MSRB. The Company or AMR (as the case may be) shall clearly identify each such item of information included by reference.

I. Annual Financial Information:

a. Annual Financial Information (exclusive of Audited Financial Statements) will be provided to the Commission not later than the date information is or would otherwise be required to be filed with the Commission under the requirements of the Exchange Act.

b. Audited Financial Statements as described in Part II should be filed at the same time as the Annual Financial Information described in this Part I. If Audited Financial Statements are not available when the Annual Financial Information is filed, unaudited financial statements shall be included.

II. Audited Financial Statements:

a. Audited Financial Statements will be prepared in accordance with generally accepted accounting principles in the United States as in effect from time to time.

b. Audited Financial Statements will be provided to the Commission not later than the date information is or would otherwise be required to be filed with the Commission under the requirements of the Exchange Act.

III. If any change is made to the Annual Financial Information as permitted by Section 4 of the Agreement, the Company or AMR (as the case may be) will disseminate a notice of such change as required by Section 4.

EXHIBIT II
EVENTS WITH RESPECT TO THE BONDS FOR WHICH MATERIAL EVENTS DISCLOSURE IS REQUIRED

1. Principal and interest payment delinquencies.
2. Non-payment related defaults.
3. Unscheduled draws on debt service reserves reflecting financial difficulties.
4. Unscheduled draws on credit enhancements reflecting financial difficulties.
5. Substitution of credit or liquidity providers, or their failure to perform.
6. Adverse tax opinions or events affecting the tax-exempt status of the security.
7. Modifications to the rights of security holders.
8. Bond calls.
9. Defeasances.
10. Release, substitution or sale of property securing repayment of the securities.
11. Rating changes.

$500,000,000
NEW YORK CITY INDUSTRIAL DEVELOPMENT AGENCY
SPECIAL FACILITY REVENUE BONDS, SERIES 2002
(AMERICAN AIRLINES, INC. JOHN F. KENNEDY INTERNATIONAL AIRPORT PROJECT)

BOND PURCHASE AGREEMENT

July 25, 2002

New York City Industrial Development Agency
110 William Street - 6th Floor
New York, New York 10038
Attention: Executive Director

American Airlines, Inc.
4333 Amon Carter Boulevard
Fort Worth, Texas 76155
Attention: Vice President and Treasurer

AMR Corporation
4333 Amon Carter Boulevard
Fort Worth, Texas 76155
Attention: Senior Vice President and Treasurer

Ladies and Gentlemen:

Salomon Smith Barney Inc. (the *"Senior Managing Underwriter"*), acting on behalf of itself and the other underwriters listed in *Schedule I* attached hereto (collectively, the *"Underwriters"*), offers to enter into the following agreement (the *"Agreement"* or *"Bond Purchase Agreement"*) with you, the New York City Industrial Development Agency (the *"Issuer"*), American Airlines, Inc., a Delaware corporation (the *"Company"*), and AMR Corporation, a Delaware corporation (*"AMR"*), which, upon your acceptance of this offer, will be binding upon you and the Underwriters. This offer is made subject to the acceptance of this Agreement by the Issuer, the Company and AMR, on or before 5:00 P.M., New York City time, on the date indicated above and, if not so accepted, may be withdrawn by the Underwriters upon notice to the Issuer, the Company and AMR by the Underwriters at any time before its acceptance.

The Underwriters represent that the Senior Managing Underwriter is authorized to take any actions which may be required by this Agreement on behalf of the Underwriters. Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the Indenture or the Official Statement, as those terms are defined below. The Underwriters represent that the

Senior Managing Underwriter has been duly authorized to execute this Agreement on behalf of the other Underwriters.

1. *Purchase and Sale of Bonds.* Upon the terms and conditions and upon the basis of the representations set forth herein, the Underwriters jointly and severally agree to purchase from the Issuer, and the Issuer hereby agrees to sell to the Underwriters, the Issuer's Special Facility Revenue Bonds, Series 2002A (American Airlines, Inc. John F. Kennedy International Airport Project) in the aggregate principal amount of $120,000,000 (the *"Series 2002A Bonds"*) and the Issuer's Special Facility Revenue Bonds, Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) in the aggregate principal amount of $380,000,000 (the *"Series 2002B Bonds"*). The Series 2002A Bonds and the Series 2002B Bonds are herein collectively called the *"Bonds."* The Bonds will be dated July 1, 2002, and will bear interest from their date at the Long-Term Interest Rates for the Long-Term Interest Rate Periods as set forth in Schedule I hereto. The purchase price for the Bonds will be $475,974,866.67, reflecting the aggregate principal amount of the Bonds less net original issue discount of $24,891,800 and less an underwriting discount of $2,625,000, plus accrued interest of $3,491,666.67 (calculated on the basis of a 360-day year of twelve 30 day months) to the date of payment for delivery of the Bonds (the *"Closing"*).

The Bonds will be issued pursuant to a Master Indenture of Trust dated as of July 1, 2002, as supplemented by a First Series Supplemental Indenture of Trust and a Second Series Supplemental Indenture of Trust, each dated as of July 1, 2002 (collectively the *"Indenture"*) between the Issuer and The Bank of New York, New York, New York, as trustee (the *"Trustee"*). The Bonds are being issued to provide funds to finance a portion of the costs of the *"Project"* which consists of (i) the demolition of Terminals 8 and 9 at John F. Kennedy International Airport (the *"Airport"*) in Queens, New York, and (ii) the acquisition, construction and equipping of a new air passenger terminal together with related arrival and departure access ramps (the *"Facility"*) to be used and managed by the Company. The land on which the Facility is to be located, together with the buildings, structures, improvements and related facilities on such land (the *"Premises"*), are owned by The City of New York (the *"City"*) and are leased by the City to The Port Authority of New York and New Jersey (the *"Port Authority"*) pursuant to an Agreement of Lease dated April 17, 1947, as amended and supplemented (the *"Basic Lease"*). The Premises have been subleased by the Port Authority to the Company pursuant to an Agreement of Lease entered into as of August 1, 1976, as supplemented and amended, as further supplemented, amended and restated in an Amended and Restated Lease dated as of December 22, 2000, as further supplemented and amended by the First Supplemental Agreement dated as of July 31, 2002 (the *"First Supplement"*) and as further supplemented, amended or modified from time to time (the *"Port Authority Lease"*). The Company and the Issuer will enter into a Company Sublease Agreement dated as of July 1, 2002 (the *"Company Sublease"*), pursuant to which the Company will sub-sublease to the Issuer those portions of the Premises (but excluding any portion of the underlying land) subject to the Port Authority Lease which constitute the Facility (the *"Leased Facilities"*). Pursuant to an IDA Lease Agreement dated as of July 1, 2002 (the *" Lease Agreement"*), the Issuer will sub-sub-sublease the Leased Facilities, and lease certain equipment to be owned by the Issuer and to be located at the Premises (the *"Facility Equipment"*), to the Company. The Leased Facilities and the Facility Equipment constitute the Facility. Pursuant to the Lease Agreement the Company will agree to pay amounts

sufficient to pay principal, purchase price, premium, if any, and interest on the Bonds when due. The Bonds will be payable out of payments made by the Company to the Issuer under the Lease Agreement, which payments the Issuer has assigned to the Trustee pursuant to the Indenture. Payments of principal and purchase price of, premium, if any, and interest on the Bonds will be guaranteed by the Company pursuant to a Guaranty from the Company to the Trustee dated as of July 1, 2002 (the *"Company Guaranty"*). Payments of principal and purchase price of, premium, if any, and interest on the Bonds will also be guaranteed by AMR pursuant to a Guaranty from AMR to the Trustee dated as of July 1, 2002 (the *"AMR Guaranty"*). The Bonds will be secured by an Equipment Security Agreement dated as of July 1, 2002 among the Issuer, the Company and the Trustee (the *"Equipment Security Agreement"*). After the Reletting Rights Effective Date (as defined in the First Supplement) the obligations of the Company and AMR under the Company Guaranty and the AMR Guaranty, respectively, will be secured by a Leasehold Mortgage and Security Agreement from the Company to the Leasehold Mortgagee (initially the Trustee) and joined by the Issuer as set forth therein to be executed, delivered and recorded after the Reletting Rights Effective Date (the *"Leasehold Mortgage"*). The Company and the Issuer will also enter into a Tax Certificate as to Arbitrage and the Provisions of Sections 103 and 141-150 of the Internal Revenue Code of 1986, dated the Closing (the *"Tax Certificate"*). The Port Authority, the Company, AMR, the Issuer and the Trustee will also enter into a Consent to Subleases and Leasehold Mortgage Agreement (the *"Consent to Subleases"*). In connection with the Project the Company and the City will also enter into (i) the Agreement Towards Entering Into a Lease (the *"ATEIL"*) and (ii) the Recognition, Non-Disturbance and Attornment Agreement (the *"RNDA"*). The Issuer has executed and delivered a Global Letter of Representations (the *"DTC Letter"*) to The Depository Trust Company (*"DTC"*).

2. *Official Statement.* Concurrently with their acceptance of this Agreement, the Issuer, the Company and AMR will deliver to the Underwriters an official statement dated the date of this Bond Purchase Agreement, including Appendix A consisting of information in respect of the Company and AMR, Appendices B, C, D, E, F, G and H consisting of certain definitions and summaries of the Lease Agreement, the Indenture, the Company Guaranty, the AMR Guaranty, the Port Authority Lease, the Consent to Subleases and the Leasehold Mortgage, and the ATEIL and RNDA, Appendix I consisting of the form of the opinion of Bond Counsel (as hereinafter defined) and Appendix J consisting of the JFK Gate Demand Study dated June 27, 2002 prepared by Simat, Helliesen & Eichner (the *"Gate Demand Study"*). Such Official Statement, together with such Appendix A and all the information incorporated by reference in it, and Appendices B through J, is called the "Official Statement." The Issuer, the Company and AMR authorize the Indenture, the Lease Agreement, the Company Sublease, the Port Authority Lease, Company Guaranty, the AMR Guaranty, the Tax Certificate, the Consent to Subleases, the Leasehold Mortgage, the ATEIL and the RNDA, to the extent each of the Issuer, the Company and AMR are parties to such documents, respectively, to be used by the Underwriters in connection with the offering and sale of the Bonds. The Company and AMR authorize the Gate Demand Study, the Official Statement and any amendments or supplements thereto pursuant to this Section 2 and the information contained therein to be used by the Underwriters in connection with the offering and sale of the Bonds. The Issuer authorizes the Official Statement and any amendments or supplements thereto pursuant to this Section 2 and the information contained therein to be used by the Underwriters in connection with the offering and sale of the Bonds. The Issuer, the Company and AMR also consent to the use by the

Underwriters, prior to the date of this Agreement, of a preliminary official statement, dated July 15, 2002, including similar appendices, in connection with the offering of the Bonds. Such preliminary official statement, together with Appendix A and all information incorporated by reference in it, and Appendices B through J, is called the *"Preliminary Official Statement."*

If, during such period (not to exceed 25 days after the "end of the underwriting period," as defined for purposes of Section (b)(4) of Rule 15c2-12 (the *"Rule"*) adopted by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended (the *"Exchange Act"*)) as, in the Underwriters' reasonable judgment, delivery of the Official Statement, as it may be amended or supplemented, is necessary or desirable in connection with sales of the Bonds by the Underwriters or any dealer or as otherwise may be required by applicable law or regulation, any event shall occur as a result of which, in the Underwriters' judgment, it is necessary to amend or supplement the Official Statement in order to make the statements therein, in the light of the circumstances when the Official Statement is delivered to a purchaser or "potential customer" (as defined for purposes of Section (b)(4) of the Rule), not misleading, the Company, with the cooperation and approval of AMR and the Issuer, will, at the Underwriters' request, but solely at the expense of the Company, cooperate in the preparation of either amendments or supplements to the Official Statement so that the statements in the Official Statement, as so amended or supplemented, will not, in the light of the circumstances when the Official Statement is delivered to a purchaser or "potential customer," be misleading. The Issuer will be required to prepare and furnish amendments or supplements relating only to information contained in the page immediately following the table of contents of the Official Statement and under the caption "THE AGENCY" in the Official Statement. The Company, with the cooperation of AMR and the Issuer, will, before the Official Statement is amended or supplemented, furnish a copy of each proposed amendment or supplement to the Underwriters who will have the right to approve it, approval of which shall not be unreasonably withheld.

On or before the second business day prior to the delivery of the Bonds (and in sufficient time to accompany any confirmation that requests payment from any customer), the Issuer shall cause to be delivered to the Underwriters in sufficient quantity to enable the Underwriters to comply with the Rule, copies of the Official Statement as the Underwriters shall request; *provided* that the Company and AMR (at their expense) shall furnish sufficient quantities of the Official Statement to the Issuer to enable the Issuer to comply with the foregoing covenant. The Underwriters agree that they will not confirm the sale of any Bonds unless the confirmation of sale is accompanied or preceded by the delivery of a copy of the Official Statement.

The Company and AMR will enter into a written agreement, constituting an undertaking (the *"Undertaking"*) to provide ongoing disclosure about the Company and AMR, on or before the date of the Closing, as required under Paragraph(b)(5) of the Rule. The Undertaking shall be as described in the Preliminary Official Statement, with such changes as may be agreed to in writing by the Underwriters.

3. *Sale of All the Bonds.* It will be a condition to the Issuer's obligation to sell the Bonds to the Underwriters and to the obligation of the Underwriters to purchase the Bonds that all Bonds are sold and delivered by the Issuer and accepted and paid for by the Underwriters at the Closing.

4. *Issuer's Representations and Warranties.* The Issuer represents and warrants to the Company, AMR and the Underwriters (and it shall be a condition of the obligation of the Underwriters to purchase and accept delivery of the Bonds that the Issuer so represents and warrants) that:

(a) The Issuer is a corporate governmental agency constituting a body corporate and politic and a public benefit corporation of the State of New York duly organized and existing under the laws of the State of New York, particularly the Act. The Issuer is authorized to issue the Bonds in accordance with the Act, and to use the proceeds thereof for the financing of all or a portion of the costs of the Project.

(b) The Issuer has complied with the provisions of the Act and has full power and authority pursuant to law and the Act to act with respect to all transactions contemplated by this Bond Purchase Agreement, the Bonds, the resolution adopted by the Issuer on October 23, 2001, as amended November 13, 2001 and authorizing the Bonds (the *"Resolution"*), the Official Statement, the Company Sublease, the Equipment Security Agreement, the Lease Agreement, the Indenture, the Leasehold Mortgage, the Consent to Subleases, the Tax Certificate and the DTC Letter, to issue, sell and deliver the Bonds to the Underwriters as provided herein, to execute the Bonds, the Leasehold Mortgage, the Consent to Subleases, the Equipment Security Agreement, the Company Sublease, the Lease Agreement, the Indenture and the Tax Certificate, and to carry out and consummate all other transactions contemplated by each of the aforesaid documents.

(c) When delivered to and paid for by the Underwriters in accordance with the terms of this Bond Purchase Agreement, the Bonds will have been duly authorized, issued, executed, authenticated and delivered and will constitute the legal, valid and binding special limited obligations of the Issuer (payable by the Issuer solely from the Trust Estate pledged for the Bonds) and will be entitled to the benefit of the Indenture. The rental payments due under the Lease Agreement from the Company to the Issuer and pledged by the Issuer to the payment of the Bonds pursuant to the Indenture are not subject to any prior pledge by the Issuer and shall not be pledged by the Issuer to the payment of any other obligation.

(d) The execution and delivery of this Bond Purchase Agreement and the Bonds, the Indenture, the Company Sublease, the Equipment Security Agreement, the Lease Agreement, the Consent to Subleases and the Tax Certificate, and compliance with the provisions thereof, the DTC Letter, the Leasehold Mortgage and the Resolution, will not conflict with or constitute on the part of the Issuer a violation of the Constitution of the State of New York or a violation of, breach of or default under its bylaws or any statute, indenture, mortgage, deed of trust, note agreement or other agreement or instrument to which the Issuer is a party or by which the Issuer is bound, or, to the knowledge of the Issuer, any order, rule or regulation of any court or governmental agency or body having jurisdiction over the Issuer or any of its activities or properties; and all consents, approvals, authorizations and orders of governmental or regulatory authorities which are required for the consummation of the transactions contemplated thereby have been obtained.

(e) There is no action, suit, proceeding or investigation at law or in equity by or before any court or public agency (of which the Issuer has knowledge), or to the best of the knowledge of the Issuer, any basis therefor, wherein an unfavorable decision, ruling or finding would adversely affect the transactions contemplated hereby, by the Official Statement and by the Indenture, or which in any way would adversely affect the validity of the Bonds, the Resolution, this Bond Purchase Agreement, the Indenture, the Lease Agreement, the Company Sublease, the Equipment Security Agreement, the Consent to Subleases, the Leasehold Mortgage or the DTC Letter, or any agreement or instrument to which the Issuer is a party and which is used or contemplated for use in consummation of the transactions contemplated hereby, by the Official Statement or by the Indenture or the exemption from taxation of the Issuer and property owned by it pursuant to Section 874 of the New York State Industrial Development Agency Act and, with respect to any such actions, suits, proceedings or investigations involving the Issuer, which would adversely affect the exemption from federal and State of New York taxation of interest on the Bonds.

(f) Pursuant to the Resolution, the Issuer has duly authorized and approved the Bonds, the Preliminary Official Statement and the Official Statement, has duly authorized and approved the execution and delivery of, and the performance by the Issuer of the obligations contained in, this Bond Purchase Agreement, the Indenture, the Company Sublease, the Equipment Security Agreement, the Lease Agreement, the Tax Certificate, the Consent to Subleases, the Leasehold Mortgage and the DTC Letter, and the consummation by it of all other transactions contemplated by the Official Statement and this Bond Purchase Agreement, including the Consent to Subleases.

(g) The Issuer makes no representation or warranty concerning the financial position or business condition of the Company or AMR, nor does it represent or warrant as to the correctness of any statements or representations made or materials furnished by any person (other than the Issuer) in connection with the purchase of the Bonds.

(h) At the time of the Issuer's acceptance hereof, the information contained in the page immediately following the table of contents of the Official Statement and under the caption "THE AGENCY" does not, and the information in the Preliminary Official Statement, as of its date contained in the page immediately following the table of contents and under such heading did not, contain any untrue statement of a material fact or omit to state any material fact which should be included therein for the purposes for which the Official Statement is to be used or which is necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; and as of the Closing, the information contained in the inside front cover of the Official Statement and under the caption "THE AGENCY" will not contain any untrue statement of a material fact or omit to state any material fact which should be included therein for the purposes for which the Official Statement is to be used or which is necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(i) The Issuer will furnish such information, execute such instruments and take such other action in cooperation with the Underwriters (all at the expense of the Company) as the Senior Managing Underwriter may reasonably request to qualify the Bonds for offer and sale under the Blue Sky or other securities laws or regulations of such states and other jurisdictions of the United States as the Senior Managing Underwriter may designate; *provided, however*, that the Issuer will not be required to qualify as a foreign corporation or to file any general or special consents to service of process under the laws of any state.

(j) Assuming due and proper authorization, execution and delivery by the other parties thereto, the Issuer has taken all action required of it to make this Bond Purchase Agreement, the Lease Agreement, the Company Sublease, the Equipment Security Agreement, the DTC Letter, the Tax Certificate, the Indenture, the Consent to Subleases, the Leasehold Mortgage and the Bonds the valid special limited obligations of the Issuer which they purport to be; when executed and delivered by the parties thereto, this Bond Purchase Agreement, the Lease Agreement, the Company Sublease, the Equipment Security Agreement, the DTC Letter, the Tax Certificate, the Indenture, the Consent to Subleases, the Leasehold Mortgage and the Bonds will constitute valid and binding agreements of the Issuer and will be enforceable against the Issuer in accordance with their respective terms (subject to applicable bankruptcy, insolvency and other laws affecting creditors' rights generally and subject, as to enforceability, to general principles of equity).

(k) So long as any of the Bonds remain outstanding and except as may be authorized by the Indenture, the Issuer will not issue or sell any bonds or obligations, other than the Bonds and Additional Bonds (as defined in the Indenture), the principal of or premium, if any, or interest on which will be payable from the Trust Estate described in the granting clauses of the Indenture.

(l) The Issuer agrees (at the sole cost and expense of the Company) to cooperate with the Underwriters and their counsel in applying for and securing a rating on the Bonds by Moody's Investors Service, Inc. and Standard & Poor's and the Issuer agrees that this obligation shall continue until such rating on the Bonds is secured.

(m) The representations and warranties of the Issuer contained in Section 1.3 of the Lease Agreement are correct as of the date hereof.

(n) The Issuer acknowledges that the Underwriters are required to comply with the requirements of the Rule in connection with the offer and sale of the Bonds and agrees to cooperate (at the cost and expense of the Company and AMR) with the Underwriters so as to enable the Underwriters to comply with the Rule. To this end, the Issuer has delivered to the Senior Managing Underwriter the Preliminary Official Statement that the Issuer deems final as of its date, except for the omission of no more than the following information: the offering price(s), interest rate(s), selling compensation, aggregate principal amount, principal amount per maturity, delivery dates,

ratings, other terms of the Bonds depending on such matters and the identity of the underwriter(s).

Any certificate signed by a representative of the Issuer and delivered to the Underwriters or Winston & Strawn (*"Bond Counsel"*) shall be deemed a representation and warranty by the Issuer to the Underwriters and Bond Counsel, as the case may be, as to statements made therein.

Any information supplied by the Issuer for inclusion in any amendments or supplements to the Official Statement will not contain any untrue or misleading statement of a material fact relating to the Issuer or omit to state any material fact relating to the Issuer necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

5. *Representations, Warranties and Agreements of the Company.* The Company represents, warrants and agrees to and with the Issuer and the Underwriters as follows:

(a) The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and is authorized to transact business under the laws of the State of New York and has all corporate power to execute and deliver and to carry out and perform its obligations under the Lease Agreement, the Company Sublease, the Equipment Security Agreement, the Port Authority Lease, the Consent to Subleases, the Undertaking, the Company Guaranty, this Bond Purchase Agreement, the Tax Certificate, the Leasehold Mortgage, the ATEIL and the RNDA. The Lease Agreement, the Company Sublease, the Equipment Security Agreement, the Port Authority Lease, the Consent to Subleases, the Undertaking, the Company Guaranty, this Bond Purchase Agreement, the Tax Certificate, the Leasehold Mortgage, the ATEIL and the RNDA are herein referred to as the *"Company Documents."*

(b) At the date of execution by the Company of this Bond Purchase Agreement, the Official Statement is, and at the Closing Date will be, and the Preliminary Official Statement as of its date was, true and correct in all material respects for the purposes for which their respective uses are or were authorized; and the Official Statement does not, and the Preliminary Official Statement as of its date did not, include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading; except that the foregoing does not apply to information contained in the page immediately following the table of contents and under the captions "THE AGENCY," "UNDERWRITING," "TAX MATTERS" or "APPROVAL OF LEGAL PROCEEDINGS" (as the information in the immediately preceding caption relates to opinions other than the Company's counsel opinion referred to in Section 9(d)(13)).

(c) Except as may be set forth (or incorporated by reference) in the Official Statement, there is no action, suit, proceeding or investigation at law or in equity before or by any court or governmental agency or body pending or, to the best knowledge of the Company, threatened, which involves the Company (i) which might reasonably be expected to (x) result in material liability on the part of the Company or (y) materially

and adversely affect the operation, condition or feasibility of the Project or (ii) wherein an adverse decision, ruling or finding would (x) materially and adversely affect the transactions contemplated by this Bond Purchase Agreement and the Official Statement or (y) adversely affect the validity or enforceability of the Indenture, the Bonds or any of the Company Documents.

(d) When executed by the parties thereto, each of the Company Documents (other than the Port Authority Lease and the Leasehold Mortgage) will have been duly authorized, executed and delivered by, and will constitute a legal, valid and binding obligation of, the Company enforceable against the Company in accordance with its terms (i) except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or obligation or similar laws affecting the rights of creditors generally and by general equitable principles which may limit the availability of specific performance or other equitable remedies (regardless of whether enforcement is considered in a proceeding at law or in equity), (ii) except as limited by applicable laws which may affect the remedies provided in the Company Documents (other than the Port Authority Lease and the Leasehold Mortgage), which laws, however, do not make the remedies provided for in the Company Documents (other than the Port Authority Lease and the Leasehold Mortgage) inadequate for the practical realization of the rights and benefits provided thereby, and (iii) except as rights to indemnification and contribution may be limited by applicable law.

(e) The Port Authority Lease has been duly authorized, executed and delivered by the Company, is in full force and effect as against the Company and constitutes a legal, valid and binding obligation of the Company enforceable against the Company in accordance with its terms (i) except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or obligation or similar laws affecting the rights of creditors generally and by general equitable principles which may limit the availability of specific performance or other equitable remedies (regardless of whether enforcement is considered in a proceeding at law or in equity), (ii) except as limited by applicable laws which may affect the remedies provided in the Port Authority Lease, which laws, however, do not make the remedies provided for in the Port Authority Lease inadequate for the practical realization of the rights and benefits provided thereby, and (iii) except as rights to indemnification and contribution may be limited by applicable law.

(f) The Company is not in default in any material respect under the Port Authority Lease or any other material agreement or material instrument to which the Company is a party or by which the Company is bound or to which any of the property or assets of the Company is subject; neither the execution or delivery of any of the Company Documents, nor the consummation of any other of the transactions on the part of the Company contemplated thereby or by the Official Statement nor the fulfillment of the terms hereof or thereof, will conflict with or result in a breach of any of the terms, conditions or provisions of, or constitute a default under, its Certificate of Incorporation or by-laws, any corporate restriction contained in the Port Authority Lease, or contained in any other material agreement or material instrument to which the Company is bound,

or, to the best knowledge of the Company, any order, rule or regulation applicable to the Company of any court, Federal or state regulatory body, administrative agency or other governmental body having jurisdiction over the Company or any of its properties or operations, or (except as contemplated by the Company Documents or otherwise disclosed to the Underwriters and the Issuer) will result in the creation or imposition of any lien, charge or other security interest or encumbrance of any nature whatsoever upon any of the property or assets of the Company under the terms of any such restriction, agreement, instrument, order, rule or regulation.

(g) All of the net proceeds of the Bonds (exclusive of accrued interest) will be required to be held by the Trustee under the Indenture and used to pay all or a portion of the cost of the Project; and the Company will not take or omit to take any action which action or omission will in any way cause the proceeds of the Bonds to be applied in a manner contrary to that provided in the Lease Agreement and the Tax Certificate, as in force from time to time.

(h) The representations and warranties of the Company contained in Section 1.5 of the Lease Agreement and in Section 1.1 of the Company Guaranty are true and correct as of the date hereof.

(i) The audited consolidated financial statements with respect to the Company and its consolidated subsidiaries included in Appendix A to the Official Statement and the Preliminary Official Statement through incorporation by reference of the Annual Report on Form 10-K for the year ended December 31, 2001 filed by the Company pursuant to Section 13 of the Exchange Act (i) have been prepared in accordance with generally accepted accounting principles consistently applied throughout the periods concerned (except as otherwise disclosed in the notes to such financial statements), conform in all material respects to the requirements of Regulation S-X of the Securities and Exchange Commission and (ii) present fairly the financial position, results of operations and cash flows of the Company and its consolidated subsidiaries at the respective dates and for the respective periods indicated therein. Said Form 10-K, as of its date, did not include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

(j) The unaudited consolidated financial statements with respect to the Company and its consolidated subsidiaries included in Appendix A to the Official Statement and the Preliminary Official Statement through incorporation by reference of the Quarterly Report on Form 10-Q for the quarters ended March 31, 2002 and June 30, 2002, filed by the Company pursuant to Section 13 of the Exchange Act (i) have been prepared in conformity with the generally accepted accounting principles applied on a basis substantially consistent with that of the audited consolidated financial statements referred to in (i) above, except as otherwise disclosed in the notes to such financial statements, and (ii) in the opinion of the management of the Company present fairly the financial position, results of operations and cash flows of the Company and its consolidated subsidiaries at the respective dates and for the periods indicated therein and,

except as otherwise stated therein, reflect all adjustments necessary to that effect. As of its date, said Forms 10-Q did not include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

(k) The Company's Current Reports on Form 8-K filed with the Securities and Exchange Commission on January 16, 2002, June 13, 2002 and June 19, 2002 did not, as of their respective dates, include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

(l) The Company has obtained all approvals required as of the date hereof to be obtained by the Company in connection with the execution and delivery of, and performance by the Company of its obligations under, the Company Documents.

(m) During the period between the date hereof and the Closing Date (as hereinafter defined), the Company will furnish to the Underwriters, promptly after the filing thereof, copies of such financial statements and reports as it shall file with the Securities and Exchange Commission.

(n) The Company agrees to comply with the terms of the Undertaking. The Company is in compliance with each and every undertaking it has previously been required to enter into pursuant to the Rule.

(o) The Company deems (i) the Preliminary Official Statement final as of its date solely for purposes of the Rule, except for the omission of no more than the following information: the offering price(s), interest rate(s), selling compensation, aggregate principal amount, principal amount per maturity, delivery dates, ratings, other terms of the Bonds depending on such matters and the identity of the underwriter(s) and (ii) the Official Statement complete within the meaning of the Rule.

(p) No fact or event exists or has occurred which, with the giving of notice or the lapse of time, or both, would constitute a default or an event of default by the Company under the Port Authority Lease or, when executed, under the Consent to Subleases, the RNDA or the ATEIL.

(q) The Company has obtained all local, state and federal approvals necessary to construct the Project.

(r) The Company has duly authorized the execution, delivery and recordation of the Leasehold Mortgage and, after the Reletting Rights Effective Date, when executed and delivered by the Company and recorded in compliance with applicable law, the Leasehold Mortgage will constitute a legal, valid and binding obligation of, the Company enforceable against the Company in accordance with its terms (i) except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or obligation or similar laws affecting the rights of creditors

generally and by general equitable principles which may limit the availability of specific performance or other equitable remedies (regardless of whether enforcement is considered in a proceeding at law or in equity), (ii) except as limited by applicable laws which may affect the remedies provided in the Leasehold Mortgage, which laws, however, do not make the remedies provided for in the Leasehold Mortgage inadequate for the realization of the rights and benefits provided thereby, and (iii) except as rights to indemnification and contribution may be limited by applicable law. When executed and recorded in compliance with Section 92(d) of the First Supplement, the Leasehold Mortgage will create a first mortgage lien on the Port Authority Lease subject to no encumbrances other than encumbrances permitted by the Leasehold Mortgage.

Any certificate signed by a representative of the Company and delivered to the Issuer, the Underwriters or Bond Counsel, as the case may be, shall be deemed a representation and warranty by the Company to the Issuer, the Underwriters and Bond Counsel, as the case may be, as to the statements made therein.

6. *Representations, Warranties and Agreements of AMR.* AMR represents, warrants and agrees to and with the Issuer and the Underwriters as follows:

(a) AMR is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and has all corporate power necessary to execute and deliver and to carry out and perform its obligations under the AMR Guaranty, this Bond Purchase Agreement, the Consent to Subleases and the Undertaking (collectively, the *"AMR Documents"*).

(b) At the date of execution by AMR of this Bond Purchase Agreement, the Official Statement does not, and at the Closing Date will not, and the Preliminary Official Statement as of its date did not, include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading; except that AMR makes no representation as to information contained in the page immediately following the table of contents or under the captions "THE AGENCY," "UNDERWRITING," "TAX MATTERS" or "APPROVAL OF LEGAL PROCEEDINGS" (as the information in the immediately preceding caption relates to opinions other than AMR's counsel opinion referred to in Section 9(d)(13)).

(c) Except as may be set forth (or incorporated by reference) in the Official Statement, there is no action, suit, proceeding or investigation at law or in equity before or by any court or governmental agency or body pending or, to the best knowledge of AMR, threatened, which involves AMR (i) which might reasonably be expected to result in material liability on the part of AMR or (ii) wherein an adverse decision, ruling or finding would (x) materially and adversely affect the transactions contemplated by this Bond Purchase Agreement or (y) adversely affect the validity or enforceability of the AMR Documents.

(d) Each of the AMR Documents will have been duly authorized, executed and delivered by AMR and, when duly executed and delivered by the other parties thereto, will constitute legal, valid and binding obligations of AMR enforceable against AMR in accordance with its terms (i) except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or obligation or similar laws affecting the rights of creditors generally and by general equitable principles which may limit the availability of specific performance or other equitable remedies (regardless of whether enforcement is considered in a proceeding at law or in equity), (ii) except as limited by applicable laws which may affect the remedies provided in the AMR Documents, which laws, however, do not make the remedies provided for in the AMR Documents inadequate for the realization of the rights and benefits provided thereby, and (iii) except as rights to indemnification and contribution may be limited by applicable law.

(e) AMR is not in default in any material respect under any material agreement or material instrument to which AMR is a party or by which AMR is bound or to which any of the property or assets of AMR is subject; neither the execution or delivery of the AMR Documents, nor the consummation of any other of the transactions on the part of AMR contemplated thereby or by the Official Statement nor the fulfillment on the part of AMR of the terms hereof or thereof, will conflict with or result in a breach of any of the terms, conditions or provisions of, or constitute a default under, its Certificate of Incorporation or bylaws or any material agreement or material instrument to which AMR is bound, or, to the best knowledge of AMR, any order, rule or regulation applicable to AMR of any court, Federal or state regulatory body, administrative agency or other governmental body having jurisdiction over AMR or any of its properties or operations, or (except as contemplated thereby or otherwise disclosed in writing to the Underwriters and the Issuer) will result in the creation or imposition of any prohibited lien, charge or other security interest or encumbrance of any nature whatsoever upon any of the property or assets of AMR under the terms of any such restriction, agreement, instrument, order, rule or regulation. No fact or event exists or has occurred which, with the giving of notice or the lapse of time, or both, would constitute a default or an event of default by AMR under the Consent to Subleases, when executed.

(f) The representations and warranties of AMR contained in Section 1.1 of the AMR Guaranty are true and correct as of the date hereof.

(g) The audited consolidated financial statements with respect to AMR and its consolidated subsidiaries included in Appendix A to the Official Statement and the Preliminary Official Statement through incorporation by reference of the Annual Report on Form 10-K for the year ended December 31, 2001 filed by AMR pursuant to Section 13 of the Exchange Act (i) have been prepared in accordance with generally accepted accounting principles consistently applied throughout the periods concerned (except as otherwise disclosed in the notes to such financial statements), conform in all material respects to the requirements of Regulation S-X of the Securities and Exchange Commission and (ii) fairly present the financial position, results of operations and cash flows of AMR and its consolidated subsidiaries at the respective dates and for the

respective periods indicated therein. Said Form 10-K, as of its date, did not include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

(h) The unaudited consolidated financial statements with respect to AMR and its consolidated subsidiaries included in Appendix A to the Official Statement and the Preliminary Official Statement through incorporation by reference of the Quarterly Reports on Form 10-Q for the quarters ended March 31, 2002 and June 30, 2002 filed by AMR pursuant to Section 13 of the Exchange Act (i) have been prepared in conformity with the generally accepted accounting principles applied on a basis substantially consistent with that of the audited consolidated financial statements referred to in (g) above, except as otherwise disclosed in the notes to such financial statements, and (ii) in the opinion of the management of AMR present fairly the financial position, results of operations and cash flows of AMR and its consolidated subsidiaries at the respective dates and for the periods indicated therein and, except as otherwise stated therein, reflect all adjustments necessary to that effect. As of its respective date, said Forms 10-Q did not include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

(i) AMR's Current Reports on Form 8-K filed with the Securities and Exchange Commission on January 16, 2002, June 13, 2002, June 19, 2002 and July 18, 2002 did not, as of their respective dates, include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading.

(j) AMR has obtained all approvals required as of the date hereof to be obtained by AMR in connection with the execution and delivery of, and performance by AMR of its obligations under, the AMR Documents.

(k) During the period between the date hereof and the Closing Date, AMR will furnish to the Underwriters, promptly after the filing thereof, copies of such financial statements and reports as it shall file with the Securities and Exchange Commission.

(l) AMR agrees to comply with the terms of the Undertaking. AMR is in compliance with each and every undertaking it has previously been required to enter into pursuant to the Rule.

(m) AMR deems (i) the Preliminary Official Statement final as of its date, except for the omission of no more than the following information: the offering price(s), interest rate(s), selling compensation, aggregate principal amount, principal amount per maturity, delivery dates, ratings, other terms of the Bonds depending on such matters and the identity of the underwriter(s) and (ii) the Official Statement complete within the meaning of the Rule.

Any certificate signed by a representative of AMR and delivered to the Issuer, the Underwriters or Bond Counsel, as the case may be, shall be deemed a representation and warranty by AMR to the Issuer, the Underwriters and Bond Counsel, as the case may be, as to the statements made therein.

7. *Underwriters' Acknowledgements.* Each Underwriter acknowledges (as to itself but not as to the other Underwriters) to the Issuer, the Company and AMR that the Bonds shall be special obligations of the Issuer, payable by the Issuer solely from the Trust Estate pledged therefor; that the Bonds shall never constitute a debt of the State of New York or of The City of New York; that neither the State of New York nor The City of New York shall be liable on the Bonds; that the Issuer has no power of taxation; that neither the members, directors, officers, employees or agents of the Issuer nor any person executing the Bonds shall be liable personally or be subject to any personal liability or accountability by reason of or in connection with the issuance thereof; that the Issuer makes no representation or warranty, express or implied, with respect to the merchantability, condition or workmanship of any part of the Facility or the suitability of the Facility for the purposes or needs of the Company or the extent to which proceeds derived from the sale of the Bonds will be sufficient to pay the costs of the Project; that the Issuer does not in any way represent that the insurance required by the Lease Agreement, whether in scope or coverage or limits of coverage, is adequate or sufficient to protect the business or interests of the Company. The Underwriters have not requested nor received any information concerning the Company or AMR from the Issuer, and the Underwriters are not relying on the Issuer with respect to the financial condition or creditworthiness of the Company or AMR or of the competency or integrity of the management of the Company or AMR.

8. *Closing.* At 10:00 a.m., New York City time, on July 31, 2002, or on such other date and time as shall be agreed upon by the Issuer, the Company, AMR and the Underwriters (the *"Closing Date"*), the Issuer will deliver a single Bond for each Series (and within a series, for each maturity) of the Bonds to the Trustee to facilitate a "FAST" closing through DTC, in typewritten form, bearing CUSIP numbers, duly executed and authenticated, registered in the name of Cede & Co., as nominee for DTC, and will deliver to the Underwriters the other documents herein mentioned at the office of Bond Counsel, 200 Park Avenue, New York, New York. The Bonds will be made available to the Senior Managing Underwriter in New York, New York not less than 24 hours prior to the Closing for checking. The Senior Managing Underwriter, on behalf of the Underwriters, will accept such delivery and pay the purchase price of the Bonds as set forth in Section 1 hereof payable by certified check, or by wire transfer in federal funds to the order of the Trustee.

9. *Conditions of Closing.* The Underwriters' obligation to purchase the Bonds on the Closing Date is subject to the performance by the Issuer, the Company and AMR of their obligations under this Bond Purchase Agreement, the accuracy of their representations and warranties contained in this Bond Purchase Agreement as of its date and the Closing Date and, in the Underwriters' discretion, to the following additional conditions:

(a) Each of the Indenture, the Lease Agreement, the Company Sublease, the Equipment Security Agreement, the Port Authority Lease, the ATEIL, the RNDA, the DTC Letter, the Consent to Subleases, the Company Guaranty, the AMR Guaranty, the

Indenture, the Undertaking and the Tax Certificate shall have been duly authorized, executed and delivered, and each of the foregoing shall be in full force and effect and shall not have been amended, modified or supplemented except as may have been agreed to by the Underwriters; and the Official Statement and any amendments or supplements thereto shall have been duly authorized and executed; and the Issuer shall have duly adopted and there shall be in full force and effect such resolutions as, in the opinion of Bond Counsel, shall be necessary in connection with the transactions contemplated by this Bond Purchase Agreement.

(b) (1) The marketability of the Bonds or their market price must not be, in the reasonable judgment of the Underwriters, materially adversely affected by (A) an amendment to or proposal to amend the Constitution of the State of New York or any Federal or New York legislation or proposed legislation or any decision of any Federal or state court or any ruling or regulation (final, temporary or proposed) or official statement on behalf of the United States Treasury Department, the Internal Revenue Service or other Federal authority or authority of the State of New York, affecting the tax status of bonds of the Issuer (including the Bonds) or the interest on any of its bonds, (B) a general suspension of or material limitation on trading on the New York Stock Exchange, the American Stock Exchange, the Chicago Stock Exchange or the Pacific Stock Exchange, the establishment of minimum prices on any such exchange or the declaration of a general banking moratorium by the authorities of the United States or the State of New York, (C) a downgrading or withdrawal by Standard & Poor's Ratings Services (*"S&P"*) or Moody's Investors Service, Inc. (*"Moody's"*) of such ratings on the Bonds as such agencies may have prior to the date hereof advised the Underwriters would be in effect, (D) an amendment or supplement to the Official Statement after the date of this Bond Purchase Agreement or (E) the establishment of any new restrictions on transactions in securities materially affecting the free market for securities (including the imposition of any limitations on interest rates) or the extension of credit by, or the charge to the net capital requirements of, underwriters established by the New York Stock Exchange, the American Stock Exchange, the Chicago Stock Exchange or the Pacific Stock Exchange, the Securities and Exchange Commission, any other Federal or state agency or the United States Congress, or by Executive Order; or (2) there must not have occurred any outbreak or escalation of hostilities or other calamity or crisis the effect of which on the financial markets of the United States is such as to make it, in the reasonable judgment of the Underwriters, impracticable to market the Bonds or enforce contracts for the sale of the Bonds.

(c) No decision of any Federal or state court and no ruling or regulation (final, temporary or proposed) of the Securities and Exchange Commission or any other governmental agency shall have been made or issued to the effect that (1) the Bonds or any other securities of the Issuer or of any similar body of the type contemplated by this Bond Purchase Agreement, or the obligations of the Company under the Lease Agreement or the Company Guaranty, or the obligations of AMR under the AMR Guaranty are subject to the registration requirements of the Securities Act of 1933, as amended (the *"Securities Act"*), or (2) the qualification of the Indenture or any other

agreement in respect of the Bonds or any such securities is required under the Trust Indenture Act of 1939, as amended (the *"TIA"*).

(d) By the Closing, the Underwriters must receive the following documents, each satisfactory in form and substance to the Underwriters and their counsel:

(1) Executed counterparts of the Indenture, the Company Sublease, the Lease Agreement, the Company Guaranty, the AMR Guaranty, the ATEIL, the RNDA, the Equipment Security Agreement, the First Supplement, the Undertaking, the Tax Certificate and the Consent to Subleases, a copy of the DTC Letter and certified copies of the Port Authority Lease (other than the First Supplement) and the Basic Lease.

(2) The Official Statement.

(3) Two copies of a transcript of all proceedings of the Issuer relating to the authorization and issuance of the Bonds, including the TEFRA hearing relating to the issuance of the Bonds, certified by an official of the Issuer acceptable to the Underwriters.

(4) A certificate, dated the Closing Date, of an officer of the Issuer, to the effect that to the best knowledge of such officer (i) the representations and warranties of the Issuer contained in Section 4 hereof are true and correct in all material respects on and as of the Closing Date as if such representations and warranties had been made on and as of the Closing Date and (ii) the Issuer has complied with all the terms of this Bond Purchase Agreement, the Indenture, the Company Sublease, the DTC Letter, the Consent to Subleases, the Lease Agreement and the Tax Certificate to be complied with by it prior to or concurrently with the Closing Date.

(5) A certificate, dated the Closing Date, of an authorized officer of the Company, to the effect that to the best knowledge of such officer (i) the representations and warranties of the Company contained in Section 5 hereof are true and correct in all material respects on and as of the Closing Date as if such representations and warranties had been made on and as of the Closing Date and (ii) the Company has complied with all the terms of this Bond Purchase Agreement, the Company Sublease, the Lease Agreement, the Port Authority Lease, the ATEIL, the RNDA, the Equipment Security Agreement, the Consent to Subleases, the Company Guaranty, the Undertaking and the Tax Certificate to be complied with by it prior to or concurrently with the Closing Date.

(6) A certificate, dated the Closing Date, of an authorized officer of AMR, to the effect that to the best knowledge of such officer (i) the representations and warranties of AMR contained in Section 6 hereof are true and correct in all material respects on and as of the Closing Date as if such representations and warranties had been made on and as of the Closing Date and

(ii) AMR has complied with all the terms of this Bond Purchase Agreement, the AMR Guaranty, the Consent to Subleases and the Undertaking to be complied with by it prior to or concurrently with the Closing Date.

(7) A certificate of one or more authorized officers of the Trustee, dated the Closing Date, as to the due execution and delivery of the Indenture, the Consent to Subleases, the Company Guaranty, the AMR Guaranty and the Equipment Security Agreement by the Trustee and the due authentication and delivery of the Bonds by the Trustee.

(8) The approving opinion, dated the Closing Date, of Winston & Strawn, Bond Counsel, addressed to the Issuer, with reliance letters to the Underwriters, the Trustee, the Company and AMR, in substantially the form attached as Appendix I to the Official Statement.

(9) An opinion, dated the Closing Date, of Richard E. Marshall, Vice President for Legal Affairs for the Issuer, addressed to the Trustee, the Underwriters, the Company and AMR, in substantially the form attached as *Exhibit A* to this Bond Purchase Agreement.

(10) A supplemental opinion, dated the Closing Date, addressed to the Issuer, the Company, AMR and the Underwriters, of Bond Counsel, in substantially the form attached as *Exhibit B* to this Bond Purchase Agreement.

(11) The written approval of the Mayor of the City of New York after the Issuer held a public hearing in accordance with the Internal Revenue Code of 1986, as amended.

(12) Evidence satisfactory to the Underwriters of a rating for the Bonds of B1 by Moody's Investors Service, Inc. and of BB- by Standard & Poor's Corporation.

(13) The opinion, dated the Closing Date, addressed to the Issuer, the Trustee and the Underwriters, of (a) the General Counsel of the Company and AMR, in substantially the forms attached as *Exhibits C-1* and *C-2*, respectively, to this Bond Purchase Agreement and (b) Debevoise & Plimpton in the form attached as *Exhibit C-3* to this Bond Purchase Agreement.

(14) The opinion, dated the Closing Date, addressed to the Underwriters, of Chapman and Cutler, counsel to the Underwriters, in substantially the form attached as *Exhibit D* to this Bond Purchase Agreement.

(15) The opinion, dated the Closing Date, addressed to the Issuer, the Company, AMR and the Underwriters, of Emmet, Marvin & Martin, LLP, counsel to the Bond Trustee, in substantially the form attached as *Exhibit E* to this Bond Purchase Agreement.

(16) Copies of resolutions and/or minutes adopted by the Board of Directors of the Company and certified by its Secretary or Assistant Secretary, authorizing the execution and delivery of the Company Documents.

(17) Copies of resolutions and/or minutes adopted by the Board of Directors of AMR and certified by its Secretary or Assistant Secretary, authorizing the execution and delivery of the AMR Documents.

(18) A standard letter from Ernst & Young LLP in the form to be agreed upon by the Underwriters and Ernst & Young LLP, addressed to the Underwriters, based on procedures, not constituting an audit in accordance with generally accepted auditing standards, set forth in such letter to a date not more than five business days prior to the Closing Date.

(19) A certificate, dated the Closing Date, of an authorized official of the Port Authority in substantially the form set forth in *Exhibit F* to this Bond Purchase Agreement.

(20) Consent of Simat, Helliesen & Eichner.

(21) A copy of the leasehold title insurance policy referred to in Section 2.6 of the Lease Agreement.

(22) Copies of certificates of insurance required by Section 4.4(e) of the Lease Agreement.

(23) A letter from the Issuer relating to the exemption of the Leasehold Mortgage from recording taxes under New York law.

(24) Such additional certificates, proceedings, opinions, instruments or documents as the Underwriters may reasonably request in connection with the transactions contemplated by this Bond Purchase Agreement.

(e) After the dates as of which information is given in the Official Statement, there shall not have been any material adverse change, or any development involving a prospective material adverse change, in or affecting the business, financial condition or properties of the Company, its operations at the Airport, or AMR which change or development makes it impractical or inadvisable in the reasonable judgment of the Underwriters, after consultation with the Company and AMR, to proceed with the offering or the delivery of the Bonds as contemplated by the Official Statement.

(f) All matters relating to this Bond Purchase Agreement, the Bonds and the sale thereof, the Indenture, the Company Sublease, the Port Authority Lease, the ATEIL, the RNDA, the Consent to Subleases, the Lease Agreement, the Company Guaranty, the AMR Guaranty, the Equipment Security Agreement, the Undertaking, the Leasehold Mortgage, the DTC Letter and the Tax Certificate and the consummation of the

transactions contemplated by this Bond Purchase Agreement shall have been approved by the Underwriters, such approval not to be unreasonably withheld.

If any of the Issuer, the Company or AMR is unable to satisfy any such condition, or if the Underwriters' obligation is terminated for any reason permitted by this Bond Purchase Agreement, this Bond Purchase Agreement may be cancelled by the Underwriters, and, upon such cancellation, the Underwriters, the Issuer, the Company and AMR shall not be under further obligation except for the respective obligations of the parties set forth in Section 10 hereof.

10. *Expenses.* The Issuer and the Underwriters shall not be obligated to pay, and the Company will pay, all reasonable fees and expenses incident to the performance of the Issuer's and the Underwriters' obligations under this Bond Purchase Agreement, including but not limited to (a) all out-of-pocket expenses in connection with the preparation of the Preliminary Official Statement and the Official Statement and any amendment or supplement to either, (b) any bond issuance fee charged by the Issuer or the State of New York, (c) all out-of-pocket expenses of preparing, printing, issuing and delivering the Bonds, (d) all out-of-pocket expenses of preparing, printing, issuing and delivering the Indenture, the Company Guaranty, the AMR Guaranty, the Equipment Security Agreement, the Lease Agreement, the Company Sublease, the Undertaking, the First Supplement, the ATEIL, the RNDA, the Tax Certificate, the Consent to Subleases and this Bond Purchase Agreement and any related document, notice, publication, filing or recording, (e) all out-of-pocket expenses, including the fees and out-of-pocket disbursements of counsel, in connection with the preparation and printing of blue sky and legal investment memoranda, if any, and the qualification of the Bonds for sale under the securities or blue sky laws of such jurisdictions as the Underwriters designate, (f) the fees and out-of-pocket disbursements of Bond Counsel, (g) the fees and out-of-pocket disbursements of counsel for the Company and AMR, (h) all out-of-pocket expenses, if any, in connection with obtaining a rating or ratings for the Bonds, (i) the out-of-pocket expenses of the Underwriters (including fees and out-of-pocket expenses of counsel to the Underwriters), (j) the fees and out-of-pocket expenses of counsel for the Trustee and out-of-pocket expenses of the Underwriters, and (k) all other out-of-pocket expenses and costs of the Issuer, the Company and AMR incident to the performance of their respective obligations in connection with the authorization, issuance, sale and distribution of the Bonds. It is understood (x) that except for the expenses referred to in clauses (a), (c), (d), (f), (g) and (h) above, payment of all expenses referred to above is contingent upon the Closing and (y) that in the event the Closing does not occur, the expenses referred to in clauses (a), (c), (d), (f), (g) and (h) above shall be paid by the Company.

If the Bonds are not sold because the Underwriters fail to purchase the Bonds for reasons other than those permitted by Section 9 of this Agreement, the Company shall pay only the costs referred to in clause (h) above and the Underwriters shall pay all other non-contingent expenses.

All fees and expenses required to be paid under this Section 10 by the Underwriters or the Company must be reasonable.

11. *Indemnification and Contribution.* (a) The Company and AMR will, jointly and severally, indemnify and hold harmless the Issuer and each Underwriter, each of their respective members, officers, officials or employees, and each person who controls any Underwriters

within the meaning of Section 15 of the Securities Act (for purposes of this paragraph (a), each such person being an *"Indemnified Party"* and collectively, the *"Indemnified Parties"*), against all losses, claims, damages, or liabilities, joint or several, to which such Indemnified Party may become subject under any statute or at law or in equity or otherwise, and will reimburse any such Indemnified Party for any legal or other expenses reasonably incurred by it in connection with investigating any claims against it and defending any actions, but only insofar as such losses, claims, damages, liabilities or actions arise out of or are based upon (i) an allegation or determination that the Bonds or the obligations of the Company under the Lease Agreement or the Company Guaranty or of AMR under the AMR Guaranty should have been registered under the Securities Act or the Indenture should have been qualified under the TIA, or (ii) any untrue statement or alleged untrue statement of a material fact contained in the Preliminary Official Statement or the Official Statement or any amendment of or supplement to the Official Statement, or the omission or alleged omission to state in them a material fact necessary in order to make the statements made therein, in light of the circumstances in which they were made, not misleading. The Company and AMR, jointly and severally, will reimburse the Issuer for any legal or other expenses reasonably incurred by it in connection with defending any actions against it which arise out of or are based upon any failure of the Company or AMR to comply with their respective obligations under the Undertaking and the Rule. The Company and AMR shall not be liable under this paragraph to an Underwriter or its respective members, directors, officers, and employees or each person who controls that Underwriter within the meaning of Section 15 of the Securities Act if (i) the person asserting any such loss, claim, damage or liability purchased Bonds from that Underwriter, (ii) delivery to such person of the Official Statement or any amendment of or supplement to the Official Statement theretofore delivered to the Underwriters by or on behalf of the Company would have been a valid defense to the action from which such loss, claim, damage or liability arose and (iii) the Official Statement, amendment or supplement was not delivered to such person by or on behalf of that Underwriter on a timely basis. In addition, the Company shall not be liable under this paragraph (a) to any Indemnified Party for any untrue statement or omission or allegation thereof in the three paragraphs immediately preceding the table of contents of the Preliminary Official Statement or the Official Statement or under the caption "UNDERWRITING" therein. The Company shall not be liable under this paragraph to the Issuer for any such untrue statement or omission or allegation thereof under the caption "THE AGENCY." This indemnity agreement will not limit any other liability the Company or AMR may otherwise have to any Indemnified Party, but in no event will the Company or AMR be liable for double indemnification. If an Indemnified Party is reimbursed hereunder for any expenses, such reimbursement of expenses shall be refunded to the extent it is finally judicially determined that the indemnifying party was not liable therefor hereunder.

(b) (i) Each Underwriter will indemnify and hold harmless the Issuer, the Company and AMR and each of their respective members, directors, officers and employees and each person who controls any of them within the meaning of Section 15 of the Securities Act (for purposes of this paragraph (b)(i), an *"Indemnified Party"*) to the same extent as the indemnity in paragraph (a) from the Company and AMR to the Issuer and the Underwriters, but only with reference to written information relating to the Underwriters furnished by the Underwriters specifically for use in the preparation of the documents referred to in the indemnity in paragraph (a). The Issuer, the Company and AMR acknowledge that the statements in the Preliminary Official Statement

and the Official Statement in the three paragraphs immediately preceding the table of contents and under the caption "UNDERWRITING" constitute the only information furnished in writing by or on behalf of the Underwriters for inclusion in the Preliminary Official Statement and the Official Statement and the Underwriters confirm that such statements are correct.

(ii) Each Underwriter will indemnify and hold harmless the Issuer, the Company and AMR and each of their respective members, directors, officers and employees and each person who controls any of them within the meaning of Section 15 of the Securities Act (for purposes of this paragraph (b)(ii), an *"Indemnified Party"*) against all losses, claims, damages or liabilities to which such Indemnified Party may become subject under any statute or at law or in equity or otherwise, and will reimburse any such Indemnified Party for any legal or other expenses reasonably incurred by it in connection with investigating any claims against it and defending any actions, but only insofar as such losses, claims, damages, liabilities or actions arise out of or are based upon a loss, claim, damage or liability of a person who purchased Bonds from that Underwriter, if delivery to such person of the Official Statement or any amendment of or supplement to the Official Statement by that Underwriter would have been a valid defense to the action from which such loss, claim, damage or liability arose and if the Official Statement, amendment or supplement was not delivered to such person by or on behalf of that Underwriter in any case where such delivery is required by law.

(iii) If an Indemnified Party is reimbursed under this Section 11(b) for any expenses, such reimbursement of expenses shall be refunded to the extent it is finally judicially determined that the indemnifying party was not liable therefor hereunder.

(c) An Indemnified Party (as defined in paragraph (a), paragraph (b)(i) or paragraph (b)(ii) of this Section 11) will, promptly after receiving notice of the commencement of any action or proceeding against such Indemnified Party in respect of which indemnification may be sought against the Company, AMR or the Underwriters, as the case may be (in any case the *"Indemnifying Party"*), notify the Indemnifying Party in writing of the commencement of the action or proceeding. Failure of the Indemnified Party to give such notice will reduce the liability of the Indemnifying Party under this Bond Purchase Agreement by the amount of the damages attributable to the failure to give the notice; but the failure will not relieve the Indemnifying Party from any liability that it may have to such Indemnified Party otherwise than under paragraph (a), (b)(i) or (b)(ii) of this Section 11. If such action or proceeding is brought against an Indemnified Party and such Indemnified Party notifies the Indemnifying Party of its commencement, the Indemnifying Party at its election may, or if so requested by the Indemnified Party shall, participate in it or assume its defense, with counsel reasonably satisfactory to the Indemnified Party, and after notice from the Indemnifying Party to the Indemnified Party of an election to assume the defense, the Indemnifying Party will not be liable to the Indemnified Party under this Section 11 for any legal or other expenses subsequently incurred by such Indemnified Party in connection with the defense other than reasonable costs of investigation. Until the Indemnifying Party assumes the defense, whether at the Indemnifying Party's election or at the request of the Indemnified Party, the Indemnifying Party may participate at its own expense in the defense. If the Indemnifying Party does not employ counsel to have charge of the defense or if any Indemnified Party shall have been advised by its counsel that there may be defenses available to it or them which are different from or in addition to those available to the

Indemnifying Party (in which case the Indemnifying Party will not have the right to direct the defense of such action on behalf of such Indemnified Party), legal and other expenses incurred by such Indemnified Party will be paid by the Indemnifying Party; *provided, however*, that the Indemnifying Party, in connection with any one such action or proceeding or separate but substantially similar or related actions or proceedings in the same jurisdiction arising out of the same general allegations or circumstances, shall not be liable for the fees and reasonable expenses of more than one separate firm of attorneys (in addition to any local counsel), designated in writing by the Underwriters in the case of paragraph (a), at any time for all such Indemnified Parties. Notwithstanding the foregoing, the Indemnifying Party shall not be liable for any settlement of any action or claim effected without its consent, which consent shall not be unreasonably withheld.

(d) If the indemnification provided for in this Section 11 is unavailable to an Indemnified Party (as defined in paragraph (a), paragraph (b)(i) or paragraph (b)(ii) of this Section 11), other than by reason of the exceptions provided in those paragraphs, in respect of any losses, claims, damages or liabilities referred to therein, then each applicable Indemnifying Party, in lieu of indemnifying such Indemnified Party, shall contribute to the amount paid or payable by such Indemnified Party as a result of such losses, claims, damages or liabilities (i) in such proportion as is appropriate to reflect the relative benefits received by the Company and AMR on the one hand and by the Underwriters on the other from the offering of the Bonds or (ii) if the allocation provided in clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company and AMR on the one hand and the Underwriters on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative benefits received by the Company and AMR on the one hand and by the Underwriters on the other shall be deemed to be in the same proportion as the total proceeds from the offering (net of underwriting fee but before deducting expenses) received by the Company and AMR bear to the underwriting fee received by the Underwriters, in each case as set forth in the Official Statement. The relative fault of the Company and AMR on the one hand and of the Underwriters on the other shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company and AMR or by the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The amount paid or payable by a party as a result of the losses, claims, damages and liabilities referred to above shall be deemed to include, subject to the limitations set forth in paragraph (c) of this Section 11, any legal or other fees or expenses reasonably incurred by such party in connection with investigating or defending any action or claim.

(e) The Issuer, the Company, AMR and the Underwriters agree that it would not be just and equitable if contribution pursuant to Section 11(d) were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to in the immediately preceding paragraph. Notwithstanding the provisions of Section 11(d), the Underwriters shall not be required to contribute any amount in excess of the amount by which the total price at which the Bonds underwritten by the Underwriters and

distributed to the public were offered to the public exceeds the amount of any damages which the Underwriters have otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

(f) The indemnification and contribution agreements contained in this Section 11 and the representations and warranties of the Issuer, the Company and AMR contained in this Bond Purchase Agreement shall remain operative and in full force and effect, regardless of (i) any investigation made by or on behalf of the Underwriters, by or on behalf of any person controlling the Underwriters or by or on behalf of the Issuer, the Company or AMR, (ii) acceptance of any of the Bonds and payment therefor or (iii) any termination of this Bond Purchase Agreement.

12. *Notices.* Any notice or other communication to be given to the Issuer, the Company or AMR under this Bond Purchase Agreement may be given by delivering the same in writing at such party's address set forth above, and any notice or other communication to be given to the Underwriters under this Bond Purchase Agreement may be given by delivering it in writing to Salomon Smith Barney Inc., 390 Greenwich Street, 2nd Floor, New York, New York 10013, Attention: Robert DeMichiel.

13. *Parties in Interest; Survival of Representations and Warranties.* This Bond Purchase Agreement is made solely for the benefit of the Issuer, the Company, AMR and the Underwriters (including their respective successors and assigns), and no other person will have any right under this Bond Purchase Agreement, except as provided in Sections 10 and 11 hereof. The term "successors and assigns" shall not include a purchaser, as such purchaser, of the Bonds from the Underwriters. All of the representations, warranties and agreements of the Issuer, the Company, AMR and the Underwriters in this Bond Purchase Agreement will remain operative and in full force and effect, regardless of any investigations made by or on behalf of the Underwriters, delivery of and payment for the Bonds under this Bond Purchase Agreement or any termination of this Bond Purchase Agreement.

14. *Headings.* The headings of the sections of this Bond Purchase Agreement are inserted for convenience and are not a part of it.

15. *Payment of Expenses by Issuer.* Anything herein to the contrary notwithstanding, the Issuer shall not be required to pay any expense or be liable for the payment of any sum by reason of the terms of this Bond Purchase Agreement unless the necessary funds for such payment shall have been made available to it by the Company, and every undertaking of the Issuer shall be subject to this condition.

16. *Governing Law.* This Bond Purchase Agreement shall be governed by and construed in accordance with the laws of New York, including laws applicable to contracts made and to be performed in New York.

If you agree with the foregoing, please sign the enclosed counterpart of this Bond Purchase Agreement and return it to the Senior Managing Underwriters. This Bond Purchase Agreement will become a binding agreement among the Issuer, the Company, AMR and the Underwriters when at least one counterpart of this Bond Purchase Agreement has been signed on behalf of each of the parties.

SALOMON SMITH BARNEY INC.
On behalf of the Underwriters named in
Schedule I hereto

SALOMON SMITH BARNEY INC.

By: _____
Title: Managing Director

Accepted and agreed to as of the date hereof:

NEW YORK CITY INDUSTRIAL DEVELOPMENT AGENCY

By: _____
_____

AMERICAN AIRLINES, INC.

By: _____
Title: _____

AMR CORPORATION

By: _____
Title: _____

If you agree with the foregoing, please sign the enclosed counterpart of this Bond Purchase Agreement and return it to the Senior Managing Underwriters. This Bond Purchase Agreement will become a binding agreement among the Issuer, the Company, AMR and the Underwriters when at least one counterpart of this Bond Purchase Agreement has been signed on behalf of each of the parties.

SALOMON SMITH BARNEY INC.
On behalf of the Underwriters named in
Schedule I hereto

SALOMON SMITH BARNEY INC.

By: _____
Title: _____

Accepted and agreed to as of the date hereof:

NEW YORK CITY INDUSTRIAL DEVELOPMENT AGENCY

By: _____
CAROLYN EDWARDS
DEPUTY EXECUTIVE DIRECTOR

AMERICAN AIRLINES, INC.

By: _____
Title: _____

AMR CORPORATION

By: _____
Title: _____

If you agree with the foregoing, please sign the enclosed counterpart of this Bond Purchase Agreement and return it to the Senior Managing Underwriters. This Bond Purchase Agreement will become a binding agreement among the Issuer, the Company, AMR and the Underwriters when at least one counterpart of this Bond Purchase Agreement has been signed on behalf of each of the parties.

SALOMON SMITH BARNEY INC.
On behalf of the Underwriters named in
Schedule I hereto

SALOMON SMITH BARNEY INC.

By: _____
Title: _____

Accepted and agreed to as of the date hereof:

NEW YORK CITY INDUSTRIAL DEVELOPMENT AGENCY

By: _____
_____

AMERICAN AIRLINES, INC.

By: Leslie M Benners
Title: _____
Leslie M. Benners
Managing Director
Corporate Finance & Banking

AMR CORPORATION

By: _____
Title: _____

SCHEDULE I

UNDERWRITERS

Salomon Smith Barney Inc.
Merrill Lynch, Pierce, Fenner & Smith Incorporated
J.P. Morgan Securities Inc.
Bear, Stearns & Co. Inc.
The Bank of New York Company, Inc.
Morgan Stanley & Co. Incorporated
SunTrust Capital Markets, Inc.

BOND TERMS

$120,000,000 Series 2002A Bonds	8.00% maturing August 1, 2012
$380,000,000 Series 2002B Bonds	8.50% maturing August 1, 2028

The Series 2002B Bonds are subject to optional redemption by the Issuer, at the direction of the Company, during the periods specified below, in whole or in part on any date, at the redemption prices (expressed as a percentage of principal amount) specified below, together with accrued interest, if any, to the redemption date:

Redemption Periods	Redemption Prices
August 1, 2012 to July 31, 2013	101%
August 1, 2013 to July 31, 2014	100.5%
August 1, 2014 and thereafter	100%

The Series 2002 Bonds are subject to extraordinary optional redemption without premium, mandatory redemption without premium and extraordinary mandatory redemption without premium under the circumstances described in the Official Statement.

The Series 2002B Bonds will be subject to redemption by lot in such manner as the Trustee determines pursuant to the terms of a mandatory sinking fund provided in the Indenture, on August 1 of each year, beginning August 1, 2015, in the amounts set forth opposite such years in the following table, at the principal amount thereof, together with accrued interest to the date of redemption, and without premium:

August 1 of the year	Principal Amount
2015	$15,140,000
2016	$16,425,000
2017	$17,825,000
2018	$19,340,000
2019	$20,980,000
2020	$22,765,000
2021	$24,700,000
2022	$26,800,000
2023	$29,080,000
2024	$31,550,000
2025	$34,230,000
2026	$37,140,000
2027	$40,300,000
2028†	$43,725,000

†Final Maturity

EXHIBIT A

Form of Opinion of Issuer's Counsel
Letterhead of Vice President For Legal Affairs

_____, 2002

Salomon Smith Barney Inc.
as Senior Managing Underwriter of the several Underwriters
390 Greenwich Street
New York, New York 10013

Winston & Strawn
200 Park Avenue
New York, New York 10166

The Bank of New York,
as Trustee
101 Barclay Street, 21W
New York, New York 10001

American Airlines, Inc.
4333 Amon Carter Boulevard
Fort Worth, Texas 76155
Attention: Treasurer

AMR Corporation
4333 Amon Carter Blvd.
Fort Worth, Texas 76155
Attention: Treasurer

Re: New York City Industrial Development Agency
$500,000,000 Special Facility Revenue Bonds,
Series 2002A and Series 2002B
(American Airlines, Inc. John F. Kennedy International Airport Project)

Dear Sirs/Madam:

This opinion is being furnished to you (i) in connection with the issuance and sale by the New York City Industrial Development Agency (the *"Agency"*) of its $500,000,000 aggregate principal amount of Special Facility Revenue Bonds, Series 2002A and Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (the *"Bonds"*) and (ii) pursuant to

Section 9(d)(9) of the Bond Purchase Agreement (herein defined). The Series 2002 Bonds are issued under a Master Indenture of Trust dated as of July 1, 2002, as supplemented by a First Series Supplemental Indenture of Trust, a Second Series Supplemental Indenture of Trust, a Third Series Supplemental Indenture of Trust, and a Fourth Series Supplemental Indenture of Trust, each dated as of July 1, 2002 (collectively, the *"Indenture"*) all by and between the Agency and The Bank of New York, as Trustee (the *"Trustee"*). Capitalized terms used herein but not otherwise herein defined shall have the same meaning as in the Indenture or the Bond Purchase Agreement dated July 25, 2002 (the *"Bond Purchase Agreement"*) among the Agency, American Airlines, Inc. (the *"Company"*), AMR Corporation, and Salomon Smith Barney Inc. as Senior Managing Underwriter of the several underwriters named therein.

I am the Vice President for Legal Affairs of the Agency and as such I am familiar with the acts and proceedings heretofore had or taken by the Agency relative to (i) the authorization, issuance and sale of the Bonds including the resolutions of the Agency dated October 23, 2001 as amended November 13, 2001 (collectively the *"Resolution"*), and (ii) the authorization, execution and delivery by the Agency of the Bonds, the Bond Purchase Agreement, the Company Sublease Agreement dated as of July 1, 2002 (the *"Company Sublease Agreement"*) between the Company as lessor and the Agency as lessee, the IDA Lease Agreement dated as of July 1, 2002 (the *"IDA Lease Agreement"*) between the Agency and the Company, the form of Leasehold Mortgage and Security Agreement (the *"Leasehold Mortgage"*) among the Company, the Agency and the Trustee to be executed and delivered after the Reletting Rights Effective Date, the Tax Certificate from the Agency and the Company to the Trustee dated July 31, 2002 (the *"Tax Certificate"*), the Equipment Security Agreement dated as of July 1, 2002 among the Agency, the Trustee and the Company (the *"Equipment Security Agreement"*), the Consent to Subleases and Leasehold Mortgage Agreement (the *"Consent to Subleases"*) dated July 31, 2002 among the Trustee, the Port Authority, the Agency, the Company and AMR Corporation and the Indenture (collectively the *"Agency Documents"*).

Based on the foregoing, I am of the opinion that:

(a) The Indenture constitutes a direct pledge and assignment by the Agency to the Trustee of, and a valid security interest in, all rentals and other amounts (except as otherwise provided in the Indenture) payable by the Company to the Agency under the IDA Lease Agreement. Financing statements in respect of such security interest have been entrusted to the Trustee, for due filing in proper form in the office of the Secretary of State of the State of New York, which filing is all of the filing and recording necessary to constitute the Indenture, and the Indenture constitutes, a valid direct pledge and assignment of, and with such filings the Indenture will constitute a valid perfected security interest in, all rentals and other amounts (except as otherwise provided in the Indenture) payable by the Company to the Agency under the provisions of the IDA Lease Agreement, as against all subsequent creditors of the Agency or of the Company and subsequent assignees of the Agency of such rentals and other amounts payable under the IDA Lease Agreement. No refiling of such financing statement is required in order to maintain such perfected security interest and pledge and assignment of such rentals and such other amounts except a continuation statement under the New York State Uniform

Commercial Code, which is required to be filed in conformity with the provisions of the New York State Uniform Commercial Code.

(b) There is no action, suit, proceeding or investigation at law or in equity by or before any court, public board or body, of which the Agency has notice, pending, or, to the best of my knowledge, threatened against or affecting the Agency, or to the best of my knowledge, any basis for such action, suit, proceeding or investigation, wherein an unfavorable decision, ruling or finding would affect the organization or existence of the Agency or the transactions contemplated by the Agency Documents or the exclusion of interest on the Bonds from gross income of the owners thereof for Federal Income tax purposes.

(c) No legislation has been enacted by the Legislature of the State of New York or the Council of the City of New York which in any way affects the issuance or delivery of the Bonds or the payment, collection or application of the proceeds thereof or rentals and other moneys and securities pledged or to be pledged under the Indenture, or the creation, organization or existence of the Agency or the titles to office of any officers thereof, or the power of the Agency to construct, renovate, equip, expand and install the Project or improve, assign or sublease the Facility referred to in the Indenture, the IDA Lease Agreement and the Company Sublease Agreement.

(d) The directors and officers of the Agency identified in the Agency's general certificate delivered the date hereof have been duly elected or appointed and are qualified to serve as such.

(e) The adoption by the Agency of the Resolution and the execution and delivery of the Agency Documents, and the performance by the Agency of its obligations thereunder, do not and will not violate or constitute a default under its bylaws, or any indenture or other agreement or instrument to which the Agency is a party or by which it or its properties is or may be bound, or any regulation, order or decree to which the Agency is subject, or result in the creation or imposition of any lien, charge or other security interest or encumbrance of any nature whatsoever upon any of the property or assets of the Agency, except as contemplated by the Indenture or the Equipment Security Agreement, and do not and will not violate any provision of the Constitution or statutes of the State of New York, or any resolution of the Agency, or any applicable judgment, order, rule, ordinance, decree or regulation of any court or of any public or governmental agency or authority having jurisdiction over the Agency or any of its property, and no approval or other action by any governmental authority or agency is required in connection with the Agency's obligations under the Resolution or the Agency Documents except such as has already been obtained.

(f) The Equipment Security Agreement is sufficient to create in the Trustee's favor as security for the payment of the Bonds a security interest in all right, title and interest of the Agency in those items of equipment and machinery described in the Equipment Security Agreement and in which a security interest may be created under Article 9 of the New York State Uniform Commercial Code (the *"UCC"*). Financing

statements in proper form in respect of such security interest have been entrusted to the Trustee for due filing in the office of the Secretary of State of New York. Assuming that the financing statements have been properly filed in the office of the Secretary of State of New York, such filing will be sufficient to perfect a security interest in the items and types of equipment and machinery described therein, as against all subsequent creditors of the Agency and subsequent assignees of such equipment and machinery. No refiling of such financing statements is required in order to maintain such perfected security interest except a continuation statement under the UCC, which is required to be filed in conformity with the provisions of the UCC.

In rendering this opinion, I have assumed the due authorization, execution and delivery by, and enforceability against (i) the Company of the IDA Lease Agreement, the Company Sublease Agreement, the Bond Purchase Agreement, the Tax Certificate, the Equipment Security Agreement, the Leasehold Mortgage, and the Consent to Subleases (ii) the Underwriters of the Bond Purchase Agreement, and (iii) the Trustee of the Indenture, the Consent to Subleases, the Equipment Security Agreement and the Tax Certificate.

This opinion is delivered to the addressees solely in connection with the transaction described herein, and it may be relied upon by the parties to whom this opinion is addressed and their counsel. This opinion may not be relied upon by any other person, firm or entity without the Agency's prior written consent.

Very truly yours,

Richard E. Marshall
Vice President for Legal Affairs

EXHIBIT B

Form of Supplemental Opinion of Bond Counsel

_____, 2002

Salomon Smith Barney Inc.,
as Senior Managing Underwriter of the several Underwriters
390 Greenwich Street, 2nd Floor
New York, New York 10013

New York City Industrial Development Agency
110 William Street – 6th Floor
New York, New York 10038

American Airlines, Inc.
4333 Amon Carter Blvd.
Fort Worth, Texas 76155
Attention: Treasurer

AMR Corporation
4333 Amon Carter Blvd.
Fort Worth, Texas 76155
Attention: Treasurer

Re: $500,000,000 New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002A and Series 2002B
(American Airlines, Inc. John F. Kennedy International Airport Project)
(the *"Bonds"*)

Gentlemen:

We have acted as Bond Counsel in connection with the issuance and sale on this date of the Bonds by the New York City Industrial Development Agency (the *"Issuer"*). This opinion is being rendered in connection with the delivery of the Bonds to Salmon Smith Barney Inc., as Senior Managing Underwriter of the several underwriters named in the Bond Purchase Agreement, dated July 25, 2002 (the *"Bond Purchase Agreement"*), among the Issuer, American Airlines, Inc. (the *"Company"*), AMR Corporation (*"AMR"*), and the aforementioned underwriters. All capitalized terms not otherwise defined herein shall have the same meaning as defined in the Bond Purchase Agreement.

In connection therewith we have examined the transcripts of proceedings relating to the Bonds and such other documents as we have deemed necessary or desirable.

Based upon the foregoing, it is our opinion that:

1. The Bond Purchase Agreement, the Leasehold Mortgage and the Consent to Subleases have each been duly authorized and executed by the Issuer and each of the Bond Purchase Agreement and the Consent to Subleases has been duly delivered and constitutes the legal and binding obligation of the Issuer enforceable in accordance with its terms (except to the extent that the obligations of the Issuer and the enforceability thereof are subject to the general principles of equity and to applicable bankruptcy, insolvency, reorganization, moratorium or similar laws relating to or affecting creditors' rights generally).

2. The Official Statement has been duly authorized by the Issuer.

3. The Bonds constitute exempted securities under Section 3(a)(2) of the Securities Act of 1933, as amended (the *"Securities Act"*), and under Section 304(a)(4)(B) of the Trust Indenture Act of 1939, as amended (the *"Trust Indenture Act"*); and the offer, sale and delivery of the Bonds does not require registration of the Bonds, the Lease Agreement, the Company Guaranty or the AMR Guaranty.

4. The statements contained in the Official Statement under the captions "THE AGENCY," "THE PROJECT; PLAN OF FINANCE—Plan of Finance," "THE SERIES 2002 BONDS," "SECURITY FOR THE BONDS" (but only with respect to the statements contained under the subcaptions "—The Indenture," "Debt Service Reserve Fund," "—The IDA Lease Agreement," "—Leasehold Mortgage and Reletting" (but only with respect to the first sentence of the first paragraph under "—*Leasehold Mortgage,*" the third sentence of the first paragraph under "—*Conditions to Execution, Delivery and Recording of the Leasehold Mortgage,*" the first and third sentences of the first paragraph and the first three sentences of the second paragraph under "—*Execution, Delivery and Recording of Leasehold Mortgage after Reletting Rights Effective Date,*" "—*Foreclosure of Leasehold Mortgage,*" and the second, third and second to the last sentences in the paragraph under the table in *"—Conditions Precedent to Foreclosure—3. Foreclosure Periodic Payments*"), "—Equipment Security Agreement," the second paragraph under "—New Leasehold Mortgage Upon Expiration of the Basic Lease," and "—Company Leases; Lease Term Differential" (but only with respect to "—*Term of Company Sublease*" and the second paragraph under "—*Lease Term Differential*")) and "TAX MATTERS" and Appendices B through D and G thereto insofar as the statements contained under such captions purport to summarize the certain provisions of the Bonds, the Indenture, the Lease Agreement and the Leasehold Mortgage and our opinion as to tax matters, present a fair and accurate summary of such provisions and matters of law purported to be summarized therein; *provided* that we express no opinion with respect to the statements describing The Depository Trust Company and its book-entry only system.

In expressing opinion Number 3 above, we have relied on, and assume continuing compliance by the Issuer, the Trustee and the Company with, certain representations and covenants relating to the use and investment of the proceeds of the Bonds and the projects financed therewith.

This letter is furnished solely for your information and benefit in connection with the offering and sale of the Bonds and may not be relied upon by any other person.

Respectfully submitted,

EXHIBIT C-1

Form of Opinion of Counsel to the Company

_____, 2002

Salomon Smith Barney Inc., as
Senior Managing Underwriter of the several Underwriters
390 Greenwich Street, 2nd Floor
New York, New York 10013

The Bank of New York, as Trustee
101 Barclay Street, 21W
New York, New York 10001

New York City Industrial Development Agency
110 William Street – 6th Floor
New York, New York 10038

Re: $500,000,000 New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002A and Series 2002B
(American Airlines, Inc. John F. Kennedy International Airport Project)

Ladies and Gentlemen:

This opinion is being furnished to you pursuant to Section 9(d)(13) of the Bond Purchase Agreement (the *"Bond Purchase Agreement"*), dated July 25, 2002 among Salomon Smith Barney Inc., as Senior Managing Underwriter of the several underwriters, American Airlines, Inc., a Delaware corporation (the *"Company"*), AMR Corporation, a Delaware corporation (*"AMR"*), and the New York City Industrial Development Agency (the *"Issuer"*) relating to the issuance and sale by the Issuer of $500,000,000 aggregate principal amount of its Special Facility Revenue Bonds, Series 2002A and Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (the *"Bonds"*). Capitalized terms used herein without definition shall have the meanings specified in the Bond Purchase Agreement.

I am Senior Vice President and General Counsel of the Company and have acted as such in connection with the preparation of the Leasehold Mortgage and the preparation, execution and delivery of the Lease Agreement, the Company Guaranty, the Bond Purchase Agreement, the Company Sublease, the Equipment Security Agreement, the Port Authority Lease, the Consent to Subleases, the Tax Certificate, the ATEIL, the RNDA and the Undertaking (collectively, the *"Company Documents"*).

In connection with this opinion, I or attorneys in the legal department of the Company have examined and are familiar with originals or copies, certified or otherwise, of the Company

Documents, and such other documents and records of the Company and such statutes, regulations and other instruments as we have deemed necessary or advisable for purposes of this opinion. As to certain facts material to this opinion, I have relied upon the accuracy of representations of one or more officers or other employees of the Company. In addition, I have assumed that communications of public officials and their assistants concerning the content of public files and records and actions taken by them in their public capacities are accurate, that all signatures, other than signatures of the Company, on all documents presented to me are genuine, that all documents submitted to me as originals are accurate and complete, that all documents submitted to me as copies are true and correct copies of the originals thereof, that all factual information submitted to me was accurate and complete and that all persons executing and delivering originals or copies of documents examined by me, other than persons executing and delivering such documents on behalf of the Company, were competent to execute and deliver such documents. In addition, I have assumed the due authorization, execution and delivery of the Company Documents by the respective parties thereto other than the Company and that such agreements are the valid and binding obligations of each of such other parties enforceable against such other parties in accordance with their terms.

Based on the foregoing, I am of the following opinion:

1. The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware, is duly qualified to do business in and is in good standing under the laws of the State of New York and has full corporate power to execute and deliver and to carry out and perform its obligations under the Company Documents.

2. The Company Documents have been duly authorized and (other than the Leasehold Mortgage) executed and delivered by the Company and (other than the Leasehold Mortgage) constitute the legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their respective terms, (a) except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or obligation or similar laws affecting the rights of creditors generally and by general equitable principles which may limit the availability of specific performance or other equitable remedies (regardless of whether enforcement is considered in a proceeding at law or in equity), (b) except as limited by applicable laws which may affect the remedies provided in the Company Documents (other than the Leasehold Mortgage), which laws, however, do not in my opinion make the remedies provided for in the Company Documents (other than the Leasehold Mortgage) inadequate for the realization of the rights and benefits provided thereby and (c) except that no opinion is expressed as to the enforceability of any provisions relating to indemnity and contribution.

3. The execution and delivery by the Company of the Company Documents, and compliance by the Company with the provisions of the Company Documents, will not conflict with or constitute a breach of or default under (a) the certificate of incorporation or by-laws of the Company, (b) any indenture, mortgage, deed of trust, loan agreement or other material agreement or material instrument to which the Company or any of its subsidiaries is a party or by which it or any of its subsidiaries or any of their respective property or assets are bound, which conflict, breach or default would adversely affect the validity as to the Company of, or the

Company's performance of any of its obligations under, the Company Documents or (c) to the best of my knowledge, any existing law, rule or regulation to which the Company or any of its subsidiaries is subject.

4. Except as disclosed in the Official Statement, including any documents incorporated therein by reference in Appendix A, there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, public board or body, pending or, to the best of my knowledge, threatened against the Company or any of its subsidiaries, respectively, affecting any of them (a) which would materially adversely affect the transactions contemplated by the Bond Purchase Agreement or the Official Statement, or which would adversely affect the validity or enforceability of the Bonds or the Company Documents, or (b) which would have a material adverse effect on the financial condition of the Company and its subsidiaries taken as a whole.

5. No consent, approval, authorization or order of, or registration or filing with, any court or governmental or public agency, authority or body is required with respect to the Company for the execution, delivery and performance by the Company as of the date hereof of the Company Documents.

6. I have no reason to believe the Official Statement as of its date and as of the date hereof, insofar as it relates to the Company, the Project, the application of the proceeds of the Bonds or the description of the provisions of the Company Documents other than the Bond Purchase Agreement (except as to financial statements and other financial and statistical data contained in or incorporated by reference in the Official Statement, including Appendix A thereto, as to which no opinion is expressed), contains any untrue statement of a material fact or omits to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

7. The Equipment Security Agreement is sufficient to create in the Trustee's favor as security for the payment of the Bonds a security interest in all right, title and interest of the Company in those items of equipment and machinery described in the Equipment Security Agreement and in which a security interest may be created under Article 9 of the Uniform Commercial Code of the State of Delaware (*"Delaware Article 9"*). Financing statements in proper form in respect of such security interest have been entrusted to the Trustee for due filing in the office of the Secretary of State of the State of Delaware. Assuming that the financing statements have been properly filed in the office of the Secretary of State of the State of Delaware, such filing will be sufficient to perfect a security interest in the items and types of equipment and machinery described therein. No further action is required in order to maintain such perfected security interest except for the filing of continuation statements under Delaware Article 9, which are required to be filed in conformity with the provisions of Delaware Article 9.

This opinion is limited in all respects to the laws of the States of New York and Texas, the general corporate laws of the State of Delaware, the Federal laws of the United States of America and, to the extent set forth in the following sentence, Delaware Article 9. The opinions set forth in paragraph 7 are limited to Article 9 of the Uniform Commercial Code of the State of New York and to Delaware Article 9 (and such opinions as to Delaware law are limited to a reading of Delaware Article 9) and therefore such opinions do not address (i) laws of a

jurisdiction other than New York and Delaware, and laws of Delaware except for Delaware Article 9, and (ii) collateral of a type not subject to Delaware Article 9. I express no opinion as to the securities or blue sky laws of any jurisdiction.

I am delivering this opinion to you pursuant to Section 9(d)(13) of the Bond Purchase Agreement, and no person other than you, your counsel and Bond Counsel is entitled to rely hereon.

Very truly yours,

General Counsel

EXHIBIT C-2

Form of Opinion of Counsel to AMR

_____, 2002

Salomon Smith Barney, Inc., as
Senior Managing Underwriter of the several Underwriters
390 Greenwich Street, 2nd Floor
New York, New York 10013

The Bank of New York, as Trustee
101 Barclay Street, 21W
New York, New York 10001

New York City Industrial Development Agency
110 William Street – 6th Floor
New York, New York 10038

Re: $500,000,000 New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002A and Series 2002B
(American Airlines, Inc. John F. Kennedy International Airport Project)

Ladies and Gentlemen:

This opinion is being furnished to you pursuant to Section 9(d)(13) of the Bond Purchase Agreement (the *"Bond Purchase Agreement"*), dated July 25, 2002 among Salomon Smith Barney, Inc., as Senior Managing Underwriter of the several underwriters, American Airlines, Inc., a Delaware corporation (the *"Company"*), AMR Corporation, a Delaware corporation (*"AMR"*), and the New York City Industrial Development Agency (the *"Issuer"*) relating to the issuance and sale by the Issuer of $500,000,000 aggregate principal amount of its Special Facility Revenue Bonds, Series 2002A and Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (the *"Bonds"*). Capitalized terms used herein without definition shall have the meanings specified in the Bond Purchase Agreement.

I am Senior Vice President and General Counsel of AMR and have acted as such in connection with the preparation, execution and delivery of the AMR Guaranty, the Bond Purchase Agreement, the Consent to Subleases and the Undertaking.

In connection with this opinion, I or attorneys in the legal department of AMR have examined and are familiar with originals or copies, certified or otherwise, of the AMR Guaranty, the Bond Purchase Agreement, the Consent to Subleases and the Undertaking, and such other documents and records of AMR and such statutes, regulations and other instruments as we have deemed necessary or advisable for purposes of this opinion. As to certain facts material to this

opinion, I have relied upon the accuracy of representations of one or more officers or other employees of AMR. In addition, I have assumed that communications of public officials and their assistants concerning the content of public files and records and actions taken by them in their public capacities are accurate, that all signatures, other than signatures of AMR, on all documents presented to me are genuine, that all documents submitted to me as originals are accurate and complete, that all documents submitted to me as copies are true and correct copies of the originals thereof, that all factual information submitted to me was accurate and complete and that all persons executing and delivering originals or copies of documents examined by me, other than persons executing and delivering such documents on behalf of AMR, were competent to execute and deliver such documents. In addition, I have assumed the due authorization, execution and delivery of the AMR Guaranty, the Consent to Subleases and the Bond Purchase Agreement by the respective parties thereto other than AMR and that such agreements are the valid and binding obligations of each of such other parties enforceable against such other parties in accordance with their terms.

Based on the foregoing, I am of the following opinion:

1. AMR is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware, is duly qualified to do business in and is in good standing under the laws of the State of New York and has full corporate power to execute and deliver and to carry out and perform its obligations under the Bond Purchase Agreement, the AMR Guaranty, the Consent to Subleases and the Undertaking.

2. The Bond Purchase Agreement, the AMR Guaranty, the Consent to Subleases and the Undertaking have been duly authorized, executed and delivered by AMR and constitute the legal, valid and binding obligations of AMR, enforceable against AMR in accordance with their respective terms, (a) except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or obligation or similar laws affecting the rights of creditors generally and by general equitable principles which may limit the availability of specific performance or other equitable remedies (regardless of whether enforcement is considered in a proceeding at law or in equity), (b) except as limited by applicable laws which may affect the remedies provided in AMR Guaranty, the Consent to Subleases or the Bond Purchase Agreement, which laws, however, do not in my opinion make the remedies provided for in the AMR Guaranty, the Consent to Subleases or the Bond Purchase Agreement inadequate for the realization of the rights and benefits provided thereby and (c) except that no opinion is expressed as to the enforceability of any provisions relating to indemnity and contribution.

3. The execution and delivery by AMR of the Bond Purchase Agreement, the AMR Guaranty, the Consent to Subleases and the Undertaking, and compliance by AMR with the provisions of the Bond Purchase Agreement, the AMR Guaranty, the Consent to Subleases and the Undertaking, will not conflict with or constitute a breach of or default under (a) the certificate of incorporation or by-laws of AMR, (b) any indenture, mortgage, deed of trust, loan agreement or other material agreement or material instrument to which AMR or any of its subsidiaries is a party or by which it or any of its subsidiaries or any of their respective property or assets are bound, which conflict, breach or default would adversely affect the validity as to AMR of, or AMR's performance of any of its obligations under, the Bond Purchase Agreement,

the AMR Guaranty, the Consent to Subleases or the Undertaking or (c) to the best of my knowledge, any existing law, rule or regulation to which the Company or any of its subsidiaries is subject.

4. Except as disclosed in the Official Statement, including any documents incorporated therein by reference in Appendix A, there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, public board or body, pending or, to the best of my knowledge, threatened against AMR or any of its subsidiaries, respectively, affecting any of them (a) which would materially adversely affect the transactions contemplated by the Bond Purchase Agreement or the Official Statement, or which would adversely affect the validity or enforceability of the Bonds, the AMR Guaranty, the Consent to Subleases or the Undertaking, or (b) which would have a material adverse effect on the financial condition of AMR and its subsidiaries taken as a whole.

5. No consent, approval, authorization or order of, or registration or filing with, any court or governmental or public agency, authority or body is required with respect to AMR for the execution, delivery and performance by AMR as of the date hereof of the Bond Purchase Agreement, the AMR Guaranty, the Consent to Subleases or the Undertaking.

6. I have no reason to believe the Official Statement as of its date and as of the date hereof, insofar as it relates to AMR or the description of the provisions of the AMR Guaranty, the Consent to Subleases or the Undertaking (except as to financial statements and other financial and statistical data contained in or incorporated by reference in the Official Statement, including Appendix A thereto, as to which no opinion is expressed), contains any untrue statement of a material fact or omits to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

This opinion is limited in all respects to the laws of the States of New York and Texas, the general corporate laws of the State of Delaware and the Federal laws of the United States of America. I express no opinion as to the securities or blue sky laws of any jurisdiction.

I am delivering this opinion to you pursuant to Section 9(d)(13) of the Bond Purchase Agreement, and no person other than you, your counsel and Bond Counsel is entitled to rely hereon.

Very truly yours,

General Counsel

EXHIBIT C-3

Form of Opinion of Debevoise & Plimpton

[Date of Closing]

To Each of the Persons
Listed on Schedule I Attached Hereto:

$500,000,000
New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002A and Series 2002B
(American Airlines, Inc. John F. Kennedy International Airport Project)

Ladies and Gentlemen:

We have acted as special New York counsel to (i) American Airlines, Inc., a Delaware corporation (the *"Company"*) and (ii) AMR Corporation, a Delaware corporation (*"AMR"*), in connection with the preparation of the form of Leasehold Mortgage and Security Agreement (attached as Exhibit __ to the Consent Agreement) (the *"Leasehold Mortgage"*) which Leasehold Mortgage is being prepared in connection with the transactions contemplated by the Bond Purchase Agreement (the *"Bond Purchase Agreement"*), dated July 25, 2002, among Salomon Smith Barney Inc., as Senior Managing Underwriter on behalf of the several Underwriters named therein, the Company, AMR and the New York City Industrial Development Agency (the *"Issuer"*) relating to the issuance and sale by the Issuer of $500,000,000 aggregate principal amount of its Special Facility Revenue Bonds, Series 2002A and Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (the *"Bonds"*) issued pursuant to a Master Indenture of Trust, dated as of July 1, 2002, as supplemented by a First Series Supplemental Indenture of Trust and a Second Series Supplemental Indenture of Trust, each dated as of July 1, 2002 (collectively, the *"Indenture"*) between the Issuer and The Bank of New York, as Trustee. Unless otherwise defined herein, capitalized terms used herein without definition shall have the meaning specified in the Indenture or, if not defined therein, in the Bond Purchase Agreement.

The opinion expressed below is furnished to you pursuant to Section 4.2(b) of the Consent Agreement and Section 9(d)(13) of the Bond Purchase Agreement.

In arriving at the opinion expressed below,

we have examined and relied on the originals, or copies certified or otherwise identified to our satisfaction, of the Company Documents and AMR Documents[1],

we have examined and relied on such corporate documents and records of the Company and AMR and such other instruments and certificates of public officials, officers and representatives of the Company and AMR and other persons as we have deemed necessary or appropriate for the purposes of this opinion,

we have examined and relied upon the representations and warranties as to factual matters contained in or made pursuant to the Company Documents and AMR Documents, and

we have made such investigations of law as we have deemed appropriate as a basis for this opinion.

In rendering the opinions expressed below, we have assumed, with your permission, without independent investigation or inquiry, (a) the authenticity of all documents submitted to us as originals, (b) the genuineness of all signatures on all documents that we examined, (c) the conformity to authentic originals of documents submitted to us as certified, conformed or photostatic copies and (d) the due authorization, execution and delivery by each of the parties thereto of each of the Company Documents and AMR Documents, the corporate or partnership power and authority of each such person to enter into and perform its obligations under each such document, the enforceability of each such document and the binding effect thereof as against each such person.

Based upon and subject to the foregoing and the qualifications hereinafter set forth, we are of the opinion that:

The Leasehold Mortgage is in a form sufficient (a) to create a valid and effective lien in favor of the Trustee for the benefit of the bondholders on and against the leasehold interest of the Company in the real property other than fixtures, (the *"Mortgaged Premises"*) created under that that certain Amended and Restated Agreement of Lease (Lease No. AYB-085R) made as of December 22, 2000 between the Company and the Port Authority and described in such Leasehold Mortgage (the *"Leasehold Estate"*) and (b) for recording in the office of the City Register for Queens County, New York. In order to provide constructive notice of the lien intended to be created on the Leasehold Estate by the Leasehold Mortgage, it is necessary to record the Leasehold Mortgage in the office of the City Register for Queens County, New York in accordance with the recording system established by applicable laws of the State of New York. We have assumed that the Company has or will have a leasehold interest of record in the Mortgaged Premises at the time of recording of the Leasehold Mortgage.

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1 Company Documents and AMR Documents are defined in Sections 5(a) and 6(a) of the Bond Purchase Agreement.

The opinion expressed above is subject to the following limitations, exceptions and assumptions:

A. Our opinion is qualified to the extent that the lien on the Leasehold Estate intended to be created by the Leasehold Mortgage may be limited by (i) applicable bankruptcy, insolvency, reorganization, receivership, conservatorship, arrangement, moratorium, fraudulent conveyance or similar laws relating to or affecting the enforcement of creditors' rights generally and (ii) general principles of equity and certain legal or statutory principles, including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing.

We have not made or undertaken to have made any investigation of the state of title to the Mortgaged Premises or the validity of the leasehold interest in the Mortgaged Premises, and we express no opinion as to (i) the title to or other ownership rights in such property, (ii) the legal description of such property, (iii) the priority of any lien or security interest intended to be created by the Leasehold Mortgage, or (iv) the absence of any conflicting rights of others with respect to such property.

We have assumed that the Company has "rights" in the Leasehold Estate and that "value" has been given.

The opinion expressed herein does not encompass, and we express no opinion with respect to, the creation of any security interest in the fixtures or any other personal property described in the Leasehold Mortgage.

The opinion expressed herein does not encompass, and we express no opinion with respect to, the filings and other acts that may be required in the State of New York in connection with foreclosure or other realization upon the property subject to security interests pursuant to the Leasehold Mortgage.

We express no opinion with respect to any provision of the Leasehold Mortgage that purports to permit the Trustee or any person to sell or otherwise dispose of any of the Leasehold Estate except in compliance with applicable federal and state laws.

We express no opinion with respect to the ability of the Trustee to proceed with foreclosure of the lien under the Leasehold Mortgage without accelerating the underlying indebtedness evidenced by the Bonds as guaranteed by the Guaranties.

We express no opinion as to any law relating to the protection of the environment or to building codes, zoning, land use controls, environmental or similar matters.

We express no opinion as to the effectiveness against third parties of any provision of the Leasehold Mortgage purporting to grant a lien on after-acquired real property.

We express no opinion as to the applicability or effect of, or compliance with, any provision of any federal or state securities laws.

In rendering the foregoing opinion, we have relied upon the opinions, dated today, of Anne McNamara, Esq., General Counsel of the Company and AMR, as to all matters contained therein.[2] To the extent of such reliance, our opinion is subject to the same assumptions, qualifications and limitation as are contained therein. We express no opinion as to the laws of any jurisdiction other than the laws of the State of New York and the Federal laws of the United States of America, in each case that in our experience are generally applicable to transactions of this type. In particular (and without limiting the generality of the foregoing) we express no opinion as to the laws of any country (other than the Federal laws of the United States of America) or as to the effect of such laws (whether limiting, prohibitive or otherwise) on any of the rights or obligations of the Company or AMR or of any other party to or beneficiary of any of the Company Documents and AMR Documents. We have assumed, with your permission, that the execution and delivery of each of the Company Documents and AMR Documents by each of the parties thereto and the performance of their respective obligations thereunder will not violate any fundamental public policy under applicable law (other than the laws of the State of New York and Federal laws of the United States of America).

Our opinion is expressly limited to the matters set forth above and we render no opinion, whether by implication or otherwise, as to any other matters. This opinion is given as of the date hereof, and we assume no obligation to advise you of facts, circumstances, events or developments which hereafter may be brought to our attention and which may alter, affect or modify the opinion expressed herein.

The opinions expressed herein are solely for your benefit and, without our prior consent, neither our opinion nor this opinion letter may be relied upon by any other person.

Very truly yours,

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2 Anne McNamara, General Counsel to the Company and AMR, will be delivering opinions at the closing. The form of such opinions are currently set forth as Exhibits C-1 and C-2 of the Bond Purchase Agreement.

SCHEDULE OF RECIPIENTS

The Port Authority of New York and New Jersey
Salomon Smith Barney Inc.
Merrill Lynch, Pierce, Fenner & Smith Incorporated
J.P. Morgan Securities Inc.
Bear, Stearns & Co. Inc.
The Bank of New York Company, Inc.
Morgan Stanley & Co. Incorporated
SunTrust Capital Markets, Inc.

EXHIBIT D

Form of Opinion of Underwriters' Counsel

_____, 2002

Salomon Smith Barney, Inc., as
Senior Managing Underwriter of the several Underwriters
390 Greenwich Street, 2nd Floor
New York, New York 10013

Re: $500,000,000 New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002A and Series 2002B
(American Airlines, Inc. John F. Kennedy International Airport Project)

Ladies and Gentlemen:

We have acted as your co-counsel in connection with your purchase of $500,000,000 aggregate principal amount of Special Facility Revenue Bonds, Series 2002A and Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (the *"Bonds"*), issued on this date by the New York City Industrial Development Agency (the *"Issuer"*) pursuant to the terms of a Master Indenture of Trust dated as of July 1, 2002 as supplemented by a First Series Supplemental Indenture of Trust and a Second Series Supplemental Indenture of Trust, each dated as of July 1, 2002 (collectively, the *"Indenture"*) between the Issuer and The Bank of New York, as trustee (the *"Trustee"*). As such counsel we have examined executed copies of: (i) the Indenture; (ii) the IDA Lease Agreement, dated as of July 1, 2002 (the *"Agreement"*) between the Issuer and American Airlines, Inc. (the *"Company"*); (iii) the Bond Purchase Agreement dated July 25, 2002 (the *"Bond Purchase Agreement"*) among the Company, AMR Corporation (*"AMR"*), the Issuer and you; (iv) the Guaranty dated as of July 1, 2002 (the *"Company Guaranty"*) between the Company and the Trustee; (v) the Guaranty dated as of July 1, 2002 (the *"AMR Guaranty"*) between AMR and the Trustee; (vi) the Undertaking of the Company and AMR dated the date hereof (the *"Undertaking"*); (vii) Amended and Restated Lease (ABY-083R) dated December 22, 2000, between the Company and the Port Authority, as amended by the First Supplemental Agreement dated as of July 31, 2002; (viii) the Company Sublease Agreement dated as of July 1, 2002 between the Company and the Issuer; (ix) the form (unexecuted) of the Leasehold Mortgage and Security Agreement from the Company to the Trustee as joined by the Issuer; (x) the Consent to Subleases and Leasehold Mortgage Agreement dated July 31, 2002 among the Port Authority, the Company, AMR, the Issuer and the Trustee; (xi) the Agreement Towards Entering into a Lease dated _____, 2002 between the City and the Company; (xii) the Recognition, Non-Disturbance and Attornment Agreement dated _____, 2002 between the City and the Company; (xiii) the opinions of even date herewith as required by Sections 9(d)(8) through 9(d)(10), Section 9(d)(13) and Section 9(d)(15) of the

Bond Purchase Agreement; and (xiv) certain certificates as required by the Bond Purchase Agreement.

Assuming the validity of the Bonds and that interest on the Bonds is excludable from the gross income of the owners thereof for federal income tax purposes as set forth in the opinion of even date herewith of Winston & Strawn, Bond Counsel (*"Bond Counsel"*), and based upon our review of such documents and showings and related matters of law as we have deemed necessary and in reliance thereon, we are of the opinion that, under existing law, in connection with the offering, sale and delivery of the Bonds under the circumstances described in the Official Statement (as defined below) the Bonds, the Agreement, the Company Guaranty and the AMR Guaranty are not required to be registered under the Securities Act of 1933, as amended, and the Indenture is not required to be qualified under the Trust Indenture Act of 1939, as amended.

In accordance with our understanding with you, we have rendered legal advice and assistance to you in the course of your investigation with respect to, and your participation in the preparation of, the Official Statement with respect to the Bonds dated July 25, 2002 (the *"Official Statement"*) and certain other matters related to the subject financing. Rendering such assistance involved, among other things, discussions and inquiries concerning various legal and related subjects and a limited review of certain documents, including opinions of Bond Counsel and other counsel and certificates of officers of the Issuer and other appropriate persons. We also participated in meetings and telephone conferences with your representatives and other persons involved in the preparation of information for the Official Statement, at which the contents of the Official Statement and related matters were discussed and revised. While we are not passing upon, and do not assume responsibility for, the accuracy, completeness or fairness of the statements contained in the Official Statement, based upon our limited review of documents and participation in conferences as aforesaid, without independent verification, no facts have come to our attention which lead us to believe that the Official Statement (apart from the information relating to The Depository Trust Company and its book-entry only system and the financial, statistical and operating data contained or incorporated therein, as to which we do not express any opinion or belief) contained as of its date or contains as of the date hereof any untrue statement of a material fact or omitted or omits to state a material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading.

We have rendered legal advice and assistance to you as to the requirements of Rule 15c2-12 prescribed under the Securities Exchange Act of 1934, as amended (the *"Rule"*), in connection with your review, for purposes of the Rule, of the Undertaking. Based upon our examination of the Undertaking, the Rule and such other documents and matters of law as we have considered necessary, we are of the opinion that, under existing law, the Undertaking complies in all material respects with the applicable requirements of the Rule; *provided, however,* no view is expressed regarding the items comprising Annual Financial Information (as defined in the Undertaking).

This letter is furnished by us as counsel to the Underwriters and is solely for the benefit of the Underwriters. This opinion is given as of the date hereof and we assume no obligation to

revise or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

Respectfully submitted,

SNWohl/GWeinstein

EXHIBIT E

Form of Opinion of Trustee's Counsel

July __, 2002

To the Persons on the attached
Exhibit A

Re: $500,000,000 New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002A and Series 2002B
(American Airlines, Inc. John F. Kennedy International Airport Project)

Ladies and Gentlemen:

We have acted as counsel for The Bank of New York, a New York banking corporation (the *"Trustee"*), in connection with the issuance by New York City Industrial Development Agency (the *"Agency"*) of its $500,000,000 aggregate principal amount of Special Facility Revenue Bonds, Series 2002A and Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (the *"Bonds"*), pursuant to the Master Indenture of Trust, dated as of July 1, 2002, between the Agency and the Trustee (the *"Master Indenture"*) as supplemented by a First Series Supplemental Indenture of Trust and a Second Series Supplemental Indenture of Trust, each dated as of July 1, 2002 (the Master Indenture, as supplemented, the *"Indenture"*). Capitalized terms used in this opinion shall have the respective meanings assigned such terms by the Indenture.

In rendering the opinions set forth below, we have examined the originals, or copies certified to our satisfaction, of such agreements, documents, certificates and other statements of government officials and corporate officers of the Trustee and other papers as we deemed relevant and necessary as a basis for such opinions and have relied as to factual matters on representations, warranties and other statements therein. In such examination, we have assumed the genuineness of all signatures and the authenticity of all documents submitted to us as originals and the conformity with the originals of all documents submitted to us as copies. We have also assumed the due authorization, execution and delivery of instruments and agreements by the parties (other than the Trustee) thereto, and the authority and existence of such parties other than the Trustee.

Based upon and subject to the foregoing, we are of the opinion that as of this date:

1. The Trustee is a banking corporation organized and validly existing and in good standing under the laws of the State of New York and is authorized and qualified to accept the trusts imposed by the Indenture and to act as Trustee and Paying Agent under the Indenture, the Company Guaranty, the AMR Guaranty, the Leasehold Mortgage, the Consent Agreement, and the Equipment Security Agreement.

2. Each of the Indenture, the Company Guaranty, the AMR Guaranty, the Consent Agreement, and the Equipment Security Agreement bas been duly authorized, executed and delivered by the Trustee and constitutes a legal, valid and binding obligation of the Trustee enforceable against the Trustee in accordance with its terms, except as enforcement thereof may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws relating to the enforcement of creditors' rights generally, and by general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law). The execution and delivery of the Leasehold Mortgage has been duly authorized by the Trustee.

We are members of the New York Bar and do not hold ourselves out as experts on, nor do we express any opinion as to, the laws of any jurisdiction other than the laws of the State of New York and the Federal laws of the United States. This opinion is for your benefit and may not be disclosed to or relied upon by any other person without our prior written consent.

Very truly yours,

EXHIBIT A

The Bank of New York
New York, New York

Salomon Smith Barney, Inc., as
Senior Managing Underwriter of the several Underwriters
New York, New York

New York City Industrial Development Agency
New York, New York

American Airlines, Inc.
Fort Worth, Texas

AMR Corporation
Fort Worth, Texas

EXHIBIT F

Certificate of Port Authority

I, _____, certify that I am the duly qualified and acting _____ of the Port Authority of New York and New Jersey (the *"Port Authority"*). Capitalized terms used herein without definition shall have meanings specified in the Consent to Subleases and Leasehold Mortgage Agreement to be dated July 31, 2002 (the *"Consent Agreement"*). All terms used herein are defined in the Consent Agreement. I further certify, in connection with the issuance by the New York City Industrial Development Agency of $500,000,000 aggregate principal amount of its Special Facility Revenue Bonds, Series 2002A, Series 2002B, Series 2002C and Series 2002D (American Airlines, Inc. John F. Kennedy International Airport Project), pursuant to Section 4.2 of the Consent Agreement, the Port Authority has received (1) an acceptable form of the Leasehold Mortgage, attached as Exhibit G of the Consent Agreement which form includes a copy of the Consent Agreement and Section 92 as attachments thereto; and (2) the opinion given by the Company's counsel with respect to the Leasehold Mortgage, which is in the form of Exhibit J of the Consent Agreement.

Dated July 31, 2002

_____

[Title]

WINSTON & STRAWN

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1204 GENEVA, SWITZERLAND

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75116 PARIS, FRANCE

1400 L STREET, N.W.
WASHINGTON, D.C. 20005-3502

July 31, 2002

New York City Industrial
Development Agency
110 William Street
New York, New York 10038

Ladies and Gentlemen:

We have examined a record of proceedings of the New York City Industrial Development Agency (the "Agency"), a corporate governmental agency constituting a body corporate and politic and a public benefit corporation organized and existing under the laws of the State of New York, and other proofs submitted to us relative to the issuance and sale of the $120,000,000 New York City Industrial Development Agency Special Facility Revenue Bonds, Series 2002A (American Airlines, Inc. John F. Kennedy International Airport Project) (the "Series 2002A Bonds") and $380,000,000 New York City Industrial Development Agency Special Facility Revenue Bonds, Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (the "Series 2002B Bonds" and collectively with the Series 2002A Bonds, the Series 2002B Bonds, the "Series 2002 Bonds").

The Series 2002 Bonds are issued under and pursuant to (i) the New York State Industrial Development Agency Act (constituting Title 1 of Article 18-A of the General Municipal Law, Chapter 24 of the Consolidated Laws of the State of New York), as amended, and Chapter 1082 of the 1974 Laws of New York, as amended (collectively, the "Act"); (ii) a Master Indenture of Trust, dated as of July 1, 2002 (the "Master Indenture"), as supplemented by a First Series Supplemental Indenture of Trust, dated as of July 1, 2002, with respect to the Series 2002A Bonds (the "First Series Supplemental Indenture") and a Second Series Supplemental Indenture of Trust, dated as of July 1, 2002, with respect to the Series 2002B Bonds (the "Second Series Supplemental Indenture" and collectively with the Master Indenture and the First Series Supplemental Indenture, the "Indenture"), by and between the Agency and The Bank of New York (the "Trustee"); and (iii) resolutions of the Agency adopted on October 23, 2001 and November 23, 2001 authorizing the Series 2002 Bonds and certain actions relating thereto.

The Series 2002 Bonds are dated July 1, 2002, and are issuable as fully registered bonds, without coupons, in authorized denominations of $100,000 or any integral multiple of $5,000 in excess of $100,000.

The Series 2002 Bonds are subject to redemption prior to maturity, in the manner and upon the terms and conditions set forth in the Indenture.

The Series 2002 Bonds are being issued to provide funds to finance a portion of the cost of a project (the "Project") which consists of (i) the demolition of Terminals 8 and 9 at John F. Kennedy International Airport in Queens, New York (the "Airport") on land owned by the City (as hereinafter defined) (the "Premises"), and (ii) the acquisition, construction and equipping of a new approximately 2,000,000 square foot air passenger terminal together with related arrival and departure access ramps, parking facilities on the Premises and a passenger tunnel connecting Concourse C to the new terminal, all to be used and managed as a passenger facility located at the Airport by American Airlines, Inc., a Delaware corporation (the "Lessee"). The Series 2002 Bonds will also provide funds to reimburse the Lessee for the payment of such Project costs, to pay costs of issuance related to the Series 2002 Bonds and to Fund applicable accounts of the Debt Service Reserve Fund.

The Airport is leased by the City of New York (the "City") to The Port Authority of New York and New Jersey (the "Port Authority") pursuant to an Agreement of Lease dated April 17, 1947, as amended and supplemented (the "Basic Lease"), by and between the City and the Port Authority. The Premises have been subleased by the Port Authority to the Lessee pursuant to an agreement of lease entered into as of August 1, 1976 being Port Authority Agreement No. AYB-085 as amended and supplemented and as further amended, supplemented, and restated in an Amended and Restated Lease (No. AYB-085R) dated December 22, 2000 between the Port Authority and the Lessee, as the same may now or hereafter be amended, modified or supplemented from time to time (the "Port Authority Lease"). The Lessee and the Agency have entered into a Company Sublease Agreement dated as of July 1, 2002 (the "Company Sublease"). Pursuant to the Company Sublease, the Lessee will sub-sublease to the Agency certain improvements located on the Premises (the "Leased Facilities"). The Leased Facilities consists of only the improvements which are to be made or acquired pursuant to the IDA Lease Agreement, dated as of July 1, 2002, by and between the Agency and Lessee (the "IDA Lease Agreement"), and financed with the proceeds of the Series 2002 Bonds and Additional Bonds (herein defined) issued from time to time under the Indenture (the "Bonds"). Pursuant to the IDA Lease Agreement the Agency has sub-sub-subleased to the Lessee the Leased Facilities, and has leased to the Lessee the systems, machinery, equipment and other tangible personal property acquired and installed or to be acquired and installed at the Leased Facilities as part of the Project and financed in whole or in part with the proceeds of the Bonds (the "Facility Equipment"). The Leased Facilities and the Facility Equipment are referred to collectively herein as the "Facility."

The Lessee will be obligated under the IDA Lease Agreement to make lease rental payments to the Trustee in an amount sufficient to pay the principal and purchase price of, redemption premium, if any, and interest on the Bonds, including the Series 2002 Bonds. The Indenture permits the issuance of additional bonds (the "Additional Bonds") ranking on a parity

with the Series 2002 Bonds, provided that the maximum principal amount of bonds issued under the Indenture shall not exceed $2,300,000,000. Payment of the principal and purchase price of, redemption premium, if any, and interest on the Bonds (including the Series 2002 Bonds) issued under the Indenture will be guaranteed by the Lessee pursuant to a Guaranty dated as of July 1, 2002 from the Lessee to the Trustee (the "Lessee Guaranty") and will also be guaranteed by AMR Corporation ("AMR") pursuant to a Guaranty dated as of July 1, 2002 from AMR to the Trustee (the "AMR Guaranty"). The Bonds will be additionally secured pursuant to an Equipment Security Agreement dated as of July 1, 2002 among the Agency, the Lessee and the Trustee ("the Equipment Security Agreement").

We are of the opinion that:

1. The Agency has the right and power to enter into the Indenture, the IDA Lease Agreement, the Company Sublease and the Equipment Security Agreement, and the Indenture, the IDA Lease Agreement, the Company Sublease and the Equipment Security Agreement have been duly authorized, executed and delivered by the Agency, and, assuming due authorization, execution and delivery by the other parties thereto, are in full force and effect in accordance with their terms and are valid and binding upon the Agency and enforceable in accordance with their respective terms and no other authorization by the Agency for the Indenture, the IDA Lease Agreement, the Company Sublease or the Equipment Security Agreement is required.

2. The Indenture creates the valid pledge which it purports to create of the lease rentals payable or receivable under the IDA Lease Agreement and the moneys and securities from time to time held by the Trustee under the terms of the Indenture, subject only to the provisions of the Indenture permitting the application thereof for the purposes and on the terms and conditions set forth in the Indenture.

3. The Agency has the right and power to authorize, execute and deliver the Series 2002 Bonds, and the Series 2002 Bonds have been duly authorized, executed and delivered by the Agency. The Series 2002 Bonds are valid and binding special obligations of the Agency, are enforceable in accordance with their terms and the terms of the Indenture and are payable as to principal and purchase price, redemption premium, if any, and interest from moneys on deposit in the funds and accounts maintained under the Indenture, all as provided in the Indenture. The Series 2002 Bonds are entitled to the benefit of the Indenture.

4. The Internal Revenue Code of 1986, as amended to the date hereof (the "Code"), imposes certain requirements that must be met subsequent to the issuance and delivery of the Series 2002 Bonds in order that interest on the Series 2002 Bonds be and remain not included in gross income for Federal income tax purposes. Pursuant to the Tax Certificate executed by the Lessee and the Agency dated the date hereof (the "Tax Certificate"), the Lessee has made certain representations, certifications and covenants relating to such non-inclusion in gross income. The IDA Lease Agreement and the Tax Certificate obligate the Lessee to do and perform all acts and things necessary and within its control to assure that interest on the Series 2002 Bonds not be included in gross income pursuant to Section 103 of the Code. Noncompliance with current requirements or future amendments may cause interest on the Series

2002 Bonds to be subject to federal income taxes retroactive to the date of issue of the Series 2002 Bonds, irrespective of the date on which such noncompliance occurs or is ascertained.

In our opinion, under existing statutes and court decisions, assuming continuing compliance by the Agency and the Lessee (and their successors) with the aforementioned covenants and the accuracy of the aforementioned representations and certifications, interest on the Series 2002 Bonds is not included in gross income for Federal income tax purposes, except that we express no opinion as to the exclusion from gross income of interest on any Series 2002 Bond for any period during which such Series 2002 Bond is held by a "substantial user" of the Facility or a "related person" within the meaning of Section 147(a) of the Code. Interest on the Series 2002 Bonds will be treated as a preference item to be included in calculating the alternative minimum taxable income for purposes of the alternative minimum tax imposed with respect to individuals and corporations.

The Series 2002 Bonds are initially offered to the public at a price less than the principal amount thereof payable at maturity. If the first price at which a substantial amount of the Series 2002 Bonds is sold in the initial offering to the public (excluding bond houses, brokers or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers) is less than the principal amount thereof payable at maturity, the difference between such price and principal amount constitutes original issue discount. We are of the opinion that original issue discount, as it accrues, is not includable in gross income for federal income tax purposes and is subject to the alternative minimum tax to the same extent as is interest on the Series 2002 Bonds. Original issue discount accrues over the term of the Series 2002 Bonds under the "constant yield method" described in regulations interpreting Section 1272 of the Code, with certain adjustments.

5. The interest (and accrued original issue discount) on the Series 2002 Bonds is exempt from personal income taxes imposed by the State of New York or any political subdivision thereof (including the City) and is exempt from all taxation directly imposed by or under the authority of said State except for transfer and estate taxes.

Except as stated in paragraphs 4 and 5 above, we express no opinion as to any other Federal or state tax consequences of the ownership or disposition of the Series 2002 Bonds.

We have examined one of the Series 2002 Bonds in fully registered form and, in our opinion, the form of said Series 2002 Bond is regular and proper.

Certain requirements and procedures contained or referred to in the Indenture and other relevant documents may be changed and certain actions may be taken, under the circumstances and subject to the terms and conditions set forth in such documents, upon the advice or with the approving opinion of Bond Counsel. Furthermore, we express no opinion as to the impact of any such change or action on the tax-exempt status of interest on any Series 2002 Bond, if such change occurs or action is taken upon the advice or approval of Bond Counsel other than Winston & Strawn.

The foregoing opinions are qualified to the extent that the enforceability of the Series 2002 Bonds, the Indenture, the Basic Lease, the Port Authority Lease, the Company

Sublease, the IDA Lease Agreement and the Equipment Security Agreement may be limited by bankruptcy, moratorium or insolvency or other laws affecting creditors' rights generally and by application of general rules of equity (regardless of whether such enforceability is considered in a proceeding at law or in equity). In addition, we express no opinion as to the severability of any provision of the Indenture, the Company Sublease, the IDA Lease Agreement or the Equipment Security Agreement in the event that the modification of the foregoing agreements resulting from a severed provision constitutes a material change to the original intention of the parties to such agreements.

In rendering the foregoing opinions, we have assumed that each of the Basic Lease and the Port Authority Lease are in full force and effect. In rendering this opinion, we have not made any investigation of, do not express an opinion as to, and are not passing upon any matters relating to, title to the Facility.

In rendering the foregoing opinions, we have reviewed the opinions of Anne H. McNamara, Senior Vice President and General Counsel of AMR Corporation and American Airlines, Inc., dated the date hereof, as to certain matters relating to the Lessee and have assumed the due authorization, execution and delivery of the Company Sublease, the IDA Lease Agreement and the Equipment Security Agreement by the Lessee. We understand that you have received said opinions with respect to such matters.

In rendering the foregoing opinions, we have reviewed the opinion of Emmet, Marvin & Martin, LLP, counsel to the Trustee, dated the date hereof, as to certain matters relating to the Trustee and have assumed the due authorization, execution and delivery of the Indenture by the Trustee. We understand that you have received such opinion with respect to such matters.

Our opinions set forth herein are based upon the facts in existence and the laws in effect on the date hereof and we disclaim any obligation to update our opinions herein, regardless of whether changes in such facts or laws come to our attention after the delivery hereof.

Very truly yours,

Winston + Strawn

WINSTON & STRAWN

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July 31, 2002

The Bank of New York,
as Trustee
New York, New York

Salomon Smith Barney Inc.,
as Senior Managing Underwriter of the several Underwriters
New York, New York

American Airlines, Inc.
Fort Worth, Texas

AMR Corporation
Fort Worth, Texas

Ladies and Gentlemen:

Under even date, we have delivered our final approving opinion, addressed to the New York City Industrial Development Agency (the "Agency"), relating to the Agency's $500,000,000 aggregate principal amount of Special Facility Revenue Bonds (American Airlines, Inc. John F. Kennedy International Airport Project), Series 2002 (the "Bonds"). We hereby authorize The Bank of New York, as trustee under that certain Master Indenture of Trust, as supplemented by a First Series Supplemental Indenture of Trust and a Second Series Supplemental Indenture of Trust (collectively, the "Indenture of Trust"), each dated as of July 1, 2002, and the Agency, Salomon Smith Barney Inc., as representative of itself and the other underwriters of the Bonds, American Airlines, Inc. and AMR Corporation, to rely on said opinion and to make use thereof to the same extent and with the same force and effect as if it were addressed to each such party.

Very truly yours,

Winston & Strawn

WINSTON & STRAWN

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July 31, 2002

Salomon Smith Barney Inc.,
as Senior Managing Underwriter of the several Underwriters
390 Greenwich Street, 2nd Floor
New York, New York 10013

New York City Industrial Development Agency
110 William Street – 6th Floor
New York, New York 10038

American Airlines, Inc.
4333 Amon Carter Blvd.
Fort Worth, Texas 76155
Attention: Treasurer

AMR Corporation
4333 Amon Carter Blvd.
Fort Worth, Texas 76155
Attention: Treasurer

Re: $500,000,000 New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002A and Series 2002B
(American Airlines, Inc. John F. Kennedy International Airport Project)
(the "Bonds")

Ladies and Gentlemen:

We have acted as Bond Counsel in connection with the issuance and sale on this date of the Bonds by the New York City Industrial Development Agency (the "Issuer"). This opinion is being rendered in connection with the delivery of the Bonds to Salmon Smith Barney Inc., as Senior Managing Underwriter of the several underwriters named in the Bond Purchase Agreement, dated July 25, 2002 (the "Bond Purchase Agreement"), among the Issuer, American Airlines, Inc. (the "Lessee"), AMR Corporation ("AMR"), and the aforementioned underwriters. All capitalized terms not otherwise defined herein shall have the same meaning as defined in the Bond Purchase Agreement.

We have examined the following documents relating to the Bonds and such other documents as we have deemed necessary or desirable:

(a) a resolution of the Agency adopted on October 23, 2001 as amended November 11, 2001, authorizing the Bonds and certain other matters in connection with the issuance thereof;

(b) the Company Sublease Agreement, dated as of July 1, 2002 (the "Company Sublease"), by and between the Issuer and the Lessee;

(c) the IDA Lease Agreement, dated as of July 1, 2002 (the "IDA Lease Agreement"), by and between the Issuer and the Lessee;

(d) the Master Indenture of Trust (the "Master Indenture"), dated as of July 1, 2002, by and between the Issuer and The Bank of New York (the "Trustee") as amended and supplemented by a First Series Supplemental Indenture of Trust dated as of July 1, 2002 by and between the Issuer and the Trustee and the Second Series Supplemental Indenture of Trust dated as of July 1, 2002 by and between the Issuer and the Trustee;

(e) the Guaranty from AMR to the Trustee dated as of July 1, 2002 (the "AMR Guaranty") and the Guaranty from the Lessee to the Trustee dated as of July 1, 2002 (the "Lessee Guaranty") together with the AMR Guaranty (the "Guaranty);

(f) the Bond Purchase Agreement;

(g) the Form of Leasehold Mortgage and Security Agreement (attached as Exhibit G, to the Consent to Subleases) among the Issuer, the Lessee and the Trustee (the "Leasehold Mortgage");

(h) a Consent to Subleases and Leasehold Mortgage Agreement (the "Consent to Subleases") dated as of July 31, 2001 among the Port Authority, the Issuer, the Lessee, AMR and the Trustee; and

(i) the Official Statement of the Issuer, dated July 25, 2002 (the "Official Statement"), relating to the Bonds.

We are of the opinion that:

1. The Bond Purchase Agreement and the Consent to Subleases have each been duly authorized and executed by the Issuer and each of the Bond Purchase Agreement and the Consent to Subleases has been duly delivered and constitutes the legal and binding obligation of the Issuer enforceable against the Issuer in accordance with its terms.

2. The Leasehold Mortgage has been duly authorized by the Issuer and assuming the due execution and delivery thereof by the Issuer and the Lessee, Section 20 of the Leasehold Mortgage will constitute the legal and binding obligation of the Issuer enforceable against the Issuer in accordance with its terms.

3. The Official Statement has been duly authorized by the Issuer.

4. The Bonds constitute exempted securities under Section 3(a)(2) of the Securities Act of 1933, as amended (the "Securities Act"), and under Section 304(a)(4)(B) of the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act"); and the offer, sale and delivery of the Bonds does not require registration of the Bonds, the IDA Lease Agreement, or the Guaranty.

5. The statements contained in the Official Statement under the captions "INTRODUCTORY STATEMENT," "THE AGENCY," "THE SERIES 2002 BONDS," "SECURITY FOR THE BONDS" (but only with respect to the statements contained under the subcaptions (i) "—The Indenture," (ii) "—Debt Service Reserve Fund—" (iii) "—The IDA Lease Agreement," (iv) "—Leasehold Mortgage and Reletting" (but only with respect to (A) the first and second sentences of the first paragraph under "*—Leasehold Mortgage,*" (B) the third sentence of the first paragraph under "*—Conditions to Execution, Delivery and Recording of the Leasehold Mortgage,—*" (C) the first and third sentences of the first paragraph and the first three sentences of the second paragraph under "*—Execution, Delivery and Recording of Leasehold Mortgage after Reletting Rights Effective Date,*" (D) the statements under "*—Foreclosure of Leasehold Mortgage,*" (E) the second sentence and the third and second to the last sentences in the paragraph under the table in "*—Conditions Precedent to Foreclosure—3. Foreclosure Periodic Payments*" and (F) the third sentence under "*—Conditions Precedent to Foreclosure—4. Right of the Port Authority to Terminate Leasehold Mortgage Prior to Foreclosure)*", (v) "Equipment Security Agreement," (vi) the second paragraph under "—New Leasehold Mortgage Upon Expiration of the Basic Lease," "Company Leases; Lease Term Differential" (but only with respect to "*—Term of Company Sublease*" and the second paragraph under "*—Lease Term Differential*")) and "TAX MATTERS" and under Appendices B through D of the Official Statement and under Appendix G of the Official Statement (but with respect to Appendix G, only the statements under the subheading "Summary of Certain Provisions of the Leasehold Mortgage") insofar as the statements contained under such captions and appendices purport to describe the Agency or purport to summarize certain provisions of the Bonds, the Indenture, the IDA Lease Agreement, the Company Sublease and the Leasehold Mortgage and our opinion as to tax matters contained in Appendix I, present a fair and accurate summary of such provisions and matters of law purported to be summarized therein; *provided* that we express no opinion with respect to the statements describing The Depository Trust Company and its book-entry only system.

In expressing our opinion in paragraph 4 above, we have relied on, and assume continuing compliance by the Issuer, the Trustee and the Lessee with, certain representations and covenants relating to the use and investment of the proceeds of the Bonds and the projects financed therewith.

The foregoing opinions are qualified to the extent that the enforceability of the Bond Purchase Agreement and the Consent to Subleases may be limited by bankruptcy, moratorium or insolvency or other laws affecting creditors' rights generally and by application of general rules of equity (regardless of whether such enforceability is considered in a proceeding at law or in equity). In addition, we express no opinion as to the severability of any provision of the Bond Purchase Agreement and the Consent to Subleases in the event that the modification of the

foregoing agreements resulting from a severed provision constitutes a material change to the original intention of the parties to such agreements.

In rendering the foregoing opinions, we have reviewed the opinions of Anne H. McNamara, Senior Vice President and General Counsel of AMR and the Lessee dated the date hereof, as to certain matters relating to the Lessee and AMR and have assumed the due authorization, execution and delivery of the Consent to Subleases, the Guaranty, the Company Sublease, the Leasehold Mortgage and the Bond Purchase Agreement by AMR and/or the Lessee. We understand that you have received said opinions with respect to such matters.

In rendering the foregoing opinions, we have reviewed the opinion of Emmett Marvin & Martin, LLP, counsel to the Trustee, dated the date hereof, as to certain matters relating to the Trustee and have assumed the due authorization, execution and delivery of the Consent to Subleases by the Trustee. We understand that you have received such opinion with respect to such matters.

As the primary purpose of our professional engagement as Bond Counsel to the Issuer was not to establish factual matters and because of the wholly or partially non-legal character of many of the determinations involved in the preparation of the Official Statement, we are not passing upon and do not assume any responsibility for the accuracy, completeness or fairness of the statements contained in the Official Statement (except to the extent expressly set forth in paragraph 5 above) and we make no representation that we have independently verified the accuracy, completeness or fairness of such statements.

We are delivering this opinion to you solely for your benefit. This opinion is not to be used, circulated, quoted or otherwise referred to for any other purpose. Our opinions set forth herein are based upon the facts in existence and the laws in effect on the date hereof and we expressly disclaim any obligation to update our opinions herein, regardless of whether changes in such facts or laws come to our attention after the delivery hereof.

Very truly yours,

Winston + Strawn

ida New York City
Industrial Development Agency

July 31, 2002

Salomon Smith Barney Inc.
390 Greenwich Street
New York, New York 10013

Winston & Strawn
200 Park Avenue
New York, New York 10166

The Bank of New York,
as Trustee
101 Barclay Street, Floor 21W
New York, New York 10286

American Airlines, Inc.
4333 Amon Carter Boulevard
Fort Worth, Texas 76155

Re: New York City Industrial Development Agency
$500,000,000 Special Facility Revenue Bonds, Series 2002
(American Airlines, Inc. John F. Kennedy International Airport Project)

Dear Sirs/Madam:

This opinion is being furnished to you (i) in connection with the issuance and sale by the New York City Industrial Development Agency (the "Agency") of its $500,000,000 aggregate principal amount of Special Facility Revenue Bonds, Series 2002 (American Airlines, Inc. John F. Kennedy International Airport Project) (the "Bonds") and (ii) pursuant to Section 9(d)(9) of the Bond Purchase Agreement (herein defined). The Series 2002 Bonds are issued under a Master Indenture of Trust dated as of July 1, 2002, as supplemented by a First Series Supplemental Indenture of Trust and a Second Series Supplemental Indenture of Trust, each dated as of July 1, 2002 (collectively, the "Indenture") by and between the Agency and The Bank of New York, as Trustee (the "Trustee"). Capitalized terms used herein but not otherwise herein defined shall have the same meaning as in the Indenture or the Bond Purchase Agreement dated July 25, 2002 (the "Bond Purchase Agreement") among the Agency, American Airlines, Inc., AMR Corporation, and Salomon Smith Barney Inc., as a representative of itself and the other underwriters.

I am the Vice President for Legal Affairs of the Agency and as such I am familiar with the acts and proceedings heretofore had or taken by the Agency relative to (i) the authorization,

issuance and sale of the Bonds including the resolutions of the Agency dated October 23, 2001 as amended November 13, 2001 (collectively the "Resolution"), (ii) the authorization, execution and delivery by the Agency of the Bonds, the Bond Purchase Agreement, the Company Sublease Agreement dated as of July 1, 2002 (the "Company Sublease Agreement") between American Airlines, Inc., as lessor and the Agency as lessee, the IDA Lease Agreement dated as of July 1, 2002 (the "IDA Lease Agreement") between the Agency and American Airlines, Inc. (the "Company"), the Tax Certificate from the Agency and Lessee to the Trustee dated July 31, 2002 (the "Tax Certificate"), the Equipment Security Agreement dated as of July 1, 2002 among the Agency, the Trustee and the Company (the "Equipment Security Agreement"), the Consent to Subleases and Leasehold Mortgage Agreement (the "Consent to Subleases") dated July 31, 2002 among the Trustee, the Port Authority, the Agency, the Company and AMR Corporation and the Indenture (collectively the "Agency Documents") and (iii) the form of Leasehold Mortgage and Security Agreement (the "Leasehold Mortgage") among the Company, the Agency and the Trustee to be executed and delivered after the Reletting Rights Effective Date.

Based on the foregoing, I am of the opinion that:

(a) The Indenture constitutes a direct pledge and assignment by the Agency to the Trustee of, and a valid security interest in, all rentals and other amounts (except as otherwise provided in the Indenture) payable by the Company to the Agency under the IDA Lease Agreement. Financing statements in respect of such security interest have been entrusted to CIT Corporation for due filing in proper form in the office of the Secretary of State of the State of New York, which filing is all of the filing and recording necessary to constitute the Indenture, and the Indenture constitutes, a valid direct pledge and assignment of, and with such filings the Indenture will constitute a valid perfected security interest in, all rentals and other amounts (except as otherwise provided in the Indenture) payable by the Company to the Agency under the provisions of the IDA Lease Agreement, as against all subsequent creditors of the Agency or of the Company and subsequent assignees of such rentals and other amounts payable under the IDA Lease Agreement. No refiling of such financing statement is required in order to maintain such perfected security interest and pledge and assignment of such rentals and such other amounts except a continuation statement under the New York State Uniform Commercial Code, which is required to be filed in conformity with the provisions of the New York State Uniform Commercial Code.

(b) The Equipment Security Agreement is sufficient to create in the Trustee's favor as security for the payment of the Bonds, a security interest in all right, title and interest of the Agency in those items of equipment and machinery described in the Equipment Security Agreement and in which a security interest may be created under Article 9 of the New York State Uniform Commercial Code (the "UCC"). Financing statements in respect of such security interest have been entrusted to the Trustee for due filing in proper form in the office of the Secretary of State of New York. Assuming that the financing statements have been properly filed, such filing will be sufficient to perfect a security interest in the items and types of equipment and machinery described therein, as against all subsequent creditors of the Agency and subsequent assignees of such equipment and machinery. No refiling of such financing statements is required in order to maintain such perfected security interest except a continuation statement under the UCC, which is required to be filed in conformity with the provisions of the UCC.

(c) There is no action, suit, proceeding or investigation at law or in equity by or before any court, public board or body, of which the Agency has notice, pending, or, to the best of my knowledge, threatened against or affecting the Agency, or, to the best of my knowledge, any basis for such action, suit, proceeding or investigation, wherein an unfavorable decision, ruling or finding would affect the organization or existence of the Agency or the transactions contemplated by the Agency Documents or the exclusion of interest on the Bonds from gross income of the owners thereof for Federal income tax purposes.

(d) No legislation has been enacted by the Legislature of the State of New York or the Council of the City of New York which in any way affects the issuance or delivery of the Bonds or the payment, collection or application of the proceeds thereof or rentals and other moneys and securities pledged or to be pledged under the Indenture, or the creation, organization or existence of the Agency or the titles to office of any officers thereof, or the power of the Agency to construct, renovate, equip, expand and install the Project or improve, assign or sublease the Facility referred to in the Indenture, the IDA Lease Agreement and the Company Sublease Agreement.

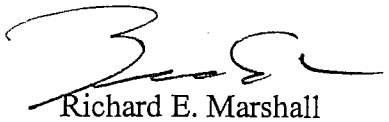
(e) The directors and officers of the Agency identified in the Agency's general certificate delivered the date hereof have been duly elected or appointed and are qualified to serve as such.

(f) The adoption by the Agency of the Resolution and the execution and delivery of the Agency Documents, and the performance by the Agency of its obligations thereunder, do not and will not violate or constitute a default under its bylaws, or any indenture or other agreement or instrument to which the Agency is a party or by which it or its properties is or may be bound, or any regulation, order or decree to which the Agency is subject, or result in the creation or imposition of any lien, charge or other security interest or encumbrance of any nature whatsoever upon any of the property or assets of the Agency, except as contemplated by the Indenture or the Equipment Security Agreement, and do not and will not violate any provision of the Constitution or statutes of the State of New York, or any resolution of the Agency, or any applicable judgment, order, rule, ordinance, decree or regulation of any court or of any public or governmental agency or authority having jurisdiction over the Agency or any of its property, and no approval or other action by any governmental authority or agency is required in connection with the Agency's obligations under the Resolution or the Agency Documents except such as has already been obtained.

In rendering this opinion, I have assumed the due authorization, execution and delivery by, and enforceability against, (i) the Company of the IDA Lease Agreement, the Company Sublease Agreement, the Bond Purchase Agreement, the Tax Certificate, the Equipment Security Agreement, and the Consent to Subleases (ii) the Underwriter of the Bond Purchase Agreement, and (iii) the Trustee of the Indenture, the Consent to Subleases, the Equipment Security Agreement and the Tax Certificate. In rendering this opinion, I have further assumed the due authorization by, and enforceability against, the Company of the Leasehold Mortgage.

This opinion is delivered to the addressees solely in connection with the transaction described herein, and it may be relied upon by the parties to whom this opinion is addressed and their counsel. This opinion may not be relied upon by any other person, firm or entity without the Agency's prior written consent.

Very truly yours,



Richard E. Marshall
Vice President for Legal Affairs

AmericanAirlines®

July 31, 2002

Salomon Smith Barney Inc., as
Senior Managing Underwriter of the several Underwriters
390 Greenwich Street, 2nd Floor
New York, New York 10013

The Bank of New York, as Trustee
101 Barclay Street, 21W
New York, New York 10001

New York City Industrial Development Agency
110 William Street – 6th Floor
New York, New York 10038

Re:$500,000,000 New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002A and Series 2002B
(American Airlines, Inc. John F. Kennedy International Airport Project)

Ladies and Gentlemen:

This opinion is being furnished to you pursuant to Section 9(d)(13) of the Bond Purchase Agreement (the *"Bond Purchase Agreement"*), dated July 25, 2002 among Salomon Smith Barney Inc., as Senior Managing Underwriter of the several underwriters, American Airlines, Inc., a Delaware corporation (the *"Company"*), AMR Corporation, a Delaware corporation (*"AMR"*), and the New York City Industrial Development Agency (the *"Issuer"*) relating to the issuance and sale by the Issuer of $500,000,000 aggregate principal amount of its Special Facility Revenue Bonds, Series 2002A and Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (the *"Bonds"*). Capitalized terms used herein without definition

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shall have the meanings specified in the Bond Purchase Agreement.

I am Senior Vice President and General Counsel of the Company and have acted as such in connection with the preparation of the Leasehold Mortgage and the preparation, execution and delivery of the Lease Agreement, the Company Guaranty, the Bond Purchase Agreement, the Company Sublease, the Equipment Security Agreement, the Port Authority Lease, the Consent to Subleases, the Tax Certificate, the ATEIL, the RNDA and the Undertaking (collectively, the *"Company Documents"*).

In connection with this opinion, I or attorneys in the legal department of the Company have examined and are familiar with originals or copies, certified or otherwise, of the Company Documents, and such other documents and records of the Company and such statutes, regulations and other instruments as we have deemed necessary or advisable for purposes of this opinion. As to certain facts material to this opinion, I have relied upon the accuracy of representations of one or more officers or other employees of the Company. In addition, I have assumed that communications of public officials and their assistants concerning the content of public files and records and actions taken by them in their public capacities are accurate, that all signatures, other than signatures of the Company, on all documents presented to me are genuine, that all documents submitted to me as originals are accurate and complete, that all documents submitted to me as copies are true and correct copies of the originals thereof, that all factual information submitted to me was accurate and complete and that all persons executing and delivering originals or copies of documents examined by me, other than persons executing and delivering such documents on behalf of the Company, were competent to execute and deliver such documents. In addition, I have assumed the due authorization, execution and delivery of the Company Documents (other than the Leasehold Mortgage) by the respective parties thereto other than the Company and that such agreements are the valid and binding obligations of each of such other parties enforceable against such other parties in accordance with their terms.

Based on the foregoing, I am of the following opinion:

1. The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware, is duly qualified to do business in and is in good standing under the laws of the State of New York and has full corporate power to execute and deliver and to carry out and perform its obligations under the Company Documents.

2. The Company Documents have been duly authorized and (other than the Leasehold Mortgage) executed and delivered by the Company and (other than the Leasehold Mortgage) constitute the legal, valid and binding obligations of the Company, enforceable against the

Company in accordance with their respective terms, (a) except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or obligation or similar laws affecting the rights of creditors generally and by general equitable principles which may limit the availability of specific performance or other equitable remedies (regardless of whether enforcement is considered in a proceeding at law or in equity), (b) except as limited by applicable laws which may affect the remedies provided in the Company Documents (other than the Leasehold Mortgage), which laws, however, do not in my opinion make the remedies provided for in the Company Documents (other than the Leasehold Mortgage) inadequate for the realization of the rights and benefits provided thereby and (c) except that no opinion is expressed as to the enforceability of any provisions relating to indemnity and contribution.

3. The execution and delivery by the Company of the Company Documents, and compliance by the Company with the provisions of the Company Documents, will not conflict with or constitute a breach of or default under (a) the certificate of incorporation or by-laws of the Company, (b) any indenture, mortgage, deed of trust, loan agreement or other material agreement or material instrument to which the Company or any of its subsidiaries is a party or by which it or any of its subsidiaries or any of their respective property or assets are bound, which conflict, breach or default would adversely affect the validity as to the Company of, or the Company's performance of any of its obligations under, the Company Documents or (c) to the best of my knowledge, any existing law, rule or regulation to which the Company or any of its subsidiaries is subject.

4. Except as disclosed in the Official Statement, including any documents incorporated therein by reference in Appendix A, there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, public board or body, pending or, to the best of my knowledge, threatened against the Company or any of its subsidiaries, respectively, affecting any of them (a) which would materially adversely affect the transactions contemplated by the Bond Purchase Agreement or the Official Statement, or which would adversely affect the validity or enforceability of the Bonds or the Company Documents, or (b) which would have a material adverse effect on the financial condition of the Company and its subsidiaries taken as a whole.

5. No consent, approval, authorization or order of, or registration or filing with, any court or governmental or public agency, authority or body is required with respect to the Company for the execution, delivery and performance by the Company as of the date hereof, or, with respect to the Bond Purchase Agreement, as of July 25, 2002, of the Company Documents.

6. I have no reason to believe the Official Statement as of its date and as of the date hereof, insofar as it relates to the Company, the Project, the application of the proceeds of the Bonds or the description of the provisions of the Company Documents other than the Bond Purchase Agreement (except as to financial statements and other financial and statistical data contained in or incorporated by reference in the Official Statement, including Appendix A thereto, as to which no opinion is expressed), contains any untrue statement of a material fact or

omits to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

7. The Equipment Security Agreement is sufficient to create in the Trustee's favor as security for the payment of the Bonds a security interest in all right, title and interest of the Company in those items of equipment and machinery described in the Equipment Security Agreement and in which a security interest may be created under Article 9 of the Uniform Commercial Code of the State of Delaware (*"Delaware Article 9"*). Financing statements in proper form in respect of such security interest have been entrusted to the Trustee for due filing in the office of the Secretary of State of the State of Delaware. Assuming that the financing statements have been properly filed in the office of the Secretary of State of the State of Delaware, such filing will be sufficient to perfect a security interest in the items and types of equipment and machinery described therein. No further action is required in order to maintain such perfected security interest except for the filing of continuation statements under Delaware Article 9, which are required to be filed in conformity with the provisions of Delaware Article 9.

This opinion is limited in all respects to the laws of the States of New York and Texas, the general corporate laws of the State of Delaware, the Federal laws of the United States of America and, to the extent set forth in the following sentence, Delaware Article 9. The opinions set forth in paragraph 7 are limited to Article 9 of the Uniform Commercial Code of the State of New York and to Delaware Article 9 (and such opinions as to Delaware law are limited to a reading of Delaware Article 9) and therefore such opinions do not address (i) laws of a jurisdiction other than New York and Delaware, and laws of Delaware except for Delaware Article 9, and (ii) collateral of a type not subject to Delaware Article 9. I express no opinion as to the securities or blue sky laws of any jurisdiction.

I am delivering this opinion to you pursuant to Section 9(d)(13) of the Bond Purchase Agreement, and no person other than you, your counsel and Bond Counsel is entitled to rely hereon.

Very truly yours,

Anne H. McNamara
Senior Vice President and
General Counsel

July 31, 2002

Salomon Smith Barney Inc., as
Senior Managing Underwriter of the several Underwriters
390 Greenwich Street, 2nd Floor
New York, New York 10013

The Bank of New York, as Trustee
101 Barclay Street, 21W
New York, New York 10001

New York City Industrial Development Agency
110 William Street – 6th Floor
New York, New York 10038

Re:$500,000,000 New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002A and Series 2002B
(American Airlines, Inc. John F. Kennedy International Airport Project)

Ladies and Gentlemen:

This opinion is being furnished to you pursuant to Section 9(d)(13) of the Bond Purchase Agreement (the *"Bond Purchase Agreement"*), dated July 25, 2002 among Salomon Smith Barney Inc., as Senior Managing Underwriter of the several underwriters, American Airlines, Inc., a Delaware corporation (the *"Company"*), AMR Corporation, a Delaware corporation (*"AMR"*), and the New York City Industrial Development Agency (the *"Issuer"*) relating to the issuance and sale by the Issuer of $500,000,000 aggregate principal amount of its Special Facility Revenue Bonds, Series 2002A and Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (the *"Bonds"*). Capitalized terms used herein without definition shall have the meanings specified in the Bond Purchase Agreement.

I am Senior Vice President and General Counsel of AMR and have acted as such in connection with the preparation, execution and delivery of the AMR Guaranty, the Bond Purchase Agreement, the Consent to Subleases and the Undertaking.

In connection with this opinion, I or attorneys in the legal department of AMR have

P.O. BOX 619616, DALLAS/FORT WORTH, TEXAS 75261-9616

examined and are familiar with originals or copies, certified or otherwise, of the AMR Guaranty, the Bond Purchase Agreement, the Consent to Subleases and the Undertaking, and such other documents and records of AMR and such statutes, regulations and other instruments as we have deemed necessary or advisable for purposes of this opinion. As to certain facts material to this opinion, I have relied upon the accuracy of representations of one or more officers or other employees of AMR. In addition, I have assumed that communications of public officials and their assistants concerning the content of public files and records and actions taken by them in their public capacities are accurate, that all signatures, other than signatures of AMR, on all documents presented to me are genuine, that all documents submitted to me as originals are accurate and complete, that all documents submitted to me as copies are true and correct copies of the originals thereof, that all factual information submitted to me was accurate and complete and that all persons executing and delivering originals or copies of documents examined by me, other than persons executing and delivering such documents on behalf of AMR, were competent to execute and deliver such documents. In addition, I have assumed the due authorization, execution and delivery of the AMR Guaranty, the Consent to Subleases and the Bond Purchase Agreement by the respective parties thereto other than AMR and that such agreements are the valid and binding obligations of each of such other parties enforceable against such other parties in accordance with their terms.

Based on the foregoing, I am of the following opinion:

1. AMR is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware, is duly qualified to do business in and is in good standing under the laws of the State of New York and has full corporate power to execute and deliver and to carry out and perform its obligations under the Bond Purchase Agreement, the AMR Guaranty, the Consent to Subleases and the Undertaking.

2. The Bond Purchase Agreement, the AMR Guaranty, the Consent to Subleases and the Undertaking have been duly authorized, executed and delivered by AMR and constitute the legal, valid and binding obligations of AMR, enforceable against AMR in accordance with their respective terms, (a) except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or obligation or similar laws affecting the rights of creditors generally and by general equitable principles which may limit the availability of specific performance or other equitable remedies (regardless of whether enforcement is considered in a proceeding at law or in equity), (b) except as limited by applicable laws which may affect the remedies provided in the AMR Guaranty, the Consent to Subleases or the Bond Purchase Agreement, which laws, however, do not in my opinion make the remedies provided for in the AMR Guaranty, the Consent to Subleases or the Bond Purchase Agreement inadequate for the realization of the rights and benefits provided thereby and (c) except that no opinion is expressed as to the enforceability of any provisions relating to indemnity and contribution.

3. The execution and delivery by AMR of the Bond Purchase Agreement, the AMR Guaranty, the Consent to Subleases and the Undertaking, and compliance by AMR with the

provisions of the Bond Purchase Agreement, the AMR Guaranty, the Consent to Subleases and the Undertaking, will not conflict with or constitute a breach of or default under (a) the certificate of incorporation or by-laws of AMR, (b) any indenture, mortgage, deed of trust, loan agreement or other material agreement or material instrument to which AMR or any of its subsidiaries is a party or by which it or any of its subsidiaries or any of their respective property or assets are bound, which conflict, breach or default would adversely affect the validity as to AMR of, or AMR's performance of any of its obligations under, the Bond Purchase Agreement, the AMR Guaranty, the Consent to Subleases or the Undertaking or (c) to the best of my knowledge, any existing law, rule or regulation to which AMR or any of its subsidiaries is subject.

4. Except as disclosed in the Official Statement, including any documents incorporated therein by reference in Appendix A, there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, public board or body, pending or, to the best of my knowledge, threatened against AMR or any of its subsidiaries, respectively, affecting any of them (a) which would materially adversely affect the transactions contemplated by the Bond Purchase Agreement or the Official Statement, or which would adversely affect the validity or enforceability of the Bonds, the AMR Guaranty, the Consent to Subleases or the Undertaking, or (b) which would have a material adverse effect on the financial condition of AMR and its subsidiaries taken as a whole.

5. No consent, approval, authorization or order of, or registration or filing with, any court or governmental or public agency, authority or body is required with respect to AMR for the execution, delivery and performance by AMR (a) as of July 25, 2002 of the Bond Purchase Agreement, and (b) as of the date hereof of the AMR Guaranty, the Consent to Subleases or the Undertaking.

6. I have no reason to believe the Official Statement as of its date and as of the date hereof, insofar as it relates to AMR or the description of the provisions of the AMR Guaranty, the Consent to Subleases or the Undertaking (except as to financial statements and other financial and statistical data contained in or incorporated by reference in the Official Statement, including Appendix A thereto, as to which no opinion is expressed), contains any untrue statement of a material fact or omits to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

This opinion is limited in all respects to the laws of the States of New York and Texas, the general corporate laws of the State of Delaware and the Federal laws of the United States of America. I express no opinion as to the securities or blue sky laws of any jurisdiction.

I am delivering this opinion to you pursuant to Section 9(d)(13) of the Bond Purchase Agreement, and no person other than you, your counsel and Bond Counsel is entitled to rely hereon.

Very truly yours,

Anne H. McNamara
Senior Vice President and
General Counsel

Law Offices of

CHAPMAN AND CUTLER

Theodore S. Chapman
1877-1943
Henry E. Cutler
1879-1959

111 West Monroe Street, Chicago, Illinois 60603-4080
Telephone (312) 845-3000
Facsimile (312) 701-2361
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Salt Lake City
50 South Main Street
Salt Lake City, Utah 84144
(801) 533-0066

July 31, 2002

Salomon Smith Barney, Inc., as
Senior Managing Underwriter of the several Underwriters
390 Greenwich Street, 2nd Floor
New York, New York 10013

Re: $500,000,000 New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002A and Series 2002B
(American Airlines, Inc. John F. Kennedy International Airport Project)

Ladies and Gentlemen:

We have acted as your counsel in connection with your purchase of $500,000,000 aggregate principal amount of Special Facility Revenue Bonds, Series 2002A and Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (the *"Bonds"*), issued on this date by the New York City Industrial Development Agency (the *"Issuer"*) pursuant to the terms of a Master Indenture of Trust dated as of July 1, 2002, as supplemented by a First Series Supplemental Indenture of Trust and a Second Series Supplemental Indenture of Trust, each dated as of July 1, 2002 (collectively, the *"Indenture"*) between the Issuer and The Bank of New York, as trustee (the *"Trustee"*). As such counsel we have examined executed copies of: (i) the Indenture; (ii) the IDA Lease Agreement dated as of July 1, 2002 (the *"Agreement"*) between the Issuer and American Airlines, Inc. (the *"Company"*); (iii) the Bond Purchase Agreement dated July 25, 2002 (the *"Bond Purchase Agreement"*) among the Company, AMR Corporation (*"AMR"*), the Issuer and you; (iv) the Guaranty dated as of July 1, 2002 (the *"Company Guaranty"*) between the Company and the Trustee; (v) the Guaranty dated as of July 1, 2002 (the *"AMR Guaranty"*) between AMR and the Trustee; (vi) the Undertaking of the Company and AMR dated the date hereof (the *"Undertaking"*); (vii) the Amended and Restated Lease (ABY-083R) dated December 22, 2000, between the Company and The Port Authority of New York and New Jersey (the *"Port Authority"*), as amended by the First Supplemental Agreement dated as of July 31, 2002; (viii) the Company Sublease Agreement dated as of July 1, 2002 between the Company and the Issuer; (ix) the form (unexecuted) of the Leasehold Mortgage and Security Agreement from the Company to the Trustee as joined by the Issuer; (x) the Consent to Subleases and Leasehold Mortgage Agreement dated July 31, 2002 among the Port Authority, the Company, AMR, the Issuer and the Trustee; (xi) the Agreement Towards Entering into a Lease dated July 31, 2002 between The City of New York (the *"City"*) and the Company; (xii) the Recognition, Non-Disturbance and Attornment Agreement dated July 31, 2002 between

the City and the Company; (xiii) the opinions of even date herewith as required by Sections 9(d)(8) through 9(d)(10), Section 9(d)(13) and Section 9(d)(15) of the Bond Purchase Agreement; and (xiv) certain certificates as required by the Bond Purchase Agreement.

Assuming the validity of the Bonds and that interest on the Bonds is excludable from the gross income of the owners thereof for federal income tax purposes as set forth in the opinion of even date herewith of Winston & Strawn, Bond Counsel (*"Bond Counsel"*), and based upon our review of such documents and showings and related matters of law as we have deemed necessary and in reliance thereon, we are of the opinion that, under existing law, in connection with the offering, sale and delivery of the Bonds under the circumstances described in the Official Statement (as defined below) the Bonds, the Agreement, the Company Guaranty and the AMR Guaranty are not required to be registered under the Securities Act of 1933, as amended, and the Indenture is not required to be qualified under the Trust Indenture Act of 1939, as amended.

In accordance with our understanding with you, we have rendered legal advice and assistance to you in the course of your investigation with respect to, and your participation in the preparation of, the Official Statement with respect to the Bonds dated July 25, 2002 (the *"Official Statement"*) and certain other matters related to the subject financing. Rendering such assistance involved, among other things, discussions and inquiries concerning various legal and related subjects and a limited review of certain documents, including opinions of Bond Counsel and other counsel and certificates of officers of the Issuer and other appropriate persons. We also participated in meetings and telephone conferences with your representatives and other persons involved in the preparation of information for the Official Statement, at which the contents of the Official Statement and related matters were discussed and reviewed. While we are not passing upon, and do not assume responsibility for, the accuracy, completeness or fairness of the statements contained in the Official Statement, based upon our limited review of documents and participation in conferences as aforesaid, without independent verification, no facts have come to our attention which lead us to believe that the Official Statement (apart from the information relating to The Depository Trust Company and its book-entry only system and the financial, statistical and operating data contained or incorporated therein, as to which we do not express any opinion or belief) contained as of its date or contains as of the date hereof any untrue statement of a material fact or omitted or omits to state a material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading.

We have rendered legal advice and assistance to you as to the requirements of Rule 15c2-12 prescribed under the Securities Exchange Act of 1934, as amended (the *"Rule"*), in connection with your review, for purposes of the Rule, of the Undertaking. Based upon our examination of the Undertaking, the Rule and such other documents and matters of law as we have considered necessary, we are of the opinion that, under existing law, the Undertaking complies in all material respects with the applicable requirements of the Rule; *provided,*

however, no view is expressed regarding the items comprising Annual Financial Information (as defined in the Undertaking).

This letter is furnished by us as counsel to the Underwriters and is solely for the benefit of the Underwriters. This opinion is given as of the date hereof and we assume no obligation to revise or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

Respectfully submitted,

Chapman and Cutler

SNWohl/GWeinstein

EMMET, MARVIN & MARTIN, LLP
COUNSELLORS AT LAW

WRITER'S DIRECT DIAL

120 BROADWAY
NEW YORK, NEW YORK 10271

(212) 238-3000

FAX: (212) 238-3100
http://www.emmetmarvin.com

177 MADISON AVENUE
MORRISTOWN, NEW JERSEY 07960
(973) 538-5600
FAX: (973) 538-6448

1351 WASHINGTON BOULEVARD
STAMFORD, CONNECTICUT 06902-4543
(203) 425-1400
FAX: (203) 425-1410

July 31, 2002

To the Persons on the attached
Exhibit A

Re: $500,000,000 New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002
(American Airlines, Inc. John F. Kennedy International Airport Project)

Ladies and Gentlemen:

We have acted as counsel for The Bank of New York, a New York banking corporation (the "Trustee"), in connection with the issuance by the New York City Industrial Development Agency (the "Agency") of its $500,000,000 aggregate principal amount of Special Facility Revenue Bonds, Series 2002A and Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (the "Bonds"), pursuant to the Master Indenture of Trust, dated as of July 1, 2002, between the Agency and the Trustee (the "Master Indenture"), as supplemented by a First Series Supplemental Indenture of Trust and a Second Series Supplemental Indenture of Trust, each dated as of July 1, 2002 (the Master Indenture, as supplemented, the "Indenture"). Capitalized terms used in this opinion shall have the respective meanings assigned such terms by the Indenture.

In rendering the opinions set forth below, we have examined the originals, or copies certified to our satisfaction, of such agreements, documents, certificates and other statements of government officials and corporate officers of the Trustee and other papers as we deemed relevant and necessary as a basis for such opinions and have relied as to factual matters on representations, warranties and other statements therein. In such examination, we have assumed the genuineness of all signatures and the authenticity of all documents submitted to us as originals and the conformity with the originals of all documents submitted to us as copies. We have also assumed the due authorization, execution and delivery of instruments and agreements by the parties (other than the Trustee) thereto, and the authority and existence of such parties other than the Trustee.

Based upon and subject to the foregoing, we are of the opinion that as of this date:

1. The Trustee is a banking corporation organized and validly existing and in good standing under the laws of the State of New York and is authorized and qualified to accept the trusts imposed by the Indenture and to act as Trustee and Paying Agent under the Indenture, the Company Guaranty, the AMR Guaranty, the Leasehold Mortgage, the Consent Agreement and the Equipment Security Agreement.

2. Each of the Indenture, the Company Guaranty, the AMR Guaranty, the Consent Agreement and the Equipment Security Agreement has been duly authorized, executed and delivered by the Trustee and constitutes a legal, valid and binding obligation of the Trustee enforceable against the Trustee in accordance with its terms, except as enforcement thereof may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws relating to the enforcement of creditors' rights generally, and by general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law). The execution and delivery of the Leasehold Mortgage has been duly authorized by the Trustee.

We are members of the New York Bar and do not hold ourselves out as experts on, nor do we express any opinion as to, the laws of any jurisdiction other than the laws of the State of New York and the Federal laws of the United States. This opinion is for your benefit and may not be disclosed to or relied upon by any other person without our prior written consent.

Very truly yours,

Emmet, Marvin & Martin, LLP

Exhibit A

The Bank of New York
New York, New York

Salomon Smith Barney, Inc., as
Senior Managing Underwriter of the several Underwriters
New York, New York

New York City Industrial Development Agency
New York, New York

American Airlines, Inc.
Fort Worth, Texas

AMR Corporation
Fort Worth, Texas

DEBEVOISE & PLIMPTON

919 Third Avenue
New York, NY 10022
Tel 212 909 6000
Fax 212 909 6836
www.debevoise.com

July 31, 2002

To Each of the Persons
Listed on Schedule I Attached Hereto:

$ 500,000,000
New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002
(American Airlines, Inc. John F. Kennedy International Airport Project)

Ladies and Gentlemen:

We have acted as special New York counsel to (i) American Airlines, Inc., a Delaware corporation (the "Company") and (ii) AMR Corporation, a Delaware corporation ("AMR"), in connection with the preparation of the form of Leasehold Mortgage and Security Agreement (attached as Exhibit G to the Consent Agreement) (the "Leasehold Mortgage") which Leasehold Mortgage is being prepared in connection with the transactions contemplated by the Bond Purchase Agreement (the "Bond Purchase Agreement"), dated July 25, 2002, among Salomon Smith Barney Inc., as Senior Managing Underwriter on behalf of the several Underwriters named therein, the Company, AMR and the New York City Industrial Development Agency (the "Issuer") relating to the issuance and sale by the Issuer of $500,000,000 aggregate principal amount of its Special Facility Revenue Bonds, Series 2002 (American Airlines, Inc. John F. Kennedy International Airport Project) (the "Bonds") issued pursuant to a Master Indenture of Trust, dated as of July 1, 2002, as supplemented by a First Series Supplemental Indenture of Trust, dated as of July 1, 2002 and by a Second Series Supplemental Indenture of Trust, dated as of July 1, 2002 (collectively, the "Indenture") between the Issuer and The Bank of New York, as Trustee. Unless otherwise defined herein, capitalized terms used herein without definition shall have the meaning specified in the Indenture or, if not defined therein, in the Bond Purchase Agreement.

The opinion expressed below is furnished to you pursuant to Section 4.2(b) of the Consent Agreement and Section 9(d)(13) of the Bond Purchase Agreement.

In arriving at the opinion expressed below,

(a) we have examined and relied on the originals, or copies certified or otherwise identified to our satisfaction, of the Company Documents and AMR Documents,

(b) we have examined and relied on such corporate documents and records of the Company and AMR and such other instruments and certificates of public officials, officers and representatives of the Company and AMR and other persons as we have deemed necessary or appropriate for the purposes of this opinion,

(c) we have examined and relied upon the representations and warranties as to factual matters contained in or made pursuant to the Company Documents and AMR Documents, and

(d) we have made such investigations of law as we have deemed appropriate as a basis for this opinion.

In rendering the opinions expressed below, we have assumed, with your permission, without independent investigation or inquiry, (a) the authenticity of all documents submitted to us as originals, (b) the genuineness of all signatures on all documents that we examined, (c) the conformity to authentic originals of documents submitted to us as certified, conformed or photostatic copies and (d) the due authorization, execution and delivery by each of the parties thereto of each of the Company Documents and AMR Documents, the corporate or partnership power and authority of each such person to enter into and perform its obligations under each such document, the enforceability of each such document and the binding effect thereof as against each such person.

Based upon and subject to the foregoing and the qualifications hereinafter set forth, we are of the opinion that:

The Leasehold Mortgage is in a form sufficient (a) to create a valid and effective lien in favor of the Trustee for the benefit of the bondholders on and against the leasehold interest of the Company in the real property, other than fixtures (the "Mortgaged Premises") created under that that certain Amended and Restated Agreement of Lease (Lease No. AYB-085R) made as of December 22, 2000 between the Company and the Port Authority and described in such Leasehold Mortgage (the "Leasehold Estate") and (b) for recording in the office of the City Register for Queens County, New York. In

order to provide constructive notice of the lien intended to be created on the Leasehold Estate by the Leasehold Mortgage, it is necessary to record the Leasehold Mortgage in the office of the City Register for Queens County, New York in accordance with the recording system established by applicable laws of the State of New York. We have assumed that the Company has or will have a leasehold interest of record in the Mortgaged Premises at the time of recording of the Leasehold Mortgage.

The opinion expressed above is subject to the following limitations, exceptions and assumptions:

A. Our opinion is qualified to the extent that the lien on the Leasehold Estate intended to be created by the Leasehold Mortgage may be limited by (i) applicable bankruptcy, insolvency, reorganization, receivership, conservatorship, arrangement, moratorium, fraudulent conveyance or similar laws relating to or affecting the enforcement of creditors' rights generally and (ii) general principles of equity and certain legal or statutory principles, including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing.

B. We have not made or undertaken to have made any investigation of the state of title to the Mortgaged Premises or the validity of the leasehold interest in the Mortgaged Premises, and we express no opinion as to (i) the title to or other ownership rights in such property, (ii) the legal description of such property, (iii) the priority of any lien or security interest intended to be created by the Leasehold Mortgage, or (iv) the absence of any conflicting rights of others with respect to such property.

C. We have assumed that the Company has "rights" in the Leasehold Estate and that "value" has been given.

D. The opinion expressed herein does not encompass, and we express no opinion with respect to, the creation of any security interest in the fixtures or any other personal property described in the Leasehold Mortgage.

E. The opinion expressed herein does not encompass, and we express no opinion with respect to, the filings and other acts that may be required in the State of New York in connection with foreclosure or other realization upon the property subject to security interests pursuant to the Leasehold Mortgage.

F. We express no opinion with respect to any provision of the Leasehold Mortgage that purports to permit the Trustee or any person to sell or otherwise dispose of any of the Leasehold Estate except in compliance with applicable federal and state laws.

G. We express no opinion with respect to the ability of the Trustee to proceed with foreclosure of the lien under the Leasehold Mortgage without accelerating the underlying indebtedness evidenced by the Bonds as guaranteed by the Guaranty.

H. We express no opinion as to any law relating to the protection of the environment or to building codes, zoning, land use controls, environmental or similar matters.

I. We express no opinion as to the effectiveness against third parties of any provision of the Leasehold Mortgage purporting to grant a lien on after-acquired real property.

J. We express no opinion as to the applicability or effect of, or compliance with, any provision of any federal or state securities laws.

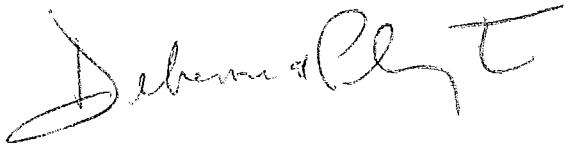
K. In rendering the foregoing opinion, we have relied upon the opinions, dated today, of Anne McNamara, Esq., General Counsel of the Company and AMR, as to all matters contained therein. To the extent of such reliance, our opinion is subject to the same assumptions, qualifications and limitation as are contained therein. We express no opinion as to the laws of any jurisdiction other than the laws of the State of New York and the Federal laws of the United States of America, in each case that in our experience are generally applicable to transactions of this type. In particular (and without limiting the generality of the foregoing) we express no opinion as to the laws of any country (other than the Federal laws of the United States of America) or as to the effect of such laws (whether limiting, prohibitive or otherwise) on any of the rights or obligations of the Company or AMR or of any other party to or beneficiary of any of the Company Documents and AMR Documents. We have assumed, with your permission, that the execution and delivery of each of the Company Documents and AMR Documents by each of the parties thereto and the performance of their respective obligations thereunder will not violate any fundamental public policy under applicable law (other than the laws of the State of New York and Federal laws of the United States of America).

Our opinion is expressly limited to the matters set forth above and we render no opinion, whether by implication or otherwise, as to any other matters. This opinion is given as of the date hereof, and we assume no obligation to advise you of facts,

circumstances, events or developments which hereafter may be brought to our attention and which may alter, affect or modify the opinion expressed herein.

The opinions expressed herein are solely for your benefit and, without our prior consent, neither our opinion nor this opinion letter may be relied upon by any other person.

Very truly yours,



Schedule I

Schedule of Recipients

The Port Authority of New York and New Jersey
New York City Industrial Development Agency
Salomon Smith Barney Inc., as Senior Managing Underwriter
of the several Underwriters
The Bank of New York, as Trustee

[redacted]

UCC FINANCING STATEMENT

FOLLOW INSTRUCTIONS (front and back) CAREFULLY

A. NAME & PHONE OF CONTACT AT FILER [optional]

B. SEND ACKNOWLEDGMENT TO: (Name and Address)

The Bank of New York
101 Barclay Street
New York, New York 10286
ATTN: Corporate Trust Department

THE ABOVE SPACE IS FOR FILING OFFICE USE ONLY

1. DEBTOR'S EXACT FULL LEGAL NAME - insert only one debtor name (1a or 1b) - do not abbreviate or combine names

1a. ORGANIZATION'S NAME: NEW YORK CITY INDUSTRIAL DEVELOPMENT AGENCY

OR 1b. INDIVIDUAL'S LAST NAME | FIRST NAME | MIDDLE NAME | SUFFIX

1c. MAILING ADDRESS: 110 William Street | CITY: New York | STATE: NY | POSTAL CODE: 10038 | COUNTRY: USA

1d. TAX ID #: SSN OR EIN | ADD'L INFO RE ORGANIZATION DEBTOR | 1e. TYPE OF ORGANIZATION: Public Development Corp. | 1f. JURISDICTION OF ORGANIZATION: New York | 1g. ORGANIZATIONAL ID #, if any | ☐ NONE

2. ADDITIONAL DEBTOR'S EXACT FULL LEGAL NAME - insert only one debtor name (2a or 2b) - do not abbreviate or combine names

2a. ORGANIZATION'S NAME

OR 2b. INDIVIDUAL'S LAST NAME | FIRST NAME | MIDDLE NAME | SUFFIX

2c. MAILING ADDRESS | CITY | STATE | POSTAL CODE | COUNTRY

2d. TAX ID #: SSN OR EIN | ADD'L INFO RE ORGANIZATION DEBTOR | 2e. TYPE OF ORGANIZATION | 2f. JURISDICTION OF ORGANIZATION | 2g. ORGANIZATIONAL ID #, if any | ☐ NONE

3. SECURED PARTY'S NAME (or NAME of TOTAL ASSIGNEE of ASSIGNOR S/P) - insert only one secured party name (3a or 3b)

3a. ORGANIZATION'S NAME: THE BANK OF NEW YORK

OR 3b. INDIVIDUAL'S LAST NAME | FIRST NAME | MIDDLE NAME | SUFFIX

3c. MAILING ADDRESS: 101 Barclay Street | CITY: New York | STATE: NY | POSTAL CODE: 10286 | COUNTRY: USA

4. This FINANCING STATEMENT covers the following collateral:

See Schedule A attached hereto and made a part hereof

5. ALTERNATIVE DESIGNATION [if applicable]: ☐ LESSEE/LESSOR ☐ CONSIGNEE/CONSIGNOR ☐ BAILEE/BAILOR ☐ SELLER/BUYER ☐ AG. LIEN ☐ NON-UCC FILING

6. ☐ This FINANCING STATEMENT is to be filed [for record] (or recorded) in the REAL ESTATE RECORDS. Attach Addendum [if applicable] | 7. Check to REQUEST SEARCH REPORT(S) on Debtor(s) [ADDITIONAL FEE] [optional] ☐ All Debtors ☐ Debtor 1 ☐ Debtor 2

8. OPTIONAL FILER REFERENCE DATA

SCHEDULE A

All right, title and interest of the Lessee (hereinafter defined) in the property, estates, rights and interests described generally in paragraphs (i) - (ix) below (except as to property, estates, rights and interests expressly excluded therefrom), whether now held or owned or hereafter acquired and all right, title and interest of the Agency (hereinafter defined), whether now held or owned or hereafter acquired in and to the property, estates, rights and interests described generally in paragraphs (i)-(ix) below (except as to the Agency's Reserved Rights and any other property, estates, rights and interests expressly excluded therefrom by Section 2 of the Equipment Security Agreement (hereinafter defined)) (all such property, estates, rights and interests hereby granted by the Lessee and the Agency not expressly excluded herefrom being collectively referred to as the "Collateral") (the Lessee and the Agency herein jointly, the "Debtor"):

(i) all automobiles, trucks, boats and other rolling stock or moveable personal property in which Debtor has an interest ("Rolling Stock"), including Rolling Stock any portion of which constitutes Financed Property and IDA Equipment for which the title thereto is evidenced by a certificate of title issued by the United States or a state that permits or requires a lien thereon to be evidenced upon such certificate, in which the Debtor now or at any time in the future may have an interest in connection with the Project or the Leased Facilities;

(ii) all proceeds of and any prepaid premiums on any insurance policies covering the Collateral, including the right to receive the proceeds of any insurance, judgments or settlements made in lieu thereof for damage to the Collateral;

(iii) any and all of the estate, right, title and interest of each Debtor in all machinery, apparatus, equipment, trade fixtures, personal property, and fittings which are in the nature of personal property and other personal property of every kind and nature whatsoever owned by either of them any portion of which constitutes Financed Property and IDA Equipment, or in which either of them has or shall have an interest, now or hereafter located upon or used (temporarily or permanently) or usable on or in connection with the Leased Facilities or appurtenances thereto, and all equipment, materials and supplies of any nature whatsoever, owned by either of them any portion of which constitutes Financed Property and IDA Equipment, or in which either of them has or shall have an interest, now or hereafter located upon the Leased Facilities and all renewals, replacements and substitutions thereof and additions thereto owned by any of them or in which any of them has or shall have an interest, including any and all partitions, ducts, shafts, pipes, radiators, conduits, wiring, interconnection facilities, transmission lines, floor coverings, awnings, motors, engines, boilers, stokers, pumps, dynamos, transformers, turbines, generators, fans, blowers, vents, switchboards, elevators, mail or coal

SCHEDULE A

All right, title and interest of the Lessee (hereinafter defined) in the property, estates, rights and interests described generally in paragraphs (i) - (ix) below (except as to property, estates, rights and interests expressly excluded therefrom), whether now held or owned or hereafter acquired and all right, title and interest of the Agency (hereinafter defined), whether now held or owned or hereafter acquired in and to the property, estates, rights and interests described generally in paragraphs (i)-(ix) below (except as to the Agency's Reserved Rights and any other property, estates, rights and interests expressly excluded therefrom by Section 2 of the Equipment Security Agreement (hereinafter defined)) (all such property, estates, rights and interests hereby granted by the Lessee and the Agency not expressly excluded herefrom being collectively referred to as the "Collateral") (the Lessee and the Agency herein jointly, the "Debtor"):

(i) all automobiles, trucks, boats and other rolling stock or moveable personal property in which Debtor has an interest ("Rolling Stock"), including Rolling Stock any portion of which constitutes Financed Property and IDA Equipment for which the title thereto is evidenced by a certificate of title issued by the United States or a state that permits or requires a lien thereon to be evidenced upon such certificate, in which the Debtor now or at any time in the future may have an interest in connection with the Project or the Leased Facilities;

(ii) all proceeds of and any prepaid premiums on any insurance policies covering the Collateral, including the right to receive the proceeds of any insurance, judgments or settlements made in lieu thereof for damage to the Collateral;

(iii) any and all of the estate, right, title and interest of each Debtor in all machinery, apparatus, equipment, trade fixtures, personal property, and fittings which are in the nature of personal property and other personal property of every kind and nature whatsoever owned by either of them any portion of which constitutes Financed Property and IDA Equipment, or in which either of them has or shall have an interest, now or hereafter located upon or used (temporarily or permanently) or usable on or in connection with the Leased Facilities or appurtenances thereto, and all equipment, materials and supplies of any nature whatsoever, owned by either of them any portion of which constitutes Financed Property and IDA Equipment, or in which either of them has or shall have an interest, now or hereafter located upon the Leased Facilities and all renewals, replacements and substitutions thereof and additions thereto owned by any of them or in which any of them has or shall have an interest, including any and all partitions, ducts, shafts, pipes, radiators, conduits, wiring, interconnection facilities, transmission lines, floor coverings, awnings, motors, engines, boilers, stokers, pumps, dynamos, transformers, turbines, generators, fans, blowers, vents, switchboards, elevators, mail or coal

conveyors, compressors, furnaces, cleaning equipment, sprinkler systems, fire extinguishing apparatus, water and other tanks, heating, ventilating, plumbing, laundry, incinerating, air conditioning and air cooling systems, water, gas, telephone, telecommunications, telemetry and electric equipment and all other equipment (as defined in the Uniform Commercial Code on the date hereof), appliances, appurtenances and accessions related thereto any portion of which constitutes Financed Property and IDA Equipment, and the estate, right, title and interest of either of them in and to any of the foregoing that may be subject to any security agreements (as defined in the Uniform Commercial Code) superior in lien to the lien of the Equipment Security Agreement;

(iv) any and all of the estate, right, title, interest, claim or demand of any nature whatsoever of the Lessee, in law or in equity, in and to all awards or payments, including interest thereon, and the right to receive the same, which may be made with respect to the Collateral, from the exercise of the right of eminent domain, condemnation or otherwise (including any transfer made in lieu of the exercise of said right), changes of grade of street or for any other injury to or decrease in the value of the Collateral now or hereafter located thereon, whether direct or consequential, which said awards and payments are assigned pursuant to the Equipment Security Agreement;

(v) any and all of the estate, right, title, interest, claim or demand of any nature whatsoever of the Lessee, in law or in equity, in and to all refunds or rebates of taxes or charges in lieu of taxes, now or hereafter assessed or levied against the Collateral (which shall be applied according to the provisions of the Indenture and the IDA Lease Agreement);

(vi) any and all of the estate, right, title, claim, demand and interest of each Debtor in and to all franchises, licenses, concessions, permits, contracts and other agreements (other than Agency Reserved Rights) affecting the use or occupancy of the Collateral, or any part thereof, now or hereafter entered into and any renewals or extensions thereof and all right, title and interest of any of them thereunder, including the right to receive the issues and profits of the Collateral (subject to the terms and conditions set forth in the Equipment Security Agreement);

(vii) to the extent permitted by law, the nonexclusive right, in the name and on behalf of each Debtor (at the sole cost and expense of the Lessee), to appear in and defend any action or proceeding brought with respect to the estate, right, title or interest of any of them in and to the Collateral and to commence any action or proceeding to protect the estate, right, title or interest of the Secured Party in and to the Collateral (subject, however, to the provisions of the Equipment Security Agreement and the provisions of the Indenture and the IDA Lease Agreement);

(viii) any and all right, title and interest hereafter acquired by each Debtor in and to any and all of the property described in paragraphs (i) through (vii) above and pledged by the respective Debtors thereunder; and

(ix) to the extent not included in the foregoing, all proceeds, products and accessions of and to any and all of the foregoing, including "proceeds" (within the meaning of the Uniform Commercial Code) and whatever is received upon any collection, exchange, sale or

other disposition of any of the Collateral, and any property into which any of the Collateral is converted, whether cash or noncash proceeds, and any and all other amounts paid or payable under or in connection with any of the Collateral.

Notwithstanding the foregoing, the Security Interest granted hereby in favor of the Secured Party shall be released without condition (i) if the Debtors, or each of their respective successors or assigns, shall well and truly pay, or cause to be paid, the Secured Obligations at the times and in the manner provided in the Indenture or (ii) if the Port Authority shall purchase the Facility in accordance with Section 92(v) of the PA Lease.

In addition, notwithstanding the foregoing, the Security Interest granted by the Equipment Security Agreement shall in no event include any Agency Reserved Rights.

Capitalized terms used herein which are undefined shall have the meanings ascribed to such terms in that certain Equipment Security Agreement (the "Equipment Security Agreement"), dated as of July 1, 2002 among American Airlines, Inc. (the "Lessee"), the New York City Industrial Development Agency (the "Agency") and The Bank of New York (the "Secured Party").

[redacted]

UCC FINANCING STATEMENT

FOLLOW INSTRUCTIONS (front and back) CAREFULLY

A. NAME & PHONE OF CONTACT AT FILER [optional]

B. SEND ACKNOWLEDGMENT TO: (Name and Address)

The Bank of New York
101 Barclay Street
New York, New York 10286
ATTN: Corporate Trust Department

THE ABOVE SPACE IS FOR FILING OFFICE USE ONLY

1. DEBTOR'S EXACT FULL LEGAL NAME - Insert only one debtor name (1a or 1b) - do not abbreviate or combine names

1a. ORGANIZATION'S NAME: AMERICAN AIRLINES, INC.

OR 1b. INDIVIDUAL'S LAST NAME | FIRST NAME | MIDDLE NAME | SUFFIX

1c. MAILING ADDRESS: 4333 Amon Carter Boulevard | CITY: Fort Worth | STATE: TX | POSTAL CODE: 76155 | COUNTRY: USA

1d. TAX ID #: SSN OR EIN | ADD'L INFO RE ORGANIZATION DEBTOR | 1e. TYPE OF ORGANIZATION: corporation | 1f. JURISDICTION OF ORGANIZATION: Delaware | 1g. ORGANIZATIONAL ID #, if any: DE 0332421 ☐ NONE

2. ADDITIONAL DEBTOR'S EXACT FULL LEGAL NAME - Insert only one debtor name (2a or 2b) - do not abbreviate or combine names

2a. ORGANIZATION'S NAME

OR 2b. INDIVIDUAL'S LAST NAME | FIRST NAME | MIDDLE NAME | SUFFIX

2c. MAILING ADDRESS | CITY | STATE | POSTAL CODE | COUNTRY

2d. TAX ID #: SSN OR EIN | ADD'L INFO RE ORGANIZATION DEBTOR | 2e. TYPE OF ORGANIZATION | 2f. JURISDICTION OF ORGANIZATION | 2g. ORGANIZATIONAL ID #, if any ☐ NONE

3. SECURED PARTY'S NAME (or NAME of TOTAL ASSIGNEE of ASSIGNOR S/P) - Insert only one secured party name (3a or 3b)

3a. ORGANIZATION'S NAME: THE BANK OF NEW YORK

OR 3b. INDIVIDUAL'S LAST NAME | FIRST NAME | MIDDLE NAME | SUFFIX

3c. MAILING ADDRESS: 101 Barclay Street | CITY: New York | STATE: NY | POSTAL CODE: 10286 | COUNTRY: USA

4. This FINANCING STATEMENT covers the following collateral:

See Schedule A attached hereto and made a part hereof

5. ALTERNATIVE DESIGNATION (if applicable): ☐ LESSEE/LESSOR ☐ CONSIGNEE/CONSIGNOR ☐ BAILEE/BAILOR ☐ SELLER/BUYER ☐ AG. LIEN ☐ NON-UCC FILING

6. ☐ This FINANCING STATEMENT is to be filed [for record] (or recorded) in the REAL ESTATE RECORDS. Attach Addendum [if applicable] | 7. Check to REQUEST SEARCH REPORT(S) on Debtor(s) [ADDITIONAL FEE] [optional] ☐ All Debtors ☐ Debtor 1 ☐ Debtor 2

8. OPTIONAL FILER REFERENCE DATA

SCHEDULE A

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(i) all automobiles, trucks, boats and other rolling stock or moveable personal property in which Debtor has an interest ("Rolling Stock"), including Rolling Stock any portion of which constitutes Financed Property and IDA Equipment for which the title thereto is evidenced by a certificate of title issued by the United States or a state that permits or requires a lien thereon to be evidenced upon such certificate, in which the Debtor now or at any time in the future may have an interest in connection with the Project or the Leased Facilities;

(ii) all proceeds of and any prepaid premiums on any insurance policies covering the Collateral, including the right to receive the proceeds of any insurance, judgments or settlements made in lieu thereof for damage to the Collateral;

(iii) any and all of the estate, right, title and interest of each Debtor in all machinery, apparatus, equipment, trade fixtures, personal property, and fittings which are in the nature of personal property and other personal property of every kind and nature whatsoever owned by either of them any portion of which constitutes Financed Property and IDA Equipment, or in which either of them has or shall have an interest, now or hereafter located upon or used (temporarily or permanently) or usable on or in connection with the Leased Facilities or appurtenances thereto, and all equipment, materials and supplies of any nature whatsoever, owned by either of them any portion of which constitutes Financed Property and IDA Equipment, or in which either of them has or shall have an interest, now or hereafter located upon the Leased Facilities and all renewals, replacements and substitutions thereof and additions thereto owned by any of them or in which any of them has or shall have an interest, including any and all partitions, ducts, shafts, pipes, radiators, conduits, wiring, interconnection facilities, transmission lines, floor coverings, awnings, motors, engines, boilers, stokers, pumps, dynamos, transformers, turbines, generators, fans, blowers, vents, switchboards, elevators, mail or coal

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(i) all automobiles, trucks, boats and other rolling stock or moveable personal property in which Debtor has an interest ("Rolling Stock"), including Rolling Stock any portion of which constitutes Financed Property and IDA Equipment for which the title thereto is evidenced by a certificate of title issued by the United States or a state that permits or requires a lien thereon to be evidenced upon such certificate, in which the Debtor now or at any time in the future may have an interest in connection with the Project or the Leased Facilities;

(ii) all proceeds of and any prepaid premiums on any insurance policies covering the Collateral, including the right to receive the proceeds of any insurance, judgments or settlements made in lieu thereof for damage to the Collateral;

(iii) any and all of the estate, right, title and interest of each Debtor in all machinery, apparatus, equipment, trade fixtures, personal property, and fittings which are in the nature of personal property and other personal property of every kind and nature whatsoever owned by either of them any portion of which constitutes Financed Property and IDA Equipment, or in which either of them has or shall have an interest, now or hereafter located upon or used (temporarily or permanently) or usable on or in connection with the Leased Facilities or appurtenances thereto, and all equipment, materials and supplies of any nature whatsoever, owned by either of them any portion of which constitutes Financed Property and IDA Equipment, or in which either of them has or shall have an interest, now or hereafter located upon the Leased Facilities and all renewals, replacements and substitutions thereof and additions thereto owned by any of them or in which any of them has or shall have an interest, including any and all partitions, ducts, shafts, pipes, radiators, conduits, wiring, interconnection facilities, transmission lines, floor coverings, awnings, motors, engines, boilers, stokers, pumps, dynamos, transformers, turbines, generators, fans, blowers, vents, switchboards, elevators, mail or coal

conveyors, compressors, furnaces, cleaning equipment, sprinkler systems, fire extinguishing apparatus, water and other tanks, heating, ventilating, plumbing, laundry, incinerating, air conditioning and air cooling systems, water, gas, telephone, telecommunications, telemetry and electric equipment and all other equipment (as defined in the Uniform Commercial Code on the date hereof), appliances, appurtenances and accessions related thereto any portion of which constitutes Financed Property and IDA Equipment, and the estate, right, title and interest of either of them in and to any of the foregoing that may be subject to any security agreements (as defined in the Uniform Commercial Code) superior in lien to the lien of the Equipment Security Agreement;

(iv) any and all of the estate, right, title, interest, claim or demand of any nature whatsoever of the Lessee, in law or in equity, in and to all awards or payments, including interest thereon, and the right to receive the same, which may be made with respect to the Collateral, from the exercise of the right of eminent domain, condemnation or otherwise (including any transfer made in lieu of the exercise of said right), changes of grade of street or for any other injury to or decrease in the value of the Collateral now or hereafter located thereon, whether direct or consequential, which said awards and payments are assigned pursuant to the Equipment Security Agreement;

(v) any and all of the estate, right, title, interest, claim or demand of any nature whatsoever of the Lessee, in law or in equity, in and to all refunds or rebates of taxes or charges in lieu of taxes, now or hereafter assessed or levied against the Collateral (which shall be applied according to the provisions of the Indenture and the IDA Lease Agreement);

(vi) any and all of the estate, right, title, claim, demand and interest of each Debtor in and to all franchises, licenses, concessions, permits, contracts and other agreements (other than Agency Reserved Rights) affecting the use or occupancy of the Collateral, or any part thereof, now or hereafter entered into and any renewals or extensions thereof and all right, title and interest of any of them thereunder, including the right to receive the issues and profits of the Collateral (subject to the terms and conditions set forth in the Equipment Security Agreement);

(vii) to the extent permitted by law, the nonexclusive right, in the name and on behalf of each Debtor (at the sole cost and expense of the Lessee), to appear in and defend any action or proceeding brought with respect to the estate, right, title or interest of any of them in and to the Collateral and to commence any action or proceeding to protect the estate, right, title or interest of the Secured Party in and to the Collateral (subject, however, to the provisions of the Equipment Security Agreement and the provisions of the Indenture and the IDA Lease Agreement);

(viii) any and all right, title and interest hereafter acquired by each Debtor in and to any and all of the property described in paragraphs (i) through (vii) above and pledged by the respective Debtors thereunder; and

(ix) to the extent not included in the foregoing, all proceeds, products and accessions of and to any and all of the foregoing, including "proceeds" (within the meaning of the Uniform Commercial Code) and whatever is received upon any collection, exchange, sale or

other disposition of any of the Collateral, and any property into which any of the Collateral is converted, whether cash or noncash proceeds, and any and all other amounts paid or payable under or in connection with any of the Collateral.

Notwithstanding the foregoing, the Security Interest granted hereby in favor of the Secured Party shall be released without condition (i) if the Debtors, or each of their respective successors or assigns, shall well and truly pay, or cause to be paid, the Secured Obligations at the times and in the manner provided in the Indenture or (ii) if the Port Authority shall purchase the Facility in accordance with Section 92(v) of the PA Lease.

In addition, notwithstanding the foregoing, the Security Interest granted by the Equipment Security Agreement shall in no event include any Agency Reserved Rights.

Capitalized terms used herein which are undefined shall have the meanings ascribed to such terms in that certain Equipment Security Agreement (the "Equipment Security Agreement"), dated as of July 1, 2002 among American Airlines, Inc. (the "Lessee"), the New York City Industrial Development Agency (the "Agency") and The Bank of New York (the "Secured Party").

[redacted]

UCC FINANCING STATEMENT

FOLLOW INSTRUCTIONS (front and back) CAREFULLY

A. NAME & PHONE OF CONTACT AT FILER (optional)

B. SEND ACKNOWLEDGMENT TO: (Name and Address)

The Bank of New York
101 Barclay Street
New York, New York 10286
ATTN: Corporate Trust Department

THE ABOVE SPACE IS FOR FILING OFFICE USE ONLY

1. DEBTOR'S EXACT FULL LEGAL NAME - insert only one debtor name (1a or 1b) - do not abbreviate or combine names

1a. ORGANIZATION'S NAME: NEW YORK CITY INDUSTRIAL DEVELOPMENT AGENCY

OR

1b. INDIVIDUAL'S LAST NAME	FIRST NAME	MIDDLE NAME	SUFFIX

1c. MAILING ADDRESS	CITY	STATE	POSTAL CODE	COUNTRY
110 William Street	New York	NY	10038	USA

1d. TAX ID #: SSN OR EIN	ADD'L INFO RE ORGANIZATION DEBTOR	1e. TYPE OF ORGANIZATION	1f. JURISDICTION OF ORGANIZATION	1g. ORGANIZATIONAL ID #, if any
		Public Development Corp.	New York	☐ NONE

2. ADDITIONAL DEBTOR'S EXACT FULL LEGAL NAME - insert only one debtor name (2a or 2b) - do not abbreviate or combine names

2a. ORGANIZATION'S NAME:

OR

2b. INDIVIDUAL'S LAST NAME	FIRST NAME	MIDDLE NAME	SUFFIX

2c. MAILING ADDRESS	CITY	STATE	POSTAL CODE	COUNTRY

2d. TAX ID #: SSN OR EIN	ADD'L INFO RE ORGANIZATION DEBTOR	2e. TYPE OF ORGANIZATION	2f. JURISDICTION OF ORGANIZATION	2g. ORGANIZATIONAL ID #, if any
				☐ NONE

3. SECURED PARTY'S NAME (or NAME of TOTAL ASSIGNEE of ASSIGNOR S/P) - insert only one secured party name (3a or 3b)

3a. ORGANIZATION'S NAME: THE BANK OF NEW YORK

OR

3b. INDIVIDUAL'S LAST NAME	FIRST NAME	MIDDLE NAME	SUFFIX

3c. MAILING ADDRESS	CITY	STATE	POSTAL CODE	COUNTRY
101 Barclay Street	New York	NY	10286	USA

4. This FINANCING STATEMENT covers the following collateral:

See Schedule A attached hereto and made a part hereof

5. ALTERNATIVE DESIGNATION [if applicable]: ☐ LESSEE/LESSOR ☐ CONSIGNEE/CONSIGNOR ☐ BAILEE/BAILOR ☐ SELLER/BUYER ☐ AG. LIEN ☐ NON-UCC FILING

6. ☐ This FINANCING STATEMENT is to be filed [for record] (or recorded) in the REAL ESTATE RECORDS. Attach Addendum [if applicable]

7. Check to REQUEST SEARCH REPORT(S) on Debtor(s) [ADDITIONAL FEE] [optional] ☐ All Debtors ☐ Debtor 1 ☐ Debtor 2

8. OPTIONAL FILER REFERENCE DATA

FILING OFFICE COPY — NATIONAL UCC FINANCING STATEMENT (FORM UCC1) (REV. 07/29/98)

SCHEDULE A

All right, title and interest of the Debtor (hereinafter defined) in and to the IDA Lease Agreement, including, but not limited to, all lease rentals, revenues and receipts payable or receivable thereunder, excluding, however, the Agency's Reserved Rights, which Reserved Rights may be enforced by the Debtor and the Secured Party (hereinafter defined) jointly or severally subject to the limitations contained in the IDA Lease Agreement and the Indenture. Notwithstanding the foregoing grant, the Secured Party and the Debtor acknowledge and agree that neither the Debtor nor the Secured Party (except as secured party under the Equipment Security Agreement or as Leasehold Mortgagee under the Leasehold Mortgage) pursuant to its rights under the Indenture have or shall have any rights to appoint a receiver for, right of entry or re-entry, redemption, eviction, possession, regaining or resumption of assigning, letting, or any similar rights with respect to the possession, sale, conveyance, transferring, mortgaging, pledging, assigning or subletting of all or any part of the Facility.

All moneys and securities from time to time held by the Secured Party under the terms of the Indenture (other than moneys and securities held in the Rebate Fund or in any Bond Purchase Fund, created under the Indenture), and all investment earnings of any of the foregoing, subject to disbursements therefrom in accordance with the provisions of the IDA Lease Agreement and the Indenture; provided, however, that any amounts held with respect to a Credit Facility for a Series of Bonds shall be pledged solely to such Series of Bonds secured by such Credit Facility and any amounts held in any Account held in the Debt Service Reserve Fund, created under the Indenture for a Series of Bonds shall be pledged solely to such Series of Bonds; provided, further, that there is under the Indenture expressly excluded from any assignment, pledge, lien or security interest granted to the Secured Party any amounts set apart and transferred to the Rebate Fund or any Bond Purchase Fund.

Any and all other property of every kind and nature from time to time which was heretofore or hereafter is by delivery or by writing of any kind conveyed, mortgaged, pledged, assigned or transferred, as and for additional security under the Indenture, by the Debtor or by any other person, firm or corporation with or without the consent of the Debtor, to the Secured Party with respect to any Series of Bonds which is authorized under the Indenture to receive any and all such property at any time and at all times to hold and apply the same subject to the terms thereof.

Capitalized terms used herein which are undefined shall have the meanings ascribed to them in the Master Indenture of Trust (the "Master Indenture") from the New York City Industrial Development Agency (the "Debtor") to The Bank of New York, as Trustee (the "Secured Party"), dated as of July 1, 2002.

ida New York City Industrial Development Agency

SALES TAX LETTER

July 31, 2002

TO WHOM IT MAY CONCERN

Re: New York City Industrial Development Agency
American Airlines Inc.

Gentlemen:

The New York City Industrial Development Agency (the "Agency"), by this notice, hereby advises you as follows:

1. The Agency constitutes a corporate governmental agency and a public benefit corporation under the laws of the State of New York, and therefore, in the exercise of its governmental functions, including the issuance of its bonds and/or notes, is exempt from the imposition of any sales and use tax. As an exempt governmental entity, no exempt organization identification number has been issued to the Agency nor is one required.

2. Pursuant to a resolution adopted by the Agency on October 23, 2001, the Agency has authorized and pursuant to the terms hereof does hereby authorize American Airlines, Inc., a corporation organized under the laws of the State of Delaware ("American Airlines"), to act as its agent for and on behalf of the Agency in connection with a project (the "Project") consisting of: (y) the demolition of Terminals 8 and 9 at John F. Kennedy International Airport in Queens, New York (the "Project Premises") and the acquisition, construction, installation and equipping on the Project Premises by the Agency with the proceeds of a bond issue, of an air passenger terminal facility consisting of the acquisition, construction and equipping of an air passenger terminal together with related arrival and departure access ramps, parking facilities and a passenger tunnel connecting Concourse C to the main terminal (collectively, the "Facility") and (z) the acquisition, installation, leasing, subleasing, repair, replacement, use and maintenance of building materials, machinery, equipment, furniture, fixtures, furnishings, apparatus and other items of tangible personal property all as generally described in and limited to scope as set forth in Exhibit A attached hereto (the "Project Property") for use in connection with the construction and equipping of the Facility and the demolition of Terminals 8 and 9 at the Project Premises and all pursuant to and as more specifically described in the Lease Agreement, dated as of July 1, 2002 (the "Lease Agreement"), between the Agency and American Airlines. The Facility, Project Property and Project shall in each case only refer to such items for which sales and use tax exemptions shall be taken pursuant to this letter and the Lease Agreement and shall not in any case refer to the land or site underlying such item or such items for which a sales and use tax exemption has not been claimed under this Sales Tax Letter. The Agency authorizes American

Airlines to use and American Airlines shall use this letter only for the payment of costs of the Project.

3. As agent for the Agency, American Airlines agrees that each lease, sublease, contract, invoice, bill or purchase order entered into by American Airlines as agent for the Agency for the acquisition, construction, reconstruction, renovation, demolition, improving, equipping, installation, leasing, subleasing, repair, replacement and maintenance of Project Property and the acquisition, construction, demolition, installation and equipping of the Facility all to be undertaken in connection with the Project shall include language in substantially the following form:

> "This contract is being entered into by American Airlines, Inc., a corporation organized under the laws of the State of Delaware (the "Agent"), as agent for and on behalf of the New York City Industrial Development Agency (the "Agency") in connection with a certain project of the Agency for the Agent consisting of (y) the demolition of Terminals 8 and 9 at John F. Kennedy International Airport in Queens, New York (the "Project Premises") and the acquisition, construction and equipping on the Project Premises by the Agency with the proceeds of a bond issue of an air passenger terminal facility consisting of the acquisition, construction and equipping of an air passenger terminal together with related arrival and departure access ramps, parking facilities and a passenger tunnel connecting Concourse C to the main terminal (collectively, the "Facility") and (z) the acquisition, construction, installation, leasing, subleasing, repair, replacement and maintenance of building materials, machinery, equipment, furniture, fixtures, furnishings, apparatus and other items of tangible personal property all as generally described in and limited to scope as set forth in Exhibit A attached hereto for use in connection with the construction, installation and equipping of the Facility and the demolition of Terminals 8 and 9 at the Project Premises and all pursuant to and as more specifically described in the Lease Agreement dated as of July 1, 2002 (the "Lease Agreement") between the Agency and the Agent (collectively, the "Project"). The acquisition, construction, installation and equipping of the Facility at the Project Premises by the Agency with the proceeds of bonds to be by issued the Agency and the acquisition, installation and leasing, subleasing, repair, replacement and maintenance of building materials, machinery, equipment, fixtures, furniture, furnishings, apparatus and other tangible personal property for purposes of the Project which is the subject of this [lease, sublease, contract, invoice, bill or purchase order] shall be exempt from the sales and use tax levied by the State of New York and The City of New York if effected in accordance with (y) the terms and conditions set forth in the attached Sales Tax Letter of the Agent, and (z) the Lease Agreement and the Agent hereby represents that

this [lease, sublease, contract, invoice, bill or purchase order] is in compliance with the terms of the Lease Agreement and the Sales Tax Letter. The liability of the Agency hereunder is limited as set forth in the Lease Agreement and the Sales Tax Letter. By execution or acceptance of this [lease, sublease, contract, invoice, bill or purchase order], the [vendor, lessor or sublessor] hereby acknowledges the terms and conditions set forth in this paragraph."

4. The acquisition, construction, reconstruction, renovation, improving, leasing, subleasing, equipping, furnishing, installation, maintenance, repair and replacement from time to time of the Project Property in furtherance of the Project shall be exempt from the sales and use tax levied by the State of New York and The City of New York on the condition that (i) the Project Property is segregated as separately identifiable property of the Agency and the purchase of Project Property shall be effected by and at the sole cost of American Airlines subject to reimbursement from bond proceeds and the purchase of the Project Property shall be for the sole purpose of the Project, (ii) the Project Property is acquired and leased and the Project is undertaken in accordance with the Lease Agreement, (iii) the acquisition, leasing or maintaining of the Project Property shall be characterized or capable of being characterized, shall be treated or shall be capable of being treated (whether or not so characterized by American Airlines) in accordance with the Accounting Standards of the Financial Accounting Standards Board, as a capital expenditure, and shall solely be for the use of American Airlines, its affiliates, tenants, alliance partners, other airlines, subagents, contractors and others at the Project Premises in accordance with the provisions of the Lease Agreement and shall be acquired, leased or maintained solely in furtherance of the Project for the acquisition and construction, installation and equipping of the Facility, and for no other entity and at no other location and (iv) any maintenance and repair contracts shall only be for "Qualified Maintenance", as defined in Exhibit A attached hereto. The foregoing exemption from sales and use taxes granted pursuant to the provisions hereof may, subject to compliance with the provisions hereof and the provisions of the Lease Agreement, be applied by American Airlines to any expenditure made subsequent to the date hereof regardless of whether American Airlines' obligation to make such expenditure arose prior to the date hereof.

5. The Agency shall have no liability, or payment or performance obligations, under any lease, sublease, contract, invoice, bill or purchase order entered into by American Airlines as agent for the Agency hereunder, either directly or indirectly or contingently, in any manner and to any extent whatsoever, and American Airlines shall be the sole party liable thereunder.

6. By execution by American Airlines of its acceptance of the terms of this letter, American Airlines agrees to accept the terms hereof and represents and warrants to the Agency that the use of this letter by American Airlines is strictly for the purposes above stated.

7. Accordingly, until the earlier of (1) August 31, 2010, (2) the completion of the Project as provided in Section 2.2 of the Lease Agreement, (3) the termination of the Lease Agreement, (4) receipt by American Airlines of notice from the Agency of the termination of this Sales Tax Letter, or (5) the termination of this Sales Tax Letter pursuant to Section 7.2 of the Lease Agreement (as so terminated, the "Termination Date") all vendors, lessors, licensors and contractors are hereby authorized to rely upon this Letter (or a photocopy or fax of this Letter) as

The signature of a representative of American Airlines where indicated below will indicate that American Airlines has accepted the terms hereof.

NEW YORK CITY INDUSTRIAL
DEVELOPMENT AGENCY

By:_____
Carolyn Edwards
Deputy Executive Director

ACCEPTED AND AGREED TO BY:

AMERICAN AIRLINES, INC.

By: Ruthie M Benner
Name:
Title:

EXHIBIT A

Exemptions from sales or use tax relating to the following categories:

1. the acquisition, maintenance, repair, replacement, installation and use of machinery, equipment, building materials, furniture, furnishings, trade fixtures and other tangible and intangible personal property for use solely with respect to the Project, including computers (and peripherals), telecommunication equipment, business machines and software, but excluding art, plants, objets d'art and other similar decorative items, utilities, rolling stock and ordinary office supplies such as pencils, paper clips and paper;

2. the leasing or subleasing of machinery, equipment, furniture, furnishings, fixtures and other tangible and intangible personal property (including the maintenance, repair, replacement, enhancement and addition with respect to such items) solely for use with respect to the Project, including computers (and peripherals), telecommunications equipment, business machines and software;

3. maintenance, repair and service contracts for the maintenance, service or repair of machinery, equipment, and other personal property solely for use with respect to the Project;

4. the acquisition, replacement and installation of computers (and peripherals), telecommunications equipment, equipment relating to the operation of all the foregoing categories and software solely for use with respect to the Project; and

5. the leasing or subleasing of computers (and peripherals), telecommunications equipment, equipment relating to the operation of all the foregoing categories and software for the sole use of the Project in connection with the foregoing equipment; provided, however, that (i) such software is in a tangible form and is treated or capable of being treated (whether or not so treated) in accordance with the Accounting Standards of the Financial Accounting Standards Board as a capital expenditure and (ii) any maintenance or repairs shall only be for "Qualified Maintenance". "Qualified Maintenance" shall mean, with respect to any of the above categories of property which is characterized (whether or not so characterized by American Airlines) in accordance with the Accounting Standards of the Financial Accounting Standards Board as capital in nature, the replacement of parts (other than parts that contain materials or substances that are consumed in the operation of such property (e.g., a toner cartridge) where such parts must be replaced whenever the substance is consumed) or the making of repairs, but shall not include maintenance of the type constituting janitorial services.

Simat, Helliesen & Eichner, Inc.
One Main Street
Cambridge, Massachusetts 02142
United States of America

Tel: +1-617-225.2800
Fax: +1-617-225.0328
Email: boston@sh-e.com

SH&E

July 25, 2002

Salomon Smith Barney Inc., as Underwriter
390 Greenwich Street
Second Floor
New York, New York 10013

Subject: New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002A and Series 2002B
(American Airlines, Inc. John F. Kennedy International Airport Project)

Ladies and Gentlemen:

This letter is furnished pursuant to Section 9(d)(20) of the Bond Purchase Agreement (the *"Bond Purchase Agreement"*) dated July 25, 2002 among the New York City Industrial Development Agency (the *"Issuer"*), and Salomon Smith Barney Inc., as the Senior Managing Underwriter of the underwriters named therein (the *"Underwriter"*), American Airlines, Inc. (the *"Company"*) and AMR Corporation (*"AMR"*), relating to the sale by the Issuer of its Special Facility Revenue Bonds, Series 2002A and Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) (collectively, the *"Bonds"*), as more fully described in the Official Statement of the Issuer dated July 25, 2002 (the *"Official Statement"*) prepared in connection with the offering of the Bonds. Terms capitalized but not defined in this letter shall have the meaning given such terms in the Bond Purchase Agreement. References to the Official Statement include the Preliminary Official Statement dated July 15, 2002.

Simat, Helliesen & Eichner, Inc. (*"SH&E"*) has been retained by the Company to prepare a Gate Demand Study dated June 27, 2002 (the *"Study"*) included as Appendix J to the Official Statement and hereby consents to the inclusion of the Study in the Official Statement.

The Study was prepared in accordance with generally accepted aviation consulting practices.

In connection with preparation of the Study, personnel of SH&E have participated in meetings or telephone discussions with representatives of the Company, the AMR, the Underwriter, counsel to the Underwriter, Bond Counsel, and the Company's counsel regarding the Study. Nothing has come to the attention of SH&E in connection with the preparation of the Study which would cause SH&E to believe that the Study, as of its date, or any of the statements in the Official Statement specifically attributed to SH&E, as of the dates of the Preliminary Official Statement and the Official Statement, were inaccurate or misleading in any material respect.

SH&E

This letter is solely for the information of, and assistance to, the Underwriter in conducting and documenting their investigation of the matters covered by the Study in connection with the offering pursuant to the Official Statement of the Bonds, and is not to be used, circulated, quoted or otherwise referred to within or without the underwriting group for any other purpose, including but not limited to the purchase or sale of the Bonds, nor is it to be referred to in whole or in part in the Official Statement or any other document, except that reference may be made to it in the above-mentioned Bond Purchase Agreement or in any list of closing documents pertaining to such offering.

SH&E disclaims any obligation to update this letter. This letter is not intended to, and may not, be relied upon by any party other than the Underwriter.

Very truly yours,

SIMAT, HELLIESEN & EICHNER, INC.

By: Ernest F. Smith

Title: VICE PRESIDENT

Fidelity National Title Insurance Company
of New York
A Stock Company

POLICY NUMBER 26-031-92- 77621

OWNER'S POLICY OF TITLE INSURANCE

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE EXCEPTIONS FROM COVERAGE CONTAINED IN SCHEDULE B AND THE CONDITIONS AND STIPULATIONS, FIDELITY NATIONAL TITLE INSURANCE COMPANY OF NEW YORK, a New York corporation, herein called the Company, insures, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the Amount of Insurance stated in Schedule A, sustained or incurred by the insured by reason of:

1. *Title to the estate or interest described in Schedule A being vested other than as stated therein;*
2. *Any defect in or lien or encumbrance on the title;*
3. *Unmarketability of the title;*
4. *Lack of a right of access to and from the land.*

The Company will also pay the costs, attorneys' fees and expenses incurred in defense of the title, as insured, but only to the extent provided in the Conditions and Stipulations.

IN WITNESS WHEREOF, FIDELITY NATIONAL TITLE INSURANCE COMPANY OF NEW YORK has caused this policy to be signed and sealed by its duly authorized officers as of Date of Policy shown in Schedule A.

FIDELITY NATIONAL TITLE INSURANCE COMPANY
OF NEW YORK

Countersigned _____
Authorized Signature
(PLEASE PRINT NAME)

SEAL

By: _____
President

Attest: Charles H. Wimer
Secretary

FIDELITY NATIONAL TITLE INSURANCE COMPANY OF NEW YORK

POLICY NO.: 26-031-92-77621 TITLE NO.: 01-3706-4416-Q

SCHEDULE A

AMOUNT OF INSURANCE: $1,000,000.00 DATE OF POLICY: July 31, 2002

1. NAME OF INSURED:

   New York City Industrial Development Agency

2. THE ESTATE OR INTEREST IN THE LAND WHICH IS COVERED BY THIS POLICY IS:

   Sub-Sub Leasehold

3. TITLE TO THE ESTATE OR INTEREST IN THE LAND IS VESTED IN:

   New York Industrial Development Agency

4. THE LAND REFERRED TO IN THIS POLICY IS DESCRIBED ON SCHEDULE A - PART I, WITHIN.

FIDELITY NATIONAL TITLE INSURANCE COMPANY OF NEW YORK

POLICY NO.: 26-031-92-77621 TITLE NO.: 01-3706-4416-Q

SCHEDULE A - PART I

DESCRIPTION

ALL that certain plot, piece or parcel of land, situate, lying and being in the Borough and County of Queens, City and State of New York being a portion of Lot 1 in Block 14260 of Section 58 as shown on the Tax Map of The City of New York for the Borough of Queens, said premises being a part of the John F. Kennedy International Airport designated as Terminals 8 and 9 and more particularly delineated on The Port Authority of New York and New Jersey Map entitled "Terminals 8 and 9 Lease Line Modification (American Airline)" dated September 27, 1999, drawing No. JFK 13414.

FIDELITY NATIONAL TITLE INSURANCE COMPANY OF NEW YORK

POLICY NO.: 26-031-92-77621 TITLE NO.: 01-3706-4416-Q

SCHEDULE B

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorney's fees or expenses) which arise by reason of:

1. Any state of facts an accurate survey would show.

2. Grant of Gas Line Easements recited in Memorandum of Agreement of Lease and Grant of Easements and Other Rights made by and between The Port Authority of New York and New Jersey (Landlord) and KIAC Partners (Tenant) dated April 28, 1993, recorded May 3, 1993 in Reel 3556 page 1139.

3. Terms, Covenants, Conditions and Provisions of Lease ("Master Lease") dated April 17, 1947 made by and between The City of New York, as Landlord and The Port of New York Authority, as Tenant recorded May 22, 1947 in Liber 5402 Cp. 319; as amended by First Supplemental Agreement made between the same parties, dated May 26, 1948, recorded July 22, 1949 in Liber 5794 Cp. 554; Second Supplemental Agreement made between the same parties, dated November 7, 1952, recorded November 10, 1952 in Liber 6455 Cp. 632; Third Supplemental Agreement made between the same parties dated May 28, 1956, recorded June 29, 1966 in Record Liber 162 page 417; Fourth Supplemental Agreement made between the same parties dated November 6, 1958, recorded February 27, 1959 in Record Liber 162 page 432; Fifth Supplemental Agreement made between the same parties, dated October 3, 1960, recorded June 29, 1966 in Record Liber 162 page 466; Sixth Supplemental Agreement made between the same parties dated August 24, 1965, recorded June 29, 1965 in Record Liber 163 page 1; Seventh Supplemental Agreement made between the same parties dated December 21, 1965, recorded June 29, 1966 in Record Liber 163 page 13; Eighth Supplemental Agreement made between the same parties dated December 12, 1968, recorded July 23, 1969 in Reel 339 page 44; Ninth Supplemental Agreement made between The City of New York and The Port Authority of New York and New Jersey (successor to The Port of New York Authority) dated January 1, 1979, recorded March 11, 1982 in Reel 1411 page 1393; Tenth Supplemental Agreement made between the same parties dated September 3, 1983, recorded March 12, 1984 in Reel 1650 page 626; Eleventh Supplemental Agreement made between the same parties dated December 11, 1992, recorded December 17, 1992 in Reel 3464 page 465; unrecorded Twelfth Supplemental Agreement recited in Reel 4927 page 2436, and by Thirteenth Supplemental Agreement made between the same parties dated February 19, 1998, recorded on July 28, 1998 in Reel 4292 page 2436, and re-recorded on July 28, 2000 in Reel 5638 page 1166. (**Note:** Master Lease contains the following provision "Title to all buildings, structures, and additions made or added to the demised premises by The Port Authority or any of its subtenants shall vest in the City immediately upon annexation, except where leases, permits, licenses or other agreements provide that title thereto shall remain in lessees, permittees or other third persons".)

   In connection therewith, terms and conditions of a Recognition, Non-Disturbance and Attornment Agreement dated as of July 31, 2002 between The City of New York and American Airlines, Inc. intended to be recorded in the Register's Office of the City of New York, Queens County.

SCHEDULE B
EXCEPTIONS FROM COVERAGE
(Continued)

4. Terms, Covenants, Conditions, Provisions and Agreements of unrecorded Amended and Restated Agreement of Lease dated December 22, 2000 ("Port Authority Lease No. AYB-085R") made by and between The Port Authority of New York and New Jersey, as lessor and American Airlines, Inc., as lessee, as sub-sub leased by American Airlines, Inc. to New York City Industrial Development Agency by unrecorded Company Sublease Agreement dated as of July 1, 2002, and the rights of American Airlines, Inc., as tenant under the Port Authority Lease No. AYB-085R.

Fidelity National Title Insurance Company of New York

New York, NY

LEASEHOLD ENDORSEMENT
(Owner's Policy)

ATTACHED to and made a part of POLICY NUMBER: 26-031-92-77621

1. As used in this endorsement, the following terms shall mean:

a. "Evicted" or "Eviction": (a) the lawful deprivation, in whole or in part, of the right of possession insured by the Policy, contrary to the terms of the Lease or (b) the lawful prevention of the use of the land or the Tenant Leasehold Improvements for the purposes permitted by the Lease, in either case, as a result of a matter covered by the Policy.

b. "Lease": the lease agreement described in Schedule A.

c. "Leasehold Estate": the right of possession for the Lease Term.

d. "Lease Term": the duration of the Leasehold Estate, including any renewal or extended term if a valid option to renew or extend is contained in the Lease.

e. "Personal Property": chattels located on the land and property which, because of their character and manner of affixation to the land, can be severed from the land without causing appreciable damage to such chattels and property or to the land to which they are affixed.

f. "Remaining Lease Term": the portion of the Lease Term remaining after the insured has been Evicted as a result of a matter covered by the Policy.

g. "Tenant Leasehold Improvements": Those improvements, including landscaping, required or permitted to be built on the land by the Lease that have been built at the insured's expense or in which the insured has an interest greater than the right to possession during the Lease Term.

2. The provisions of subsection (b) of Section 7 of the Conditions and Stipulations shall not apply to any Leasehold Estate covered by the Policy.

3. Valuation of Estate or Interest Insured

If, in computing loss or damage, it becomes necessary to value the estates or interests of the insured as the result of a covered matter that results in an Eviction, then that value shall consist of the value for the Remaining Lease Term of the Leasehold Estate and any Tenant Leasehold Improvements existing on the date of the Eviction. The insured claimant shall have the right to have the Leasehold Estate and the Tenant Leasehold Improvements valued either as a whole or separately. In either event, this determination of value shall take into account rent no longer required to be paid for the Remaining Lease Term.

4. Additional items of loss covered by this endorsement:

If the insured is Evicted, the following items of loss, if applicable, shall be included in computing loss or damage incurred by the insured, but not to the extent that the same are included in the valuation of the estates or interests insured by the Policy.

a. The reasonable cost of removing and relocating any Personal Property that the insured has the right to remove and relocate, situated on the land at the time of Eviction, the cost of transportation of that Personal Property for the initial one hundred miles incurred in connection with the relocation, and the reasonable cost of repairing the

LEASEHOLD ENDORSEMENT
(Owner's Policy)
Continued

Personal Property damaged by reason of the removal and relocation.

b. Rent or damages for use and occupancy of the land prior to the Eviction which the insured as owner of the Leasehold Estate is obligated to pay to any person having paramount title to that of the lessor in the Lease.

c. The amount of rent that, by the terms of the Lease, the insured must continue to pay to the lessor after Eviction with respect to the portion of the Leasehold Estate and Tenant Leasehold Improvements from which the insured has been Evicted.

d. The fair market value, at the time of the Eviction, of the estate or interest of the insured in any lease or sublease made by the insured as lessor of all or part of the Leasehold Estate or the Tenant Leasehold Improvements.

e. Damages that the insured is obligated to pay to lessees or sublessees on account of the breach of any lease or sublease made by the insured as lessor of all or part of the Leasehold Estate or the Tenant Leasehold Improvements caused by the Eviction

f. Reasonable costs incurred by the insured to secure a replacement leasehold equivalent to the Leasehold Estate.

g. If Tenant Leasehold Improvements are not substantially completed at the time of Eviction, the actual cost incurred by the insured, less the salvage value, for the Tenant Leasehold Improvements up to the time of Eviction. Those costs include costs incurred to obtain land use, zoning, building and occupancy permits, architectural and engineering fees, construction management fees, costs of environmental testing and reviews, landscaping costs, and fees, costs and interest on loans for the acquisition and construction.

THIS ENDORSEMENT is made a part of the policy and is subject to all of the terms and provisions thereof and of any prior endorsement thereto. Except to the extent expressly stated, it neither modifies any of the terms and provisions of the policy and any prior endorsements, nor does it extend the effective date of the Policy, nor does it increase the face amount thereof.

IN WITNESS WHEREOF, the Company has caused its corporate name and seal to be hereunto affixed by its duly authorized signatory and countersigned on the date hereinafter set forth.

Dated: July 31, 2002

Fidelity National Title Insurance Company of New York

Countersigned:

Authorized Signature

BY _____ President

ATTEST Charles H. Wimer Secretary

TIRSA Leasehold Endorsement (Owner's Policy) (2/11/02)
To be used with ALTA Owner's Policy Only.

Fidelity National Title Insurance Company
OF NEW YORK

STANDARD NEW YORK ENDORSEMENT
(OWNER'S POLICY)

Attached to and forming a part of Policy No. 26-031-92-77621
of **FIDELITY NATIONAL TITLE INSURANCE COMPANY OF NEW YORK**

1. The following is added to the insuring provisions on the face page of this policy:

"5. Any statutory lien for services, labor or materials furnished prior to the date hereof, and which has now gained or which may hereafter gain priority over the estate or interest of the insured as shown in Schedule A of this policy."

2. The following is added to Paragraph 7 of the Conditions and Stipulations of this policy:

"(d) If the recording date of the instruments creating the insured interest is later than the policy date, such policy shall also cover intervening liens or encumbrances, except real estate taxes, assessments, water charges and sewer rents."

Nothing herein contained shall be construed as extending or changing the effective date of the policy unless otherwise expressly stated.

This endorsement is made a part of the policy and is subject to the Exclusions from Coverage, Schedules, Conditions and Stipulations therein, except as modified by the provisions hereof.

Fidelity National Title Insurance Company of New York

BY _____
President

ATTEST _____
Secretary

Moody's Investors Service

July 24, 2002

Ms. Leslie M. Benners
Managing Director, Corporate Finance & Banking
American Airlines/MD 5662
4333 Amon Carter Blvd.
Fort Worth, TX 76155

Re: $500,000,000
New York City Industrial Development Agency
Special Facility Revenue Bonds, Series 2002
(American Airlines, Inc. John F. Kennedy International Airport Project)

Dear Ms. Benners:

At your request, Moody's rating committee has reviewed the documents submitted in connection with the referenced bond offering. Proceeds from the Series 2002 Bonds will be used to provide funds to reimburse American Airlines, Inc. ("American") for a portion of the costs of acquiring, constructing, and equipping a new passenger terminal and related facilities at John F. Kennedy International Airport (the "Airport"), a portion of the costs of the demolition of Terminals 8 and 9 at the Airport and related issuance costs with respect to the Series 2002 Bonds. Principal and interest on the Series 2002 Bonds will be paid solely from payments made pursuant to an IDA Lease Agreement dated as of July 1, 2002 between American and the New York City Industrial Development Agency. Payment of principal, premium, if any, purchase price of and interest on the Series 2002 Bonds will be unconditionally guaranteed by AMR Corporation and American.

Moody's has assigned a rating of B1 to the Series 2002 Bonds. The rating takes into account the pass-through nature of the facilities payments and the unconditional guaranties of AMR Corporation and American. The rating also considers the importance of John F. Kennedy International Airport to American's current route network as well as Moody's expectation for stability in the overall financial condition of American.

The rating so assigned, as well as any revisions therein or withdrawals thereof, will be publicly disseminated by Moody's through normal print and electronic media and in response to oral requests to Moody's rating desk.

We appreciate the opportunity to serve you on this issue, and please let us know if we may be of further assistance.

Sincerely,

Richard C. Bittenbender II
Vice President – Senior Credit Officer

Corporate & Govt. Ratings
55 Water Street
39th Floor
New York, NY 10041-0003
Tel 212 438 7699
Fax 212 438 7820
tom_kelly@sandp.com

Thomas R. Kelly
Managing Director

Standard & Poor's
A Division of The McGraw-Hill Companies

July 31, 2002
Revision to letter dated July 18, 2002

Ms. Leslie M. Benners
Managing Director – Corp. Finance
American Airlines Inc.
4333 Amon Carter Blvd.
6th Floor
Fort Worth, TX 76155

Re: **New York City Industrial Development Agency Special Facility Revenue Bonds (American Airlines, Inc. John F. Kennedy International Airport Project) $120,000,000 Special Facility Revenue Bonds, Series 2002A due August 1, 2012* $380,000,000 Special Facility Revenue Bonds, Series 2002B due August 1, 2028***

Dear Ms. Benners:

Pursuant to your request, Standard & Poor's Ratings Services has reviewed the information presented to us and has assigned a **"BB-"** rating to the above-captioned bonds. Please send us final documents as soon as they become available. Should the documents not be received by us within a reasonable amount of time, we reserve the right to withdraw our rating.

In addition, in order to maintain our rating surveillance, we must receive all publicly distributed company financial information such as annual and quarterly shareholder reports and communications, as well as 10-K, 8-K, and other SEC filings, the absence of which may result in the withdrawal of our rating. Standard & Poor's relies on the issuer and its counsel, accountants, and other experts for the accuracy and completeness of the information submitted in connection with the rating. If you would place us on a mailing list for the information, this would facilitate the process. Please address all reports to: Standard & Poor's; 55 Water Street, New York, NY 10041; Attn.: **Philip Baggaley, CFA, Managing Director, Corporate Ratings.**

This letter constitutes Standard & Poor's permission to you to disseminate the above-assigned rating to interested parties. You understand that Standard & Poor's has not consented to, and will not consent to, being named an "expert" under the federal securities laws, including without limitation, Section 7 of the Securities Act of 1933. In addition, it should be understood that the rating is not a "market" rating, nor a recommendation to buy, hold, or sell the securities. Standard & Poor's reserves the right to advise its own clients, subscribers, and the public of the rating.

We are pleased to have had the opportunity of being of service to you. If we can be of further help, please do not hesitate to call upon us.

Very truly yours,

Thomas Kelly/pab

****Payment of the principal and purchase price of, premium, if any, and interest on the Series 2002 Bonds when due will also be unconditionally guaranteed by the Company and by AMR Corporation.***

ida New York City Industrial Development Agency

SECOND AMENDED AND RESTATED PRELIMINARY SALES TAX LETTER

July 1, 2002

TO WHOM IT MAY CONCERN

Re: New York City Industrial Development Agency
American Air Lines, Inc.

Gentlemen:

The New York City Industrial Development Agency (the "Agency"), by this notice, hereby advises you as follows:

1. The Agency constitutes a corporate governmental agency and a public benefit corporation under the laws of the State of New York, and therefore, in the exercise of its governmental functions, including the issuance of its bonds and/or notes, is exempt from the imposition of any sales and use tax. As an exempt governmental entity, no exempt organization identification number has been issued to the Agency nor is one required.

2. Pursuant to a resolution adopted by the Agency on January 11, 2000, the Agency has authorized and pursuant to the terms hereof does hereby authorize American Airlines, Inc., a corporation organized under the laws of the State of Delaware ("American Airlines"), to act as its agent for and on behalf of the Agency in connection with a project (the "Project") consisting of: (y) the demolition of Terminals 8 and 9 at John F. Kennedy International Airport in Queens, New York (the "Project Premises") and the acquisition, construction, installation and equipping on the Project Premises by the Agency with the proceeds of a bond issue, of an air passenger terminal facility consisting of the acquisition, construction and equipping of an air passenger terminal together with related arrival and departure access ramps, parking facilities and a passenger tunnel connecting Concourse C to the main terminal (collectively, the "Facility") and (z) the acquisition, installation, leasing, subleasing, repair, replacement, use and maintenance of building materials, machinery, equipment, furniture, fixtures, furnishings, apparatus and other items of tangible personal property all as generally described in and limited to scope as set forth in Exhibit A attached hereto (the "Project Property") for use in connection with the construction and equipping of the Facility and the demolition of Terminals 8 and 9 at the Project Premises and all pursuant to and as more specifically described in the Preliminary Project Agreement dated July 27, 2000 as amended by Amendment No. 1 to the Preliminary Project Agreement dated as of January 1, 2002 and Amendment No. 2 to the Preliminary Project Agreement dated as of July 1, 2002 (collectively, the "Preliminary Project Agreement"), each between the Agency and American Airlines. The Facility, Project Property and Project shall in each case only refer to such items for which sales and use tax exemptions shall be taken pursuant to this letter and the Preliminary Project Agreement and shall not in any case refer to the land or site underlying such

item or such items for which a sales and use tax exemption has not been claimed under this Second Amended and Restated Preliminary Sales Tax Letter. The Agency authorizes American Airlines to use and American Airlines shall use this letter only for the payment of costs of the Project.

3. As agent for the Agency, American Airlines agrees that each lease, sublease, contract, invoice, bill or purchase order entered into by American Airlines as agent for the Agency for the acquisition, construction, reconstruction, renovation, demolition, improving, equipping, installation, leasing, subleasing, repair, replacement and maintenance of Project Property and the acquisition, construction, demolition, installation and equipping of the Facility all to be undertaken in connection with the Project shall include language in substantially the following form:

> "This contract is being entered into by American Airlines, Inc., a corporation organized under the laws of the State of Delaware (the "Agent"), as agent for and on behalf of the New York City Industrial Development Agency (the "Agency") in connection with a certain project of the Agency for the Agent consisting of (y) the demolition of Terminals 8 and 9 at John F. Kennedy International Airport in Queens, New York (the "Project Premises") and the acquisition, construction and equipping on the Project Premises by the Agency with the proceeds of a bond issue of an air passenger terminal facility consisting of the acquisition, construction and equipping of an air passenger terminal together with related arrival and departure access ramps, parking facilities and a passenger tunnel connecting Concourse C to the main terminal (collectively, the "Facility") and (z) the acquisition, construction, installation, leasing, subleasing, repair, replacement and maintenance of building materials, machinery, equipment, furniture, fixtures, furnishings, apparatus and other items of tangible personal property all as generally described in and limited to scope as set forth in Exhibit A attached hereto for use in connection with the construction, installation and equipping of the Facility and the demolition of Terminals 8 and 9 at the Project Premises and all pursuant to and as more specifically described in the Preliminary Project Agreement dated July 27, 2000 as amended by Amendment No. 1 to the Preliminary Project Agreement dated January 1, 2002 and Amendment No. 2 to the Preliminary Project Agreement dated July 1, 2002 (collectively the "Preliminary Project Agreement") each between the Agency and the Agent (collectively, the "Project"). The acquisition, construction, installation and equipping of the Facility at the Project Premises by the Agency with the proceeds of bonds to be by issued the Agency and the acquisition, installation and leasing, subleasing, repair, replacement and maintenance of building materials, machinery, equipment, fixtures, furniture, furnishings, apparatus and other tangible personal property for purposes of the Project which is the

subject of this [lease, sublease, contract, invoice, bill or purchase order] shall be exempt from the sales and use tax levied by the State of New York and The City of New York if effected in accordance with (y) the terms and conditions set forth in the attached Second Amended and Restated Preliminary Sales Tax Letter of the Agent, and (z) the Preliminary Project Agreement and the Agent hereby represents that this [lease, sublease, contract, invoice, bill or purchase order] is in compliance with the terms of the Preliminary Project Agreement and the Second Amended and Restated Preliminary Sales Tax Letter. The liability of the Agency hereunder is limited as set forth in the Preliminary Project Agreement and the Second Amended and Restated Preliminary Sales Tax Letter. By execution or acceptance of this [lease, sublease, contract, invoice, bill or purchase order], the [vendor, lessor or sublessor] hereby acknowledges the terms and conditions set forth in this paragraph."

4. The acquisition, construction, reconstruction, renovation, improving, leasing, subleasing, equipping, furnishing, installation, maintenance, repair and replacement from time to time of the Project Property in furtherance of the Project shall be exempt from the sales and use tax levied by the State of New York and The City of New York on the condition that (i) the Project Property is segregated as separately identifiable property of the Agency and the purchase of Project Property shall be effected by and at the sole cost of American Airlines subject to reimbursement from bond proceeds and the purchase of the Project Property shall be for the sole purpose of the Project, (ii) the Project Property is acquired and leased and the Project is undertaken in accordance with the Preliminary Project Agreement, (iii) the acquisition, leasing or maintaining of the Project Property shall be characterized or capable of being characterized, shall be treated or shall be capable of being treated (whether or not so characterized by American Airlines) in accordance with the Accounting Standards of the Financial Accounting Standards Board, as a capital expenditure, and shall solely be for the use of American Airlines, its affiliates, tenants, alliance partners, other airlines, subagents, contractors and others at the Project Premises in accordance with the provisions of the Preliminary Project Agreement and shall be acquired, leased or maintained solely in furtherance of the Project for the acquisition and construction, installation and equipping of the Facility, and for no other entity and at no other location and (iv) any maintenance and repair contracts shall only be for "Qualified Maintenance", as defined in Exhibit A attached hereto. The foregoing exemption from sales and use taxes granted pursuant to the provisions hereof may, subject to compliance with the provisions hereof and the provisions of the Preliminary Project Agreement, be applied by American Airlines to any expenditure made subsequent to the date hereof regardless of whether American Airlines' obligation to make such expenditure arose prior to the date hereof.

5. The Agency shall have no liability, or payment or performance obligations, under any lease, sublease, contract, invoice, bill or purchase order entered into by American Airlines as agent for the Agency hereunder, either directly or indirectly or contingently, in any manner and to any extent whatsoever, and American Airlines shall be the sole party liable thereunder.

6. By execution by American Airlines of its acceptance of the terms of this letter, American Airlines agrees to accept the terms hereof and represents and warrants to the Agency that the use of this letter by American Airlines is strictly for the purposes above stated.

7. Accordingly, until the earlier of (i) July 30, 2002 unless such date is extended by the Agency, (ii) the receipt by American Airlines in the aggregate of $9,000,000 in sales and use tax exemptions pursuant to this Second Amendment and Restated Preliminary Sales Tax Letter dated July 1, 2002, the First Amended and Restated Preliminary Sales Tax Letter dated January 1, 2002 and the Preliminary Sales Tax Letter dated July 27, 2000, (the foregoing dollar limitation shall not, and shall not be deemed to limit any other exemption from Sales and Use Taxes obtained by American Airlines exclusive of any exemption granted pursuant to Article 18-A of the General Municipal Law of the State of New York or pursuant to the Agency's involvement in the Project), (iii) the issuance by the Agency of its bonds for the Project, (iv) the occurrence of an event of default under the Preliminary Project Agreement dated the date hereof, and (v) such other time as the Agency shall request American Airlines to stop using this Second Amended and Restated Preliminary Sales Tax Letter and return said letter to the Agency, all vendors, lessors, contractors and subcontractors are hereby authorized to rely on this letter (or on a photocopy or fax of this letter) as evidence that purchases and leases of the Project Property, and improvement, installation and maintenance contracts relating to the Project to the extent effected by American Airlines (or by an agent, contractor or subcontractor engaged by American Airlines) as agent for the Agency, are exempt from all New York State and New York City sales and use taxes.

The Agency reserves the right, in its absolute and unlimited discretion, to suspend or terminate this Second Amended and Restated Preliminary Sales Tax Letter and to require that American Airlines surrender this Second Amended and Restated Preliminary Sales Tax Letter to the Agency for suspension or cancellation.

The signature of a representative of American Airlines, Inc. where indicated below will indicate that American Airlines, Inc. has accepted the terms hereof.

NEW YORK CITY INDUSTRIAL
DEVELOPMENT AGENCY

By:_____
Carolyn A. Edwards
Deputy Executive Director

ACCEPTED AND AGREED TO BY:

AMERICAN AIRLINES, INC.

By: Leslie Benners
Name: Leslie A. Benners
Title: Managing Director
Corporate Finance and Banking

NEW YORK CITY
INDUSTRIAL DEVELOPMENT AGENCY

AND

AMERICAN AIRLINES, INC.

AMENDMENT NO. 2

to

PRELIMINARY PROJECT AGREEMENT

Dated July 1, 2002

PRELIMINARY PROJECT AGREEMENT

THIS AMENDMENT NO. 2 TO PRELIMINARY PROJECT AGREEMENT (this "Amendment No. 1"), made and entered into as of July 1, 2002, by and between NEW YORK CITY INDUSTRIAL DEVELOPMENT AGENCY, a corporate governmental agency constituting a body corporate and politic and a public benefit corporation of the State of New York, duly organized and existing under the laws of the State of New York, party of the first part (the "Agency"), having its principal office at 110 William Street, New York, New York, and AMERICAN AIRLINES, INC. a corporation organized and existing under and by virtue of the laws of the State of Delaware, party of the second part (the "Company"), having an office at 4333 Amon Carter Blvd., MD 5675, Fort Worth, Texas 76155 amending that certain Preliminary Project Agreement dated July 27, 2000 as amended by Amendment No. 1 to the Preliminary Project Agreement dated January 1, 2002 (capitalized terms used in the WHEREAS recitals to this Agreement but not defined therein shall have the meanings assigned to such terms in Section 1.1 of said Preliminary Project Agreement):

WITNESSETH:

WHEREAS, the Agency was established by the New York State Industrial Development Agency Act, constituting Title 1 of Article 18-A of the General Municipal Law, Chapter 24 of the Consolidated Laws of New York, as amended, and Chapter 1082 of the Laws of 1974 of the State of New York, as amended (the "Act"), for the benefit of The City of New York and the inhabitants thereof; and

WHEREAS, to accomplish the purposes of the Act, the Agency has entered into negotiations with the Company to induce the Company to undertake the demolition of Terminals 8 and 9 at John F. Kennedy International Airport in Queens, New York and the acquisition, construction and equipping on the Project Premises of a new air passenger terminal facility consisting of the acquisition, construction and equipping of an air passenger terminal together with related arrival and departure access ramps, parking facilities and a passenger tunnel connecting Concourse B to the main terminal (the "Facility") and in connection with the foregoing to undertake the acquisition, installation, leasing, subleasing, repair, replacement, use and maintenance of building materials, machinery, equipment, furniture, fixtures, furnishings, apparatus and other items of tangible personal property in, and limited to, scope as set forth in Exhibit A attached to the Preliminary Sales Tax Letter for use at or for incorporation into the Facility, all in connection with the construction of the same and the demolition of Terminals 8 and 9; and

WHEREAS, in connection with such construction, reconstruction, renovation, demolition, improvement, installation, equipping, leasing, subleasing, repairs, replacement and maintenance, the Agency has granted to the Company financial assistance in the form of Sales and Use Tax exemptions pursuant to the provisions of a Preliminary Project Agreement dated July 27, 2000 between the Agency and the Company as amended by Amendment No. 1 to the Preliminary Project Agreement (collectively the "Preliminary Project Agreement") and a Preliminary Sales Tax Letter of the Agency dated July 27, 2000 as amended by the First

Amended and Restated Preliminary Sales Tax Letter dated January 1, 2002 (collectively the "Preliminary Sales Tax Letter"); and

WHEREAS, the Agency financial assistance in the form of exemptions from New York State and Local Sales and Use Taxes and related Agency benefits are necessary to provide employment in, and are beneficial for the economy of, The City of New York and are reasonably necessary to induce the Company to continue with the Project; and

WHEREAS, each of the Preliminary Project Agreement and the Preliminary Sales Tax Letter expires in accordance with its respective terms on July 1, 2002; and

WHEREAS, the Agency and the Company desire to extend the term of the Preliminary Project Agreement and the Preliminary Sales Tax Letter in accordance with the terms hereof;

NOW THEREFORE, in consideration of the premises and the respective representations and agreements hereinafter contained, the parties hereto agree as follows:

Section 1. The defined terms "Preliminary Sales Tax Letter" and "Termination Date" as contained in Section 1.1 of the Preliminary Project Agreement are amended to read as follows:

"Preliminary Sales Tax Letter" shall collectively mean the Preliminary Sales Tax Letter dated July 27, 2000, the First Amended and Restated Preliminary Sales Tax Letter dated January 1, 2002 and the Second Amended and Restated Preliminary Sales Tax Letter dated July 1, 2002.

"Termination Date" shall mean July 31, 2002.

Section 2. Section 2.1(1) of the Preliminary Project Agreement is amended in whole to read as follows:

"(l) With respect to each of the Benefits Periods described below the Lessee agrees to submit to the Agency on each of the applicable due dates set forth below a completed Benefits Report in the form of Appendix B attached hereto to the extent and in the amount that the Lessee shall have received Sales Tax Savings during the following Benefit Periods.

Benefit Period	Benefit Report Due Date
July 27, 2000 to December 31, 2000	February 15, 2001
January 1, 2001 to June 30, 2001	August 15, 2001
July 1, 2001 to December 31, 2001	February 15, 2002
January 1, 2002 to the earlier of the Closing Date or the Termination Date	45 days subsequent to the Closing Date or Termination Date"

Section 3. Section 3.2 of the Preliminary Project Agreement is amended in whole to read as follows:

"Section 3.2. Duration to Term. The term of this Agreement shall commence on July 27, 2000 and shall expire on the earliest of (i) the Closing Date, (ii) the termination or expiration of the Preliminary Sales Tax Letter, (iii) such earlier date as this Agreement may be terminated in accordance with its terms as herein provided, (iv) upon the receipt by the Agency of written notice from the Company of its intent to terminate this Agreement together with payment by the Company of all outstanding amounts due hereunder, or (v) July 31, 2002."

Section 4. Subdivision (i) of Section 7.1 of the Preliminary Project Agreement is amended to read as follows:

"(i) Except by reason of misconduct or negligence of the Agency, the Closing Date shall not have occurred prior to July 31, 2002 and the Agency and the Company shall not have entered into a lease agreement with respect to the Project Premises in conjunction therewith."

Section 5. Except, as amended by the foregoing provisions, the Preliminary Project Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the Agency has caused its corporate name to be hereunto subscribed by its duly authorized Chairman, Vice Chairman, Executive Director or Deputy Executive Director and attested under the seal of the Agency by its Assistant Secretary and the Company has caused its name to be subscribed hereto by an authorized officer all being done as of the year and day first above written.

(SEAL)

NEW YORK CITY INDUSTRIAL
DEVELOPMENT AGENCY

Attest: _____

By _____
Name: Carolyn A. Edwards,
Title: Deputy Executive Director

AMERICAN AIRLINES, INC.

By _____
Name: Leslie A. Benners
Title: Managing Director
Corporate Finance and Banking

REQUISITION NO. 2002-01

TO: The Bank of New York,
as Trustee

FROM: American Airlines, Inc.

Ladies and Gentlemen:

You are irrevocably requested to draw on any Construction Account(s) of the Project Fund, established pursuant to Section 5.01 of the Master Indenture of Trust dated as of July 1, 2002 (the "Master Indenture") between the New York City Industrial Development Agency (the "Agency") and yourself, a check in the amount of $3,500,000, payable to the order of the New York State Department of Taxation and Finance for the purpose of paying the cost set forth on Schedule A attached hereto. All capitalized terms used in this Requisition not otherwise defined herein shall have the meanings given such terms by Schedule A to the Master Indenture.

I hereby certify, to the best of my knowledge after due investigation and inquiry that:

(i) I am an Authorized Representative of the Lessee;

(ii) the number of this Requisition is 2002-01;

(iii) the items of cost set forth on Schedule A attached hereto are correct and proper under Section 5.02(b) of the Indenture and each such item has been properly incurred as an item of Project Costs;

(iv) none of the items for which this Requisition is made has formed the basis for any disbursement heretofore made from the Project Fund;

(v) no item of cost set forth on Schedule A attached hereto was incurred or paid prior to October 10, 1999;

(vi) the payee set forth above and the amount stated in Schedule A attached hereto are true and correct and each item of cost so stated is due and owing;

(vii) the item stated in Schedule A attached hereto is a proper charge against the Project Fund;

(viii) no Event of Default exists and is continuing under the IDA Lease Agreement or any other Security Documents nor any condition, event or act which, with notice or lapse of time or both, would constitute such an Event of Default;

(ix) I have no knowledge of any vendor's lien, materialmen's lien, mechanic's lien or security interest which should be satisfied or discharged before the payment herein requested is made or which will not be discharged by such payment;

(x) each item of cost set forth in Schedule A attached hereto is consistent in all material respects with the Applicable Tax Certificate; and (1) (A) the amounts to be paid will not be used for any Project Cost which is not Qualified Cost (other than Costs of Issuance), or (B) of the total amount of the Net Proceeds of the Bonds theretofore applied and then being requisitioned, no less than ninety-five percent (95%) has been or will be expended for Qualified Costs and no more than five percent (5%) has been or will be expended for Nonqualified Costs; (2) the Project Cost was incurred on the Leased Facilities, and (3) the Project Cost has not otherwise been reimbursed, funded or paid.

(xi) if the payment herein requested is a reimbursement to the Lessee for costs or expenses of the Lessee incurred by reason of work performed or supervised by officers, partners or employees of the Lessee or any Affiliate, such officers, partners or employees were specifically employed for such purpose and the amount to be paid does not exceed the actual cost thereof to the Lessee and such costs or expenses will be treated by the Lessee on its books as a capital expenditure in conformity with generally accepted accounting principles applied on a consistent basis;

(xii) if the payment herein requested is for an item of Facility Equipment, upon payment of the cost thereof The City of New York will be the owner thereof and such Facility Equipment will be subject to the IDA Lease Agreement;

(xiii) such item of cost for which payment is herein requested is chargeable to the capital account of the Project for Federal income tax purposes, or would be so chargeable either with an election by the Lessee or but for the election of the Lessee to deduct the amount of such item.

Attached to this Requisition is a copy of the bills or invoices evidencing and supporting this Requisition.

Dated: July 31, 2002

AMERICAN AIRLINES, INC.

By: Leslie M Benners

Name: Leslie M. Benners

Title: Managing Director
Corporate Finance and Banking

SCHEDULE A TO REQUISITION NO. 2002-01

Project Cost	Category Payee	Amount
State Bond Fee	New York State Department of Taxation and Finance	$3,500,000

REQUISITION NO. 2002-02

TO: The Bank of New York,
as Trustee

FROM: American Airlines, Inc.

Ladies and Gentlemen:

You are requested to draw on the Construction Accounts of the Project Fund, established pursuant to Section 5.01 of the Indenture of Trust dated as of July 1, 2002 (the "Indenture") between the New York City Industrial Development Agency (the "Agency") and yourself, a check or wire transfer, as specified, in the amounts, payable to the order of American Airlines, Inc. for the purpose of reimbursing American Airlines, Inc. for those costs incurred as agent set forth on Schedule A attached hereto. All capitalized terms used in this Requisition not otherwise defined herein shall have the meanings given such terms by Schedule A to the Master Indenture.

I hereby certify, to the best of my knowledge after due investigation and inquiry that:

(i) I am an Authorized Representative of the Lessee;

(ii) the number of this Requisition is 2002-02;

(iii) the items of cost set forth on Schedule A attached hereto are correct and proper under Section 5.02(b) of the Indenture and each such item has been properly paid or incurred as an item of Project Costs;

(iv) none of the items for which this Requisition is made has formed the basis for any disbursement heretofore made from the Project Fund;

(v) no item of cost set forth on Schedule A attached hereto was incurred or paid prior to October 10, 1999, except for certain "preliminary expenditures" for architectural, engineering, surveying, soil testing and similar costs incurred prior to commencement of construction of the Facility;

(vi) the payees and amounts stated in Schedule A attached hereto are true and correct and each item of cost so stated is due and owing;

(vii) each such item stated in Schedule A attached hereto is a proper charge against the Project Fund;

(viii) no Event of Default exists and is continuing under the IDA Lease Agreement or any other Security Documents nor any condition, event or act which, with notice or lapse of time or both, would constitute such an Event of Default;

(ix) I have no knowledge of any vendor's lien, materialmen's lien, mechanic's lien or security interest which should be satisfied or discharged before the payment herein requested is made or which will not be discharged by such payment;

(x) each item of cost set forth in Schedule A attached hereto is consistent in all material respects with the Applicable Tax Certificate; and (1) (A) the amounts to be paid will not be used for any Project Cost which is not Qualified Cost (other than Costs of Issuance), or (B) of the total amount of the Net Proceeds of the Bonds theretofore applied and then being requisitioned, no less than ninety-five percent (95%) has been or will be expended for Qualified Costs and no more than five percent (5%) has been or will be expended for Nonqualified Costs; (2) the Project Cost was incurred on the Leased Facilities, and (3) the Project Cost has not otherwise been reimbursed, funded or paid.

(xi) if the payment herein requested is a reimbursement to the Lessee for costs or expenses of the Lessee incurred by reason of work performed or supervised by officers, partners or employees of the Lessee or any Affiliate, such officers, partners or employees were specifically employed for such purpose and the amount to be paid does not exceed the actual cost thereof to the Lessee and such costs or expenses will be treated by the Lessee on its books as a capital expenditure in conformity with generally accepted accounting principles applied on a consistent basis;

(xii) if the payment herein requested is for an item of Facility Equipment, upon payment of the cost thereof The City of New York will be the owner thereof and such Facility Equipment will be subject to the IDA Lease Agreement;

(xiii) such item of cost for which payment is herein requested is chargeable to the capital account of the Project for Federal income tax purposes, or would be so chargeable either with an election by the Lessee or but for the election of the Lessee to deduct the amount of such item.

Attached to this Requisition is a copy of the bills or invoices evidencing and supporting this Requisition.

Dated: July 31, 2002

AMERICAN AIRLINES, INC.

By: _____

Name: Douglas B. Perry

Title: Principal, Corporate Finance

Schedule A To Requisition 2002-02

Day of Closing Payments for Cost of Issuance

Project Cost	Category Payee		Series 2002A Amount	Series 2002B Amount	Total Amount
Cost of Issuance U/W Counsel	Chapman & Cutler		150,493.40	476,562.45	627,055.85
		Wire to:	Harris Bank ABA: 071-000-288 Account: 208-9522 Ref: 2075372		
Cost of Issuance Gate Demand Study	SH&E		10,800.00	34,200.00	45,000.00
		Wire to:	Fleet Bank ABA: 021-202-162 Account: 101176929 Ref: AA/JFK 0003068-IN		
Cost of Issuance Bond Counsel	Winston & Strawn		144,332.40	457,052.60	601,385.00
		Wire to:	Fleet Bank ABA: 021-200-339 Account: 2103-56-2878 Ref: 90570-0015		
Cost of Issuance Consultant	Claudia Wagner		21,600.00	68,400.00	90,000.00
		Wire to:	JPMorgan Chase ABA: 021-000-021 Account: 035610414965 Ref: AA/JFK Invoice		
Cost of Issuance Trustee	Bank of New York		1,800.00	5,700.00	7,500.00
		BofNY debit			
Cost of Issuance Trustee Counsel	Emmet Marvin & Martin		2,400.00	7,600.00	10,000.00
		BofNY debit			
Cost of Issuance PA Legal	PANYNJ		120,000.00	380,000.00	500,000.00
		Wire to:	Citibank ABA: 021-000-089 Account: 40570569 Ref: AA/JFK 2002		
Issuer Fee	NYCIDA		612,840.00	1,940,160.00	2,553,000.00
		Wire to:	JPMorgan Chase ABA: 021-000-021 Account: 033-008418 Ref: AA/JFK 2002		
		Grand Total	1,064,265.80	3,369,675.05	4,433,940.85

Law Offices of

CHAPMAN AND CUTLER

Theodore S. Chapman
1877-1943
Henry E. Cutler
1879-1959

111 West Monroe Street, Chicago, Illinois 60603-4080
Telephone (312) 845-3000
Facsimile (312) 701-2361
chapman.com

Salt Lake City
50 South Main Street
Salt Lake City, Utah 84144
(801) 533-0066

Steven N. Wohl
Telephone: (312) 845-3739
Facsimile: (312) 516-1939
E-Mail: wohl@chapman.com

July 25, 2002

Via Fed Express

Mr. Doug Perry
American Airlines, Inc.
4333 Amon Carter Blvd.
Mail Drop 5662
Fort Worth, TX 76155

Re: New York City Industrial Development Agency
Special Facility Revenue Bonds
American Airlines (JFK Project) Series 2002
AA File No.: FIN 19980008

Dear Doug:

Enclosed is our bill for time charged and disbursements incurred in connection with the above-referenced matter. It represents time in our system through July 22. We will send a supplemental bill for our remaining time and charges (which may include time and charges prior to July 22, but not yet in the system) after the closing. Our bill is payable by check or wire transfer. Our wire transfer information is as follows:

Harris Bank ABA Number: 071 000 288
Chapman and Cutler Special Account Number:
Please reference Matter No.: 2075372

Please feel free to call should any questions arise.

Very truly yours,

CHAPMAN AND CUTLER

By _____
Steven N. Wohl

Enclosure
cc: Tim Skipworth

1385929.01.01
SNW/7/25/02

Law Offices of
CHAPMAN AND CUTLER

P.O. Box 71291
Chicago, Illinois 60694
Telephone 312 845-3000

Matter No. 2075372

Employer Identification No.
36-2153731

Date: July 25, 2002

Statement

No. 22-9311

Please Return This Page With Payment

Mr. Doug Perry
American Airlines, Inc.
4333 Amon Carter Blvd.
Mail Drop 5662
Fort Worth, TX 76155

Re: FOR PROFESSIONAL SERVICES rendered as Underwriter's Counsel in connection with the New York City Industrial Development Agency Special Facility Revenue Bonds - American Airlines (JFK Project) Series 2002.....$580,931.50
(AA File # FIN 19980008)

SEPARATELY CHARGED ITEMS:

Photocopy	$ 1,994.40
Binding	156.90
Fax Communications	777.00
Document Production	2,146.82
Phone	616.28
Express Mail	535.36
Messenger Service	39.20
Westlaw	643.95
Travel	32,036.97
Other Travel	548.25
Business Meals	1,237.30
Digital Copies	4,428.00
Secy/Staff Overtime	875.61
Phone	52.78
Credit Card Phone Calls	35.53
SUBTOTAL	$46,124.35
TOTAL	$627,055.85

cc: Tim Skipworth

1385926.01.03

INQUIRIES TO:
SH&E Finance Department
90 Park Avenue, New York, NY 10016
(212) 682-8455 FAX (212) 986-1825

SH&E

American Airlines, Inc.
4333 Amon Carter Blvd
Mail Drop 5662

Fort Worth, TX 76155
CONTACT: Ms. Dorinda Pannazzo

INVOICE NO.: 0003068-IN
DATE: 05/31/02
CLIENT CODE: AA5186

PAGE NO.: 1

FOR PROFESSIONAL SERVICES RENDERED:	HOURS	AMOUNT
JFK Gate Demand Study		

2ND SCHEDULED PAYMENT - ISSUANCE OF DRAFT REPORT
LETTER OF AGREEMENT DATED JANUARY 4, 2002

AMOUNT DUE 45000.00

REMIT TO:
Simat, Helliesen & Eichner, Inc.
P.O. Box 23708
Newark, NJ 07189

PAYMENT DUE UPON RECEIPT
PLEASE NOTE CLIENT CODE AND INVOICE NUMBER ON CHECK STUB

WIRE TRANSFER INSTRUCTIONS
Account Title: Simat, Helliesen & Eichner, Inc.
Account #: 101176929
Transit ABA#: 021202162
Bank Name: Fleet Bank
210 Main Street
Hackensack, NJ 07602

WINSTON & STRAWN

200 PARK AVENUE, NEW YORK, NY 10166-4193
212-294-6700

35 W. WACKER DRIVE
CHICAGO, IL 60601-9703
312-558-5600

1400 L STREET, N.W.
WASHINGTON, DC 20005-3502
202-371-5700

444 FLOWER STREET
LOS ANGELES, CA 90071-2911
213-615-1700

43 RUE DU RHONE
1204 GENEVA, SWITZERLAND
41-22-317-75-75

21 AVENUE VICTOR HUGO
75116 PARIS, FRANCE
33-1-53-64-82-82

New York City Industrial Development Agency
110 William Street
New York, NY 10038

July 2, 2002

Invoice No.: 1712520 **Client/Matter No.: 090570-00015**

American Airlines, Inc.
John F. Kennedy International Airport

For professional services rendered to the New York City Industrial Development Agency as Bond Counsel in connection with the issuance, sale and delivery of $500,000,000 New York City Industrial Development Agency Special Facility Revenue Bonds (American Airlines, Inc. John F. Kennedy International Airport Project), $120,000,000 Series 2002A and $380,000,000 Series 2002B.

FEES AND DISBURSEMENTS through 07/22/02 **$ 601,385.00**

Our bank remittance instructions for wire transfer are the following:
Winston & Strawn
Fleet Bank, N.A.
150 Broadway
New York, NY 10006
acct. #2103 56 2878
ABA #021200339
Please make reference to account number 090570-00015
Invoice No.: 1712520
Federal Tax Identification No.: 36-1975990

LAW OFFICES OF
CLAUDIA WAGNER

JAY E. ADOLF
COUNSEL

277 BROADWAY
SUITE 1300
NEW YORK, NY 10007
TEL 212-619-2052
FAX 212-619-6351

Barbara A. Schuster
Corporate Affairs
American Airlines
MD 5575
P.O. Box 619616
Dallas/Fort Worth Airport, TX 75261-9616

STATEMENT OF ACCOUNT

For Professional Services Rendered in connection with financing of American Airlines terminal at John F. Kennedy International Airport

FEE: **$90,000**

INVOICE

THE BANK OF NEW YORK

NEW YORK'S FIRST BANK - FOUNDED 1784 BY ALEXANDER HAMILTON

DEBT OPERATIONS BILLING DEPARTMENT
101 BARCLAY STREET - 12W
NEW YORK, NY 10286
(212) 815-2790

Dated: July 30, 2002

Issue: New York City Industrial development Agency
Special Facility Revenue Bonds, Series 2002a & Series 2002B American Airlines Project

American Airlines
4333 Amon Carter Blv
Fort Worth, TX 76155
Attn: Doug Perry

Database: ACT
CID#:

Please make payable to: The Bank of New York

Type of Services Rendered: Trustee, Registrar, Paying Agent

Administration Fee First Year Trustee Fee for Services Rendered 7/31/02-7/30/03	$	6,500.00
Acceptance Fee	$	1,000.00
Total:	$	7,500.00

YOUR PAYMENT IS DUE AT THIS TIME. A LATE FEE WILL BE IMPOSED ON PAYMENTS NOT RECEIVED WITHIN 30 DAYS.

EMMET, MARVIN & MARTIN, LLP
COUNSELLORS AT LAW

120 BROADWAY
NEW YORK, NEW YORK 10271

(212) 238-3000

FAX: (212) 238-3100
http://www.emmetmarvin.com

177 MADISON AVENUE
MORRISTOWN, NEW JERSEY 07960
(973) 538-5600
FAX: (973) 538-6448

1351 WASHINGTON BOULEVARD
STAMFORD, CONNECTICUT 06902-4543
(203) 425-1400
FAX: (203) 425-1410

Valerie A. Molinaro
Of Counsel
(212) 238-3133
EMAIL: vmolinaro@emmetmarvin.com

July 26, 2002

VIA MESSENGER
Beverly Gardner-Samuel
The Bank of New York
101 Barclay Street, Floor 21W
New York, New York 10286

Re: $500,000,000 New York City Industrial Development Agency
Special Facility Revenue Bonds (American Airlines, Inc
John F. Kennedy International Airport Project) Series 2002

Dear Beverly:

Here is the breakdown of hours and billable rates which was used to compute the fee portion of our July 26, 2002 bill for professional services:

18.10 hours of attorney time (Irving C. Apar - Partner) at $476.89 per hour $8,631.71

1.30 hours of attorney time (Valerie A. Molinaro - Of Counsel) at $370.00 per hour $481.00

11.00 hours of paralegal time at $150.00 per hour $1,650.00

30.40 hours TOTALS $10,762.71

The total accrued charges (fees and disbursements) were $10,987.91 and the total invoice amount (fees and disbursements) was $10,000.00.

With respect to the work performed during the above-referenced time, please see the text of our July 26, 2002 invoice, which I believe is fairly detailed. If you or anyone else require any further information, please don't hesitate to call me.

Very truly yours,

EMMET, MARVIN & MARTIN, LLP

By: Valerie A. Molinaro
Valerie A. Molinaro

VAM:al

cc: Irving C. Apar
John Doherty

EMMET, MARVIN & MARTIN, LLP
COUNSELLORS AT LAW

120 BROADWAY
NEW YORK, NEW YORK 10271
(212) 238-3000
FAX: (212) 238-3100
http://www.emmetmarvin.com

177 MADISON AVENUE
MORRISTOWN, NEW JERSEY 07960
(973) 538-5600
FAX: (973) 538-6448

1351 WASHINGTON BOULEVARD
STAMFORD, CONNECTICUT 06902-4543
(203) 425-1400
FAX: (203) 425-1410

Valerie A. Molinaro
(212) 238-3133
EMAIL: vmolinaro@emmetmarvin.com

July 26, 2002

Gloria Rosario
The Bank of New York
101 Barclay Street - Floor 7E
New York, New York 10286

Re: $500,000,000 New York City Industrial Development Agency
Special Facility Revenue Bonds (American Airlines, Inc.
John F. Kennedy International Airport Project) Series 2002

Dear Gloria:

Enclosed is our **revised** bill for professional services rendered to The Bank of New York in connection with the above-referenced matter.

Please call me if you have any questions.

Very truly yours,

EMMET, MARVIN & MARTIN, LLP

By: Valerie A. Molinaro
Valerie A. Molinaro

VAM:al
Enclosure
cc: Beverly Gardner-Samuel

193928_1.DOC

EMMET, MARVIN & MARTIN, LLP
COUNSELLORS AT LAW

120 BROADWAY
NEW YORK, NEW YORK 10271

(212) 238-3000
FAX: (212) 238-3100

The Bank of New York
101 Barclay Street
Floor 21W
New York, New York 10286
Attention: Beverly Gardner-Samuel
Assistant Treasurer

July 26, 2002

File: 94900.27

REVISED INVOICE

TO PROFESSIONAL SERVICES AND ADVICE RENDERED from August 22, 2001 through July 31, 2002 to The Bank of New York, as Trustee (the "Trustee") for $500,000,000 aggregate principal amount of Special Facility Revenue Bonds (American Airlines, Inc. John F. Kennedy International Airport Project) Series 2002 (the "Bonds") of New York City Industrial Development Agency (the "Agency") issued pursuant to a Master Trust Indenture, dated as of July 1, 2002, between the Agency and the Trustee, as supplemented by a First Series Supplemental Indenture of Trust and a Second Series Supplemental Indenture of Trust, each dated as of July 1, 2002 (as supplemented, the "Indenture"), including review of the Indenture, review of an IDA Lease Agreement, review of a Guaranty Agreement, review of a Continuing Disclosure Agreement, review of various other agreements, preparation of a certificate of the Trustee, preparation of an opinion of counsel, review of closing documents, including officers' certificates and opinions of counsel, conferences with counsel to the Company and counsel to the underwriters, attendance at a pre-closing on July 30, 2002 at the offices of Winston & Strawn, Bond Counsel, and various other matters.....$10,000.00

FED I.D. #13-5054210

PAYMENT BY CHECK: PLEASE RETURN THE COPY OF THIS STATEMENT TOGETHER WITH YOUR REMITTANCE SO THAT THE PROPER CREDIT CAN BE MADE.

PAYMENT BY WIRE: WIRE FUNDS TO THE BANK OF NEW YORK, ONE WALL STREET, NEW YORK, N.Y. 10286, ABA ROUTING NO. 021000018, FOR THE ACCOUNT OF: EMMET, MARVIN & MARTIN, LLP ATTORNEY PROFESSIONAL ACCOUNT NO. 6302249758

THE PORT AUTHORITY OF NY & NJ

INVOICE

July 31, 2002

American Airlines, Inc.
4333 Amon Carter Blvd.
Fort Worth, TX 76155

Port Authority Fee Pursuant to Section 9.2 of Consent Agreement

Pursuant to Section 9.2 of the Consent to Subleases and Leasehold Mortgage Agreement, dated as of July 31, 2002 (the "Consent Agreement") by and among American Airlines, Inc. (the "Lessee"), AMR Corporation, the New York City Industrial Development Agency, the Bank of New York and The Port Authority of New York and New Jersey (the "Port Authority"), and in connection with the Financing Transaction (as defined in the Consent Agreement), the Lessee is required to pay to the Port Authority the sum of Five Hundred Thousand Dollars and No Cents ($500,000.00) upon delivery of an executed copy of the Consent Agreement to the Lessee and the execution thereof by all parties, which is scheduled take place on July 31, 2002.

$500,000.00

Please remit to:

Port Authority Citibank N.A. Account # 40570569, ABA # 021000089

ida New York City Industrial Development Agency

July 31, 2002

American Airlines, Inc.
4333 Amon Carter Boulevard
Fort Worth, Texas 76155

In connection with the New York City Industrial Development Agency's Series 2002 Special Facility Revenue Bond financing for the benefit of American Airlines, Inc., the following fees are due and owing New York City Industrial Development Agency:

IDA Financing Fee:	$2,525,000*
(Less Application Fee)	($ 2,500)
Agency Counsel Fee:	$ 30,000
Agency Annual Administrative Fee:	$ 500
TOTAL	$2,553,000 *

Payable to NEW YORK CITY INDUSTRIAL DEVELOPMENT AGENCY

*Additional IDA financing fee may be due and owing pursuant to American Airlines, Inc. letter to IDA, dated July 31, 2002, attached hereto.

ida New York City Industrial Development Agency

WIRE TRANSFER INSTRUCTIONS FOR IDA

ACCOUNT TITLE:	**NEW YORK CITY INDUSTRIAL DEVELOPMENT AGENCY**
ACCOUNT NUMBER:	
NAME OF BANK:	**CHASE MANHATTAN BANK**
ABA NUMBER:	**021 000 021**

Note: For purposes of tracking the transfer, please secure the following information from the sender:

CONFIRMATION No. _____

• 110 William Street, New York, NY 10038 • 212. 619. 5000

REQUISITION NO. 2002-03

TO: The Bank of New York,
as Trustee

FROM: American Airlines, Inc.

Ladies and Gentlemen:

You are requested to draw on the Construction Accounts of the Project Fund, established pursuant to Section 5.01 of the Indenture of Trust dated as of July 1, 2002 (the "Indenture") between the New York City Industrial Development Agency (the "Agency") and yourself, a check or wire transfer, as specified, in the amounts, payable to the order of American Airlines, Inc. for the purpose of reimbursing American Airlines, Inc. for those costs incurred as agent set forth on Schedule A attached hereto. All capitalized terms used in this Requisition not otherwise defined herein shall have the meanings given such terms by Schedule A to the Master Indenture.

I hereby certify, to the best of my knowledge after due investigation and inquiry that:

(i) I am an Authorized Representative of the Lessee;

(ii) the number of this Requisition is 2002-03;

(iii) the items of cost set forth on Schedule A attached hereto are correct and proper under Section 5.02(b) of the Indenture and each such item has been properly paid or incurred as an item of Project Costs;

(iv) none of the items for which this Requisition is made has formed the basis for any disbursement heretofore made from the Project Fund;

(v) no item of cost set forth on Schedule A attached hereto was incurred or paid prior to October 10, 1999, except for certain "preliminary expenditures" for architectural, engineering, surveying, soil testing and similar costs incurred prior to commencement of construction of the Facility;

(vi) the payees and amounts stated in Schedule A attached hereto are true and correct and each item of cost so stated is due and owing;

(vii) each such item stated in Schedule A attached hereto is a proper charge against the Project Fund;

(viii) no Event of Default exists and is continuing under the IDA Lease Agreement or any other Security Documents nor any condition, event or act which, with notice or lapse of time or both, would constitute such an Event of Default;

(ix) I have no knowledge of any vendor's lien, materialmen's lien, mechanic's lien or security interest which should be satisfied or discharged before the payment herein requested is made or which will not be discharged by such payment;

(x) each item of cost set forth in Schedule A attached hereto is consistent in all material respects with the Applicable Tax Certificate; and (1) (A) the amounts to be paid will not be used for any Project Cost which is not Qualified Cost (other than Costs of Issuance), or (B) of the total amount of the Net Proceeds of the Bonds theretofore applied and then being requisitioned, no less than ninety-five percent (95%) has been or will be expended for Qualified Costs and no more than five percent (5%) has been or will be expended for Nonqualified Costs; (2) the Project Cost was incurred on the Leased Facilities, and (3) the Project Cost has not otherwise been reimbursed, funded or paid.

(xi) if the payment herein requested is a reimbursement to the Lessee for costs or expenses of the Lessee incurred by reason of work performed or supervised by officers, partners or employees of the Lessee or any Affiliate, such officers, partners or employees were specifically employed for such purpose and the amount to be paid does not exceed the actual cost thereof to the Lessee and such costs or expenses will be treated by the Lessee on its books as a capital expenditure in conformity with generally accepted accounting principles applied on a consistent basis;

(xii) if the payment herein requested is for an item of Facility Equipment, upon payment of the cost thereof The City of New York will be the owner thereof and such Facility Equipment will be subject to the IDA Lease Agreement;

(xiii) such item of cost for which payment is herein requested is chargeable to the capital account of the Project for Federal income tax purposes, or would be so chargeable either with an election by the Lessee or but for the election of the Lessee to deduct the amount of such item.

Attached to this Requisition is a copy of the bills or invoices evidencing and supporting this Requisition.

Dated: July 31, 2002

AMERICAN AIRLINES, INC.

By: _____

Name: Douglas B. Perry

Title: Principal, Corporate Finance

Schedule A To Requisition 2002-03

First Reimbursement of Project Costs

Project Cost	Category Payee	Series 2002A Amount	Series 2002B Amount	Total Amount
A&E	American Airlines	14,187,613.99	44,927,444.29	59,115,058.28
Construction	American Airlines	56,425,274.04	178,680,034.46	235,105,308.50
Consulting	American Airlines	5,391,255.63	17,072,309.49	22,463,565.12
Equipment	American Airlines	860,018.06	2,723,390.51	3,583,408.57
Land Improvements	American Airlines	9,221,989.08	29,202,965.40	38,424,954.48
Soil Testing	American Airlines	114,121.41	361,384.46	475,505.87
	Grand Total	86,200,272.20	272,967,528.62	359,167,800.82

Wire to American Airlines at:

JPMorgan Chase
ABA: 021-000-021
Account:
Attn: Tina DoCampo
Ref: JFK Bond Req 2002-03

Invoice	Invoice Date	Amount	Vendor	Category	Bond	Req#	Proj#
5426	10/28/1999	72,028.18	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1007056	11/15/1999	101,953.89	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1017352	12/29/1999	96,483.34	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1022558	1/24/2000	309,493.63	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1026979	2/18/2000	185,345.77	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1039976	3/17/2000	197,041.61	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1062693	4/18/2000	5,265.08	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1062645	4/19/2000	237,960.45	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1079003	5/19/2000	200,904.97	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1038879	5/23/2000	314,030.17	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1085903	6/9/2000	162,041.24	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
02CM1090353	6/22/2000	6,459.17	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1090353	6/22/2000	165,328.39	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1104097	7/19/2000	162,433.33	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1108493	8/17/2000	141,267.98	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1117334	9/18/2000	178,467.98	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1144356	10/18/2000	157,914.24	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1164395	11/10/2000	161,630.02	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1176483	12/8/2000	145,072.68	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1190566	1/24/2001	157,108.65	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1208335	2/16/2001	113,087.95	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1218972	3/19/2001	138,456.96	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1231703	4/17/2001	148,365.66	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1242329	5/16/2001	124,818.07	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1260970	6/13/2001	169,402.97	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1283117	7/13/2001	151,172.46	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1304412	8/8/2001	130,017.70	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1320571	9/10/2001	124,922.12	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1332537	10/11/2001	129,319.77	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1354528	11/14/2001	132,535.30	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1382483	1/21/2002	147,786.35	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1410839	2/20/2002	148,871.08	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1440491	4/26/2002	155,171.18	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
1456244	5/17/2002	148,363.78	CARTER & BURGESS, INC.	A&E	JFK 02	01-001	JFK700C
9035A	1/31/2000	5,760.00	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
9035B	2/29/2000	31,059.93	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
9035C	3/31/2000	51,852.16	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
0041A	4/30/2000	24,982.50	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
9035D	4/30/2000	67,270.98	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
9035E	5/31/2000	76,810.44	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
9035F	6/30/2000	143,120.51	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
02CM9035G	7/31/2000	129,978.99	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
9035G	7/31/2000	34,698.48	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
9035H	8/31/2000	136,497.01	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
351	9/30/2000	86,760.97	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
41	10/23/2000	39,012.26	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
9035J	10/30/2000	81,071.76	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
9035K	11/30/2000	91,312.48	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
9035L	12/31/2000	104,950.61	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
0052CCA	1/31/2001	838.80	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
9035M	1/31/2001	74,230.23	COLE CONSULTING CORP.	A&E	JFK 02	01-001	JFK700C
112265	5/25/2001	608,109.73	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
112266	5/25/2001	43,882.14	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
112371	7/13/2001	340,046.96	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
112523	8/15/2001	386,974.41	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
112539	9/17/2001	189,572.88	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
6	10/8/2001	456,482.00	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
112733	11/1/2001	455,559.52	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
112732	11/9/2001	136,464.86	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
112736	12/10/2001	163,144.62	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
10112738	1/10/2002	474,423.80	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
11112739	1/10/2002	388,365.31	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
12112740	1/11/2002	20,995.04	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
13112885	1/11/2002	12,645.19	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
14112893	1/25/2002	194,739.49	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
15113072	2/4/2002	11,345.83	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
16113074	3/22/2002	226,059.60	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
17113082	4/18/2002	381,912.79	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
18113083	4/18/2002	314,861.78	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
20113089	5/3/2002	206,329.40	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
22113305	5/22/2002	18,528.93	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C

Invoice	Invoice Date	Amount	Vendor	Category	Bond	Req#	Proj#
23113307	5/22/2002	11,524.99	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
24113315	6/6/2002	335,040.99	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
25113316	6/6/2002	428,674.29	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
26113384	6/27/2002	11,760.97	DMJM AVIATION	A&E	JFK 02	01-001	JFK700C
111345	2/2/2000	35,786.03	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111362	2/5/2000	538,888.96	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111541	4/14/2000	1,070,490.41	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111581	5/30/2000	1,821,833.89	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111624	6/7/2000	3,239,805.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111625	6/7/2000	3,045,796.20	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111665	7/31/2000	2,880,529.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111699	8/18/2000	1,963,627.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111696	8/31/2000	368,071.90	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111731	8/31/2000	139,921.25	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111600	9/6/2000	1,426,334.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111766	9/15/2000	75,522.40	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111770	9/30/2000	83,439.29	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111765	10/3/2000	24,130.17	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111864	11/10/2000	103,120.72	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111816	11/16/2000	2,653,476.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111870	11/17/2000	1,525,735.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111872	11/22/2000	214,913.66	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111904	12/12/2000	471,692.34	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111908	12/12/2000	85,139.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111922	12/19/2000	1,710,122.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
111966	1/19/2001	1,879,245.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
02CM112105	2/15/2001	87,308.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112105	2/15/2001	1,350,716.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112152	3/16/2001	27,591.72	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112151	3/20/2001	1,238,942.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112155	3/23/2001	108,726.28	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112159	3/30/2001	57,069.67	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112160	3/30/2001	67,963.91	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112162	3/30/2001	469,104.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112163	3/30/2001	369,507.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112206	4/18/2001	1,184,695.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112205	4/20/2001	116,615.84	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112215	4/27/2001	40,512.58	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112216	4/27/2001	230,958.32	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112257	5/16/2001	375,000.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112259	5/18/2001	645,876.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112315	7/10/2001	133,175.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112316	7/10/2001	73,163.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112379	7/31/2001	35,823.36	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112380	8/7/2001	108,229.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112383	8/8/2001	1,326,575.49	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112531	8/17/2001	21,685.98	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112532	8/17/2001	156,364.70	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112533	8/17/2001	11,920.58	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112536	8/27/2001	439,339.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
37112537	9/4/2001	277,730.77	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
38112540	9/10/2001	448,368.20	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
21112541	9/14/2001	281,250.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
22112543	10/1/2001	315,695.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
23112544	11/1/2001	332,216.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
39112545	11/1/2001	305,766.50	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
40112546	11/1/2001	168,689.66	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
41112731	11/10/2001	494,077.97	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
42112734	11/10/2001	359,603.50	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
24112737	12/10/2001	134,994.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
43112735	12/10/2001	19,198.81	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
44112886	1/9/2002	499,481.52	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
45112887	1/10/2002	11,829.42	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
112819REVISED	1/11/2002	57,758.21	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
46112888	1/11/2002	2,990.03	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
47112889	1/11/2002	40,753.85	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
48112890	1/11/2002	91,566.34	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
50112892	1/11/2002	42,233.92	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
59112895	1/23/2002	496,662.66	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
60112896	1/25/2002	386,339.41	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
61112897	2/5/2002	499,538.93	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C

Invoice	Invoice Date	Amount	Vendor	Category	Bond	Req#	Proj#
25112894	2/15/2002	197,656.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
26	3/18/2002	139,350.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
62113075	3/18/2002	470,759.40	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
63113076	3/18/2002	263,044.98	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
64113077	3/25/2002	19,159.87	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
51113078	4/9/2002	87,928.46	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
52112899	4/9/2002	13,784.55	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
53112900	4/9/2002	843.49	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
54112901	4/9/2002	6,089.31	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
55112902	4/9/2002	957.08	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
56113079	4/9/2002	9,601.21	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
57113080	4/9/2002	3,056.02	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
58113081	4/9/2002	73,489.28	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
65113085	4/19/2002	488,919.37	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
66113086	4/19/2002	213,223.74	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
68113090	5/2/2002	411,635.14	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
75113302	5/21/2002	22,937.51	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
70113304	5/28/2002	103,219.79	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
72113308	5/29/2002	6,290.62	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
74113309	5/29/2002	582.32	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
76113310	5/30/2002	2,232.73	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
77113311	5/30/2002	5,729.57	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
78113312	5/30/2002	2,017.17	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
67113087	6/5/2002	58,656.57	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
71113313	6/6/2002	381,368.59	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
79113314	6/6/2002	457,458.98	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
80113317	6/10/2002	176,842.45	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
81113318	6/14/2002	1,697.21	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
82113319	6/14/2002	2,576.81	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
83113320	6/14/2002	1,015.42	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
85113321	6/14/2002	94,991.47	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
84113377	6/19/2002	51,103.82	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
27113088	6/26/2002	163,194.00	DMJM AVIATION ARCHITECTS & ENG	A&E	JFK 02	01-001	JFK700C
92171	10/12/1999	5,508.10	MUESER RUTLEDGE CONSULTING ENG	A&E	JFK 02	01-001	JFK700C
92172	11/10/1999	33,755.73	MUESER RUTLEDGE CONSULTING ENG	A&E	JFK 02	01-001	JFK700C
92173	12/14/1999	4,863.30	MUESER RUTLEDGE CONSULTING ENG	A&E	JFK 02	01-001	JFK700C
92174	3/13/2000	148.61	MUESER RUTLEDGE CONSULTING ENG	A&E	JFK 02	01-001	JFK700C
712218	1/12/2001	56,400.00	PORT AUTHORITY OF NY & NJ	A&E	JFK 02	01-001	JFK711C
991011	11/17/1999	34,873.77	ROBERT L. HENRY, ARCHITECT P.C	A&E	JFK 02	01-001	JFK700C
20020071	5/10/2002	6,241.42	ROBERT ST. C GASKIN	A&E	JFK 02	01-001	JFK700C
20020072	5/10/2002	18,675.08	ROBERT ST. C GASKIN	A&E	JFK 02	01-001	JFK700C
19171	11/22/1999	15,000.00	ROWAN WILLIAMS DAVIES & IRWIN	A&E	JFK 02	01-001	JFK700C
1	12/14/2001	908,083.00	SIEMENS DEMATIC	A&E	JFK 02	01-001	JFK700B
2	1/11/2002	348,231.00	SIEMENS DEMATIC	A&E	JFK 02	01-001	JFK700B
3	2/8/2002	603,519.00	SIEMENS DEMATIC	A&E	JFK 02	01-001	JFK700B
4	3/15/2002	959,644.00	SIEMENS DEMATIC	A&E	JFK 02	01-001	JFK700B
5	4/12/2002	701,962.00	SIEMENS DEMATIC	A&E	JFK 02	01-001	JFK700B
9819217	3/15/2000	33,064.60	SIMCO ENGINEERING, P.C.	A&E	JFK 02	01-001	JFK700C
10851	11/17/1999	7,881.87	VIGNELLI ASSOCIATES DESIGNERS	A&E	JFK 02	01-001	JFK700C
10911	1/23/2001	26,391.77	VIGNELLI ASSOCIATES DESIGNERS	A&E	JFK 02	01-001	JFK700C
		59,115,058.28					

Invoice	Invoice Date	Amount	Vendor	Category	Bond	Req#	Proj#
JFK1199	12/8/1999	21,327.54	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
JFK1299	1/10/2000	19,856.03	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
JFK0100	2/8/2000	20,620.72	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100192667	3/7/2000	20,735.56	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100308384	4/10/2000	23,956.73	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
JFK0400	5/7/2000	23,330.77	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100482011	6/8/2000	50,006.47	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100573318	7/11/2000	31,984.36	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100651458	8/8/2000	32,005.37	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100752854	9/11/2000	32,005.37	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100863096	10/11/2000	30,505.04	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100985843	11/8/2000	29,884.28	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
101100249	12/8/2000	29,884.29	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100140268	2/8/2001	36,488.67	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100569215	5/7/2001	32,511.40	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100606771	5/16/2001	3,404.88	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100737507	6/7/2001	35,916.28	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100737520	6/7/2001	3,977.27	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100880416	7/9/2001	35,916.28	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
101015790	8/7/2001	3,977.27	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
101015791	8/7/2001	35,916.28	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
101171382	9/10/2001	3,977.27	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
101171395	9/10/2001	35,916.28	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
101295496	10/5/2001	35,916.28	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
101295503	10/5/2001	3,977.27	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
101688299	1/7/2002	35,916.28	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100258168	2/7/2002	36,410.03	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100407852	3/7/2002	36,410.03	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100704936	5/6/2002	39,363.66	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100864903	6/7/2002	30,361.35	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100864906	6/7/2002	7,030.62	AA CAPITALIZED SALARIES	Construction	JFK 02	01-001	JFK700C
100393173	3/5/2002	2,389.64	AA TRAINING & CONSULTING	Construction	JFK 02	01-001	JFK703C
1	3/29/2002	83,662.60	ADVANCED ELECTRONIC SOLUTIONS	Construction	JFK 02	01-001	JFK705C
2	4/29/2002	10,000.00	ADVANCED ELECTRONIC SOLUTIONS	Construction	JFK 02	01-001	JFK705C
3	6/30/2002	20,000.00	ADVANCED ELECTRONIC SOLUTIONS	Construction	JFK 02	01-001	JFK705C
3214	9/11/2001	88,164.75	AERO SNOW REMOVAL CORP.	Construction	JFK 02	01-001	JFK705C
528149110	7/24/2000	2,429,750.00	AON RISK SERVICES	Construction	JFK 02	01-001	JFK701C
7482	5/12/2000	3,115.00	BAER'S RUG & LINOLEUM CO., INC	Construction	JFK 02	01-001	JFK705C
1	4/15/2000	29,750.00	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK705C
2	6/2/2000	63,175.00	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK705C
3	7/20/2000	224,829.00	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK705C
4	9/1/2000	107,246.00	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK705C
5	10/1/2000	175,000.00	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK705C
6	11/10/2000	150,000.00	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK705C
7	1/1/2001	200,000.00	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK705C
8	2/1/2001	100,493.00	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK705C
1	2/1/2001	14,800.00	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK707C
2	3/1/2001	29,666.62	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK707C
9	4/1/2001	28,876.00	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK705C
3	5/1/2001	77,991.25	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK707C
10	6/1/2001	24,089.25	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK705C
4	7/10/2001	19,306.92	CDS MESTEL CONSTRUCTION CORPOR	Construction	JFK 02	01-001	JFK707C
383829	1/31/2000	3,838.29	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK700C
84158104	3/21/2000	2,637.96	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK700C
84202324	4/5/2000	13.68	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
84338476	5/26/2000	3,914.13	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
84389806	6/15/2000	157.82	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
84491989	7/24/2000	27.84	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
84635834	9/12/2000	18,940.28	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
84694085	9/29/2000	2,306.15	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
84712962	10/6/2000	702.98	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
85037731	2/1/2001	28,495.61	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
85064207	2/12/2001	5,359.00	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
85088656	2/21/2001	18.55	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
85205809	4/3/2001	3,267.97	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
85252305	4/23/2001	2,617.26	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
85285602	5/7/2001	95.91	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
84334420	5/25/2001	28.83	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
85366899	6/13/2001	480.72	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
85381994	6/20/2001	4,209.10	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
85384825	6/21/2001	200.37	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C

Invoice	Invoice Date	Amount	Vendor	Category	Bond	Req#	Proj#
85482151	8/10/2001	174.45	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
84767536	10/24/2001	6,529.23	COMPUCOM SYSTEMS INC	Construction	JFK 02	01-001	JFK703C
100704490	5/6/2002	35,670.58	EDS Information Systems	Construction	JFK 02	01-001	JFK703C
100724017	5/10/2002	598.99	EDS Information Systems	Construction	JFK 02	01-001	JFK700B
100786770	5/21/2002	111.61	EDS Information Systems	Construction	JFK 02	01-001	JFK700B
100786748	5/21/2002	39,079.04	EDS Information Systems	Construction	JFK 02	01-001	JFK703C
387411	12/28/2000	2,548.00	EMPIRE TECHNOLOGIES, LLC	Construction	JFK 02	01-001	JFK707C
1287	11/16/1999	5,714.52	EVENTION, INC.	Construction	JFK 02	01-001	JFK700C
1	2/28/2002	441,571.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
2	2/28/2002	421,200.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
3	2/28/2002	435,600.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
4	4/15/2002	353,889.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
5	4/22/2002	296,451.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
15462	4/30/2002	19,458.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
15589	4/30/2002	75,356.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
15590	4/30/2002	60,519.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
2030	5/15/2002	397,662.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
72031	6/6/2002	435,180.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
82032	6/10/2002	57,250.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
215591	6/11/2002	114,715.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
215592	6/11/2002	105,153.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
92033	6/11/2002	445,500.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
102034	6/12/2002	222,603.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
115800	6/25/2002	447,246.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
215801	6/28/2002	449,604.00	INFRA-STRUCTURES, INC.	Construction	JFK 02	01-001	JFK703C
17501563	6/14/2002	175,015.63	INNOVATIVE ELECTRONIC DESIGNS	Construction	JFK 02	01-001	JFK705C
7001	8/23/2000	22,203.00	JETBRIDGE TECHNOLOGY, INC.	Construction	JFK 02	01-001	JFK705C
16001	10/12/2000	24,870.00	JETBRIDGE TECHNOLOGY, INC.	Construction	JFK 02	01-001	JFK705C
16003	12/20/2000	52,428.00	JETBRIDGE TECHNOLOGY, INC.	Construction	JFK 02	01-001	JFK705C
54560	12/18/2000	10,524.20	JML COMPUTER PRODUCTS INC.	Construction	JFK 02	01-001	JFK707C
SC162252	11/12/1999	2,744.68	LSG/SKY CHEFS, INC.	Construction	JFK 02	01-001	JFK700C
4901240	9/1/2000	31,200.00	LSG/SKY CHEFS, INC.	Construction	JFK 02	01-001	JFK707C
4901398	1/11/2001	1,305.69	LSG/SKY CHEFS, INC.	Construction	JFK 02	01-001	JFK707C
4901682	8/20/2001	1,083,965.00	LSG/SKY CHEFS, INC.	Construction	JFK 02	01-001	JFK707C
38401	12/27/2000	510,616.85	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
38607	3/30/2001	801,989.87	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
38695	5/22/2001	1,069,483.35	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
38770	7/12/2001	1,488,592.68	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
38839	8/10/2001	649,024.44	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
38905	9/17/2001	1,039,161.45	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
38978	10/16/2001	1,554,210.29	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
39102	12/17/2001	885,127.51	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
39166	1/14/2002	535,805.26	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
39222	1/31/2002	850,987.46	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
39293	3/20/2002	1,353,557.20	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
39367	5/6/2002	774,160.60	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
39399	5/21/2002	762,980.77	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
39436	6/10/2002	602,389.57	MECCON INDUSTRIES, INC.	Construction	JFK 02	01-001	JFK705C
063000ERR	6/30/2000	7,607.50	OGDEN NEW YORK SERVICES, INC.	Construction	JFK 02	01-001	JFK705C
102169801	10/23/2000	1,262.63	OTTO HERRMANN, INC.	Construction	JFK 02	01-001	JFK705C
77025000A	4/13/2000	770,250.00	OWNER CONTROLLED INSURANCE PRO	Construction	JFK 02	01-001	JFK701C
0053120IN	5/8/2001	11,000.00	OXFORD AIRPORT TECHNICAL SERVI	Construction	JFK 02	01-001	JFK705C
413053	11/29/2000	12,284.00	PEM ELECTRICAL CORP.	Construction	JFK 02	01-001	JFK700B
E68970	7/25/2001	3,984.16	PORT AUTHORITY OF NY & NJ	Construction	JFK 02	01-001	JFK711C
A121300778	12/13/2000	2,165.00	ROLM SEIMENS	Construction	JFK 02	01-001	JFK703C
B032600550	3/26/2001	3,840.00	ROLM SEIMENS	Construction	JFK 02	01-001	JFK703C
B042400588	4/24/2001	6,235.20	ROLM SEIMENS	Construction	JFK 02	01-001	JFK703C
B042600617	4/26/2001	3,840.00	ROLM SEIMENS	Construction	JFK 02	01-001	JFK703C
B050300683	5/3/2001	5,840.00	ROLM SEIMENS	Construction	JFK 02	01-001	JFK703C
B050900560	5/9/2001	3,600.00	ROLM SEIMENS	Construction	JFK 02	01-001	JFK703C
B050900566	5/9/2001	640.00	ROLM SEIMENS	Construction	JFK 02	01-001	JFK703C
B052300456	5/23/2001	1,280.00	ROLM SEIMENS	Construction	JFK 02	01-001	JFK703C
552	3/12/2001	7,285.00	S.V. VIDEO SERVICE, INC.	Construction	JFK 02	01-001	JFK705C
10034975	11/8/1999	33,429.78	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100462969	12/8/1999	31,242.69	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100544861	1/10/2000	23,905.47	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100121824	2/11/2000	40,278.11	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100198203	3/8/2000	34,165.15	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
10030878	4/10/2000	31,237.50	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100439858	5/23/2000	28,179.54	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100495877	6/14/2000	35,244.39	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C

Invoice	Invoice Date	Amount	Vendor	Category	Bond	Req#	Proj#
100617578A	7/25/2000	43,918.82	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100668987	8/14/2000	29,172.78	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
1007789636	9/18/2000	37,852.18	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100960302	11/1/2000	56,581.98	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
101007213	11/14/2000	44,118.92	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
101172028A	12/28/2000	34,265.57	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100045002	1/16/2001	32,116.39	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100244341	3/2/2001	42,012.55	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100369920	3/29/2001	46,032.18	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100512176	4/27/2001	54,009.85	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100698813	5/31/2001	53,270.35	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100803011	6/21/2001	24,027.02	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100963283	7/23/2001	21,420.85	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
101046369	8/16/2001	10,389.46	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
101144105	8/31/2001	4,547.96	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK700B
101208153	9/18/2001	5,958.48	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK700B
101208156	9/18/2001	15,461.82	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
101336862	10/15/2001	1,028.00	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK700B
101336866	10/15/2001	12,055.05	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
101685891	1/4/2002	1,380.32	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK700B
100110450	1/17/2002	1,535.01	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK700B
100704407	5/6/2002	1,044.56	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
100786963	5/21/2002	5,783.68	SABRE TECHNOLOGIES SOLUTIONS	Construction	JFK 02	01-001	JFK703C
24514980	11/9/2000	14,819.37	SHAW CONTRACT FLOORING	Construction	JFK 02	01-001	JFK705C
99NY397	12/7/1999	1,630.20	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
99NY398	12/7/1999	900.00	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY143	2/26/2000	74,402.04	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY228	4/27/2000	42,516.66	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY237	5/8/2000	42,595.33	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY238	5/8/2000	43,173.21	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY267	5/30/2000	7,500.00	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY281	6/3/2000	36,140.04	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY282	6/3/2000	47,417.07	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY285	6/5/2000	15,204.73	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY287A	6/5/2000	1,796.09	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY288	6/6/2000	2,989.97	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
1	6/6/2000	58,500.00	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY302	6/20/2000	9,889.82	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY306	6/26/2000	41,799.56	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY309	8/2/2000	12,821.71	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY341	8/2/2000	18,368.51	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY342	8/2/2000	2,221.58	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY343	8/2/2000	3,583.36	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY344	8/2/2000	228.62	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY345	8/2/2000	1,269.68	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY413	9/13/2000	138,830.65	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY445	10/17/2000	108,609.57	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY467	11/16/2000	81,497.21	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
00NY498	12/8/2000	68,505.60	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
01NY132	2/8/2001	433,890.00	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
01NY172	3/22/2001	6,973.83	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
02CM01NY172	3/22/2001	65,450.96	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
01NY186	4/5/2001	56,823.84	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
01NY199	4/24/2001	537.55	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
01NY200	4/24/2001	5,940.00	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
01NY207	5/9/2001	214,231.35	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
01NY219	5/18/2001	82,979.28	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
01NY242	6/19/2001	297,197.10	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
01NY260	7/19/2001	123,639.68	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
01NY279	8/15/2001	204,064.20	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
8	9/24/2001	137,170.54	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
01Ny324	10/15/2001	663,738.30	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
01SS738	12/14/2001	230,723.01	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
02SS108	1/8/2002	332.22	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
02SS122	1/29/2002	202,788.22	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
12	3/18/2002	157,034.59	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
02SS254	5/6/2002	230,918.58	SPECIALTY SERVICE CONTRACTING	Construction	JFK 02	01-001	JFK702C
501	1/2/2001	649.50	SV VIDEO SERVICE, INC.	Construction	JFK 02	01-001	JFK705C
1	5/31/2001	21,824.00	TBL CONSTRUCTION CORP	Construction	JFK 02	01-001	JFK705C
13	7/24/2001	44,519.97	TBL CONSTRUCTION CORP	Construction	JFK 02	01-001	JFK705C
14	7/24/2001	2,090.00	TBL CONSTRUCTION CORP	Construction	JFK 02	01-001	JFK705C

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15	7/24/2001	2,904.00	TBL CONSTRUCTION CORP	Construction	JFK 02	01-001	JFK705C
16	7/24/2001	9,372.00	TBL CONSTRUCTION CORP	Construction	JFK 02	01-001	JFK705C
200013AA	1/10/2002	24,000.00	TBL CONSTRUCTION CORP	Construction	JFK 02	01-001	JFK705C
200025	2/13/2002	15,400.00	TBL CONSTRUCTION CORP	Construction	JFK 02	01-001	JFK705C
200058	4/25/2002	179,795.00	TBL CONSTRUCTION CORP	Construction	JFK 02	01-001	JFK705C
200073	6/10/2002	37,070.00	TBL CONSTRUCTION CORP	Construction	JFK 02	01-001	JFK705C
E66778	4/10/2001	2,988.22	THE PORT AUTHORITY OF NEW YOR	Construction	JFK 02	01-001	JFK711C
E67306	5/9/2001	2,459.52	THE PORT AUTHORITY OF NEW YOR	Construction	JFK 02	01-001	JFK711C
E67996	5/24/2001	2,404.96	THE PORT AUTHORITY OF NEW YOR	Construction	JFK 02	01-001	JFK711C
E68585	6/25/2001	2,983.90	THE PORT AUTHORITY OF NEW YOR	Construction	JFK 02	01-001	JFK711C
E70589	11/26/2001	3,618.78	THE PORT AUTHORITY OF NEW YOR	Construction	JFK 02	01-001	JFK711C
E70329	12/17/2001	2,942.72	THE PORT AUTHORITY OF NEW YOR	Construction	JFK 02	01-001	JFK705C
E71050	3/11/2002	2,064.03	THE PORT AUTHORITY OF NEW YOR	Construction	JFK 02	01-001	JFK711C
E71051	3/11/2002	1,350.05	THE PORT AUTHORITY OF NEW YOR	Construction	JFK 02	01-001	JFK711C
E71308	3/26/2002	2,229.12	THE PORT AUTHORITY OF NEW YOR	Construction	JFK 02	01-001	JFK711C
E71309	3/26/2002	2,784.00	THE PORT AUTHORITY OF NEW YOR	Construction	JFK 02	01-001	JFK711C
E71692	5/6/2002	2,485.66	THE PORT AUTHORITY OF NEW YOR	Construction	JFK 02	01-001	JFK711C
E71693	5/6/2002	2,889.73	THE PORT AUTHORITY OF NEW YOR	Construction	JFK 02	01-001	JFK711C
100221588	3/17/2000	35,994.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
100377283	5/4/2000	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
100482200	6/8/2000	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
100559176	7/6/2000	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
E61343	7/11/2000	2,900.55	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
E62055	8/16/2000	3,776.25	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
E62576	9/7/2000	4,690.81	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
E62894	9/22/2000	3,570.57	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
706318	10/16/2000	57,105.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
706319	10/16/2000	16,920.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
100964574	11/2/2000	17,997.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
E64355	11/22/2000	2,225.76	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
101087158	12/5/2000	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
E65255	12/27/2000	3,460.71	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
101192711	1/5/2001	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
713612	1/25/2001	59,925.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
E65804	2/15/2001	3,005.44	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
E66309	3/12/2001	3,197.17	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
718656	4/20/2001	54,720.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
723266	6/21/2001	131,760.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
100867089	7/6/2001	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
1J0143	10/1/2001	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
1K0143	11/1/2001	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
1K0144	11/1/2001	21,372.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
1L0145	12/1/2001	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
1L0146	12/1/2001	21,372.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
2A0141	1/1/2002	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
2A0142	1/1/2002	21,372.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
733674	1/28/2002	61,200.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
280141	2/1/2002	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
2B0142	2/1/2002	21,372.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
200142	3/1/2002	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
2C0141	3/1/2002	21,372.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
735835	3/18/2002	78,120.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
100704582	4/1/2002	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
2D0142	4/1/2002	21,372.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
2.00E+138	5/1/2002	21,372.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
2.00E+144	5/1/2002	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
2F0144	6/1/2002	21,372.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
2F147	6/1/2002	5,999.00	THE PORT AUTHORITY OF NEW YORK	Construction	JFK 02	01-001	JFK711C
518O890880301	3/16/2001	619,515.42	VERIZON	Construction	JFK 02	01-001	JFK711C
1118	2/12/2001	845.00	VISCOM INFOTECH SOLUTIONS	Construction	JFK 02	01-001	JFK707C
1119	2/12/2001	714.00	VISCOM INFOTECH SOLUTIONS	Construction	JFK 02	01-001	JFK707C
199402AJFK	11/28/2000	221.91	VISIONTRON	Construction	JFK 02	01-001	JFK705C
1017R17A	11/7/1999	71,000.00	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
02CM1023R23	4/30/2000	133,000.00	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1032R32	1/31/2001	1,781,454.78	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1033R33	2/28/2001	4,898,953.69	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1034R34	3/31/2001	5,756,546.42	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1035R35	4/30/2001	5,838,124.95	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
170504	4/30/2001	114,712.01	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1036R36	5/31/2001	6,800,076.14	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
170505	5/31/2001	316,919.55	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C

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1705R17	5/31/2001	898,219.68	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1037R37	6/30/2001	10,186,563.71	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1705R06	6/30/2001	836,093.95	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1038R38	7/31/2001	15,707,057.62	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1705R07	7/31/2001	1,141,073.97	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1039R39	8/31/2001	9,929,509.30	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1008R8	8/31/2001	1,065,618.64	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1040R40	9/30/2001	15,746,329.50	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1705R09	9/30/2001	572,354.83	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1041R41	10/31/2001	15,162,114.21	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1705R10	10/31/2001	572,937.00	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1041R42	11/30/2001	15,165,982.47	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1705R11	11/30/2001	512,510.00	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1043R43	12/31/2001	14,147,988.87	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1705R12	12/31/2001	83,700.00	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1044R44	1/31/2002	9,874,330.97	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1045R45	2/28/2002	15,347,241.78	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1705R14	2/28/2002	4,417.26	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1046R46	3/31/2002	13,453,262.47	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1047R47	4/30/2002	17,645,968.67	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
1048R48	5/31/2002	19,950,337.25	VRH/TORCON A JOINT VENTURE	Construction	JFK 02	01-001	JFK705C
		235,105,308.50					

Invoice	Invoice Date	Amount	Vendor	Category	Bond	Req#	Proj#
642200	7/7/2000	378.78	ARBILL GLOVE & SAFETY PRODUCTS	Consulting	JFK 02	01-001	JFK700C
142731	1/11/2002	414.00	ARBILL GLOVE & SAFETY PRODUCTS	Consulting	JFK 02	01-001	JFK705C
20721	10/31/1999	20,711.76	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
20739	11/30/1999	5,053.22	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
20760	12/31/1999	15,347.19	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
20851	5/31/2000	119,142.10	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
20867	6/30/2000	111,840.17	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
20904	8/31/2000	38,662.57	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
20924	9/30/2000	23,026.14	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
20934	10/31/2000	23,386.41	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
20956	11/30/2000	53,292.61	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
20974	12/31/2000	30,336.84	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
20991	1/31/2001	40,264.31	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
21018	2/28/2001	47,865.12	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
21031	3/31/2001	23,538.08	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
21052	4/30/2001	22,614.55	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
21092	5/31/2001	37,560.99	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
21104	6/30/2001	30,551.31	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
21119	7/31/2001	36,409.24	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
21136	8/31/2001	73,622.71	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
21159	9/30/2001	35,887.82	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
21284	2/28/2002	71,372.56	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
21286	2/28/2002	52,176.58	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
21287	2/28/2002	150,000.00	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
21326	3/31/2002	24,215.69	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
21329	3/31/2002	7,831.22	ARGUS CONSULTING, INC.	Consulting	JFK 02	01-001	JFK700F
17125	2/29/2000	6,049.85	CCM CONSULTING GROUP	Consulting	JFK 02	01-001	JFK700C
17132	7/3/2000	13,871.21	CCM CONSULTING GROUP	Consulting	JFK 02	01-001	JFK700C
17134	11/29/2000	15,173.29	CCM CONSULTING GROUP	Consulting	JFK 02	01-001	JFK700C
17138	3/30/2001	6,322.22	CCM CONSULTING GROUP	Consulting	JFK 02	01-001	JFK700C
17141	7/11/2001	960.00	CCM CONSULTING GROUP	Consulting	JFK 02	01-001	JFK700B
17142	9/5/2001	7,255.90	CCM CONSULTING GROUP	Consulting	JFK 02	01-001	JFK705C
17144	10/5/2001	3,437.16	CCM CONSULTING GROUP	Consulting	JFK 02	01-001	JFK705C
17148	1/31/2002	10,022.88	CCM CONSULTING GROUP	Consulting	JFK 02	01-001	JFK705C
17153	5/3/2002	6,562.06	CCM CONSULTING GROUP	Consulting	JFK 02	01-001	JFK705C
46488	2/8/2002	464.88	JIM GOWIN/GLOBAL COMMUNICATION	Consulting	JFK 02	01-001	JFK703C
56268	2/11/2002	562.68	JIM GOWIN/GLOBAL COMMUNICATION	Consulting	JFK 02	01-001	JFK703C
75492	2/18/2002	754.92	JIM GOWIN/GLOBAL COMMUNICATION	Consulting	JFK 02	01-001	JFK703C
83422	2/23/2002	834.22	JIM GOWIN/GLOBAL COMMUNICATION	Consulting	JFK 02	01-001	JFK703C
2022	2/28/2002	8,400.00	JIM GOWIN/GLOBAL COMMUNICATION	Consulting	JFK 02	01-001	JFK703C
41418	3/5/2002	414.18	JIM GOWIN/GLOBAL COMMUNICATION	Consulting	JFK 02	01-001	JFK703C
65763	3/12/2002	657.63	JIM GOWIN/GLOBAL COMMUNICATION	Consulting	JFK 02	01-001	JFK703C
991122	11/16/1999	6,287.00	JOSEPH HUTCHINS & COMPANY, INC	Consulting	JFK 02	01-001	JFK700C
0220PF	5/27/2002	2,600.00	R.C. GEISSLER	Consulting	JFK 02	01-001	JFK700B
0224PF	6/24/2002	2,600.00	R.C. GEISSLER	Consulting	JFK 02	01-001	JFK700B
0202RE	6/26/2002	2,207.19	R.C. GEISSLER	Consulting	JFK 02	01-001	JFK700B
2737	1/11/2000	4,121.13	RICONDO & ASSOCIATES	Consulting	JFK 02	01-001	JFK700C
6470	11/23/1999	71,686.16	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
6696	2/9/2000	370,932.80	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
6779	2/29/2000	74,872.41	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
6849	3/31/2000	94,998.67	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
6961	4/30/2000	69,774.95	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
7013	5/31/2000	52,658.44	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
7101	6/30/2000	72,874.28	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
7181	7/31/2000	36,594.87	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
7270	8/31/2000	37,481.64	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
7384	9/30/2000	39,239.32	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
7454	10/31/2000	42,679.07	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
7612	11/30/2000	31,647.04	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
7619	11/30/2000	1,675.26	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK707C
7671	12/31/2000	28,526.02	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
7739	1/31/2001	32,990.60	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
7807	1/31/2001	12,436.90	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK707C
7856	2/28/2001	36,082.49	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
7847	2/28/2001	680.00	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK707C
8017	3/31/2001	59,937.20	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8109	4/30/2001	35,552.97	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8237	5/31/2001	34,011.90	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8232	5/31/2001	297.61	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK707C
8299	6/30/2001	26,088.78	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8265	6/30/2001	5,778.02	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK707C

Invoice	Invoice Date	Amount	Vendor	Category	Bond	Req#	Proj#
8387	7/31/2001	60,667.15	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8395	7/31/2001	344.57	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK707C
8523	8/31/2001	22,357.19	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8520	8/31/2001	15,022.28	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK707C
8639	9/30/2001	17,507.63	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8637	9/30/2001	2,320.37	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK707C
8720	10/24/2001	51,212.66	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8721	10/24/2001	1,944.99	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK707C
8733	11/7/2001	33,340.77	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8886	11/23/2001	38,153.56	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8889	11/23/2001	58,658.98	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
0008900SEV	11/23/2001	26,287.91	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8901	11/30/2001	3,383.15	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8902	11/30/2001	9,281.72	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8973	12/24/2001	83,258.18	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8974	12/24/2001	4,241.12	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8977	12/24/2001	3,258.28	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8978	12/24/2001	27,182.99	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
8979	12/24/2001	9,182.50	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9042	1/24/2002	86,272.56	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9043	1/24/2002	20,441.60	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9044	1/24/2002	59,542.11	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9050	1/31/2002	14,601.44	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK707C
9125	2/22/2002	64,352.29	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9131	2/22/2002	39,767.01	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9129	2/25/2002	5,167.81	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9135	2/28/2002	7,445.00	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9204	3/25/2002	7,030.77	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9208	3/25/2002	51,623.38	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9209	3/25/2002	8,755.99	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9201	3/25/2002	4,710.61	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK707C
9281	4/24/2002	1,829.69	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9282	4/24/2002	77,077.14	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9286	4/24/2002	14,676.55	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9289	4/24/2002	1,316.41	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9285	4/24/2002	13,334.11	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK707C
9367	5/24/2002	71,994.43	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
9370	5/24/2002	7,261.24	SILVESTER TAFURO DESIGN, INC.	Consulting	JFK 02	01-001	JFK700C
607501	3/31/1998	151,727.33	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607502	4/30/1998	234,845.85	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607503	5/31/1998	201,246.50	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607504	6/30/1998	224,454.56	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607505	7/31/1998	435,036.31	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607506	8/31/1998	652,401.01	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607507	9/30/1998	681,618.81	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607508	10/31/1998	655,061.94	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607509	11/30/1998	474,644.23	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607510	12/31/1998	683,686.18	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607511	1/31/1999	791,324.96	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607512	2/28/1999	1,026,574.71	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607513	3/31/1999	1,514,553.27	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607514	4/30/1999	1,435,439.76	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607515	5/31/1999	1,368,277.08	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607516	6/30/1999	1,431,216.47	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607517	7/31/1999	1,076,669.49	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607518	9/15/1999	1,207,251.83	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607519	10/15/1999	1,518,470.91	TAMS CONSULTANTS, INC.	Consulting	JFK 01	01-001	JFK700C
607519	11/16/1999	1,849,467.82	TAMS CONSULTANTS, INC.	Consulting	JFK 02	01-001	JFK700C
607521	12/16/1999	772,954.52	TAMS CONSULTANTS, INC.	Consulting	JFK 02	01-001	JFK700C
607522	2/9/2000	40,752.46	TAMS CONSULTANTS, INC.	Consulting	JFK 02	01-001	JFK700C
AAJFK0701	8/15/2001	6,802.00	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C
AAJFK0201	8/20/2001	4,525.00	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C
AAJFK0401	8/20/2001	3,180.00	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C
AAJFK0501	8/20/2001	4,430.00	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C
AAJFK1200	8/20/2001	11,225.00	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C
AAJFK0801	8/31/2001	7,957.50	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C
AAJFK20901	9/30/2001	13,112.50	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C
AAJFKPH10901	10/2/2001	12,785.00	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C
AAJFK21001	10/31/2001	25,042.50	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C
AAJFK21101	11/30/2001	30,333.63	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C
AAJFK21201	12/31/2001	27,740.00	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C

Invoice	Invoice Date	Amount	Vendor	Category	Bond	Req#	Proj#
AAJFK2010202	2/28/2002	29,284.91	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C
AAJFK20302	4/26/2002	9,592.50	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C
AAJFK20402	4/30/2002	16,797.28	THE CTR FOR AIRPORT MNGT, LLC	Consulting	JFK 02	01-001	JFK707C
98JFK0102	11/1/1998	27,611.99	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
98JFK0101	12/7/1998	21,884.42	TRANSSOLUTIONS, LLC	Consulting	JFK 01	01-001	JFK700C
98JFK0103	2/1/1999	23,784.00	TRANSSOLUTIONS, LLC	Consulting	JFK 01	01-001	JFK700C
98JFK0104	2/28/1999	29,027.05	TRANSSOLUTIONS, LLC	Consulting	JFK 01	01-001	JFK700C
98JFK0105	3/31/1999	18,952.50	TRANSSOLUTIONS, LLC	Consulting	JFK 01	01-001	JFK700C
98JFK0106	4/30/1999	16,631.75	TRANSSOLUTIONS, LLC	Consulting	JFK 01	01-001	JFK700C
98JFK0107	5/31/1999	5,798.00	TRANSSOLUTIONS, LLC	Consulting	JFK 01	01-001	JFK700C
98JFK0108	6/30/1999	8,284.00	TRANSSOLUTIONS, LLC	Consulting	JFK 01	01-001	JFK700C
98JFK0109	7/31/1999	4,265.50	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
99JFK0201	7/31/1999	4,859.08	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
99JFK0202	8/31/1999	13,155.75	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
99JFK0203	9/30/1999	423.00	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
98JFK0110	10/31/1999	5,388.00	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
99JFK0204	10/31/1999	9,638.00	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
98JFK0111	12/31/1999	11,706.00	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
98JFK0112	1/31/2000	19,020.00	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
98JFK0113	2/28/2000	37,205.00	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
99JFK0205	2/28/2000	11,350.00	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
98JFK0114	3/31/2000	4,385.00	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
99JFK0206	3/31/2000	35,980.00	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
98JFK0115	4/30/2000	1,050.00	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
99JFK0207	4/30/2000	10,689.31	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
98JFK0116	5/31/2000	17,130.00	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
98JFK0117	6/30/2000	1,899.04	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK700C
01JFK0301	9/30/2001	1,500.00	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK707C
01JFK0303	10/31/2001	2,100.00	TRANSSOLUTIONS, LLC	Consulting	JFK 02	01-001	JFK707C
		22,463,565.12					

Invoice	Invoice Date	Amount	Vendor	Category	Bond	Req#	Proj#
182	11/2/1999	33,068.97	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
190	12/3/1999	34,144.62	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
204	1/3/2000	32,210.70	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
221	2/2/2000	32,979.01	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
229	3/3/2000	32,838.26	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
244	4/4/2000	31,172.36	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
258	5/2/2000	33,816.99	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
270	6/1/2000	31,038.17	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
288	7/3/2000	31,309.36	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
304	8/2/2000	34,952.37	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
315	11/7/2000	33,123.39	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
353	11/7/2000	31,851.34	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
354	11/7/2000	32,487.39	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
363	12/5/2000	32,868.53	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
376	1/5/2001	36,688.97	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
388	2/2/2001	31,470.35	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
405	3/6/2001	31,117.09	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
421	4/2/2001	48,163.57	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
445	5/5/2001	33,221.01	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
460	6/4/2001	24,356.60	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
475	7/2/2001	24,593.74	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
493	8/2/2001	24,162.19	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
506	9/5/2001	63,155.36	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
521	10/1/2001	26,654.95	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
531	11/1/2001	37,380.96	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
543	12/3/2001	32,534.74	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
553	1/7/2002	28,975.94	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
565	2/5/2002	38,732.35	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
581	3/6/2002	45,028.10	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
603	4/5/2002	55,246.51	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
617	5/8/2002	56,718.81	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
626	6/5/2002	52,585.43	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
639	7/4/2002	53,068.17	CAGE, INC.	Equipment	JFK 02	01-001	JFK700B
1006	11/16/2000	842,800.00	LOGANLM, LLC	Equipment	JFK 02	01-001	JFK700B
1010	2/2/2001	290,233.00	LOGANLM, LLC	Equipment	JFK 02	01-001	JFK700B
1014	4/13/2001	16,259.00	LOGANLM, LLC	Equipment	JFK 02	01-001	JFK700B
1015	4/17/2001	61,042.00	LOGANLM, LLC	Equipment	JFK 02	01-001	JFK700B
1021	11/29/2001	104,199.00	LOGANLM, LLC	Equipment	JFK 02	01-001	JFK700B
3320201	4/10/2001	31,000.00	MALVESE EQUIPMENT CO., INC.	Equipment	JFK 02	01-001	JFK710C
B053294	1/6/2000	23,352.37	MONAHAN FORD CORPORATION	Equipment	JFK 02	01-001	JFK700C
734222	10/24/2001	84,553.46	SEMLER INDUSTRIES INC	Equipment	JFK 02	01-001	JFK700A
612276	11/16/2001	84,535.11	SEMLER INDUSTRIES INC	Equipment	JFK 02	01-001	JFK700A
612698	12/17/2001	84,553.29	SEMLER INDUSTRIES INC	Equipment	JFK 02	01-001	JFK700A
A061300071	6/13/2000	91.00	SIEMENS INF AND COMM NETWORK	Equipment	JFK 02	01-001	JFK700C
A062900215	6/29/2000	135.00	SIEMENS INF AND COMM NETWORK	Equipment	JFK 02	01-001	JFK700C
A103100536	10/31/2000	11,810.10	SIEMENS INF AND COMM NETWORK	Equipment	JFK 02	01-001	JFK700C
13225	3/5/2002	56,800.00	WIRELESS TECHNOLOGIES, INC.	Equipment	JFK 02	01-001	JFK703C
13257	3/14/2002	494,160.00	WIRELESS TECHNOLOGIES, INC.	Equipment	JFK 02	01-001	JFK703C
13258	3/14/2002	187,469.00	WIRELESS TECHNOLOGIES, INC.	Equipment	JFK 02	01-001	JFK703C
13273	3/19/2002	8,699.94	WIRELESS TECHNOLOGIES, INC.	Equipment	JFK 02	01-001	JFK703C
		3,583,408.57					

Invoice	Invoice Date	Amount	Vendor	Category	Bond	Req#	Proj#
1018R18	12/12/1999	499,571.52	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
1019R19	12/31/1999	364,328.73	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
1020R20	1/31/2000	1,072,255.91	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
1021R21	2/29/2000	2,401,418.24	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
1022R22	3/31/2000	3,286,662.03	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
1023R23	4/30/2000	2,942,021.35	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
1024R24	5/31/2000	2,653,087.79	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
1025R25	6/30/2000	3,611,462.14	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
1026R26	7/31/2000	4,699,985.30	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
1027R27	8/31/2000	3,180,458.17	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
1028R28	9/30/2000	4,595,343.49	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
1029R29	10/31/2000	3,302,961.04	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
1030R30	11/30/2000	1,398,260.05	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
1031R31	12/31/2000	4,417,138.72	VRH/TORCON A JOINT VENTURE	Land Improvements	JFK 02	01-001	JFK705C
		38,424,954.48					

Invoice	Invoice Date	Amount	Vendor	Category	Bond	Req#	Proj#
6544	11/11/1999	24,285.73	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK700C
02CM0006544	11/11/1999	88.00	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK702C
6982	12/3/1999	350.00	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK700C
8172	1/28/2000	10,421.53	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK702C
9313	3/22/2000	11,119.83	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK702C
10637	5/26/2000	35,068.73	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK702C
02CM0010637	5/26/2000	72.54	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK702C
11756	8/3/2000	41,287.97	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK702C
13805	11/21/2000	4,937.53	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK702C
15919	2/25/2001	82,650.00	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK702C
13805	6/28/2001	39,545.02	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK702C
15919	6/28/2001	12,178.29	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK702C
19388	9/5/2001	101,407.66	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK702C
21735	12/27/2001	57,210.80	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK702C
23253	3/29/2002	54,882.24	HYGIENETICS ENVIRONMENTAL SVC	Soil Testing	JFK 02	01-001	JFK702C
		475,505.87					

SECOND SUPPLEMENTAL AGREEMENT
TO LEASE NO. AYB-085R

dated as of November 8, 2005

between

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

and

AMERICAN AIRLINES, INC.

John F. Kennedy International Airport
AMERICAN AIRLINES, INC.
Port Authority Lease No. AYB-085R
Supplement No. 2

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THIS AGREEMENT SHALL NOT BE BINDING UPON THE PORT AUTHORITY UNTIL DULY EXECUTED BY AN EXECUTIVE OFFICER THEREOF AND DELIVERED TO THE LESSEE BY AN AUTHORIZED REPRESENTATIVE OF THE PORT AUTHORITY

John F. Kennedy International Airport
Supplement No. 2
Port Authority Lease No. AYB-085R

SECOND SUPPLEMENTAL AGREEMENT

THIS SECOND SUPPLEMENTAL AGREEMENT, made as of November 8, 2005 by and between THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY (the "**Port Authority**") and AMERICAN AIRLINES, INC., a corporation organized under the laws of the State of Delaware (the "**Lessee**"; collectively with the Port Authority, the "**Parties**"),

WITNESSETH, That:

WHEREAS, the Port Authority and the Lessee as of the first day of August 1976 entered into an agreement of lease bearing Port Authority agreement number AYB-085 covering certain premises at John F. Kennedy International Airport (the "**Airport**") as therein set forth, which agreement of lease, as amended, supplemented and modified, was further amended, supplemented, modified, and restated, in an Amended and Restated Agreement of Lease made as of the 22nd day of December 2000 and bearing Port Authority Agreement No. AYB-085R (as heretofore amended, supplemented, modified and restated, the "**Lease**"); and

WHEREAS, the Lease requires that the Lessee construct on the premises demised under the Lease (the "**Premises**") a passenger terminal building containing fifty-five (55) aircraft loading and unloading gate positions, and the Parties desire to reduce such requirement to thirty-six (36) aircraft loading and unloading gate positions, as more fully provided herein; and

WHEREAS, the Port Authority and the Lessee desire to amend the Lease in certain other respects regarding the scope of the Redevelopment Work and the Lessee's mortgaging of its leasehold interest in the Lease and to otherwise amend and supplement the Lease as provided herein; and

WHEREAS, the Port Authority and the Lessee have entered into a certain *John F. Kennedy International Airport Flight Fees Agreement* dated as of January 1, 2004 (the "**JFK Flight Fees Agreement**") covering the payment of flight fees at the Airport and certain other matters, and the Parties desire to amend the Lease to reflect the terms of the JFK Flight Fees Agreement; and

WHEREAS, the Port Authority and the City of New York have entered into an *Amended and Restated Agreement of Lease of the Municipal Air Terminals* dated as of November 24, 2004 (the "**Amended and Restated Basic Lease**"), which, *inter alia*, extends the term of the Basic Lease through December 31, 2050 and imposes certain requirements with respect to the Port Authority's subleases at the Airport, and the Parties desire to amend the Lease to reflect the terms of the Amended and Restated Basic Lease;

NOW, THEREFORE, in consideration of the covenants and mutual agreements herein contained, the Port Authority and the Lessee hereby agree to supplement and amend the Lease, as follows:

1. Effective Date

Except as otherwise provided herein, this Second Supplemental Agreement shall be effective as of the date hereof (the "**Restructuring Effective Date**").

2. Partial Surrender

Effective as of the Restructuring Effective Date, the Lessee hereby surrenders to the Port Authority those portions of the Premises shown in wave hatching on Exhibit 1.1A (Detail 3, Detail 4) (the "**Restructuring Surrendered Premises**"), and the provisions of Section 1(c) of the Lease as they apply to the Surrendered Premises shall apply equally to the Restructuring Surrendered Premises; provided, that with respect to the Restructuring Surrendered Premises, all references to the Surrender Date shall be deemed to refer to the Restructuring Effective Date, and all references to the Lease shall be deemed to refer to the Lease as supplemented and amended hereby.

3. Amendment to Section 2B, "*Redevelopment of the Premises and Performance of the ACO Work by the Lessee*"

Section 2B of the Lease is hereby amended as follows:

(a) Items (i) and (ii) of subparagraph (2) of paragraph (a) shall be deleted in their entirety and the following new items (i) and (ii) shall be inserted in lieu thereof to read as follows:

> "(i) A three (3) level main passenger terminal building (the "**Main Terminal**") and a two (2) level remote passenger terminal building (the "**Remote Terminal**"), consisting of approximately 1.4 million total square feet of floor space for both buildings and all associated and related areas and facilities, including without limitation Gates (as defined in Section 91 below), stairwells, stairways, escalators, elevators and United States government inspection areas (as described in Section 74 hereof entitled "**Federal Inspection**");
>
> (ii) Not less than thirty-six (36) Gates, of which at least twenty-four (24) Gates are to accommodate wide-body aircraft and of which no more than ten (10) Gates are to accommodate regional jet aircraft;"

(b) Subdivision (aa) of paragraph (d)(9)(ii) of Section 2B is deleted in its entirety, and the following is inserted in its place:

> "(ii) (aa) In addition to subparagraph (9)(i) above and subject to the limitation set forth in subparagraph (9)(ii)(bb) below, in its performance of the Section 2B Work the Lessee shall perform at its cost and expense all appropriate, required and necessary work for the removal of all asbestos, lead, petroleum contamination and other Hazardous Substances from the Site including without limitation the groundwater thereunder, the foregoing to include without limitation the handling, transporting and off-Airport disposal thereof in accordance with applicable law, including without limitation, all applicable Environmental Requirements (including,

if required, disposal of asbestos in a long-term disposal facility at the Lessee's sole cost and expense) and all in a manner satisfactory to the Port Authority, provided, however, that if there is any conflict between applicable laws and Environmental Requirements, the Environmental Requirements shall control."

(c) A new paragraph (r) shall be added at the end of Section 2B of the Lease to read as follows:

"(r) The Expanded Terminal Work

(1) The "**Expanded Terminal Work**" shall mean the construction subsequent to the completion of the Redevelopment Work, on portions of the Premises, including Parcel M, of an expansion of the Main Terminal so that the Main Terminal, as expanded, together with the Remote Terminal shall in the aggregate contain a total of (x) fifty-five (55) Gates, of which at least thirty-five (35) are to accommodate wide-body aircraft and at least two (2) are to accommodate narrow-body aircraft, or, if the Lessee requests, (y) such lesser number of Gates, of such sizes and configurations, as the Port Authority's Director of Aviation shall determine in his or her sole discretion; together with all associated and related areas and facilities, including any off-Premises work, all as more fully provided herein.

The "**Expanded Terminal Work Completion Date**" shall mean the date appearing on the certificate issued by the Port Authority, after the substantial completion of the Expanded Terminal Work, in the manner provided in subparagraph (1) of paragraph (n) in connection with the substantial completion of the Redevelopment Work.

(2) Subject in all events to the provisions of Section 95 of this Lease, in the event that following the completion of the Redevelopment Work the Lessee wishes to elect to expand the Main Terminal pursuant to the provisions of this Section 2B(r), the Lessee shall notify the Port Authority of such election, and shall submit to the Port Authority, for its

approval, the Lessee's comprehensive plan for the construction of the Expanded Terminal Work, including but not limited to renderings, layouts, locations, models, estimated commencement, milestone and completion dates, staging plans and preliminary functional plans for the Expanded Terminal Work (such comprehensive plan, as approved by the Port Authority, the "**Expanded Terminal Work Comprehensive Plan**"). The Lessee shall keep the completion dates, staging plans and preliminary functional plans for the Expanded Terminal Work Comprehensive Plan up to date and shall submit to the Port Authority for its approval all amendments, supplements or modifications thereto, which amendments, supplements or modifications shall not become effective until the same have been approved by the Port Authority.

(3) Without limitation as to the foregoing, the Expanded Terminal Work Comprehensive Plan shall include the relevant items of on-Premises construction enumerated in Section 2B(a)(2) above and shall be in accordance with the requirements relating thereto.

(4) In addition to and without limitation as to the foregoing, the Expanded Terminal Work Comprehensive Plan shall include the relevant items of off-Premises construction enumerated in Section 2B(a)(3) above and shall be in accordance with the requirements relating thereto.

(5) Prior to the commencement of the Expanded Terminal Work, the Lessee shall deliver to the Port Authority complete plans and specifications for the construction thereof, which shall be consistent with the Expanded Terminal Work Comprehensive Plan and which shall otherwise be in accordance with and subject to the provisions of Section 2B(c) relating to the plans and specifications for the Section 2B Work.

(6) The Lessee agrees that the performance of the design and construction of the Expanded Terminal Work shall be at the Lessee's sole cost and expense and shall be subject to and performed in accordance with all the terms,

provisions and conditions of this Lease, and, without limiting any other term or provision of this Lease, also be subject to the terms of and in conformance with the design criteria contained in the Port Authority Tenant Construction Review Manual, as the same may be amended from time to time.

(7) All of the relevant terms and provisions of this Section 2B as they apply to the Section 2B Work shall equally and fully apply to the Expanded Terminal Work; and all of the relevant terms and provisions of this Section 2B as they apply to the Redevelopment Work, including without limitation paragraphs (f), (g), (h), (i), (k), (l), (n)(1), (n)(2), (n)(3) and (q), shall equally and fully apply to the Expanded Terminal Work; and all of the terms and provisions of paragraph (e) of this Section 2B as they apply to the Off-Premises Work shall equally and fully apply to the portion, if any, of the Expanded Terminal Work that is not performed on the Premises; and all of the terms and provisions of paragraph (d)(11) of this Section as they apply to the Redevelopment Work Completion Date shall equally and fully apply to the Expanded Terminal Work Completion Date. In addition to and without limitation as to the generality of the foregoing, and without limitation as to the generality of the Port Authority's rights of approval hereunder, all of the rights and obligations of the Port Authority and the Lessee as they apply to the Redevelopment Work shall equally and fully apply to the Expanded Terminal Work. To the extent any of these rights and obligations terminated on the Section 2B Work Completion Date, including without limitation certain of the Lessee's obligations under Section 2B(1)(2) and Section 59 hereof, such rights and obligations shall be reinstated upon (x) the Port Authority's approval of the Expanded Terminal Work Comprehensive Plan or (y) the Lessee's commencement of any portion of the Expanded Terminal Work, whichever is earlier, and shall terminate on the Expanded Terminal Work Completion Date.

(8) "**Expanded Terminal Work Investment**" shall have the meaning ascribed to the defined term "Redevelopment Work Investment" in Section 91 hereof, except that all references therein to "Redevelopment Work" and "Redevelopment Work Investment" shall, for purposes of this definition, be deemed to refer to "Expanded Terminal Work" and "Expanded Terminal Work Investment", respectively."

4. Amendment to Section 3, "*Term*"

Section 3 of the Lease, entitled "*Term*", as previously amended by Supplement No. 1 to the Lease, is hereby deleted in its entirety and the following new Section 3 is inserted in lieu thereof to read as follows:

"Section 3. Term

(a) The term of the letting under this Lease, as the same shall have commenced under Lease AYB-085, shall expire on December 31, 2036, unless sooner terminated in accordance with the terms and provisions of this Lease.

(b) Notwithstanding the foregoing, in the event that all of the Required Conditions shall not have occurred prior to December 30, 2015, then this Lease and the letting hereunder shall in any event automatically terminate without notice to the Lessee on December 30, 2015. Such termination shall be and operate as a conditional limitation. In the event any court of competent jurisdiction shall not give full and complete effect to this termination provision and its operation as a conditional limitation, the Lessee and the Port Authority agree, as a condition of this Agreement, and not merely as a covenant, that this Agreement and the stated term of the letting hereunder shall nonetheless, from and after the effective date of termination provided above in this paragraph (b), be deemed to have expired.

(c) Notwithstanding the preceding paragraphs (a) and (b), however, in the event that all of the Required Conditions have not occurred by December 31, 2010, then the Port

Authority shall have the option to terminate this Lease and the letting hereunder.

(d) **"Required Conditions"** shall mean all of the following conditions: (i) the Redevelopment Work Completion Date shall have occurred, (ii) the Lessee shall have made a Redevelopment Work Investment in the Premises of not less that Eight Hundred Fifty Million Dollars and No Cents ($850,000,000.00), and (iii) the Premises shall contain not less than thirty-six (36) Gates, of which at least twenty-four (24) are to accommodate wide-body aircraft and of which no more than ten (10) are to be Regional Gates."

5. Amendment to Section 4, *"Rental"*

Section 4 of the Lease, entitled *"Rental"*, is hereby amended as follows:

(a) Paragraph (q) of Subdivision I is deleted in its entirety, and the following is inserted in its place:

"(q) **"Rentals"** shall collectively mean the Ground Rental, the Area IA and IB Building Rental, the Area I Building Rental, the Area II Building Rental and the Additional Land Rental."

(b) Paragraph (a)(3) of Subdivision II is amended by deleting subdivision (ii) in its entirety and inserting the following new subdivisions (ii) and (iii) in its place:

"(ii) Effective on January 1, 2002 and on the first day of each Adjustment Period commencing prior to the Restructuring Effective Date, the Ground Rental shall be further increased for each Adjustment Period as follows: the amount of the Ground Rental set forth in paragraph (a)(1) above, as the same may have been last adjusted under this paragraph (a), shall be multiplied (x) by a percentage composed of ½ of the CPI Percentage Increase calculated using the two Reference Months immediately preceding the first day of the subject Adjustment Period plus 100% and (y) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (x) and (y) shall be and become the Ground Rental in effect for the Adjustment Period.

(iii) Effective on the Restructuring Effective Date, the Ground Rental shall be at the rate of (2.a.) per annum; and on the first day of the Adjustment Period commencing on January 1, 2006, and on the first day of each Adjustment Period occurring thereafter during the remainder of the term of the letting under this Lease, the Ground Rental shall be further increased for each Adjustment Period as follows: the amount of the Ground Rental set forth in the first clause of this subdivision (iii), as the same may have been last adjusted under this subdivision (iii), shall be multiplied (x) by a percentage composed of ½ of the CPI Percentage Increase calculated using the two Reference Months immediately preceding the first day of the subject Adjustment Period plus 100% and (y) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (x) and (y) shall be and become the Ground Rental in effect for the Adjustment Period."

(c) The following new paragraphs (i), (j) and (k) are inserted at the end of Subdivision II to read as follows:

"(i) ***Additional Land Rental.***

(1) "**Additional Land Rental Adjustment Year**" shall mean, as the context requires, (x) the period of twelve months commencing on the first anniversary of the Additional Land Rental Commencement Date and expiring on the day immediately preceding the second anniversary of the Additional Land Rental Commencement Date, (y) each succeeding period of twelve months occurring during the term of the letting under this Lease commencing on each anniversary of the Additional Land Rental Commencement Date and (z) in the event this Lease expires or is terminated on other than the day preceding an anniversary of the Additional Land Rental Commencement Date, the period of less than twelve months commencing on the anniversary of the Additional Land Rental Commencement Date last preceding the date of such

expiration or termination of this Lease and expiring on the date of such expiration or termination.

"**Additional Land Rental Base Year**" shall mean the period from the Additional Land Rental Commencement Date through the day before the first day of the first Additional Land Rental Adjustment Year to occur following the Additional Land Rental Commencement Date (such first Additional Land Rental Adjustment Year, the "**First Additional Land Rental Adjustment Year**").

"**Additional Land Rental Payment Period**" shall mean the period commencing on the Building Rental End Date (such date of commencement, the "**Additional Land Rental Commencement Date**") and expiring on the earliest to occur of (i) the expiration of the term of the letting under this Lease, (ii) the Expanded Terminal Work Completion Date and (iii) the Parcel M Surrender Date, as defined in Section 96 of this Lease.

(2) Effective as of the Additional Land Rental Commencement Date and throughout the Additional Land Rental Payment Period, the Lessee shall pay to the Port Authority an annual rental for the ground area shown in diagonal hatching on Exhibit 95.1 attached hereto and hereby made a part hereof and marked "Exhibit 95.1" (the "**Additional Land Rental**"). The rate of the Additional Land Rental shall be (2.a.)

per annum for the Additional Land Rental Base Year. The Additional Land Rental shall thereafter be adjusted on an annual basis as hereinbelow set forth during the Additional Land Rental Payment Period.

(3) The Port Authority shall ascertain the CPI for the first Reference Month and for each succeeding Reference Month after the same has been published, and the Port Authority shall also determine each CPI Percentage Increase.

(4) Effective on the first day of the First Additional Land Rental Adjustment Year, and on the first day of each following Additional

Land Rental Adjustment Year, the annual rate of the Additional Land Rental shall be increased as follows: the annual rate of the Additional Land Rental payable for the Additional Land Rental Base Year or for the Additional Land Rental Adjustment Year immediately preceding such first day, as the case may be, shall be multiplied by a percentage composed of the sum of (2.a.) of the CPI Percentage Increase as calculated using the (2.a.) immediately preceding such first day; and the amount obtained from the foregoing calculation shall be the Additional Land Rental in effect for such Additional Land Rental Adjustment Year.

(5) The Additional Land Rental hereunder shall be payable by the Lessee in advance on the Additional Land Rental Commencement Date and on the first day of each and every calendar month thereafter occurring during the Additional Land Rental Payment Period, in equal monthly installments, each in the amount of one-twelfth (1/12th) of the annual Additional Land Rental then in effect, provided, however, that if Additional Land Rental is payable hereunder for less than a full calendar month, the amount payable on the first day of such calendar month shall be the amount of the foregoing monthly installment prorated on a daily basis using the actual number of days in the said month.

(j) ***Leasehold Mortgage Rental.***

(1) **"Bond Debt Service"** shall mean the amount payable with respect to the Bonds, including any amounts required to be paid or set aside for any amortization, payment at maturity, redemption (including redemption premium, if any) or retirement of the Bonds (but excluding the principal portion of any purchase price paid in connection with a mandatory or optional tender of the Bonds pursuant to (x) Section 2.05 of the Second Series Supplemental Indenture of Trust dated as of July 1, 2002 between the IDA and the Trustee, (y) Section 2.05 of the Third Series Supplemental Indenture of Trust dated as of November 1, 2005 between the Agency and the

Trustee and (z) any Additional Supplemental Indenture which provides for the optional or mandatory tender for purchase of any Series of Additional Bonds).

"**Leasehold Mortgage**" and "**Leasehold Mortgage Termination Date**" shall have the meanings given such terms in Section 92 of this Lease.

"**Leasehold Mortgage Annual Period**" shall mean the twelve-month period commencing with the Restructuring Effective Date and expiring on the day preceding the first anniversary of the Restructuring Effective Date, and each succeeding twelve-month period thereafter commencing on each anniversary of the Restructuring Effective Date and expiring on the day preceding the next anniversary of the Restructuring Effective Date, and in the event that the Leasehold Mortgage Termination Date shall be other than the last day of a Leasehold Mortgage Annual Period, then in such event "Leasehold Mortgage Annual Period" shall mean the actual number of days from the commencement of the Leasehold Mortgage Annual Period in which the Leasehold Mortgage Termination Date shall occur to and including the Leasehold Mortgage Termination Date.

(2) Effective on the Restructuring Effective Date and continuing thereafter to and including the Leasehold Mortgage Termination Date, the Lessee shall pay to the Port Authority a rental (the "**Leasehold Mortgage Rental**") in the following amounts and at the following times:

(i) For the period commencing on the Restructuring Effective Date to and including the day preceding the first anniversary of the Restructuring Effective Date, on each date that the Lessee is obligated to pay Bond Debt Service (whether in the form of rental payments or otherwise), the Lessee shall pay to the Port Authority an amount equal to (2.a.) of the amount of Bond Debt Service payable on such date, and

(ii) For the period commencing on the first anniversary of the Restructuring Effective Date to and including the day preceding the second anniversary of the Restructuring Effective Date, on each date that the Lessee is obligated to pay Bond Debt Service (whether in the form of rental payments or otherwise), the Lessee shall pay to the Port Authority an amount equal to (2.a.) of the amount of Bond Debt Service payable on such date, and

(iii) For the period commencing on the second anniversary of the Restructuring Effective Date to and including the Leasehold Mortgage Termination Date, on each date that the Lessee is obligated to pay Bond Debt Service (whether in the form of rental payments or otherwise), the Lessee shall pay to the Port Authority an amount equal to (2.a.) of the amount of Bond Debt Service payable on such date; provided, however, that if the Leasehold Mortgage Termination Date is also the Refinancing Leasehold Mortgage Termination Date, no Leasehold Mortgage Rental shall be payable on (as well as after) the Leasehold Mortgage Termination Date, and the Lessee shall instead pay to the Port Authority a one-time Leasehold Mortgage Termination Fee, as provided in paragraph (k) below.

(3) Leasehold Mortgage Rental shall be due and payable to the Port Authority in the amounts and on the dates provided in the preceding subparagraph (j)(2), irrespective of whether the Lessee actually pays the amounts of Bond Debt Service payable on such dates.

(k) ***Leasehold Mortgage Termination Fee.***

Notwithstanding the foregoing, in the event that the Bonds are refinanced, and in connection therewith the Leasehold Mortgage is terminated, the Lessee shall pay to the Port Authority, as additional rent hereunder, a one-time fee (the "**Leasehold Mortgage Termination Fee**") in the amount of (2.a.)

(2.a.) of the Bond Debt Service payable in connection with such refinancing and termination of the Leasehold Mortgage. The Leasehold Mortgage Termination Fee shall be paid to the Port Authority not later than the date of such termination of the Leasehold Mortgage (the "**Refinancing Leasehold Mortgage Termination Date**"). It is understood, consistent with paragraph (j)(2)(iii) above, that if the Bonds are refinanced but the Leasehold Mortgage is not terminated in connection therewith (and thus no Leasehold Mortgage Termination Date or Refinancing Leasehold Mortgage Termination Date occurs in connection with such refinancing), no Leasehold Mortgage Termination Fee shall be payable hereunder in connection with such refinancing transaction, and Leasehold Mortgage Rental shall continue to be payable in accordance with the provisions of the foregoing paragraph (j)."

(d) Subparagraph (2) of paragraph (a) of Subdivision IV of the Lease is deleted in its entirety, and the following new subparagraphs (2) and (3) are inserted in its place:

"(2) For the portion of the term of the letting from January 1, 2001 through the day preceding the Restructuring Effective Date, at the daily rate of $191.78, as appropriately adjusted to reflect any and all adjustments in the Ground Rental pursuant to paragraph (a) of Subdivision II of this Section.

(3) For the portion of the term of the letting from the Restructuring Effective Date through the remainder of the term of the letting, at the daily rate of $234.76, as appropriately adjusted to reflect any and all adjustments in the Ground Rental pursuant to paragraph (a) of Subdivision II of this Section."

6. Amendment to Section 11, "*Insurance*" and Section 13, "*Indemnity and Liability Insurance*"

Notwithstanding anything to the contrary in Section 11 of the Lease, entitled "Insurance", or Section 13 of the Lease, entitled "Indemnity and Liability Insurance", The

City of New York shall be named as an additional insured or loss payee, as applicable, under each policy of insurance procured by the Lessee pursuant to the Lease.

7. Amendment to Section 18, "*Condemnation*"

Section 18 of the Lease, entitled "Condemnation", is deleted in its entirety, and the following is substituted in its place:

"Section 18. Condemnation

(a) ***Definitions***.

The following terms, when used in this Section 18, shall, unless the context shall require otherwise, have the respective meanings given below:

"**Date of Taking**" shall mean the date on which title to all or any portion of the Premises, as the case may be, has vested in any lawful power or authority pursuant to a Taking.

"**Material Part**" with reference to the Premises or with reference to the Public Landing Area shall mean such portion of the Premises or the Public Landing Area as when so taken would leave remaining a balance of the Premises, due either to the area so taken or the location of the part so taken in relation to the part not so taken, that would not under economic conditions and after performance by the Lessee of all covenants, agreements, terms and provisions contained herein or required by law to be observed or performed by the Lessee, permit the restoration of the Premises so as to enable the Lessee to operate, maintain and develop the Premises in accordance with Sections 2 and 5 of this Agreement and to continue to carry on its normal operations at the Airport without using such part taken.

"**Taking**" shall mean the acquisition of a real property interest, through condemnation or the exercise of the power of eminent domain, by any body having a superior power of eminent domain.

(b) ***Permanent Taking of All or a Portion of the Premises and the Public Landing Area.***

(1) If a Taking is permanent and covers the entire Premises, then this Agreement shall, as of the Date of Taking, cease and determine in the same manner and with the same effect as if such date were the original date of expiration hereof.

(2) If a Taking is permanent but covers less than all of the Premises, this Agreement and the term hereof shall continue as to the portion of the Premises not so taken, and the letting as to the part of the Premises so taken shall, as of the Date of Taking, cease and determine in the same manner and with the same effect as if the term of the letting had on that date expired, and the rentals shall be abated as provided in Section 4 hereof.

(3) If a Taking is permanent and covers a Material Part of the Premises or of the Public Landing Area, then the Lessee and the Port Authority shall each have an option exercisable by notice given within ten (10) days after the Date of Taking to terminate the letting hereunder with respect to the Premises not taken, as of the Date of Taking, and such termination shall be effective as if the Date of Taking were the original date of expiration hereof. If the Port Authority exercises this option, it shall purchase from the Lessee the Lessee's leasehold interest (excluding any personal property whatsoever) in the Premises not taken for a consideration equal to the Unamortized Redevelopment Investment, if any, of the Lessee in the Premises not taken. If the letting of the entire Premises is not terminated, the rentals shall be abated in accordance with Section 4 hereof after the date of surrender of possession of the portion of the Premises taken.

(4) If a Taking is permanent but covers less than the entire Premises and the letting of the portion of the Premises not taken is not terminated pursuant to paragraph (b)(3) of this Section, the Lessee shall proceed diligently to restore the remaining part of the Premises not

so taken so that the Premises shall be a complete, operable, self-contained architectural unit in good condition and repair and the proceeds of that portion of any award paid in trust to the Port Authority pursuant to Section 23.3 of the Basic Lease attributable to the improvements on the Premises not so taken shall be made available by the Port Authority to be used by the Lessee for that purpose. The Port Authority shall retain any excess of such award over the costs of the restoration.

(5) If a Taking (x) covers all or "substantially all of a Municipal Air Terminal", as defined in the Basic Lease, and (y) the Basic Lease (with respect to the Airport) and this Agreement are consequently terminated, then the Port Authority shall pay to the Lessee its Unamortized Redevelopment Investment, if any, in the Premises, provided, however, that the Port Authority's foregoing payment obligation to the Lessee shall be limited to a proportionate share (as determined by the Port Authority in its sole discretion following consultation with all of the Port Authority's tenants at the Airport) of the condemnation proceeds available to be paid to the Lessee and the Port Authority's other tenants at the Airport, and provided, further, that such available condemnation proceeds shall be limited to the amount of the condemnation proceeds received from the City remaining after the Port Authority has been compensated for (p) the value of its leasehold interest in the Airport or (q) the sum of the unamortized portion of the Port Authority's investment in improvements at the Airport and any remaining deferred charges for equipment acquired by the Port Authority for use at or in connection with its operation of the Airport, whichever of (p) or (q) is greater (such greater amount, the "**Port Authority Share**"). In making the determination of "proportionate share" provided in the first proviso of the preceding sentence, the Port Authority shall in no event be liable, in any respect, to the Lessee or any other party by reason of such determination or the resulting distribution of proceeds, and the Lessee shall, prior to receipt of any such

distribution, execute and deliver to the Port Authority such form of waiver, release and indemnification as the Port Authority may request. The Lessee understands and accepts that after payment of the Port Authority Share, there may be insufficient condemnation proceeds (or none at all) remaining to pay all or any portion of the Lessee's Unamortized Redevelopment Investment.

(c) ***Temporary Taking of All or Any Part of the Premises or the Public Landing Area.***

(1) If the temporary use of the whole or any part of the Premises shall be taken for any public or quasi-public purpose by any lawful power or authority pursuant to a Taking or by agreement between the Port Authority and such lawful power or authority, (w) the Lessee shall give prompt notice thereof to the Port Authority, (x) the Term shall not be reduced or affected in any way and (y) the Lessee shall continue to pay in full all rentals payable by the Lessee hereunder without reduction or abatement except as set forth in paragraph (c)(2) below.

(2) If a temporary Taking covers all or a Material Part of the Premises or the Public Landing Area, then the Lessee and the Port Authority shall each have an option, exercisable by notice given within ten (10) days after the Date of Taking, to suspend the term of the letting of such of the Premises as are not so taken during the period of the Taking, and, in that event, the rentals for such portion of the Premises not so taken shall abate for the period of the suspension in accordance with Section 4 hereof. If the Port Authority exercises this option, it shall purchase from the Lessee the Lessee's leasehold interest (excluding any personal property whatsoever) in the Premises not taken for the period of suspension for a consideration equal to the Unamortized Redevelopment Investment, if any, of the Lessee in such Premises which is to be amortized over the period of such suspension.

(d) ***Lessee's Cooperation.***

The Lessee shall execute any and all documents that may be reasonably required in order to facilitate collection by the appropriate party of awards or payments covered by this Section.

(e) ***Condemnation Claims by the Lessee.***

To the extent a condemnation claim by the Lessee shall not diminish any claim, award, compensation or damages of or to the City or of or to the Port Authority on account of any condemnation and such condemnation claim is permitted by Section 23 of the Basic Lease, the Lessee may file a claim in a condemnation proceeding."

8. Amendment to Section 20, "*Termination by the Port Authority*"

Paragraph (a) of Section 20 of the Lease, entitled "Termination by the Port Authority", shall be amended by inserting the word "or" immediately after the semi-colon appearing at the end of subparagraph (10) thereof and by inserting the following new subparagraph (11) immediately after said subparagraph (10) thereof to read as follows:

"(11) Any change in the identity of the Lessee hereunder, or the use of the Premises, shall cause the Port Authority to be in breach of the T-4 Covenant, and the condition causing such breach has not been remedied within ninety (90) days after the Lessee has received notice thereof from the Port Authority;"

9. Amendment to Section 23, "*Survival of the Obligations of the Lessee*"

Paragraph (b) of Section 23 of the Lease, entitled "Survival of the Obligations of the Lessee", is hereby amended by redesignating subparagraph "(6)" of paragraph (b) thereof as subparagraph "(8)" and by inserting the following new subparagraphs (6) and (7) immediately after subparagraph (5) thereof to read as follows:

"(6) If the Additional Land Rental Payment Period is in effect immediately prior to

such termination, the amount of the total of all annual Additional Land Rentals (such total being calculated on the basis that the Additional Land Rental Payment Period would have expired on the expiration of the term of the letting under this Lease), less the installments thereof payable prior to the effective date of termination except that the credit to be allowed for the installments payable on the first day of the month in which the termination is effective shall prorated for the part of the month the letting mains in effect on the basis of the actual number of days in said month, and

(7) The amount of the total of all monthly Leasehold Mortgage Rentals (such total being calculated on the basis of the total amount of Outstanding Bonds on the effective date of termination and on the assumption that the Leasehold Mortgage would have terminated on December 31, 2036), less the installments thereof payable prior to the effective date of termination, except that the credit to be allowed for the installments payable on the first day of the month in which the termination is effective shall be prorated for the part of the month the letting remains in effect on the basis of the actual number of days in said month, and".

10. Amendment to Section 45, "*Requesting Airlines at the Airport*"

Section 45 of the Lease, entitled "Requesting Airlines at the Airport", is hereby deleted in its entirety and the following is inserted in its place:

"Section 45. Requesting Airlines at the Airport

(a) ***Best Efforts Accommodations.***

(1) If a Scheduled Aircraft Operator advises the Lessee that it would like to be accommodated by the Lessee at the Premises (any such Scheduled Aircraft Operator being hereinafter called a "**Requesting Airline**"), the Lessee in furtherance of the public interest of having the Premises fully and most effectively utilized shall use its best efforts to

accommodate the request of said Requesting Airline. If the Lessee fails to reach agreement with said Requesting Airline for its accommodation, the Lessee shall advise the Port Authority to such effect. Thereafter, the Port Authority shall make a reasonable determination as to whether the Lessee should accommodate the Requesting Airline as requested and if so, whether there are any limitations on the nature, extent, cost, duration and extent of such accommodation. Such determinations of the Port Authority would take into consideration the then existing utilization of the Premises and the necessity for the flights, schedules, flight times, operations, operating practices and aircraft equipment of the Requesting Airline to be compatible with those of the Lessee, as well as the need for labor harmony. The Lessee agrees to comply with such determinations of the Port Authority made in accordance with this Section.

(2) Any arrangement between the Lessee and the Requesting Airline made in accordance with any of the foregoing provisions shall be submitted by the Lessee to the Port Authority for its consent, which will be in the form of a consent agreement prepared by the Port Authority and to be executed by the Lessee, the Requesting Airline and the Port Authority.

(3) The foregoing shall not be deemed to abrogate, change or affect any restrictions, limitations or prohibitions on assignment, subletting or use of the Premises by others under this Lease and shall not in any manner affect, waive or change any of the provisions thereof.

(b) ***Section 45 Notice to Provide Accommodations.***

(1) If the Port Authority shall make a determination under Section 45(a) above that the Lessee should accommodate the request of a Requesting Airline and the Lessee shall fail to comply with such determination, then, in addition to and without limiting each and every other right the Port Authority has under this Agreement or otherwise, the Port Authority, as to any and each such Requesting Airline, shall have the

right, upon ninety (90) days' notice to the Lessee (such notice, a "**Section 45 Notice to Provide Accommodations**", and such 90-day period, the "**Section 45 Notice Period**") to require the Lessee to make available and provide Accommodations to such Requesting Airline at the Premises as directed by the Port Authority. Each Section 45 Notice to Provide Accommodations shall specify the number and type of Gates that the Port Authority has determined shall be made available by the Lessee to the Requesting Airline.

(2) The Lessee shall, on or before the expiration of each Section 45 Notice Period, provide Accommodations to the Requesting Airline in accordance with the Section 45 Notice to Provide Accommodations. The Lessee shall accept information from the Requesting Airline and/or the Port Authority with respect to the Requesting Airline's scheduled arrivals and departures for each Gate specified in the Section 45 Notice to Provide Accommodations, and the Lessee shall provide Accommodations to the Requesting Airline in such manner so as to properly meet the Requesting Airline's schedule and needs as to each applicable Gate for its said scheduled arrivals and departures. Notwithstanding the foregoing, however, the Lessee shall not be required to provide Accommodations to the Requesting Airline at times that would conflict with the Lessee's present or future aircraft departure and arrival schedules, as shown by the Lessee's present or future schedules set forth in the Official Airline Guides (or successor publication).

(3) Without limiting the foregoing, upon its receipt of a Section 45 Notice to Provide Accommodations the Lessee shall also secure an arrangement with the Requesting Airline in accordance with the Section 45 Notice to Provide Accommodations and shall in good faith negotiate with the Requesting Airline as the Port Authority shall direct for Accommodations in the Premises, all in accordance herewith; provided, however, that so long as the Lessee shall have negotiated in good faith, the Lessee shall have

no obligation to execute an agreement providing for such Accommodations if the Requesting Airline refuses to agree to the Lessee's proposed reasonable and non-discriminatory rates, fees and charges, as described in paragraph (c)(6) of this Section.

(c) ***"Accommodations".***

(1) The term "**Accommodations**" shall mean aircraft ramp and gate position capacity and related passenger terminal facilities, including but not limited to passenger ticketing, passenger check-in, baggage handling and flight information systems, passenger lounge and waiting areas and appropriate signage and public identification. Such Accommodations may be accomplished by the Lessee by making available and providing non-exclusive use of gate positions and other related facilities to Scheduled Aircraft Operators pursuant to a Handling Agreement between the Lessee and any such Scheduled Aircraft Operator (hereinafter called an "**Accommodated Handled Airline**"). Each such Handling Agreement shall be subject to the prior and continuing approval of the Port Authority and the execution among the Port Authority, the Lessee and the Accommodated Handled Airline of a form of consent agreement prepared by the Port Authority. Moreover, and without limiting the foregoing, the Lessee will at all times keep the Port Authority informed and advised and will consult with the Port Authority from time to time as to all aspects of its accommodation of Scheduled Aircraft Operators hereunder.

(2) It is understood furthermore that the Accommodations contemplated hereunder may involve the use of subleases of exclusive or preferential areas of the Premises in addition to or in lieu of Handling Agreements. Any sublease with a Scheduled Aircraft Operator (hereinafter called an "**Accommodated Sublessee Airline**") will similarly be subject to the prior and continuing approval of the Port Authority and the execution of a consent agreement prepared by the Port Authority, and executed by the Port Authority, the Lessee and the Accommodated Sublessee

Airline. It is understood that American Eagle is an Accommodated Sublessee Airline pursuant to the American Eagle Arrangement.

(3) Nothing contained herein shall in any way affect the discretion of the Port Authority in granting or withholding its consent to a Handling Agreement or a sublease with an Accommodated Sublessee Airline, proposed by the Lessee or directed by the Port Authority, and such consent may contain such terms and conditions including but not limited to such financial or other conditions which may include a fixed charge or a charge based upon a percentage of the Lessee's gross receipts arising therefrom, as the Port Authority may, at that time, elect, and all provisions of the Lease requiring the prior written consent or approval of the Port Authority.

(4) Notwithstanding anything to the contrary contained herein, the Lessee understands and agrees that the Lessee shall not perform any services and functions pursuant to any Handling Agreement or sublease with a Accommodated Handled Airline or a Accommodated Sublessee Airline with respect to which the Port Authority has specifically withheld consent and approval in the consent agreement to such Handling Agreement or sublease. The Accommodated Handled Airline and the Accommodated Sublessee Airline may either perform said services and functions themselves or use the services of the authorized service organization, including but not limited to in-flight caterers, aircraft fuelers, and ramp handlers performing such services or functions at the Airport. The Lessee however may make the necessary arrangements with the authorized service organization performing such services and functions performed for the Accommodated Handled Airline or the Accommodated Sublessee Airline.

(5) The Lessee shall furnish to the Port Authority from time to time such itemization, details and information pertaining to the Handling Agreements and subleases as the Port Authority may from time to time reasonably request.

(6) The Lessee agrees that all Handling Agreements and subleases shall be at reasonable and at non-discriminatory rates, fees and charges, which rates, fees and charges shall be based upon the recovery by the Lessee of a pro rata share of the Lessee's costs of (i) operation and maintenance of the Premises, (ii) the services provided to the Accommodated Handled Airline or the Accommodated Sublessee Airline, and (iii) the Lessee's investment in the Premises not otherwise included in the above; plus costs, fees and standard industry markups associated with accommodating the Accommodated Handled Airline or the Accommodated Sublessee Airline at the Premises, provided, however, that it is understood and agreed that the following shall not be a reason for the Lessee to refuse a sublease or Handling Agreement or to impose any conditions or limitations on operations in connection therewith under this Section: (aa) possible or potential labor disharmony with an Accommodated Handled Airline or Accommodated Sublessee Airline, (bb) competitive nature of the routes, schedules or type of air transportation service to be provided by an Accommodated Handled Airline or Accommodated Sublessee Airline, provided, further, however, that with respect to item (aa) above if, after notice from the Port Authority to provide Accommodations to a specific Scheduled Aircraft Operator, the Lessee shall, in good faith, believe that the operations of such specific Scheduled Aircraft Operator on the Premises would cause such significant, immediate and unremediable labor disharmony which would seriously affect the operations of the Lessee, then, upon request by the Lessee to the Port Authority setting forth in specific detail satisfactory to the Port Authority the nature of the anticipated labor disharmony and requesting that the Lessee not be obligated under this Section to provide Accommodations for such specific Scheduled Aircraft Operator, the Port Authority shall, in good faith, consider the Lessee's request; and if the Port Authority finds that the labor disharmony described by the Lessee is reasonably likely to result if the Lessee were

to provide Accommodations to such Scheduled Aircraft Operator on the Premises, then the Port Authority shall notify the Lessee that the Port Authority's direction to provide Accommodations to such Scheduled Aircraft Operator is rescinded.

(d) ***Gate Termination***.

(1) "**Domestic Gate**" shall mean a non-FIS Gate capable of handing aircraft with 91 or more seats, but shall not include any International Gate located at the Premises and at Terminal 4.

"**FIS**" shall mean of or relating to Federal Inspection Facilities, or premises made available to the United States for inspection of airline passengers and their baggage by United States Customs and Immigration.

"**International Gate**" shall mean a Gate that has access to FIS facilities.

"**Lessee's Net Investment**" shall mean the difference obtained by subtracting the amount of all of the Bonds (as defined in Section 92 hereof) from the amount of (x) the Redevelopment Work Investment or, as the case may be, (y) the sum of the Redevelopment Work Investment and the Expanded Terminal Work Investment.

(2.a.)

(2.a.)

"**Regional Gate**" shall mean a non-FIS Gate incapable of handling aircraft with over 90 seats.

"**Required Conditions Attainment Date**" shall mean the date on which all of the Required Conditions shall have been met.

"**Terminated Gate**" shall mean a Gate with respect to which the letting is terminated pursuant to the provisions of Section 45 or of Section 46 hereof.

"**Unamortized Bond Obligation**" shall mean the Outstanding principal of the Bonds from time to time.

"**Unamortized Lessee's Net Investment**" shall mean the Lessee's Net Investment amortized on a straight line basis over the number of months from the earlier to occur of January 1, 2008 or the Required Conditions Attainment Date to December 31, 2031.

"**Unamortized Obligation**" shall mean (i) prior to the Expanded Terminal Work Completion Date, an amount equal to the sum of the Unamortized Lessee's Net Investment plus the Unamortized Bond Obligation, provided, however, that said sum shall be limited to a maximum amount of One Billion Two Hundred Seventy Four Million Dollars and No Cents ($1,274,000,000.00) amortized on a straight line basis over the number of months from the earlier to occur of January 1, 2008 or the Required Conditions Attainment Date to December 31, 2031, and (ii) from and after the Expanded Terminal Work Completion Date, an amount equal to the sum of the Unamortized Lessee's Net Investment plus the Unamortized Bond Obligation, provided, however, that said sum shall be limited to a maximum amount of One Billion Five Hundred Seventy One Million Dollars and No Cents ($1,571,000,000.00)

amortized on a straight line basis over the number of months from the earlier to occur of January 1, 2008 or the Required Conditions Attainment Date to December 31, 2031.

(2) In the event that at the expiration of the Section 45 Notice Period the Lessee shall fail to provide Accommodations to the Requesting Airline named in the Section 45 Notice to Provide Accommodations triggering such Notice Period, the Port Authority may, upon at least sixty (60) days' notice to the Lessee (the "**Section 45 Gate Termination Notice**"), terminate the letting of the number and type of Gates specified in said Section 45 Notice to Provide Accommodations, such termination to be effective on the date set forth in the Section 45 Gate Termination Notice (the "**Section 45 Gate Termination Date**"), provided that the Lessee and/or the Trustee, as applicable, shall have received the payments set forth in subparagraph (5) below.

(3) The Port Authority's rights to terminate one or more Gates set forth above in this Section 45 may be exercised as to one or more than one Requesting Airline, without waiving, limiting or impairing any other right of the Port Authority under this Agreement or otherwise.

(4) As to each Section 45 Gate Termination Notice, upon such termination, the term of the letting as to the Terminated Gates shall cease and expire on the Section 45 Gate Termination Date with the same force and effect as if said date were the date originally stated in this Agreement for the expiration of the term of the letting as to the Terminated Gates, provided that the Lessee and/or the Trustee, as applicable, shall have received the payments set forth in subparagraph (5) below. This Agreement and the letting as to all other portions of the Premises (excluding all other previously terminated portions thereof, if any) shall continue in full force and effect. Subject to and conditioned on the provisions of this Section, and only so long as the Lessee provides

full and unrestricted access, ingress and egress to and from the Terminated Gate to the Port Authority and each user of the Terminated Gate and its employees, agents, representatives and contractors, (i) the annual Ground Rental payable by the Lessee to the Port Authority hereunder shall, from and after the Section 45 Gate Termination Date, be reduced by an amount equal to the product obtained by multiplying the Pro-Rata Share for each Terminated Gate by the annual Ground Rental payable and in effect prior to such termination, (ii) the applicable annual Building Rental, if any, payable by the Lessee to the Port Authority hereunder shall, from and after the Section 45 Gate Termination Date, be reduced by an amount equal to the product obtained by multiplying the Pro-Rata Share for each Terminated Gate by the applicable annual Building Rental, if any, payable and in effect prior to such termination, and (iii) the applicable annual Terminal Rental, if any, payable by the Lessee to the Port Authority hereunder shall, from and after the Section 45 Gate Termination Date, be reduced by an amount equal to the product obtained by multiplying the Pro-Rata Share for each Terminated Gate by the applicable annual Terminal Rental, if any, payable and in effect prior to such termination.

(5) (i) As a condition to the effectiveness of each Section 45 Gate Termination Date, but only if the Lessee actually surrenders and vacates each Terminated Gate in accordance with all applicable provisions of this Lease, the Port Authority shall be obligated, simultaneously with such surrender by the Lessee, to make a one-time payment to the Lessee and/or the Trustee, as applicable, in the lesser amount of (i) the product obtained by multiplying the Pro-Rata Share for such Terminated Gate by the Unamortized Obligation (such product, the **"Maximum Gate Investment Amount"**) or (ii) the sum of (x) the product obtained by multiplying the Pro-Rata Share for such Terminated Gate by the Unamortized Bond Obligation (such product,

the "**Pro-Rata Bond Gate Investment Amount**") and (y) the product obtained by multiplying the Pro-Rata Share for such Terminated Gate by the Unamortized Lessee's Net Investment (said product, the "**Pro-Rata Lessee Gate Investment Amount**"). The Trustee shall, promptly upon the Port Authority's request, provide the Port Authority with the correct amount of the Unamortized Bond Obligation, certified by the Trustee, in sufficient detail as to enable the Port Authority to calculate the Pro-Rata Bond Gate Investment Amount to be paid with respect to each Terminated Gate.

(ii) In accordance with the foregoing subdivision (i), on or before the Section 45 Gate Termination Date, the Port Authority shall pay (x) to the Trustee the portion of the payment constituting a portion of the Unamortized Bond Obligation and (y) to the Lessee the portion of the payment constituting a portion of the Lessee's Net Investment.

(iii) The foregoing and all payments to be made by the Port Authority hereunder shall be subject to Port Authority rights of audit and inspection rights, and shall be subject to the record-keeping obligations of the Lessee under Section 69 hereof.

(iv) For purposes of determining the amount payable in connection with a Terminated Gate under this Section 45, the Lessee shall certify the amounts of the Redevelopment Work Investment and the Expanded Terminal Work Investment, respectively, promptly following the Redevelopment Work Completion Date and the Expanded Terminal Work Completion Date, and the Port Authority shall perform (and the Lessee shall fully cooperate in) an audit of the Redevelopment Work and the Expanded Terminal Work within one year following the date of such respective certification; provided, however, that any such audit shall

not preclude the Port Authority, prior to a Gate Termination Date, from revising any such determination based on updated or corrected audit results.

(6) The Lessee shall cooperate with the Port Authority in arrangements at the Premises so that each Aircraft Operator who uses a Terminated Gate may handle itself or be handled by a handling permittee of the Port Authority of its choice, subject to prior written consent of the Port Authority and payment of all applicable fees to the Port Authority. In the event that the Lessee wishes to perform handling services for any such Aircraft Operator, the Lessee shall not do so unless the Lessee has obtained an appropriate handling permit from the Port Authority covering the Lessee's handling of such Aircraft Operator, to be subject to the prior and continuing approval of the Port Authority and payment of all applicable fees to the Port Authority and, if the Port Authority deems appropriate, the execution among the Port Authority, the Lessee, and such Aircraft Operator of a form of consent agreement prepared by the Port Authority. Nothing contained herein shall in any way affect the discretion of the Port Authority in granting or withholding a permit or its consent to a handling agreement proposed by the Lessee and any such permit and/or consent may contain such terms and conditions including but not limited to such financial or other conditions which may include a fixed charge or a charge based upon a percentage of the Lessee's gross receipts arising therefrom, as the Port Authority may, at that time, elect. All such rates, fees and charges pursuant to any such handling agreement shall be at reasonable and at non-discriminatory rates, fees and charges.

(7) Effective from and after a Gate Termination Date as to each Terminated Gate, the Port Authority and each user of a Terminated Gate, and their respective officers, employees, passengers, patrons, invitees, contractors, suppliers of material and furnishers of services, shall (x) have the right of ingress and egress between the Terminated Gate and the public

streets outside the Premises, and also the right of ingress and egress between the Premises and the Public Landing Area at the Airport, by means of existing taxiways to be used in common with others having rights of passage thereon, as well as over the taxiway areas of the Premises, and (y) pay to the Lessee a pro rata share of the Lessee's operating and maintenance costs allocable to the Terminated Gate.

(8) Effective from and after a Gate Termination Date as to each Terminated Gate, the Lessee and its officers, employees, passengers, patrons, invitees, contractors, suppliers of material and furnishers of services, shall have the right of ingress and egress between public portions of the Terminated Gate and the public streets outside the Premises, and also the right of ingress and egress between the Premises and the Public Landing Area at the Airport, by means of existing taxiways to be used in common with others having rights of passage thereon, as well as over the taxiway areas of the Premises.

(9) Effective from and after a Gate Termination Date as to each Terminated Gate, each of the Port Authority and any user of the Terminated Gate, on the one hand, and the Lessee, on the other hand, shall indemnify and hold the other harmless for and against its negligence and intentional misconduct in connection with its use of the Terminated Gate and its exercise of its rights pursuant to the foregoing subparagraphs (7) and (8), as the case may be.

(10) So long as any Bonds are Outstanding, the Port Authority will endeavor to make arrangements such that within thirty (30) days after entering into an agreement for the use of any Terminated Gate with a term (including renewal option periods) of more than thirty (30) days or for the use of any Terminated Gate by an airline that does not provide scheduled passenger service as a common carrier, the Port Authority will notify the Lessee of the identity of the user and the term and all renewal option periods provided in such agreement (and, if requested by the Lessee, will provide the Lessee with

additional information regarding the terms of any such renewal options); provided, however, that the Port Authority shall have no liability to the Lessee or any other party for failing to so notify the Lessee, and provided, further, that any such failure shall not excuse the Lessee's or any other party's performance of any obligation to the Port Authority hereunder or under any other agreement.

(e) ***No Waiver.***

(1) The failure of the Port Authority to exercise any of its rights under this Section 45 during any period in which it may have such a right, shall not affect, waive or limit its right to exercise said rights at any subsequent time.

(2) Nothing in this Section shall be deemed to have abrogated, changed or affected any restrictions, limitations or prohibitions on assignment, subletting or use of the Premises by others under this Lease nor shall in any manner affect, waive or change any of the provisions thereof."

11. Amendment to Section 46 of the Lease, "*Additional Rights of the Port Authority as to Portions of the Premises*"

Section 46 of the Lease, entitled "Additional Rights of the Port Authority as to Portions of the Premises", is hereby deleted in its entirety and the following is inserted in its place:

"Section 46. Additional Rights of the Port Authority as to Portions of the Premises

(a) ***Lessee's Commencement Basic Schedule.***

It is hereby agreed that for the purpose of this Section the term the "**Lessee's Commencement Basic Schedule**" shall be and mean for the period from the December 22, 2000 to and including the day immediately preceding the Redevelopment Work Completion Date a "Revenue Seats Daily Average" (as said term is defined in paragraph (f) hereof) of (2.a.) and from and after the Redevelopment Work Completion Date

shall be and mean the Revenue Seats Daily Average for the first full calendar year from and after the Redevelopment Work Completion Date.

(b) ***Lessee's Basic Schedule.***

Commencing with calendar year 2000 and for each and every calendar year thereafter, the Port Authority may ascertain the Revenue Seats Daily Average of the Lessee for the Airport for the preceding calendar year in accordance with the provisions of paragraph (f) hereof, which Revenue Seats Daily Average shall be the Lessee's Basic Schedule for the preceding calendar year and shall be referred to as such. Thus, for example, in the case of the first calculation which would be based on the calendar year 1999 experience, said Revenue Seats Daily Average shall be called the "Lessee's Basic Schedule for 1999".

(c) ***Section 46 Notice to Provide Accommodations; Gate Termination.***

As of January 1, 2000 and as of January 1 of each succeeding calendar year (i) *in the event that* the Lessee's Basic Schedule for the immediately preceding calendar year for the Airport is less than (2.a.) of the Lessee's Commencement Basic Schedule or (ii) *in the event that* because of reasons beyond the control of the Lessee the Lessee's Basic Schedule for the immediately preceding two calendar years is less than (2.a.) of the Lessee's Commencement Basic Schedule, *then in either of such events* and without limiting each and every other right the Port Authority has under this Agreement or otherwise, the Port Authority shall have the right, upon six (6) months' written notice to the Lessee, (x) to require the Lessee (and the Lessee hereby agrees) to make available Accommodations to Scheduled Aircraft Operators at the Premises in the number (which shall be as set forth in paragraph (g) of this Section) and type of Gates as directed by the Port Authority (such notice, a "**Section 46 Notice to Provide Accommodations**"); or (y) upon payment of the amounts set forth in Section 46(e)(4) below, to terminate the letting under

this Lease as to the number (which shall be as set forth in paragraph (g) of this Section) and type of Gates as the Port Authority may specify (such notice, a "**Section 46 Gate Termination Notice**"); or (z) to serve both a Section 46 Notice to Provide Accommodations and a Section 46 Gate Termination Notice as to any combination of Gates in the number set forth in paragraph (g) hereof. Notwithstanding the foregoing, however, the Port Authority shall give thirty (30) days' prior notice of its intention to give the Section 46 Gate Termination Notice, and it is expressly agreed that the Port Authority shall not exercise the aforementioned right of termination with respect to any portion or portions of the Premises if the Lessee has submitted to the Port Authority definite plans for the use of the entire Premises at least at the levels specified in this Section 46, *provided that* the Lessee in fact commences such use including the portions of the Premises proposed to be terminated by the Port Authority within ninety (90) days after the submission of such plans.

(d) ***Accommodations.***

The Lessee's obligation to provide Accommodations to Scheduled Aircraft Operators shall be effective on the date set forth in the Section 46 Notice to Provide Accommodations. Upon such Notice the Lessee shall use its best efforts to secure an arrangement with a Scheduled Aircraft Operator as directed by the Port Authority for Accommodations in the Premises and shall in good faith negotiate with any such Scheduled Aircraft Operator as the Port Authority shall direct for Accommodations in the Premises, all in accordance herewith; provided, however, that so long as the Lessee shall have negotiated in good faith, the Lessee shall have no obligation to execute an agreement providing for such Accommodations if the Scheduled Aircraft Operator refuses to agree to the Lessee's proposed reasonable and non-discriminatory rates, fees and charges, as described in Section 45(c)(6). The Lessee shall make such Accommodations available, in accordance with Section 45(c) above, from time to time during the

entire period commencing on the effective date set forth in the Section 46 Notice to Provide Accommodations and ending when the Lessee's Basic Schedule for a calendar year, determined in accordance with the foregoing, shall have been seventy percent (70%) or more of the Lessee's Commencement Basic Schedule.

(e) ***Section 46 Gate Termination.***

(1) In the event the Port Authority serves a Section 46 Gate Termination Notice in accordance with the foregoing paragraph (c), the termination of the number and type of Gate or Gates specified in such Notice shall be effective on the date set forth in said Section 46 Gate Termination Notice (the "**Section 46 Gate Termination Date**"), provided that the Lessee and/or the Trustee, as applicable, shall have received the payments set forth in subparagraph (4) below.

(2) As to each Section 46 Gate Termination Notice, upon such termination, the term of the letting as to the Terminated Gates shall cease and expire on the Section 46 Gate Termination Date with the same force and effect as if said date were the date originally stated in this Agreement for the expiration of the term of the letting as to the Terminated Gates. This Agreement and the letting as to all other portions of the Premises (excluding all other previously terminated portions thereof, if any) shall continue in full force and effect. Subject to and conditioned on the provisions of this Section, and only so long as the Lessee provides full and unrestricted access, ingress and egress to and from the Terminated Gate to the Port Authority and each user of the Terminated Gate and its employees, agents, representatives and contractors, (i) the annual Ground Rental payable by the Lessee to the Port Authority hereunder shall, from and after the Section 46 Gate Termination Date, be reduced by an amount equal to the product obtained by multiplying the Pro-Rata Share for each Terminated Gate by the annual Ground Rental payable and in effect prior to such termination, (ii) the applicable annual Building

Rental, if any, payable by the Lessee to the Port Authority hereunder shall, from and after the Section 46 Gate Termination Date, be reduced by an amount equal to the product obtained by multiplying the Pro-Rata Share for each Terminated Gate by the applicable annual Building Rental, if any, payable and in effect prior to such termination, and (iii) the applicable annual Terminal Rental, if any, payable by the Lessee to the Port Authority hereunder shall, from and after the Section 46 Gate Termination Date, be reduced by an amount equal to the product obtained by multiplying the Pro-Rata Share for each Terminated Gate by the applicable annual Terminal Rental, if any, payable and in effect prior to such termination.

(3) The Port Authority's rights to terminate one or more Gates set forth above may be exercised one or more times until the total applicable Gates have been terminated, without waiving, limiting or impairing any other right of the Port Authority under this Agreement or otherwise.

(4) (i) As a condition to the effectiveness of each Section 46 Gate Termination Date, but only if the Lessee actually surrenders and vacates each Terminated Gate in accordance with all applicable provisions of this Lease, the Port Authority shall be obligated, simultaneously with such surrender by the Lessee, to make a one-time payment to the Lessee and/or the Trustee, as applicable, in the lesser of the amount of (i) the product obtained by multiplying the Pro-Rata Share for such Terminated Gate by the Unamortized Obligation (such product, the **"Maximum Gate Investment Amount"**) or (ii) the sum of (x) the product obtained by multiplying the Pro-Rata Share for such Terminated Gate by the Unamortized Bond Obligation (such product, the **"Pro-Rata Bond Gate Investment Amount"**) and (y) the product obtained by multiplying the Pro-Rata Share for such Terminated Gate by the Unamortized Lessee's Net Investment (said product, the **"Pro-Rata Lessee Gate**

Investment Amount"). The Trustee shall, promptly upon the Port Authority's request, provide the Port Authority with the correct amount of the Unamortized Bond Obligation, certified by the Trustee, in sufficient detail as to enable the Port Authority to calculate the Pro-Rata Bond Gate Investment Amount to be paid with respect to each Terminated Gate.

(ii) In accordance with the foregoing subdivision (i), on or before the Section 46 Gate Termination Date, the Port Authority shall pay (x) to the Trustee the portion of the payment constituting a portion of the Unamortized Bond Obligation and (y) to the Lessee the portion of the payment constituting a portion of the Lessee's Net Investment.

(iii) The foregoing and all payments to be made by the Port Authority hereunder shall be subject to Port Authority rights of audit and inspection rights, and shall be subject to the record-keeping obligations of the Lessee under Section 69 hereof.

(iv) For purposes of determining the amount payable in connection with a Terminated Gate under this Section 46, the Lessee shall certify the amounts of the Redevelopment Work Investment and the Expanded Terminal Work Investment, respectively, promptly following the Redevelopment Work Completion Date and the Expanded Terminal Work Completion Date, and the Port Authority shall perform (and the Lessee shall fully cooperate in) an audit of the Redevelopment Work and the Expanded Terminal Work within one year following the date of such respective certification; provided, however, that any such audit shall not preclude the Port Authority, prior to a Gate Termination Date, from revising any such determination based on updated or corrected audit results.

(5) The Lessee shall cooperate with the Port Authority in arrangements at the Premises so that each Aircraft Operator who uses a Terminated Gate may handle itself or be handled by a handling permittee of the Port Authority of its choice, subject to prior written consent of the Port Authority and payment of all applicable fees to the Port Authority. In the event that the Lessee wishes to perform handling services for any such Aircraft Operator, the Lessee shall not do so unless the Lessee has obtained an appropriate handling permit from the Port Authority covering the Lessee's handling of such Aircraft Operator, to be subject to the prior and continuing approval of the Port Authority and payment of all applicable fees to the Port Authority and, if the Port Authority deems appropriate, the execution among the Port Authority, the Lessee, and such Aircraft Operator of a form of consent agreement prepared by the Port Authority. Nothing contained herein shall in any way affect the discretion of the Port Authority in granting or withholding a permit or its consent to a handling agreement proposed by the Lessee and any such permit and/or consent may contain such terms and conditions including but not limited to such financial or other conditions which may include a fixed charge or a charge based upon a percentage of the Lessee's gross receipts arising therefrom, as the Port Authority may, at that time, elect. All such rates, fees and charges pursuant to any such handling agreement shall be at reasonable and at non-discriminatory rates, fees and charges.

(6) Effective from and after a Gate Termination Date as to each Terminated Gate, the Port Authority and each user of a Terminated Gate, and their respective officers, employees, passengers, patrons, invitees, contractors, suppliers of material and furnishers of services, shall (x) have the right of ingress and egress between the Terminated Gate and the public streets outside the Premises, and also the right of ingress and egress between the Premises and the Public Landing Area at the Airport, by means of existing taxiways to be used in common with

others having rights of passage thereon, as well as over the taxiway areas of the Premises, and (y) pay to the Lessee a pro rata share of the Lessee's operating and maintenance costs allocable to the Terminated Gate.

(7) Effective from and after a Gate Termination Date as to each Terminated Gate, the Lessee and its officers, employees, passengers, patrons, invitees, contractors, suppliers of material and furnishers of services, shall have the right of ingress and egress between public portions of the Terminated Gate and the public streets outside the Premises, and also the right of ingress and egress between the Premises and the Public Landing Area at the Airport, by means of existing taxiways to be used in common with others having rights of passage thereon, as well as over the taxiway areas of the Premises.

(8) Effective from and after a Gate Termination Date as to each Terminated Gate, each of the Port Authority and any user of the Terminated Gate, on the one hand, and the Lessee, on the other hand, shall indemnify and hold the other harmless for and against its negligence and intentional misconduct in connection with its use of the Terminated Gate and its exercise of its rights pursuant to the foregoing subparagraphs (6) and (7), as the case may be.

(9) So long as any Bonds are Outstanding, the Port Authority will endeavor to make arrangements such that within thirty (30) days after entering into an agreement for the use of any Terminated Gate with a term (including renewal option periods) of more than thirty (30) days or for the use of any Terminated Gate by an airline that does not provide scheduled passenger service as a common carrier, the Port Authority will notify the Lessee of the identity of the user and the term and all renewal option periods provided in such agreement (and, if requested by the Lessee, will provide the Lessee with additional information regarding the terms of any such renewal options); provided, however, that the Port Authority shall have no liability to the Lessee or any other party for failing to so

notify the Lessee, and provided, further, that any such failure shall not excuse the Lessee's or any other party's performance of any obligation to the Port Authority hereunder or under any other agreement.

(f) ***Ascertainment of Revenue Seats Daily Average.***

(1) In the event the Port Authority decides to ascertain the Revenue Seats Daily Average of the Lessee for the preceding calendar year it shall do so as follows: based upon the Official Airlines Guide (herein called the "**Guide**"), or in the event that the Guide shall not list the Lessee's schedules, then based upon the generally accepted United States aviation industry standard published airline schedule reference which shall include the Lessee's published schedules, the Port Authority shall ascertain the total number of revenue seats that were accommodated on the aircraft equipment scheduled to have been used by the Lessee on its published aircraft departures at the Airport as set forth in the Guide during two specified calendar weeks (Sunday through Saturday), the first of which weeks is the one during which the fifteenth (15th) day of February of the prior calendar year fell and the second being the one during which the fifteenth (15th) day of August of the said prior calendar year fell (said week of February together with said week of August being hereinafter collectively called the "**Measuring Period**"), and shall total the said number of revenue seats which are hereinafter called the "**Total Revenue Seats**" of the Lessee. In determining the Total Revenue Seats of the Lessee, the Total Revenue Seats as defined above of those Accommodated Handled Airlines, if any, of the Lessee who were Accommodated Handled Airlines as of the date of such determination and Accommodated Sublessee Airlines at the Premises who were Accommodated Sublessee Airlines on the date of such determination, with respect to the aircraft of the Accommodated Handled Airlines and aircraft of the Accommodated Sublessee Airlines operating at the Premises, shall be included.

(2) In making said determination, the Port Authority shall use the aircraft configurations as supplied by the Lessee for the Measuring Period in question with respect to the number of revenue seats that can be accommodated on the particular aircraft equipment scheduled to be used by the Lessee at the Airport. The Total Revenue Seats of the Lessee shall then be divided by fourteen, the resulting quotient being herein called the **"Revenue Seats Daily Average"** of the Lessee.

(g) (1) Effective from and after the Restructuring Effective Date to the Required Conditions Attainment Date, subject to subparagraph (4) below:

Column A	Column B
Percentage of the Lessee's Basic Schedule Compared To the Lessee's Commencement Basic Schedule	Number of Gate Positions the Port Authority May Require Accommodations at the Premises and/or May Terminate from the Premises
(2.a.)	(2.a.)

(2) Effective from and after the Required Conditions Attainment Date to the Expanded Terminal Work Completion Date, subject to subparagraph (4) below:

Column A	Column B
Percentage of the Lessee's Basic Schedule Compared To the Lessee's Commencement Basic Schedule	Number of Gate Positions the Port Authority May Require Accommodations at the Premises and/or May Terminate from the Premises

(3) From and after the Expanded Terminal Work Completion Date, subject to subparagraph (4) below:

Column A Percentage of the Lessee's Basic Schedule Comparec To the Lessee's Commencernent Basic Schedule	Column B Number of Gate Positions the Port Authority May Require Accommodations at the Premises and/or May Terminate from the Premises
(2.a.)	(2.a.)

(4) The following shall apply when at any time the total number of Gates in the Premises is other than as set forth in subparagraphs (1), (2) and (3) above.

If the number of Gates in the Premises shall decrease as a result of the Port Authority having exercised its rights of termination under this Lease as to a portion or portions of the Premises as set forth in above in this Section,

or if, after the Restructuring Effective Date, the number of Gates in the Premises shall increase (the date of each such increase or decrease of the number of Gates in the Premises being hereinafter called a "**Change Date**") then: commencing with the immediately succeeding Measuring Period following such Change Date the number of Gates which the Port Authority may require Accommodations or may terminate set forth in each Column B above for each percentage set forth in each Column A above shall be adjusted to equal the difference obtained by subtracting from the number of Gates in the Premises on the Change Date, the product obtained by multiplying said percentage by the number of Gates in the Premises on the Change Date, in accordance with the following formula:

G - (P x G) = U

Where, G equals the total number of Gates in the Premises on the Change Date,

P equals the applicable percentage under each Column A, and

U equals the number of Gates that the Port Authority may require Accommodations or may terminate from the Premises.

(h) ***No Waiver.***

(1) The failure of the Port Authority to exercise any of its rights under this Section during any period in which it may have such a right, shall not affect, waive or limit its right to exercise said rights at any subsequent time.

(2) Nothing in this Section shall be deemed to have abrogated, changed or affected any restrictions, limitations or prohibitions on assignment, subletting or use of the Premises by others under this Lease nor shall in any manner affect, waive or change any of the provisions thereof."

(i) ***Port Authority's Use of Recaptured Portions of the Premises.***

The Lessee acknowledges and agrees that in the event of the Port Authority's recapture of

portions of the Premises pursuant to the provisions of Sections 45 and 46 of this Lease relating to Gate termination, (x) the Port Authority will use the portions of the Premises so recaptured in such manner as the Port Authority, as the operator of the Airport and the owner of such recaptured portions, may deem appropriate, including without limitation for the purpose of maximizing revenues, and (y) the Port Authority may be in competition with the Lessee in seeking tenants or other users of the portions of the Premises so recaptured.

12. Amendment to Section 91, "*Definitions*"

(a) Section 91 of the Lease is hereby amended, effective as of November 24, 2004, as follows:

(1) The definition of "Basic Lease" is deleted in its entirety and the following is substituted in its place:

> "**Basic Lease**" shall mean the Amended and Restated Agreement of Lease between the City of New York, as landlord, and the Port Authority, as tenant, dated as of November 24, 2004, as the same from time to time may be supplemented or amended and/or restated. Said agreement dated as of November 24, 2004, has been recorded in the Office of the Register of The City of New York, County of Queens, on December 3, 2004 with a City Register File Number of 2004000748687."

(2) The definition of "Environmental Requirement" and "Environmental Requirements" is deleted in its entirety and the following is substituted in its place (to conform to the definition contained in the Amended and Restated Basic Lease):

> "**Environmental Requirement**" shall mean in the singular and "**Environmental Requirements**" shall mean in the plural all common law and all past, present and future laws, statutes, enactments, resolutions, regulations, rules, directives, ordinances, codes, licenses, permits, orders, memoranda of understanding and memoranda of agreement, guidances, approvals, plans, authorizations, concessions, franchises,

requirements and similar items of all governmental agencies, departments, commissions, boards, bureaus or instrumentalities of the United States, states and political subdivisions thereof, all pollution prevention programs, "best management practices plans", and other programs adopted and agreements made by the Port Authority (whether adopted or made with or without consideration or with or without compulsion), with any government agencies, departments, commissions, boards, bureaus or instrumentalities of the United States, states and political subdivisions thereof, and all judicial, administrative, voluntary and regulatory decrees, judgments, orders and agreements relating to the protection of human health or the environment, the foregoing to include without limitation:

(i) all requirements pertaining to reporting, licensing, permitting, investigation and remediation of emissions, discharges, releases or threatened releases of Hazardous Substances into the air, surface water, groundwater or land, or relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Substances, or the transfer of property on which Hazardous Substances exist;

(ii) all requirements pertaining to the protection from Hazardous Substances of the health and safety of employees or the public; and

(iii) the Atomic Energy Act of 1954 , 42 U.S.C. Section 2011 *et seq.*; the Clean Water Act also known as the Federal Water Pollution Control Act, 33 U.S.C. Section 1251 *et seq.*; the Clean Air Act, 42 U.S.C. Section 7401 *et seq.*; the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. Section 136 *et seq.*; the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601 *et seq.*; the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), Section 2701 *et seq.*; the

Emergency Planning and Community Right to Know Act, 42 U.S.C. Section 11001 *et seq.*; the Occupational Safety and Health Act, 29 U.S.C. Section 651 *et seq.*; the Hazardous Materials Transportation Act, 49 U.S.C. Section 5101 *et seq.*; the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 *et seq.*; the Toxic Substances Control Act, 15 U.S.C. Section 2601 *et seq.*; the Safe Drinking Water Act of 1974, 42 U.S.C. Sections 300f-300h-11 *et seq.*; the Oil Pollution Act, 33 U.S.C. Section 2701 *et seq*; the National Environmental Policy Act, 42 USC Section 4321 *et seq.*; the State Environmental Quality Review Act (SEQRA), NY ECL Section 8-0101 *et seq.*; the New York State Environmental Conservation Law; the New York State Navigation Law; together, in each case, with any amendment thereto, and the regulations adopted, guidances, memoranda and publications promulgated thereunder and all substitutions thereof and any other analogous current or future federal, state municipal, city or local laws;

and in the event that there shall be more than one compliance standard, the standard for any of the foregoing shall be that which requires the lowest level of a Hazardous Substance, provided, however, that with respect to removal from the soil and groundwater in the Site of those chemicals set forth in the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 2B.3", the compliance standard shall be the respective Approved Cleanup Criteria therefor for so long as the DEC shall continue its approval and acceptance of such Approved Cleanup Criteria, and provided, further, that in the use of any Approved Cleanup Criteria the Lessee shall comply with all requirements of all Governmental Authorities for the use thereof, including without limitation those set forth in the letter dated June 28, 1996 from Steven Miller of the DEC to Marvin Kirshner of the Port Authority covering the DEC's conditional approval of the use of such

Approved Cleanup Criteria in certain areas of the Airport, which letter is attached hereto as part of Exhibit 2B.3, and all the requirements of the DEC pursuant to the ACO."

(2) The definition of "Hazardous Substance" and "Hazardous Substances" is deleted in its entirety and the following is substituted in its place (to conform to the definition contained in the Amended and Restated Basic Lease):

> "**Hazardous Substance**" shall mean and include in the singular and "Hazardous Substances" shall mean and include in the plural any pollutant, contaminant, toxic or hazardous waste, dangerous substance, noxious substance, toxic substance, flammable, explosive or radioactive material, urea formaldehyde foam insulation, asbestos, polychlorinated biphenyls ("PCBs"), radon, chemicals known to cause cancer, endocrine disruption or reproductive toxicity, petroleum and petroleum products, fractions, derivatives and constituents thereof, of any kind and in any form, including without limitation oil, petroleum, fuel, fuel oil, sludge, crude oil, gasoline, kerosene, and mixtures of, or waste materials containing any of the foregoing, and other gases, chemicals, materials and substances which have been or in the future shall be declared to be hazardous or toxic, or the removal, containment or restriction of which have been or in the future shall be required, or the manufacture, preparation, production, generation, use, maintenance, treatment, storage, transfer, handling or ownership of which have or in the future shall be restricted, prohibited, regulated or penalized by any federal, state, county, or municipal or other local statute or law now or at any time hereafter in effect as amended or supplemented and by the regulations adopted and publications promulgated pursuant thereto."

(b) Section 91 of the Lease is hereby amended, effective as of the date hereof, as follows:

(1) The definition of "Required Conditions" is deleted in its entirety and the following is substituted in its place:

"**Required Conditions**" shall have the meaning provided in Section 3(d) hereof.

(2) The following new terms and definitions shall be deemed added:

"**Additional Land Rental**" shall have the meaning provided in Section 4(i) hereof.

"**Additional Land Rental Adjustment Year**" shall have the meaning provided in Section 4(i) hereof.

"**Additional Land Rental Base Year**" shall have the meaning provided in Section 4(i) hereof.

"**Additional Land Rental Commencement Date**" shall have the meaning provided in Section 4(i) hereof.

"**Additional Land Rental Payment Period**" shall have the meaning provided in Section 4(i) hereof.

"**Change Date**" shall have the meaning provided in Section 46 hereof.

"**Date of Taking**" shall have the meaning provided in Section 18 hereof.

"**Domestic Gate**" shall have the meaning provided in Section 45(d) hereof.

"**Expanded Terminal Work**" shall have the meaning provided in Section 2B(r) hereof.

"**Expanded Terminal Work Completion Date**" shall have the meaning provided in Section 2B(r) hereof.

"**Expanded Terminal Work Comprehensive Plan**" shall have the meaning provided in Section 2B(r) hereof.

"**Expanded Terminal Work Investment**" shall have the meaning provided in Section 2B(r) hereof.

"**FIS**" shall have the meaning provided in Section 45(d) hereof.

"**Gate**" shall mean an airline passenger aircraft loading and unloading gate position and all related (as reasonably determined by the Port

Authority) ramp and passenger terminal facilities, fixtures and space in the Premises, including but not limited to passenger ticketing, passenger check-in, baggage handling and flight information systems, passenger hold room and waiting areas and appropriate signage and public identification.

"**Guide**" shall have the meaning provided in Section 46(f) hereof.

"**International Gate**" shall have the meaning provided in Section 45(d) hereof.

"**Leasehold Mortgage**" shall have the meaning provided in Section 96 hereof.

"**Leasehold Mortgage Annual Period**" shall have the meaning provided in Section 4(j) hereof.

"**Leasehold Mortgage Rental**" shall have the meaning provided in Section 4(j) hereof.

"**Leasehold Mortgage Termination Fee**" shall have the meaning provided in Section 4(k) hereof.

"**Leasehold Mortgage Termination Date**" shall have the meaning provided in Section 96 hereof.

"**Lessee's Net Investment**" shall have the meaning provided in Section 45(d) hereof.

"**Material Part**" shall have the meaning provided in Section 18 hereof.

"**Maximum Gate Investment Amount**" shall have the meaning provided in Section 45(d) hereof.

"**Measuring Period**" shall have the meaning provided in Section 46(f) hereof.

"**Parcel M**" shall have the meaning set forth in Section 95(a) hereof.

"**Parcel M Construction Notice**" shall have the meaning set forth in Section 96(a) hereof.

"**Parcel M Enlarged Terminal**" shall have the meaning set forth in Section 96(a)(2) hereof.

"Parcel M Surrender Date" shall have the meaning set forth in Section 95(c) hereof.

"Parcel M Tenant" shall have the meaning set forth in Section 96(a) hereof.

"Parcel M Termination Notice" shall have the meaning set forth in Section 95(a) hereof.

"Pro Rata Bond Gate Investment Amount" shall have the meaning provided in Section 45(d) hereof.

"Pro Rata Lessee Gate Investment Amount" shall have the meaning provided in Section 45(d) hereof.

"Pro-Rata Share" shall have the meaning provided in Section 45(d) hereof.

"Refinancing Leasehold Mortgage Termination Date" shall have the meaning provided in Section 4(k) hereof.

"Regional Gate" shall have the meaning provided in Section 45(d).

"Requesting Airline" shall have the meaning provided in Section 45(a) hereof.

"Required Conditions Attainment Date" shall have the meaning provided in Section 45(d) hereof.

"Restructuring Effective Date" shall have the meaning provided in Section 1 of the Second Supplemental Agreement to this Lease.

"Restructuring Surrendered Premises" shall have the meaning provided in Section 2 of the Second Supplemental Agreement to this Lease.

"Revenue Seats Daily Average" shall have the meaning provided in Section 46(f) hereof.

"Section 45 Gate Termination Date" shall have the meaning provided in Section 45(d) hereof.

"Section 45 Gate Termination Notice" shall have the meaning provided in Section 45(d) hereof.

"**Section 45 Notice Period**" shall have the meaning provided in Section 45(b) hereof.

"**Section 45 Notice to Provide Accommodations**" shall have the meaning provided in Section 45(b) hereof.

"**Section 46 Gate Termination Date**" shall have the meaning provided in Section 46 hereof.

"**Section 46 Gate Termination Notice**" shall have the meaning provided in Section 46 hereof.

"**Section 46 Notice to Provide Accommodations**" shall have the meaning provided in Section 46(c) hereof.

"**T-4 Covenant**" shall mean the covenant of the Port Authority set forth in Section 76 of Lease AYC-685 between the Port Authority and JFK International Air Terminal LLC, as it has been amended as of the Restructuring Effective Date, a copy of which is attached hereto as Exhibit T-4; and as it may be further amended by any amendment that (x) renders such covenant less restrictive to the Port Authority but (y) does not restrict to a greater degree, or require the Port Authority to restrict to a greater degree, the use of the Premises.

"**Taking**" shall have the meaning provided in Section 18 hereof.

"**Terminated Gate**" shall have the meaning provided in Section 45(d) hereof.

"**Total Revenue Seats**" shall have the meaning provided in Section 46(f) hereof.

"**Unamortized Bond Obligation**" shall have the meaning provided in Section 45(d) hereof.

"**Unamortized Lessee's Net Investment**" shall have the meaning provided in Section 45(d) hereof.

"**Unamortized Obligation**" shall have the meaning provided in Section 45(d) hereof.

13. Substitution of a New Section 92, "*Leasehold Mortgage - Foreclosure Rights*"

Section 92 of the Lease shall be deleted in its entirety, and the following new Section 92 shall be inserted in lieu thereof to read as follows:

"Section 92. Leasehold Mortgage - Foreclosure Rights

(a) ***Definitions.***

As used in this Section 92 the following terms shall have the following meanings:

"Additional Bond Resolutions" shall mean the resolutions adopted by the IDA in connection with the issuance and sale of Additional Bonds.

"Additional Bonds" shall mean all series of bonds that are issued by the IDA, subsequent to the issuance of the Series 2002 Bonds and the Series 2005 Bonds, in accordance with the terms and conditions of Section 6.2 of the Consent Agreement, pursuant to the Subleases and Indenture, to finance (or reimburse the Lessee for payment of) the costs of the Redevelopment Work and the Expanded Terminal Work (including all reserves, costs of issuance and capitalized interest); provided, however, that each of the Additional Bonds shall mature on or before December 31, 2031 and further that after the issuance of any Additional Bonds, the outstanding debt service on all of the Bonds shall be on a substantially equal annual payment basis (that is, a level debt service), with the sole exception of the Series 2002 Bonds to the extent that the debt service on the Series 2002 Bonds requires a balloon payment of One Hundred Twenty Million Dollars ($120,000,000) on August 1, 2012, or such other payment basis as the Port Authority may agree.

"Additional Supplemental Indentures" shall mean such indentures supplemental or amendatory to the Indenture, which are executed subsequent to the execution of the 2005 Supplemental Indentures in accordance with the

terms and conditions of Section 6.2 of the Consent Agreement.

"Approved Successor Lessee" shall mean a Scheduled Aircraft Operator, or a consortium of Scheduled Aircraft Operators, who shall each meet all of the requirements set forth in paragraph (p) of this Section, including but not limited to the entering into with the Port Authority of the Lease Assignment/Assumption and Consent Agreement (as defined in paragraph (p) of this Section), and thereby become the assignee/purchaser of this Lease with respect to the Mortgaged Premises resulting from the exercise by the Leasehold Mortgagee of its Foreclosure Rights, whether by foreclosure and sale or by assignment in lieu of foreclosure. In the event that the Approved Successor Lessee is a consortium, each of the Scheduled Aircraft Operators which is a member of the consortium (each, a **"Signatory Carrier"**) shall have (x) a "joint and step-up obligation" to the Port Authority with respect to all of the consortium's monetary obligations under this Lease, i.e., each Signatory Carrier is obligated with respect to its pro rata share of the consortium's monetary obligations under this Lease, including, in the event of a default by any other Signatory Carrier, a pro rata share of the defaulting Signatory Carrier's monetary obligations, and (y) a joint and several obligation with respect to all of the consortium's non-monetary obligations under this Lease.

"Bankruptcy Code" shall mean the United States Bankruptcy Reform Act of 1978, as amended, including without limitation amendments made by the Bankruptcy Reform Act of 1994, and as the same may be further amended or supplemented, or any Federal bankruptcy law or laws replacing the foregoing.

"Bankruptcy Rejection Date" shall have the meaning provided in Section 92(n)(1) below.

"Bondholder" and "Bondholders" shall mean, respectively, (i) each holder of a Bond or Bonds and (ii) all holders of all the Bonds.

"**Bonds**" shall mean, collectively, the Series 2002 Bonds, the Series 2005 Bonds and the Additional Bonds; provided, however, that the principal amount of Bonds issued under the Indenture and secured by the Leasehold Mortgage shall be limited to a maximum amount of Two Billion Dollars ($2,000,000,000) for the Redevelopment Work or, if the Lessee performs the Expanded Terminal Work, a maximum amount of Two Billion Three Hundred Million Dollars ($2,300,000,000), in each instance determined without taking into account any prepayments, redemptions or refundings made pursuant to any of the Financing Documents; and provided, further, however, that all Bonds shall have a maturity date on or before December 31, 2031 and that the outstanding debt service on all of the Bonds shall be on a substantially equal annual payment basis (that is, a level debt service), with the sole exception of the Series 2002 Bonds to the extent that the debt service on the Series 2002 Bonds requires a balloon payment of One Hundred Twenty Million Dollars ($120,000,000) on August 1, 2012, or such other payment basis as the Port Authority may agree. Nothing in the foregoing shall mean or be deemed to mean that the Port Authority shall have any obligation to consent to or approve the Expanded Terminal Work, it being understood and agreed that any such consent or approval shall be given only as provided in Section 2B of the Lease.

"**Bonds Default**" shall have the meaning provided in paragraph (g) of this Section.

"**Bonds Default Foreclosure Election Notice**" shall have the meaning provided in paragraph (g) of this Section.

"**Bond Resolutions**" shall mean, collectively, (x) the resolution adopted by the IDA on December 9, 1999, (y) the resolution adopted by the IDA on October 23, 2001, as amended November 13, 2001, September 13, 2005, and October 11, 2005, and (z) all Additional Bond Resolutions.

"**Company Sublease**" shall have the meaning given to such term in the Consent Agreement.

"**Consent Agreement**" shall mean the Amended and Restated Consent to Subleases and Leasehold Mortgage Agreement, dated as of the Restructuring Effective Date, entered into by and among the Port Authority, the Lessee, AMR Corporation, the Trustee and the IDA.

"**Financing Documents**" shall have the meaning given to such term in the Consent Agreement.

"**Financing Transaction**" shall mean the issuance of the Bonds for the financing of (or reimbursement to the Lessee for) the costs of the Redevelopment Work and the Expanded Terminal Work (including all reserves, costs of issuance and capitalized interest) and all the transactions documented by the Financing Documents that support and facilitate such issuance.

"**Foreclosure Election Notice**" shall have the meaning provided in Section 92(g) below.

"**Foreclosure Election Notice Service Date**" shall have the meaning provided in Section 92(g) below.

"**Foreclosure Election Period**" shall have the meaning provided in Section 92(g) below.

"**Foreclosure Period**" shall have the meaning provided in Section 92(i) below.

"**Foreclosure Rights**" shall mean the right, pursuant to the provisions of this Section 92, to foreclose upon the Leasehold Mortgage and to have this Lease with respect to the Mortgaged Premises assigned to an Approved Successor Lessee.

"**Guaranties**" shall have the meaning given to such term in the Consent Agreement.

"**IDA**" shall mean the New York City Industrial Development Agency, a corporate governmental agency constituting a body corporate and politic and a public benefit corporation

created and existing under and by virtue of the laws of the State of New York.

"IDA Sublease" shall have the meaning given to such term in the Consent Agreement, as amended by all IDA Sublease Amendments.

"IDA Sublease Amendments" shall mean written amendments amendatory to the IDA Sublease which are executed subsequent to the execution of the IDA Sublease in accordance with the terms and conditions of Section 6.2 of the Consent Agreement.

"Indenture" shall mean the Master Indenture of Trust dated as of July 1, 2002 by and between the IDA and The Bank of New York, as Trustee, as amended, modified or supplemented by the 2002 Supplemental Indentures, the 2005 Supplemental Indenture(s) and all Additional Supplemental Indentures.

"Lease Assignment/Assumption and Consent Agreement" shall have the meaning provided in paragraph (p)(3) of this Section.

"Lease Assignment/Assumption Commencement Date" shall have the meaning provided in paragraph (p)(3) of this Section.

"Leasehold Mortgage" shall mean the mortgage, dated as of the Restructuring Effective Date, to be granted by the Lessee to the Leasehold Mortgagee, a form of which is attached to the Consent Agreement as Exhibit G, and which is subject to this Lease, including this Section.

"Leasehold Mortgagee" shall mean the Trustee acting in its capacity as "Leasehold Mortgagee" under the Leasehold Mortgage.

"Leasehold Mortgagee's Foreclosure Period Commencement Payments" shall mean all amounts due and owing to the Port Authority under this Lease which have accrued for any and all periods up to the Foreclosure Election Notice Service Date, including without limitation the Ground Rental, the Area IA and Area IB Building Rental, the Area I Building Rental, the Area II Building Rental, the Terminal Rental, the Additional Land Rental, the Leasehold Mortgage

Rental, amounts for Hot Water and Chilled Water, the Cost of Assumable Maintenance and Repair, the Lessee's portion of the Costs of the Condition Survey, late charges, fees on In-Flight Meals, the Lessee's Parking Garage Contribution, handling fees, subletting fees, fees on consumer services, electrical, water and other utility charges, extermination services and additional rental under Section 16 of this Lease, to the extent such amounts have not been paid to the Port Authority by the Lessee or the Leasehold Mortgagee prior to the commencement of the Foreclosure Period.

"Leasehold Mortgagee's Foreclosure Period Current Basis Payments" shall mean all amounts due and owing to the Port Authority under this Lease on a current basis as the same become due and payable to the Port Authority under this Lease commencing as of the first day of the Foreclosure Period, including without limitation the Ground Rental, the Area IA and Area IB Building Rental, the Area I Building Rental, the Area II Building Rental, the Terminal Rental, the Additional Land Rental, the Leasehold Mortgage Rental, amounts for Hot Water and Chilled Water, the Cost of Assumable Maintenance and Repair, the Lessee's portion of the Costs of the Condition Survey, late charges, fees on In-Flight Meals, the Lessee's Parking Garage Contribution, handling fees, subletting fees, fees on consumer services, electrical, water and other utility charges, extermination services and additional rental under Section 16 of this Lease, to the extent such amounts have not been paid to the Port Authority by the Lessee or the Leasehold Mortgagee.

"Leasehold Mortgagee's Foreclosure Period Obligations" shall have the meaning provided in paragraph (j) of this Section.

"Leasehold Mortgage Termination Date" shall have the meaning provided in paragraph (b)(6) of this Section.

"Lessee Bankruptcy" shall have the meaning provided in Section 92(n)(1) below.

"Mortgaged Premises" shall mean the premises with respect to which the leasehold interest hereunder is mortgaged to the Leasehold Mortgagee pursuant to the Leasehold Mortgage.

"Notice of Termination" shall have the meaning set forth in paragraph (f) of this Section.

"Notice of Termination Service Date" shall have the meaning set forth in paragraph (f) of this Section.

"Outstanding" shall have the meaning given to such term in the Indenture.

"Proposed Successor Lessee" shall have the meaning set forth in paragraph (p)(1) of this Section.

"Related Party" shall have the meaning provided in paragraph (p)(2) of this Section.

"Section 19 Assignee" shall mean a Scheduled Aircraft Operator to whom the Lessee has assigned its leasehold interest under this Lease with the prior written consent of the Port Authority or as otherwise permitted in Section 19 of the Lease.

"Series 2002 Bonds" shall mean, collectively, the $120,000,000 Special Facility Revenue Bonds, Series 2002A (American Airlines, Inc. John F. Kennedy International Airport Project) and the $380,000,000 Special Facility Revenue Bonds, Series 2002B (American Airlines, Inc. John F. Kennedy International Airport Project) of the IDA issued, executed, authenticated and delivered under the Indenture.

"Series 2005 Bonds" shall mean, the $800,000,000 Special Facility Revenue Bonds, Series 2005 (American Airlines, Inc. John F. Kennedy International Airport Project) of the IDA issued, executed, authenticated and delivered under the Indenture.

"Subleases" shall mean, collectively, the Company Sublease and the IDA Sublease.

"Successor Trustee" shall mean a successor to the Trustee, selected and appointed

in accordance with the Indenture, which has delivered a Certificate of Assumption and Agreement in accordance with the Indenture and Section 6.4 of the Consent Agreement.

"Supplement No. 2 to the Lease" shall mean the supplemental agreement, dated as of the Restructuring Effective Date, supplementing and amending the Lease.

"Termination Effective Date" shall have the meaning set forth in paragraph (f) of this Section.

"Trustee" shall mean The Bank of New York, or any Successor Trustee under the Indenture.

"Unfavorable Experience" shall have the meaning provided in paragraph (p)(2) of this Section.

(b) ***Leasehold Mortgage.***

(1) The Lessee hereby represents to the Port Authority (x) that the Lessee intends to finance (and reimburse itself for) the costs of the Redevelopment Work and the Expanded Terminal Work (including reserves, costs of issuance and capitalized interest), together with associated personal property, with the proceeds of the Bonds issued by the IDA pursuant to the Financing Transaction, (y) that contemporaneously with the execution of Supplement No. 1 to this Lease, the Lessee executed certain of the Financing Documents and (z) that contemporaneously with the execution of Supplement No. 2 to this Lease, the Lessee has executed certain of the Financing Documents subject to the execution by the Lessee, the Port Authority, the Trustee, AMR and the IDA of the Consent Agreement.

(2) It is expressly acknowledged that the intent of the parties hereto is that the Leasehold Mortgage is to be granted by the Lessee to the Trustee pursuant to the provisions hereof, solely for the purposes of allowing the Trustee in its capacity as Leasehold Mortgagee to exercise its Foreclosure Rights with respect to the Mortgaged Premises, as the implementation of

the security afforded to the Bondholders solely with respect to the Mortgaged Premises by virtue of the Leasehold Mortgage, and to obtain an Approved Successor Lessee during the Foreclosure Period if it elects to do so pursuant to this Section.

(3) Notwithstanding the provisions of Section 19 of this Lease and any other provision of this Lease, and without otherwise limiting the generality thereof, American Airlines, Inc., the Lessee hereunder on the Restructuring Effective Date, shall have the right (**exercisable only one time and only as part of the Financing Transaction**) to execute the Leasehold Mortgage and to date, execute, deliver and record the same in accordance with this Lease, including without limitation this Section 92, and the Consent Agreement, provided that the Consent Agreement shall have been duly executed by all the parties thereto and have been delivered by the Port Authority to the other parties thereto. It is hereby understood and agreed that there shall be only one (1) Leasehold Mortgage.

(4) It is hereby understood and agreed that in no event shall the principal amount of Bonds issued under the Indenture and secured by the Leasehold Mortgage exceed the amount of Two Billion Dollars ($2,000,000,000), determined without taking into account any prepayments, redemptions or refundings made pursuant to any of the Financing Documents, provided, however, that if the Lessee shall have commenced the performance of the Expanded Terminal Work in accordance with all the terms and conditions of paragraph (r) of Section 2B of this Lease, then from and after such commencement the principal amount of Bonds issued under the Indenture and secured by the Leasehold Mortgage shall not exceed the amount of Two Billion Three Hundred Million Dollars ($2,300,000,000), determined without taking into account any prepayments, redemptions or refundings made pursuant to any of the Financing Documents. Nothing in the foregoing shall mean or be deemed to mean that the Port Authority shall have any obligation to consent to or approve the Expanded Terminal Work,

it being understood and agreed that any such consent or approval of the Expanded Terminal Work shall be given only as provided in Section 2B of this Lease.

(5) It is hereby understood and agreed that the Leasehold Mortgage shall only secure the obligations of (i) American Airlines, Inc. (including its permitted successors as Guarantor pursuant to and under the American Airlines Guaranty, provided that each such permitted successor is then the Lessee under this Lease) under the American Airlines Guaranty to pay principal, interest, purchase price and premium on the Bonds and (ii) AMR Corporation (including its permitted successors as Guarantor pursuant to and under the AMR Guaranty) under the AMR Guaranty to pay principal, interest, purchase price and premium on the Bonds.

(6) Without limiting Section 19 or any other term or provision of this Lease or any term or provision of the Consent Agreement, and notwithstanding anything herein or in the Financing Documents, the Leasehold Mortgage or any consent or approval of the Port Authority thereto to the contrary, the Leasehold Mortgage shall become effective only upon the Restructuring Effective Date, and the Leasehold Mortgage (and the Foreclosure Rights) shall automatically terminate and end in any event upon the date of the earliest to occur of the following (such date, the **"Leasehold Mortgage Termination Date"**):

(i) the expiration, surrender or termination of the Basic Lease;

(ii) the expiration, surrender or termination of this Lease, except that the Leasehold Mortgage and the Foreclosure Rights (but only if the Leasehold Mortgage shall not have terminated pursuant to any of subdivision (i) or subdivisions (iii) through (xi) of this Section 92(b)(6)) shall not terminate solely due to a deemed termination of this Lease, pursuant to Section 52(a) of this Lease, solely due to the occurrence of a Triggering Event;

(iii) the termination of the consent granted under the Consent Agreement as to the Leasehold Mortgage pursuant to Section 5.2 of the Consent Agreement;

(iv) the termination, expiration or surrender (including without limitation discharge or release) of both of (x) the American Airlines Guaranty, as such term is defined in the Consent Agreement (except that if payment obligations of American Airlines, Inc. (including its permitted successors pursuant to and under the American Airlines Guaranty as the Guarantor thereunder, provided each such permitted successor is then the Lessee under this Lease) thereunder with respect to the payment of principal, interest, or premium on the Bonds remain Outstanding and unpaid, then upon the date when there are no such payment obligations remaining Outstanding and unpaid); and (y) the AMR Guaranty, as such term is defined in the Consent Agreement (except that if payment obligations of AMR (including its permitted successors pursuant to and under the AMR Guaranty as the Guarantor thereunder) thereunder with respect to the payment of principal, interest, purchase price or premium on the Bonds remain Outstanding and unpaid, then upon the date when there are no such obligations remaining Outstanding and unpaid);

(v) the date on which no Bonds shall be Outstanding;

(vi) the expiration of the Foreclosure Election Period without the Leasehold Mortgagee's due and timely election to exercise its Foreclosure Rights in accordance with the terms of this Section;

(vii) the date of any written notice given by the Leasehold Mortgagee stating its election not to exercise its Foreclosure Rights hereunder;

(viii) the effective date of the letting of the Mortgaged Premises hereunder, whether for the full term or otherwise, to an Approved Successor Lessee, whether resulting from a foreclosure of the Leasehold Mortgage, the exercise by the Leasehold Mortgagee of its Foreclosure Rights, an assignment in lieu of foreclosure or otherwise without the occurrence of a Lease Assignment/Assumption Commencement Date, provided, however, that nothing contained in this subdivision (viii) shall or shall be deemed to have changed any term or provision of this Section 92, including without limitation paragraph (p) hereof;

(ix) the Lease Assignment/ Assumption Commencement Date;

(x) the expiration or earlier termination or cancellation of the Foreclosure Period; and

(xi) December 31, 2036.

(9) The Leasehold Mortgagee shall not assign or transfer the Leasehold Mortgage to any Person other than a Successor Trustee. Each Successor Trustee shall be obligated under this Section and also under the Consent Agreement, pursuant to the terms of Section 6.4 of the Consent Agreement, and shall hold the Leasehold Mortgage subject to all the terms and provisions of this Section as if it were the original Leasehold Mortgagee.

(10) Any approval or consent by the Port Authority hereunder, whether to the Leasehold Mortgage or to any assignment thereof, shall apply only to the specific transaction thereby authorized and shall not relieve the Lessee or the Leasehold Mortgagee from the requirement of obtaining the prior approval or consent of the Port Authority to each and every further assignment of the Leasehold Mortgage (except if otherwise expressly permitted hereunder without such approval).

(11) Provided that nothing in this paragraph shall in any way impair or limit the

rights of the Leasehold Mortgagee under this Section or the Leasehold Mortgagee's rights against the Lessee under the Leasehold Mortgage, which shall be in accordance with and subject to this Section, and notwithstanding anything contained in the Leasehold Mortgage or any consent or approval of the Port Authority thereto, it is understood and agreed that the rights of the Leasehold Mortgagee shall in all respects be as specified in the Leasehold Mortgage and this Section, and shall be subject to the terms, covenants, conditions and provisions set forth in this Lease and the Consent Agreement. The terms, covenants, conditions and provisions of this Lease shall govern as between the Port Authority and the Lessee. As between the Port Authority and the Leasehold Mortgagee, in the event of any inconsistency between the terms, covenants, conditions and provisions of this Lease and the terms, covenants, conditions and provisions of the Leasehold Mortgage or the Indenture or any of the other Financing Documents, the terms, covenants, conditions and provisions of this Lease shall control.

(12) Neither this Section nor the Leasehold Mortgage shall prevent the Lessee from amending this Lease without the approval of the Leasehold Mortgagee, provided, however, that:

(i) until the Leasehold Mortgage shall have terminated as provided in paragraph (b)(6) of this Section, no amendment shall be made to this Section 92 without the prior written consent of the Leasehold Mortgagee; and

(ii) until the Leasehold Mortgage shall have terminated as provided in paragraph (b)(6) of this Section, no amendment which shall only affect an Approved Successor Lessee who is not then the Lessee, without affecting the Lessee, shall be made to this Lease without the prior written consent of the Leasehold Mortgagee.

(13) Except as expressly authorized in this Section, the Lessee shall not mortgage the Lessee's interest in this Lease or the letting hereunder in whole or in part, or any portion of the Premises or the Lessee's subleasehold interests under the Subleases in whole or in part. The foregoing shall not prohibit the IDA's pledge, pursuant to the Indenture, of its interests under the IDA Sublease and the execution of any financing statements relating to the same.

(14) Neither an Approved Successor Lessee nor any other Person purchasing or succeeding to the leasehold hereunder shall have any right to pledge or mortgage the leasehold hereunder or any portion of the Premises.

(c) ***Limitations on Leasehold Mortgagee's Right to Use and Occupy Mortgaged Premises.***

The Leasehold Mortgagee shall not have any right in or to the occupancy or use of the Mortgaged Premises except (A) to the extent necessary to cure Lessee's default in accordance with paragraph (e) of this Section and (B) to fulfill the Leasehold Mortgagee's obligations under paragraph (i)(2) of this Section. The Leasehold Mortgagee shall not enter into or be entitled to enter into possession of the Mortgaged Premises under this Lease except to the extent afforded to it under this Lease.

(d) ***Leasehold Mortgagee Notices.***

Notices, statements and requests by or to the Leasehold Mortgagee under the provisions of this Section shall be governed by Section 32 of this Lease, entitled "Notices", and shall be given to the Leasehold Mortgagee at 101 Barclay Street, New York, New York 10286 or to such other address as The Bank of New York or a Successor Trustee shall have last furnished to the Port Authority in writing for the purpose of sending of notices to the Leasehold Mortgagee pursuant to this Section.

(e) ***Notices of Default.***

(1) The Port Authority shall send to the Leasehold Mortgagee a copy of each notice of default given under Section 20 of this Lease, entitled "Termination by the Port Authority", or otherwise at the same time as and whenever any such notice of default shall have been sent to the Lessee, and (so long as the Leasehold Mortgage is in effect) no notice of default given by the Port Authority shall be deemed to have been given by the Port Authority unless and until a copy thereof shall have been so given to the Leasehold Mortgagee.

(2) The Lessee irrevocably directs that the Port Authority accept, and the Port Authority agrees to accept, the curing of such default with respect to the Mortgaged Premises by the Leasehold Mortgagee as if and with the same force and effect as though cured by the Lessee. In addition, with respect to a Notice of Termination under Section 3(c), a copy of which is required to be sent to the Leasehold Mortgagee pursuant to the following paragraph (f), the Lessee also irrevocably directs that the Port Authority accept, and the Port Authority agrees to accept, the satisfaction of the Required Conditions by the Leasehold Mortgagee as if and with the same force and effect as though satisfied by the Lessee.

(f) ***Notices of Termination.***

If the Port Authority shall elect to terminate the letting of the Premises under this Lease pursuant to Section 20 of this Lease, entitled "Termination by the Port Authority", or otherwise (including a termination pursuant to an election by the Port Authority to terminate the letting of the Premises under this Lease (x) pursuant to Section 3(c) of this Lease or (y) during a month-to-month tenancy of this Lease following a Trigger Event as provided in Section 52 of this Lease), then, the Port Authority shall at the same time send to the Leasehold Mortgagee a copy of the written notice of such termination (the "**Notice of Termination**"; and the date of sending thereof, the "**Notice of Termination**

Service Date"), and (so long as the Leasehold Mortgage is in effect) no Notice of Termination given by the Port Authority shall be deemed to have been given by the Port Authority unless and until a copy thereof shall have been so given to the Leasehold Mortgagee. The effective time and date of such termination (the "**Termination Effective Date**"), so long as the Leasehold Mortgage is in effect (and notwithstanding Section 20(a) of this Lease), shall not be before 11:59 p.m. New York City time on the thirtieth (30th) day after the Notice of Termination Service Date, and shall be subject to the extension provided in paragraph (g)(2) of this Section and to the stay provided in paragraph (i)(2) of this Section.

(g) ***Election to Exercise Foreclosure Rights.***

(1) "**Bonds Default**" shall mean either (x) a failure to make payment of any and all amounts required when due for the payment of the principal, purchase price, premium or interest on the Bonds resulting in the occurrence and continuance of an Event of Default under and as defined in the Indenture, or (y) a failure to make payment under the Guaranties with respect to the payment of any and all amounts required when due for the payment of the principal, purchase price, premium or interest on the Bonds, which failure has resulted in the occurrence and continuance of an Event of Default under and as defined in the Indenture and an event of default under the Leasehold Mortgage giving the Leasehold Mortgagee the right to foreclose the Leasehold Mortgage.

"**Bonds Default Foreclosure Election Notice**" shall mean a notice given by the Leasehold Mortgagee to the Port Authority in accordance with the provisions of paragraph (g)(3) below, (A) certifying that a Bonds Default has occurred and is continuing, and (B) stating the Leasehold Mortgagee's affirmative election to exercise the Foreclosure Rights.

"**Foreclosure Election Notice**" shall mean a notice given by the Leasehold

Mortgagee to the Port Authority in accordance with the provisions of paragraph (g)(3) below, stating the Leasehold Mortgagee's affirmative election to exercise the Foreclosure Rights, and shall include a Bonds Default Foreclosure Election Notice.

"**Foreclosure Election Notice Service Date**" shall have the meaning provided in paragraph (g)(3) of this Section.

"**Foreclosure Election Period**" shall mean (except with respect to the Bonds Default Foreclosure Election Notice, for which there is no Foreclosure Election Period) the period commencing on the earlier to occur of (x) the Notice of Termination Service Date and (y) the Bankruptcy Rejection Date (such earlier date, the "**Foreclosure Election Commencement Date**"), and expiring at 11:59 p.m. New York City time on the thirtieth (30th) consecutive day thereafter or, if extended in accordance with the terms of the following subparagraph, on the one hundred fiftieth (150th) day thereafter (such date of expiration, the "**Foreclosure Election Expiration Date**"); provided, however, that as of the date and during the pendency of any Lessee Bankruptcy, the counting of days during the Foreclosure Election Period shall be tolled until (p) the conclusion of the Lessee Bankruptcy or (q) the Bankruptcy Rejection Date, whichever date is earlier, and provided, further, that in the event of such tolling, the Foreclosure Election Expiration Date shall be not less than thirty (30) days following the conclusion of the Lessee Bankruptcy.

(2) By giving notice to the Port Authority not later than 11:59 p.m. New York City time on the thirtieth (30th) consecutive day after the Foreclosure Election Commencement Date, the Leasehold Mortgagee shall have the right to extend the Foreclosure Election Period, and the Termination Effective Date (if applicable) to the date that is the one hundred fiftieth (150th) day after the Foreclosure Election Commencement Date.

(3) If the Leasehold Mortgagee desires to exercise the Foreclosure Rights, the Leasehold

Mortgagee shall, on or prior to the Foreclosure Election Expiration Date, (x) give to the Port Authority a Foreclosure Election Notice and (y) simultaneously pay to the Port Authority the Leasehold Mortgagee's Foreclosure Period Commencement Payments (the date of such timely service of notice and simultaneous payment, the "**Foreclosure Election Notice Service Date**"); for purposes of the foregoing, a Bonds Default Foreclosure Election Notice (with respect to which there is no Foreclosure Election Period) shall be deemed to have been given "prior to the Foreclosure Election Expiration Date" so long as it is given prior to the occurrence of any Foreclosure Election Commencement Date.

(4) In the event of the failure of the Leasehold Mortgagee to elect to exercise its Foreclosure Rights by the timely service of its Foreclosure Election Notice and the payment to the Port Authority of the Leasehold Mortgagee's Foreclosure Period Commencement Payments in accordance with this Section, this Lease and the letting of the Mortgaged Premises shall be deemed terminated effective immediately on the Foreclosure Election Expiration Date, or on the effective date of any other notice of termination served by the Port Authority in accordance with the Section of this Lease entitled "Termination by the Port Authority", and the Port Authority, in addition to pursuing any or all of its rights and remedies under this Lease, or otherwise, shall be entitled to elect to use, alter or demolish any of the improvements on the Mortgaged Premises free of any claim, right or interest of the Lessee, the Trustee, the Leasehold Mortgagee, the IDA or the Bondholders.

(h) ***Information Statements.***

(1) For purposes of the Leasehold Mortgagee's making of the Leasehold Mortgagee's Foreclosure Period Commencement Payments, the Port Authority agrees, upon the request of the Leasehold Mortgagee made not less than ten (10) days prior to the Foreclosure Election Expiration Date (or upon the Port Authority's receipt of notice from the Leasehold Mortgagee that the

Leasehold Mortgagee is considering a potential Bonds Default and needs to determine the amount of the Leasehold Mortgagee's Foreclosure Period Commencement Payments) to send to the Leasehold Mortgagee a statement setting forth the Leasehold Mortgagee's Foreclosure Period Commencement Payments.

(2) After the written request of the Leasehold Mortgagee to the Port Authority which may be made from time to time (but not more frequently than once per calendar month) up to the end of the Foreclosure Period, the Port Authority shall promptly provide to the Leasehold Mortgagee a statement of amounts invoiced by the Port Authority to the Lessee during the sixty-(60-) day period preceding the date of each request and setting forth the unpaid amounts, if any, owing or estimated to be owing to the Port Authority by the Lessee under this Lease at the date of the request.

(3) Any statement provided by the Port Authority pursuant to the foregoing paragraphs (h)(1) and (h)(2) shall not be conclusive as to the relevant amounts actually owed for the periods in question and shall not release or relieve the Lessee or the Leasehold Mortgagee from any amounts due for such periods, notwithstanding any failure to include all amounts due and owing, and shall not preclude the Port Authority from rendering a billing for the same. Notwithstanding the foregoing, however, the amounts set forth in the information statement to be provided pursuant to paragraph (h)(1) above, although not conclusive as to the amounts actually owed, shall be deemed sufficient for purposes of determining the amount to be paid as the Leasehold Mortgagee's Foreclosure Period Commencement Payments, in order to establish the Foreclosure Election Notice Service Date and the commencement of the Foreclosure Period.

(4) Neither the provisions of this paragraph (h) nor any information statement provided hereunder shall be deemed to impair, restrict, limit, alter or affect any claim, right or remedy of the Port Authority under this Lease

or otherwise, including without limitation the right to serve a Notice of Termination under the Lease, or to limit the amounts forming the basis for any termination of this Lease by the Port Authority or for which the Lessee may be liable under Section 23 of this Lease entitled "Survival of the Obligations of the Lessee", nor shall the same impose or create any liability on the Port Authority to, or be the basis of any claim against the Port Authority by, the Lessee, the Leasehold Mortgagee, the Bondholders or any of them, the IDA or any other party or Person with respect to such information statement, so long as the Port Authority has provided the same in good faith, and no such information statement shall be binding on the Port Authority or constitute or be deemed to constitute any waiver or estoppel of any claim, right or remedy of the Port Authority.

(i) ***Foreclosure Period***

(1) **"Foreclosure Period"** shall mean the period *commencing* on the Foreclosure Election Notice Service Date, provided, however, that the Foreclosure Period shall not commence if any of the terms and conditions of paragraph (g) of this Section shall not have been satisfied, including without limitation the payment of the Leasehold Mortgagee's Foreclosure Period Commencement Payments simultaneously with the giving of the Foreclosure Election Notice to the Port Authority, and *expiring* on the earliest to occur of (w) the one thousand ninety-fifth ($1,095^{th}$) consecutive day following the Foreclosure Election Notice Service Date, (x) the Lease Assignment/Assumption Commencement Date, (y) the transfer of title to the Lessee's interest in the Mortgaged Premises under this Lease pursuant to the issuance of a final judgment of foreclosure by a court of competent jurisdiction and (z) any termination or expiration of the Leasehold Mortgage as provided in this Section; provided, however, that the Foreclosure Period shall be subject to earlier termination as provided in paragraph (k) of this Section and (except as otherwise expressly provided) to the tolling of the running of the Foreclosure Period pursuant to paragraphs (i)(3) and (p)(4) of this Section or

to the suspension of the running of the Foreclosure Period pursuant to paragraph (n)(3)(ii) of this Section.

(2) In the event that a Notice of Termination is served, or has been served and is pending, during the Foreclosure Period, such Notice of Termination shall be deemed stayed during the balance of the Foreclosure Period, and such Foreclosure Period may continue so long as the Leasehold Mortgagee shall comply with all of the Leasehold Mortgagee's Foreclosure Period Obligations, including without limitation its continued payments of the Leasehold Mortgagee's Foreclosure Period Current Basis Payments.

(3) As of the date and during the pendency of any Lessee Bankruptcy, notwithstanding anything herein to the contrary, the counting of days and the Leasehold Mortgagee's Foreclosure Period Obligations in connection with any then-pending Foreclosure Period shall be deemed suspended and held in abeyance until the earlier of (i) the conclusion of the Lessee Bankruptcy or (ii) the Bankruptcy Rejection Date, provided, however, that nothing in the foregoing shall or shall be deemed to suspend or hold in abeyance any of the Lessee's obligations under this Lease, all of which obligations shall remain in full force and effect.

(4) Notwithstanding anything herein to the contrary, if, during the pendency of any Foreclosure Period, the Bonds Default and/or Lease default giving rise to such Foreclosure Period, or any subsequent Bonds Defaults or Lease defaults thereafter occurring, are cured, or waived by the Port Authority (or the Leasehold Mortgagee in connection with a Bonds Default), as applicable, in accordance with the applicable agreement(s) prior to the Lease Assignment/Assumption Commencement Date and any pleading/proceedings based upon such Bonds Defaults or lease defaults are dismissed with prejudice, then such Foreclosure Period shall be deemed not to have occurred (provided that any amounts paid or owing to the Port Authority as of

the date thereof shall be retained by, or continue to be owing to, the Port Authority, as applicable).

(j) ***Leasehold Mortgagee's Foreclosure Period Obligations.***

The Trustee as Leasehold Mortgagee shall have all of the following obligations upon the commencement of and during the Foreclosure Period (all of the following obligations, collectively, the **"Leasehold Mortgagee's Foreclosure Period Obligations"**):

(i) From the first day of the Foreclosure Period and at all times during the continuation of the Foreclosure Period (and in addition to the Leasehold Mortgagee's Foreclosure Period Commencement Payments) the Leasehold Mortgagee shall pay to the Port Authority the Leasehold Mortgagee's Foreclosure Period Current Basis Payments on a current basis, as and when due under this Lease, to the extent such amounts are not paid by Lessee.

(ii) At all times during the Foreclosure Period the Leasehold Mortgagee shall use all reasonable efforts to preserve the value of the Mortgaged Premises until it has control of the Mortgaged Premises, and thereafter shall fulfill all obligations under this Lease with respect to the preservation of the Mortgaged Premises;

(iii) Promptly upon any commencement of the Foreclosure Period, whether triggered by a default under this Lease (Notice of Termination or Bankruptcy Rejection Date) or a Bonds Default, the Leasehold Mortgagee shall (to the extent permitted by law) commence, and throughout the Foreclosure Period diligently and in good faith continue and seek to complete, proceedings to foreclose upon the Leasehold Mortgage, including eviction of the Lessee in the event the Lessee fails to vacate the Mortgaged Premises.

(iv) From time to time, promptly following the Port Authority's request, the Leasehold Mortgagee shall deliver to the Port Authority the Leasehold Mortgagee's certified statement as to the status of the proceedings to foreclose upon the Leasehold Mortgage.

(k) ***Termination of Foreclosure Period.***

(1) If the Leasehold Mortgagee fails to timely pay any of the Leasehold Mortgagee's Foreclosure Period Current Basis Payments, and such failure has not been cured within twenty (20) days after notice from the Port Authority, or fails to fully and duly perform any of the other Leasehold Mortgagee's Foreclosure Period Obligations, and such failure has not been cured within thirty (30) days after notice from the Port Authority (except where fulfillment of the obligation requires activity over a period of time, and the Leasehold Mortgagee shall have commenced to perform whatever may be required for fulfillment within such thirty-day period and continues such performance without interruption except for causes beyond its control), the Foreclosure Period and the Foreclosure Rights and the Leasehold Mortgage shall automatically terminate without any further act on the part of the Port Authority, and any Notice of Termination previously stayed shall become fully effective as provided below. Notwithstanding anything herein to the contrary but without limiting subparagraph (2) below or paragraph (o) of this Section, the automatic termination of the Foreclosure Period, the Foreclosure Rights and the Leasehold Mortgage shall be the sole right or remedy of the Port Authority for the failure of the Leasehold Mortgagee to pay the Leasehold Mortgagee's Foreclosure Period Current Basis Payments, provided, however, that the foregoing shall not be deemed to preclude the Port Authority from charging any late payment or other fees and charges that the Port Authority would be entitled to collect under this Lease in the event of any late payment or performance of the Lessee's obligations under this Lease.

(2) Upon any expiration, termination or cancellation of the Foreclosure Period (other than by reason of a final judgment of foreclosure by a court of competent jurisdiction or an assignment of lease in lieu of foreclosure), the Port Authority's termination under the Notice of Termination shall be deemed effective with respect to the Mortgaged Premises, and this Lease with respect to the Mortgaged Premises shall be deemed terminated effective immediately on said termination of the Foreclosure Period in accordance with Section 20 of this Lease, entitled "Termination by the Port Authority", and the Port Authority, in addition to pursuing any or all of its rights and remedies under the Lease, or otherwise, shall be entitled to elect to use, alter or demolish any of the improvements on the Mortgaged Premises free of any claim, right or interest of the Lessee, the Leasehold Mortgagee, the IDA, the Trustee or the Bondholders.

(l) ***Port Authority Use of Mortgaged Premises during Foreclosure Period.***

Without limiting the terms and conditions of Sections 45, 46 and 95 hereof and in addition thereto, during the Foreclosure Period, as to any and all portions of the Mortgaged Premises which the Lessee has vacated or from which the Lessee has been evicted, the Port Authority, until such time as the Leasehold Mortgagee obtains an Approved Successor Lessee, may use or grant the use of such portion or portions of the Mortgaged Premises on a temporary basis (subject to a thirty (30) day right of termination by the Port Authority without cause) to other Aircraft Operators who have not conducted scheduled passenger aircraft operations at the Airport within the immediately prior thirty-six (36) calendar months, which shall be deemed a subuse under this Lease and shall not impair or limit any of the obligations or liabilities of the Lessee or the Leasehold Mortgagee; any net amount received by the Port Authority (after deducting all expenses, costs and disbursements incurred or paid by the Port Authority in connection therewith) shall be credited, as the Port

Authority shall determine, either to the obligations of the Lessee to the Port Authority under this Lease and/or the Leasehold Mortgagee's Foreclosure Period Current Basis Payments. No such subuse shall be or be construed to be an acceptance of a surrender or a waiver of any claims, rights or remedies of the Port Authority or to be a Foreclosure by the Leasehold Mortgagee, or to limit the Foreclosure Rights of the Leasehold Mortgagee under this Section.

(m) ***Termination of Foreclosure Rights on Expiration of Foreclosure Period.***

In the event that at the expiration of the Foreclosure Period there has not occurred (x) a transfer of title to the Lessee's interest in the Mortgaged Premises under this Lease pursuant to the issuance of a final judgment of foreclosure by a court of competent jurisdiction or (y) an assignment-in-lieu-of-foreclosure of the Lessee's interest in the Mortgaged Premises under this Lease, then upon the expiration of the Foreclosure Period the Foreclosure Rights and the Leasehold Mortgage shall terminate automatically and the Trustee shall have no further rights or obligations with respect to Foreclosure, the Port Authority's termination under the Notice of Termination shall be deemed effective with respect to the Mortgaged Premises and this Lease with respect to the Mortgaged Premises shall be deemed terminated effective immediately on said expiration of the Foreclosure Period in accordance with Section 20 of this Lease, entitled "Termination by the Port Authority", and the Port Authority, in addition to pursuing any or all of its rights and remedies under the Lease, or otherwise, shall be entitled to elect to use, alter or demolish any of the improvements on the Mortgaged Premises free of any claim, right or interest of the Lessee, the Leasehold Mortgagee, the IDA, the Trustee or the Bondholders.

(n) ***Lessee Bankruptcy.***

(1) **"Bankruptcy Rejection Date"** shall mean the later of (x) the date set forth in the final, non-appealable order of the bankruptcy

court as the effective date thereof for the rejection of this Lease by the Lessee and (y) the actual date that such order of the bankruptcy court becomes final and non-appealable.

"Lessee Bankruptcy" shall mean the filing by the Lessee of a voluntary petition under the Bankruptcy Code or the filing of an involuntary petition against the Lessee under the Bankruptcy Code, and the pendency of proceedings pursuant thereto.

(2) The fact that the Bankruptcy Rejection Date may trigger the Foreclosure Election Period pursuant to Section 92(g) above shall not constitute any waiver, impairment or limitation of any claims, rights or remedies of the Port Authority with respect to such rejection of this Lease or the Lessee Bankruptcy.

(3) In the event of the occurrence of a Lessee Bankruptcy prior to the commencement of the Foreclosure Period,

(i) if the Lessee as debtor in possession or the bankruptcy trustee assumes and assigns this Lease to an assignee which assignee also assumes this Lease subject to the encumbrance created by the Leasehold Mortgage (by operation of law or otherwise) (whether or not such assignee also assumes the Subleases and the Lessee's obligations to pay the principal, redemption premium and interest on any of the Bonds) and there are then Bonds Outstanding, then the Foreclosure Rights of the Leasehold Mortgagee and the Leasehold Mortgage shall continue to obtain and apply to the tenancy of said assignee of the assigned Lease of the Mortgaged Premises, with Foreclosure Rights and a new Foreclosure Period as to such assignee in accordance with and subject to this Section;

(ii) if the Lessee as debtor in possession or the bankruptcy trustee rejects this Lease, then the Foreclosure Election Period shall commence upon the Bankruptcy Rejection Date, and the provisions of paragraph (g) hereof shall apply.

(4) In the event of the occurrence of a Lessee Bankruptcy subsequent to the commencement of the Foreclosure Period,

(i) if the Lessee as debtor in possession or the bankruptcy trustee assumes and assigns this Lease to an assignee which assignee also assumes this Lease subject to the encumbrance created by the Leasehold Mortgage (by operation of law or otherwise) (whether or not such assignee also assumes the Subleases and the Lessee's obligations to pay the principal, redemption premium and interest on the Bonds) and there are then Bonds Outstanding, then the Foreclosure Rights of the Leasehold Mortgagee and the Leasehold Mortgage shall continue to obtain and apply to the tenancy of said assignee of the assigned Lease of the Mortgaged Premises, with Foreclosure Rights and a new Foreclosure Period as to such assignee in accordance with and subject to this Section;

(ii) if the Lessee as debtor in possession or the bankruptcy trustee rejects this Lease, then the running of the previously commenced Foreclosure Period shall be deemed suspended as of the date of the Lessee Bankruptcy and shall resume as of the occurrence of a Bankruptcy Rejection Date; provided, however, that the foregoing shall not constitute any waiver, impairment or limitation of any claims, rights or remedies of the Port Authority with respect to such rejection of this Lease or with respect to a Lessee Bankruptcy.

(5) The foregoing shall not limit the rights granted hereunder to the Leasehold Mortgagee, so long as the Leasehold Mortgagee fulfills all Leasehold Mortgagee's Foreclosure Period Obligations, including without limitation the payment to the Port Authority of the Leasehold Mortgagee's Foreclosure Period Current Basis Payments.

(6) In the event that title to the Lessee's interest in the Mortgaged Premises is transferred to the Leasehold Mortgagee, so that

the Leasehold Mortgagee becomes the lessee under this Lease, then, unless in the meantime an Approved Successor Lessee shall have become the Lessee hereunder, this Lease shall automatically terminate at 11:59 p.m. on the thirtieth (30th) day following such transfer of title.

(o) ***Port Authority Right to Pay Off Bonds.***

(1) At any time, upon the Port Authority's request, the Leasehold Mortgagee shall give the Port Authority a notice which shall state the principal amount of the Bonds then Outstanding, the amount of accrued and unpaid interest thereon, and the per diem interest which will accrue on the principal amount of the Bonds then Outstanding from and after the date of such notice.

(2) The Port Authority shall have the right, after the occurrence of a Leasehold Mortgage Default (as defined in the Leasehold Mortgage) to tender to the Leasehold Mortgagee the total amount specified in such notice, including per diem interest through the date of such tender, and upon such tender the Leasehold Mortgage and the Foreclosure Rights, if any, shall terminate and be of no further force and effect. Promptly following the Port Authority's tender of such amount specified in such notice, the Lessee shall cause to be executed, and the Leasehold Mortgagee shall execute a satisfaction of the Leasehold Mortgage, cause the same to be filed in the Office of the City Register for Queens County and take all other and additional actions that are required in order to discharge the lien of the Leasehold Mortgage as of record.

(p) ***Successor Lessee.***

(1) No entity, party or Person other than an Approved Successor Lessee shall be entitled to become the owner of or acquire any interest in this Lease pursuant to a judgment of foreclosure and sale or as a result of an assignment in lieu of foreclosure or as a result of the exercise by the Leasehold Mortgagee of its Foreclosure Rights or otherwise. Without limiting the foregoing, it is understood and acknowledged

that the transfer of this Lease to an entity, party or Person other than a Scheduled Aircraft Operator or a consortium of Scheduled Aircraft Operators in violation of the foregoing prohibition may cause irreparable and substantial harm, injury and liability to the Port Authority. Any entity, person or party proposed to become an Approved Successor Lessee (the "**Proposed Successor Lessee**") shall become an Approved Successor Lessee only if (x) the Leasehold Mortgagee duly exercises its Foreclosure Rights by submitting to the Port Authority its Foreclosure Election Notice stating its election to exercise its Foreclosure Rights under this Lease and including therewith the payment to the Port Authority of the Leasehold Mortgagee's Foreclosure Period Commencement Payments, and fulfills all the other Leasehold Mortgagee's Foreclosure Period Obligations, including without limitation the payment to the Port Authority of the Leasehold Mortgagee's Foreclosure Period Current Basis Payments, (y) said Proposed Successor Lessee meets all of the requirements for an Approved Successor Lessee and (z) said Proposed Successor Lessee receives the approval of the Port Authority in advance.

(2) In determining whether to approve or disapprove a Proposed Successor Lessee, the Port Authority shall consider all relevant factors, including without limitation the following factors, but it is agreed that the Port Authority shall analyze all such factors in a reasonable manner:

(i) whether the Proposed Successor Lessee will be able to fulfill all of the Lessee's obligations under this Lease with respect to the Mortgaged Premises throughout the balance of the term of the letting hereunder or such lesser term as it proposes to lease;

(ii) whether the financial standing of the Proposed Successor Lessee as of the effective date of its acquisition of the leasehold hereunder is sufficient, in the opinion of the Port Authority, to assure

the Port Authority that the Proposed Successor Lessee is able to fulfill all of the Lessee's obligations with respect to the Mortgaged Premises under this Lease throughout the balance of the term of the letting of the Mortgaged Premises hereunder or such lesser term as it proposes to lease which shall constitute the term of the proposed relatting to the Proposed Successor Lessee; including without limitation the submission to the Port Authority of such security or guaranty in such form and amount as the Port Authority may find satisfactory and shall also submit such financial statements and other financial information as the Port Authority may require;

(iii) whether the Proposed Successor Lessee and any officer, director or partner thereof and any person, firm or corporation having an outright or beneficial interest in twenty percent (20%) or more of the monies invested in the Proposed Successor Lessee, if said Proposed Successor Lessee is a corporation or partnership, by loans thereto, stock ownership therein or any other form of financial interest has as of the date of the proposed assignment/assumption a good reputation for integrity and financial responsibility and has not beer. convicted of or under current indictment for any crime and is not currently involved in material civil anti-trust or fraud litigation (other than as a plaintiff);

(iv) whether the Port Authority has had any "Unfavorable Experience" with the Proposed Successor Lessee, or any of its officers, directors, or partners, or any person, firm or corporation (such officers, directors, partners, person, firm and corporation, being herein in this item (iv) individually and collectively referred to as a **"Related Party"**) having an outright or beneficial interest in twenty percent (20%) or more of the monies invested in the Proposed Successor Lessee, if said Proposed

Successor Lessee is a corporation or partnership, by loans thereto, stock ownership therein or any other form of financial interest; **"Unfavorable Experience"** as used herein shall mean any one or more of the following: (A) a material default by said Proposed Successor Lessee or any such Related Party of any obligation (monetary or non-monetary) to the Port Authority; (B) any assertion made by said Proposed Successor Lessee or any such Related Party against the Port Authority in any frivolous, false, malicious, or unsupportable claim, demand or allegation or suit or proceeding; (C) any act or omission of said Proposed Successor Lessee or any such Related Party causing or resulting in any loss, damage or injury to the Port Authority or the imposition or threatened imposition of any fine or penalty on the Port Authority or the commencement or threatened commencement of any action, suit or proceeding against the Port Authority; (D) any failure or refusal of said Proposed Successor Lessee or any such Related Party to comply with any law, governmental order, directive, ordinance or requirement, including without limitation, Environmental Requirements, at any Port Authority facility; (E) any failure to comply with, or breach of, the Port Authority's Code of Ethics and Financial Disclosure by said Proposed Successor Lessee or any such Related Party; or (F) any breach by said Proposed Successor Lessee or any such Related Party of any fiduciary obligation, trust, confidence or other duty to the Port Authority or of any confidentiality agreement with the Port Authority; and

(v) whether the Proposed Successor Lessee or any officer, director or partner thereof or any Person, firm or corporation having an outright or beneficial interest in twenty percent (20%) or more of the monies invested in the proposed assignee, if said Proposed Successor Lessee is a corporation or partnership, by loans

thereto, stock ownership therein or any other form of financial interest is in conflict of interest, as defined under the laws of the States of New York and New Jersey or Port Authority policy, with any Commissioner of the Port Authority as of the date of the proposed acquisition.

Without limiting any other term or provision hereof, the Proposed Successor Lessee must also agree in the Lease Assignment/Assumption and Consent Agreement, to pay all of the rentals, fees, charges and other amounts payable under and in accordance with the Lease, including without limitation, any unpaid amount of the Leasehold Mortgagee's Foreclosure Period Current Basis Payments. The Proposed Successor Lessee shall use and occupy the Mortgaged Premises for the purposes set forth in Section 5 hereof and shall meet all of the requirements set forth in this Section for a Proposed Successor Lessee, including without limitation being a Scheduled Aircraft Operator or a consortium of such Scheduled Aircraft Operators and shall agree (and, if a consortium, shall agree jointly and severally) in the Lease Assignment/Assumption and Consent Agreement to use and occupy the Mortgaged Premises in accordance with all the terms and conditions of this Lease.

(3) Notwithstanding the foregoing, no acquisition, assignment, sale or transfer pursuant to this paragraph (p) shall be effective, and no Proposed Successor Lessee shall become an Approved Successor Lessee, or have any right to possess, use or occupy the Mortgaged Premises unless and until an assignment and assumption agreement, in the event of an assignment in lieu of foreclosure, or an assumption agreement, in the event of a foreclosure, whereby the Proposed Successor Lessee assumes the obligations of the Lessee as if it were the original tenant hereunder, has been executed by the Port Authority, the Lessee (except in the case of an assumption agreement,

in the event of a foreclosure, in which case the signature of the Lessee shall not be required and the Lessee hereby expressly so agrees), the Proposed Successor Lessee and the Leasehold Mortgagee (said fully executed agreement in either case, the **"Lease Assignment/Assumption and Consent Agreement"**). The effective date of the Lease Assignment/Assumption and Consent Agreement (the **"Lease Assignment/Assumption Commencement Date"**), shall be a date prior to or simultaneous with the expiration of the Foreclosure Period, provided, however, that where the Leasehold Mortgagee has commenced proceedings to foreclose the Leasehold Mortgage, such date shall be deemed to have occurred only upon the Leasehold Mortgagee's successful completion of foreclosure and eviction proceedings prior to the expiration of the Foreclosure Period (subject to the aggregate total maximum of 1,095 days, except as the running of the 1,095-day Foreclosure Period may be tolled as provided in paragraph (p)(4) of this Section or suspended as provided in the last sentence of the definition of the Foreclosure Period or paragraph (n)(3)(ii) of this Section); provided, further, however, that in the event the Leasehold Mortgagee does not in fact successfully complete the foreclosure of the Leasehold Mortgage and eviction proceedings prior to the expiration of the Foreclosure Period (subject to the aggregate total maximum of 1,095 days, except as the running of the 1,095-day Foreclosure Period may be tolled as provided paragraph (p)(4) of this Section or suspended as provided in the last sentence of the definition of the Foreclosure Period or paragraph (n)(3)(ii) of this Section) the Lease Assignment/Assumption and Consent Agreement shall be null and void and of no force or effect. The Lease Assignment/ Assumption Agreement shall be substantially in the form used by the Port Authority at the time of the foreclosure or assignment in lieu of foreclosure for the assignment and assumption or assumption, as the case shall be, of leases at the Airport and shall contain such other terms and conditions as the Port Authority may determine to be necessary or desirable to

effectuate such assignment and assumption or assumption.

(4) It is understood and agreed that after the Leasehold Mortgagee has obtained a Proposed Successor Lessee and has promptly submitted to the Port Authority all required and necessary information and materials (provided, however, that failure by the Leasehold Mortgagee to give such written notice promptly shall not be deemed to be a violation of the terms of this Section or the Consent Agreement and shall not be deemed to impair the Foreclosure Rights of the Leasehold Mortgagee except that there shall be no Approved Successor Lessee where the Port Authority is unable to make a determination resulting from such failure of the Leasehold Mortgagee; provided, further, however, that such failure by the Leasehold Mortgagee to promptly give such notice and information to the Port Authority shall also mean that there shall be no tolling of the Foreclosure Period pursuant to this paragraph (p)) to enable the Port Authority to determine whether it will approve such Proposed Successor Lessee as an Approved Successor Lessee (which determination includes the signing by the Port Authority, the Lessee (in the case of an assignment in lieu of foreclosure) and the Approved Successor Lessee of the Lease Assignment/Assumption and Consent Agreement), the running of the Foreclosure Period shall be deemed tolled pending such determination by the Port Authority, such determination to be made promptly and reasonably by the Port Authority, provided, however, that no such tolling shall be effective unless the Leasehold Mortgagee promptly continues to submit such additional information and material as may be reasonably required by the Port Authority for its making of its determination. Such tolling shall not toll the Leasehold Mortgagee's Foreclosure Period Obligations.

(q) ***No Merger.***

No sale, transfer or assignment by the Lessee of its interest in this Lease to the Port Authority shall create a merger between the

estates of the Port Authority and the Lessee unless the Port Authority, the Lessee and the Leasehold Mortgagee shall specifically consent to such merger in writing, nor shall any such sale, transfer or assignment be deemed to affect or diminish the liabilities of the Lessee named in this Lease, whether for survived damages or otherwise.

(r) ***Inclusion in Consent Agreement.***

Each and every provision stated herein to be or become a right or an obligation of the Trustee or of the Leasehold Mortgagee shall be included in the Consent Agreement (by reference to this Lease or otherwise) as among the rights and obligations of the Trustee, and in the Leasehold Mortgage as among the rights and obligations of the Leasehold Mortgagee under the Leasehold Mortgage, and each and every provision stated herein to be or become an obligation of the Approved Successor Lessee shall be deemed included in the obligations assumed by the Approved Successor Lessee by its acquisition of the Mortgaged Premises, the Lease with respect thereto and by its execution of the Lease Assignment/Assumption and Consent Agreement.

(s) ***No Waiver, etc.***

(1) If the Leasehold Mortgagee shall obtain an Approved Successor Lessee, such Approved Successor Lessee shall acquire the Lease with respect to the Mortgaged Premises with no further right to mortgage or pledge the leasehold, and shall have no right to assign the Lease with respect to the Mortgaged Premises other than the limited right of assignment provided under Section 19 hereof.

(2) Nothing herein shall or shall be deemed to release or relieve the Lessee from any terms, provisions, covenants or conditions to be kept, performed or observed by the Lessee under this Lease or under the Consent Agreement.

(3) Nothing herein shall constitute or be deemed to constitute any waiver by the Port Authority of any of its rights or remedies to evict the Lessee in the event the Port Authority

terminates this Lease pursuant to Section 20 of this Lease, entitled "Termination by the Port Authority", or otherwise and the Leasehold Mortgagee fails to properly exercise its Foreclosure Rights in accordance with the provisions hereof.

(4) Except for the rights granted herein to the Leasehold Mortgagee, nothing herein shall constitute any waiver, impairment or limitation of any of claims, rights or remedies of the Port Authority based upon any event of default or based on any rejection of this Lease resulting from a Lessee Bankruptcy or based on any Lessee Bankruptcy.

(5) This Section and the right of the Lessee to grant the Leasehold Mortgage and the right of the Trustee to take the Leasehold Mortgage are and shall be rights granted and effective only as to the Lessee hereunder and are exercisable one time only as above provided, and shall not extend, obtain or apply to any Approved Successor Lessee or other entity, party or Person who may become a tenant or lessee of the Premises or any portion thereof with no further right to grant a Leasehold Mortgage. Any Scheduled Aircraft Operator, including without limitation any Section 19 Assignee, to which this Lease is assigned with the consent of the Port Authority shall take this Lease subject to this Section 92 and the prior exercise by the Lessee of said one time right to grant a Leasehold Mortgage and shall not have any further right to grant a Leasehold Mortgage.

(6) Neither this Section nor anything contained herein nor any action taken or not taken hereunder shall impair, restrict or limit the rights of the Port Authority under Section 46 hereof.

(t) ***Leasehold Mortgagee's Right to Dispute.***

With respect to all obligations of the Lessee to be fulfilled by the Leasehold Mortgagee as a condition to the commencement or continuation of the Foreclosure Rights or the Foreclosure Period, including without limitation

with respect to the amounts constituting the Leasehold Mortgagee's Foreclosure Period Commencement Payments and the Leasehold Mortgagee's Foreclosure Period Current Basis Payments, the Leasehold Mortgagee shall be entitled to the same rights of dispute as the Lessee would have under the Lease with respect to the items in dispute.

14. Addition of New Sections 95 through 97

The Section of this Lease entitled "Entire Agreement", as amended by Supplemental Lease Agreement No. 1, shall be renumbered as "Section 100", the reference in the first sentence thereof to "Section 95" shall be amended to read "Section 100" and the following new Sections 95 through 97 are hereby added to the Lease to read as follows:

"Section 95. Termination of Parcel M by the Port Authority

(a) Without limiting any other rights of termination of the Port Authority under the Lease, from and after the earlier to occur of January 1, 2008 and the Redevelopment Work Completion Date, in addition to all of the rights of termination of the Port Authority under this Lease, the Port Authority shall have the right to terminate this Agreement and the letting thereunder with respect to that portion of the Premises shown in diagonal hatching on Exhibit 95.1 attached hereto and hereby made a part hereof (which portion of the Premises is herein called **"Parcel M"**), without cause, at any time on ninety (90) days' prior notice to the Lessee (the **"Parcel M Termination Notice"**), provided, however, this right of termination shall be suspended commencing on the date of the Lessee's notice to the Port Authority of the Lessee's election to perform the Expanded Terminal Work, and submittal of a tenant alteration application or applications and plans and specifications covering the Expanded Terminal Work as defined in Section 2B of this Lease as amended by Supplement No. 2 to this Lease and for so long thereafter as the Lessee diligently and in good faith commences and continues the Expanded Terminal Work,

provided, further. however, the Port Authority shall have no right to terminate this Agreement and the letting hereunder with respect to Parcel M from and after the date that the Expanded Terminal Work has been completed in accordance with the tenant alteration applications and plans and specifications therefor as approved by the Port Authority in accordance with Section 2B of this Lease.

(b) Nothing contained in this Section shall be or be deemed to be the Port Authority's consent to the Lessee's construction of additional Gates on the Premises or have limited or otherwise affected the rights and remedies of the Port Authority under this Lease or otherwise including without limitation Section 33 hereof entitled "Other Construction by the Lessee" nor shall have imposed any obligation whatsoever on the Port Authority, including without limitation, any obligation to consider or consent to the construction of additional Gates on the Premises, including without limitation the Expanded Terminal Work.

(c) Effective as of the date and time stated in the Parcel M Termination Notice which date and time (the **"Parcel M Surrender Date"**) shall be at least ninety (90) days after the date of the Parcel M Termination Notice, the Lessee has granted, bargained, sold, surrendered and yielded up and does by these presents grant, bargain, sell, surrender and yield up unto the Port Authority, its successors and assigns, forever, its rights in Parcel M and the term of years with respect thereto under this Lease yet to come and has given, granted, surrendered and by these presents does give, grant and surrender to the Port Authority, its successors and assigns, all the rights, rights of renewal, licenses, privileges and options of the Lessee granted by this Lease with respect to Parcel M, all to the intent and purpose that the said term under this Lease and the said rights of renewal, licenses, privileges and options may be wholly merged, extinguished and determined on the Parcel M Surrender Date, with the same force and effect as if the said term were in and by the provisions

of this Lease originally fixed to expire on the Parcel M Surrender Date, but this Lease and the letting thereunder shall continue in full force and effect as to the remainder of the Premises under this Lease and in accordance with all the terms and provisions thereof.

TO HAVE AND TO HOLD the same unto the Port Authority, its successors and assigns forever.

(d) The Lessee hereby covenants on behalf of itself, its successors and assigns that (x) as of the Parcel M Surrender Date, the Lessee has not done or suffered and will not do or suffer anything, other than the Leasehold Mortgage, whereby Parcel M or the Lessee's leasehold therein has been or shall be encumbered in any way whatsoever; (y) subject to the Leasehold Mortgage, the Lessee is and will remain until the Parcel M Surrender Date the sole and absolute owner of the leasehold estate in Parcel M and of the rights, rights of renewal, licenses, privileges and options granted by this Lease with respect thereto and that the same are and will remain until the Parcel M Surrender Date free and clear of all liens and encumbrances of whatsoever nature; and (z) the Lessee has full right and power to make this Agreement.

(e) All promises, covenants, agreements and obligations of the Lessee with respect to Parcel M which under the provisions thereof would have matured upon the date originally fixed in this Lease for the expiration of the term thereof, or upon the termination of this Lease prior to the said date, or within a stated period after expiration or termination shall, notwithstanding such provisions, mature upon the Parcel M Surrender Date and shall survive the delivery of the Parcel M Termination Notice by the Port Authority to the Lessee.

(f) The Lessee has released and discharged and does by these presents release and discharge the Port Authority from any and all obligations on the part of the Port Authority to be performed under this Lease with respect to Parcel M. The Port Authority does by these presents release and

discharge the Lessee from any and all obligations on the part of the Lessee to be performed under this Lease with respect to Parcel M for that portion of the term subsequent to the Parcel M Surrender Date; it being understood that nothing herein contained shall release, relieve or discharge the Lessee from any liability for rentals or for other charges that may be due or become due to the Port Authority under this Lease for any period or periods prior to the Parcel M Surrender Date, or for breach of any other obligation on the Lessee's part to be performed under this Lease for or during such period or periods or maturing pursuant to the foregoing paragraph, nor shall anything herein be deemed to release the Lessee from any liability for rentals or other charges that may be due or become due to the Port Authority under this Lease for any other portion of the Premises or for breach of any other obligation on the Lessee's part to be performed under the Lease.

(g) The Lessee hereby agrees to terminate its occupancy of Parcel M and to deliver actual, physical possession of Parcel M to the Port Authority, on or before the Parcel M Surrender Date, in the condition required by this Lease upon surrender. The Lessee further agrees that it shall remove all the Lessee's Personal Property from Parcel M prior to the Parcel M Surrender Date, and all the terms and conditions of Section 29 of this Lease with respect to termination of the letting shall apply to any of the Lessee's Personal Property not so removed.

(h) The Lessee hereby acknowledges that each and every term, provision and condition of this Lease shall continue to apply to the premises remaining after the termination of the Parcel M.

(i) From and after the day immediately following the Parcel M Surrender Date, the Lessee shall be entitled to an abatement of the Ground Rental in accordance with and pursuant to this Lease and the Additional Land Rental shall terminate as provided for in Section 4 hereof.

"Section 96. Continuing Rights and Obligations with Respect to Parcel M

In addition to all other terms or provisions of this Agreement, and without limiting any of the same and without limiting, impairing or diminishing any of the obligations, duties and liabilities of the Lessee under this Agreement, it is expressly understood and agreed that:

(a) ***Work to be Completed by Lessee after Surrender.***

After the Parcel M Surrender Date, the Port Authority shall give notice to the Lessee identifying the new tenant of Parcel M (the "**Parcel M Tenant**") and detailing the basic footprint of such new tenant's planned construction on Parcel M (the "**Parcel M Construction Notice**"). The Lessee shall (x) promptly provide access to the Parcel M Tenant in accordance with the following and (y) promptly commence, and within 24 months thereafter complete, the following work at its sole cost and expense, subject to the further terms and conditions of a tenant alteration application (TAA) which the Lessee, in accordance with Section 33 hereof, shall submit to the Port Authority for its approval.

(1) In the event the Parcel M Construction Notice states that a stand-alone terminal building will be constructed on Parcel M, the Lessee shall provide the Parcel M Tenant access to the Premises for the purpose of performing the work necessary or appropriate to transfer and rededicate aviation fuel lines 403.1, 403.2 and 403.3 (as shown on Exhibit 2B.4) to serve Parcel M, and the Lessee shall cooperate in such transfer and rededication. The Lessee shall also perform the work necessary or appropriate to activate fuel line 408.3 (shown on Exhibit 2B.4), including the pumps, from the Satellite Fuel Farm at the Airport to the isolation valve vault (IVV-C6) located on the Premises.

(2) (i) In the event the Parcel M Construction Notice states that the terminal

building to be constructed on Parcel M will be an enlargement of the Lessee's Main Terminal (the "**Parcel M Enlarged Terminal**"), the Parcel M Tenant may agree with the Lessee to have the Parcel M Enlarged Terminal jointly served by the four functioning fuel lines located at the Premises as of the Restructuring Effective Date (403.1, 403.2, 408.1 and 408.2).

(ii) If, however, the Parcel M Tenant does not agree to the foregoing arrangement and prefers to have a separate fuel supply for its portion of the Parcel M Enlarged Terminal, the Lessee shall provide the Parcel M Tenant access to the Premises for the purpose of performing the work necessary or appropriate to transfer and rededicate aviation fuel lines 403.1, 403.2 and 403.3 (as shown on Exhibit 2B.4) to serve Parcel M, and the Lessee shall cooperate in such transfer and rededication. The Lessee shall also perform the work necessary or appropriate to activate fuel line 408.3, including the pumps, from the Satellite Fuel Farm at the Airport to the isolation valve vault (IVV-C6) located on the Premises.

(3) In the event the Parcel M Construction Notice states that the terminal building to be constructed on Parcel M will be the Parcel M Enlarged Terminal, the Lessee shall perform all work necessary or appropriate for the relocation of the fire hydrant line designated as "fire hydrant line E/S" serving the Main Terminal so that the same shall not be situated underneath the structure of the Main Terminal, the Parcel M Enlarged Terminal or any other building on the Premises or on Parcel M.

(4) In the event the Parcel M Construction Notice states that the terminal building to be constructed on Parcel M will be the Parcel M Enlarged Terminal, the Lessee shall perform all work necessary or appropriate for the relocation of the sanitary line and lift station designated as "E/S" serving the Main Terminal to and through such areas on the Premises so that the same shall not be situated underneath the structure of the Main Terminal, the Parcel M

Enlarged Terminal or any other building on the Premises or on Parcel M.

(5) The Lessee shall perform all work necessary or appropriate for the paving and grading of the aircraft taxiway areas shown in cross hatching (Area-1) on Exhibit 96.1.

(6) The Lessee shall perform all work necessary or appropriate for the relocation of the PPS operation from Parcel M.

(b) ***Lessee's Failure to Complete on Time.***

In the event of the Lessee's failure to complete the foregoing work within the time provided in the foregoing paragraph (a) of this Section, such work may be performed, at the Lessee's expense, by the Port Authority or any new tenant of Parcel M.

(c) ***Mutual Easements.***

From and after the Parcel M Surrender Date during the term of the Lease:

(1) The strip of land lying along and within the easterly boundary line of the Premises (which strip is shown in stipple/diagonal hatching [Area-2] on Exhibit 96.1), together with the corresponding contiguous strip of land lying along and within the westerly boundary of Parcel M and immediately abutting on the easterly side of the Premises (which strip is shown in cross hatching/diagonal triangular hatching [Area-1, Area-3] on Exhibit 96.1) shall be subject to a joint and mutual easement for a taxiway to be used jointly by the Lessee and the tenants, occupants and permittees of Parcel M or by any successors in interest of the Lessee or of said persons or by sublessees or other occupants or users who, pursuant to Port Authority permission, may occupy or use the Premises herein or Parcel M, and such rights of easement for such taxiway purposes shall continue during the effective periods of the respective agreements covering or which may cover the same.

(2) The roadway areas lying along and within the southerly boundary of the Premises and shown in stipple/cross hatching (Area-4) on

Exhibit 96.1 shall be subject to a non-exclusive easement right of way for purposes of vehicular roadway ingress and egress to Parcel M in favor of the lessee(s), tenant(s), occupant(s) and user(s) (and their invitees), now or in the future leasing, renting, occupying or using any of the areas or buildings on Parcel M.

(3) The roadway areas lying along and within the southerly boundary of Parcel M and shown in star/diagonal hatching (Area-5) on Exhibit 96.1 shall be subject to a non-exclusive easement right of way for purposes of vehicular roadway ingress and egress to the Premises in favor of the Lessee (and its invitees), now or in the future leasing, renting, occupying or using any of the areas or buildings on Parcel M.

(4) The Premises shall be subject to an easement in favor of the Port Authority, and the lessee(s), tenant(s), occupant(s) and user(s) of Parcel M (and their contractors and other invitees) for the purposes of the installation through the Premises of a fire hydrant system, fuel lines and sanitary lift stations to serve Parcel M (including ingress to and egress from the Premises for such purposes and for the maintenance and repair of the same), provided that no such activity shall interfere with the Lessee's operations on the Premises.

(5) In the event that a stand-alone terminal is to be constructed on Parcel M, Parcel M shall be subject to an easement of ingress and egress in favor of the Lessee (and its contractors and other invitees) for the purposes of accessing any fuel lines, the fire hydrant system or sanitary lines/lift stations serving the Premises in order to maintain and repair the same, provided that no such activity shall interfere with the Parcel M Tenant's operations on Parcel M.

(6) The portion of the AirTrain pedestrian connector shown in rectangular hatching (Detail 2) on Exhibit 96.1 shall be subject to an easement of ingress and egress in favor of the Parcel M Tenant and its invitees for the purpose of accessing the AirTrain station.

(7) The areas shown in diagonal hatching/honeycomb (Detail 2) on Exhibit 96.1 shall be subject to an easement of access in favor of the Lessee and its contractors for the purposes of inspection, maintenance and repair of the AirTrain pedestrian connector.

(d) ***Environmental Obligations.***

(1) Notwithstanding the Lessee's surrender of Parcel M, and notwithstanding anything to the contrary herein or elsewhere in this Agreement, the Lessee shall continue to be responsible and liable for compliance with all Environmental Requirements and remediation of all Environmental Damages with respect to Parcel M in accordance with the terms and provisions of this Agreement, including but not limited to Sections 2B, 6, 13, 57, 58 and 59, and for any and all costs or expenses that may be incurred by the Port Authority in connection therewith, but only to the extent arising out of the condition of Parcel M as of the date of such surrender. The foregoing shall not limit, alter or impair any of the indemnities from the Lessee to the Port Authority under this Agreement or otherwise or any other term or provision of this Agreement, or limit, alter or impair any other right or remedy of the Port Authority, whether in law, equity or otherwise.

(2) In order to limit its environmental liability with respect to Parcel M in accordance with the foregoing, the Lessee, at its own cost and expense, shall cause to performed, by properly qualified environmental engineers, a baseline survey of the condition of Parcel M as of the surrender date.

(3) Notwithstanding the Lessee's surrender of Parcel M, the Lessee shall continue to be responsible and liable for any portion of the ACO Work that relates to Parcel M.

(e) ***No Port Authority Reimbursement.***

The Lessee acknowledges and agrees that (x) the Port Authority has made Parcel M available to the Lessee as a part of the Premises in connection with the Lessee's option hereunder

to perform the Expanded Terminal Work, (y) the Lessee shall incur certain costs and make certain investments in consideration for such option and in anticipation of exercising such option, and (z) if the Lessee does not elect to exercise such option and the Port Authority accordingly terminates the letting hereunder with respect to Parcel M pursuant to Section 95 hereof, the Port Authority shall have no obligation to reimburse the Lessee for any costs incurred or investments made by the Lessee in connection with Parcel M.

"Section 97. Security

(a) ***Definitions.***

As used in this Section 97 the following terms shall have the following meanings:

(1) **"Effective Period"** shall mean the period commencing on the Restructuring Effective Date and expiring on the last day of the sixth full calendar month occurring after to occur the expiration or earlier termination or revocation of this Lease.

(3) **"Letter of Credit"** shall mean in the singular each of and **"Letter of Credits"** shall mean in the plural all of the letters of credit required to be delivered by the Lessee to the Port Authority pursuant to the provisions of this Section and which meet all the requirements set forth in paragraph (c) below.

(4) **"Obligations"** shall mean all of the provisions, terms and conditions of this Agreement on the part of the Lessee to be fulfilled, kept, performed or observed and (ii) the payment of all rentals, fees and other amounts, charges and obligations now or in the future to become due and owing to the Port Authority by the Lessee hereunder, and (iii) the performance of all other present and future obligations of the Lessee to the Port Authority covered by this Agreement.

(5) "Security Amount" shall mean

(b) ***Delivery of Letter of Credit.***

The Lessee hereby agrees that on or before the Restructuring Effective Date the Lessee shall cause to be delivered to the Port Authority a Letter of Credit in the Security Amount meeting all the requirements set forth in paragraph (c) below as security for the full, faithful and prompt performance of and compliance with, on the part of the Lessee of all of the Obligations.

(c) Each Letter of Credit shall be clean, irrevocable and issued to and in favor of the Port Authority by a banking institution acceptable to the Port Authority and having its main office in the Port of New York District. The form and terms of each Letter of Credit, as well as the institution issuing it, shall be subject to the prior and continuing approval of the Port Authority. Each Letter of Credit shall provide that it shall continue until the last day of the Effective Period. Such continuance may be by provision for automatic renewal or by delivery to the Port Authority of a substitute letter of credit satisfactory to the Port Authority and meeting all the requirements set forth in this paragraph (c) in an amount so that at all times during the Effective Period the Port Authority shall have a Letter of Credit or Letters of Credit in the Security Amount. If requested by the Port Authority, any Letter of Credit delivered pursuant to this Section shall be accompanied by a letter expressing the opinion of counsel for the banking institution issuing the Letter of Credit that the issuance of said Letter of Credit is an appropriate and valid exercise by the banking institution of the corporate power conferred upon it by law.

(d) Upon notice of cancellation of a Letter of Credit or upon notice that a Letter of Credit will not be extended the Lessee agrees that unless, by a date thirty (30) days prior to the effective date of such cancellation or

expiration, such Letter of Credit is replaced by another letter of credit satisfactory to the Port Authority and meeting all the requirements of paragraph (c) above in an amount so that at all times during the Effective Period the Port Authority shall have a Letter of Credit or Letters of Credit in the Security Amount, the Port Authority may draw down the full amount thereof and thereafter the Port Authority will hold the same as security under this Agreement.

(e) In addition to any and all other remedies available to it, the Port Authority shall have the right, at its option at any time and from time to time, with or without notice, to draw upon each Letter of Credit or any part thereof in whole or partial satisfaction of any of its claims or demands against the Lessee. There shall be no obligation on the Port Authority to exercise such right and neither the existence of such right nor the holding of a Letter of Credit or Letters of Credit shall cure any default or breach of the Obligations.

(f) If at any time any bank shall fail to make any payment to the Port Authority in accordance with any Letter of Credit issued by any such bank, the Lessee shall cause to be delivered to the Port Authority on demand another letter of credit satisfactory to the Port Authority and meeting all the requirements set forth in paragraph (c) above in an amount so that at all times during the Effective Period the Port Authority shall have a Letter of Credit or Letters of Credit in the Security Amount.

(g) If at any time and from time to time during the Effective Period a payment is made to the Port Authority under any Letter of Credit, the Lessee within ten (10) days thereafter shall bring the Letter of Credit back up to the Security Amount or shall cause to be delivered to the Port Authority an additional letter of credit satisfactory to the Port Authority and meeting all the requirements set forth in paragraph (c) above, in such an amount so that at all times during the Effective Period the Port Authority

shall have a Letter of Credit or Letters of Credit in the Security Amount.

(h) No action by the Port Authority pursuant to the terms of any Letter of Credit, or receipt by the Port Authority of funds from any bank issuing any Letter of Credit, shall be or be deemed to be a waiver of any breach or default by the Lessee of the Obligations and all rights and remedies under the Agreements, or otherwise consequent upon such breach or default shall not be affected by the existence of or recourse to any such Letter of Credit.

(i) After the expiration of the Effective Period, and upon the condition that the Lessee shall then be in no wise in default of any of the Obligations, and upon written request therefor by the Lessee, the Port Authority will return to the Lessee the Letter of Credit or Letters of Credit which have been caused to be delivered to the Port Authority by the Lessee hereunder and are in the possession of the Port Authority less the amount by partial or full drawings of any and all unpaid claims and demands (including estimated damages) of the Port Authority by reason of any default or breach by the Lessee of the Obligations.

(j) [Intentionally omitted]

(k) No failure by the Port Authority to insist upon the strict performance of any of the Obligations or any agreement, term, covenant, requirement or condition thereof or to exercise any right or remedy consequent upon a breach or default of any of the foregoing, and no extension, supplement or amendment of any of the Obligations during or after a breach thereof, unless expressly stated to be a waiver, and no acceptance by the Port Authority of rentals, fees, charges or other payments in whole or in part after or during the continuance of any such breach or default, shall constitute a waiver of any such breach or default of such Obligations or such agreement, term, covenant, requirement, obligation or condition. No agreement, term, covenant, requirement, obligation or condition of the Obligations to be performed or complied with

by the Lessee and no breach or default thereof, shall be waived, altered or modified except by a written instrument executed by the Port Authority. No waiver by the Port Authority of any default or breach on the part of the Lessee in performance of any of the Obligations or any agreement, term, covenant, requirement, obligation or condition thereof shall affect or alter any Obligation, but each and every agreement, term, covenant, requirement, obligation and condition thereof shall continue in full force and effect with respect to any other then existing or subsequent breach or default thereof.

(l) The Lessee hereby agrees that a breach or failure to perform or comply with any of the terms and conditions of this Agreement, including without limitation failure to provide a Letter of Credit or Letters of Credit in accordance with the terms and provisions of this Agreement at any time during the Effective Period valid and available to the Port Authority or any failure of any banking institution issuing a Letter of Credit to make one or more payments as provided in such Letter of Credit, shall constitute a material breach of each and every Obligation, thereby entitling the Port Authority to immediately exercise any and all rights available to it as fully as if such breach, failure or non-compliance were a breach of the Obligations, including without limitation, the right to terminate this Agreement for cause.

(m) The Lessee agrees that it will not assign or encumber any Letter of Credit and any such assignment or encumbrance shall be void as to the Port Authority.

(n) (1) In the event that the rentals payable by the Lessee under this Lease for two consecutive months shall exceed the existing Security Amount (the amount that such rentals shall exceed the existing Security Amount being herein called the "**Increased Bi-Monthly Rental**"), the Security Amount may be increased by the Port Authority upon thirty (30) days' notice to the Lessee in an amount equal to the Increased Bi-

Monthly Rental and the Lessee shall deliver to the Port Authority before the expiration of such thirty- (30-) day period a new Letter of Credit in the amount of the Increased Bi-Monthly Rental or an amendment to a Letter of Credit then being held by the Port Authority providing for the increase in the Letter of Credit to the new Security Amount set forth in such notice.

(2) In the event that the rentals payable by the Lessee under this Lease for two consecutive months shall be less than the existing Security Amount (the amount that the existing Security Amount shall exceed the two months consecutive rentals being herein called the "**Decreased Bi-Monthly Rental**"), the Security Amount may be decreased by the Lessee upon ten (10) days' notice to the Port Authority in an amount equal to the Decreased Bi-Weekly Rental, provided, however, in no event shall the Security Amount be so decreased or such notice be effective if (x) the Lessee shall have been in default at any time in the twelve-month period immediately preceding the date of the receipt of such notice by the Port Authority in the performance or observance of any term, provision, covenant, condition or agreement of this Agreement and (y) the Port Authority has not at any time during such twelve month period paid any sum or sums or incurred any obligations, expense or cost by reason of the failure, neglect or refusal of the Lessee to perform or fulfill any one or more of such terms, provisions, covenants, conditions and agreements. Such decrease in the Security Amount shall be effectuated by the delivery by the Lessee to the Port Authority of a substitute Letter of Credit in the reduced Security Amount. Upon the Lessee's delivery of such new Letter of Credit to the Port Authority in the new Security Amount meeting all the requirements of this Section 97, and provided that none of the events set forth in clauses (x) and (y) above shall be the case, the Port Authority shall return to the Lessee the Letter of Credit(s) then being held by the Port Authority for the old Security Amount.

15. Effective as of January 1, 2004: Amendments to various sections of the Lease relating to or resulting from new JFK Flight Fees Agreement

Effective as of January 1, 2004, the following amendments shall be made to the Lease in recognition that the JFK Flight Fees Agreement, as hereinafter defined, became effective and replaced the General Airport Agreement (except as to certain provisions thereof covering the aviation fuel system at the Airport) as of January 1, 2004.

(a) Section 2B of the Lease shall be deemed to be amended as follows:

(i) The phrase, "and as may be defined in the New Airport Fueling Agreements" shall be deemed inserted after the term "General Airport Agreement" and before the parenthesis appearing in the sixth (6th) line of paragraph (a)(2)(vi) thereof and in the sixth (6th) line of paragraph (a)(3)(iv) thereof, and in the third (3rd) line of paragraph (q)(1)(vi) thereof, and in the last line of paragraph (q)(1)(xii) thereof, and in the tenth (10th) and twelfth (12th) lines of paragraph (q)(1)(xiv) thereof.

(ii) The phrase, ", and shall also include the New Airport Fueling Agreements" shall be deemed inserted immediately after the word "operative" and before the period appearing in the last line of paragraph (q)(1)(iv) thereof.

(iii) The phrase, "or New Airport Fueling Agreements" shall be deemed inserted immediately after the word "Leases" and before the word "and" appearing in the third (3rd) to the last line of paragraph (q)(1)(xiv) thereof and after the word "Leases" and before the period appearing in the last line of paragraph (q)(1)(xix) thereof.

(iv) The word "Ogden" shall be deleted from the first line of paragraph (q)(1)(xix) thereof and the word "Allied" substituted in lieu thereof.

(v) The phrase, "and other Airport Fueling Agreements" shall be deemed inserted after the word "Agreement" and before the period appearing in the last line of paragraph (q)(2)(ii) thereof.

(vi) The phrase, "and, if as a party to any of the New Airport Fueling Agreements, if it becomes such a party" shall be deemed to have been inserted immediately

after the word "User" and before the first comma appearing in the second (2nd) line of paragraph (q)(2)(x) thereof.

(vii) The phrase, "other Airport Fueling Agreement" shall be deemed deleted from the fourth (4th) and fifth (5th) lines of paragraph (q)(2)(x) and the phrase, "of the other Airport Fueling Agreements" shall be deemed inserted in lieu thereof.

(viii) The phrase, "as the same may be replaced by New Airport Fueling Agreements" shall be deemed inserted immediately after the word "Agreement" and before the period appearing in both the last line of paragraph (q)(2)(xi)(aa) and in the last line of paragraph (q)(2)(xi)(bb) thereof.

(ix) The phrase, "or of the New Airport Fueling Agreements" shall be inserted immediately after the term "General Airport Agreement" in paragraph (q)(2)(xiii)(aa) thereof.

(x) The phrase, "and, if, there is in effect, New Airport Fueling Agreements" shall be inserted immediately after the term "General Airport Agreement" as it appears in the eight (8th), fourteenth (14th) and fifteenth (15th) lines of paragraph (q)(3) thereof.

(b) Paragraph (b) of Section 4 of the Lease, entitled "Use of Premises", shall be amended by deleting the phrase, "or Associated or Affiliated Companies" appearing in the fourth (4th) and (5th) lines thereof and by inserting the word "or" immediately after the comma and before the word "Accommodated" appearing the in the (4th) line thereof.

(c) Section 7 of the Lease, entitled "Rules and Regulations", shall be amended by deleted paragraph (c) thereof in its entirety and by redesignating paragraph (d) thereof as paragraph "(c)".

(d) Paragraph (k) of Section 9 of the Lease entitled "Prohibited Acts" shall be amended by deleting therefrom the term "General Airport Agreement" appearing in the second (2nd) and third (3rd) lines thereof and by substituting lieu thereof the term "Airport Fueling Agreements".

(e) Paragraphs (a), (b) and (c) of Section 42 of the Lease entitled "General Airport Agreement" shall be deemed deleted therefrom in their entirety and the following new unlettered paragraph shall be deemed to have been inserted in lieu thereof to read as follows:

"The parties hereto agree that in the event any provisions contained in the Lessee's JFK Flight Fees Agreement conflict with any one or more provisions of this Lease, the provisions of this Lease shall control with respect to all areas and subject matters covered by this Lease, provided, however, except only as to operations on the Public Aircraft Facilities at the Airport, to the extent that any of the provisions of this Lease conflict with the provisions of the Lessee's JFK Flight Fees Agreement concerning rights and obligations as to operations on the Public Aircraft Facilities at the Airport, the Lessee's JFK Flight Fees Agreement shall control with respect to rights and obligations as to operations on the Public Aircraft Facilities at the Airport."

(f) The unlettered paragraph constituting Section 43 of the Lease entitled "General Airport Agreement Expiration" shall be deemed deleted from the Lease in its entirety and the following new unlettered paragraph shall be deemed to have been inserted in lieu thereof to read as follows:

"It is recognized that the JFK Flight Fees Agreements and the principles and formula set forth therein for the calculation of flight fees, including the costs recovery accounting principles, have by agreement become the basis for determining flight fees payable by various Aircraft Operators at the Airport who are the actual signatories to JFK Flight Fees Agreements. In the event of the expiration and non-extension or non-renewal of the JFK Flight Fees Agreement, the same formula, accounting principles and costs recovery methodology now set forth in the JFK Flight Fees Agreements for the calculation of flight fees shall continue to be utilized for the calculation of flight fees at the Airport for the Lessee until such time as the JFK Flight Fees Agreements are formally replaced by a new agreement or agreements or by a new policy or policies. The Port Authority has advised the Lessee that it is the intention of the Port Authority that with respect to the formula, accounting principles and the costs recovery methodology for the calculation of flight fees

upon the expiration and non-extension or non-renewal of the JFK Flight Fees Agreements all Aircraft Operators at the Airport which are similarly situated will be treated in a similar manner."

(g) Section 44 of the Lease entitled "Associated and Affiliated Companies" shall be deleted from the Lease in its entirety.

(h) Section 49 of the Lease entitled "Restrictions on Use of Passenger Terminal Frontage Roadways - Use of Airport Taxi Dispatchers and Roadway Frontage Management" shall be deemed amended by inserting the phrase, "or the JFK Flight Fees Agreements, as applicable," immediately after the word "Agreement" and before the word "and" appearing in the fifth (5th) to the last line of paragraph (b) thereof and immediately after the word "Agreement" and before the period appearing at the end of paragraph (b) thereof.

(i) Section 62 of the Lease entitled "Future Airport Transportation Facilities and Operations Use of Portions of the Premises" shall be deemed amended by inserting the phrase, "or the JFK Flight Fees Agreements, as applicable," immediately after the word "Agreement" and before the word "for" appearing in the fifth (5th) to the last line of paragraph (d) thereof and immediately after the word "Agreement" and before the period appearing at the end of paragraph (d) thereof.

(j) Section 78 of the Lease entitled "In-Flight Meals" shall be deemed to have been amended as follows:

(1) The first sentence of paragraph (a) thereof shall be deemed deleted therefrom and the following new sentence shall be deemed to have been substituted in lieu thereof to read as follows:

"(a) It is recognized that Section 8.04 of Title VIII of the General Airport Agreement has expired and therefore is of no further force or effect and that the following paragraphs (a)(1), (a)(2) and (a)(3) shall be in full force and effect and a part hereof from and after January 1, 2004."

(2) The phrase, "Section 8.04 of Title VIII of the General Airport Agreement" shall be deleted from the second (2nd) and third (3rd) lines of paragraph (b)(1)

thereof and the phrase "this Section 78" shall be deemed inserted in lieu thereof.

(3) Subparagraph (b)(3) shall be deleted therefrom in its entirety.

(k) The following amendments shall be deemed to have been made to Section 91 of the Lease as of January 1, 2004:

(1) The definition of "Distribution Portion of the System" shall be amended to read as follows:

> "'Distribution Portion of the System' shall mean the Distribution Portion of the System as described in the Airport Fueling Agreements."

(2) The definition of "General Airport Agreement" shall be amended by inserting the following phrase after the term 'Airport" and before the period appearing at the end thereof.

> ", as the same has been extended by the Standstill Agreement and the Second Standstill Agreement".

(3) The definition of "Public Aircraft Facilities" shall be deemed amended by deleting in its entirety the parenthetical "(except as provided in Section 12.12 of the General Airport Agreement)" and inserting in lieu thereof the following:

> "(except as provided in Section 14 of the JFK Flight Fees Agreement)".

(4) The definition of Runways shall be amended to read as follows:

> "'Runways' shall mean runways (including aerial approaches) at the Airport used for the purpose of the landing and taking-off of Aircraft.

(5) The definition of Taxiways shall be amended to read as follows:

> "'Taxiways' shall mean taxiways at the Airport for the purpose of the ground movement of Aircraft to, from and between the Runways, the Public Ramp and Apron Area, the Public Aircraft Parking and Storage Area and other portions of the Airport (not including, however, any taxilanes, the exclusive use of which is granted

to the Lessee or any other Person by lease, permit or otherwise)."

(6) The following new definitions shall be deemed added to Section 91 to read as follows:

"Aircraft" shall mean airplanes, helicopters and every other contrivance now or hereafter used for the navigation of or flight in air or space.

"JFK Flight Fees Agreement" shall mean the agreement designated therein as the JFK Flight Fees Agreement effective as of January 1, 2004 entered into between the Port Authority and the Lessee covering the payment of flight fees at the Airport and other matters covered therein

"New Airport Fueling Agreements" shall mean such of the separate agreement or agreements if and when entered into by the Port Authority and airlines operating at the Airport which would cover the operations of the Airport Fuel Storage and Distribution System in replacement of the aviation fuel provisions of the General Airport Agreement.

"Second Standstill Agreement" shall mean the certain agreement entered into between the Port Authority and the Lessee covering the extension of the General Airport Agreement through September 30, 2004, or through such later date as may thereafter be agreed upon by extension, restatement or modification of such agreement, with the extension of the fuel fee provisions of the General Airport Agreement extended through December 31, 2004, or through such later date as may thereafter be agreed upon by extension, restatement or modification of such agreement.

"Standstill Agreement" shall mean the certain agreement entered into between the Port Authority and the Lessee covering the extension of the General Airport Agreement through March 31, 2004.

"Standstill Agreements" shall mean collectively the Standstill Agreement and the Second Standstill Agreement.

(l) Subparagraph (ii) of paragraph (1) of Subdivision (II) of Exhibit 52.1 of the Lease shall be amended by

inserting the phrase, "or under the Lessee's JFK Flight Fees Agreement (with respect to flight fees)", immediately after the word "Agreement" and before the first comma appearing in the second line thereof; by deleting the phrase, "on or before the twentieth day of the following calendar month" appearing at the end thereof; and by inserting the phrase, "on or before the date required for payment in such agreements" immediately after the term "Port Authority" and before the semicolon appearing at the end thereof;

16. No Broker

Each party represents and warrants to the other that no broker has been concerned in the negotiation of this Second Supplemental Agreement and that there is no broker who is or may be entitled to be paid a commission in connection therewith. Each party shall indemnify and save harmless the other party of and from any and all claims for commissions or brokerage made by any and all Persons, firms or corporations whatsoever for services provided to or on behalf of the indemnifying party in connection with the negotiation and execution of this Second Supplemental Agreement.

17. Non-liability of Individuals

No Commissioner, director, officer, agent or employee of any party to this Second Supplemental Agreement shall be charged personally or held contractually liable by or to any other party under any term or provision of this Second Supplemental Agreement or of any supplement, modification or amendment to the Lease or because of its or their execution or attempted execution or because of any breach or alleged or attempted breach thereof.

18. Continued Effectiveness

As hereby amended, all of the terms, covenants, provisions, conditions and agreements of the Lease shall be and remain in full force and effect.

19. Entire Agreement

This Second Supplemental Agreement and the Lease which it amends constitute the entire agreement between the Port Authority and the Lessee on the subject matter, and may not be changed, modified, discharged or extended except by instrument in writing duly executed on behalf of both the Port Authority and the Lessee. The Lessee and the Port Authority agree that no representations or warranties shall be binding upon the other unless expressed in writing in the Lease or in this Second Supplemental Agreement.

20. Counterparts

This Second Supplemental Agreement may be signed in several counterparts, each of which shall be an original and all of which shall constitute the same instrument.

IN WITNESS WHEREOF, the Port Authority and the Lessee have executed these presents as of the date first above written.

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

ATTEST:

Linda C. Handel
Assistant Secretary

Joanne Ciccolello
Manager, Properties and Commercial Development
Aviation Department

AMERICAN AIRLINES, INC.

ATTEST:

(name)
(title)

(name)
(title)

IN WITNESS WHEREOF, the Port Authority and the Lessee have executed these presents as of the date first above written.

ATTEST:

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

Secretary

(name)
(title)

ATTEST:

AMERICAN AIRLINES, INC.

Charles D. MarLett
Corporate Secretary

Laura A. Einspanier
Vice President - Corporate Real Estate

FOR THE PORT AUTHORITY

STATE OF NEW YORK)
) ss.
COUNTY OF NEW YORK)

On the 7th day of November in the year 2005, before me, the undersigned, a Notary Public in and for said state, personally appeared JOANNE CICCOLELLO, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her capacity, and that by her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

JOHN JODY LEE
Notary Public, State of New York
No. 02LE4821762
Qualified in Queens County
Commission Expires On April 30, 2006

FOR THE LESSEE

STATE OF TEXAS)
) ss.
COUNTY OF TARRANT)

On the 4th day of November in the year 2005, before me, the undersigned, a Notary Public in and for said state, personally appeared LAURA A. EINSPANIER, Vice President-Corporate Real Estate, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her capacity, and that by her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

(notarial seal and stamp)

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

T-4 Covenant

Section 76. Airport Operator Limitations

(a) In the Port Authority's operation of the Airport, including, without limitation, the formulation of the policies and procedures respecting such operation and/or the specific application of such policies and procedures and the allocation of costs, the Port Authority agrees that it will not unjustly discriminate against the Lessee or the Premises.

(b) (i) During the Term, for so long as the Lessee makes available Terminal FIS Premises (as hereinafter defined) on a twenty-four (24) hour basis, the Port Authority will not itself construct or operate an airline terminal which includes premises to be made available to the United States for inspection of airline passengers and their baggage by United States Customs and Immigration (such premises to be so used by the United States being called "Federal Inspection Service Premises" or "FIS Premises") or enter into an agreement at the Airport with any Person that is not either (i) a Scheduled Aircraft Operator, or (ii) wholly owned by one or more Scheduled Aircraft Operators and formed to provide air terminal operation services predominantly to such Scheduled Aircraft Operators; for the construction or operation of an airline terminal which includes FIS Premises, unless (i) the operation of such FIS Premises is necessary for the Port Authority to comply with United States Government requirements or (ii) the number of deplaned passengers entering the FIS Premises to be constructed by the Lessee as a portion of the Premises hereunder pursuant to Section 18 of this Agreement (the "Terminal FIS Premises") has exceeded the Design Capacity (as the Design Capacity may be increased from time to time with the written acknowledgment of the Port Authority as to the extent of any such increase, such acknowledgment not to be unreasonably withheld.) For purposes of this Section, the utilization of the Terminal FIS Premises shall be deemed to have exceeded Design Capacity (such event, a "Capacity Deficiency") if the Design Capacity is exceeded in accordance with subparagraph (iii) below.

(ii) In the event of a Capacity Deficiency, the Port Authority may by notice, annexing thereto

appropriate supporting documentation, inform the Lessee that the Port Authority shall thereafter not be subject to the restrictions set forth above in this paragraph (b).

(iii) There shall be a Capacity Deficiency upon the occurrence of all of the following events:

(A) The Average Peak Hourly Passenger Volume exceeds the Design Capacity in an Annual Period; and

(B) The Average Peak Waiting time for an Annual Period exceeds Forty-five (45) minutes; and

(C) The events described in subparagraphs (A) and (B) above occur for two successive Annual Periods.

(iv) (A) "Peak Day(s)" shall mean the three (3) busiest days during each of the eight consecutive calendar weeks (Sunday through Saturday) commencing with the calendar week during which July 1st occurs; and January 2nd, Good Friday, the Friday prior to Memorial Day, the Friday prior to Labor Day, Labor Day, the Wednesday prior to Thanksgiving, the Friday after Thanksgiving and December 22nd, 23rd and 24th for a total of 34 Peak Days during each Annual Period.

(B) "Peak Hours Period" shall mean the continuous two hundred forty (240) minute period on each Peak Day during which the highest volume of arriving international passengers enters the Terminal FIS Premises.

(C) The "Average Peak Hourly Passenger Volume" for each Annual Period shall be determined as follows: The number of arriving international passengers entering the Terminal FIS Premises during the Peak Hours Period on each Peak Day shall be ascertained; then, the sum total volume of such passengers during the Peak Hours Periods on all Peak Days in an Annual Period shall be ascertained. Such total number of passengers shall then be divided by one hundred thirty-six (136) and such quotient shall be the Average Peak Hourly Passenger Volume for such Annual Period.

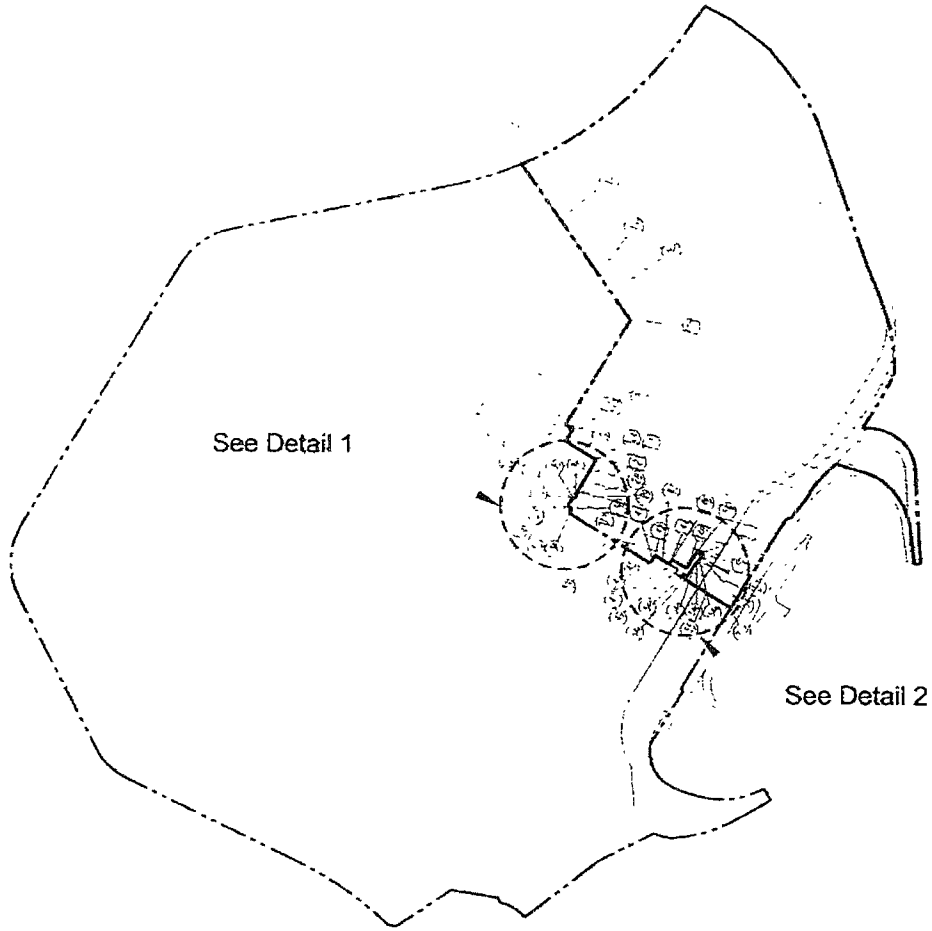
(D) The "Average Peak Waiting Time" for each Annual Period shall mean the average of the time periods, expressed in minutes per passenger, that ten (10) randomly selected arriving international passengers entering the Terminal FIS Premises during each hour of each Peak Hours Period on each Peak Day in an Annual Period take to clear the Terminal FIS Facilities.

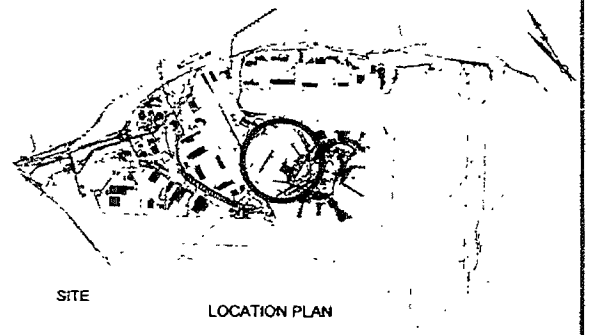
[Supplement No. 1 (8/10/01):]

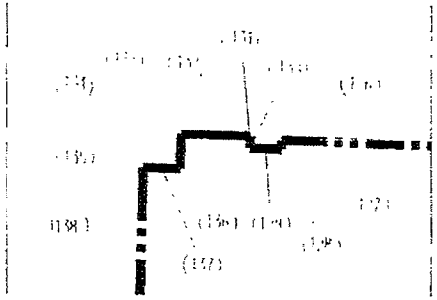
15.1. *Additional Operators.* A new Section 76 (c) shall be added to the Lease and shall read as follows:

"(c) Notwithstanding the limitations set forth in paragraph (b) above, the Port Authority may itself construct or operate an airline terminal which includes FIS premises or enter into an agreement with another Person to construct an airline terminal which includes FIS premises which in either case is to be primarily utilized by one or more Scheduled Aircraft Operator(s) so long as such Scheduled Aircraft Operator(s) do not hold a Foreign Air Carrier Permit under the Federal Aviation Act of 1958 or a substantially similar permit under any similar federal statute."

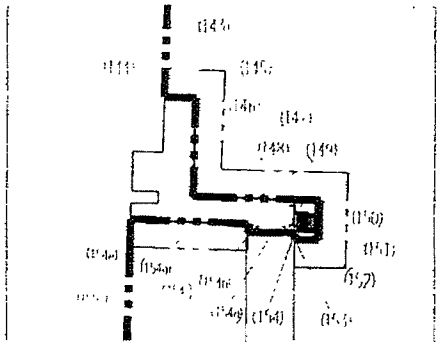
TERMINAL 8 & 9
SITE PLAN







Detail 1



Detail 2

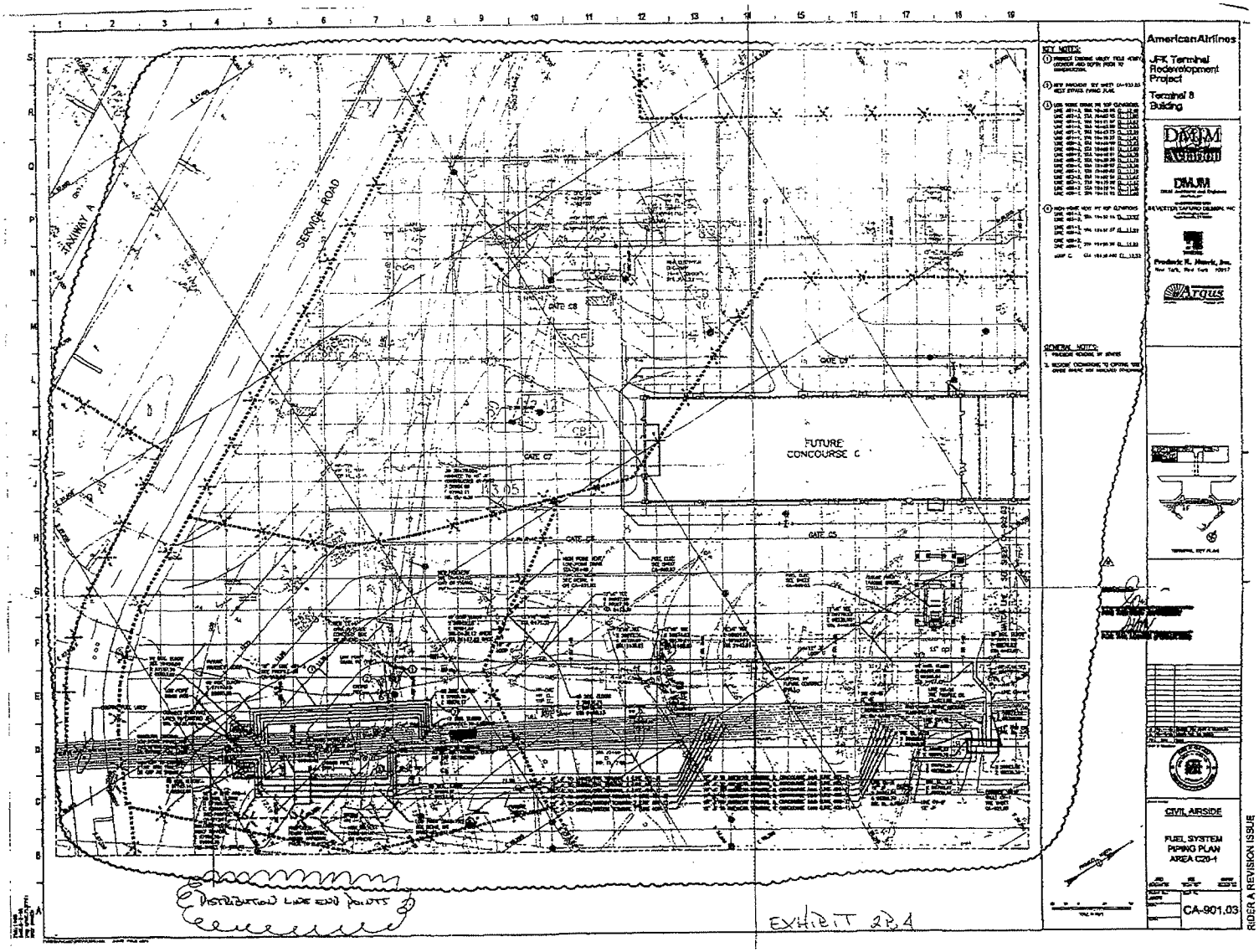
INITIALED:

FOR THE PORT AUTHORITY

FOR LESSEE

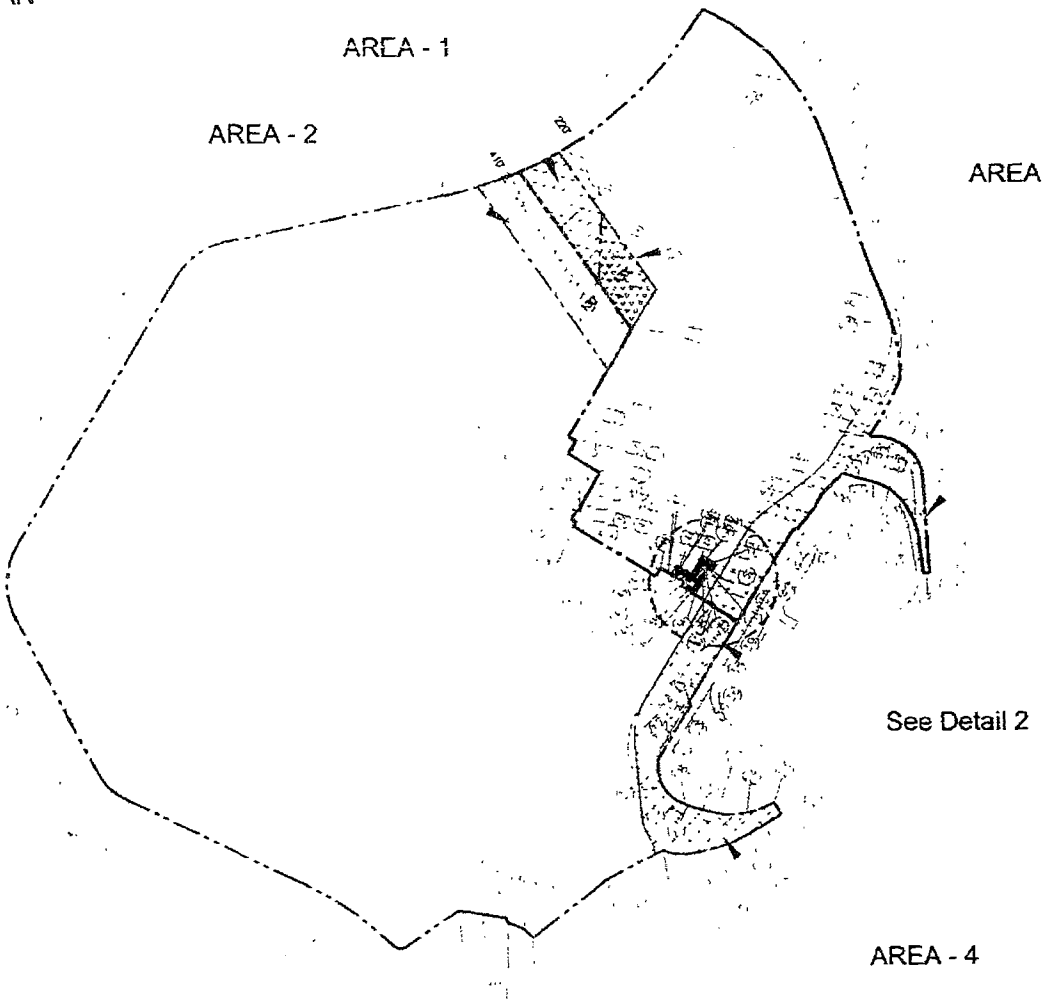
EXHIBIT 95.1

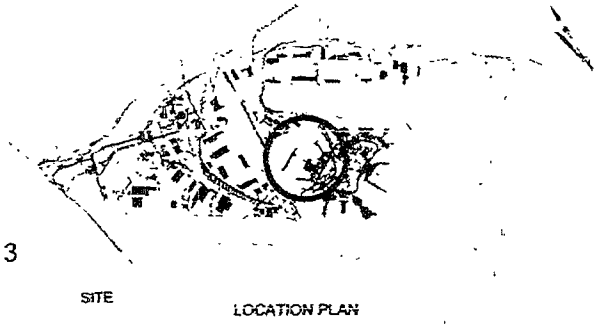
THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY
JOHN F. KENNEDY
INTERNATIONAL AIRPORT
11 - 01 - 05 (T8/T9 - 0) JFK05 - 009

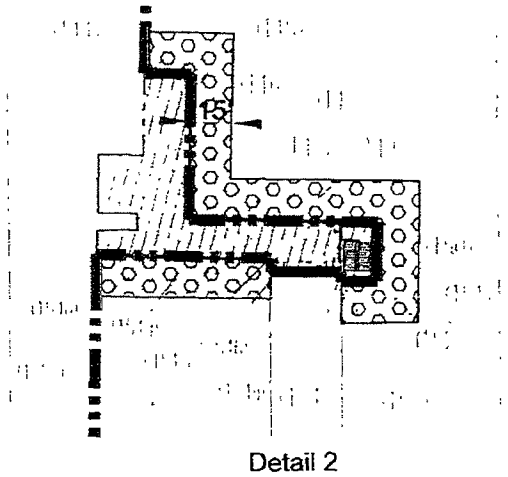


TAXIWAY A
SERVICE ROAD
GATE C8
GATE C7
GATE C5
FUTURE CONCOURSE C
KEY NOTES:
GENERAL NOTES:
AmericanAirlines
JFK Terminal Redevelopment Project
Terminal 8 Building
DMJM Aviation
DMJM
Argus
CIVIL AIRSIDE
FUEL SYSTEM PIPING PLAN AREA C20-1
CA-901.03
RIDER A REVISION ISSUE
DISTRIBUTION LINE END POINTS
EXHIBIT 2B.4

TERMINAL 8 & 9
SITE PLAN







Detail 2

INITIALED

FOR THE PORT AUTHORITY

FOR LESSEE

EXHIBIT 96.1

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY
JOHN F. KENNEDY
INTERNATIONAL AIRPORT
11 - 01 - 05 (T8/T9 - 0) JFK05 - 009

TERMINAL 8 & 9

DATA TABLE

(BEARINGS, COORDINATES, DISTANCES, RADIUS, LENGTHS)

(1)	S 57689 730 E 68787 650	(22)	S29° 31' 41 05"E 41 891'	(43)	S 56440 208 E 70019 593	(63)	S 56287 329 E 70401 391	(81)	S 55673 937 E 70255 153	(103)	S 55568 092 E 68288 348	(121)	S31° 39' 21 31"W 377 970'	(142)	S 56556 810 E 69603 242				
(2)	R = 30 000' L = 40 930' Δ= 78°10'37 92" S 57668 123 CC E 68808 463	(23)	S 57268 540 E 69941 241	(44)	S39° 26' 19 63"W 77 436'	(64)	R = 120 000 L = 74 710' Δ= 35°40'16 32" S 56284 033 CC E 70281 576	(82)	N19° 15' 53 76"W 291 680'	(104)	R = 228 000' L = 188 047' Δ= 46°45'11 16" S 55791 408 CC E 68334 181	(122)	S 56157 353 E 69325 406	(143)	S58° 17' 41 77"E 51 404'				
(3)	S 57692 922 E 68825 348	(24)	R = 271 023' L = 176 395' Δ= 37°17'27 60" S 57030 847 CC E 69851 027	(45)	S 56380 403 E 70068 786	(65)	S 56218 720 E 70375 002	(83)	S 55308 590 E 70158 917	(105)	S 55671 769 E 68140 092	(122a)	S58° 21' 18 26"E 27 574'	(144)	S 56583 825 E 69648 974				
(4)	S 55°50'33 22" W 190 165'	(25)	S 57298 840 E 69770 612	(46)	R = 400 000' L = 44 440' Δ= 06°21'55 80" S 56547 487 CC E 70432 218	(66)	R = 152 001' L = 30 371' Δ= 11°26'53 52" S 56314 117 CC E 70256 665	(84)	N19° 17' 00 06"W 150 821'	(106)	N31° 39' 00 06"E 263 980'	(122b)	S 56171 821 E 69348 877	(145)	S31° 37' 21 26"W 17 373'				
(5)	S 57586 150 E 68952 707	(26)	R = 421 260' L = 94 890' Δ= 12°54'21 60" S 56882 290 CC E 69833 431	(47)	S 56341 139 E 70089 551	(67)	S 56197 130 E 70353 713	(85)	S 55256 231 E 70109 110	(107)	S 55896 487 E 68001 574	(122c)	S31° 38' 33 77"W 43 708'	(146)	S 56569 032 E 69656 083				
(6)	N81° 01 45 79"W 144 762'			(48)	R = 926 845' L = 96 201' Δ= 05°56'46 68" S 56971 151 CC E 70769 486	(68)	R = 152 000' L = 65 536' Δ= 24°42'12 96" S 56314 116 CC E 70256 666	(86)	R = 582 000' L = 209 515' Δ= 20°37'33 60" S 55448 429 CC E 69559 761	(108)	N31° 39' 00 07"E 676 377'	(122d)	S 56209 030 E 68325 950	(147)	S56° 21' 00 94"E 52 500'				
(7)	S 57508 725 E 69125 697	(27)	S 57274 286 E 69679 162	(49)	S 56274 090 E 70158 477'	(69)	S 56187 278 E 70295 941	(87)	S 55075 034 E 70006 192	(109)	S 56473 908 E 67645 610	(123)	S58° 28' 55 09"E 109 915'	(148)	S 56596 580 E 69700 775				
(8)	N21° 59 47 42"W 16 441'	(28)	R = 421 260' L = 20 981' Δ= 02°51'13 32" S 56882 290 CC E 69833 431	(50)	N74° 10' 59 52"W 95 167'	(70)	R = 152 000' L = 52 806' Δ= 19°54'18 36" S 56314 116 CC E 70256 666	(88)	N37° 08' 44 64"W 15 783'	(110)	R = 228 000' L = 236 762' Δ= 60°00'00 36" S 56583 806 CC E 67838 706	(124)	S 56266 364 E 69419 508	(149)	S31° 23' 40 77"W 65 511'				
(9)	S 57643 369 E 69131 855			(51)	S 56300 029 E 70250 041			(89)	S 55062 448 E 69996 669			(125)	S31° 43' 44 31"W 121 459'	(150)	S 56540 660 E 69734 902				
(10)	R = 113 999' L = 88 896' Δ= 44°40'44 40" S 57736 719 CC E 69115 024	(29)	S 57296 120 E 69659 837	(52)	R = 176 005' L = 103 466' Δ= 34°52'13 80" S 56463 596 CC E 70203 702	(71)	S 56152 679 E 70243 801	(90)	N39° 51' 46 83"W 75 483'	(111)	S 56701 874 E 67639 046	(126)	S 56371 571 E 69356 762	(151)	S58° 21' 00 94"E 21 750				
(11)	S 57668 382 E 69206 270	(30)	R = 120 000' L = 159 341' Δ= 76°04'46 56" S 57156 782 CC E 69709 287	(53)	S 56355 891 E 70335 238	(72)	S29° 56' 42 89"E 5 499'	(91)	S 55004 509 E 69948 288	(112)	N28° 16' 31 67"W 535 195'	(127)	S58° 21' 09 10"E 3 843'	(152)	S 56552 047 E 69753 375				
(12)	S52° 21' 44 42"W 286 278'	(31)	S 57135 088 E 69591 254	(54)	R = 245 000' L = 141 352' Δ= 33°03'24 12" S 56511 109 CC E 70145 678	(73)	S 56157 814 E 70240 856	(92)	N53° 16' 03 96"W 142 174'	(113)	S 57173 210 E 67682 574	(128)	S 56373 586 E 69360 033	(153)	S 56560 566 E 69748 169				
(13)	S 57493 562 E 69432 970	(32)	S31° 38' 59 95"W 173 925'			(74)	R = 959 532' L = 194 002' Δ= 11°35'03 48" S 56460 007 CC E 55600 260	(93)	S 54919 478 E 69834 344	(114)	R = 209 076' L = 122 429' Δ= 33°33'01 44" S 57058 549 CC E 68067 406	(129)	S31° 38' 53 31"W 13 398'	(154)	S 56558 737 E 69745 170				
(14)	S63° 26' 35 68"W 191 465'	(33)	S 56987 031 E 69602 528					(94)	N63° 20' 59 70"W 93 700'			(130)	S 56384 997 E 69353 005	(154a)	S30° 10' 43 52"W 28 571'				
(15)	S 57407 961 E 69604 234	(34)	S31° 38' 59 95"W 14 361'	(55)	S 56484 414 E 70388 219	(75)	S 55989 753 E 70336 933	(95)	S 54877 450 E 69750 598	(115)	S 57250 732 E 67985 071	(131)	N58° 21 40 03"W 5 000'	(154b)	S 56581 707 E 69731 813				
(16)	R = 120 000' L = 69 691' Δ= 33°16'29 28" S 57301 473 CC E 69659 554	(35)	S 56974 806 E 69690 063	(56)	N6° 07' 24 46"W 94 852'	(76)	R = 520 165' L = 177 839' Δ= 19°35'19 68" S 55979 728 CC E 69816 865	(96)	S37° 48' 52 86"W 52 834'	(116)	N64° 28' 59 96"W 556 942'	(132)	S 56382 388 E 69348 747	(154c)	S 56578 602 E 69728 230				
(17)	S 57420 854 E 69671 729	(36)	S13° 20' 54 21"E 14 142'	(57)	S 56578 725 E 70389 337			(97)	S 54919 207 E 69718 229	(117)	S 57490 502 E 68487 759	(133)	S31° 38' 55 50"W 29 458'	(154d)	S31° 38' 55 11"W 62 252'				
(18)	R = 492 922' L = 206 890' Δ= 24°02'53 52" S 56930 327 CC E 69623 197	(37)	S 56951 046 E 69686 798	(58)	S83° 44' 22 97"W 20 694'	(77)	S 55814 812 E 70310 195	(98)	R = 1186 464' L = 701 904' Δ= 33°53'44 88" S 54266 889 CC E 68727 180	(118)	R = 1013 956' L = 381 955' Δ= 20°27'10 80" S 56421 271 CC E 68085 540	(134)	S 56407 445 E 69333 291	(154e)	S 56632 568 E 69695 551				
(19)	S 57356 500 E 69687 409	(38)	S31° 38' 59 89"W 284 928'			(78)	N18° 29' 08 92"W 14 606'	(99)	S 55361 040 E 69186 017	(119)	S35° 25' 51 46"E 410 190'	(135)	S58° 21' 00 99"E 14 833'	(155)	S56° 29' 54 79"E 164 903'				
(20)	S60° 28' 25 88"W 108 579'	(39)	S 56718 752 E 69836 152	(59)	S 56576 468 E 70419 808	(79)	S 55800 980 E 70305 564	(100)	R = 1186 464' L = 243 907' Δ= 11°46'42 60" S 54266 889 CC E 68727 180	(119a)	S 55695 200 E 69423 910	(136)	S 56415 229 E 69345 918						
(21)	S 57304 990 E 69961 887	(40)	S31° 38' 59 89"W 323 372'	(60)	R = 685 096' L = 51 993' Δ= 04°20'53 88" S 56481 896 CC E 71098 417					(119b)	S35° 26' 45 76"E 172 266'	(137)	S31° 32 32 52"W 15 834'						
		(41)	S 56443 475 E 70005 834	(61)	S 56524 752 E 70414 675	(80)	R = 1374 000' L = 136 717' Δ= 05°42'03 96" S 56243 659 CC E 69004 836	(101)	S 55431 664 E 68953 007	(120)	S 55835 510 E 69523 800	(138)	S 56428 874 E 69337 557						
		(42)	S76° 39' 05 79"W 14 142'	(62)	S3° 12' 08 85"E 237 794'			(102)	N78° 24' 10 99"E 678 510'	(120a)	S 55956 630 E 69449 220	(139)	S58° 34' 34 23"E 293 240'						
												(140)	S 56561 559 E 69587 788						
												(141)	N31° 58' 51 01"E 29 177'						

INITIALED

FOR THE PORT AUTHORITY

FOR LESSEE

NOTE
COORDINATES EXPRESSED IN FEET AND BEARING REFER TO THE GRID SYSTEM OF THE BORDUGH OF QUEENS TOPOGRAPHICAL BUREAU

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

JOHN F. KENNEDY
INTERNATIONAL AIRPORT

EXHIBIT 96.2

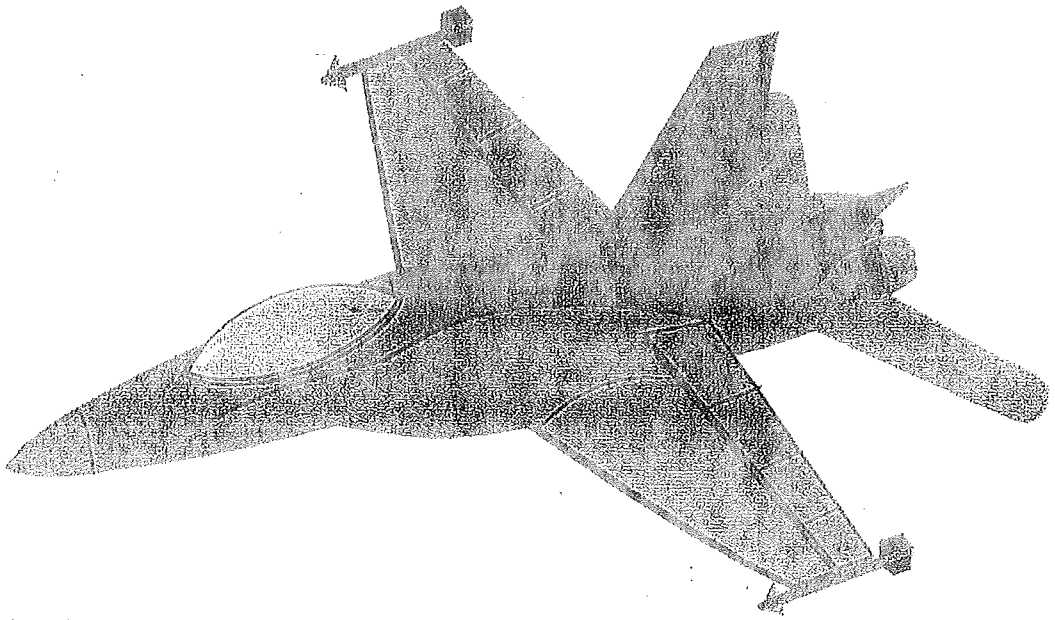
11 - 01 - 05 (T8/T9 - 0) JFK05 - 009

LEASE AYB-876

BETWEEN THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

AND

BRITISH AIRWAYS, PLC.



DATED AS OF JANUARY 4, 1988

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UTBBA-1287.3

THIS AGREEMENT SHALL NOT BE BINDING UPON
THE PORT AUTHORITY UNTIL DULY EXECUTED BY
AN EXECUTIVE OFFICER THEREOF AND DELIVERED
TO THE LESSEE BY AN AUTHORIZED
REPRESENTATIVE OF THE PORT AUTHORITY

John F. Kennedy International Airport
Lease No. AYB-876

AGREEMENT OF LEASE

THIS AGREEMENT OF LEASE, dated as of the fourth day of January, 1988, by and between THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY (hereinafter called "the Port Authority"), a body corporate and politic, established by Compact between the States of New Jersey and New York with the consent of the Congress of the United States of America, and having an office at 1 World Trade Center, in the Borough of Manhattan, City, County and State of New York, and BRITISH AIRWAYS, Plc. (hereinafter called "the Lessee"), a corporation of England and Wales, having an office and place of business at 75-20 Astoria Boulevard, Jackson Heights, New York 11370, whose representative is Arthur Mc Mahon, Senior Vice President, Customer Services,

WITNESSETH, That:

The Port Authority and the Lessee for and in consideration of the rents, covenants and mutual agreements hereinafter contained, hereby covenant and agree as follows:

Section 1. Letting

(a) The Port Authority hereby lets to the Lessee and the Lessee hereby hires and takes from the Port Authority at John F. Kennedy International Airport (sometimes hereinafter referred to as "the Airport") in the Borough of Queens, City and State of New York, the land shown in stipple and in stipple-diagonal hatching on the sketch attached hereto hereby made a part hereof and marked "Exhibit A (sheet 1 of 3)", and the land shown in stipple on the sketch attached hereto, hereby made a part hereof and marked "Exhibit B", together with all buildings, improvements and structures, which were erected thereon under the Agreement of lease between the Lessee's predecessor and the Port Authority made as of January 11, 1967 and bearing Port Authority Lease No. AYA-101 (which agreement of lease, as the same has been supplemented and amended, is sometimes hereinafter referred to as the "Prior Lease"), the aforesaid land, together with the fixtures, improvements and other property of the Port Authority,

if any, located therein, thereon or thereunder, and all the foregoing buildings, improvements and structures erected thereon by the Lessee and all structures, improvements, additions, buildings and facilities located, constructed or installed or to be located, constructed or installed therein, thereon or thereunder, being hereinafter collectively referred to as "the premises". The parties acknowledge that the premises constitute nonresidential real property.

(b) Except to the extent required for the performance of any of the obligations of the Lessee hereunder nothing contained in this Agreement shall grant to the Lessee any rights whatsoever in the air space above the premises in excess of a sight line slope as shown on the sketch attached hereto, hereby made a part hereof and marked "Exhibit B".

(c) The strip of land lying along and within the easterly (directions set forth in this paragraph (c) are true) boundary line of the premises (which strip is shown in stipple-diagonal hatching on Exhibit A, Sheet 1 of 3), together with the corresponding contiguous strip of land lying along and within the westerly boundary of space let to Pan American World Airways, Inc. and occupied by Trans World Airlines, Inc. and immediately abutting on the easterly side of the premises (which strip is shown in diagonal hatching on Exhibit A, Sheet 1 of 3) shall be subject to a joint and mutual easement for a taxiway to be used jointly by the Lessee and Trans World Airlines, Inc. or by any successors in interest of either or both of them or other sublessees or other occupants or users who, pursuant to Port Authority permission, may occupy or use the premises herein or the space let to Pan American World Airways, Inc. and occupied by Trans World Airlines, Inc. and such rights of easement for such taxiway purposes shall continue during the effective periods of the respective agreements covering the same.

Section 2. Term

(a) The term of the letting under this Agreement shall commence on January 1, 1995.

(b) Unless sooner terminated, the term of the letting under this Agreement shall expire on November 30, 2015.

Section 3. Rental

(a) Rental Obligations:

(1) The Lessee hereby agrees to and shall pay to the Port Authority a basic rental at the annual rate of

(Ex. 2.a.)

subject to increase as provided in paragraph (b) hereof.

(2) In addition to the rental set forth in subparagraph (1) above effective on and after the day following the 25th anniversary of either (i) the Construction Completion Date, as defined in the Letter Agreement (as set forth in Section 4 hereof), or (ii) September 30, 1989, whichever is earlier, the Lessee shall pay to the Port Authority a rental (hereinafter called "the Additional Facility Rental") at an annual rate in an amount equal to the sum obtained by multiplying the number of interior square feet constructed by the Lessee as a part of the Terminal Expansion Work, as hereinafter defined, by(Ex. 2.a.) as increased effective on and after January 1, 1995 by increases in the CPI pursuant to paragraph (b) hereof, said Additional Facility Rental to be thereafter subject to increase as provided in paragraph (b) hereof.

(b) CPI Adjustments:

The following terms as used in this Section 3 shall have the respective meanings given below:

(1) "CPI" or "Consumer Price Index" shall mean the Consumer Price Index for all Urban Consumers, New York, N.Y. Northeastern, N.J., All Items (1967=100) published by the Bureau of Labor Statistics of the United States Department of Labor.

(2) The Port Authority shall ascertain the CPI for the month of September 1993 and for the month of September in each year thereafter during the term of this Agreement after the same has been published, and the Port Authority shall also determine the annual percentage increase, if any, for each such twelve month period (from September to September) after the same has been published (hereinafter called "the annual CPI percentage increase").

(3) Effective on January 1, 1995 the rentals set forth in paragraph (a) of this Section 3 shall be increased as follows: the annual rental rates as set forth in paragraph (a) shall be multiplied by a percentage composed of 1/4 of the annual CPI percentage increase, if any, from September 1993 to September 1994 plus 100%; and the product so obtained shall be and become the annual rental in effect for the annual period ending on the last day of the next following month of December.

(4) Effective on January 1, 1996 and thereafter on the first day of the month of January in each succeeding year of the term of the letting the rentals set forth in paragraph (a) of this Section 3 shall be increased as follows: the annual rental rates as set forth in paragraph (a) as the same may have been last adjusted hereunder, shall be multiplied by a percentage composed of 1/2 of the annual CPI percentage increase, if any, as determined for the latest period from September to September plus 100%; and the product so obtained shall be and become the annual rental in effect for the annual period ending on the last day of the next following month of December.

(5) In the event that the Consumer Price Index is not available for any specified month as hereinabove set forth within the time set forth for payment such index for the latest month then published shall be used to constitute the Consumer Price Index. In the event of the change of basis or the discontinuance of the publication by the United States Department of Labor of the Consumer Price Index such other appropriate index or indexes shall be substituted as may be agreed by the parties hereto as properly reflecting changes in the value of the current United States money in a manner similar to that established in the said indexes used in the latest adjustment. In the event of the failure of the parties to so agree, the Port Authority may select and use such index or indexes as it deems appropriate, provided, however, that the foregoing shall not preclude the Lessee from contesting the Port Authority's selection.

(6) In no event shall any rental rate established under this paragraph (b) be less than the rental rate it supersedes.

(c) The rental hereunder shall be payable by the Lessee in advance in equal monthly installments on the first day of the term of the letting and on the first day of each and every calendar month thereafter during the balance of the term of the letting.

(d) Abatement

In the event that the Lessee shall at any time by the provisions of this Agreement become entitled to an abatement of basic rentals, said abatement shall be computed as follows (it being understood that there shall be no abatement of rental under the Lease for any portion of the premises or for any portion of the term except as specifically provided herein):

(1) For each square foot of land as shown in stipple and stipple-diagonal hatching on Exhibit A (sheet 1 of 3) and in stipple on Exhibit E the use of which is denied to the Lessee at the daily rate of (2.a.) ~~CPI adjustments~~ as appropriately adjusted to reflect any and all pursuant to paragraph (b) above.

(2) For each square foot of the 334,860 square feet of interior space located within the Unit Terminal Building and Security Building as shown on Exhibit C attached hereto and hereby made a part hereof, and from and after the Completion Date for each square foot of the interior space constructed by the Lessee as a part of the Terminal Expansion, the use of which is denied to the Lessee, at the daily rate of (2.a.) ~~CPI adjustments~~ as appropriately adjusted to reflect any and all pursuant to paragraph (b) above.

(e) For the purposes of paragraph (d) and subparagraph (a) (2), all of the interior space shall be measured and the same shall be ascertained by measuring between the interior plaster surfaces of the exterior building walls, and no deductions will be made therefrom for columns, pilasters, projections, partitions, toilets, vertical shafts, elevator shafts, stairs, fire towers, vents, pipe shafts, meter closets, flues, stacks, structures or facilities of any kind or anything else located therein.

Section 4. Conditional Limitations: Performance of the Terminal Expansion Work - Termination of the Prior Lease

(a) The Lessee and the Port Authority hereby understand and agree that if any one or more of the following events shall occur, that is to say:

(1) The Prior Lease, as defined in Section 1 hereof, shall expire or shall have been terminated, surrendered, revoked or cancelled for any reason whatsoever prior to December 31, 1994, or

(2) The sublease agreement between BIDL Properties, Inc. and the Lessee's predecessor dated as of June 10, 1968, and consented to by the Port Authority in a Consent Agreement entered into among the Port Authority, the Lessee's predecessor and BIDL Properties, Inc. and dated as of June 10, 1968 shall expire or shall have been terminated, surrendered, revoked or cancelled, for any reason whatsoever, prior to November 30, 1994, or

(3) The Lessee shall not be in possession of the premises under the Prior Lease on December 31, 1994;

then, effective upon the date of such expiration, termination, surrender, revocation or cancellation under subparagraphs (1) or (2) above or effective as of the date the Lessee shall no longer be in possession under the Prior Lease under subparagraph (3) above this Lease and the letting hereunder shall be and shall be deemed to be terminated, cancelled, null, void and of no force or effect.

(b) The Lessee and the Port Authority have simultaneously herewith entered into a letter agreement dated April 12, 1988 which sets forth the terms and conditions under which the Port Authority will consent to the performance by the Lessee of certain construction work on the premises under the Prior Lease (herein called "the Terminal Expansion Work" and said letter agreement as the same may be amended and supplemented from time to time being herein called "the Letter Agreement"). The Lessee understands and acknowledges that the performance of the Terminal Expansion Work is of the essence to the Port Authority in entering into this Agreement of lease with the Lessee and in

consenting to the sublease to, and occupancy of, portions of the premises by United (as set forth in Section 24 hereof). The Lessee understands and agrees that the Terminal Expansion Work shall be substantially completed and ready for occupancy and the Lessee shall have expended at least $60 million thereon on or before July 1, 1991 in accordance with all of the terms and conditions of the Letter Agreement and that in the event the Lessee shall not have completed the Terminal Expansion Work, as aforesaid, by July 1, 1991 or if the Terminal Expansion Work shall have been completed but the Lessee shall not have expended $60 million thereon by July 1, 1991 in accordance with all of the terms and conditions of the Letter Agreement then, without limiting the generality of any other term or provision hereof, and subject to the provisions of this paragraph (b), such failure or failures on the part of the Lessee shall be and be deemed an event of termination under subparagraph (10) of paragraph (a) of Section 25 of this Lease and subject to the terms of provisions of Section 25, including but not limited to the Port Authority's right of termination as therein provided.

It is understood that the provisions of Section 69 (Force Majeure) of this Lease shall apply to and pertain to the performance and completion by the Lessee of the Terminal Expansion Work as set forth in this Section 4 provided, however, that the Lessee understands and agrees that nothing contained in said Section 69 shall extend or be deemed to extend the time of the Lessee to complete the Terminal Expansion Work and to have invested at least $60 million therein, as set forth herein, beyond June 30, 1994, at which time in any and all events, and without regard to Section 69, which shall no longer apply thereto, or the right of the Lessee to cure under subparagraph (10) of paragraph (a) of Section 25 hereof and whether or not the Port Authority shall have served a Notice of Default hereunder on the Lessee with respect to such failure of performance by the Lessee, this Lease and the term of letting hereunder shall be and shall be deemed to be, effective June 30, 1994, terminated, cancelled, null, void and of no further force or effect without other further or separate notice to or from either party hereto.

(c) Termination hereunder and the effect of this Section 4 shall be and operate as a conditional limitation. In the event any court of competent jurisdiction shall not give full and complete effect to this termination provision and its operation as a conditional limitation, the Lessee and the Port Authority agree, as a condition of this Agreement, and not merely as a covenant, that this Agreement and the stated term of the letting hereunder is nonetheless, from and after the effective date of termination provided above, to be deemed to have expired.

Section 5. Use of Premises

The Lessee, in connection with its business of transportation by aircraft, may use the premises for the following purposes and for activities reasonably required for such purposes and for such purposes and activities only:

(1) For the reservation of space and the sale of tickets for transportation on aircraft operated by the Lessee.

(2) For the reservation of space and the sale of tickets for transportation by other carriers but only as an incident to or in connection with transportation performed or to be performed by the Lessee or as an incident to or in connection with the cancellation of such transportation, or for the accommodation or convenience of the incoming or outbound passengers of the Lessee at the Airport. The occasional reservation of space and the sale of tickets for transportation by other carriers shall not be deemed to be prohibited by this provision.

(3) For the clearance, checking and rendering of service to passengers of the Lessee and for the furnishing of information service to such passengers and the general public.

(4) For providing rooms or space for the special handling of or the furnishing of special services to any of its passengers, guests, or invitees, subject to the provisions of Section 66 hereof.

(5) For the handling of baggage of passengers of the Lessee including baggage and parcels such passengers decide to send as air cargo.

(6) For the handling of unclaimed baggage and lost and found articles.

(7) For the conduct of operations, traffic, communications, reservations and administrative office functions and activities in connection with air transportation performed by the Lessee.

(8) For the preparation, packaging and storage of food, beverages and commissary supplies to be consumed on aircraft operated by the Lessee.

(9) For the storage of repair parts, supplies and other personal property owned or leased by the Lessee and for the performance of minor repairs to personal property of the Lessee.

(10) For the storage of such automotive fuel and lubricants as may be approved by the Port Authority.

(11) For the operation of a cafeteria for over-the-counter sales to officers and employees of the Lessee and their families and to occasional business guests of such officers and employees (other than passengers of the Lessee), of food, beverages and other merchandise normally sold in such an establishment at no profit to the Lessee and either directly by the Lessee or through a subsidiary thereof or by an independent

contractor who has received a permit from the Port Authority so to do.

(12) For use as crew quarters to be used by personnel of the Lessee during layovers between flights and for the establishment of lounges for employees of the Lessee.

(13) For the loading and unloading of passengers, baggage, mail, air cargo and commissary supplies, that the use of the premises for the unloading and loading of passengers and their baggage from ground transportation vehicles shall be subject to limitation and restriction, from time to time, as set forth in Section 75 hereof.

(14) For the parking and storage of aircraft and ramp equipment operated by the Lessee.

(15) For the fueling and routine servicing of aircraft and ramp equipment operated by the Lessee and for the maintenance of ramp equipment operated by the Lessee.

(16) For the performance of emergency or turn-around aircraft maintenance on aircraft operated by the Lessee.

(17) For the training of personnel employed or to be employed by the Lessee or other persons engaged in commercial transportation by aircraft, provided, that unless consented to by the Port Authority, the Lessee shall not engage in the training of persons employed by others or to be employed by others if the training of such persons is in competition with any concessionaire, permittee or licensee of the Port Authority at the Airport (other than another person engaged in the business of transportation by aircraft).

(18) For the temporary storage of baggage, mail and air cargo.

(19) For federal inspection services by federal agencies (if the United States Government makes the same available to the Lessee).

(20) For any other purpose or activity, in addition to those specified in this Section 5, for which the premises are expressly authorized to be used by any other provision of this Agreement.

The loading or unloading on the premises of any aircraft used principally for cargo is expressly prohibited.

Section 6. Ingress and Egress

(a) The Lessee, its officers, employees, passengers, customers, patrons, invitees, contractors, suppliers of material and furnishers of services, shall have the right of ingress and

egress between the premises and city streets or public ways outside the Airport by means of existing roadways to be used in common with others having rights of passage within the Airport, provided, however, that the Port Authority may from time to time substitute other reasonably equivalent means of ingress and egress and provided, further, however, notwithstanding anything contained in the General Airport Agreement as defined in Section 53 hereof that the Lessee hereby expressly understands and agrees that the Lessee shall have no right of ingress and egress or access hereunder or otherwise for its employees, passengers, customers, patrons, invitees and their baggage between the premises and the city streets or public ways outside the Airport by means of any mode of transportation or any vehicle which may be limited or restricted in accordance with Section 75 hereof it being understood that access to the premises for emergency response for reasons of safety or health shall not be deemed a breach hereof.

(b) The Lessee shall have the right of ingress and egress between the premises and the Public Landing Area at the Airport, by means of existing taxiways to be used in common with others having rights of passage thereon, provided, however, that the Port Authority may from time to time substitute other reasonably equivalent means of ingress and egress.

(c) The use of all roadways and taxiways shall be subject to the Rules and Regulations of the Port Authority which are now in effect or which may hereafter be promulgated for the safe and efficient operation of the Airport. In addition to the rights of closure granted above, the Port Authority may, at any time, temporarily or permanently close, or consent to or request the closing of, any such roadway, taxiway and any other area at the Airport presently or hereafter used as such, so long as a means of ingress and egress reasonably equivalent to that provided in paragraphs (a) and (b) above remains available to the Lessee. The Lessee hereby releases and discharges the Port Authority its successors and assigns, of and from any and all claims, demands or causes of action which the Lessee may now or at any time hereafter have against any of the foregoing, arising or alleged to arise out of the closing of any street, roadway, taxiway or other area used as such whether within or outside the Airport, provided, a reasonably equivalent means of ingress and egress is available. The Lessee shall not do or permit anything to be done which will interfere with the free access and passage of others to space adjacent to the premises or in any streets, ways and walks near the premises.

Section 7. Compliance with Governmental Requirements

(a) The Lessee shall comply with all laws and ordinances and governmental rules, regulations and orders now or at any time during the term of this Lease which as a matter of law are applicable to or which affect the operations of the Lessee at the premises hereunder and the Airport, and the Lessee

shall, in accordance with and subject to the provisions of Section 44 hereof, make any and all structural and non-structural improvements, alterations or repairs of the premises that may be required at any time hereafter by any such present or future governmental law, rules, regulation, requirement, order or direction.

(b) The Lessee hereby agrees that it shall, at its own cost and expense procure and obtain from all governmental authorities having jurisdiction over the operations of the Lessee hereunder and shall maintain in full force and effect throughout the term of this Agreement all licenses, certificates, permits or other authorization which may be necessary for the conduct of such operations. "Governmental authority" shall not be construed as intending to include The Port Authority of New York and New Jersey, the lessor under this Agreement.

(c) The obligation of the Lessee to comply with governmental requirements is provided herein for the purpose of assuring proper safeguards for the protection of persons and property on the premises. Such provision is not to be construed as a submission by the Port Authority to the application to itself of such requirements or any of them.

(d) Since the Port Authority has agreed in the Basic Lease to conform to the enactments, ordinances, resolutions and regulations of the City of New York and its various departments, boards and bureaus in regard to the construction and maintenance of buildings and structures and in regard to health and fire protection which would be applicable if the Port Authority were a private corporation to the extent that the Port Authority finds it practicable so to do, the Lessee shall comply with all such enactments, ordinances, resolutions and regulations which would be applicable to its operations at the premises if the Port Authority were a private corporation except in cases where the Port Authority either notifies the Lessee that it need not comply with or directs it not to comply with any such enactments, ordinances, resolutions or regulations which are applicable only because of the Port Authority's agreement in the Basic Lease. The Lessee shall, for the Port Authority's information, deliver to the Port Authority promptly after receipt of any notice, warning, summons, or other legal process for the enforcement of any such enactment, ordinance, resolution or regulation a true copy of the same. Any direction by the Port Authority to the Lessee not to comply with any such enactment, ordinance, resolution or regulation shall be given only pursuant to a resolution duly adopted by the Board of Commissioners of the Port Authority or by an authorized committee of its Board and if any such direction is given by the Port Authority to the Lessee, the Port Authority to the extent that it may lawfully do so, shall indemnify and hold the Lessee harmless from and against all claims, actions, damages, liabilities, fines, penalties, costs and expenses suffered or incurred by the Lessee as a result of noncompliance with such enactment, ordinance, resolution or regulation.

In the event of compliance with any such enactment, ordinance, resolution or regulation on the part of the Lessee, acting in good faith, commenced after such delivery to the Port Authority but prior to the receipt by the Lessee of a written direction from the Port Authority not to comply (and thereafter discontinued) such compliance shall not constitute a breach of this Agreement, although the Port Authority thereafter directs the Lessee not to comply. Nothing herein contained shall release or discharge the Lessee from compliance with any other provision hereof respecting governmental requirements.

(e) The Lessee shall have such time within which to comply with the aforesaid laws, ordinances, rules and regulations as the authorities enforcing the same shall allow.

Section 8. Rules and Regulations

(a) The Lessee covenants and agrees to observe and obey (and to require its officers, employees, guests, invitees, and those doing business with it to observe and obey) with respect to the premises the existing Rules and Regulations of the Port Authority in effect as of the execution of this Agreement and such reasonable future Rules and Regulations for the government of the conduct and operations of the Lessee and others on the premises as may from time to time during the letting be promulgated by the Port Authority for reasons of safety, health, noise, sanitation or good order. The obligation of the Lessee to require such observance and obedience on the part of its guests, invitees, and those doing business with it shall obtain only while such persons are on the premises. The Port Authority agrees that except in cases of emergency, it will give notice to the Lessee of every such future rule or regulation adopted by it at least ten (10) days before the Lessee shall be required to comply therewith.

(b) Upon the expiration or earlier termination of the General Airport Agreement as defined in Section 53 hereof the following shall be deemed to apply hereunder and be a part hereof: "The use by the Lessee and its officers, employees, passengers, guests, invitees and those doing business with it, of the Public Aircraft Facilities and any and all other portions of the Airport which it may be entitled to use under this Lease (other than space leased to the Lessee for its exclusive use) shall be subject to the Rules and Regulations of the Port Authority in effect as of the execution of this Agreement, and such reasonable future rules and regulations (including amendments and supplements to existing Rules and Regulations) as the Port Authority may from time to time promulgate in the public interest and in the interest of health, safety, sanitation, good order and the economic and efficient operation of the Airport, including but not limited to, the number and type of aircraft which at any particular time may use the Public Aircraft Facilities and the time or times when such aircraft may use the Public Aircraft Facilities. Without limiting the foregoing, the

Port Authority may take into account in adopting such Rules and Regulations the adequacy, capacity and suitability of (i) aircraft using the Airport, (ii) passenger handling facilities at the Airport including, but not limited to the Passenger Distribution System and the Transportation Center, as hereinafter defined, (iii) the Public Aircraft Facilities at the Airport, (iv) the roadways and (v) the parking facilities. In the event the Port Authority promulgates rules and regulations pursuant to this paragraph (b), the Port Authority may devise and implement reasonable procedures governing the affected use of the Public Aircraft Facilities, including but not limited to, allocations among Aircraft Operators at the Airport."

(c) If a copy of the Rules and Regulations is not attached, then the Port Authority will notify the Lessee thereof by delivery of a copy, or by making a copy available at the office of the Secretary of the Port Authority.

Section 9. Various Obligations of the Lessee

(a) The Lessee shall conduct its operations hereunder in an orderly and proper manner, considering the nature of such operations so as not to annoy, disturb or be offensive to others at or off the Airport. The Lessee shall take all reasonable measures (1) to eliminate or reduce as low as possible vibrations tending to damage any equipment, structure, building or portion of a building which is on the premises, or is a part thereof, or is located elsewhere on or off the Airport; and (2) to keep the sound level of its operations as low as possible.

(b) The Lessee shall use its best efforts to conduct all its operations at the premises in a safe and careful manner, following in all respects the best practices of the air transportation industry in the United States.

(c) The Port Authority shall have the right to object to the Lessee regarding the conduct and demeanor of the employees of the Lessee whereupon the Lessee will take all steps reasonably necessary to remove the cause of the objection. If requested by the Port Authority the Lessee shall supply and shall require its employees to wear or carry badges or other suitable means of identification, which shall be subject to the prior and continuing approval of the General Manager of the Airport.

(d) The Lessee shall control all vehicular traffic on the roadways or other areas within the premises or serving the same the use of which is granted to the Lessee hereunder and shall take all precautions reasonably necessary to promote the safety of all persons. The Lessee shall employ such means as may be necessary to direct the movement of vehicular traffic within the premises to prevent traffic congestion on the public roadways leading to the premises.

(e) The Lessee shall remove from the Airport or otherwise dispose of in a manner approved by the General Manager of the Airport, all garbage, debris and other waste materials (whether liquids which are not susceptible to ordinary sanitary sewerage disposal or solids) arising out of its occupancy or use of the premises or out of its operations at the Airport. Any such which may be temporarily stored in the open shall be kept in suitable garbage and waste receptacles, the same to be made of metal or other suitable material, and equipped with tightfitting covers, and to be of a design safely and properly to contain whatever material may be placed therein. The Lessee shall use extreme care when effecting removal of all such waste materials, and shall effect such removal at such times and by such means as first approved by the Port Authority. No such garbage, debris, or other waste materials shall be or be permitted to be thrown, discharged or deposited into or upon the waters at or bounding the Airport.

(f) From time to time and as often as reasonably required by the Port Authority, the Lessee shall conduct pressure, waterflow, and other appropriate tests of the fire extinguishing system and apparatus which constitute a part of the premises. The Lessee shall keep in proper functioning order all firefighting equipment on the premises and the Lessee shall at all times maintain on the premises adequate stocks of fresh, usable chemicals for use in such system and apparatus. The Lessee shall notify the Port Authority prior to conducting such tests. If requested by the Port Authority, the Lessee shall furnish the Port Authority with a copy of written reports of such tests.

(g) It is the intention of the parties hereto that noise caused by aircraft engine operations shall be held to a minimum considering the nature of the Lessee's operations. To this end the Lessee will conduct its operations in such a manner as to keep the noise produced by aircraft engines to a minimum and where appropriate shall employ noise arresting and noise reducing devices that are suitable. Aircraft testing and aircraft runups will be conducted only in such areas as shall meet with the prior and continuing approval of the Port Authority. The obligations assumed by the Lessee under this paragraph (g) shall not diminish, limit, modify or affect all other obligations of the Lessee with respect to noise under this Agreement.

(h) In its use of the premises, the Lessee shall use its best efforts to minimize jet or prop blast interference to aircraft operating on or to buildings and structures now located on or which in the future may be located on areas adjacent to the premises. In the event the Port Authority determines at any time and from time to time that the Lessee has not so minimized the jet or prop blast interference, it may serve a notice to the Lessee to such effect and if the condition is not corrected to the satisfaction of the Port Authority within thirty days after

the service of said notice, the Lessee hereby covenants and agrees to erect and maintain at its own expense such structure or structures as may be necessary to minimize the said jet or prop blast interference, subject, however, to the prior written approval of the Port Authority as to the type, manner and method of construction. The obligations assumed by the Lessee under this paragraph shall not diminish, limit, modify or affect all other obligations of the Lessee with respect to interference under this Agreement.

(i) The Lessee agrees that it will not erect, construct or maintain or otherwise create or continue any obstacle or so park or store any aircraft or other object on the premises so as to create any obstacle that will hamper or interfere with the free, orderly, unobstructed and uninterrupted passage of vehicles, aircraft or of the wings or other integral part of aircraft of any type, nature or description, while such vehicle is operating or aircraft is taxiing or being transported or towed along any runways, taxiways and roads outside of and adjacent to the premises.

(j) In addition to compliance by the Lessee with all laws, ordinances, governmental rules, regulations and orders now or at any time in effect during the term of the letting hereunder which as a matter of law are applicable to the operation, use or maintenance by the Lessee of the premises or the operations of the Lessee under this Agreement (the foregoing not to be construed as a submission by the Port Authority to the application to itself of such requirements or any of them), the Lessee agrees that it shall exercise the highest degree of safety and care and shall conduct all its operations under the Agreement and shall operate, use and maintain the premises in accordance with the highest standards and in such manner that there will be at all times a minimum of air pollution, water pollution or any other type of pollution and a minimum of noise emanating from, arising out of or resulting from the operation, use or maintenance of the premises by the Lessee and from the operations of the Lessee under this Agreement. The Port Authority hereby reserves the right from time to time and at any time during the term of the Lease to require the Lessee, and the Lessee agrees to design and construct at its sole cost and expense such reasonable structures, fences, equipment, devices and other facilities as may be necessary or appropriate to accomplish the objectives as set forth in the first sentence of this paragraph. All locations, the manner, type and method of construction and the size of any of the foregoing shall be determined by the Port Authority. The Lessee shall submit for Port Authority approval its plans and specifications covering the required work and upon receiving such approval shall proceed diligently to construct the same.

(k) The obligations assumed by the Lessee under paragraph (j) hereof shall continue throughout the term of this Lease and shall not be limited, affected, impaired or in any

manner modified by the fact that the Port Authority shall have approved any Construction Application and supporting plans, specifications and contracts covering construction work and notwithstanding the incorporation therein of the Port Authority's recommendations or requirements and notwithstanding that the Port Authority may have at any time during the term of the Lease consented to or approved any particular procedure or method of operation which the Lessee may have proposed or the Port Authority may have itself prescribed the use of any procedure or method. The agreement of the Lessee to assume the obligations under this paragraph (k) is a special inducement and consideration to the Port Authority in entering into this Lease with the Lessee.

(l) The Lessee shall periodically inspect, clean out and maintain the oil separators serving the premises which are located on the premises and the oil separators located outside the premises if they exclusively serve the premises.

(m) The Lessee shall at all times during the term of this Agreement on a twenty-four hour basis maintain sufficient qualified personnel at the Airport or on call within 30 minutes, who shall be qualified to perform the maintenance obligations of the Lessee under this Agreement and particularly be able to respond to all emergencies.

Section 10. Prohibited Acts

(a) The Lessee shall commit no nuisance, waste or injury at the Airport, and shall not do or permit to be done anything which may result in the creation or commission or maintenance of such nuisance, waste or injury at the Airport.

(b) The Lessee shall not create nor permit to be caused or created at the Airport any obnoxious odors or smokes, or noxious gases or vapors. The creation of exhaust fumes by the operation of the Lessee's internal combustion engines or aircraft engines of other types, so long as such engines are maintained and are being operated in a proper manner, shall not be a violation of this paragraph (b).

(c) The Lessee shall not do or permit to be done anything which may interfere with the effectiveness or accessibility of the drainage and sewerage system, water system, communications system, electrical, fire protection system, sprinkler system, alarm system, fire hydrants and hoses, if any, or any other part of utility, electrical mechanical or other systems installed or located from time to time at the Airport.

(d) The Lessee shall not do or permit to be done any act or thing at the Airport (1) which will invalidate or conflict with any fire insurance, extended coverage or rental insurance policies covering the premises or any part thereof, or the Airport, or any part thereof, or (2) which may constitute an

extra hazardous condition, so as to increase the risks normally attendant upon the operations permitted by this Agreement. The Lessee shall promptly observe, comply with and execute the provisions of any and all present and future rules and regulations, requirements, orders and directions of The National Board of Fire Underwriters and The Fire Insurance Rating Organization of New York, or of any other board or organization exercising or which may exercise similar functions, which may pertain or apply to the operations of the Lessee at the Airport and the Lessee shall, subject to and in accordance with the provisions of Section 44 hereof, make any and all structural and non-structural improvements, alterations or repairs to the premises required at any time hereafter by any such present or future rule, regulation, requirement, order or direction. If by reason of any failure on the part of the Lessee to comply with the provisions of this paragraph any fire insurance rate, extended coverage or rental insurance rate on the premises or any part thereof, or on the Airport or any part thereof, shall at any time be higher than it would otherwise be then the Lessee shall pay to the Port Authority, as an item of additional rental, that part of all insurance premiums paid by the Port Authority which shall have been charged because of such violation or failure by the Lessee.

(e) The Lessee shall not dispose of nor permit any one to dispose of any waste material taken from its aircraft (whether liquids or solid) by means of the toilets, manholes, sanitary sewers or storm sewers in the premises except after treatment in installations or equipment included in plans and specifications submitted to and approved by the Port Authority.

(f) The Lessee shall not keep or store during any 24 hour period flammable liquids within any enclosed portion of the premises (other than in rooms or areas expressly constructed for the storage of such liquids) in excess of the Lessee's working requirements during the said 24 hour period. Any such liquids having a flash point of less than 110 degrees Fahrenheit shall be kept and stored in safety containers of a type approved by the Underwriters Laboratories or the Factory Mutual Insurance Association.

(g) (1) The Lessee shall prevent access by persons or vehicles (unless duly authorized by the Port Authority) to the Public Landing Area from the premises except for aircraft, which aircraft shall be equipped with radio receivers tuned to control tower frequencies and adequately manned in accordance with applicable Rules and Regulations. Such aircraft may be towed by a motor vehicle equipped with a radio receiver tuned to the appropriate control tower frequency and adequately manned or such other means as may be approved by the Port Authority. The Lessee shall control access by its passengers and patrons from and to aircraft ramp, apron and parking areas on the premises and shall maintain control of its passengers and patrons while they are upon said areas by proper measures to insure that the highest standards of safety are maintained.

(2) The Lessee shall furnish adequate security and guard service or such comparable means as approved by the Port Authority from time to time, on a 24 hour, seven day-a-week basis for the prevention of access to and control of persons on the aeronautical operations areas of the premises and the prevention of access to the Public Landing Area.

(h) The Lessee shall not use or permit the use of any structural supporting member of the building or roof or any part thereof for the storage of any material or equipment, or hoist, lift, move or support any material or equipment or other weight or load, by means of said trusses or structural supporting members, without prior approval of the Port Authority.

(i) The Lessee shall not overload any floor on the premises, and shall repair, replace or rebuild any floor, including supporting members, damaged by overloading. Nothing in this paragraph or elsewhere in this Agreement shall be or be construed to be a representation by the Port Authority of the weight any floor or paved area will bear.

(j) The Lessee shall not use any cleaning materials having a harmful corrosive effect, on any part of the premises.

(k) The Lessee shall not fuel or defuel any equipment in the enclosed portions of the premises without prior approval of the General Manager of the Airport.

(l) The Lessee shall not start or operate any engine or any item of automotive equipment in any enclosed space at the Airport unless such space is adequately ventilated and unless such engine is equipped with a proper spark-arresting device which has been approved by the Port Authority.

(m) The Lessee shall not operate or cause to be operated aircraft engines in any areas of the premises other than for the purpose of taxiing or maneuvering aircraft to and from the premises or in connection with authorized aircraft maintenance on the premises. (The Lessee shall not perform any aircraft maintenance on the premises other than emergency or turn-around maintenance.)

(n) The Lessee shall not keep or store aviation fuel on the premises except that fueling equipment may be operated on the unenclosed portions of the premises in accordance with all the provisions of this Agreement and with the Port Authority Rules and Regulations pertaining thereto.

Section 11. Care, Maintenance, Rebuilding and Repair by the Lessee

(a) The Lessee shall repair, replace, rebuild and paint all or any part of the Airport which may be damaged or destroyed

by the acts or omissions of the Lessee or by those of its officers or employees or of other persons on or at the premises with the Lessee's consent.

(b) The Lessee shall, throughout the term of this Lease, assume the entire responsibility for, shall perform and shall relieve the Port Authority from all responsibility for all repair, replacement, rebuilding and maintenance whatsoever in the premises, whether such repair, replacement, rebuilding or maintenance be ordinary or extraordinary, partial or entire, inside or outside, foreseen or unforeseen, structural or otherwise, and without limiting the generality of the foregoing, the Lessee shall:

(1) Keep at all times in a clean and orderly condition and appearance, the premises and all the Lessee's fixtures, equipment and personal property which are located in any part of the premises which is open to or visible by the general public;

(2) Remove all snow and ice and perform all other activities and functions necessary or proper to make the premises available for use by the Lessee;

(3) Take good care of the premises and maintain the same at all times in good condition, except for reasonable wear and tear which does not adversely affect the efficient or the proper utilization thereof; including but not limited to painting (the exterior of the premises and areas visible to the general public to be painted only in colors which have been approved by the Port Authority); and make all repairs and replacements, and do all rebuilding, inside and outside, ordinary and extraordinary, partial and entire, foreseen and unforeseen, structural or otherwise, which repairs, rebuilding and replacements by the Lessee shall be in quality and class not inferior to the original in materials and workmanship; and to pay promptly the cost and expense of such repairs, replacements and maintenance;

(4) Provide and maintain all obstruction lights and similar devices on the premises, and provide and maintain all fire protection and safety equipment and all other equipment of every kind and nature required by any law, rule, ordinance, resolution or regulation of the type and nature described in Sections 9 and 10 of this Agreement. The Lessee shall enter into and keep in effect through the term of the Lease a contract or contracts with a central station alarm company acceptable to the Port Authority to provide continuous and automatic surveillance of the fire protection system on the premises. The Lessee shall insure that all fire alarm signals with respect to the premises shall also be transmitted to the Airport's police emergency alarm board or to such other location on the Airport as the General Manager of the Airport may direct. The Lessee's obligations hereunder shall in no way create any obligation whatsoever on the part of the Port Authority;

(5) Take such anti-erosion measures and maintain the landscaping at all times in good condition, including but not limited to periodic replanting, as the Port Authority may require, and perform and maintain such other landscaping with respect to all portions of the premises not paved or built upon, as the Port Authority may require;

(6) Be responsible for the maintenance and repair of all utility service lines, including but not limited to, service lines for the supply of water, electric power and telephone conduits and lines, sanitary sewers and storm sewers, located upon the premises or located adjacent to the premises and used by the Lessee exclusively.

(7) Be responsible for appropriate lighting of all ramp and apron areas and for the maintenance and repair of all access roadways, taxiways and ramp and apron areas located upon the premises or located adjacent to the premises and used by the Lessee exclusively.

(8) Repair any damage to the paving or other surface of the premises caused by any oil, gasoline, grease, lubricants or other flammable liquids and substances having a corrosive or detrimental effect thereon.

(c) If the performance of any of the foregoing repair, maintenance, replacement, repainting or rebuilding obligations of the Lessee requires work to be performed near an active taxiway or where safety of operations is involved, the Lessee agrees that it will at its own expense, post guards at such locations to insure the safety of the work performed thereat.

(d) In the event the Lessee fails to commence so to maintain, clean, repair, replace, lamp, relamp, rebuild, paint repaint or to restore as required by this Agreement within a period of twenty (20) days after notice from the Port Authority so to do in the event that the said notice specifies that the required work to be accomplished by the Lessee includes maintenance or repair other than preventive maintenance, or within a period of one hundred eighty (180) days if the said notice specifies that the work to be accomplished by the Lessee involves preventive maintenance only, or fails diligently to continue to completion the cleaning, maintenance, repair, replacement, lamping and relamping, rebuilding, painting, repainting or restoration of all of the premises required to be repaired, replaced, rebuilt, painted, repainted or restored by the Lessee under the terms of this Agreement, the Port Authority may, at its option, and in addition to any other remedies which may be available to it, clean, maintain, repair, replace, lamp or relamp, rebuild, paint, repaint or restore all or any part of the premises included in the said notice, and the cost thereof shall be payable by the Lessee upon demand.

Section 12. Insurance

The Lessee shall, during the term of this Agreement, insure and keep insured to the extent of the full replacement value thereof, all buildings, structures, improvements, installations, facilities and fixtures now or in the future located on the premises against all risks of physical loss or damage (including, but not limited to flood and earthquake risks) if available, and if not available, then against such hazards and risks as may now or in the future be included under the Standard Form of Fire Insurance Policy of the State of New York and also against damage or loss by windstorm, cyclone, tornado, hail, explosion, riot, flood, earthquake, civil commotion, aircraft, vehicles and smoke, under the Standard Form of Fire Insurance Policy of New York and the form of extended coverage endorsement prescribed as of the effective date of the said insurance by the Rating Organization having jurisdiction, and also covering nuclear property losses and contamination hazards and risks if it becomes a reasonably available insurable risk in the commercial market, and boiler and machinery hazards and risks in a separate insurance policy or policies or as an additional coverage endorsement to the aforesaid policies in the form as may now or in the future be prescribed as of the effective date of said insurance by the Rating Organization having jurisdiction and/or the Superintendent of Insurance of the State of New York and the Lessee shall furthermore provide additional insurance with respect to the premises covering any other peril of loss or damage that the Port Authority may at any time during the term of this Agreement cover by carrier or self-insurance covered by appropriate reserves at other locations at the Airport upon written notice to the Lessee to such effect.

The aforesaid insurance coverage and renewals thereof shall insure the Port Authority, the Lessee and the City of New York, as their interests may appear, and shall provide that the loss, if any shall be adjusted with and payable to the Port Authority.

In the event the premises or any part thereof shall be damaged by any casualty against which insurance is carried pursuant to this Section 12, the Lessee shall promptly furnish to the Port Authority such information and data as may be necessary to enable the Port Authority to adjust the loss.

The policies or certificates representing insurance covered by this Section 12 shall be delivered by the Lessee to the Port Authority prior to the commencement date of the Lease and each policy or certificate delivered shall bear the endorsement of or be accompanied by evidence of payment of the premium thereon, and also, a valid provision obligating the insurance company to furnish the Port Authority and the City of New York thirty (30) days' advance notice of the cancellation, termination, change or modification of the insurance evidenced by said policy or certificate. Renewal policies or certificates shall be delivered to the Port Authority at least ten (10) days before the expiration of the insurance which such policies are to renew.

Regardless, however, of the persons whose interests are insured, the proceeds of all policies covered by this Section 12 shall be applied as provided in Section 13; and the word "insurance" and all other references to insurance in said Section 13 shall be construed to refer to the insurance which is the subject matter of this Section 12, and to refer to such insurance only.

The insurance covered by this Section 12 shall be written by companies approved by the Port Authority, the Port Authority covenanting and agreeing not to withhold its approval unreasonably. If at any time any of the insurance policies shall be or become unsatisfactory to the Port Authority as to form or substance or is any of the carriers issuing such policies shall be or become unsatisfactory to the Port Authority, the Lessee shall promptly obtain a new and satisfactory policy in replacement, the Port Authority covenanting and agreeing not to act unreasonably hereunder. If the Port Authority at any time so requests, the Lessee shall make available to the Port Authority at a location in the Port of New York District, during normal business hours, the original or a certified copy of the entirety of each of the said policies and shall, upon request, deliver to the Port Authority a certified copy of such portions of said policies pertaining to the coverage hereunder as the Port Authority shall request.

Section 13. Damage to or Destruction of the Premises

(a) Removal Of Debris. If the Premises, or any part thereof shall be damaged by fire, the elements, the public enemy or other casualty, the Lessee shall promptly remove all debris resulting from such damage from the premises, and to the extent, if any, that the removal of debris under such circumstances is covered by insurance, the proceeds thereof shall be made available to and be used by the Lessee for such purpose.

(b) Minor Damage. If the premises, or any part thereof, shall be damaged by fire, the elements, the public enemy or other casualty but not rendered untenantable or unusable for a period of ninety (90) days, the premises shall be repaired with due diligence in accordance with the plans and specifications for the premises as they existed prior to such damage by and at the expense of the Lessee and if such damage is covered by insurance, the proceeds thereof shall be made available to and be used by the Lessee for such repairs.

(c) Major Damage to or Destruction of the Premises. If the premises, or any part thereof shall be destroyed or so damaged by fire, the elements, the public enemy of other casualty as to be untenantable or unusable for ninety (90) days, or if within ninety (90) days after such damage or destruction the Lessee notifies the Port Authority in writing that in its opinion said premises will be untenantable or unsuable for ninety (90)

days then: The Lessee shall proceed with due diligence to make the necessary repairs or replacements to restore such premises in accordance with the plans and specifications for the premises as the same existed prior to such damage or destruction; or with the approval in writing of the Port Authority make such other repairs, replacements or changes as may be desired by the Lessee. If such destruction was covered by insurance, the proceeds thereof shall be made available to and used by the Lessee for such restoration.

(d) The obligation of the Lessee to repair or replace shall be limited to the amount of the insurance proceeds provided the Lessee has carried insurance to the extent and in accordance with Section 12 hereof. Any excess of the proceeds of insurance over the costs of the restoration shall be retained by the Port Authority.

(e) The parties hereby stipulate that neither the provisions of Section 227 of the Real Property Law of New York nor those of any other similar statute shall extend or apply to this Agreement.

Section 14. Assumption of Maintenance and Repair of the Premises by the Port Authority

Subdivision I. Defined Terms in this Section.

The following terms shall have the meanings stated in this Subdivision I for the purposes of this Section:

(a) "Assumable Maintenance and Repair" shall mean the obligation of the Lessee to clean, maintain, perform janitorial services and perform structural and non-structural improvements, repairs and rebuilding as such obligations are set forth in:

(i) paragraphs (a) and (b) of Section 11 hereof; and

(ii) Section 7 hereof insofar as laws, ordinances and governmental rules, regulations, orders, requirements and directions require structural and non-structural improvements, alterations or repairs of the premises; and

(b) The "Cost of Assumable Maintenance and Repair" shall, for each calendar year, consist of the sum of the Operation and Maintenance Cost and the Annual Capital Cost which shall both be determined as follows:

(i) The Port Authority will determine the total of all costs incurred or accrued during each calendar year in connection with the Assumable Maintenance and Repair in accordance with normal Port Authority accounting practice and as follows:

The Port Authority will apportion Assumable Maintenance and Repair performed between "Operation and Maintenance" and "Capital Work". The cost of Operation and Maintenance is hereinafter called the "Operation and Maintenance Cost" and the cost of the Capital Work is hereinafter called the "Capital Cost".

(ii) Operation and Maintenance Cost for each calendar year shall consist of the following expenditures for, in connection with, or related to Operation and Maintenance:

(1) On-the-job payroll costs of employees and supervisory personnel (including Airport supervisors, foremen and clerks) (including, but not limited to, contributions to any retirement system or the cost of or participation in any pension plans or the like, social security, old age, survivor's, disability and unemployment insurance and other insurance costs, sick leave pay, holiday, vacation, authorized absence and severance pay, other employee fringe benefits and any other payments made or costs incurred whether pursuant to law or by Port Authority policy to or with respect to said employees and personnel;

(2) The cost (including rental charges) of materials, equipment, supplies and utilities (including but not limited to, electricity, water and phone);

(3) Payment to contractors and any other third persons, firms or corporations for work performed or services rendered;

(4) The cost of any performance bond or bonds;

(5) The cost of insurance;

(6) Any other direct costs as charged under the Port Authority's normal accounting practice;

(7) Twenty-five percent (25%) of the sum of all of the foregoing items (1) through (6).

(iii) A. Capital Cost for each calendar year shall consist of the following expenditures, for, in connection with, or related to Capital Work;

(1) On-the-job payroll costs of employees and supervisory personnel (including Airport supervisors, foremen and clerks) including but not limited to, contributions to any retirement system or the cost of or participation in any pension plans or the like, social security, old age, survivor's, disability and unemployment insurance and other insurance costs, sick leave pay, holiday, vacation, authorized absence and severance pay, other employee fringe benefits and any other payments made or costs incurred whether pursuant to law or by Port

Authority policy to or with respect to said employees and personnel;

(2) The cost (including rental charges) of materials, supplies, equipment and utilities (including but not limited to electricity, water and phone):

(3) Payment to contractors and any other third persons, firms or corporations for work performed or services rendered;

(4) The cost of any performance bond or bonds;

(5) The cost of any insurance;

(6) Payments to independent consultants, architects and engineers engaged or retained by the Port Authority;

(7) Any other direct costs as charged under the Port Authority's normal accounting practice;

(8) Financial Expense on the foregoing computed in accordance with Port Authority accounting practice;

(9) Ten percent (10%) of the sum of all the foregoing items (1) through (8);

B. "Annual Capital Cost" shall mean the total of all annual amounts based upon the amortization of the Capital Cost for each calendar year over the shorter of the weighted average period of the useful life of the Capital Work for each calendar year, or the remaining term of this Agreement as determined by the Port Authority. Each annual amount shall be determined on the basis of an equal annual payment method. The rate used in determining the Annual Capital Cost for all of the annual amounts shall be for each successive calendar year an annual percentage rate equal to the sum of (i) the average of all the weekly indices of the Bond Buyer Revenue Bond Index as reported in the publication "The Bond Buyer" for the 52-week period in the immediately preceding calendar year and (ii) three (3) percentage points. For purposes of example and illustration only, The Bond Buyer Revenue Bond Index for the week ending January 15, 1988 was 8.31% as set forth in the table entitled "Bond Buyer Indices" on page 30 of The Bond Buyer, Vol. 283 No. 230, New York, N.Y., dated January 15, 1988. In the event that The Bond Buyer or its weekly Bond Buyer Revenue Bond Index shall be discontinued prior to the commencement date of the term of the letting a comparable substitute for such Index shall be mutually agreed upon in writing by the Lessee and the Port Authority within thirty (30) days after discontinuance. In the event that the Port Authority and the Lessee shall fail to agree upon such a substitute within the time hereinabove specified then upon notice of either

party such dispute shall be disposed of by arbitration in accordance with the then existing rules of the American Arbitration Association or any successor association. One half of the cost of said arbitration shall be borne by the Port Authority and the other half of said cost shall be borne by the Lessee.

Subdivision II. Commencement of Performance of Assumable Maintenance and Repair

(a) The "Port Authority Effective Date" shall be the date, from time to time, determined as follows:

(i) The Port Authority may at any time and from time to time during the term of this Agreement advise the Lessee, by notice, of one or more deficiencies in the performance by the Lessee of the Assumable Maintenance and Repair, or in any portion, or portions, thereof. Such notice shall specify the aforesaid deficiencies in reasonable detail. In such notice the Port Authority shall also advise the Lessee of what reasonable period of time shall be afforded the Lessee to cure such deficiencies and the Port Authority shall advise the Lessee therein when and where its representatives may meet with representatives of the Port Authority to discuss the foregoing. The Port Authority will consider the response, if any, of representatives of the Lessee, as given at the aforesaid meeting or during such period for a further response from the Lessee, as the Port Authority may, in its sole discretion, afford the Lessee. The Port Authority may, after the occurrence of the above, advise the Lessee, by notice, that it has elected not, at that time, to assume the performance of the Assumable Maintenance and Repair. The Port Authority, in its sole discretion, may condition such an election on such terms as it chooses to include in the notice, including the taking of certain remedial or other actions by the Lessee to the continuing satisfaction of the Port Authority. The fact that the Port Authority may previously have given a notice under this subparagraph but has subsequently elected on one or more occasions not to assume the performance of the Assumable Maintenance and Repair or having on one or more occasions assumed the Assumable Maintenance and Repair and thereafter returned the said obligations to the Lessee pursuant to the provisions hereof, shall not be deemed to limit the right of the Port Authority to, at any time, give another notice of one or more deficiencies pursuant to this subparagraph or notice pursuant to subparagraph (ii) below.

(ii) The Port Authority may at any time and from time to time during the term of this Agreement, but only after the issuance of a notice described above and giving the opportunity to cure as provided above, advise the Lessee, by notice, that commencing on a date to be specified in such notice, which shall be not less than ninety (90) days after the giving thereof, the Port Authority will perform the Assumable Maintenance and Repair. Such date as the same may be established from time to time shall be the "Assumable Maintenance and Repair Date".

Subdivision III. Performance of the Assumable Maintenance and Repair

(a) The Port Authority shall perform the Assumable Maintenance and Repair from and after the Assumable Maintenance and Repair Effective Date with the Cost of Assumable Maintenance and Repair to be paid by the Lessee as provided in Subdivision IV below.

(b) The Lessee and the Port Authority each acknowledge and agree that the rights and obligations of the Port Authority and the Lessee hereunder are limited to the performance of all of the Assumable Maintenance and Repair by the Port Authority and not of particular portions thereof.

(c) The Lessee shall give its full cooperation to the Port Authority so as to better enable the Port Authority and its contractors to perform the Assumable Maintenance and Repair and the Port Authority and its employees, agents and contractors shall have the right to enter the premises at all reasonable times to perform the Assumable Maintenance and Repair.

Subdivision IV. Payment for the Assumable Maintenance and Repair

The Cost of the Assumable Maintenance and Repair shall be payable by the Lessee from and after the Assumable Maintenance and Repair Effective Date as follows:

(a) The Port Authority shall establish monthly interim billing rates. Such billing rates shall be based upon determinations by the Port Authority of its estimate of the Cost of the Assumable Maintenance and Repair for the calendar year or; for the portion of the calendar year in which the Assumable Maintenance and Repair Effective Date, if less than a calendar year, shall occur or for the portion of the calendar year during which the term of this Agreement shall expire, if less than a calendar year. Such determinations shall be based upon the prior calendar year's experience, if any, and upon other such reasonable basis as the Port Authority shall select. The Port Authority may prospectively revise its billing rates during any calendar year. The Lessee shall pay current billings as they are received.

(b) As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the actual Cost of the Assumable Maintenance and Repair for the preceding calendar year and shall determine the amounts payable by the Lessee. In the event the Assumable Maintenance and Repair Date does not fall on the first day of a calendar year or in the event the term of this Agreement expires on a day other than the last day of a calendar year the Annual Capital Cost for said calendar year shall be prorated based on the number of days during said calendar year during which the Port Authority provides the Assumable Maintenance and Repair. Corrected billings based upon such determination shall thereupon be rendered by the Port Authority to the Lessee and if any monies are due to the Port Authority they shall be promptly paid by the Lessee

and if any monies are due to the Lessee they shall be credited to it.

Subdivision V. Limitation of Port Authority Obligations and No Waiver of Rights of Port Authority

(a) The right and obligation of the Port Authority to perform the Assumable Maintenance and Repair shall not release, waive or affect the obligations of the Lessee with respect thereto set forth in any provision of this Agreement, nor limit, waive or effect any rights of termination with respect thereto, including but not limited to, the right of the Port Authority to terminate this Agreement, whether before or after the occurrence of the Assumable Maintenance and Repair Effective Date pursuant to Section 25 of this Agreement.

(b) The Port Authority shall not be obligated to the Lessee to furnish the Assumable Maintenance and Repair at any time while the Lessee shall be in default under this Agreement.

(c) No failure, delay or interruption in performing the Assumable Maintenance and Repair by the Port Authority shall be or be construed to be an eviction of the Lessee or grounds for the diminution or abatement of rentals, fees, or other charges, or (unless resulting from the negligence or wilful failure of the Port Authority) shall be grounds for termination of this Agreement by the Lessee pursuant to Section 48 hereof or for any claims by the Lessee for damages, consequential or otherwise.

(d) The Port Authority shall be under no obligation to perform the Assumable Maintenance and Repair if and to the extent that during any period such performance shall be prohibited, limited or rationed by any federal, state or municipal law, rule, regulation, requirement, order or direction and if the Port Authority deems it in the public interest to comply therewith, even though such law, rule, regulation, requirement, order or direction may not be mandatory on the Port Authority as a public agency. Furthermore, the obligation of the Port Authority to perform the Assumable Maintenance and Repair shall be deemed limited and modified during any period that repair or rebuilding of the premises is required pursuant to Section 11 or Section 13 hereof.

Subdivision VI. Return of the Assumable Maintenance and Repair to the Lessee

At any time and from time to time after the Port Authority may have exercised its rights under Subdivision II (a) (ii)) to perform the Assumable Maintenance and Repair the Port Authority shall have the right, upon notice to the Lessee to return the obligation to perform the Assumable Maintenance and Repair to the Lessee commencing on a date to be specified in such notice which date shall be not less than thirty (30) nor more than ninety (90) days from the giving of such notice. Such date shall be "the Return Date of the Assumable Maintenance and Repair". From and after the Return Date

of the Assumable Maintenance and Repair the Lessee shall perform the Assumable Maintenance pursuant to and in accordance with all the terms and provisions of the Lease including, but not limited to, this Section 14.

From and after the Return Date of the Assumable Maintenance and Repair the Lessee shall continue to pay the cost of Assumable Maintenance and Repair, it being understood, that nothing herein shall release or be deemed to release the Lessee from the payment to the Port Authority of the cost of Assumable Maintenance and Repair including that portion thereof consisting of the Annual Capital Cost in accordance with Subdivision IV hereof arising prior to the Return Date of the Assumable Maintenance and Repair; nor shall anything herein require the Port Authority to make any calculation or determination with respect to the cost of Assumable Maintenance and Repair prior to the time specified therefor in Subdivision IV hereof.

Section 15. Indemnity and Liability Insurance

(a) The Lessee shall indemnify and hold harmless the Port Authority, its Commissioners, officers, employees and representatives, from and against (and shall reimburse the Port Authority for the Port Authority's costs and expenses including reasonable legal expenses incurred in connection with the defense of) all claims and demands of third persons including, but not limited to, claims and demands for death or personal injuries, or for property damages arising out of a breach or default of any term or provision of this Agreement by the Lessee or out of the use or occupancy of the premises by the Lessee, or by others with its consent, or out of any other acts or omissions of the Lessee, its officers and employees, guests, invitees and business visitors on the premises or arising out of the acts or omissions of the Lessee, its officers and employees elsewhere at the Airport (excepting only claims and demands arising from the sole negligence of the Port Authority); including claims and demands of the City of New York, from which the Port Authority derives its rights in the Airport, for indemnification, arising by operation of law or through agreement of the Port Authority with the said City.

(b) If so directed, the Lessee shall at its own expense defend any suit based upon any such claim or demand (even if such, claim or demand is groundless, false or fraudulent), and in handling such it shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority, or the provisions of any statutes respecting suits against the Port Authority.

(c) In addition to the obligations set forth in paragraph (a) of this Section and all other insurance required under this Agreement, the Lessee during the term of this Agreement in its own

name as insured and including the Port Authority as an additional insured shall maintain and pay the premiums on a policy or policies of comprehensive general liability insurance, including automotive, products, liquor liability and covering bodily injury, including death, and property damage liability, broadened to include or equivalent separate policies covering aircraft liability and airport operator's liability under an airport liability policy, none of the foregoing to contain care, custody or control exclusions, and providing for coverage in the limits set forth below. The Lessee may elect, in lieu of the foregoing requirement with respect to care, custody and control exclusions, in its own name as insured and including the Port Authority as an additional insured as its interest may appear to maintain and pay the premiums on a Hangar Legal Liability, Cargo Legal Liability, Baggage Legal Liability and Real Property Legal Liability policy or policies in the limits set forth below. The said policy or policies of insurance shall also provide or contain an endorsement providing that the protections afforded the Lessee thereunder with respect to any claim or action against the Lessee by a third person shall pertain and apply with like effect with respect to any claim or action against the Lessee by the Port Authority and any claim or action against the Port Authority by the Lessee as though the Port Authority were a named insured but such endorsement shall not limit, vary, change, or affect the protection afforded the Port Authority thereunder as an additional insured. The said policy or policies of insurance shall also provide or contain a contractual liability endorsement covering the obligations assumed by the Lessee under paragraph (a) hereof.

	Minimum Limits
Comprehensive General Liability Bodily Injury Liability: For injury to or wrongful death of one or more than one person in any one occurrence:	$100,000,000
Property Damage Liability (including but not limited to aircraft in the care, custody and control of the Lessee) For all damages arising out of injury to or destruction of property in any one occurrence:	$100,000,000
Comprehensive Automobile Liability Bodily Injury Liability: For injury to or wrongful death one or more than one person in any one occurrence:	$25,000,000
Property Damage Liability: For all damages arising out of injury to or destruction of property in any one occurrence:	$25,000,000

Notwithstanding the foregoing, it is specifically understood and agreed that the Port Authority shall have the right upon notice to the Lessee given from time to time and at any time to require the Lessee to increase any or all of the foregoing limits to reasonably commercial amounts and the Lessee shall promptly comply therewith and shall promptly submit a certificate or certificates evidencing the same to the Port Authority.

(c) As to the insurance required by the provisions of this Section a certified copy of the policies or a certificate or certificates or binders, evidencing the existence thereof, or binders, shall be delivered by the Lessee to the Port Authority at least ten (10) days prior to the commencement date of the letting. Each policy, certificate or binder delivered as aforesaid shall bear the endorsement of or be accompanied by evidence of payment of the premium thereon. In the event a binder is delivered, it shall be replaced within thirty (30) days by a certified copy of the policy or a certificate. Each such copy or certificate shall contain a valid provision or endorsement that the policy may not be cancelled, terminated, changed or modified without giving thirty (30) days' written advance notice thereof to the Port Authority. Each such copy or certificate shall contain an additional endorsement providing that the insurance carrier shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provisions of any statutes respecting suits against the Port Authority. Any renewal policy shall be delivered to the Port Authority at least ten (10) days prior to the expiration of each expiring policy, except for any policy expiring after the date of expiration of the term of this Agreement. The aforesaid insurance shall be written by a company or companies approved by the Port Authority, the Port Authority agreeing not to withhold its approval unreasonably. If at any time any of the insurance policies shall be or become unsatisfactory to the Port Authority as to the form or substance or if any of the carriers issuing such policies shall be or become unsatisfactory to the Port Authority, the Lessee shall promptly obtain a new and satisfactory policy in replacement, the Port Authority covenanting and agreeing not to act unreasonably hereunder. If the Port Authority at any time so requests, the Lessee shall make available to the Port Authority at a location in the Port of New York District, during normal business hours, the original or a certified copy of the entirety of each of the said policies and shall, upon request, deliver to the Port Authority a certified copy of such portions of said policies pertaining to the coverage hereunder as the Port Authority shall request.

Section 16. Signs

(a) Except with the prior written approval of the Port Authority, the Lessee shall not erect, maintain or display any signs

or any advertising at or on the exterior parts of the premises or in the premises so as to be visible from outside the premises or at or on any other portion of the Airport outside the premises. Interior signs affecting public safety and security shall be in accordance with established Port Authority standards.

(b) Upon the expiration or termination of the letting, the Lessee shall remove, obliterate or paint out, as the Port Authority may direct, any and all signs and advertising on the premises or elsewhere on the Airport and in connection therewith shall restore the portion of the premises and the Airport affected by such signs or advertising to the same condition as existing prior to the installation of such signs and advertising. In the event of a failure on the part of the Lessee so to remove, obliterate or paint out each and every such sign or advertising and so to restore the premises and the Airport, the Port Authority may perform the necessary work and the Lessee shall pay the cost thereof to the Port Authority on demand.

Section 17. Obstruction Lights

The Lessee shall furnish such obstruction lights as the Port Authority shall direct, of the type and design approved by the Port Authority, and shall install said lights in the locations on the premises designated by the Port Authority and shall maintain them in first class operating condition at all times. The Lessee shall furnish and install the bulbs and furnish the electricity necessary for the operation of said lights, and shall operate the same in accordance with the directions of the Port Authority. The Port Authority hereby directs that all said obstruction lights shall, until further notice be operated daily for a period commencing thirty (30) minutes before sunset and ending thirty (30) minutes after sunrise (as sunset and sunrise may vary from day to day throughout the year) and for such other periods as may be directed or requested by the control tower at the Airport.

Section 18. Additional Rent and Charges

If the Port Authority is required or elects to pay the sum or sums or incurs any obligations or expense by reason of the failure, neglect or refusal of the Lessee to perform or fullfill any one or more of the conditions, covenants or agreements contained in this Agreement or as a result of an act or omission of the Lessee contrary to the said conditions, covenants and agreements, the Lessee agrees to pay the sum or sums so paid or the expense so incurred including all the interest, costs, damages and penalties, and the same may be added to any installment of rent thereafter due hereunder, and each every part of the same shall be and become additional rent, recoverable by the Port Authority in the same manner and with like remedies as if it were originally a part of the rent as set forth in Section 3.

Section 19. Late Charges

If the Lessee should fail to pay any amount required to be paid by the Lessee under this Agreement when due to the Port Authority, including without limitation any payment of rental or Additional Facility Rental or other rental or any payment of utility or other charges or if any such amount if found to be due as the result of an audit, then, in such event, the Port Authority may impose (by statement, bill or otherwise) a late charge with respect to each such unpaid amount for each late charge period (hereinbelow described) during the entirety of which such amount remains unpaid, each such late charge not to exceed an amount equal to eight tenths of one percent of such unpaid amount for each late charge period. There shall be twenty-four late charge periods on a calendar year basis; each late charge period shall be for a period of at least fifteen (15) calendar days except one late charge period each calendar year may be for a period of less than fifteen (but not less than thirteen) calendar days. Without limiting the generality of the foregoing, late charge periods in the case of amounts found to have been owing to the Port Authority as the result of Port Authority audit findings shall consist of each late charge period following the date the unpaid amount should have been paid under this Agreement. Each late charge shall be payable immediately upon demand made at any time therefor by the Port Authority. No acceptance by the Port Authority of payment of any unpaid amount or of any unpaid late charge amount shall be deemed a waiver of the right of the Port Authority of payment of any late charge of late charges payable under the provisions of this Section with respect to such unpaid amount. Each late charge shall be and become additional rent, recoverable by the Port Authority in the same manner and with like remedies as if it were originally a part of the rental. Nothing in this Section is intended to, or shall be deemed to, affect, alter, modify or diminish in any way (i) any rights of the Port Authority under this Agreement, including without limitation the Port Authority's rights to set forth in Section 25, of this Agreement or (ii) any obligations of the Lessee under this Agreement. In the event that any late charge imposed pursuant to this Section shall exceed a legal maximum such late charges payable under this Agreement shall be payable instead at such legal maximum.

Section 20. Rights of Entry Reserved

(a) The Port Authority, by its officers, employees, agents, representatives and contractors shall have the right at all reasonable times to enter upon the premises for the purpose of inspecting the same, for observing the performance by the Lessee of its obligations under this Agreement, and for the doing of any act or thing which the Port Authority may be obligated or have the right to do under this Agreement.

(b) Without limiting the generally of the foregoing, the Port Authority, by its officers, employees, agents, representatives, and contractors, and furnishers of utilities and other services, shall have the right, for its own benefit, for the benefit of the

Lessee, or for the benefit of other than the Lessee at the Airport, to maintain existing and future utility, mechanical, electrical and other systems and to enter upon the premises at all reasonable times to make such repairs, replacements or alterations as may, in the opinion of the Port Authority, be deemed necessary or advisable and, from time to time, to construct or install over, in or under the premises new systems or parts of the Airport otherwise not conveniently accessible; provided, however, that in the exercise of such rights of access, repair, alteration or new construction the Port Authority shall not unreasonably interfere with the use and occupancy of the premises by the Lessee.

(c) Further, without limiting the generality of this Section the Port Authority, by its officers, employees, agents, representatives and contractors and furnishers of service shall have the right, for its own benefit, for the benefit of the Lessee, or for the benefit of others than the Lessee at the Airport to maintain the portions of the Distribution Portion of the Underground Fuel Distribution System as described in the General Airport Agreement as defined in Section 53 located under or on the premises and to enter upon the premises at all times to make such repairs, replacements or alterations to the Distribution Portion of the Underground Fuel Distribution System as may, in the opinion of the Port Authority, be deemed necessary or desirable and, from time to time to construct or install over, in or under the premises additions or extensions to said Distribution Portion of the Underground Fuel Distribution System; provided however, that in the exercise of such rights of access, repair, alteration or new construction the Port Authority shall not unreasonably interfere with the use and occupancy of the premises by the Lessee pursuant to the provisions of this Agreement.

Neither the Distribution Portion of the Underground Fuel Distribution System or any part thereof as described in Supplement No. 37 to the General Airport Agreement as defined in Section 53 of the Lease, shall be or be deemed to be a part of the premises under the Lease.

(d) In the event that any property of the Lessee shall obstruct the access of the Port Authority, its employees, agents or contractors to any of the existing or future utility, mechanical, electrical and other systems and thus shall interfere with the inspection, maintenance or repair of any such system, the Lessee shall move such property, as directed by the Port Authority, in order that access may be had to the system or part thereof for its inspection, maintenance or repair, and, if the Lessee shall fail to so move such property after direction from the Port Authority to do so, the Port Authority may move it and the Lessee hereby agrees to pay the cost of such moving upon demand.

(e) Nothing in this Section shall or shall be construed to impose upon the Port Authority any obligations so to construct or maintain or to make repairs, replacements, alterations or additions, or shall create any liability for any failure so to do. The Lessee is and shall be in exclusive control and possession of the premises

and the Port Authority shall not in any event be liable for any injury or damage to any property or to any person happening on or about the premises nor for any injury or damage to the premises or to any property of the Lessee or of any other person located in or thereon (other than those occasioned by the affirmative acts of the Port Authority, its employees, agents and representatives).

(f) At any time and from time to time during ordinary business hours within the six (6) months next preceding the expiration of the letting, the Port Authority, for and by its agents and employees, whether or not accompanied by prospective lessees, occupiers or users of the premises, shall have the right to enter thereon for the purpose of exhibiting and viewing all parts of the same, and during such six month period the Port Authority may place and maintain on the premises the usual "To Let" signs, which signs the Lessee shall permit to remain without molestation.

(g) If, during the last month of the letting, the Lessee shall have removed all or substantially all its property from the premises, the Port Authority may immediately enter and alter, renovate and redecorate the premises.

(h) The exercise of any or all of the foregoing rights by the Port Authority or others shall not be or be construed to be an eviction of the Lessee and shall not be made the grounds for any abatement of rental nor any claim or demand for damages, consequential or otherwise.

Section 21. Condemnation

(a) Definitions

As used in this Section the phrase, "temporary interest," when used with reference to real property, shall mean an interest in such real property entitling the owner of such interest to the possession of such property (whether or not such interest includes or is coextensive with an interest of the Lessee therein under this Agreement), for an indefinite term or for a term terminable at will or at sufferance of for a term measured by a war or an emergency or other contingency or for a fixed term expiring prior to the expiration date of this Lease; and the phrase "permanent interest," when used with reference to real property, shall mean an interest in such real property entitling the owner of such interest to possession thereof, other than a temporary interest as above defined, including among others a fee simple and an interest for a term of years expiring on or after the expiration date of this Agreement.

As used in this Section with reference to any premises or facilities leased to the Lessee for its exclusive use or with reference to the Public Landing Area, the phrase "a material part" shall mean such a part of the said premises or said public Landing Area that the Lessee cannot continue to carry on its normal operations at the Airport without using such part.

(b) Condemnation or Taking of a Permanent Interest in All or any part of the Premises or All or a Material Part of the Public Landing Area.

Upon the acquisition by condemnation or the exercise of the power of eminent domain by any body having a superior power of eminent domain of a permanent interest in all or any part of the premises or of a permanent interest in all or any part of the Public Landing Area (any such acquisition under this Section 21 hereinafter referred to as a "taking"), the Port Authority shall purchase from the Lessee, and the Lessee shall sell to the Port Authority, the Lessee's leasehold interest (excluding any personal property whatsoever) in the premises except that in the event of a taking of less than all of the said premises, the Port Authority shall purchase and the Lessee shall sell only so much of the Lessee's leasehold interest in the premises as are taken. The sole and entire consideration to be paid by the Port Authority to the Lessee shall be an amount equal to the unamortized capital investment (as defined in Section 81 hereof), if any, of the Lessee in the premises or, in the event of a taking of less than all of the said premises, an amount equal to the unamortized capital investment (as defined in Section 81 hereof), if any, of the Lessee in so much of the premises as are taken. However, the Port Authority shall purchase and the Lessee shall sell only if the consideration paid by the Port Authority therefor will constitute "unamortized Port Authority funds other than bond proceeds or Federal or State grants expended for capital improvements at the municipal air terminals," within the meaning of said phrase as used in Section 23, I, D of the Basic Lease or if an amount not less than such consideration can otherwise be retained by the Port Authority (and not be required to be paid to the City of New York) out of the damages or award in respect to such talking without violation of any obligation of the Port Authority to the City of New York under the Basic Lease. Such purchase and sale shall take effect as of the date upon which such body having superior power of eminent domain obtains possession of any such permanent interest in the demised premises or in the Public Landing Area, as the case may be, and in that event, the Lessee (except with respect to its personal property), shall not have any claim or right to claim or be entitled to any portion of the amount which may be awarded as damages or paid as a result of such taking, and all rights to damages, if any, of the Lessee (except for damages to its personal property) by reason thereof are hereby assigned to the Port Authority.

If however, the amount to be paid by the Port Authority (the unamortized capital investment, as defined in Section 81 hereof, if any, of the Lessee in the premises) for such leasehold interest will not constitute "unamortized Port Authority funds other than bond proceeds or Federal or State grants, expended for capital improvements at the municipal air terminals," within the meaning of said phrase as used in Section 23, I, D of the Basic Lease or if an amount not less than such consideration cannot otherwise be retained by the Port Authority (and not be required to be paid to the City of

New York) out of the damages or award in respect to such taking without violation of any obligation of the Port Authority to the City of New York under the Basic Lease, then the aforesaid agreement to purchase and sell said leasehold interest shall be null and void; and in any such event, the Lessee shall have the right to appear and file its claim for damages in the condemnation or eminent domain proceedings, to participate in any and all hearings, trials and appeals therein, and to receive such amount as it may lawfully be entitled to receive as damages or payment as a result of such taking, because of its leasehold interest in the premises, up to but not in excess of an amount equal to the unamortized capital investment (as defined in Section 81 hereof), if any, of the Lessee in the premises. The Port Authority and the Lessee hereby agrees that as full and final settlement of any sum that may be due as rent or otherwise for the balance of the term of this Lease, the Lessee will pay to the Port Authority the excess, if any, which the Lessee may be entitled to receive over the foregoing sum. If there be no excess, any sum that may be due as rent or otherwise for the balance of the term of this Lease shall abate.

In the event of the taking of all of the premises and if the Lessee has no unamortized capital investment (as defined in Section 81 hereof) in the premises at the time of the taking, then the aforesaid agreement to purchase and sell said leasehold interest shall be null and void; and in that event, this Lease and all rights granted by this Lease to the Lessee to use or occupy the premises for its exclusive use or for its use in common with others at the Airport and all rights, privileges, duties and obligations of the parties in connection therewith or arising thereunder shall terminate as of the date of the taking, and in that event, the Lessee (except with respect to its personal property) shall not have any claim or right to claim or be entitled or paid as a result of such taking, and all rights to damages, if any, of the Lessee (except for damages to its personal property) by reason thereof are hereby assigned to the Port Authority.

In the event that the taking covers only a material part of the premises, then the Lessee and the Port Authority shall each have an option exercisable by notice given within (10) days after the effective date of such taking to terminate the letting hereunder with respect to the premises not taken, as of the date of such taking and such termination shall be effective as if the date of such taking were the original date of expiration hereof. If the Port Authority exercises this option, it shall purchase from the Lessee the Lessee's leasehold interest (excluding any personal property whatsoever) in the premises not taken for a consideration equal to the unamortized capital investment (as defined in Section 81 hereof), if any, of the Lessee in the premises not taken. If the letting of the entire premises is not terminated, the settlement or abatement of rentals after the date possession is taken by the body having a superior power of eminent domain shall be in accordance with Section 3 thereof.

(c) Condemnation or Taking of a Permanent Interest in Less Than a Material Part of the Public Landing Area.

Upon the acquisition by condemnation or the exercise of the power of eminent domain by a body having a superior power of eminent domain of a permanent interest in less than a material part of the Public Landing Area, the Port Authority and the Lessee each shall have the right to appear and file claims for damages, to the extent of their respective interest, in the condemnation or eminent domain proceedings, to participate in any and all hearings, trials and appeals therein, and receive and retain such amount as they may lawfully be entitled to receive as damages or payment as a result of such taking. However, if at the time of such taking the Lessee has no unamortized investment (as defined in Section 81 hereof) in the premises, in that event, the Lessee (except with respect to its personal property) shall not have any claim or right to claim or be entitled to any portion of the amount which may be awarded as damages or paid as a result of such taking, and all rights to damages, if any, of the Lessee (except for damages to its personal property) by reason thereof are hereby assigned to the Port Authority.

(d) Condemnation or Taking of a Temporary Interest in All or Any Part of the Premises or All or a Material Part of the Public Landing Area.

Upon the acquisition by condemnation or the exercise of the power of eminent domain by a body having a superior power of eminent domain of a temporary interest in all or any part of the premises or of a temporary interest in all or a material part of the Public Landing Area, there shall be no abatement of any rental payable by the Lessee to the Port Authority under the provisions of the Agreement but the Lessee shall have the right to claim and in the event of an award thereof shall be entitled to retain the amount which may be awarded as damages or paid as a result of the condemnation or other taking of such temporary interest, provided, that the Lessee shall be obligated to pay over to the Port Authority all such payments as may be made to the Lessee as damages or in satisfaction of such claim, after deduction of (a) reasonable expense incurred by the Lessee in the prosecution of such claim; (b) an amount equal to the unamortized capital investment (as defined in Section 81 hereof), if any, of the Lessee in the premises, or in the event of a taking of less than all of the said premises, an amount equal to such unamortized capital investment in the premises as are taken, to the extent in either case that the same is to be amortized over the period of the taking; and (c) the then present capitalized value of the Lessee's obligation for rentals thereafter payable during the period of the taking in respect to the demised premises, or, in the event of a taking of less than all of the said premises, in respect to the premises so taken.

In the event that the taking covers a material part but less than all of the premises, then the Lessee and the Port Authority shall each have an option, exercisable by notice given within ten (10) days after the effective date of such taking, to suspend the term of the letting of such of the premises as are not so taken during the period of the taking, and, in that event, the rentals for such premises shall abate for the period of the suspension. If the Port Authority exercises the option, it shall purchase from the Lessee the Lessee's leasehold interest (excluding any personal property whatsoever) in the premises not taken for the period of suspension for a consideration equal to the unamortized capital investment (as defined in Section 81 hereof), if any, of the Lessee in such premises which is to be amortized over the period of such suspension.

(e) Condemnation or Taking of a Temporary Interest in Less Than a Material Part of the Public Landing Area.

Upon the acquisition by condemnation or the exercise of the power of eminent domain by a body having a superior power of eminent domain of a temporary interest in less than a material part of the Public Landing Area, the Lessee shall not have any claim or right to claim or be entitled to any portion of the amount which may be awarded as damages or paid as a result of such condemnation or taking, and all rights to damages, if any, of the Lessee, including consequential damages, by reason of such condemnation or taking, are hereby assigned to the Port Authority.

Section 22. Right of Termination - Securities Ownership

(a) The occurrence of any one or more of the following events shall be and shall be deemed an event of termination under Section 25 of the Lease, and upon the occurrence of any such event or at any time thereafter during the continuance thereof the Port Authority shall have the right to terminate the Lease and the letting hereunder pursuant to the provisions of said Section 25.

(i) Excepting only the Government of the United Kingdom of Great Britain and Northern Ireland, any individual, corporation, partnership or other entity shall have direct or indirect beneficial ownership (as described below) of a portion of any class of outstanding voting securities of the Lessee (as described below) in excess of thirty percent (30%) thereof; which shall result in a detectible decrease in the amount of, and a change in, the nature of the Lessee's scheduled passenger aircraft operations at the Airport or shall have the effect of causing this Lease to become the only asset or a significantly greater portion of the assets of the Lessee than prior to such action; unless the Port Authority shall have given its prior written consent thereto;

(ii) There shall be an issuance, transfer, purchase or exchange of all or a portion of the securities of the Lessee or

of a subsidiary corporation of the Lessee or the creation, transfer, purchase or exchange of any rights or privileges thereunder, or the transfer, purchase or exchange of all or a portion of the assets of the Lessee or of a subsidiary corporation of the Lessee, which causes or results in a change in the relationship between the Lessee and a subsidiary corporation of the Lessee, or the Lessee and the holders of the securities of the Lessee, or the creation of another corporation for the purpose, among others, of accepting and holding securities of the Lessee, or which places control of the Lessee in a single entity, or which effects, causes or results in a transfer or change in the entity exercising control over the Lessee unless the Port Authority shall have given its prior written consent thereto; which shall in any such case result in a detectible decrease in the amount of and a change in the nature of the Lessee's scheduled passenger aircraft operations at the Airport or shall have the effect of causing this Lease to become the only asset or a significantly greater portion of the assets of the Lessee than prior to such action.

(b) The foregoing right of termination shall be in addition to all other rights of termination the Port Authority has under this Agreement and the failure of the Port Authority to exercise its right of termination under this Section at any time in which it may have such right shall not affect, waive or limit its right to exercise said right of termination at any subsequent time.

(c) The Lessee represents, knowing that the Port Authority is relying on the accuracy of such representation, that, at the time of execution of this Agreement, it is a corporation organized and existing under the laws of England and Wales, and has issued and has outstanding (2.a.) voting securities which constitute all its outstanding voting securities.

(d) The phrase "direct or indirect beneficial ownership" shall include without limiting the generality thereof the direct or indirect power through contract, arrangement, understanding, relationship or otherwise to dispose of or to direct the disposal of, or to vote or to direct the voting of, any voting security of a corporation.

(e) The term "voting security" shall include any stock, bond or other obligation of a corporation the holder of which has any voting rights including but not limited to the right to vote for the election of members of the board of directors of said corporation and shall include any security convertible into a voting security and any right, option or warrant to purchase a voting security.

(f) The Lessee shall promptly advise the Port Authority of any change in the representation made in paragraph (c) of this Section.

Section 23. Assignment to a Trust

In the event that the Port Authority is of the opinion that it is advisable due to changes (occurring after the execution of this Agreement) in the laws of the United States of America regarding bankruptcy and insolvency, which changes lessens or limits the rights or remedies of a landlord should a tenant under a lease of non-residential real property become a debtor pursuant to the aforesaid laws, (such changes being hereinafter called "Changes in Landlord Rights'), the Port Authority and the Lessee agree that this Agreement, as the same may have been theretofore amended or supplemented and as then amended by a Supplement to be prepared by the Port Authority and executed by the Lessee and the Trust (described below) and delivered to the Port Authority for its execution, shall be assigned to a Trust, created as provided herein. The Trust shall be created by a Trust Indenture to be prepared by the Port Authority and executed by the Port Authority and the Lessee. The Trust would be under the voting control of the trustee designated by the Lessee, unless and until stipulated events of the type set forth as Triggering Events in Exhibit X occurred, in which event voting control would shift to the trustee designated by the Port Authority. The occurrence of such Triggering Events would be as certified by the independent trustee jointly designated by the Port Authority and the Lessee. The Port Authority agrees that it will simultaneously with the assignment of this Agreement, as the same may have been theretofore amended or supplemented, to the Trust, consent to the Trust entering into a sublease with the Trust as landlord and the Lessee, as sublessee, provided however that such sublease shall be a month-to-month periodical tenancy and the Trust Indenture shall provide for the same. If four consecutive calendar quarters shall elapse after voting control of the Trust shifted to the trustee designated by the Port Authority and (i) the Trustee designated by the Port Authority shall not have, by notice, advised the Lessee that it may no longer occupy the premises as a month-to-month periodical tenant pursuant to the aforesaid sublease and the Lessee in fact is so occupying and (ii) none of the aforesaid stipulated events shall have occurred or continued to occur or shall have again occurred, the Port Authority will, at the request of the Lessee prepare a Supplemental Agreement to be executed by the Trust and the Lessee, and delivered to the Port Authority for its execution reassigning this Agreement to the Lessee. If the Trust becomes the assignee of this agreement as provided above, and there are further changes in Landlord Rights such that the rights and remedies of a landlord, as aforesaid, are restored, the Port Authority shall prepare and tender to the Lessee, and the Trust a Supplemental Agreement to be executed and delivered by each of them and returned to the Port Authority for its execution, reassigning this Agreement, as the same may have been theretofore amended or supplemented, to the Lessee.

Section 24. Assignment and Sublease

(a) The Lessee covenants and agrees that it will not sell, convey, transfer, mortgage, pledge or assign this Agreement or any

part thereof, or any rights created thereby or the letting thereunder or any part thereof without the prior written consent of the Port Authority; provided, however, that this Agreement may be assigned in its entirety without such consent to any successor in interest of the Lessee which is or is to be a Scheduled Aircraft Operator, and with or into which the Lessee may merge or consolidate, or which may succeed to the assets of the Lessee or the major portion of its assets related to its air transportation system, but in any such event, such assignment shall not take effect before the assignee is actually engaged in the business of scheduled transportation by aircraft; provided, further, that the successor entity has a financial standing as of the date of the transfer or assignment at least as good as that of the Lessee by which is meant that its ratio of current assets to current liabilities, its ratio of fixed assets to fixed liabilities and its net worth shall each be at least as favorable as that of the Lessee and provided, further, that such successor entity or purchaser executes and delivers to the Port Authority an instrument in a form satisfactory to the Port Authority assuming the obligations of the Lessee as if it were the original tenant hereunder.

Without limiting the foregoing, in the event the successor entity referred to above is not anticipated to have a financial standing as of the date of transfer or assignment which is as good or better than the Lessee, the Lessee shall have the right to request the Port Authority to consider an appropriate increase in the amount of the security deposit required pursuant to Section 79 or other additional form of security as a condition of its consent to an assignment hereunder to such entity.

(b) The Lessee shall not sublet the premises or any part thereof, without the prior written consent of the Port Authority, provided, however, that if any of the events set forth in Section 48 (a) (1) hereof shall occur, the Lessee may sublet the entire premises or assign this Agreement, with the consent of the Port Authority thereto not to be unreasonably withheld if the sublessee or assignee is a Scheduled Aircraft Operator.

(c) If without the prior written consent of the Port Authority, the Lessee assigns, sells, conveys, transfers, mortgages, pledges or sublets in violation of paragraph (a) or (b) of this Section or if the premises are occupied by anybody other than the Lessee, the Port Authority may collect rent from any assignee, sublessee or anyone who claims a right under this Agreement or letting or who occupies the premises, and the Port Authority shall apply the net amount collected to the rental herein reserved; but no such collection shall be deemed a waiver by the Port Authority of the covenants contained in paragraph (a) and (b) of this Section or an acceptance by the Port Authority of any such assignee, sublessee, claimant or occupant as Lessee, nor a release of the Lessee by the Port Authority from the further performance by the Lessee of the covenants contained herein.

(d) Neither the limited right of assignment provided in paragraph (a) hereof nor the exercise of said right by the Lessee shall be construed or deemed to release, relieve or discharge any succeeding assignee, successor or transferee of the Lessee or any other person claiming any right, title or interest in this Agreement from the requirement of obtaining the prior written consent of the Port Authority in the event it wishes to sell, convey, transfer, mortgage, pledge, sublet or assign this Agreement or any part thereof, or any rights created thereby or the letting hereunder or any part thereof; and such assignee, successor or transferee or other person claiming any right, title or interest in this Agreement shall not sell, convey, transfer, mortgage, pledge, sublet or assign this Agreement or any part thereof, or any rights created thereby or the letting thereunder or any part thereof without such prior written consent of the Port Authority.

(e) The Lessee shall not use or permit any person to use the premises or any portion thereof for any purpose other than the purpose stated in Section 5 hereof. Except as provided in this Agreement or otherwise permitted in writing by the Port Authority, the Lessee shall not permit the premises to be used or occupied by any person other than its own officers, employees, passengers, contractors and representatives.

(f) Notwithstanding the provisions of paragraph (b) hereof and subject to obtaining the approval and written consent of the Port Authority to do so in a written agreement in a form prepared by the Port Authority to be entered into among the Port Authority, the Lessee and United Air Lines, Inc., (hereinafter called "United"), a corporation of the State of Delaware, the Lessee shall have the right and the obligation to sublet to United for a term expiring on the last day of the month preceding the month in which the expiration date of the term of this Lease shall fall, a portion of the premises herein let to the Lessee equal to approximately 50% of the enclosed space and associated outside area forming a part of the premises computed on the basis of the square footage of floor space of such enclosed space and outside area. It is understood and agreed that notwithstanding the right and obligation of subletting to United described herein, the Lessee shall continue to be liable and responsible to the Port Authority for the performance of all of the obligations of the Lessee hereunder on the part of the Lessee to be performed with respect to all the premises under the Lease, regardless of whether occupied and used by the Lessee or United, in the same manner and to the same extent as if such sublease agreement with United had never been made or consented to by the Port Authority and all acts and omissions of United shall, as between the Port Authority and the Lessee, be deemed to be acts and omissions of the Lessee.

Section 25. Termination by the Port Authority

(a) If any one or more of the following events shall occur, that is to say:

(1) The Lessee shall become insolvent (which shall mean the inability to pay debts in the regular course of business) or shall take the benefit of any present or future insolvency statute, or shall make a general assignment for the benefit of creditors, or file a voluntary petition in bankruptcy or a petition or answer seeking an arrangement or its reorganization or the readjustment of its indebtedness under the federal bankruptcy laws or under any other law or statute of the United States or of any State thereof, or consent to the appointment of a receiver, trustee, or liquidator of all or substantially all of its property; or

(2) By order or decree of a court the Lessee shall be adjudged a bankrupt or an order shall be made approving a petition filed by any of its creditors or by any of the stockholders of the Lessee, seeking its reorganization or the readjustment of its indebtedness under the federal bankruptcy laws or under any law or statute of the United States or of any state thereof provided that if any such judgment or order is stayed or vacated within sixty (60) days after the entry thereof, any notice of termination shall be and become null, void and of no effect; or

(3) By or pursuant to, or under authority of any legislative act, resolution or rule, or any order or decree of any court or governmental board, agency or officer having jurisdiction, a receiver, trustee, or liquidator shall take possession or control of all or substantially all of the property of the Lessee, and such possession or control shall continue in effect for a period of thirty (30) days; or

(4) The Lessee shall voluntary abandon, desert or vacate the premises or discontinue its operation at the premises, or after exhausting or abandoning any right of further appeal, the Lessee shall be prevented for a period of thirty (30) days by action of any governmental agency other than the Port Authority having jurisdiction thereof, from conducting its operations at the Airport, regardless of the fault of the Lessee; or

(5) Any lien is filed against the premises because of any act or omission of the Lessee and shall not be removed, discharged or bonded within thirty (30) days after the Lessee has received notice therof; or

(6) Except as otherwise provided in Section 23 or paragraph (a) of Section 24, the letting hereunder or the interest or estate of the Lessee under this Agreement shall be transferred directly by the Lessee or shall pass to or devolve upon, by operation of law or otherwise, any other person, firm or corporation; or

(7) A petition under any part of the federal bankruptcy laws or an action under any present or future insolvency law or statute shall be filed against the Lessee and shall not be dismissed within sixty (60) days after the filing thereof; or

(8) Except as otherwise provided in paragraph (a) of Section 24, the Lessee, if a corporation, shall, without the prior written approval of the Port Authority, become a possessor or merged corporation in a merger, a constituent corporation in a consolidation, or a corporation in dissolution; or

(9) The Lessee shall fail duly and punctually to pay the rentals or fees or to make any other payment required hereunder when due to the Port Authority and shall continue in its failure to pay rentals or fees or to make any other payment required hereunder for a period of ten (10) days after receipt of notice by it from the Port Authority to make such payment; or

(10) The Lessee shall fail to keep, perform and observe each and every other promise, covenant and agreement set forth in this Agreement on its part to be kept, performed, or observed, within thirty (30) days after receipt of notice of default thereunder from the Port Authority (except where fulfillment of its obligation requires activity over a period of time, and the Lessee shall have commenced to perform whatever may be required for fulfillment within thirty (30) days after receipt of notice and continues such performance without interruption except for causes beyond its control);

then upon the occurrence of any such event or at any time thereafter during the continuance thereof, the Port Authority may upon twenty (20) days' notice terminate the rights of the Lessee hereunder and the letting, such termination to be effective upon the date specified in such notice. Such right of termination and the exercise thereof shall be and operate as a conditional limitation.

(b) No acceptance by the Port Authority of rentals, fees, charges or other payments in whole or in part for any period or periods after a default of any of the terms, covenants and conditions hereof to be performed, kept or observed by the Lessee shall be deemed a waiver of any right on the part of the Port Authority to terminate the letting.

(c) No waiver by the Port Authority of any default on the part of the Lessee in performance of any of the terms, covenants or conditions hereof to be performed, kept or observed by the Lessee shall be or be construed to be a waiver by the Port Authority of any other or subsequent default in performance of any of the said terms, covenants and conditions.

(d) The rights of termination described above shall be in addition to any other rights of termination provided in this Agreement and in addition to any rights and remedies that the Port Authority would have at law or in equity consequent upon any breach of this Agreement by the Lessee, and the exercise by the Port Authority of any right of termination shall be without prejudice to any other such rights and remedies.

Section 26. Additional Rights of Termination by the Port Authority as to Portions of the Premises

(a) It is hereby agreed that for the purpose of this Section 26 the term "the Lessee's Commencement Basic Schedules" shall be and mean a revenue seats daily average (as said term is defined in paragraph (e) hereof) of (2.a.)

(b) Commencing with calendar year 1995 and for each and every calendar year thereafter, the Port Authority may ascertain the revenue seats daily average of the Lessee for the Airport for the preceding calendar year in accordance with the provisions of paragraph (e) hereof, which revenue seats daily average shall be the Lessee's Basic Schedules for the preceding calendar year and shall be referred to as such. Thus, for example, in the case of the first calculation which would be based on the calendar year 1994 experience, said revenue seats daily average shall be called the "Lessee's Basic Schedule for 1994".

(c) As of January 1, 1995 and as of January 1 of each succeeding calendar year (i) in the event that the Lessee's Basic Schedules for the immediately preceding calendar year for the Airport are less than sixty percent (60%) of the Lessee's Commencement Basic Schedules or (ii) in the event that because of reasons beyond the control of the Lessee the Lessee's Basic Schedules for the immediately preceding two calendar years are less than sixty percent (60%) of the Lessee's Commencement Basic Schedules, then in either of such events and without limiting each and every other right of termination the Port Authority has under this Agreement or otherwise, the Port Authority shall have the right, upon six (6) month's written notice to the Lessee, to terminate the letting under the Lease as to any portion or portions of the premises which the Port Authority determines to be underutilized by the Lessee. Such termination shall be effective on the date set forth in said notice of termination. Upon such termination the term of the letting as to the terminated portion or portions of the premises shall cease and expire on the effective date set forth in said notice with the same force and effect as if said date were the date originally stated in this Agreement for the expiration of the term of the letting as to said portion or portions of the premises. This Agreement and the letting as to all other portions of the premises shall continue in full force and effect. In the event of the termination of any portion or portions of the premises, as aforesaid, the annual amount of the rental payable by the Lessee to the Port Authority shall, from and after the effective date of termination, be abated in accordance with Section 3 hereof.

The Port Authority shall give thirty (30) days' prior notice of its intention to give the termination notice set forth above and it is expressly agreed that the Port Authority shall not exercise the aforesaid right of termination with respect to any portion or portions of the premises if the Lessee has submitted to the Port Authority definite plans for the use of the entire premises at least at the levels specified in subparagraph (i) above provided

the Lessee in fact commences such use including the portions of the premises proposed to be terminated by the Port Authority within ninety (90) days after the submission of the said plans.

(d) The failure of the Port Authority to exercise its right of termination under this Section during any year in which it may have such a right, shall not affect, waive or limit its right to exercise said right of termination in any subsequent year.

(e) In the event the Port Authority decides to ascertain the revenue seats daily average of the Lessee for the preceding calendar year it shall do so as follows: based upon the Official Airline Guide (herein called "the Guide"), or in the event that the Guide shall not list the Lessee's schedules then based upon the generally accepted United States aviation industry standard published airline schedule reference which shall include the Lessee's published schedules, the Port Authority shall ascertain the total number of revenue seats that were accommodated on the aircraft equipment scheduled to have been used by the Lessee on its published aircraft arrivals at the Airport as set forth in the Guide during two specified calendar weeks (Sunday through Saturday), the first of which weeks is the one during which the fifteenth (15th) day of April of the prior calendar year fell and the second being the one during which the fifteenth (15th) day of October of the said prior calendar year fell, and shall total the said number of revenue seats which are hereinafter called "the total revenue seats" of the Lessee. In determining the total revenue seats of the Lessee, the total revenue seats as defined above of those Handled Airlines (as defined in Section 81 hereof), if any, of the Lessee who were Handled Airlines as of the date of such determination and sublessees of the Lessee at the premises who were sublessees on the date of such determination, with respect to the aircraft of the Handled Airlines and aircraft of the sublessee's operating at the premises, shall be included.

In making said determination, the Port Authority shall use the most recent configuration as supplied by the Lessee with respect to the number of revenue seats that can be accommodated on the particular aircraft equipment scheduled to be used by the Lessee at the Airport. The total revenue seats of the Lessee shall then be divided by fourteen, the resulting quotient being herein called "the revenue seats daily average" of the Lessee.

(f) In the event the Port Authority shall, from time to time, exercise its right of termination hereunder as to a portion or portions of the premises then, effective upon the date the Port Authority takes possession thereof, (i) the Lessee's Commencement Basic Schedules as set forth in paragraph (a) hereof shall be adjusted by multiplying the Lessee's Commencement Basic Schedules as originally set forth herein by a fraction, the denominator of which shall be 12 and the numerator of which shall be 12 less the number of gate positions in the portion or portions of the premises then or previously terminated by the Port Authority hereunder and (ii) the Port Authority shall pay to the Lessee the Lessee's unamortized

investment (as defined in Section 81 hereof) in the portion of the premises terminated by the Port Authority hereunder (without reference to unamortized investment in any other portions of the premises) computed from the date actual physical possession of such portion of the premises is delivered to the Port Authority; such payment to be made one hundred and eighty days after such delivery date.

Section 27. Right of Re-Entry

The Port Authority shall, as an additional remedy upon the giving of a notice of termination as provided in Section 25, 26 or other Section hereof, have the right to re-enter the premises and every part thereof upon the effective date of termination without further notice of any kind, and may regain and resume possession either with or without the institution of summary or any other legal proceedings or otherwise. Such re-entry, or regaining or resumption of possession, however, shall not in any manner affect, alter or diminish any of the obligations of the Lessee under this Agreement, and shall in no event constitute an acceptance of surrender.

Section 28. Waiver of Redemption

The Lessee hereby waives any and all rights to recover or regain possession of the premises and all rights of redemption, granted by or under any present or future law in the event it is evicted or dispossessed for any cause, or in the event the Port Authority obtains possession of the premises in any lawful manner.

Section 29. Survival of the Obligations of the Lessee

(a) In the event that the letting shall have been terminated in accordance with a notice of termination as provided in Section 25 hereof, or the interest of the Lessee cancelled pursuant thereto, or in the event that the Port Authority has re-entered, regained or resumed possession of the premises in accordance with the provisions of Section 27 hereof, all the obligations of the Lessee under this Agreement shall survive such termination or cancellation, or re-entry, regaining or resumption of possession and shall remain in full force and effect for the full term of the letting under this Agreement, and the amount or amounts of damages or deficiency shall become due and payable to the Port Authority to the same extent, at the same time or times and in the same manner as if no termination, cancellation, re-entry, regaining or resumption of possession had taken place. The Port Authority may maintain separate actions each month to recover the damage or deficiency then due or at its option and at any time may sue to recover the full deficiency less the proper discount, for the entire unexpired term.

(b) The amount of damages for the period of time subsequent to termination or cancellation (or re-entry, regaining or resumption of possession) on account of the Lessee's rental obligations, shall be the sum of the following:

(1) On account of the Lessee's annual rental obligation, (including the Additional Facility Rental), the amount of the total of all annual rentals, less the amount attributable to the installments of said annual rentals payable prior to the effective date of termination except that the credit to be allowed for the amount attributable to the installment payable on the first day of the month in which the termination is effective shall be prorated for the part of the month the letting remains in effect, on the basis of the actual number of days in the month; and

(2) On account of the Lessee's obligations to pay the cost of Assumable Maintenance and Repair set forth in Section 14 hereof, an amount equal to the total sum of the Capital Cost under Section 14 hereof less the amount thereof payable prior to the effective date of termination, except that the credit to be allowed for the amount attributable to the installment payable on the first day of the month in which the termination is effective shall be prorated for the part of the month the letting remains in effect or the actual number of days in such month.

(c) Port Authority may at any time during an action to recover all the damages as set forth above not previously recovered in separate actions, or it may bring separate actions to recover the items of damages set forth in subparagraphs (1) and (2) of paragraph (b) above and separate actions periodically to recover from time to time only such portion of the damages set forth in subparagraph (1) of paragraph (b) above as would have accrued as rental up to the time of the action if there had been no termination or cancellation. In any such action the Lessee shall be allowed a credit against its survived damages obligations equal to the amounts which the Port Authority shall have actually received from any tenant, licensee, permittee or other occupier of the premises or a part thereof during the period for which damages are sought, and if recovery is sought for a period subsequent to the date of suit a credit equal to the market rental value of the premises during such period (discounted to reflect the then present value thereof). If at the time of such action the Port Authority has used and occupied or relet the premises, the rental for the premises obtained through such use and occupancy or reletting shall be deemed to be the market rental value of the premises or be deemed to be the basis for computing such market rental value if less than the entire premises were used or occupied or relet. In no event shall any credit allowed to the Lessee against its damages for any period exceed the then present value of the annual rental which would have been payable under this Agreement during such period if a termination or cancellation had not taken place.

Section 30. Reletting by the Port Authority

The Port Authority upon termination or cancellation pursuant to Section 25 hereof, or upon any re-entry, regaining or resumption of possession pursuant to Section 27 hereof, may occupy the premises or may relet the premises, and shall have the right to permit any

person, firm or corporation to enter upon the premises and use the same. Such reletting may be of part only of the premises or a part thereof together with other space, and for a period of time the same as or different from the balance of the term hereunder remaining, and on the terms and conditions the same as or different from those set forth in this Agreement. The Port Authority shall also, upon termination or cancellation pursuant to the said Section 25, or upon its re-entry, regaining or resumption of possession pursuant to the said Section 27, have the right to repair or to make structural or other changes in the premises including changes which alter the character of the premises and the suitability thereof for the purpose of the Lessee under this Agreement, without affecting, altering or diminishing the obligations of the Lessee hereunder. In the event either of any reletting or of any actual use and occupancy by the Port Authority (the mere right of the Port Authority to use and occupy not being sufficient however) there shall be credited to the account of the Lessee against its survived obligations under Section 29 hereof any net amount remaining after deducting from the amount actually received from any lessee, licensee, permittee or other occupier in connection with the use of the said premises or portion thereof during the balance of the letting as the same is originally stated in this Agreement, or from the market value of the occupancy of such portion of the premises as the Port Authority may during such period actually use and occupy, all expenses, costs and disbursements incurred or paid by the Port Authority in connection therewith. No such reletting shall be or be construed to be an acceptance of a surrender.

Section 31. Remedies to be Non-Exclusive

All remedies provided in this Agreement shall be deemed cumulative and additional and not in lieu of or exclusive of each other or of any other remedy available to the Port Authority or to the Lessee at law or in equity, and the exercise of any remedy, or the existence herein of other remedies or indemnities shall not prevent the exercise of any other remedy.

Section 32. Surrender

The Lessee covenants and agrees to yield and deliver peaceably to the Port Authority possession of the premises on the date of cessation of the letting, whether such cessation be by termination, expiration or otherwise, promptly and in good condition, reasonable wear arising from the use of the premises to the extent such use is permitted elsewhere in this Agreement, excepted.

Section 33. Acceptance of Surrender of Lease

No agreement of surrender or to accept a surrender shall be valid unless and until the same shall have been reduced to writing and signed by the duly authorized representatives of the Port Authority and of the Lessee. Except as expressly provided in this Section, neither the doing of, nor any omission to do, any act or thing, by any of the officers, agents or employees of the Port

Authority, shall be deemed an acceptance of a surrender of the letting or of this Agreement.

Section 34. Books and Records

(a) The Lessee shall keep in an office or offices in the Port of New York District, appropriate books and records showing (i) the date and hour of each take-off or departure from the Airport of each aircraft operated by it and the date and hour of the landing by such aircraft next preceding each take-off or departure, (ii) all matters which it is required to certify to the Port Authority pursuant to this Lease and (iii) any other matter concerning the Lessee's operations at the Airport with respect to which the Port Authority may reasonably need information to fulfill its obligations or exercise its rights under this Lease whether or not of the type enumerated above in this Section 34 and whether or not an express obligation to keep books and records with regard thereto is expressly set forth elsewhere in this Lease. The Lessee shall not be obligated to preserve any such records for more than twelve (12) months unless they are material to litigation initiated within that time, in which event they shall be preserved until the final determination of the controversy. The Port Authority shall have the right upon prior notice to inspect such books and records during regular business hours.

(b) Without limiting the foregoing, the Lessee shall maintain for a period in accordance with accepted accounting practice, during the term of the letting and for one (1) year after the expiration or earlier termination of this Lease, and for a further period extending until the Airline shall receive written permission from the Port Authority to do otherwise, records and books of account recording all transactions of the Airline at, through, or in anywise connected with in-flight meals and ramp service including without limitation all payments by the Airline to its independent contractors which furnish in-flight meals or any portion thereof, or ramp service, to the Airline at or in connection with the Airport, which records and books of account shall be kept at all times within the Port of New York District and the Lessee shall permit during ordinary business hours during the term of the letting, for one year thereafter, and during such further period as mentioned above, the examination and audit by officers, employees and representatives of the Port Authority of such records and books of account.

(c) If and when service segment data now or formerly supplied by the Lessee to the Department of Transportation pursuant to Economic Regulation 586 or schedule T-9 traffic data, are no longer available to the Port Authority from a government source, the Lessee will provide the following data to the Port Authority, on request, for each of its non-stop city-pair markets involving the Port District: total scheduled flights operated, seats available, revenue passengers carried and similar data for charter flights. The Lessee shall see that such data shall be provided to the Port Authority, on request, by its sublessees and Handled Airlines, if

any. The Lessee and its sublessees and Handled Airlines, if any, shall furnish said data for each month of operations within thirty (30) days after the end of such month.

Section 35. Effect of Basic Lease

(a) This Agreement and the letting hereunder shall, in any event, terminate with the termination or expiration of the Basic Lease with the City of New York which covers the premises, such termination to be effective on such date and to have the same effect as if the term of the letting had on that date expired. The rights of the Port Authority in the premises are those granted to it by the Basic Lease, and no greater rights are granted or intended to be granted to the Lessee than the Port Authority has power thereunder to grant.

(b) The Port Authority covenants that, during the term of this Agreement, the Port Authority will not take any action which would amount to or have the effect of cancelling, surrendering or terminating the Basic Lease prior to the date specified in the Basic Lease for its expiration insofar as such surrender, cancellation or termination would in any manner deprive the Lessee of any of its rights, licenses or privileges under this Agreement.

(c) Nothing herein contained shall prevent the Port Authority from entering into an agreement with The City of New York pursuant to which the Basic Lease is surrendered, cancelled or terminated provided that The City of New York, at the time of such agreement, assumes the obligations of the Port Authority under this Agreement.

Section 36. Removal of Property

All personal property (including trade fixtures) removable without material damage to the premises, which are installed by the Lessee in or on the premises leased to the Lessee pursuant to the Agreement, shall be deemed to be and remain the property of the Lessee. All such property, provided the Lessee shall install suitable replacements therefor if such personal property is necessary to operate the premises in accordance with the terms and provisions hereof in accordance with the best practices of the air transportation industry, may at the Lessee's option be removed by the Lessee from the premises at any time during the term of this Lease. Furthermore, all such property of the Lessee shall, unless otherwise agreed in writing by the parties hereto, be removed by the Lessee on or before the expiration or other termination of the term of the Lease. If the Lessee shall fail to remove its property on or before the termination or expiration of this Agreement, the Port Authority may remove such property to a public warehouse for deposit or retain the same in its own possession, and sell the same at public auction, the proceeds of which shall be applied first to the expenses of removal, storage and sale, second to any sums owed by the Lessee to the Port Authority, with any balance remaining to be paid to the Lessee; if the expenses of such removal, storage and

sale shall exceed the proceeds of sale, the Lessee shall pay such excess to the Port Authority upon demand.

Section 37. Purchase of Property

The Port Authority shall have the option from time to time exercisable by notice to the Lessee effective on the expiration or earlier termination of the letting of the premises hereunder, or any part thereof, to purchase all, or such part as the Port Authority elects, of the Lessee's personal property (including trade fixtures but excluding ground vehicles) including without limiting the generality of the foregoing any system for handling baggage, any counters, and any passenger loading bridges, as and to the extent any of the foregoing are personal property, which may at the time of the giving of such notice have been installed or placed on the premises. In the event the Port Authority exercises its option to make a purchase, the Port Authority shall pay to the Lessee a sum equal to the reasonable value of the personal property (including trade fixtures) purchased. The Lessee hereby agrees that on the effective date of the purchase and sale none of the aforesaid items shall be subject to any lien, security interest or other encumbrance, and upon request of the Port Authority the Lessee will execute a bill of sale or such other document of conveyance as the Port Authority may request to transfer title to the aforesaid items to the Port Authority (including a warranty of Title to the Port Authority) and the Port Authority shall pay the purchase price. Further, the Lessee shall from time to time execute such other documentation as the Port Authority may require and prepare evidencing the option of the Port Authority, as herein provided, to purchase the aforesaid personal property, including without limitation, security agreements and filings pursuant to the Uniform Commercial Code.

Section 38. Brokerage

The Lessee represents and warrants that no broker has been concerned on its behalf in the negotiation of this Agreement and that there is no broker who is or may be entitled to be paid a commission in connection therewith. The Lessee shall indemnify and save harmless the Port Authority of and from any claim for commission or brokerage made by any and all persons, firms or corporations whatsoever for services rendered to the Lessee in connection with the negotiation and execution of this Agreement.

Section 39. Limitation of Rights and Privileges Granted

(a) No greater rights or privileges with respect to the use of the premises or any part thereof are granted or intended to be granted to the Lessee by this Agreement, or by any provision thereof, than the rights and privileges expressly and specifically granted hereby.

(b) The premises are let to the Lessee and the Lessee takes the same subject to all the following: (i) easements,

restrictions, reservations, covenants and agreements, if any, to which the premises may be subject, rights of the public in and to any public street, (ii) rights, if any, of any enterprise, public or private which is engaged in furnishing heating, lighting, power, telegraph, telephone, steam, or transportation services and of the City and State of New York; (iii) permits, licenses, regulations and restrictions, if any, of the United States, the City of New York or State of New York, or other governmental authority, (iv) all of the rights, liabilities, obligations, occupancies and encumbrances, if any, arising out of the Prior Lease (as defined in Section 1 hereof) and the Security Assignment, the Assignment of Lease with Assumption and Consent, the Operating Agreement, the Trust Indenture and the BOAC Sublease, all dated as of June 10, 1968, as the same may have been amended, transferred and assigned.

(c) The Lessee acknowledges that it has not relied upon any representation or statement of the Port Authority or its Commissioners, officers, employees or agents as to the condition of the premises or the suitability thereof for the operations permitted on the premises by this Agreement. Without limiting any obligation of the Lessee to commence operations hereunder at the time and in the manner stated elsewhere in this Agreement, the Lessee agrees that no portion of the premises will be used initially or at any time during the letting which is in a condition unsafe or improper for the conduct of the Lessee's operations hereunder so that there is possibility of injury or damage to life or property. The Lessee shall take possession of the premises in the condition they are in as of the commencement of the term of the letting hereunder. The Lessee hereby further acknowledges that it has during the term of the Prior Lease performed repairs and construction and installed improvements on the premises, title to all of which it is hereby agreed has vested in the City of New York. In the event that as of the commencement of the term of the letting under this Lease, the Lessee shall not have kept any or all of the foregoing in good condition as required under the Prior Lease, the Lessee shall place and keep the same in good condition as required under this Lease.

Any liabilities or obligations which by the terms of the Prior Lease, or letter agreements or permits thereunder to make alterations, mature at the expiration or termination of said lease, shall be deemed to survive and mature at the expiration or earlier termination of this Lease.

Section 40. Notices

Except where expressly required or permitted herein to be oral, all notices, directions, requests, consents and approvals required to be given to or by either party shall be in writing, and all such notices and requests shall be personally delivered to the duly designated officer or representative of such party or delivered to the offices of such officer or representative during regular business hours, or forwarded to him or to the party at such address by registered or certified mail. The Lessee shall from time to time designate in writing an office within the Port of New York District

and an officer or representative whose regular place of business is at such office upon whom notices and requests may be served. Until further notice, the Port Authority hereby designates its Executive Director, and the Lessee designates the person named on the first page hereof as their officers upon whom notices and requests may be served, and the Port Authority designates its office at One World Trade Center, New York, New York, 10048, and the Lessee designates its office at 75-20 Astoria Boulevard, Jackson Heights, New York 11370 as their respective offices where notices and requests may be served. If mailed, the notices herein required to be served shall be deemed effective and served as of the date of the registered or certified mailing thereof.

Section 41. Facilities Non-Discrimination

(a) Without limiting the generality of any of the provisions of the Agreement, the Lessee, for itself, its successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree as a covenant running with the land that (1) no person on the grounds of race, color, sex, creed, or national origin shall be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of the premises, and the exercise of any privilege under this Agreement, (2) that in the construction of any improvements on, over, or under the premises and the furnishing of services thereon, no person on the grounds of race, color, creed, national origin, or sex shall be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the Lessee shall use the premises in compliance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the Department of Transportation-Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended, and any other present or future laws, rules, regulations, orders or directions of the United States of America with respect thereto which from time to time may be applicable to the Lessee's operations at the Airport whether by reason of agreement between the Port Authority and the United States Government or otherwise.

(b) The Lessee shall include the provisions of paragraph (a) of this Section in every agreement or concession it may make pursuant to which any person or persons, other than the Lessee, operates any facility at the Airport providing services to the public and shall also include therein a provision granting the Port Authority a right to take such action as the United States may direct to enforce such provisions.

(c) The Lessee's noncompliance with the provisions of this Section shall constitute a material breach of this Agreement. In the event of the breach by the Lessee of any of the above non-discrimination provisions the Port Authority may take any appropriate action to enforce compliance; or in the event such non-compliance shall continue for a period of twenty (20) days after

receipt of written notice from the Port Authority, the Port Authority shall have the right to terminate this Agreement and the letting hereunder with the same force and effect as a termination under the Section of this Agreement providing for termination for default by the Lessee in the performance or observance of any other term or provision of this Agreement, or may pursue such other remedies as may be provided by law; and as to any or all of the foregoing, the Port Authority may take such action as the United States may direct.

(d) The Lessee shall indemnify and hold harmless the Port Authority from any claims and demands of third persons including the United States of America resulting from the Lessee's noncompliance with any of the provisions of this Section and the Lessee shall reimburse the Port Authority for any loss or expense incurred by reason of such noncompliance.

(e) Nothing contained in this Section shall grant or shall be deemed to grant to the Lessee the right to transfer or assign this Agreement, to make any agreement or concession of the type mentioned in paragraph (b) hereof, or any right to perform any construction on the premises.

Section 42. Affirmative Action

In addition to and without limiting the provisions of Section 43 and Schedule E hereof, the Lessee assures that it will undertake an affirmative action program as required by 14 CFR Part 152, Subpart E, to insure that no person on the grounds of race, creed, color, national origin, or sex be excluded from participating in any employment activities covered in 14 CFR Part 152, Subpart E. The Lessee assures that no person shall be excluded on these grounds from participating in or receiving the services or benefits of any program or activity covered by this subpart. The Lessee assures that it will require that its covered suborganizations provide assurances to the Lessee that they will require assurances from their suborganizations, as required by 14 CFR Part 152, Subpart E, to the same effect.

Section 43. The Lessee's Ongoing Affirmative Action Equal Opportunity Commitment

(a) The Lessee shall not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status (such reference to marital status not to preclude Lessee's policies on the hiring and placement of married couples) and shall undertake or continue existing programs of affirmative action to ensure that minority group persons and women are afforded equal employment opportunity without discrimination. Such programs shall include, but not be limited to, recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, rates of pay or other forms of compensation, and selections for training or retraining, including apprenticeship and on-the-job training.

(b) In addition to and without limiting the foregoing, and without limiting the provisions of Sections 41 and 42 and Schedule E hereof, it is hereby agreed that the Lessee in connection with its continuing operation, maintenance and repair of the premises, or any portion thereof, and in connection with every award or agreement for concessions or consumer services at the Airport, shall throughout the term of the letting hereunder commit itself to and use good faith efforts to implement an extensive program of Affirmative Action, including specific affirmative action steps to be taken by the Lessee, to ensure maximum opportunities for employment and contracting by minorities and women. In meeting the said commitment the Lessee agrees to submit its said extensive Affirmative Action program, including the specific affirmative action steps to be taken by the Lessee to meet its aforesaid commitment, within six (6) months prior to the commencement of the term of the letting hereof to the Port Authority for its review and approval. The Lessee shall incorporate in its said program such revisions and changes which the Port Authority initially or from time to time may reasonably require. The Lessee throughout the term of the letting hereunder shall document its efforts in implementing the said program, shall keep the Port Authority fully advised of the Lessee's progress in implementing the said program and shall supply to the Port Authority such information, data and documentation with respect thereto as the Port Authority may from time to time and at any time request, including but not limited to annual reports.

(c) "Minority" as used herein shall be as defined in paragraph II(c) of Part I of Schedule E.

(d) The Lessee's non-compliance with the provisions of this Section shall constitute a material breach of this Agreement. In the event of the breach by the Lessee of any of the above provisions the Port Authority may take any appropriate action to enforce compliance; or in the event such non-compliance shall continue for a period of twenty (20) days after receipt of written notice from the Port Authority, the Port Authority shall have the right to terminate this Agreement and the letting hereunder with the same force and effect as a termination under the Section of this Agreement providing for termination for default by the Lessee in the performance or observance of any other term or provision of this Agreement, or may pursue such other remedies as may be provided by law.

(e) In the implementation of this Section, the Port Authority may consider compliance by the Lessee with the provisions of any federal, state or local law concerning affirmative action equal employment opportunity which are at least equal to the requirements of this Section, as effectuating the provisions of this Section. If the Port Authority determines that by virtue of such compliance with the provisions of any such federal, state or local law that the provisions hereof duplicate or conflict with such law the Port Authority may waive the applicability of the provisions of this Section to the extent that such duplication or conflict exists.

(f) Nothing herein provided shall be construed as a limitation upon the application of any laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents.

(g) Nothing in this Section 43 shall grant or be deemed to grant to the Lessee the right to make any agreement or award for concessions or consumer services at the Airport.

Section 44. Other Construction by the Lessee

(a) The Lessee shall not erect any structures, make any improvements or do any construction on the premises or alter, modify, or make additions, improvements or repairs to or replacements of any structure existing at the commencement of the term of the letting hereunder or built at any time during the letting, or install any fixture (other than trade fixtures, removable without material damage to the premises, any such damage to be immediately repaired by the Lessee) without the prior written approval of the Port Authority and in the event any construction, improvement, alteration, modification, repair, replacement or addition is made without such approval, then upon reasonable notice so to do, the Lessee will remove the same, or at the option of the Port Authority cause the same to be changed to the satisfaction of the Port Authority. In case of any failure on the part of the Lessee to comply with such notice, the Port Authority may effect the removal or change and the Lessee shall pay the cost thereof to the Port Authority.

(b) Without limiting the generality of the foregoing paragraph the Lessee acknowledges and agrees that any Notes and associated reference lines set forth on Exhibit A or Exhibit E to the Lease shall not constitute or be deemed to constitute or imply that approval of the Port Authority will be granted to any proposed construction by the Lessee nor shall the same grant or be deemed to grant any right or permission to the Lessee now or in the future to erect any structures, make any improvements or do any other construction work in the premises, including but not limited to repairs to or replacements of, any structure now existing or built at any time during the letting or install any fixtures on the premises, including but not limited to paving, and that the provisions of the foregoing paragraph of this Section shall be read and construed as if there were no Notes and associated reference lines on Exhibit A and that any which were placed on such Exhibit are solely and exclusively for the benefit of the Port Authority.

(c) Notwithstanding the obligation of maintenance imposed upon the Lessee by the provisions of Section 11 hereof, the Lessee shall not make any repairs or replacements (except emergency repairs or replacements) unless and until it has first obtained an approved Port Authority Alteration Application for such repairs or replacements which shall then be performed in full accordance with the terms of said Alteration Application.

Section 45. Place of Payments

All payments required of the Lessee by this Agreement shall be made to the Port Authority, P.O. Box 17309, Newark, New Jersey 07194, or to such other address, office or location as may be substituted therefor by the Port Authority by notice to the Lessee from time to time.

Section 46. Construction and Application of Terms

(a) The section and paragraph headings, if any, in this Agreement, are inserted only as a matter of convenience and for reference and in no way define, limit or describe the scope or intent of any provision hereof.

(b) The terms, provisions and obligations contained in the Exhibits and Schedules attached hereto, whether there set out in full or as amendments of, or supplements to provisions elsewhere in the Agreement stated, shall have the same force and effect as if herein set forth in full.

(c) It is hereby understood and agreed that any occupancy and use of the premises hereunder which constituted a portion of the premises under the Prior Lease (as defined in Section 1 hereof), from and after the commencement of the term of the letting hereunder, shall be and shall be deemed for all purposes, to be occupancy and use under this Agreement, and not as a holdover tenant under the Prior Lease, which shall be deemed to have been surrendered by the Lessee.

Section 47. Non-liability of Individuals

No Commissioner, director, officer, agent or employee of either party shall be charged personally or held contractually liable by or to the other party under any term or provision of this Agreement or of any supplement, modification or amendment to this Agreement or because of any breach thereof, or because of its or their execution or attempted execution.

Section 48. Termination by the Lessee

(a) If any one or more of the following events shall occur:

(1) If the Lessee shall be prevented from operating its air transportation system to and from the Airport by reason of its inability to use a substantial part or all of the runways and taxiways, as hereinafter defined:

(i) for a period of longer than thirty (30) consecutive days, resulting from any condition of the Airport not due to the fault of the Lessee; or

(ii) for a period of longer than ninety (90) consecutive days, resulting from a permanent injunction issued by any court of competent jurisdiction; or

(iii) for a period of longer than ninety (90) consecutive days, resulting from any order, rule or regulation of the Federal Aviation Administration, or other governmental agency having jurisdiction over the operations of the Lessee with which the Lessee is unable to comply at reasonable cost or expense; or

(2) The Port Authority shall fail to perform any of its obligations under this Lease within twenty (20) days after receipt of notice of default thereunder from the Lessee (except where fulfillment of its obligation requires activity over a period of time and the Port Authority shall commence to perform whatever may be required for fulfillment within twenty (20) days after the receipt of notice and continues such performance without interruption, except for causes beyond its control);

then upon the occurrence of any such event or at any time thereafter during the continuance of the condition, the Lessee may by twenty (20) days' notice terminate the letting, such termination to be effective upon the date set forth in such notice and to have the same effect as if the term of the letting had on that date expired. No waiver by the Lessee of any default on the part of the Port Authority in performance of any of the terms, covenants or conditions hereof to be performed, kept or observed by the Port Authority shall be or be construed to be a waiver by the Lessee of any other or subsequent default in performance of any of the said terms, covenants and conditions.

(b) The payment of rentals by the Lessee for the period or periods after the Lessee shall have a right to terminate under this Section but before any such default of the Port Authority has been cured, shall not be or be construed to be a waiver by the Lessee of any such right of termination.

(c) The rights of termination described above shall be in addition to any other rights of termination provided in this Agreement and in addition to any rights and remedies that the Lessee would have at law or in equity consequent upon any breach of this Agreement by the Port Authority, and the exercise by the Lessee of any right of termination shall be without prejudice to any other such rights and remedies.

Section 49. Effect of Termination by the Lessee

(a) If the Lessee terminates the letting pursuant to the provisions of Section 48 (a) (1) then the Port Authority may at its option, pay to the Lessee the unamortized capital investment (as defined in Section 81 hereof), if any, of the Lessee in the premises. Such option shall be evidenced by notice in writing to the Lessee by the Port Authority within sixty (60) days after the Lessee has given notice of termination. The failure of the Port

Authority to exercise the said option will impose no obligation upon it to relet the premises.

(b) If the Lessee terminates the letting pursuant to the provisions of Section 48 (a) (2) then the Port Authority may, at its option, pay to the Lessee the unamortized capital investment (as defined in Section 81 hereof), if any, of the Lessee in the premises. Such option shall be evidenced by notice in writing to the Lessee by the Port Authority within sixty (60) days after the Lessee has given notice of termination. If the Port Authority fails to exercise such option, then the Port Authority shall use its best efforts to relet the premises.

(c) If the Port Authority relets the premises prior to the date upon which this Lease would have expired but for such termination, then the net rent paid by the new tenant to the Port Authority (after deducting any costs or expenses incurred by the Port Authority in securing said new tenant and in complying with the terms of the lease to such tenant, including but not limited to costs of alteration and decoration of such premises, in the event of termination pursuant to the provisions of Section 48 (a) (1), and after deducting any costs or expenses incurred by the Port Authority for the maintenance of said premises or for services furnished to the new tenant and after deducting the amounts which would have been payable as rent by the Lessee but for such termination) shall be paid over by the Port Authority to the Lessee until said amounts paid over equal the unamortized capital investment (as defined in Section 81 hereof) of the Lessee in the premises as of the date of termination. The obligation of the Port Authority to pay over to the Lessee any net rent received from such new tenant shall endure only while such new tenant continues to pay rent and occupy such premises, and only until the unamortized capital investment (as defined in Section 81 hereof) of the Lessee in such premises is unamortized, and in no event is such obligation to pay over to endure beyond the date upon which this Lease would have expired but for such termination.

Section 50. Abatement

If the Port Authority shall, for safety or other reasons, prohibit the use of the Public Landing Area at the Airport or of any substantial part thereof for foreign or domestic scheduled air transport operations for a period covering more than sixty (60) consecutive days and the Lessee shall thereby be prevented from conducting those operations at the Airport enumerated in Section 5 hereof, then upon the occurrence of such event, the Lessee at its option shall be entitled to abatement of rental during such period of prohibition and prevention. In the event that the Lessee shall exercise such option the Lessee shall be deemed to have released and discharged the Port Authority of and from all claims and rights which the Lessee may have hereunder arising out of or consequent upon such closing and the subsequent interrupted use of such Public Landing Area or part thereof during the period of prohibition.

Section 51. Services to the Lessee

(a) The Port Authority shall sell, furnish and supply to the Lessee for use on the premises and the Lessee agrees to take from the Port Authority and pay for electricity of the same voltage, phase and cycle as supplied to the premises by the public utility in the vicinity, but limited, however, to serve a maximum of 5,000 KVA installed transformer capacity, at the same charge which would be made by such public utility for the same quantity under the same conditions and in the same service classification but in no event less than an amount that would reimburse the Port Authority for its costs of obtaining and supplying electricity to the Lessee hereunder; charges shall be payable by the Lessee when billed and the quantity of electricity consumed shall be measured by the meter or meters installed for the purpose; provided, however, that if for any reason, any meter or meters fail to record the consumption of electricity, the consumption during the period such meter or meters are out of service will be considered to be the same as the consumption for a like period either immediately before or after the interruption as elected by the Port Authority. The Port Authority shall not discontinue the supply of electricity except upon fifteen (15) days' notice to the Lessee and unless a supply of electricity of the same voltage, phase and cycle (subject to the KVA limitation aforesaid) shall be available from another supplier and upon any such discontinuance the Lessee shall be at liberty to contract or otherwise arrange for the supply of such current after the expiration of said fifteen (15) days from any other person, firm or corporation. The Port Authority shall install the appropriate meters.

(b) The Port Authority agrees to sell, furnish and supply to the Lessee for use on the premises cold water (of the character furnished by the City of New York) in reasonable quantities through existing pipes, mains and fittings and the Lessee agrees to take such water from the Port Authority and to pay the Port Authority therefor an amount equal to that which would be charged by the municipality or other supplier of the same (whether or not representing a charge for water or other services measured by water consumption) for the same quantity, used under the same conditions and in the same service classification plus the cost to the Port Authority of supplying such water which shall not be less than ten percent (10%) nor in excess of fifty percent (50%) of the amount charged, but in no event less than an amount that would reimburse the Port Authority for its costs of obtaining and supplying water to the Lessee hereunder. The charge therefor shall be payable by the Lessee when billed and the quantity of water consumed shall be measured by the meter or meters installed for the purpose; provided, however, that if for any reason, any meter or meters fail to record the consumption of water, the consumption during the period such meter or meters are out of service will be considered to be the same as the consumption for a like period immediately before or after the interruption, as elected by the Port Authority. The Port Authority shall install the appropriate meters. In the event meters are not installed to measure the consumption of water under high pressure,

the quantity of such water used by the Lessee will be based upon equitable estimates of consumption, which estimates shall be deemed binding on the Lessee.

(c) The Lessee shall pay to the Port Authority such of the existing and future charges for sewerage services furnished by the City of New York as are presently or may hereafter be imposed or assessed against the Port Authority in respect of the Lessee's premises or its use and occupancy thereof. In the event that the City or the State of New York is now furnishing services with or without charge therefor, which are beneficial to the Lessee in its use and occupancy of the premises, and shall hereafter impose charges or increase existing charges for such services, the Lessee agrees to pay to the Port Authority such of the charges or the increase in charges as may be imposed or assessed against the Port Authority in respect to the Lessee's premises or its use and occupancy thereof.

(d) In the event the Port Authority shall provide extermination service for the enclosed areas of the premises, the Lessee agrees to utilize the same and to pay its pro rata share of the reasonable cost thereof upon demand.

(e) The Port Authority shall not be obligated to perform or furnish any other services whatsoever in connection with the premises or any services at any time while the Lessee shall be in default hereunder after the period, if any, herein granted to cure such default shall have expired.

(f) The Port Authority shall be under no obligation to supply services if and to the extent and during any period that the supplying of any such service or the use of any component necessary therefor shall be prohibited or rationed by any federal, state or municipal law, rule, regulation, requirement, order or direction and if the Port Authority deems it in the public interest to comply therewith, even though such law, rule, regulation, requirement, order or direction may not be mandatory on the Port Authority as a public agency.

(g) No failure, delay or interruption in supplying agreed services (whether or not a separate charge is made therefor) shall be or be construed to be an eviction of the Lessee or grounds for any diminution or abatement of rental, or (unless resulting from the negligence or wilful failure of the Port Authority) shall be grounds for any claim by the Lessee for damages, consequential or otherwise.

Section 52. The Central Heating and Refrigeration and Facility

The Port Authority heretofore designed, constructed and installed at the Airport certain installations consisting of an "L" shaped one story building, two fuel storage spheres, an eleven cell cooling tower array, sixteen absorption refrigeration units, six high temperature hot water generators, a closed loop distribution

system including underground lines, meters, heat exchangers and appropriate and related lines, pipes, mains, motors, pumps, ducts, fixtures, transformers, cables, manholes, wires, conduits, machinery, devices, equipment, structures and facilities and such utility, mechanical, pump, sewer, telephone, water, electrical, fire alarm, fire protection, gas and other systems, all as are appropriate or necessary for the manufacture, production and distribution of high temperature hot water and chilled water. The Port Authority thereafter embarked on a program for the expansion and rehabilitation of the foregoing which program consisted generally of the design, construction and installation of an expansion of the existing building, two additional new cells to the existing cooling tower cell array and a complete upgrading of the existing cells, the installation of a centrifugal refrigeration unit, the construction of new and the replacement of existing high temperature hot water lines and chilled water lines with lines of greater capacity, the enlargement of the fire alarm and telephone systems, the extension of the pump system, together with such appropriate meters, heat exchangers, lines, pipes, mains, motors, pumps, devices, fixtures, transformers, cables, manholes, wires, conduits, machinery, devices, equipment, structures, and facilities as were necessary or appropriate, as well as necessary and appropriate changes to the utility, mechanical, sewer, telephone, water, electrical, fire alarm, fire protection, gas and other systems now part of the Facility, all of the foregoing being sometimes hereinafter collectively in this Section and for the purposes of this Section only called "The Central Heating and Refrigeration Facility" or "the Facility".

(a) The Port Authority agrees to sell, furnish and supply to the Lessee in reasonable quantities for use on the premises, high temperature hot water (hereinafter called "hot water") by a closed loop system to be converted for heating use, for kitchen service, for snow melting and for heating aircraft, and chilled water (hereinafter called "chilled water") for air conditioning (excluding use for air conditioning aircraft, said exclusion not to imply any broadening of permitted uses), and the Lessee agrees to take such hot water and chilled water from the Port Authority and to pay the Port Authority therefor at the times and in the manner hereinafter provided. The Lessee shall pay to the Port Authority for hot water its pro rata share of the Annual Hot Water Facility Cost as hereinafter defined and the Lessee shall pay to the Port Authority for chilled water its pro rata share of the Annual Chilled Water Facility Cost as hereinafter defined. The Lessee's pro rata share of the Annual Hot Water Facility Cost shall be determined by multiplying the Annual Hot Water Facility Cost for each calendar year by a fraction, the numerator of which shall be the total number of BTU's of heat drawn from the hot water lines serving the premises during said calendar year, and the denominator of which shall be the Annual Total Hot Water Reading as hereinafter defined for said calendar year. The Lessee's pro rata share of the Annual Chilled Water Facility Cost shall be determined by multiplying the Annual Chilled Water Facility Cost for each calendar year by a fraction, the numerator of which shall be the total number of BTU's absorbed

by the chilled water lines serving the premises during said calendar year, and the denominator of which shall be the Annual Total Chilled Water Reading as hereinafter defined for said calendar year.

(b) The Annual Total Facility Cost for each calendar year shall consist of the sum of the following:

(1) An Annual Original Facility Capital Charge in the amount of (2.a.)

(2) An Annual Facility Expansion Capital Charge in the amount of (2.a.)

(3) Additional Annual Facility Capital Charges, if any, each of which to be an annual amount equal to the product of the Construction Cost of each Additional Capital Improvement described in paragraph (d) hereof, determined in accordance with the provisions of paragraph (e) hereof, multiplied by the factor of 0.18525.

(4) The Annual Facility Operating and Maintenance Charge as defined in paragraph (g) hereof.

(c) (1) The Annual Hot Water Facility Cost shall be 27.8% of the Annual Total Facility Cost.

(2) The Annual Chilled Water Facility Cost shall be 72.2% of the Annual Total Facility Cost.

(d) The Port Authority shall have the right, in its discretion, to make improvements, alterations, enlargements, extensions, additions, repairs and replacements to the Facility, including but not limited to the extension of the hot water and chilled water service emanating from the Facility to other buildings, terminals, facilities and structures at the Airport but only within the Central Terminal Area as defined in Section 74 hereof. Each of such improvements, alterations, enlargements, extensions, additions, repairs and replacements is hereinafter called "an Additional Capital Improvement" and the same shall be and become a part of the Facility upon its completion. The Construction Cost of each Additional Capital Improvement shall be determined upon the completion thereof in accordance with the provisions of paragraph (e) hereof and shall be the Construction Cost as set forth in subparagraph (3) of paragraph (b) hereof. In instances where repairs or replacements are involved, the Port Authority shall determine, in accordance with its normal accounting practice, whether such repairs or replacements shall be included within the meaning of this paragraph (d) as an Additional Capital Improvement or be covered by the Annual Facility Operating and Maintenance Charge within the meaning of paragraph (g) hereof.

(e) The term "Construction Cost" of any Additional Capital Improvement shall for the purpose of this Section and this Section only be the sum of the following applied to the Additional Capital

Improvement, each Additional Capital Improvement being hereinafter referred to as a category of construction:

(i) Payments by the Port Authority to independent contractors engaged or retained by the Port Authority for the construction of any part of the category of construction or for services rendered incidental to or in connection with the category of construction, including any payments made to any contractors in satisfaction of any claims or judgments arising out of or in connection with any part of the category of construction performed by them;

(ii) Payments by the Port Authority to independent consultants, architects and engineers engaged or retained by the Port Authority to perform services incidental to or in connection with the category of construction, including any payments made to any of the foregoing in satisfaction of any claims or judgments arising out of or in connection with any portion of the work or services performed by them;

(iii) The cost of all materials, supplies, equipment and utilities (including but not limited to electricity, water and phone) used in connection with or incidental to the category of construction;

(iv) The amounts of any claims or judgments paid by the Port Authority to third persons arising out of or in connection with the category of construction, including but not limited to those for personal injury, death or damage to property;

(v) The cost of any performance bond or bonds in connection with the category of construction;

(vi) The cost of any insurance in connection with the category of construction;

(vii) Payments by the Port Authority to any user to whom hot water and cold water is supplied by the Port Authority from the Facility for the construction or installation by said user of any portion of the Facility in connection with its use which construction or installation is the obligation of the Port Authority but is performed by said user with the consent of the Port Authority in order to facilitate the construction or installation;

(viii) Payments by the Port Authority to any other third persons (excluding Port Authority employees) for work performed or services rendered in connection with or incidental to the category of construction.

Notwithstanding any reference in any provision of this Section any Port Authority contract or contracts with respect to any category of construction, it is hereby expressly understood and agreed that the Construction Cost of any category of construction shall not be limited to the contract or contracts which may have

been so mentioned in any provision of this Section, and the Construction Costs with respect to each category of construction shall include the cost of all contracts, purchase orders, extra work orders and any other agreements with a third party of whatever kind or nature for, in connection with, relating to or arising out of the planning, design or construction of the said category of construction.

(f) (1) The total amount of BTU's of heat drawn during each calendar year from the hot water lines emanating from the Facility as measured by the meters installed at all the terminals, facilities, structures and buildings at the Airport, but only within the Central Terminal Area as defined in Section 74 hereof, including the premises but excluding Buildings 181, 182 and 184, receiving such hot water from the Facility shall be ascertained for each calendar year and is hereinafter called the "Annual Total Hot Water Reading" and the total amount of BTU's absorbed during each calendar year by the chilled water lines emanating from the Facility as measured by the meters installed at all the terminals, facilities, structures and buildings at the Airport, but only within the Central Terminal Area as defined in Section 74 hereof, including the premises but excluding Buildings 181, 182 and 184, receiving such chilled water from the Facility shall be ascertained for each calendar year and is hereinafter called the "Annual Total Chilled Water Reading". The Port Authority has installed or will install and maintain all appropriate meters and high temperature heat exchangers including those in the premises.

(2) If any meter or meters fail to record the amount of consumption, the amount of consumption during the period such meter or meters are out of service will be considered to be the same as the consumption for a like period either immediately before or after the interruption, as elected by the Port Authority. In making meter readings and ascertaining consumption for each calendar year, in addition to all readings to be taken during the calendar year, readings shall be taken as soon as practicable to the beginning of each calendar year or at the end of each calendar year.

(g) The service of the Port Authority in furnishing, supplying, activating, cleaning, testing, providing, maintaining, repairing, servicing and operating the Facility and the hot water and chilled water emanating therefrom is hereinafter called "the Facility Service". The Annual Facility Operating and Maintenance Charge shall mean the cost to the Port Authority of the Facility Service for each calendar year. Said Cost shall be determined in accordance with the Port Authority's normal accounting practice and shall consist of the following:

(1) The cost of all fuel, water, electricity and any other utilities and components used, consumed or employed. The cost of water shall include the cost to the Port Authority of sewage and other services based upon water charges or consumption. In the event furthermore that the City or State of New York is now furnishing services with or without charge therefor which in any way

affect the Facility Service, and shall hereinafter impose charges or increase existing charges for such services, the said charges or increase in charges as may be imposed or assessed against the Port Authority shall be deemed a part of the cost under this subdivision (1);

(2) On-the-job payroll costs of employees and supervisory personnel (including Facility supervisors, foremen and clerks) working in the Facility Service, including but not limited to contributions to any retirement system or the cost of or participation in any pension plans or the like, social security, old age, survivors, disability and unemployment insurance and other insurance costs, sick leave pay, holiday, vacation, authorized absence and severance pay, other employee fringe benefits and any other payments made or costs incurred whether pursuant to law or by Port Authority policy to or with respect to said employees and personnel;

(3) The cost (including rental charges) of materials, equipment, machinery and supplies used and the cost of maintaining, cleaning, repairing and servicing the same;

(4) Payments to contractors and any other third persons, firms or corporations for the performance of services;

(5) Payments of premiums (or to the extent of self-insurance an amount equivalent to what the premiums would have been) for insurance on the Facility and the Facility Service, including without limitation thereto, fire and extended coverage, workmen's compensation and comprehensive general liability;

(6) Any other direct costs as charged under the Port Authority's normal accounting practice;

(7) Fifteen percent (15%) of the sum of all of the foregoing items (1) through (6).

(8) (a) There shall be deducted from item (7) hereof an amount as hereinafter defined and herein called "the utility credit".

(b) The utility credit shall mean the amount of $350,000.00, or fifteen percent (15%) of the sum of "the electricity credit", "the gas credit" and "the fuel oil credit" all as hereinafter defined, whichever is less.

(c) The electricity credit shall be an amount determined by dividing the amount paid by the Port Authority for the fuel adjustment factor portion of electricity covered by item (1) hereof by the total number of kilowatt hours (KWH) of electricity covered by said item (1) hereof, and subtracting from the quotient obtained thereby the amount of (2.a.) KWH, and multiplying the resulting difference or KWH, whichever is less, by the total KWH of electricity covered by item (1) hereof.

(d) The gas credit shall be an amount determined by dividing the amount paid by the Port Authority for illuminating gas covered by item (1) hereof by the total number of thousands of cubic feet (MCF) of illuminating gas covered by said item (1) hereof, and subtracting from the quotient obtained thereby the amount of (2.a.) per MCF, and multiplying the resulting difference or per MCF, whichever is less, by the total MCF of illuminating gas covered by item (1) hereof.

(e) The fuel oil credit shall be an amount determined by dividing the amount paid by the Port Authority for fuel oil covered by item (1) hereof by the total number of gallons of fuel oil covered by said item (1) hereof, and subtracting from the quotient obtained thereby the amount of (2.a.) per gallon, and multiplying the resulting difference or per gallon, whichever is less, by the total gallons of fuel oil covered by item (1) hereof.

(h) The Port Authority shall not be obligated to the Lessee to furnish the services covered by paragraph (a) hereof at any time while the Lessee shall be in default hereunder after the period, if any, herein granted to cure such default shall have expired. The Port Authority shall be under no obligation to provide said services, if and to the extent and during any period that the supplying of such services or the use of any component necessary therefore shall be prohibited or rationed by any federal, state or municipal law, rule, regulation, requirement, order or direction and if the Port Authority deems it in the public interest to comply therewith, even though such law, rule, regulation, requirement, order or direction may not be mandatory on the Port Authority as a public agency, nor shall the Port Authority be under any obligation to provide such services if and to the extent and during any period that the same are curtailed or stopped because of the need to repair, replace, rebuild or alter the Facility. The services covered by paragraph (a) with respect to the Terminal Expansion shall commence as of the time the Lessee performs the necessary portion of the construction work pertaining thereto and has received the certificate of the Port Authority pertaining to each such portion of the construction work pursuant to Section 2(h) hereof.

No failure, delay or interruption in supplying said services shall be or be construed to be an eviction of the Lessee or grounds for the diminution or abatement of rentals, fees or other charges, or (unless resulting from the negligence or wilful failure of the Port Authority) shall be grounds for any claims by the Lessee for damages, consequential or otherwise.

(i) In the event that by the end of any calendar year the Construction Cost of any Additional Capital Improvement completed during said year has not been finally determined, the Additional Annual Facility Capital Charge for said calendar year and all subsequent calendar years until said Cost has been finally determined shall be such of the Construction Cost of said Additional

Capital Improvement as has been determined at the time the Port Authority renders corrected billings under paragraph (j) hereof and the amounts payable by the Lessee pursuant to paragraph (a) hereof for all applicable prior calendar years for said Additional Capital Improvement shall be recomputed from time to time until the final determination of said Construction Cost and any amounts owing to the Port Authority shall be promptly paid to it.

(j) The amounts payable to the Port Authority pursuant to paragraph (a) hereof are for each calendar year, but in the event the term of the Lease expires on a day other than the last day of a calendar year, then in each such event the amounts payable to the Port Authority pursuant to paragraph (a) hereof shall, for the year during which each such event occurs, be for such portion of said year during which the Port Authority provides hot water and chilled water pursuant to paragraph (a) hereof. In determining said amounts, the Annual Total Facility Cost, the Annual Hot Water Facility Cost, the Annual Chilled Water Facility Cost, the Annual Total Hot Water Reading, the Annual Total Chilled Water Reading and the readings of BTU's of heat drawn and of BTU's absorbed in the premises shall be computed, determined and ascertained for each calendar year (or portion thereof in the event mentioned in the first sentence hereof) of the term of the Lease subsequent to the commencement date. Notwithstanding the foregoing and for current monthly or other periodic billing purposes as shall from time to time be selected by the Port Authority, the Port Authority shall establish for each calendar year estimated interim rates for hot water based upon BTU's of heat drawn from the hot water lines emanating from the Facility and estimated interim rates for chilled water based upon BTU's absorbed by the chilled water lines emanating from the Facility. Such estimated rates shall be based upon the Annual Chilled Water Facility Cost, the Annual Hot Water Facility Cost, the Annual Total Hot Water Reading and the Annual Total Chilled Water Reading for the previous calendar year and upon estimated changes in the same or upon such other reasonable basis as the Port Authority may determine. The Lessee shall pay current billings as they are received. Said billings shall be based upon the interim rates and upon the total number of BTU's of heat drawn from the hot water lines serving the premises and the total number of BTU's absorbed by the chilled water lines serving the premises. Said readings shall be measured by the meters serving the premises as described in paragraph (f) hereof. The provisions of subparagraph (2) of said paragraph (f) shall apply and pertain as well for current billing purposes.

As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the Annual Hot Water Facility Cost and the Annual Chilled Water Facility Cost for the preceding calendar year and shall determine the amounts payable by the Lessee in accordance with the provisions of paragraph (a) hereof. In the event the term of the Lease expires on a day other than the last day of calendar year, the Expansion Capital Charge for said calendar year shall be prorated based on the number of days during said calendar year during which the Port Authority provides

hot water and chilled water pursuant to paragraph (a) hereof compared to 365. In the event an Additional Capital Improvement has been completed on a day other than the last day of a calendar year, the Additional Annual Facility Capital Charge for said Additional Capital Improvement for said calendar year shall be prorated based on the number of days during said calendar year subsequent to completion compared to 365. Corrected billings based upon such determination shall thereupon be rendered by the Port Authority to the Lessee and if any monies are due to the Port Authority they shall be promptly paid by the Lessee and if any monies are due to the Lessee they shall be promptly credited to it. In the event the term of this Lease expires or is sooner terminated on a date other than the last day of a calendar year, the Port Authority shall have no obligation to immediately make the computations as hereinabove provided which would determine the amounts payable by the Lessee in accordance with paragraph (a) hereof for the period during said year when the Lease was in effect. Said computation shall be made subsequent to the end of the calendar year as hereinabove provided, and if any monies are due to the Port Authority they shall be paid by the Lessee promptly and if any monies are due to the Lessee they shall be promptly paid to it by the Port Authority less such amounts, if any, then owing and due to the Port Authority from the Lessee.

(k) Notwithstanding anything contained in this Section, the Port Authority's obligation to provide hot water and chilled water to the premises shall be limited by the safe and efficient operating capacity of the Facility.

(l) The Lessee has installed or shall install all machinery, equipment and facilities required to be installed in the premises in order to utilize said high temperature hot water and chilled water and has tied into or shall tie into the Facility at the mechanical equipment rooms constructed by the Lessee on the premises, but in the event that any of such rooms are located at a point 100 feet or more from the point or points at the boundary of the premises to which the Port Authority shall have brought high temperature hot water and chilled water, the Lessee shall be responsible for the cost of the installations in excess of 100 feet required to bring high temperature hot water and chilled water to the rooms, which installations shall be a part of the Facility.

(m) The Port Authority shall keep in an office or offices within the Port of New York District such books, records and accounts as may be necessary or appropriate to record the items and transactions affecting the computation of payments to be made by the Lessee under this Section. The Lessee or its designated representative shall have the right to examine the books and records of the Port Authority during regular business hours in connection with or in respect to any cost incurred, charged, allocated or prorated to the construction, operation or maintenance of the Central Heating and Refrigeration Facility to the extent that such affect the computation of such payments by the Lessee, it being understood that the Lessee shall have no right to inspect such parts

thereof as pertain to any cost or expense which is part of the cost of administration and overhead which is covered by item (7) of paragraph (g) of this Section.

Section 53. General Airport Agreement

The parties hereto are also parties to a certain agreement entitled "John F. Kennedy International Airport Airline Lease," dated as of January 1, 1953 (as the same may have been extended, supplemented and amended) and bearing Port Authority file number designation AY-352 which governs the rights, privileges, duties and obligations of and between the parties hereto with respect to the Airport, sometimes herein called the "General Airport Agreement".

The Parties hereto agree that in the event any provisions contained in said Lease AY-352 are inconsistent or otherwise in conflict with any one or more provisions of this Lease, the provisions of this Lease shall apply with respect to the premises let hereunder.

Notwithstanding the foregoing provisions of this Section 53, the Lessee shall have the same rights and privileges under this Lease with respect to "Airline Contractors", "Fees or Charges Against Employees, Passengers and Suppliers" and "Use of Airport by Patrons and Invitees" to the extent applicable, as said phrases are used in Lease AY-352 as if the provisions of Sections 8.15, 8.16 and 8.19 of Title VIII of Lease AY-352 were herewith incorporated in full as to the subject matter of this Lease and in any of such matters the language of such cited Sections of Lease AY-352 shall be deemed to apply to the premises.

The foregoing provisions of this Section 53 shall apply and obtain only up to the expiration or earlier termination of the General Airport Agreement and thereafter shall be void and of no further force or effect.

Section 54. Associated and Affiliated Companies

In addition to the purposes specified in Section 5 hereof the Lessee may use the premises for the following purposes and for activities reasonably required for such purposes:

(1) For the reservation of space and the sale of tickets for transportation on aircraft operated by Associated or Affiliated Companies of the Lessee.

(2) For the reservation of space and the sale of tickets for transportation by other carriers but only as an incident to or in connection with transportation performed or to be performed by the Lessee's Associated or Affiliated Companies or as an incident to or in connection with the cancellation of such transportation, or for the accommodation or convenience of the incoming or outbound passengers of such Associated or Affiliated Companies at the Airport.

(3) For the clearance, checking and rendering of service to passengers of the Lessee's Associated or Affiliated Companies and for the furnishing of information service to such passengers and the general public.

(4) For providing rooms or space for the special handling of or the furnishing of special services to any of the passengers, guests, or invitees of the Lessee's Associated or Affiliated Companies, subject to the provisions of Section 66 hereof.

(5) For the handling of baggage of passengers of the Lessee's Associated or Affiliated Companies including baggage and parcels such passengers decide to send as air cargo.

(6) For the handling of unclaimed baggage and lost and found articles of the Lessee's Associated or Affiliated Companies.

(7) For the conduct of operations, traffic, communications, reservations and administrative office functions and activities in connection with air transportation performed by the Lessee's Associated or Affiliated Companies.

(8) For the preparation, packaging and storage of food, beverages and commissary supplies to be consumed on aircraft operated by the Lessee's Associated or Affiliated Companies.

(9) For the storage of repair parts, supplies and other personal property owned by the Associated or Affiliated Companies of the Lessee and for the performance of minor repairs to personal property of such Associated or Affiliated Companies.

(10) For the storage of such Associated or Affiliated Companies fuel and lubricants as may be approved by the Port Authority.

(11) For the operation of a cafeteria for over-the-counter sales to officers and employees of the Lessee's Associated or Affiliated Companies and their families and to occasional business guests of such officers and employees (other than passengers of such Associated or Affiliated Companies) of food, beverages and other merchandise normally sold in such an establishment at no profit to the Lessee or its Associated or Affiliated Companies and either directly by the Lessee or by an independent contractor who has received a permit from the Port Authority so to do.

(12) For use as crew quarters to be used by personnel of the Lessee's Associated or Affiliated Companies during layovers between flights and for the establishment of lounges for employees of such Associated or Affiliated Companies.

(13) For the loading and unloading of passengers baggage, mail, air cargo and commissary supplies of the Lessee's Associated or Affiliated Companies.

(14) For the parking and storage of aircraft and ramp equipment operated by Associated or Affiliated Companies of the Lessee.

(15) For the fueling and servicing of aircraft and ramp equipment operated by Associated or Affiliated Companies of the Lessee.

(16) For the performance of aircraft maintenance of aircraft operated by the Lessee's Associated or Affiliated Companies subject to the limitations imposed by Section (j) hereof.

(17) For the temporary storage of baggage, mail and air cargo to be carried in aircraft operated by the Lessee's Associated or Affiliated Companies.

The loading or unloading on the premises of all aircraft used principally for cargo is expressly prohibited.

For the purposes of this Lease, the phrase "Associated and Affiliated Companies" when used herein shall be construed to mean any corporation or foreign entity which is an "Associated Company" or an "Affiliated Company" of the Lessee within the meaning of such phrases as defined in Section 17.01 of Title XVII and Exhibit 37 the General Airport Agreement, as it may be amended from time to time.

Any act or thing which the Lessee may do for its Associated and Affiliated Companies pursuant to this Lease may be done by it at the same place and under the same circumstances either directly or through a contractor or contractors of its choice, provided, that such acts and things shall be done through a contractor or contractors only if by the terms of this Lease the Lessee may do the same acts or things for itself through contractors, and then only under the same circumstances and subject to the same conditions, and provided further that this Section shall not be deemed to grant to the Lessee's Associated and Affiliated Companies, any greater rights or privileges than are granted to the Lessee under the Lease.

The Lessee's Associated and Affiliated Companies and the officers, employees, passengers, patrons, contractors, suppliers of material, furnishers of services and invitees of the Lessee shall have such right of ingress and egress with respect to the premises and the right of way over highways at the Airport as are described in Section 6 hereof, subject, however, to the further provisions of said Section 6.

In the event any Associated or Affiliated Company of the Lessee has entered or hereafter enters into a separate lease or other written agreement with the Port Authority for the use of any premises, space, or facilities at the Airport (whether or not containing provisions similar to those in this Section), then any provisions of this Section which are in conflict with or inconsistent with such provisions under such separate lease or agreement shall be null and void.

The foregoing provisions of this Section shall apply and obtain notwithstanding the expiration or earlier termination of the General Airport Agreement unless different provisions are agreed upon in any successor agreement between the parties to the General Airport Agreement, if, as and when there is such a successor agreement, there being no obligation of any kind hereunder to enter into a successor agreement.

Section 55. Consumer Services

The Lessee acknowledges that various portions of the premises have been and will in the future be utilized for consumer services and said portions which have received and will in the future receive the concurrence of the Lessee and the Port Authority, as hereinafter provided, are herein referred to as "the concession areas". Without limiting the provisions of Section 43 hereof, the Lessee shall develop a comprehensive plan for consumer services, including but not limited to the locations of existing and future concession areas, the amount of services to be provided of the types hereinafter set forth in Sections 56, 57, 58, 59, 60, 61 and 62 hereof, and the types and amounts of any consumer services proposed under Section 63, and the Lessee agrees that it will at all times throughout the term of the Lease keep said comprehensive plan updated and that said updated plan shall be submitted to and be subject to the continuing approval of the Port Authority. The Port Authority shall furnish to the Lessee guidelines to be utilized by the Lessee with respect to all matters affecting consumer services in the concession areas including the Lessee's comprehensive plan.

After approval by the Port Authority of the Lessee's comprehensive plan for consumer services the Lessee shall enter into negotiations or go out for bid, as the circumstances dictate, with respect to the selection of proposed new operators and new agreements with the same. At all times during the negotiation and award procedure the Lessee shall consult with the Port Authority as to all aspects of the proposed arrangements including but not limited to the proposed operators and the financial terms thereof. As hereinafter provided the Lessee will be entering into a direct contract with each new operator but said operator must also enter into an appropriate agreement with the Port Authority. The Lessee shall not finalize negotiations with any operator and shall not execute any agreement with any proposed operator until it has received notification from the Port Authority that said arrangement is acceptable to the Port Authority and until said operator has indicated that it is prepared to enter into the appropriate contractual agreement with the Port Authority. The foregoing procedure will be followed throughout the term of the Lease. It is expressly understood and agreed that the provisions of this Section shall not limit or be deemed to limit the provisions of Section 43 hereof and the Lessee's on-going affirmative action commitment with respect to the consumer services awards and agreements provided for herein.

Section 56. Restaurant and Bar

The Lessee may select and thereafter enter into an agreement with a qualified Restaurant Operator (hereinafter referred to in this Section as "the Restaurant Operator") authorizing the Restaurant Operator to operate in the premises facilities for the sale of food, alcoholic and non-alcoholic beverages and similar items for consumption in the premises (hereinafter called "the Restaurant Service") provided, however, that prior to any such selection and prior to the entering by the Lessee into any such agreement with the Restaurant Operator, said Restaurant Operator shall obtain a permit from the Port Authority authorizing such Restaurant Operator to operate the Restaurant Service in a portion of the premises hereunder. Prior to the issuance of any such permit, the proposed Restaurant Operator may be required to submit to the Port Authority evidence satisfactory to the Port Authority of its qualifications, the scope of its proposed operations and the standards of service it will provide. Any such permit will provide that the Restaurant Operator will conduct its operations at the premises in a first-class manner in accordance with the best practices in the industry and shall comply with maximum Port Authority standards with respect to service, health, sanitary and safety measures. The permit will not be revoked without cause by the Port Authority without the prior consent of the Lessee. In the event of any inconsistencies between the terms of the permit and the terms of the agreement between the Lessee and the Restaurant Operator, the terms of the permit shall control and prevail. Without limiting the foregoing, it is agreed that prior to the issuance of the permit the Port Authority shall make a copy of the same available to the Lessee and that upon the execution of the permit by the proposed Restaurant Operator the same shall be consented to in writing by the Lessee.

The agreement between the Lessee and the Restaurant Operator shall cover the arrangements for the space to be used in the Restaurant Service within the premises including the amount, type and location of the space. The Lessee will bring to the perimeter of the space to be occupied by the Restaurant Operator pipes, wires and conduits for the supply of electricity, gas and water, together with the necessary steam and waste lines for use in connection with the Restaurant Service and shall provide said utilities to the Restaurant Operator. Said agreement will also provide that the Restaurant Operator will furnish and install at its own expense all necessary fixtures, furniture and personal property required in connection with the Restaurant Service and that the Restaurant Operator may be required to perform all work necessary or required to finish off the space, including the finishing of the floors and ceilings from the structural slab and the walls from the rough partitions.

The agreement between the Restaurant Operator and the Port Authority will contain appropriate provisions permitting cancellation of such agreement on short notice in the event the service of the Restaurant Operator is unsatisfactory to the

Lessee. In the event of such cancellation the Lessee agrees to reimburse the Restaurant Operator for its unamortized investment in the fixtures, equipment, furniture and personal property furnished in connection with the operation, and the unamortized cost of the work performed in finishing off the space and title to such fixtures, equipment, furniture and personal property shall thereupon vest in the Lessee.

The agreement between the Lessee and the Restaurant Operator shall not call for any fixed rental or fee but shall provide that the Restaurant Operator shall pay a percentage fee based upon the gross receipts of the Restaurant Operator from the sale of food, alcoholic and non-alcoholic beverages, which fee shall be subject to the prior written approval of the Port Authority and shall be incorporated into the permit to be issued by the Port Authority. There shall be no other payments by the Restaurant Operator to the Lessee except for appropriate payments for any utilities which may be furnished to the Restaurant Operator by the Lessee, it being understood, however, that the foregoing shall not preclude the Lessee from furnishing services to the Restaurant Operator, such as janitorial and garbage removal services, and from receiving payments from the Restaurant Operator for such services provided the same are covered by appropriate written agreements duly entered into between the Lessee and the Restaurant Operator including the charges therefor, and that the Lessee hereby agrees to provide the Port Authority with any and all agreements covering any such services promptly and upon the receipt of a request therefor from the Port Authority. It is hereby understood and agreed that 80% of the percentage fee payable by the Restaurant Operator shall be paid by the Restaurant Operator to the Lessee and 20% of the percentage fee payable by the Restaurant Operator shall be paid by the Restaurant Operator to the Port Authority. Both the agreement between the Lessee and the Restaurant Operator and the permit to be issued by the Port Authority shall have provisions covering the fee in accordance with this Section and, without limiting the generality of any other provision of this Section, the permit shall control as to the manner, conditions and terms of payment.

In the event the Restaurant Operator is the same person providing in-flight meal and employee food service to the Lessee and is a wholly owned subsidiary of the Lessee, the fees to be paid by the Restaurant Operator shall apply only to the gross receipts of the Restaurant Operator from the sale of food, alcoholic and non-alcoholic beverages at retail for consumption on the premises, and the Port Authority shall determine the percentage fee to be paid by the Restaurant Operator.

Section 57. Vending Machines, Public Telephones, Advertising Displays

If requested by the Lessee the Port Authority, by itself or through contractors, lessees, or permittees, shall install and maintain in the premises vending machines, public telephones, and advertising displays, at such locations and to such extent as

requested by the Lessee. The Lessee shall provide the necessary wires and conduits for the supply of electricity for such machines and displays.

The Port Authority shall require its contractors, lessees, or permittees to pay a fee, which may be a percentage fee subject to a minimum amount, based upon the gross receipts received from such vending machines, public telephones, and advertising displays or a fixed fee.

The Port Authority shall pay the Lessee an annual fee equivalent to 80% of the fee collected by the Port Authority from its contractors, lessees, or permittees aforementioned. The fees payable hereunder shall be paid in the same manner, under the conditions and at the times, provided in Section 65 hereof.

Section 58. Insurance Covering Air Transportation

The Port Authority may enter into contracts or agreements with qualified insurance vendors requiring such vendors to sell or arrange for the sale, at the premises, of insurance covering air transportation, of such types and coverages as may be required by the Lessee.

The contract between the insurance vendor and the Port Authority shall provide that such vendor shall pay a basic rental for the space occupied by such vendor in the premises in connection with the sale of such insurance. The basic rental will be based upon the cost to the Lessee of providing such space to the vendor. In determining the cost to the Lessee there shall be considered the construction cost of the premises, and an appropriate allocation of the cost of providing and maintaining public areas within the premises. For the purpose of determining the aforesaid costs the premises shall be considered as a single entity and a single rental rate shall be established for all areas of the premises based thereon. The amount of the basic rental to be paid by the vendor shall be agreed upon between the Port Authority and the Lessee, when the costs aforementioned are determined or can be reasonably estimated provided, however, in no event shall such basic rental be computed at a rate in excess of the Consumer Service Maximum Basic Rental Rate as defined in Section 81 hereof.

The contract shall further provide that the vendor shall pay an amount equal to a percentage of the vendor's gross premiums from the sale of such insurance, less the amount of any basic rental paid by the vendor.

It is hereby understood and agreed that all of the basic rental and 50% of the percentage fee payable by the insurance vendor shall be paid by the insurance vendor to the Lessee and 50% of the percentage fee payable by the insurance vendor shall be paid by the insurance vendor to the Port Authority. The rental and fees payable hereunder shall be paid in the manner, under the conditions, and at the times provided in Section 65 hereof.

The contract with the insurance vendor will provide that: (a) if the Lessee so requests, the vendor shall provide a general information service to the public; and (b) the vendor shall not be required to provide a counter for the sale of insurance if, in its opinion, there will be insufficient patronage to support such a counter; and (c) the vendor shall not be required to continue to provide at any designated location vending machines for the sale of insurance when the gross premiums from any such machines at any such location is less than $200 per month, provided, however, if twenty-four (24) hour counter coverage is not provided there shall be at least one machine in the premises; and (d) the provisions of insurance policies and the minimum coverage offered shall be acceptable to the Lessee.

The location of insurance counters and insurance vending machines shall be determined by the Lessee. The vendor will furnish and install at its expense all necessary fixtures, machines, counters and equipment required in connection with its operation. The Lessee shall provide the necessary wires and conduits for the supply of electricity for use in connection with the vendor's operation. The Lessee shall not require unreasonably frequent moves of insurance counters and insurance vending machines hereunder.

Section 59. Newsstands

(a) The Lessee may select and thereafter enter into an agreement or agreements with a qualified newsstand operator or operators authorizing such operators to operate newsstands in the premises for the sale at retail of such of the following items as may be approved by the Port Authority: newspapers, magazines, cigarettes, cigars and other tobacco supplies, candy, chewing gum, playing cards and paperbound books, small novelty gift items, and such other items as may be approved by the Port Authority from time to time, provided, however, that prior to any selection and prior to the entering by the Lessee into any such agreement with any such newsstand operator, each such newsstand operator obtains a permit from the Port Authority authorizing said newsstand operator to operate the newsstand in a portion of the premises hereunder. Prior to the issuance of any such permit, the proposed newsstand operator may be required to submit to the Port Authority evidence satisfactory to the Port Authority of its qualifications, the scope of its proposed operations and the standards of service it will provide. Any such permit will provide that the newsstand operator will conduct its operations at the premises in a first-class manner in accordance with the best practices in the industry and shall comply with maximum Port Authority standards with respect to service, health, sanitary and safety measures. The permit will not be revoked without cause by the Port Authority without the prior consent of the Lessee. In the event of any inconsistencies between the terms of the permit and the terms of the agreement between the Lessee and the newsstand operator, the terms of the permit shall control and be prevailing. Without limiting the foregoing, it is agreed that prior to the issuance of the permit the Port Authority

shall make a copy of the same available to the Lessee and that upon the execution of the permit by the proposed newsstand operator the same shall be subscribed to by the Lessee. The Port Authority shall require such operator or operators to sell at retail from its or their locations, such other items or furnish such other services as may be approved by the Port Authority and as are requested by the Lessee.

(b) The agreement between the newsstand operator or operators and the Port Authority shall provide that each such operator shall pay to the Lessee a basic rental for the space occupied by such operator in the premises in connection with the operation of the newsstand. The basic rental will be based upon the cost to the Lessee of providing such space to the operator. In determining the cost to the Lessee there shall be considered the construction cost of the premises and an appropriate allocation of the cost of providing and maintaining public areas within the premises. For the purpose of determining the aforesaid costs the premises shall be considered as a single entity and a single basic rental rate shall be established for all areas of the premises based thereon. The amount of the basic rental to be paid by the operator shall be agreed upon between the Port Authority and the Lessee, when the costs aforementioned are determined or can be reasonably estimated, provided, however, in no event shall such basic rental be computed at a rate in excess of the Consumer Service Maximum Basic Rental Rate as defined in Section 81 hereof. The Lessee shall furnish without additional charge, a reasonable amount of storage space for the use of the newsstand operator.

(c) The agreement with the newsstand operator or operators shall further provide that the operator will pay to the Port Authority a percentage fee of the gross receipts derived by the newsstand operator from all sales made by the newsstand operator less the amount of the basic rental paid by the newsstand operator to the Lessee, the amount of said percentage fee payable to the Port Authority up to the amount of the basic rental being herein called "the basic rental equivalent".

(d) The agreement with the newsstand operator shall provide furthermore that the newsstand operator shall pay directly to the Port Authority and to the Lessee the excess, if any, of the percentage fee remaining after the newsstand operator has paid to the Port Authority the basic rental equivalent, said excess to be divided equally between the Lessee and the Port Authority. Both the agreement between the Lessee and the newsstand operator and the permit to be issued by the Port Authority shall have provisions covering the percentage fee in accordance with this Section and without limiting the generality of any other provision of this Section, the permit shall control as to the manner, conditions and terms of payment.

(e) The agreement with the newsstand operator or operators will further provide that the newsstand operator will be permitted to sell at retail only such merchandise as is normally sold at

newsstands in operation at Port Authority Airports together with such other merchandise as may be requested by the Lessee, if authorized by the Port Authority. The contract shall further provide that no merchandise objectionable to the Lessee or the Port Authority shall be sold.

(f) The location of newsstands for the use of the newsstand operators shall be determined by the Lessee subject to the approval of the Port Authority and in accordance with the Lessee's comprehensive plan. The said agreement between the newsstand operator and the Lessee shall provide that the newsstand operator will furnish and install at its expense all necessary trade fixtures, stands, counters and equipment required in connection with its operation. The Lessee shall perform all construction work necessary to accommodate such installations including the necessary wires and conduits for the supply of electricity and shall supply the same including the supply of electricity for use in connection with the operation of the newsstand or newsstands at no cost to the newsstand operator or to the Port Authority. In addition to other rights of termination or revocation that may be contained in said agreement between the newsstand operator and the Lessee, the said agreement may contain appropriate provisions permitting cancellation of the agreement by the Lessee on short notice in the event the newsstand service provided by the newsstand operator is unsatisfactory to the Lessee. In the event of such termination or revocation, the Lessee agrees to reimburse the newsstand operator for its unamortized investment in the fixtures, equipment, stands, counters and equipment furnished in connection with the operation, and the unamortized cost of the construction work performed to accommodate such installations, and title to such fixtures, stands, counters and equipment furnished in connection with the newsstand operation shall thereupon vest in the Lessee.

Section 60. Duty-Free Shop

(a) The Lessee may select and thereafter enter into an agreement with a qualified person, firm or corporation (which person, firm or corporation is hereinafter referred to as "the Duty-Free Shop Operator") authorizing such Duty-Free Shop Operator to operate a shop in the premises for the sale at retail of in-bond liquors, in-bond cigarettes, cigars and other in-bond tobacco products, and other in-bond items, (hereinafter called "the Duty-Free Shop"), provided, however, that prior to any such selection and prior to the entering by the Lessee into any such agreement with the Duty-Free Shop Operator, said Duty-Free Shop Operator obtains a permit from the Port Authority authorizing such Duty-Free Shop Operator to operate the Duty-Free Shop in a portion of the premises hereunder. Prior to the issuance of any such permit, the proposed Duty-Free Shop Operator may be required to submit to the Port Authority evidence satisfactory to the Port Authority of its qualifications, the scope of its proposed operations and the standards of service it will provide. Any such permit will provide that the Duty-Free Shop Operator will conduct its operations at the premises in a first-class manner in accordance with the best

practices in the industry and shall comply with maximum Port Authority standards with respect to service, health, sanitary and safety measures. The permit will not be revoked without cause by the Port Authority without the prior consent of the Lessee. In the event of any inconsistencies between the terms of the permit and the terms of the agreement between the Lessee and the Duty-Free Shop Operator, the terms of the permit shall control and be prevailing. Without limiting the foregoing, it is agreed that prior to the issuance of the permit the Port Authority shall make a copy of the same available to the Lessee and that upon the execution of the permit by the proposed Duty-Free Shop Operator the same shall be subscribed to by the Lessee.

(b) The Lessee agrees and the agreement between the Lessee and the Duty-Free Shop Operator shall provide that the Lessee will furnish to the Duty-Free Shop Operator sufficient and suitable space for conducting and carrying on its aforesaid operation. The Lessee agrees that it shall perform all work necessary or required to finish off the space, including the finishing of the floors and ceilings from the structural slab and the walls from the rough partitions, the decor and color scheme to be subject to the approval of the Port Authority. In addition, the Lessee shall construct in the portion of the premises designated by the Port Authority a storage area for the storage of the aforesaid in-bond items to be sold by the Duty-Free Shop Operator (said storage area being herein called "the Duty-Free Distribution Center"). The Lessee shall proceed diligently to construct and install those portion of pipes wires and conduits in the manner and to the locations as shall be shown in detail on the Lessee's plans and specifications to be submitted to and approved by the Port Authority for the supply of such utilities and services including without limitation thereto those portions of the electrical, heating and air-conditioning equipment required by the Duty-Free Shop Operator in its operations in the Duty-Free Shop and the Duty-Free Distribution Center. The Lessee shall supply said utilities and services to the Duty-Free Shop Operator without charge to the Duty-Free Shop Operator or the Port Authority.

(c) The agreement between the Lessee and the Duty-Free Shop Operator shall not call for any fixed rental or fee but shall provide that the Duty-Free Shop Operator shall pay a percentage fee subject to appropriate minimum amounts based upon the gross receipts of the Duty-Free Shop Operator from the sale of in-bond liquors, in-bond cigarettes, cigars and other in-bond tobacco products and other in-bond items, which fee shall be subject to the prior written approval of the Port Authority and shall be incorporated into the permit to be issued by the Port Authority. There shall be no other payments by the Duty-Free Shop Operator to the Lessee except other than as provided herein. It is hereby understood and agreed that 50% of the percentage fee payable by the Duty-Free Shop Operator shall be paid by the Duty-Free Shop Operator to the Lessee and 50% of the percentage fee payable by the Duty-Free Shop Operator shall be paid by the Duty-Free Shop Operator to the Port Authority. Both the agreement between the Lessee and the Duty-Free Shop Operator and

the permit to be issued by the Port Authority shall have provisions covering the fee in accordance with this Section and, without limiting the generality of any other provision of this Section, the permit shall control as to the manner, conditions and terms of payment.

(d) The agreement between the Duty-Free Shop Operator and the Lessee will provide that the Duty-Free Shop Operator will furnish at its expense all necessary trade fixtures, equipment furniture and personal property required in connection with the efficient and satisfactory operation of the Duty-Free Shop and the Duty-Free Distribution Center. The decor and color scheme of the facilities to be operated by the Duty-Free Shop Operator and the location of fixtures therein shall be subject to the prior and continuing approval of the Port Authority. In addition to other rights of termination or revocation that may be contained in said agreement between the Duty-Free Shop Operator and the Lessee, said agreement may contain appropriate provisions permitting cancellation of the agreement by the Lessee on short notice in the event the Duty-Free Shop provided by the Duty-Free Shop Operator is unsatisfactory to the Lessee.

Section 61. Foreign Currency Exchange

(a) The Lessee may select and thereafter enter into agreements with qualified persons, firms or corporations (which persons, firms or corporations are hereinafter referred to as "the Currency Exchange Operator") authorizing the Currency Exchange Operator to operate an establishment in the premises for the exchange, purchase and sale of domestic and foreign currencies (hereinafter called "the Foreign Currency Exchange Service") provided, however, that prior to any such selection and prior to the entering by the Lessee into any such agreement with the Currency Exchange Operator, said Currency Exchange Operator obtains a permit from the Port Authority authorizing such Currency Exchange Operator to operate the Foreign Currency Exchange Service in a portion of the premises hereunder. Prior to the issuance of any such permit, the proposed Currency Exchange Operator may be required to submit to the Port Authority evidence satisfactory to the Port Authority of its qualifications, the scope of its proposed operations and the standards of service it will provide. Any such permit will provide that the Currency Exchange Operator will conduct its operations at the premises in a first-class manner in accordance with the best practices in the industry and shall comply with maximum Port Authority standards with respect to service. The permit will not be revoked without cause by the Port Authority without the prior consent of the Lessee. In the event of any inconsistencies between the terms of the permit and the terms of the agreement between the Lessee and the Currency Exchange Operator, the terms of the permit shall control and be prevailing. Without limiting the foregoing, it is agreed that prior to the issuance of the permit the Port Authority shall make a copy of the same available to the Lessee and that upon the execution of the permit by the proposed Currency Exchange Operator the same shall be subscribed to by the Lessee.

(b) The Lessee agrees and the agreement between the Lessee and the Currency Exchange Operator shall provide that the Lessee will furnish to the Currency Exchange Operator sufficient and suitable space for conducting and carrying on its aforesaid operation. The Lessee agrees that it shall perform all work necessary or required to finish off the space, including the finishing of the floors and ceilings from the structural slab and the walls from the rough partitions, the decor and color scheme to be subject to the approval of the Port Authority. The Lessee shall supply said utilities and services to the Currency Exchange Operator without charge to the Currency Exchange Operator or the Port Authority.

(c) The agreement between the Lessee and the Currency Exchange Operator shall not call for any fixed rental or fee but shall provide that the Currency Exchange Operator shall pay a percentage fee based upon the gross receipts of the Currency Exchange Operator, which fee shall be subject to the prior written approval of the Port Authority and shall be incorporated into the permit to be issued by the Port Authority. There shall be no other payments by the Currency Exchange Operator to the Lessee except other than as provided herein. It is hereby understood and agreed that 50% of the percentage fee payable by the Currency Exchange Operator shall be paid by the Currency Exchange Operator to the Lessee and 50% of the percentage fee payable by the Currency Exchange Operator shall be paid by the Currency Exchange Operator to the Port Authority. Both the agreement between the Lessee and the Currency Exchange Operator and the permit to be issued by the Port Authority shall have provisions covering the fee in accordance with this Section and, without limiting the generality of any other provision of this Section, the permit shall control as to the manner, conditions and terms of payment.

(d) The agreement between the Currency Exchange Operator and the Lessee will provide that the Currency Exchange Operator will furnish at its expense all necessary trade fixtures, equipment furniture and personal property required in connection with the efficient and satisfactory operation of the Foreign Currency Exchange Service. The decor and color scheme of the facilities to be operated by the Currency Exchange Operator and the location of fixtures therein shall be subject to the prior and continuing approval of the Port Authority. In addition to other rights of termination or revocation that may be contained in said agreement between the Currency Exchange Operator and the Lessee, said agreement may contain appropriate provisions permitting cancellation of the agreement by the Lessee on short notice in the event the Foreign Currency Exchange Service provided by the Currency Exchange Operator is unsatisfactory to the Lessee.

Section 62. Retail Banking

(a) The Lessee may select and thereafter enter into agreements with qualified persons, firms or corporations (which

persons, firms or corporations are hereinafter referred to as "the Retail Bank Operator") authorizing such Retail Bank Operator to operate a service consisting of the maintaining of accounts, receipt and disbursement of funds and including automatic teller machine service and foreign currency exchange, sale and purchase (hereinafter called "the Retail Banking Service") in the premises, provided, however, that prior to any such selection and prior to the entering by the Lessee into any such agreement with the Retail Bank Operator, said Retail Bank Operator obtains a permit from the Port Authority authorizing such Retail Bank Operator to operate the Retail Banking Service in a portion of the premises hereunder. Prior to the issuance of any such permit, the proposed Retail Bank Operator may be required to submit to the Port Authority evidence satisfactory to the Port Authority of its qualifications, the scope of its proposed operations and the standards of service it will provide. Any such permit will provide that the Retail Bank Operator will conduct its operations at the premises in a first-class manner in accordance with the best practices in the industry and shall comply with maximum Port Authority standards with respect to service. The permit will not be revoked without cause by the Port Authority without the prior consent of the Lessee. In the event of any inconsistencies between the terms of the permit and the terms of the agreement between the Lessee and the Retail Bank Operator, the terms of the permit shall control and be prevailing. Without limiting the foregoing, it is agreed that prior to the issuance of the permit the Port Authority shall make a copy of the same available to the Lessee and that upon the execution of the permit by the proposed Retail Bank Operator the same shall be subscribed to by the Lessee.

(b) The Lessee agrees and the agreement between the Lessee and the Retail Bank Operator shall provide that the Lessee will furnish to the Retail Bank Operator sufficient and suitable space for conducting and carrying on its aforesaid operation. The Lessee agrees that it shall perform all work necessary or required to finish off the space, including the finishing of the floors and ceilings from the structural slab and the walls from the rough partitions, the decor and color scheme to be subject to the approval of the Port Authority. The Lessee shall supply said utilities and services to the Retail Bank Operator without charge to the Retail Bank Operator or the Port Authority.

(c) The agreement between the Lessee and the Retail Bank Operator shall provide that the Retail Bank Operator shall pay a basic fixed rental for the space occupied by such operator, which rental shall be subject to the prior written approval of the Port Authority and shall be incorporated into the permit to be issued by the Port Authority. There shall be no other payments by the Retail Bank Operator to the Lessee except as provided herein. It is hereby understood and agreed that 50% of the rental payable by the Retail Bank Operator shall be paid by the Retail Bank Operator to the Lessee and 50% of the rental payable by the Retail Bank Operator shall be paid by the Retail Bank Operator to the Port Authority. Both the agreement between the Lessee and the Retail Bank Operator

and the agreement to be issued by the Port Authority shall have provisions covering the rental in accordance with this Section and, without limiting the generality of any other provision of this Section, the agreement shall control as to the manner, conditions and terms of payment.

(d) The agreement between the Retail Bank Operator and the Lessee will provide that the Retail Bank Operator will furnish at its expense all necessary trade fixtures, equipment furniture and personal property required in connection with the efficient and satisfactory operation of the Retail Banking Service. The decor and color scheme of the facilities to be operated by the Retail Bank Operator and the location of fixtures therein shall be subject to the prior and continuing approval of the Port Authority.

Section 63. Other Consumer Services

(a) If the Lessee requests that additional consumer services be provided in the premises for the sale of other items or the furnishing of other services the Port Authority will endeavor to secure a qualified tenant, permittee or licensee (hereinafter referred to as the "Operator"), to furnish such consumer services and shall enter into contracts or agreements with such Operator requiring it to furnish the items or services to the extent required by the Lessee.

(b) The contract between the Operator and the Port Authority shall provide that such Operator shall pay to the Port Authority a basic rental for the space occupied by such Operator in the premises in connection with the furnishing of the consumer services. The basic rental will be based upon the cost to the Lessee of providing such space to the Operator. In determining the cost to the Lessee there shall be considered the construction cost of the premises and the cost of operation and maintenance of the premises. The amount of the basic rental to be paid by the Operator shall be agreed upon between the Port Authority and the Lessee.

(c) The contract shall further provide that the Operator shall pay a percentage fee based upon the gross receipts of such Operator from the operation of such consumer service, less the amount of any basic rental paid by the Operator.

(d) The Operator shall pay to the Lessee the amount of the basic rental. If the percentage fee actually paid to the Port Authority exceeds the amount of the basic rental, the Port Authority shall retain the percentage fee up to the amount of the basic rental. The excess, if any, remaining shall be divided equally between the Port Authority and the Lessee. The rental and fees payable hereunder shall be paid in the same manner, under the conditions, and at the times provided in Section 48 hereof.

(e) The Operator will furnish and install at its expense all necessary fixtures, stands, counters and equipment required in

connection with its operation and all construction work necessary to accommodate such installations.

(f) In the event the Port Authority is unable to secure a qualified tenant, permittee or licensee to provide the consumer services requested by the Lessee, in accordance with the terms and conditions set forth in this Section, the Lessee may make its own arrangements with a tenant, permittee or licensee of its own choice, subject to the Port Authority's approval of such tenant, permittee or licensee. Such approval may include limitations as to the scope of the activities of such tenant, permittee or licensee in the light of the availability of similar services in the Central Terminal Area.

(g) The Lessee understands and agrees that it may not itself nor will the Port Authority install or cause to be installed coin-operated lockers on the premises.

Section 64. Subletting of the Premises for Consumer Services

Irrespective of whether the Persons selected in accordance with this Agreement to furnish the Consumer Services set forth in Sections 56, 57, 58, 59, 60, 61, 62 and 63 hereof have contracts with or are contractors or permittees of the Port Authority, the Lessee may require that such Persons enter into separate agreements or subleases with the Lessee as a condition precedent to the occupancy of space within and the operation of such establishments upon the Lessee's premises, provided, however, that all such Persons must have first obtained a permit from the Port Authority authorizing them to operate such establishments. The terms and provisions of the said agreements or subleases shall not be inconsistent with the terms of this Agreement except that the same may provide for cancellation by the Lessee on short notice in the event the services furnished by such Persons are unsatisfactory to the Lessee.

Prior to the issuance of any of the aforementioned permits, such Persons may be required to submit to the Port Authority evidence satisfactory to the Port Authority of their qualifications, the scope of their proposed operations and the standards of service they will provide. Any such permits will provide that such Persons will conduct their operations thereunder in a first class manner in accordance with the best practices in the industry and shall comply with the maximum Port Authority standards with respect to service, health, sanitary and safety measures. Such Persons shall be required to pay to the Port Authority a fee but such fee shall not in any event exceed the fees or charges that would be retained by the Port Authority if their respective establishments were operated by regular Operators of the Port Authority.

Section 65. Obligations in Connection with Consumer Services Agreements

The Port Authority shall administer all contracts and agreements with its tenants, licensees or permittees furnishing consumer

services at the premises. All such contracts and agreements shall contain provisions, among others, providing that such tenant, licensee or permittee shall:

(a) Take all reasonable measures in every proper manner to maintain, develop and increase the business conducted by it at the premises;

(b) Not divert or cause or allow to be diverted any business from the premises;

(c) Maintain in accordance with accepted accounting practice, records and books of account recording all transactions at, through or in anywise connected with the premises, which records and books of account shall be kept at all times within the Port of New York District and permit, in ordinary business hours during such time, the examination and audit by the officers, employees and representatives of the Port Authority of such records and books of account;

(d) Permit in ordinary business hours the inspection by the officers, employees and representatives of the Port Authority or the Lessee of any equipment used by the tenant, licensee or permittee, including but not limited to cash registers and recording tapes;

(e) Furnish on or before the twentieth day of each month following the commencement date of the operation a sworn statement of gross receipts arising out of the operations of the tenant, licensee or permittee, for the preceding month;

(f) Install and use such cash registers, sales slips, invoicing machines and any other equipment or devices for recording orders taken or services rendered as may be appropriate to the business and necessary or desirable to keep accurate records of gross receipts;

(g) Furnish good, prompt and efficient service, adequate to meet all demands therefor at the premises; furnish said service on a fair, equal and nondiscriminatory basis to all users thereof; and charge fair, reasonable and nondiscriminatory prices for all items and/or services which it is permitted to sell and/or render; and

(h) Promptly observe, comply with and execute the provisions of any and all present and future governmental laws, rules, regulations, requirements, orders and directions which may pertain and apply to its operations or the use and occupancy of the premises.

The Port Authority does not guarantee the payments of rentals and fees required to be paid by the tenant, licensee, permittee or operator pursuant to the provisions of Sections 56, 57, 58, 59, 60, 61, 62 and 63 hereof and shall have no obligation to the

Lessee to make any payments to the Lessee until the fees or rentals are actually collected from the tenant, licensee, permittee or operator. The Port Authority will advise the Lessee of all accounts remaining delinquent for more than sixty (60) days and will consult with the Lessee as to the appropriate steps to effect collection. A default by the Port Authority in observing the provisions of the preceding sentence shall not result in the imposition of any liability on the Port Authority with respect to the Lessee.

Section 66. Club Rooms

In the event the Lessee provides any rooms or space for the special handling of or the furnishing of special services to any of its passengers, guests or invitees it shall furnish such rooms or space at its expense and without cost to the Port Authority. The Lessee agrees that any food, alcoholic or non-alcoholic beverages and similar items sold or furnished to the Lessee's passengers, guests or invitees shall be obtained by the Lessee from the Operator who has been authorized to operate establishments for the sale of food, alcoholic and non-alcoholic beverages and similar items for consumption in passenger terminal facilities at the Airport. All monies paid or payable to the Operator for such sales shall be included in the gross receipts of the Operator. In the event the Lessee wishes to use its own personnel for serving food, alcoholic or non-alcoholic beverages and similar items it may do so; provided that the food, alcoholic and non-alcoholic beverages are obtained by the Lessee from the Operator and provided that monies paid therefor, in that event, shall not be included in the gross receipts of the Operator. If the Lessee uses its own personnel for serving food, alcoholic or non-alcoholic beverages and similar items, the Lessee will not be obligated to pay a fee to the Port Authority which would be greater than the fee that would be retained by the Port Authority if the food, alcoholic or non-alcoholic beverages and similar items were served by the Operator.

Section 67. Ground Transportation Services

(a) The Lessee shall make available within the premises at reasonable rental rates, such counter spaces and at such locations as may be determined by the Port Authority and the Lessee for use by limousine, bus, car rental, taxi and other ground transportation operators at the Airport, all of the foregoing being hereinafter called "the ground transportation operators". The Lessee shall enter into an agreement only with a ground transportation operator designated or approved by the Port Authority, covering the occupancy of said counter space, which agreement may provide for the payment of a basic rental (but no other rental, charge or fee of any kind) to the Lessee for the counter space, provided that such basic rental shall represent a fair and reasonable rental for the counter space. The Port Authority shall have the right to, in its agreement with any ground transportation operator, impose obligations on the ground transportation operator with respect to its operations at the counter space, including but not limited to the dissemination of information applicable to said service, and may charge such fees payable to the Port Authority as it may determine.

(b) (1) In lieu of the provisions of paragraph (a) of this Section obligating the Lessee to make available counter spaces and wall telephone installations with respect to limousine, bus and other ground transportation operators at the Airport (but not including car rental operators as to which the provisions of paragraph (a) shall be and continue in full force and effect) the Lessee shall provide to the Port Authority or its contractor, without charge, such counter space at such location as may be specified by the Port Authority within the premises as may reasonably be required for use as a consolidated ground transportation reservation and information counter (hereinafter called "the Consolidated Counter") to be operated by the Port Authority or its contractors.

(2) The Lessee agrees to provide access to and from the public ways outside the premises to the Port Authority, its employees and its contractors and the ground transportation patrons and other users of the Consolidated Counter; to permit use of such portions of the public pedestrian circulation areas of the premises as may reasonably be required for the operation of the counter and the accommodation of the users thereof; and to permit the installation of such telephone and other communication lines, cables and conduits on and across the premises as may be required for the operation of the Consolidated Counter. The Lessee acknowledges and agrees that the Consolidated Counter shall at all times be a part of the premises under the Lease and subject to all the terms and provisions thereof including, but not limited to indemnity, the payment of rentals, repair and maintenance. The Lessee shall, at its sole cost and expense, supply all utilities necessary for the operation of the Consolidated Counter including but not limited to heat, light, ventilation, air conditioning and electricity on a 24 hour 7 day a week basis. The Lessee shall not be required to provide telephone service to the Consolidated Counter hereunder.

(3) The Port Authority shall have the right at any time, without cause, on 180 days notice to the Lessee to terminate and discontinue the operation of the Consolidated Counter and from and after the effective date stated in said notice the operation of the Consolidated Counter shall terminate and cease and the provisions of this paragraph (b) shall be null, void and of no further force and effect and the provisions of paragraph (a) of the Lease and the Lessee's obligations as set forth therein with respect to limousine, bus, car rental and other ground transportation operators shall be deemed reinstated and in full force and effect.

Section 68. Observation Deck

In the event the Lessee provides an Observation Deck in connection with the Lessee's operations under the Lease and such Deck is open to the public generally the Lessee shall charge a fee for admission upon such Observation Deck. Such fee shall be

established by the Port Authority which shall be uniform throughout the Airport. The Lessee shall pay to the Port Authority a percentage fee equal to 30% of the gross receipts received by the Lessee from the operation of the Observation Deck.

Section 69. Force Majeure

Neither the Port Authority nor the Lessee shall be deemed to be in violation of this Agreement if it is prevented from performing any of its obligations hereunder by reason of strikes, boycotts, labor disputes, embargoes, shortages of material, acts of God, acts of the public enemy, acts of superior governmental authority, weather conditions, tides, riots, rebellion, sabotage or any other circumstances for which it is not responsible and which are not within its control; provided, however, that this provision shall not apply to failures by the Lessee to pay the rentals specified in Section 3 and shall not apply to any other charges or money payments; and, provided, further, that this provision shall not prevent either party from exercising its right of termination under Sections 22, 25, 48, 75 and 77 hereof, and shall not prevent the Lessee from exercising its right to an abatement of rental under Sections 3 and 50 hereof.

Section 70. Federal Inspection

The Lessee has advised the Port Authority that it intends to make available to the United States a portion or portions of the premises for the inspection of the Lessee's passengers and their baggage by the United States for United States customs, immigration, public health and other governmental purposes, if the United States will accept and use the same. The Port Authority shall have no obligation or responsibility of any kind with respect to the foregoing or the arrangements that must be made by the Lessee with the United States and any agencies thereof having jurisdiction.

Section 71. Rotary Wing and Tilt-Rotor Operations

The Lessee hereby acknowledges that the Lease does not grant to it any right and the Lessee does not have any right to use or permit the use of any portion of the premises for the landing or taking off of helicopters, rotary wing, tilt-rotor or other similar aircraft. In the event that the Port Authority determines that approval for such use will be given at any time hereafter, the same shall be granted only in accordance with such terms and conditions, including but not limited to fees, charges and rights of user, as the Port Authority may set forth in a supplement to the Lease, which is duly executed by the Lessee and the Port Authority.

Section 72. Ground Transportation

(a) The Lessee may arrange for the transportation to and from the Airport of its employees and their baggage (and such employees and baggage only) either directly or by contract with a surface carrier or carriers (hereinafter called "the Employee

Surface Carrier or Carriers") of its choice, provided, that such Employee Surface Carrier or Carriers are at all times Ground Carrier Permittees of the Port Authority as defined in paragraph (b) hereof and provided, further, that ten percent (10%) or such lesser percentage as may be set pursuant to paragraph (e) hereof of the gross receipts received from the ground transportation of employees and their baggage by the Employee Surface Carrier providing such service, or by the Lessee, including all advertising and any other revenues of any type arising out of or in connection with said service (excluding only local, state and federal transportation taxes which are separately stated to and paid by the passengers and are directly payable to the taxing authority by the Lessee or by the Employee Surface Carrier) shall be paid to the Port Authority. No fee shall be paid by the Lessee to the Port Authority in connection with the ground transportation of employees and their baggage if the Lessee operates the service itself and if the Lessee makes no charge to its employees and their baggage therefor.

(b) As of the Commencement Date as defined in paragraph (c) hereof, the Port Authority shall endeavor to issue permits to at least 12 qualified surface carriers (herein called "the Ground Carrier Permittees") which Permits shall grant to said Ground Carrier Permittees the privilege of providing a service for the transportation to and from the Airport of employees and their baggage of all Aircraft Operators at the Airport. Each Permit shall provide that the Port Authority shall have the right at any time to revoke the Permit granted to any Ground Carrier Permittee with or without cause and regardless of whether any such Permittee is an Employee Surface Carrier of the Lessee and regardless of any agreement between the Lessee and its Employee Surface Carrier. Without limiting the foregoing right, if the Ground Carrier Permittee selected by the Lessee shall at any time fail to pay the Port Authority ten percent (10%) or such other percentage of its gross receipts as established pursuant to paragraph (e) hereof as required under the Permit, the Port Authority shall have the right in addition to all other rights and remedies, to deny such Permittee entrance upon the Airport for the purpose of transporting employees and their baggage as aforesaid to and from the Airport and the Lessee shall no longer use the same.

In the event that there should at any time during the term of this Lease be less than 12 Ground Carrier Permittees in operation at the Airport the Lessee shall have the right to engage an Employee Surface Carrier of its choice to provide the service set forth in paragraph (a) hereof, subject, however, to the prior and continuing approval of the Port Authority, and provided that such Employee Surface Carrier agrees to become a Permittee of the Port Authority and to pay a percentage of its gross receipts to the Port Authority in accordance with paragraphs (a) and (e) hereof and only for so long as such Permittee observes and complies with the terms of its Permit, it being understood that said Employee Surface Carrier may be restricted to serving the Lessee at the Airport. At such time thereafter as there is in operation at the Airport at least 12 Ground Carrier Permittees, the Permit with the said Employee Surface

Carrier may be revoked by the Port Authority and the Lessee shall thereupon select an Employee Surface Carrier from the Ground Carrier Permittees of the Port Authority. Nothing contained hereunder shall be deemed to preclude the Port Authority from issuing from time to time during the term of the Lease Permits to more than 12 Ground Carrier Permittees. The Permits with the Ground Carrier Permittees may contain privileges other than those set forth in the first subparagraph of this paragraph (b), including but not limited to the privilege to transport passengers and baggage of Aircraft Operators. All Permits shall contain such terms or provisions as the Port Authority may deem from time to time necessary or desirable.

(c) The Port Authority hereby states its intention to attempt to incorporate, into all existing leases and into all new leases with all Scheduled Aircraft Operators covering passenger terminal facilities within the Central Terminal Area, provisions having the same effect as the provisions of paragraphs (a) and (b) hereof. The term "Commencement Date" as used in this Section shall mean the date specified in a written notice from the Port Authority served upon the Lessee and upon all Scheduled Aircraft Operators who are lessees of passenger terminal facilities within the Central Terminal Area, it being understood that such notice shall not be served unless and until all said Scheduled Aircraft Operators have executed agreements with the Port Authority incorporating provisions having the same effect as the provisions of paragraphs (a) and (b) hereof into their leases with the Port Authority covering passenger terminal facilities within the Central Terminal Area. The provisions of this Section other than the foregoing provisions of this paragraph (c) shall be applicable as well to Aircraft Operators who may be occupying space within the Central Terminal Area pursuant to a sublease, subuse or handling agreement with any Unit Terminal Lessee or with any East or West Wing Building Lessee (the foregoing not to waive the requirement for Port Authority consent) as said lessees are defined in Section 74 of the Lease.

(d) For the period prior to the Commencement Date hereunder, the following provisions of this paragraph (d) shall be in effect in lieu of the provisions of paragraph (a) hereof:

The lessee may arrange for the transportation to and from the Airport of passengers, employees and baggage (and such passengers, employees and baggage only) either directly or by contract with a surface carrier or carriers (hereinafter called "Passenger Surface Carrier or Carriers") of its choice, subject, however, to the prior and continuing approval of the Port Authority and provided, that such Passenger Surface Carrier or Carriers agree to become Permittees of the Port Authority and provided, further, that ten percent (10%) or such lesser percentage as may be set pursuant to paragraph (e) hereof of the gross receipts received from the ground transportation of passengers, employees and baggage by the Passenger Surface Carrier providing such service or by the Lessee, including all advertising and any other revenues of any type arising out of or in connection with said service (excluding only

local, state and federal transportation taxes which are separately stated to and paid by and are directly payable to the taxing authority by the Lessee or by the Passenger Surface Carrier) shall be paid to the Port Authority. If the Passenger Surface Carrier designated by the Lessee shall at any time fail to pay to the Port Authority ten percent (10%) or such lesser percentage as may be set pursuant to paragraph (e) hereof of its gross receipts as aforesaid when billed therefor by the Port Authority, the Port Authority shall have the right to deny such carrier entrance upon the Airport for the purpose of transporting passengers, employees and baggage as aforesaid to and from the Airport and the Lessee shall no longer use the same. No fee shall be paid by the Lessee to the Port Authority in connection with the ground transportation of officers and employees of the Lessee if the Lessee operates the service itself and if the Lessee makes no charge to its employees and officers therefor. The occasional non-recurring employment by the Lessee of a surface carrier who is not a Permittee of the Port Authority shall not be deemed to be a breach of this Section by the Lessee; the foregoing, however, shall not affect the right of the Port Authority to the percentage fee with respect to such surface carrier.

For the period subsequent to the Commencement Date hereunder, the foregoing provisions of this paragraph (d) shall continue in effect with respect to passengers and their baggage only of the Lessee and wherever the phrase "passengers, employees and baggage" appears in the foregoing provisions it shall be deemed amended to read "passengers and their baggage".

(e) It is recognized that the Port Authority has established a five percent fee with respect to the service covered by paragraphs (a) and (d) hereof in lieu of the ten percent fee therein stated. It is hereby specifically understood and agreed that the fact that said fee is presently five percent shall not constitute a waiver by the Port Authority of its right to impose a percentage fee of ten percent as provided in paragraphs (a) and (d). It is hereby specifically agreed that the Port Authority shall have the right at any time and from time to time during the term of this Lease to revise the percentage fee it shall charge the Ground Carrier Permittees, other permittees and the Lessee as provided in paragraphs (a) and (d) hereof but in no event shall said fee be greater than ten percent. The Port Authority shall notify the Lessee of any such revision.

(f) The Lessee may arrange for the transportation to and from the Airport of freight and other cargo of the Lessee either directly or by contract with the surface carrier or carriers of its choice. No Permit or fee shall be required of the Lessee or its contractor for the picking up from or the delivery to of freight or other cargo from or to the Lessee. No fee shall be paid to the Port Authority by the Lessee or its contractor for the privilege of transporting freight or cargo of the Lessee on the surface as aforesaid. If such contractor of the Lessee enters into a Lease or other agreement with the Port Authority for space and/or privileges at the Airport, the rent or other compensation payable to the Port

Authority shall not be measured by the amount of freight or other cargo of the Lessee transported on the surface by such contractor.

(g) The right of the Lessee to arrange transportation to and from the Airport of its airline passengers as hereinabove provided shall not be construed as being applicable to any establishment or operation by the Lessee of facilities outside the Airport for the handling of airline passengers of the Lessee arriving at or departing from the Airport.

As used in this Section 72, reference to passengers, baggage, freight or other cargo of the Lessee shall be construed to mean persons, baggage, freight or cargo transported or to be transported on aircraft of the Lessee.

The Ground Carrier Permittee of the Lessee's choice, its Passengers Surface Carrier or any other contractor used by it shall not solicit business on the public areas of the Airport and the Lessee shall prohibit any such activity on the premises or on any other area at the Airport occupied by the Lessee. The use, at any time, either on the premises or elsewhere on the Airport of hand or standard megaphones, loudspeakers or any electric, electronic or other amplifying devices is hereby expressly prohibited and any advertising or signs shall be subject to continuing Port Authority approval.

(h) Effective as of January 1, 1972, the provisions of this Section 72 superseded the provisions of Section 4.11 of Title IV of the General Airport Agreement, as defined elsewhere in this Agreement and from and after said date said provisions of said Section 4.11 of Title IV were no longer of any force or effect.

Section 73. The Original Premises Use Agreements

It is recognized that the Lessee has entered into various agreements with subtenants, licensees and other persons covering the occupancy of the space or providing for the furnishing of services in the premises pursuant to the provisions of the Prior Lease and that the Port Authority has approved or consented to the same, all of the foregoing as to which Port Authority approval or consent has been given, being hereinafter called "the Lessee's use agreements". The Port Authority has no objection to the continuance in effect under the Lease of all of the Lessee's use agreements.

The parties agree that appropriate documents will be prepared and executed, if the same are deemed by the Port Authority to be necessary or desirable, recognizing the continuance under this Lease of the Lessee's use agreements, subject to the existing terms of such agreements and the Port Authority's consent to or approval thereof including but not limited to termination and revocation rights as provided therein.

Without limiting the generality of the foregoing, it is recognized specifically that the Lessee has undertaken certain

obligations pursuant to Section 24 hereof to sublease portions of the premises to United Air Lines, Inc. under this Lease and that in addition United Air Lines, Inc. was a sublessee under the Prior Lease. The Port Authority hereby consents to the continuance under this Agreement of the United Air Lines, Inc. sublease as the same has been consented to by the Port Authority, and the Port Authority Consent Agreement entered into among the Port Authority, the Lessee and United Air Lines, Inc. as of even date herewith covering said sublease without the execution of other or further documents or agreements subject, however, to all of the terms and conditions of said Consent Agreement.

Section 74. Ground Transportation Within the Central Terminal Area

(a) The Port Authority has established at the Airport a Central Terminal Area generally as described in Exhibit S, attached hereto and hereby made a part hereof. If at any time and from time to time during the term of the Lease, the Port Authority substantially revises the Central Terminal Area, it shall thereafter forward to the Lessee a revised Exhibit showing the revised Central Terminal Area which revised Exhibit shall replace Exhibit S and shall become a part of the Lease.

(b) The Lessee hereby agrees that it will not directly, indirectly or by arrangement with any independent third party, operate any surface vehicles for the transportation of its passengers to or from the premises and the various other passenger terminal facilities or other locations within the Central Terminal Area. The prohibition hereinabove set forth in this paragraph (b) shall be effective as of the Commencement Date of the Lease and shall continue thereafter during the term of the Lease, but such prohibition shall be in effect only during such periods as there is in operation at the Airport a CTA ground transportation service as hereinafter defined to be provided by an independent third party contractor. The CTA ground transportation service shall consist of the following: a ground transportation service for the transportation of airline passengers and other persons between the various passenger terminal facilities, including the premises, within the Central Terminal Area including the service of transporting a group of passengers where the Aircraft Operator must accommodate the group as a whole (hereinafter called "the CTA omnibus service") and a ground transportation service for the transportation of passengers of Aircraft Operators within the Central Terminal Area, but only when a passenger is disabled, the passenger must take a direct connection and where time is critical, and in the very limited instance where an Aircraft Operator must accommodate a particular passenger, the foregoing service being hereinafter called "the CTA supplementary service". It is understood furthermore that, notwithstanding the prohibition hereinabove set forth in this paragraph (b), the Lessee may directly, indirectly or by arrangement with an independent third party, operate surface vehicles for the transportation of its passengers to or from the premises and such passenger terminal

facility of the Lessee, if any, located outside the Central Terminal Area, provided, that the Lessee has the prior and continuing approval of the Port Authority to operate such passenger terminal facility outside the Central Terminal Area, that the aforesaid service shall not serve any passenger terminal facility or location within the Central Terminal Area other than the premises and that if the Lessee utilizes a third party to provide the service, said third party shall be subject to the prior and continuing approval of the Port Authority, shall agree to become a permittee of the Port Authority and shall pay the percentage of its gross receipts to the Port Authority with respect to said service as specified in said permit and shall comply with all the terms and conditions of its permit.

Nothing contained in this paragraph (b) or paragraph (c) hereof shall impose or be construed as imposing an obligation on the Port Authority to operate or cause to be operated the CTA ground transportation service for the transportation of passengers and other persons between the various passenger terminal facilities, including the premises, within the Central Terminal Area.

(c) (1) (i) It is hereby agreed that it is in the best interests of the Port Authority and all Participants as hereinafter defined that the CTA omnibus service be a good, proper and efficient service, able to adequately, timely and properly handle the ground transportation needs of airline passengers and other persons between the various passenger terminal facilities including the premises within the Central Terminal Area. The parties recognize furthermore that the CTA supplementary service should be a service that would transport those persons authorized to be carried thereon in an adequate, proper and timely manner so as to meet their flight connections.

(ii) The Port Authority agrees that it shall meet and consult from time to time with the Participants with respect to the procedures, schedules, fares, prices and operations of the CTA omnibus service and shall, except in case of emergency, give the Participants prior written notice of any substantive changes with respect thereto. Notwithstanding the foregoing, it is hereby understood and agreed that the procedures, schedules, fares, prices, operations and other matters affecting the CTA omnibus service shall be determined by the Port Authority.

(iii) The Port Authority agrees that it shall meet and consult from time to time with the Participants with respect to the procedures, schedules, fares, prices and operations of the CTA supplementary service. Before adopting any initial procedures or schedules covering the operation of the CTA supplementary service and before putting into effect any modifications to any procedures or schedules then in effect with respect to the CTA supplementary service, except in case of emergency, the Port Authority shall submit the initial or the changed procedures and schedules (hereinafter called the "submissions") to the Participants for their approval. If

Participants representing more than fifty percent (50%) of the effective published passenger flight schedules to and from the Airport of all Participants for the calendar year prior to the year in which the submissions are made to the Participants for their approval, approve the same, the submissions shall be deemed to be approved for all purposes hereunder and said approval shall be deemed binding as well upon all other Aircraft Operators who may use or pay for the CTA supplementary service, notwithstanding the fact that said submissions had not been submitted to them for their approval. Notwithstanding anything herein provided and without limiting the provisions of paragraph (b) hereof, it is hereby understood and agreed that the Port Authority shall have no obligation hereunder to itself operate the CTA ground transportation service nor any obligation to operate said service through an independent contractor unless and until the submissions with respect to the CTA supplementary service submitted as aforesaid to the Participants have been approved by the Participants in accordance with the foregoing provisions. The failure of any Participant to disapprove the submission within twenty (20) days after its submission to it for approval shall constitute such Participant's approval hereunder to said submissions.

(iv) It is hereby understood and agreed that the amount to be charged for the CTA supplementary service shall consist of an initial price and, if the Port Authority so elects from time to time during the term of the Lease, an excess price. The initial price shall be based upon the cost of the CTA supplementary service. The Lessee shall pay to the Port Authority as and representing the initial price its pro rata share of the cost to the Port Authority of providing the CTA supplementary service. The Lessee's pro rata share of the cost to the Port Authority of providing the CTA supplementary service shall be that proportion of said cost as the number of passengers of the Lessee who actually used the CTA supplementary service bears to the total number of passengers using the CTA supplementary service. Except as provided in the last subparagraph of subparagraph (v) hereof, there will be no charge to the Lessee of either an initial price or an excess price if the Lessee does not have any passengers using the CTA supplementary service.

(v) The initial price payable to the Port Authority pursuant to subparagraph (iv) hereof is for each calendar year, but in the event the Commencement Date as defined in paragraph (d) hereof falls on a day other than the first day of a calendar year or in the event the term of the Lease expires or the provisions covering the CTA transportation services are terminated on a day other than the last day of a calendar year, then in any such event the initial price payable to the Port Authority pursuant to subparagraph (iv) hereof shall, for the year during which such event occurs, be for such portion of said year during which the Port Authority provides the CTA supplementary service. In determining the initial price, the cost of the CTA supplementary service shall be computed, determined and ascertained for each calendar year (or portion thereof upon the occurrence of any of the events mentioned

in the first sentence hereof) of the term of this Lease subsequent to the aforesaid Commencement Date.

Notwithstanding the foregoing and for current monthly or other periodical billing purposes as may from time to time be selected by the Port Authority, the Port Authority shall establish interim billing rates to cover the initial price for the CTA supplementary service. Such billing rates shall be based on determinations by the Port Authority of its estimate of the cost of the CTA supplementary service for the calendar year and the number of passengers to be using the CTA supplementary service for said calendar year. Such determinations shall be based upon the prior calendar year's experience, if any, and upon such other reasonable basis as the Port Authority may determine. The Port Authority may prospectively revise its billing rates during any calendar year. On the 20th day of each calendar month following the month upon which the Commencement Date hereunder falls and on the 20th day of each and every calendar month thereafter the Lessee shall pay to the Port Authority the amount due as the initial price for the preceding calendar month, which shall be determined by multiplying the interim billing rate per passenger for the initial price established by the Port Authority as aforesaid by the number of Lessee's passengers carried on the CTA supplementary service for the previous calendar month.

As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the cost of the CTA supplementary service and the initial price payable therefore. Corrected billings based upon such determination shall thereupon be rendered by the Port Authority and if any monies are due to the Port Authority they shall be promptly paid by the Lessee and if any monies are due to the Lessee they shall be promptly credited to it.

In the event and only in the event that the CTA supplementary service for all or any portion of a calendar year has been provided by the Port Authority but there has been no use thereof by any of the Participants, then the initial price and the excess price shall be payable by all Participants and each Participant's share shall be based on the number of passengers on its outbound and inbound aircraft at the Airport compared to the total number of passengers on all inbound and outbound aircraft using the Airport of all Participants. The Port Authority agrees that, if as of the commencement of any calendar year there appears to be no use by the Participants of the CTA supplementary service, it will use all reasonable efforts to limit its payments to the contractor for the CTA supplementary service for such period where there appears to be no use.

(vi) The Port Authority shall have full discretion in awarding a contract for the CTA ground transportation service and may award the same to a contractor who has not proposed the lowest price for the CTA supplementary service or the CTA omnibus service. As stated in subparagraph (iv) hereof the Port

Authority shall have the right to charge the Lessee, in addition to the initial price for the CTA supplementary service, an additional amount herein called "the excess price", which amount shall be applied to offset any deficit in the CTA omnibus service.

The amount representing the excess price shall be an amount payable only by the Lessee if it uses the CTA supplementary service and shall be an amount fixed for each passenger using the CTA supplementary service. The Port Authority shall advise the Participants prior to the beginning of each calendar year of the amount per passenger which shall constitute the excess price for said calendar year. On the 20th day of the calendar month following the month upon which the Commencement Date hereunder falls and on the 20th day of each and every calendar month thereafter the Lessee shall pay to the Port Authority the amount due as the excess price for the preceding calendar month, which shall be determined by multiplying the amount per passenger for the excess price established by the Port Authority as aforesaid by the number of Lessee's passengers carried on the CTA supplementary service for the previous calendar month. As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the cost of the CTA omnibus service for said calendar year. If there is no deficit or if the deficit is less than the amount received by the Port Authority from users of the CTA omnibus service, then the total amount of the excess price if there is no deficit or the amount of the excess price which is over and above any deficit on the CTA omnibus service shall be refunded or credited to the Participants based on the portion of each Participant's payments of the excess price for said calendar year as compared to the total amount received as the excess price from all Participants. In determining whether or not there is a deficit or in determining the amount of the deficit, revenues from the CTA omnibus service shall be deemed to be 87.5% of the cost of the CTA omnibus service whether or not the revenues actually received add up to 87.5%, but if said revenues exceed 87.5% of the cost, the actual amount of revenues received shall be used.

(vii) The Port Authority shall determine for each calendar year (or portion thereof, where applicable) the cost to the Port Authority of providing the CTA omnibus service and the cost to the Port Authority of providing the CTA supplementary service. Each such cost shall be determined in accordance with the Port Authority's normal accounting practice and shall consist of those of the following items, which are applicable to each such service:

(a) All payments made by the Port Authority to the independent contractor for providing the CTA supplementary service or the CTA omnibus service, as the case may be (it being understood that the Port Authority shall not impose any percentage charge or fee on the contractor for such services);

(b) On-the-job payroll costs of Port Authority employees working in any aspect of the CTA supplementary service or the CTA omnibus service, as the case may be, including but not limited to contributions to any retirement system or the cost of participation in any pension plans or the like, social security, old age, survivors, disability and employment insurance and other insurance costs, sick leave pay, holiday, vacation, authorized absence and severance pay, other employee fringe benefits and any other payments made or costs incurred whether pursuant to law or by Port Authority policy to or with respect to said employees;

(c) The cost (including rental charges) to the Port Authority of providing space, equipment, materials, facilities or services to or in connection with the CTA omnibus service or the CTA supplementary service, as the case may be;

(d) Payments or premiums (or to the extent of self-insurance an amount equivalent to what the premiums would have been) for insurance with respect to the CTA omnibus service or the CTA supplementary service, as the case may be, including without limitation thereto, fire and extended coverage, workmen's compensation and comprehensive general liability;

(e) Other direct costs as charged under the Port Authority's normal accounting practice;

(f) With respect to the CTA omnibus service, ten percent (10%) of the amounts paid to the contractor providing said service under item (a) hereof and with respect to the CTA supplementary service, twenty percent (20%) of the amount paid to the contractor providing said service under item (a) hereof.

In the event that any specific cost incurred or any specific amount expended for any of the items hereinabove set forth covers both the CTA omnibus service and the CTA supplementary service, then the Port Authority shall divide and allocate any such cost or amount as between the CTA omnibus service and the CTA supplementary service in accordance with its normal accounting principles.

(2) If at any time during the term of the Lease the Port Authority receives a written notice from the East and West Wing Building Lessees (as hereinafter defined) representing more than thirty percent (30%) of the effective published passenger flight schedules to and from the Airport of all the East and West Wing Building Lessees for the calendar year prior to the year during which the notice was given, or if the Port Authority receives a written notice from Unit Terminal Lessees (as hereinafter defined) representing more than thirty percent (30%) of the effective published passenger flight schedules to and from the Airport of all Unit Terminal Lessees for the calendar year prior to the year during

which the notice is given, which notice shall be either (i) to the effect that the service being provided by the contractor furnishing the CTA ground transportation service does not satisfy the standards set forth in item (i) of subparagraph (1) hereof and specifying whether it is the CTA omnibus service or the CTA supplementary service, or both, which is at fault, and further specifying the nature and extent of the failure or (ii) to the effect that the Participants serving the notice are dissatisfied for any reason with the service, the Port Authority shall endeavor in the case of item (i) above to rectify the conditions complained of either by the existing contractor doing so or by engaging a new contractor to provide the CTA ground transportation service or by a combination of both.

(3) If the Port Authority receives, by a date no earlier than one hundred twenty (120) days and no later than one hundred eighty (180) days after its receipt of either notice covered by subparagraph (2) hereof, a written notice from the East and West Wing Building Lessees representing more than fifty percent (50%) of the effective published passenger flight schedules to and from the Airport of all East and West Wing Building Lessees for the year prior to the year during which the notice is given or if the Port Authority receives a written notice during the period described above from Unit Terminal Lessees representing more than fifty percent (50%) of the effective published passenger flight schedules to and from the Airport of all the Unit Terminal Lessees for the year prior to the year during which the notice is given, which notice is to the effect that the Participants sending the notice continue to be dissatisfied with the CTA ground transportation service whether provided by the old contractor, or if said contractor has been replaced, by the new contractor, then the Port Authority agrees that, effective no later than sixty (60) days after its receipt of said notice (said date to be established by written notice to the Participants) the provisions of this Section covering the CTA ground transportation service shall be terminated and shall no longer be in effect and from and after said date the Lessee shall have the right directly or by arrangement with an independent third party to operate surface vehicles for the transportation of its passengers to and from the premises and the various other passenger terminal facilities or other locations within the Central Terminal Area, provided, however, that the same shall be used exclusively for the transportation of the Lessee's disabled passengers, passengers who must make a direct connection and where time is critical, in the very limited instances where the Lessee must accommodate particular passengers, and for the transportation of passengers travelling as a group where the Lessee must accommodate the group as a whole, it being understood that the foregoing limitation on the right of the Lessee shall be in effect only during such periods as there is in operation at the Airport a CTA omnibus service as defined in paragraph (b) hereof (the Port Authority having no obligation so to do), excluding the transportation of passengers travelling as a group, and <u>provided, however,</u> that if the Lessee utilizes a third party to provide said service, that said third party shall be subject to the prior and continuing approval of the Port Authority,

shall agree to become a permittee of the Port Authority and shall pay the percentage of its gross receipts to the Port Authority with respect to its service as specified in said permit and shall comply with all the terms and conditions of its permit.

(d) (1) The Port Authority hereby states its intention to attempt to incorporate into all new leases and into all existing leases which may not already include the same with all Scheduled Aircraft Operators covering passenger terminal facilities within the Central Terminal Area provisions having the same effect as the provisions of this Section.

For the purposes of this Section, the term "Unit Terminal Lessees" shall mean all Participants other than the East and West Wing Building Lessees. The term "East and West Wing Building Lessees" shall mean those foreign flag Scheduled Aircraft Operators who shall have entered into long term leases with the Port Authority covering space in the East or West Wing Buildings.

(2) All Aircraft Operators who may be occupying space within the Central Terminal Area pursuant to a sublease, subuse or handling agreement with any Unit Terminal Lessee or with any East or West Wing Building Lessee (the foregoing not to waive the requirement for Port Authority consent) shall be obligated to comply with all obligations of this Section which are applicable to the Participants, but said Aircraft Operators shall not be or be deemed to be Participants within the meaning of subparagraph (1) of this paragraph (d) or be or be deemed to be an East or West Wing Building Lessee or a Unit Terminal Lessee within the meaning of subparagraphs (2) and (3) of paragraph (c) hereof, but their activities, operations and payments hereunder shall be deemed to be those of the Participants whose space they are using.

(e) The agreement by the Lessee under paragraph (b) hereof as well as the agreement by the Lessee under paragraph (c)(3) hereof, in the event the provisions covering the CTA transportation service are terminated and are no longer in effect, are of the essence of this Section and the Lessee agrees that the Port Authority shall be entitled to a decree against the Lessee requiring the specific performance thereof in any court of equity having jurisdiction. The aforesaid remedy which may be available to the Port Authority hereunder in the event the Lessee breaches its agreement.

The Lessee understands and acknowledges that the provisions of this Section 74 have been in effect in the Central Terminal Area of the Airport under the Prior Lease. The Lessee and the Port Authority understand and agree that the foregoing provisions of this Section represent the agreement of the parties reached under the Prior Lease and each acknowledges that in actual operation the ground transportation services actually provided at the Airport pursuant thereto have, by mutual agreement and request of the parties, from time to time, not conformed in particular respects to the provisions hereof. Nothing contained herein, nor the execution of this Agreement, shall grant or be deemed to grant or

confer on either party a retroactive right or claim that any provisions hereof, or of the Prior Lease, has been breached, nor shall either party claim the inclusion of these provisions herein, nor the execution of this Agreement, has created or affirmed such right, nor shall any rights of the parties hereunder be deemed waived or limited thereby.

Section 75. Future Airport Transportation Facilities and Operations - Use of Portions of the Premises - Limitation of Lease Term Upon Failure of Future Agreement

(a) The Lessee understands that the Port Authority has announced a Capital Plan which includes certain work at the Airport, and that such work is, at the time of execution of this Lease, in planning and design and, upon the satisfactory conclusion of such planning and design the Port Authority expects to proceed to modify the air terminal highway system and the utility distribution systems at the Airport and to construct, maintain and operate at the Airport a new system or systems for the accommodation and transportation of persons, baggage and utilities all as generally described in the schedule attached hereto, hereby made a part hereof and marked "Schedule A" (such new systems and modifications including, but not limited to, those to the air terminal highway and utilities systems, ancillary related facilities and others as very generally described in Schedule A, being herein collectively referred to as the "New Systems"). The Lessee acknowledges and agrees that the New Systems will be a benefit and enhancement to the Airport and the Lessee's operations thereon.

(b) (1) The Lessee understands that one or more of the New Systems or portions thereof may be completed and put into operation in whole or in part prior to the execution by the parties of the New Systems Agreement covering the items referred to below in paragraph (c) hereof and may require the location on the premises of various installations including but not limited to a passenger embarkation and debarkation facility, a baggage reception and dispatch facility and new utility tie-ins and, in addition, may require the use of a portion or portions of the premises for and in connection with the construction, maintenance and operation of one or more of the New Systems or portions thereof. The Lessee agrees that it shall make available to the Port Authority upon demand such portion or portions of the premises for such purposes as may be required or be appropriate therefor and, where exclusively serving the premises, the same shall be without abatement of any rental or charges hereunder or any payments by the Port Authority to the Lessee therefor. The Lessee further understands that the efficient utilization of portions of the New Systems including, but not limited to, the Passenger Distribution System and Transportation Center (as set forth in Schedule A) at the Airport, may require or make it appropriate that, effective upon commencement of the use thereof by the Lessee or others, ingress to and egress from the roadways on the premises (including the terminal roadways as defined in Section 76 hereof) as provided for in Section 6 hereof, of

certain types of passenger carrying ground transportation vehicles and the pick-up and discharge of passengers and baggage therefrom shall be prohibited and, in such event, the Lessee shall comply with the Port Authority's directions with respect thereto.

(2) The Lessee agrees that, from time to time, upon the commencement of use of one or more of the New Systems, or portions thereof serving the premises, the Lessee upon the direction of the Port Authority shall accept and utilize the same, and shall accept and comply with the restrictions upon ingress to and egress from the premises and use of the premises for the loading and unloading of passengers and baggage from ground vehicles and such directions, procedures, rules and regulations as, in the opinion of the Port Authority, may be required for the efficient and proper utilization of the New Systems or portions thereof. The Lessee understands that the Port Authority may require, from time to time, that the Lessee enter into an interim agreement covering various aspects of the use of the New Systems or portions thereof, including charges therefor, which charges will include the Lessee's proportional share of the cost of the study, planning, design, construction, maintenance and operation thereof not otherwise included in fees and charges at the Airport, before permission to use the same may be given to the Lessee.

(c) (1) The Lessee understands that the Port Authority considers the construction, operation and maintenance of the New Systems of the utmost importance to the efficient operation of the Airport and to the fulfillment of the Port Authority's governmental function to provide, maintain and develop the Airport; that the efficient use and operation of the New Systems will require that the Lessee's passenger terminal facilities under this Lease utilize and participate in the operation of one or more of the New Systems or portions thereof; and that the Port Authority does not by this Lease intend to enter into an agreement, understanding or commitment which will interfere with, limit, restrict, hinder or prevent in any way the development, construction or maintenance or the efficient use or operation of any of the New Systems or any portion thereof including, but not limited to, the payment of appropriate charges by the Lessee and others therefore, which charges will include the Lessee's proportional share of the cost of the study, planning, design, construction, maintenance and operation thereof not otherwise included in fees and charges at the Airport, and the Lessee agrees that this Lease shall in no event or manner be construed or used for such purposes.

(2) The Lessee also understands and acknowledges that the cost of all or portions of the planning and design, and the contemplated construction, maintenance and operation of the New Systems is includable in and will be included in the calculation of the flight fee and other fees and charges under existing agreements and policies at the Airport, and that as to any of such costs not so includable, the Port Authority has under study and consideration the method to be employed to establish charges based thereon which would include recovery of said costs. Without in any way limiting the

provisions of existing agreements and policies at the Airport which may pertain and apply to the New Systems or portions thereof and payment therefor, the Lessee understands that it may be requested by the Port Authority to execute and deliver to the Port Authority an agreement or agreements (which may be in the form of an agreement supplementary to this Lease, a separate agreement, or an agreement supplementary to another agreement between the Port Authority and the Lessee, or a combination of the foregoing) in the form to be prepared by the Port Authority (said agreement or agreements being collectively referred to in this Section 75 as "the New Systems Agreement") setting forth the agreement of the Lessee and the Port Authority and containing terms and provisions providing for the payment to the Port Authority of charges for the New Systems including the Lessee's proportionate share of the cost of the study, planning, design, construction, maintenance and operation thereof not otherwise included in fees and charges at the Airport and the changes and modifications to the provisions of the Lease set forth below in this subparagraph (2) as well as other terms and provisions deemed necessary or desirable by the Port Authority in connection with the New Systems.

The parties hereby acknowledge that it has been proposed by the Port Authority and accepted in principle by the Lessee that the formula to determine the fees and charges for the use of the New Systems would generally be based upon the creation of an account (hereinafter called "the Airline Direct Account") to accumulate capital and operating costs for the New Systems not otherwise included in fees and charges at the Airport, and the establishment of fees and charges applicable to all passenger aircraft operators at the Airport which would include distribution of the Airline Direct Account (including, but not limited to, capital recovery component consistent with existing lease formuli at the Airport) pro-rata, on the basis of passenger aircraft maximum weight for take-off. The Lessee understands and agrees that the foregoing formula represents an attempt, at the time of execution of this Lease, to achieve an appropriate distribution of the costs of the study, planning, design, construction, maintenance and operation of the New Systems among all passenger airlines at the Airport and that such proposal does not represent the final determination of the matter covered, as to either party. The Port Authority has also advised the Lessee that it is the intention of the Port Authority that all such airlines at the Airport will be treated in a similar manner including the treatment of the cost, if any, of each in accommodating its airport terminal facility to the New Systems.

Without limiting any other provisions of this Section 75 the Lessee understands and agrees that changes and modifications to certain provisions of this Lease including, but not limited to, Section 6 (Ingress and Egress), Section 74 (Ground Transportation Within The Central Terminal Area) and Section 76 (Terminal Roadways) may be required or appropriate to conform the provisions of these Sections to the operation of any of the New Systems or portions thereof. The Lessee and the Port Authority agree that each will consult and discuss with the other and provide information to the

other, from time to time, with respect to the study, planning, design, construction, maintenance and operation of the New Systems and after submission of the New Systems Agreement or any portion thereof to the Lessee the Port Authority will meet with the Lessee and discuss the same with the Lessee.

(d) (1) In the event that the Lessee shall not have entered into and fully executed the New Systems Agreement referred to above in paragraph (c) of this Section 75 and delivered the same to the Port Authority on or before the first anniversary of the date of delivery to the Lessee by the Port Authority of execution copies of the New Systems Agreement which the Port Authority shall notify the Lessee at the time of delivery thereof is the "Final Execution Copy of the New Systems Agreement pursuant to Section 75 of Lease AYB-876" then, in such event, and without regard to the cause of the failure or delay of the Lessee to properly execute and deliver to the Port Authority such New Systems Agreement (including all parts thereof), ten (10) days following such applicable anniversary date this Lease and the term of the letting hereunder shall terminate, and the Lessee shall thereafter be a hold-over tenant, on a month-to-month periodical basis, of the Port Authority. Without limiting the foregoing, in the event the date of termination under this paragraph (d) (1) shall occur prior to the commencement date of the term of the letting, then subject to all limitations and conditions contained in this Agreement, the term of the letting hereunder shall commence on January 1, 1995 as a hold-over tenancy on a month-to-month basis, unless sooner terminated. Without limiting the foregoing the Lessee agrees that it shall never contest in any forum the effectiveness and validity of the Final Execution Copy of the New Systems Agreement, as aforesaid, or the delivery thereof to the Lessee including, but not limited to, a challenge or contest on the basis, or alleged basis, that the Final Execution Copy of the New Systems Agreement tendered to the Lessee by the Port Authority does not represent the Port Authority's final or last offer on the matter to the Lessee or to other airlines at the Airport. Termination of the Lease and the term of the letting hereunder shall be and operate as a conditional limitation. In the event any court of competent jurisdiction shall not give full and complete effect to this termination provision and its operation as a conditional limitation, the Lessee and the Port Authority agree, as a condition of this Lease, and not merely as a covenant, that this Lease and the stated term of the letting hereunder shall nonetheless, from and after the effective date of termination provided above, expire.

(2) In the event that the Port Authority shall exercise its right of termination of the month to month periodical tenancy as described in paragraph (d) (1) above then the Port Authority shall pay to the Lessee within 90 days after the Lessee shall have vacated the premises and delivered possession thereof to the Port Authority in the condition required by the Lease upon expiration of the term of the letting hereunder the Lessee's Unamortized Capital Investment (as said term is defined in Section 81 of the Lease) in the premises, if any, calculated as of the date of delivery of possession of the premises to the Port Authority, as aforesaid.

(e) The Lessee understands that the foregoing principles and provisions of this Section 75 are of the essence of this Lease with the Lessee and that the Port Authority is entering into this Lease on the basis that should the Lessee and the Port Authority fail to reach agreement on the New Systems Agreement, including, but not limited to, payment by the Lessee of charges therefore, including its proportional share of the cost of the study, planning and design, and contemplated construction, maintenance and operation thereof not otherwise included in fees and charges at the Airport, the Port Authority may take such action as it deems necessary or desirable including but not limited to the termination of this Lease under the provisions of this Section 75. The Lessee has considered the position of the Port Authority with respect to the New Systems, understands the great importance the Port Authority attaches to the New Systems and the Lessee has determined that it is in the Lessee's best interest at this time to proceed with this Lease and to proceed with construction work under the Prior Lease even though it may never enjoy the entire term of the letting as provided in Section 2 thereof.

Section 76. Terminal Roadways

(a) The Lessee hereby grants to the Port Authority the right and option, exercisable on thirty (30) days' notice to the Lessee, with respect to the areas shown in diagonal hatching and the areas shown in cross hatching on the sketch attached hereto, hereby made a part hereof and marked "Exhibit D" (which areas are hereinafter sometimes collectively called "the terminal roadways"), to make the terminal roadways available to the general public for general or limited highway use, the Lessee being aware that in the event the Port Authority shall exercise its right hereunder the terminal roadways will be designated by the Port Authority as part of the Air Terminal Highway System at the Airport.

(b) The Port Authority may assign one or more Port Authority law enforcement officers seven (7) days per week to be stationed at positions at the terminal roadways to perform all activities, actions and services which said law enforcement officers may perform on air terminal highways as authorized under the Laws of the State of New York, which shall include but not be limited to enforcement of the Port Authority's Rules and Regulations governing traffic on air terminal highways, enforcement of the law against illegal solicitation and overcharging of the public and responding to emergencies. It is hereby specifically agreed that the Port Authority shall have sole and complete control over all aspects of the foregoing, including but not limited to, the assignment of law enforcement officers and the manner in which the said activities are performed.

(c) Either prior to or subsequent to the exercise by the Port Authority of the right set forth in paragraph (a) hereof the Port Authority shall have the right to terminate this Section and the rights and obligations hereunder with or without cause upon

sixty (60) days' prior written notice to the Lessee. Upon the termination of this Section, the Port Authority shall delete the terminal roadways from being a part of the Air Terminal Highway System at the Airport, if they shall have been made a part thereof and thereafter said terminal roadways shall no longer be a part of the Air Terminal Highway System at the Airport, but all other provisions of the Lease shall be and remain in full force and effect.

(d) Notwithstanding any other term or provision of the Lease, in the event the Port Authority shall have exercised its right under paragraph (a) hereof the Port Authority may from time to time and at any time upon written notice to the Lessee determine how specified portions of the terminal roadways may be used. It is hereby specifically understood that nothing contained in this Section shall relieve the Lessee from its liabilities, obligations, indemnities and responsibilities under the Lease nor limit, in any way, its obligations to operate and maintain the terminal roadways, which roadways shall continue to be a part of the premises under the Lease, including but not limited to, its obligations of cleaning, snow and ice removal and to exercise control over its patrons, employees and invitees using the premises.

(e) Notwithstanding the generality of any other term or provision of the Lease it is hereby specifically understood and agreed that nothing contained in this Section does or shall constitute either party the agent or representative of the other for any purpose whatsoever.

(f) The Lessee hereby expressly represents and agrees that no statements, representations, promises or assurances have been given to the Lessee by the Port Authority or any representatives thereof nor shall the Lessee rely on any the Lessee may allege to have been given with respect to the subject matter of this Section, nor is the Port Authority making any representation, promise or assurance hereunder including, but not limited to, any that any assignment of law enforcement officers hereunder will succeed in any way to alleviate or control any problem associated with traffic or other activities or operations at the Unit Terminal or elsewhere at the Airport.

Section 77. Lessee's Financial Condition - Limitation of Lease Term - Triggering Events

I. If any one or more of the Triggering Events listed in Exhibit X, annexed hereto and hereby made a part hereof, shall occur, then, ten (10) days following the occurrence of any such Triggering Event, the term of this Agreement and the letting hereunder shall be deemed terminated, and the Lessee shall thereafter be a hold-over tenant, on a month-to-month periodical basis, of the Port Authority. Termination hereunder shall be and operate as a conditional limitation. In the event any court of competent jurisdiction shall not give full and complete effect to this termination provision and its operation as a conditional

limitation, the Lessee and the Port Authority agree, as a condition of this Agreement, and not merely as a covenant, that this Agreement and the stated term of the letting hereunder shall nonetheless, from and after the effective date of termination provided above, be deemed to have expired.

II. (a) The Lessee agrees that:

(1) There shall be a semi-annual meeting (from time to time such meeting may be held at a greater time interval at the sole discretion of the Port Authority) between representatives of the Port Authority and the Chief Financial Officer of the Lessee or, at the election of the Lessee, a senior financial officer of the Lessee (but in any event no less senior than the chief financial officer of the Lessee located in the United States) to review the financial performance of the Lessee including, but not limited to, the information supplied in accordance with paragraph (2) below.

(2) The Lessee shall deliver to the Port Authority, as soon as available, but not later than ninety (90) days after the close of each fiscal quarter (except as to Securities and Exchange Commission Form 20-F which shall be delivered not later than 180 days after the close of the latest period covered therein) copies of all material and information provided or made available to shareholders and/or all creditors of the Lessee or the Lessee's parent or subsidiaries (but not including information made available solely to the Lessee), including but not limited to the following:

(i) Financial data including monthly operating statements, changes in bank credit lines and debt obligations, cash flow projections compared with required debt service payments and United States Securities and Exchange Commission filings (including without limitation 6K and 20-F filings) and shareholder reports.

(ii) Traffic data including passengers, aircraft movements, available seat miles and revenue passenger miles.

(iii) Performance indicators including load factors, break-even load factors, yield per revenue passenger mile and cost per available seat mile.

(b) The Lessee shall submit to the Port Authority a statement at any time during the term of the letting signed by the Treasurer of the Lessee notifying the Port Authority that a Triggering Event or Triggering Events listed in Exhibit X has or have occurred as of the date of such notice and the date of the occurrence thereof, provided, however, that failure to give any such notice shall not affect the occurrence of any Triggering Event or the consequences thereof hereunder.

III. If the Lessee has, by notice, advised the Port Authority that it reasonably believes that any of the Triggering Events which are listed in Exhibit X hereof and constitute events which would result in termination pursuant to this Section 77 either are anticipated to occur within forty-five (45) days of said notice, or

has or have already occurred, or if in fact any Triggering Event or Triggering Events has or have occurred, or the Port Authority believes that the same has or have occurred without receipt of any notice from the Lessee, as aforesaid, then:

(a) the Lessee may, at any time prior to the termination of the letting, by notice, request that the Port Authority waive the occurrence of one or more of the Triggering Events, and the effect thereof hereunder, for a period of time to be determined by the Port Authority and to be contained in a letter agreement to be prepared by the Port Authority and executed by the Port Authority, which shall be effective upon its execution by the Lessee; or

(b) the Port Authority may, at any time prior to the termination of the letting, in its sole discretion and without a prior request from the Lessee, waive the occurrence of one or more of the Triggering Events, and the effect thereof hereunder, for a period of time to be determined by the Port Authority and to be set forth in a notice from the Port Authority to the Lessee. Service of a notice hereunder shall not in and of itself imply or be deemed to imply that a Triggering Event has occurred.

The Port Authority shall have no obligation to take either of the above two actions in this Part III.

IV. Although it is hereby specifically acknowledged and agreed that the aforesaid month-to-month periodical tenancy, if any should occur hereunder, is terminable by either party in accordance with law and that the following provision shall have no effect whatsoever on the right of either party to so terminate, it is further understood that if 4 consecutive calendar quarters have elapsed after a Triggering Event has occurred during which time the Lessee is in occupancy of the premises as a month-to-month tenant, and during such period none of the Triggering Events listed in Exhibit X have occurred or continue to occur, the Lessee is not in default in the payment of rental or any other provision of its month-to-month tenancy and neither the Port Authority nor the Lessee has terminated the month-to-month tenancy by notice to the other, then upon request by either party to the other, the parties will enter into a Supplementary Agreement to be prepared by the Port Authority and to be promptly executed by the parties hereto which would provide for the re-establishment of a tenancy between the Port Authority and the Lessee on a fixed term basis in accordance with all of the terms and provisions of this Lease, and upon said execution the Lease, as the same may theretofore have been supplemented and amended, shall have the fixed term stated in Section 2 hereof.

Section 78. Requesting Airlines at the Airport

(a) If a Scheduled Aircraft Operator (hereinafter called a "Requesting Airline") advises the Lessee that it would like to be accommodated by the Lessee at the premises, the Lessee in furtherance of the public interest of having the premises fully and most effectively utilized shall use its best efforts to accommodate

the request of said Requesting Airline. If the Lessee fails to reach agreement with said Requesting Airline for its accommodation, the Lessee shall advise the Port Authority to such effect. Thereafter, the Port Authority shall make a determination as to whether the Lessee should accommodate the Requesting Airline as requested and if so, whether there are any limitations on the nature, extent, cost, duration and extent of such accommodation. Determinations of the Port Authority shall not be arbitrary or capricious. Such determinations of the Port Authority would take into consideration the then existing utilization of the premises and the necessity for the flights, schedules, flight times, operations, operating practices and aircraft equipment of the Requesting Airline to be compatible with those of the Lessee, as well as the need for labor harmony. The Lessee agrees to comply with such determinations of the Port Authority.

(b) Any arrangement between the Lessee and the Requesting Airline made in accordance with any of the foregoing provisions shall be submitted by the Lessee to the Port Authority for its consent, which will be in the form of a Consent Agreement prepared by the Port Authority and to be executed by the Lessee, the Requesting Airline and the Port Authority.

(c) The foregoing shall not be deemed to abrogate, change or affect any restrictions, limitations or prohibitions on assignment, subletting or use of the premises by others under this Lease and shall not in any manner affect, waive or change any of the provisions thereof.

Section 79. Security Deposit

Upon the execution of this Agreement by the Lessee and delivery thereof to the Port Authority, the Lessee shall deposit with the Port Authority (and shall keep deposited throughout the effective period under this Lease) either the sum of [redacted] in cash, or bonds of the United States of America, or of The Port Authority of New York and New Jersey, or of the States of New York or New Jersey having a market value of that amount, as security for the full, faithful and prompt performance of and compliance with, on the part of the Lessee, all of the provisions, terms and conditions of this Lease on its part to be fulfilled, kept, performed or observed. Bonds qualifying for deposit hereunder shall be in bearer form but if bonds of that issue were offered only in registered form, then the Lessee may deposit such bond or bonds in registered form, provided, however, that the Port Authority shall be under no obligation to accept such deposit of a bond in registered form unless such bond has been re-registered in the name of the Port Authority (the expense of such re-registration to be borne by the Lessee) in a manner satisfactory to the Port Authority. The Lessee may request the Port Authority to accept a registered bond in the Lessee's name and if acceptable to the Port Authority the Lessee shall deposit such bond together with a bond power (and such other instruments or other documents as the Port Authority may require) in form and substance satisfactory to the Port Authority. In the event

the deposit is returned to the Lessee, any expenses incurred by the Port Authority in re-registering a bond to the name of the Lessee shall be borne by the Lessee. In addition to any and all other remedies available to it, the Port Authority shall have the right, at its option, at any time and from time to time, with or without notice to use the said deposit or any part thereof in whole or partial satisfaction of any of its claims or demands against the Lessee. There shall be no obligation on the Port Authority to exercise such right and neither the existence of such right nor the holding of the deposit itself shall cure any default or breach of this Agreement on the part of the Lessee. In the event that the Port Authority shall at any time or times so use the deposit, or any part thereof, or if bonds shall have been deposited and the market value thereof shall have declined below the above-mentioned amount, the Lessee shall on demand of the Port Authority and within two (2) days thereafter, deposit with the Port Authority additional cash or bonds so as to maintain the deposit at all times to the full amount above stated, and such additional deposits shall be subject to all the conditions of this Section 79. After the expiration or earlier termination of the letting under this Agreement (or any extension thereof) and upon condition that the Lessee shall then be in no wise in default under any part of this Agreement, and upon written request therefor by the Lessee, the Port Authority will return the said deposit to the Lessee less the amount of any and all unpaid claims and demands (including estimated damages) of the Port Authority by reason of any default or breach by the Lessee of this Agreement or any part thereof. The Lessee agrees that it will not assign or encumber the said deposit and any such assignment or encumbrance shll be void as to the Port Authority. The Lessee may collect or receive annually any interest or income earned on bonds and interest paid on cash deposited in interest-bearing bank accounts less any part thereof or amount which the Port Authority is or may hereafter be entitled or authorized by law to retain or to charge in connection therewith, whether as or in lieu of an administrative expense or custodial charge, or otherwise, provided, however, that the Port Authority shall not be obligated by this provision to place or to keep cash deposited hereunder in interest-bearing bank accounts. Without limiting the foregoing provisions of this Section 79 with respect to any bonds deposited by the Lessee, the Port Authority shall have the right, in order to satisfy any of its claims or demands against the Lessee, to sell the same in whole or in part, at any time and from time to time, with or without prior notice, at public or private sale, all as determined by the Port Authority together with the right to purchase the same at such sale free of any claims, equities or rights of redemption of the Lessee. The Lessee hereby waives any right to participate therein or any right to prior notice or demand of the amount or amounts of the Port Authority's claims or demands against the Lessee. The proceeds of any such sale shall be applied by the Port Authority first to the costs and expenses of the sale (including but not limited to any advertising or commission expenses) and then to the amounts due the Port Authority from the Lessee. Any balance remaining shall be retained in cash toward bringing the security deposit to the sum specified above provided that this shall not

relieve the Lessee from maintaining the deposit in the full amount stated above.

In satisfaction of the security depost required by this Section 79, the Lessee may, at its option, cause to be delivered to the Port Authority as security for the full, faithful and prompt performance of and compliance with, on the part of the Lessee, all of the provisions, terms and conditions of this Agreement of Lease on its part to be fulfilled, kept, performed or observed, a clean, irrevocable letter of credit issued to and in favor of the Port Authority, by a banking institution having its main office within the Port of New York District and acceptable to the Port Authority, payable in the Port of New York District, in the amount of $1,200,000 and in such form and content which shall have been approved in advance by the Port Authority, and which letter of credit (which may be periodically renewable) shall ultimately expire no later than a date six months after the expiration, termination or revocation of this Agreement. In addition to any and all other remedies available to it, the Port Authority shall have the right, at its option, at any time and from time to time, with or without notice to draw upon the said letter of credit or any part thereof in whole or partial satisfaction of any of its claims or demands against the Lessee. There shall be no obligation on the Port Authority to exercise such right and neither the existence of such right nor the holding of a letter of credit shall cure any default or breach of this Agreement on the part of the Lessee. If requested by the Port Authority, the said letter of credit shall be accompanied by a letter expressing the opinion of counsel for the banking institution that the issuance of the said clean, irrevocable letter of credit is an appropriate and valid exercise by the banking institution of the corporate power conferred upon it by law. If at any time and from time to time during the term of this Agreement, including any extension, a payment is made to the Port Authority under any letter of credit running in its favor as provided in this Section 79, the Lessee shall cause to be delivered to the Port Authority on demand from time to time and at any time made, cash or an additional clean, irrevocable letter of credit satisfactory to and issued in favor of the Port Authority by a banking institution satisfactory to the Port Authority, the form and content of which letter of credit shall have been approved by the Port Authority and which, if required by the Port Authority, shall be accompanied by an opinion of counsel as aforesaid and in such an amount so that at all times during the term of this Agreement, the Port Authority shall have clean, irrevocable letters of credit or cash adding up to a total amount of $1,200,000. If at any time any bank shall fail to make payment to the Port Authority in accordance with any letter of credit issued by any such bank in favor of the Port Authority as herein provided, the Lessee shall cause to be delivered to the Port Authority, on demand, cash or another clean, irrevocable letter of credit satisfactory to the Port Authority and issued by another banking institution in favor of the Port Authority and satisfactory to it, the form and content of which letter of credit shall have been approved by the Port Authority and which, if requested by the Port Authority, shall be accompanied by an opinion of counsel as

aforesaid, in an amount equal to the amount of the original letter of credit. Notwithstanding anything hereinabove provided, any failure of any banking institution issuing a letter of credit in favor of the Port Authority to make payments as provided in the said letter of credit shall, after failure of the Lessee to make such payment upon demand therefor by the Port Authority, be and be deemed a breach of this Agreement by the Lessee. No action by the Port Authority pursuant to the terms of any letter of credit, or receipt by the Port Authority of funds from any bank issuing any such letter of credit, shall be or be deemed to be a waiver of any default by the Lessee under the terms of this Agreement and all remedies of this Agreement and of the Port Authority consequent upon such default shall not be affected by the existence of a recourse to any such letter of credit. In the event more than one form of security shall be available to the Port Authority hereunder, use, in accordance with this Section 79, of either cash or other security deposited by the Lessee or a letter or letters of credit delivered to the Port Authority hereunder in lieu thereof shall be at the sole and complete discretion of the Port Authority.

Section 80. Itinerant Aircraft

(a) The Port Authority hereby grants to the Lessee the privilege of permitting the occasional use of the premises by air taxi, corporate and private aircraft (sometimes hereinafter called "the Itinerant Aircraft") for the sole purpose of discharging or picking up passengers, business guests and other invitees of the Lessee. All operations of such Itinerant Aircraft shall be in compliance with all the terms and provisions of the Lease and with the Rules and Regulations of the Port Authority. The Lessee shall be completely responsible for all acts and omissions of said Itinerant Aircraft as if said acts and omissions were the acts or omissions of the Lessee.

(b) The Port Authority shall have the right to cancel the privilege granted to the Lessee as set forth in paragraph (a) hereof in whole or in part or with respect to any particular Itinerant Aircraft at any time and from time to time and without cause upon thirty (30) days' written notice to the Lessee, and upon the effective date of such notice the Lessee shall no longer have the right to permit all or any specific Itinerant Aircraft as specified in the notice to use the premises as hereinabove provided, but the same shall not affect the Lease or any of the terms, rentals, fees, provisions or agreements hereof, all of which shall continue in full force and effect.

Section 81. Definitions

The following terms, when used in this Agreement, shall, unless the context shall require otherwise, have the respective meanings given below.

(a) "Airport" shall mean the land and premises in the City of New York, in the County of Queens and State of New York, which

are shown in green upon the Exhibit attached to the Basic Lease between The City of New York and the Port Authority referred to in subdivision (b) below, said Exhibit being marked "Map II, and lands contiguous thereto which may have been heretofore or may hereafter be acquired by the Port Authority to use for air terminal purposes.

(b) "Basic Lease" shall mean the agreement between The City of New York and the Port Authority dated April 17, 1947, as the same from time to time may have been or may be supplemented or amended. Said agreement dated April 17, 1947, has been recorded in the Office of the Register of The City of New York, County of Queens, on May 22, 1947, in Liber 5402 of Conveyances, at pages 319, et seq.

(c) "Agreement" shall mean this agreement of lease.

(d) "Lease" or "this Agreement of Lease" shall mean this agreement of lease.

(e) "Letting" shall mean the letting under this Agreement for the original term stated herein, and shall include any extension thereof.

(f) "Premises" shall mean and include the land, the buildings, structures and other improvements located or to be located or to be constructed therein or thereon, the equipment permanently affixed or permanently located therein, such as electrical, plumbing, sprinkler fire protection and fire alarm, heating, steam, sewage, drainage, refrigerating, communications, gas and other systems, and their pipes, wires, mains, lines, tubes, conduits, equipment and fixtures, and all paving, drains, culverts, ditches and catchbasins.

(g) "Public Landing Area" shall mean the area of land at the Airport including runways, taxiways and the areas between and adjacent to runways and taxiways, designated and made available from time to time by the Port Authority for the landing and taking off of aircraft.

(h) "Public Ramp and Apron Area" shall mean the area adjacent to the Public Landing Area designated and made available from time to time by the Port Authority for common use for the loading or unloading of passengers or cargo to or from aircraft using the public landing area.

(i) "Runways" (including approaches thereto) shall mean the portion of the Airport used for the purpose of the landing and taking off of aircraft.

(j) "Scheduled Aircraft Operator" shall mean a Civil Aircraft Operator engaged in transportation by aircraft operated wholly or in part on regular flights to and from the Airport in accordance with published schedules; but so long as the Federal Aviation Act of 1958, or any similar federal statute providing for

the issuance of Foreign Air Carrier Permits or Certificates of Public Convenience and Necessity or substantially similar permits or certificates, is in effect, no person shall be deemed to be a Scheduled Aircraft Operator within the meaning of this Lease unless he also holds such a permit or certificate.

(k) "General Manager of the Airport" shall mean the person or persons from time to time designated by the Port Authority to exercise the powers and functions vested in the said General Manager by this Agreement; but until further notice from the Port Authority to the Lessee it shall mean the General Manager (or the temporary or acting General Manager) of the Airport for the time being, or his duly designated representative or representatives.

(l) "Taxiways" shall mean the portion of the Airport used for the purpose of the ground movement of aircraft to, from and between the runways, the public ramp and apron area, the aircraft parking and storage space and other portions of the Airport (not including, however, any taxiways, the exclusive use of which is granted to the Lessee or any other person by lease, permit or otherwise.)

(m) "gross receipts" shall mean and include all monies paid or payable to the Operator for sales made and for services rendered at or from the premises, regardless of when or where the order therefor is received, and outside the premises, if the order therefor is received at the premises, and any other revenues of any type arising out of or in connection with the Operator's operations at the premises, provided, however, that any taxes or other governmental charges imposed by law which are separately stated to and paid by a customer and directly payable to the taxing authority by the Operator, shall be excluded therefrom.

(n) "Unamortized Capital Investment" shall mean for purposes of this Lease, the amount of the Lessee's investment in the premises arising out of the performance of the Terminal Expansion Work as set forth in the letter agreement entered into between the Port Authority and the Lessee, dated February 16, 1988, which provided for the performance of the Terminal Expansion Work under the Prior Lease, after deduction therefrom of an amount equivalent to an allowance for depreciation and amortization; such allowance to be computed on a straight-line basis from the earlier of October 1, 1989 or the completion of the Terminal Expansion Work (the date of the Certificate of Completion or Final Certificate of Completion, issued for the entire Terminal Expansion Work under the aforesaid letter agreement) to the end of the average useful life thereof (as determined under generally accepted United States accounting principles) or September 30, 2014, whichever is the shorter.

The foregoing computation to be made shall not take into consideration the effect of accelerated amortization, if any, granted to or taken by the Lessee on its books or otherwise under the provisions of Section 168(a) of Title 26 USCA or similar legislation hereafter enacted.

For purposes of this subparagraph (n) the Lessee's investment in the premises arising out of the performance of the construction of the Terminal Expansion as aforesaid shall be the lesser of (2.a.) _ _ or an amount equal to the sum of: (i) the amounts paid by the Lessee to independent contractors for work actually performed and labor and materials actually furnished, inclusive of sales, use and like taxes where applicable, and (ii) the payments made and expenses incurred by the Lessee, in connection with such construction, for engineering, architectural, professional and consulting services, and the supervision of construction, provided, however, that such payments and expenses pursuant to this subdivision (ii) shall not exceed eighteen per cent (18%) of the amounts described in subdivision (i); in each case, as the above-mentioned amounts, payments and expenses are evidenced, from time to time, by certificates of a responsible fiscal officer of the Lessee, sworn to before a notary public and delivered to the Port Authority, which certificates shall (a) set forth, in reasonable detail, the amounts paid to specified independent contractors, the payments made to other specified persons and the other expenses incurred by the Lessee, which have not previously been reported in certificates delivered to the Port Authority, (b) have attached thereto reproduction copies or duplicate originals of the invoices of such independent contractors and other persons acknowledging the receipt by them of such amounts and payments, and (c) certify that the amounts, payments and expenses therein set forth constitute the Lessee's investment in the premises arising out of the performance of the construction of the Terminal Expansion. All records of the Lessee with respect to the foregoing shall be kept at all times within the Port of New York District for a period of two (2) years after the final costs of all the construction work have been submitted by the Lessee to the Port Authority or the end of the term of the letting, whichever is later, and shall be subject to the audit and inspection of the Port Authority, its representatives and employees.

(o) "Governmental Authority", "Governmental Board", "Governmental Agency" shall mean federal, state, municipal and other governmental authorities, boards and agencies of any state, nation or government, except that it shall not be construed to include The Port Authority of New York and New Jersey, the lessor under this Lease.

(p) "Subsidiary" shall mean any corporation or company in which the Lessee owns fifty percent (50%) or more of the total outstanding voting securities (other than treasury stock).

(q) "Aircraft Operator" shall mean (a) a Person owning one or more aircraft which are not leased or chartered to any other person for operation, and (b) a Person to whom one or more aircraft are leased or chartered for operation whether the aircraft so owned, leased or chartered are military or non-military, or are used for private business, pleasure or governmental business, or for carrier or non-carrier operations, or for scheduled or non-scheduled

operations or otherwise. Said phrase shall not mean the pilot of an aircraft unless he is also the owner or lessee thereof or a Person to whom it is chartered.

(r) "Civil Aircraft Operator" shall mean a Person engaged in civil transportation by aircraft or otherwise operating aircraft for civilian purposes, whether governmental or private. If any such Person is also engaged in the operation of aircraft for military, naval or air force purposes, he shall be deemed to be a Civil Aircraft Operator only to the extent that he engages in the operation of aircraft for civilian purposes.

(s) "Person" shall mean not only a natural person, corporation or other legal entity, but also two or more natural persons, corporations or other legal entities acting jointly as a firm, partnership, unincorporated association, consortium, joint adventurers or otherwise.

(t) "Handled Airlines" shall mean the Requesting Airlines, as defined in Section 78 hereof, or any other Scheduled Aircraft Operator who is operating at the Airport pursuant to accommodations provided by a Lessee, whether by sublease, handling agreement, or a combination of both, which agreement has been consented to by the Port Authority and in which consent the Port Authority has designated said Operator a Handled Airline.

(u) "In-flight meals" as used in the air transportation industry and in this Lease is a word of art and includes food, beverages, snacks, non-reusable supplies, materials, dry goods and all services rendered in connection therewith.

(v) "Consumer Service Maximum Basic Rental" shall mean the amount of (2.a.) per square foot subject to adjustment based upon changes in the Consumer Price Index as set forth in paragraph (b) of Section 3 in the same manner as adjustments are made to the Lessee's rental obligations in said Section 3 in said paragraph (b).

Section 82 In-Flight Meals

(a) In the event Section 8.04 of Title VIII of the General Airport Agreement, as defined in Section 53 hereof, shall expire or be cancelled or deleted or for any other reason shall be of no further force or effect then the following paragraphs (1), (2) and (3) shall be deemed to apply hereunder and be a part hereof:

(1) If the Lessee desires to prepare, for its exclusive use, in-flight meals (as defined in Section 81 hereof) for consumption by passengers and crew on board aircraft operated by the Lessee and to deliver such meals to such aircraft it shall have the right to do so, individually or through a contractor of its own choice (which contractor shall not be another person engaged in the business of transportation by aircraft). If the Lessee does so directly, it shall do so only on space located outside the Central

Terminal Area (as defined in Section 74 hereof). The foregoing, however, shall create no obligation of the part of the Port Authority to provide such space and shall in no way be deemed a committment by the Port Authority that any such space shall be available. If the Lessee chooses to use an independent contractor, such contractor shall be a regular In-Flight Meal Operator by which is meant an operator authorized by the Port Authority to provide in-flight meals to Aircraft Operators at the Airport unless, in the opinion of the Lessee, all regular In-Flight Meal Operators are unsatisfactory to the Lessee, in which case the Lessee may employ any other contractor (other than another person engaged in the business of transportation by aircraft), satisfactory to the Port Authority, who will accept a permit from the Port Authority on the same terms and conditions including the same rates, fees or charges as imposed upon and required of the Port Authority's In-Flight Meal Operators.

(2) The Lessee shall have the further right, either directly or through an independent contractor of its choice, satisfactory to the Port Authority, or by arrangements, jointly with one or more other users at the Airport, to employ a contractor, satisfactory to the Port Authority, to prepare outside the Airport and to deliver at the Airport to aircraft operated by the Lessee, in-flight meals for consumption by passengers and crew on board such aircraft, provided, however, that if the Lessee employs a contractor either alone, or, by arrangement, jointly with one or more other users at the Airport for the preparation, outside the Airport, of in-flight meals, then the Lessee shall cause such contractor to pay to the Port Authority the rate or rates which would be payable to the Port Authority by a regular Port Authority permittee for the off-Airport preparation or delivery, or both, of such in-flight meals to aircraft for consumption by passengers and crews on board such aircraft.

(3) (i) The Lessee has advised that it may use more that one independent contractor to furnish its 'in-flight meals' at the Airport but may not wish to have all of said contractors become permittees of the Port Authority under permits which require, as aforesaid, the permittees to pay fees at the rates imposed on the Port Authority's In-Flight Meal Operators upon gross receipts based on amounts the Lessee pays said contractors.

(ii) Should the Lessee elect not to have all its independent contractors be Port Authority permittees as aforesaid, it shall serve a written notice on the Port Authority to such effect which notice shall state that it elects the method of additional payment as hereinafter set forth and thereupon the Port Authority shall consent thereto provided that, in addition to the amounts payable to the Port Authority under paragraphs (1) and (2) above, the Lessee shall pay and the Lessee hereby agrees to pay to the Port Authority an amount determined by applying the rates referred to in subparagraph (i) above to the amounts payable by the Lessee to said independent contractors for its 'in-flight meals' or any part thereof delivered to the Lessee's aircraft at the Airport (whether

such delivery be by said independent contractor, the Lessee or another). The foregoing payments by the Lessee shall be made monthly on the 20th day of the month commencing with the first month immediately following the Lessee's notice and continuing each month thereafter up to an including the 20th day of the month following the expiration date hereof. The Lessee at any time on at least thirty (30) days' prior written notice to the Port Authority may change from its selection above and the Lessee may at any time advise the Port Authority that this paragraph (3) no longer applies to it based upon its representation, that it then shall make, that all payments made by it for in-flight meals as said term is defined above shall be made to its contractors who are permittees of the Port Authority as 'In-Flight Meal Operators".

(iii) It is hereby expressly recognized that the procedures allowed under this paragraph (3) are not included within the contemplation of the provisions of paragraphs (1) and (2) above and that the inclusion of the same within this paragraph (3) shall not constitute or be deemed to constitute any concession or agreement by the Port Authority that said procedures are not in violation of paragraphs (1) and (2) hereof.

(b) (1) The Lessee acknowledges and agrees, with respect to any "in-flight meals" prepared and delivered on the Airport pursuant to Section 8.04 of title VIII of the General Airport Agreement, that it may use more than one independent contractor to furnish its in-flight meals at the Airport but may not wish to have all of said contractors become permittees of the Port Authority under permits which require the permittees to pay fees at the rates imposed on the Port Authority's In-Flight Meal Operators upon gross receipts based on amounts the Lessee pays said contractors, nor shall the same limit or be deemed to limit the provisions of said Section 8.04.

(2) Should the Lessee elect not to have all its independent contractors be Port Authority permittees as aforesaid, it shall serve a written notice on the Port Authority to such effect which notice shall state that it elects the method of additional payment as hereinafter set forth and thereupon the Port Authority shall consent thereto provided that, in addition to all other amounts payable to the Port Authority, the Lessee shall pay and the Lessee hereby agrees to pay to the Port Authority an amount determined by applying the rates referred to in subparagraph (1) above to the amounts payable by the Lessee to said independent contractors for its 'in-flight meals' or any part thereof delivered to the Lessee's aircraft at the Airport (whether such delivery be by said independent contractor, the Lessee or another). The foregoing payments by the Lessee shall be made monthly on the 20th day of the month commencing with the first month immediately following the Lessee's notice and continuing each month thereafter up to an including the 20th day of the month following the expiration date of the term of the letting hereunder. The Lessee at any time on at least thirty (30) days' prior written notice to the Port Authority may change from its selection above and the lessee may at any time

advice the Port Authority that this paragraph (b) no longer applies to it based upon its representation, that it then shall make, that all payments made by it for in-flight meals shall be made to its contractors who are permittees of the Port Authority as 'In-Flight Meal Operators'.

(3) It is hereby expressly recognized that the procedures allowed under this paragraph (b) are not included within the contemplation of the provisions of Section 8.04 of Title VII of the General Airport Agreement and that the inclusion of the same within this paragraph (b) shall not constitute or be deemed to constitute any concession or agreement by the Port Authority that said procedures are not in violation of said Section 8.04 of Title VII of the General Airport Agreement, nor shall the same limit or be deemed to limit the provisions of said Section 8.04.

Section 83. Entire Agreement

This Agreement consists of the following: Sections 1 through 83, inclusive, and Exhibits A, B, C, D, E, S and X, and Schedules A and E. It constitutes the entire agreement of the parties on the subject matter hereof and may not be changed, modified, discharged or extended except by written instrument duly executed by the Port Authority and the Lessee. The Lessee and the Port Authority agree that no representations or warranties shall be binding upon the other unless expressed in writing in this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed these presents the day and year first above written.

ATTEST:

Secretary

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

By

(Title) Director of Aviation

(Seal)

ATTEST:

Secretary

U.S. Counsel

BRITISH AIRWAYS, Plc.

By

(Title) Senior Vice President

(Corporate Seal)

APPROVED:	
Form	Terms

Exhibit X

TRIGGERING EVENTS

The following are the Triggering Events applicable to the provisions of Section 77 of the Agreement between British Airways (the "Lessee"), and the Port Authority, Lease AYB-876 (the "Agreement") to which this Exhibit is attached.

I. Exhibit X Definitions

All accounting terms used in this Exhibit and not otherwise defined herein shall have the meanings usually given such terms, in accordance with United States generally accepted accounting principles.

As used herein the following terms shall have the following meanings for the purposes of this Exhibit.

(1) "Debt", "debt financing" and "debt financing agreement(s)" of the Lessee shall mean, at any date (i) all obligations of the Lessee evidenced by loan agreement(s), bonds, debentures, notes or other similar instruments or for borrowed money; (ii) all equipment trust certificates, equipment trust indentures, mortgages, conditional sales or other security agreements, or other similar agreements, and (iii) all capital lease obligations of the Lessee.

(2) The terms "protective financial covenants" and "triggering mechanisms" shall mean the events set forth in any debt, debt financing or debt financing agreement between the Lessee and any bank or other financial institution the occurrence of which would give said bank or financial institution the right to accelerate the payment of the debt under the debt financing.

II. Triggering Events

(1) A Triggering Event shall occur when the Lessee shall fail to make payment as provided for in two or more of the categories listed below. Furthermore, such Triggering Event shall not have occurred unless the Port Authority shall have notified the Lessee (such notice to be marked to the attention of the Lessee's Treasurer) that such Triggering Event shall be effective on a date thirty (30) days following the date of such notice unless all payments due from the Lessee pursuant to such

categories listed below and specified in such notice have been received by the Port Authority:

(i) Payment of monthly installments of rental shall be made to the Port Authority on the first day of each calendar month;

(ii) Payment of all sums, including, without limitation, flight fees and fuel gallonage fees under the Lessee's Dewey Lease Agreement, AY-352 or otherwise, shall be made to the Port Authority on or before the twentieth day of the following calendar month;

(iii) Payment of all sums due to the Port Authority under this Agreement or otherwise, and outstanding for more than thirty (30) days, appearing on a Statement of Account rendered by the Port Authority to the Lessee.

No provision of this paragraph (1) shall be deemed to affect or limit the right of the Port Authority to terminate this Agreement pursuant to Section 25 (a) (9) hereof for failure to make such payments when due under this agreement.

(2) The Lessee expressly represents and warrants to the Port Authority that, as of the effective date of the Lease and as of the date of the Lessee's execution thereof, the Lessee has multiple publicly or non-publicly held debt financings each in excess of $36,000,000 which include events of default which could lead to acceleration thereof. The Lessee agrees that it shall within ninety (90) days after execution of said Lease deliver to the Port Authority itemized listings of said events of default for publicly traded debt financings, as aforesaid, together with adequate contextual matter (including but not limited to identity of the parties, amounts, etc.) of the debt financing agreement(s).

(3) A Triggering Event shall occur if any of the following shall occur and the Port Authority shall have previously given or shall thereafter give the Lessee notice of the election of the Port Authority to activate such Triggering Event:

(a) as a result of a default by the Lessee, (other than a default arising due to compliance by the Lessee with any applicable law or directive or (provided that the Lessee has satisfied the Port Authority that it is reasonable to comply therewith) with any requirement, whether having the force of law or not, of any government or regulatory authority to which the Lessee is subject, unless such default results in the Lessee becoming bound to repay prematurely any of its indebtedness for borrowed

moneys as described in (i) below (not being that in respect of which the default has occurred) and steps are taken to obtain repayment thereof):

(i) the Lessee becomes bound to repay prematurely any of its indebtedness for borrowed moneys having an outstanding aggregate principal amount of at least $36,000,000 or its equivalent in any other currency or currencies (hereinafter in this paragraph (a) called the "specified amount") and steps are taken to obtain repayment thereof; or

(ii) any such indebtedness having an outstanding aggregate principal amount of at least the specified amount or any guarantee or indemnity of the Lessee of any indebtedness of any person for borrowed moneys having an outstanding aggregate principal amount of at least the specified amount is not, when due, called or demanded, repaid or paid by the latest of its due date, the expiry of any applicable grace period and (if payment is prevented by any applicable law) 15 days after the first date on which payment is permitted,

provided that any such acceleration of maturity, default or failure to pay, as the case may be, shall not constitute a Triggering Event so long as the Lessee satisfies the Port Authority that it is being contested in good faith by the Lessee; or

(b) a resolution is passed, or a final order of a court in the United Kingdom is made, or an order of a court of competent jurisdiction outside the United Kingdom is made and not discharged or stayed within a period of 60 days, that the Lessee be wound up or dissolved (otherwise than for the purposes of a solvent reconstruction, amalgamation or merger the terms of which have previously been approved in writing by the Port Authority); or

(c) a creditor takes possession or an administrative or other receiver is appointed of the whole or a substantial part of the assets or undertaking of the Lessee or an administrative order is made in relation to the Lessee and such taking of possession, appointment or order is not released, discharged or cancelled within 60 days; or

(d) a distress, execution or seizure before judgment is levied or enforced upon or sued out against a substantial part of the assets or undertaking of the Lessee and is not discharged, dismissed or stayed within 60 days thereof; or

(e) the Lessee stops payment generally or is unable to pay its debts generally as and when they fall due or (otherwise than for the purposes of a solvent reconstruction, amalgamation or merger the terms of which have previously been approved in writing by the Port Authority) or ceases or threatens to cease to carry on all or substantially all of its business; or

(f) the Lessee makes an assignment for the benefit of creditors generally or admits in writing its inability to pay its debts generally as they become due or takes corporate action in furtherance of any such action.

III. Modification Requested by Lessee:

The Lessee may deliver a notice to the Port Authority requesting that one or more of the Triggering Events contained in is Exhibit X be modified. The Lessee shall include as part of such notice the text of the proposed modification. If the Executive Director of the Port Authority, with the approval of the Chairman of the Committee on Finance of the Board of Commissioners of the Port Authority shall countersign such modification, or an amended version of the modification acceptable to the Lessee, such notice duly signed by both the Lessee and the Executive Director of the Port Authority, shall be a valid and binding modification of the Triggering Events.

For the Port Authority

Initialled:

For the Lessee

SCHEDULE A

FUTURE AIRPORT TRANSPORTATION FACILITIES

The following systems and facilites which constitute the New Systems generally as set forth in Section 75 hereof may be independent of one another, or may, in whole or part, be physically combined with each other or with other systems not described below or may not, in whole or part, be included in the New Systems as finally designed, developed installed or operated. The description contained herein is intended to be only a general, conceptualized description of the purposes of the various elements included and is not intended to necessarily set forth discrete and complete facilities nor indicate their final form.

I Passenger Distribution System

An automated system providing transportation for persons among the transportation center, airline passenger terminals and other facilities at the Airport.

II Transportation Center

A transportation center which will serve as a part of the Passenger Distribution System and as a primary arrival and departure facility for airline passenger terminal facilites at the Airport for persons and their baggage arriving and departing the Airport by means of ground transportation and to provide airline passenger check-in, ticketing and baggage pick-up facilities and other services to the public.

III Baggage Handling System

An automated baggage transportation system among the airline passenger terminal facilities, the Transportation Center and other transportation facilities at the Airport.

IV Southwest Area Connection

A transportation system generally among the Transportation Center and locations in the southwesterly, westerly and northwesterly portions of the Airport including, but not limited to, the Howard Beach Station of the New York City Transit Authority, the Airport long term parking lots, Airport employee parking lot and the Airport Federal Circle rental car area.

V Redeveloped Roadway Network

The removal, relocation, reconfiguration, reconstruction, expansion and reinstallation of the Airport roadways to provide a balanced transportation system and to reflect the impact of, and to accommodate to, the other new systems and facilities.

VI Redeveloped Utilities Distribution System

The removal, relocation, reconfiguration, reconstruction, expansion and reinstallation of some or all of the utility distribution systems serving facilities at the Airport including, but not limited to, the disribution systems providing high temperature hot water and chilled water to and from the Central Heating and Refrigeration Facility.

For the Port Authority

Initialled For:

For the Lessee

SCHEDULE A

SCHEDULE E

PART I

Affirmative Action Guidelines - Equal Employment Opportunity

(I) As a matter of policy the Port Authority hereby requires the Lessee and the Lessee shall require the Contractor, as hereinafter defined, to comply with the provisions set forth hereinafter in this Part I and in the Lease. These provisions are similar to the conditions for bidding on federal government contracts adopted by the Office of Federal Contract Compliance and effective May 8, 1978.

The Lessee as well as each bidder, contractor or subcontractor of the Lessee (herein collectively referred to as the "Contractor") must fully comply with the following conditions set forth in this Part I as to each construction trade to be used on the construction work or any portion thereof (said conditions being herein called "Bid Conditions"). The Lessee hereby commits itself to the goals for minority and female utilization set forth below and all other requirements, terms and conditions of the Bid Conditions. The Lessee shall likewise require the Contractor to commit itself to the said goals for minority and female utilization set forth below and all other requirements, terms and conditions of the Bid Conditions by submitting a properly signed bid.

(II) The Lessee and the Contractor shall each appoint an executive of its company to assume the responsibility for the implementation of the requirements, terms and conditions of the following Bid Conditions:

(a) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work are as follows:

Trade	
Electricians	9.0% - 10.2%
Carpenters	27.6% - 32.0%
Steamfitters	12.2% - 13.5%
Metal Lathers	24.6% - 25.6%
Painters	22.8% - 26.0%
Operating Engineers	25.6% - 26.0%
Plumbers	12.0% - 14.5%
Iron Workers (Structural)	25.9% - 32.0%
Elevator Constructors	5.5% - 6.5%
Bricklayers	13.4% - 15.5%
Asbestos Workers	22.8% - 28.0%
Roofers	6.3% - 7.5%
Iron Workers (Ornamental)	22.4% - 23.0%
Cement Masons	23.0% - 27.0%
Glaziers	16.0% - 20.0%
Plasterers	15.8% - 18.0%
Teamsters	22.0% - 22.5%
Boilermakers	13.0% - 15.5%
All other	16.4% - 17.5%*
Women	6.9%*

*(In the event that during the performance of this contract the Office of Federal Contract Compliance establishes different goals for the New York City area the Contractor shall be deemed bound to such different goals and this Schedule shall be deemed amended to substitute such goals for the goals set forth above.)

These goals are applicable to all the Contractor's construction work performed in and for the premises.

The Contractor's specific affirmative action obligations required herein of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of these provisions. Compliance with the goals will be measured against the total work hours performed.

(b) The Contractor shall provide written notification to the Lessee and the Lessee shall provide written notification to the Manager of the Equal Opportunity Programs Unit of the Port Authority within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

(c) As used in these specifications:

(1) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U. S. Treasury Department Form 941;

(2) "Minority" includes:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

(ii) Hispanic (all persons of Mexican, Puerto Rican, Dominican, Cuban, Central or South American culture or origin, regardless of race);

(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asian, the Indian Subcontinent, or the Pacific Islands); and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(d) Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the construction work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 those provisions which include the applicable goals for minority and female participation.

(e) The Contractor shall implement the specific affirmative action standards provided in subparagraphs (1) through (16) of paragraph (h) hereof. The goals set forth above are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the premises. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

(f) Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer to either minorities or women shall excuse the Contractor's obligations hereunder.

(g) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.

(h) The Contractor shall take specific affirmative actions to ensure equal employment opportunity ("EEO"). The evaluation of the Contractor's compliance with these provisions shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

(1) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all portions of the premises at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each phase of the construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other supervisory personnel at the premises are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at the premises.

(2) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

(4) Provide immediate written notification to the Lessee when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under subparagraph (2) above.

(6) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the Contractor's newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the Contractor's EEO policy on bulletin boards accessible to all employees at each location where the construction work is performed.

(7) Review, at least every six months, the Contractor's EEO policy and affirmative action obligations hereunder with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-premises supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at the premises. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

(9) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students, to minority and female recruitment and training organizations and to State certified minority referral agencies serving the Contractor's

recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the premises and in other areas of a Contractor's workforce.

(11) Tests and other selection requirements shall comply with 41 CFR Part 60-3.

(12) Conduct, at least every six months, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

(13) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations hereunder are being carried out.

(14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

(15) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least every six months, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

(i) Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (subparagraphs (1)-(16) of Paragraph (h) above). The efforts of a contractor association, joint contractor-union, contractor- community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under Paragraph (h) hereof provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the

program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's non-compliance.

(j) Goals for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation hereof if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation hereof if a specific minority group of women is under-utilized).

(k) The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

(l) The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

(m) The Contractor shall carry out such sanctions and penalties for violation of these provisions including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered by the Port Authority. Any Contractor who fails to carry out such sanctions and penalties shall be in violation hereof.

(n) The Contractor, in fulfilling its obligations hereunder shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph (h) hereof so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of these provisions, the Lessee shall proceed accordingly.

(o) The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanic, apprentice, trainee, helper, or laborer), date of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work was performed. Records shall be maintained in an easily understandable and

retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

(p) Nothing herein provided shall be construed as a limitation upon the application of any laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

PART II

Minority Business Enterprises/Women-Owned Business Enterprises

As a matter of policy the Port Authority requires the Lessee and the Lessee shall itself and shall require the general contractor or other construction supervisor and each of the Lessee's contractors to use every good faith effort to provide for meaningful participation by Minority Business Enterprises (MBEs) and Women-owned Business Enterprises (WBEs), pursuant to the provisions hereof and of the Lease. For purposes hereof, Minority Business Enterprise (MBE) shall mean any business enterprise which is at least fifty-one percentum owned by or in the case of a publicly owned business, at least fifty-one percentum of the stock of which is owned by citizens or permanent resident aliens who are minorities and such ownership is real, substantial and continuing. For the purposes hereof, Women-owned Business Enterprise (WBE) shall mean any business enterprise which is at least fifty-one percentum owned by, or in the case of a publicly owned business, at least fifty-one percentum of the stock of which is owned by women and such ownership is real, substantial and continuing. A minority shall be as defined in paragraph II(c) of Part I of this Schedule E. "Meaningful participation" shall mean that at least twelve percent (12%) of the total dollar value of the construction contracts (including subcontracts) covering the construction work are for the participation of Minority Business Enterprises and that at least two percent (2%) of the total dollar value of the construction contracts (including subcontracts) are for the participation of Women-owned Business Enterprises. Good faith efforts to include meaningful participation by MBEs and WBEs shall include at least the following:

(a) Dividing the Work to be subcontracted into smaller portions where feasible.

(b) Actively and affirmatively soliciting bids for subcontracts from MBEs and WBEs, including circulation of solicitations to minority and female contractor associations. The Contractor shall maintain records detailing the efforts made to provide for meaningful MBE and WBE participation in the Work, including the names and addresses of all MBEs and WBEs contacted and, if any such MBE or WBE is not selected as a joint venturer or subcontractor, the reason for such decision.

STATE OF NEW YORK)
) ss.:
COUNTY OF NEW YORK)

On the 2nd day of August, 1988, before me personally came Robert J. Aaronson to me known, who, being by me duly sworn, did depose and say that he resides at South Orange, New Jersey.

;

that he is the Director of Aviation of The Port Authority of New York and New Jersey, (one of) the corporations described in and which executed the foregoing instrument; that he knows the seal of the said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Commissioners of the said corporation; and that he signed his name thereto by like order.

Jaqueline White
(notarial seal and stamp)

JAQUELINE WHITE
NOTARY PUBLIC, State of New York
No. 4737769
Qualified In Suffolk County
Commission Expires March 30, 19 89

STATE OF NEW YORK)
) ss.:
COUNTY OF NEW YORK)

On the 1st day of August, 1988, before me personally came ARTHUR F. MCMAHON to me known, who, being by me duly sworn, did depose and say that he resides at (Ex. 1)

;

that he is the SENIOR VICE President of British Airways, Plc., one of the corporations described in and which executed the foregoing instrument; that he knows the seal of the said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of the said corporation; and that he signed his name thereto by like order.

June S. Dolberg
(notarial seal and stamp)

JUNE S. DOLBERG
Notary Public, State of New York
No. 03-4671675 Qualified in Bronx Co.
Cert. filed in New York County
Commission Expires 8/31/1988

THIS SUPPLEMENT SHALL NOT BE BINDING UPON THE PORT AUTHORITY UNTIL DULY EXECUTED BY AN EXECUTIVE OFFICER THEREOF AND DELIVERED TO THE LESSEE BY AN AUTHORIZED REPRESENTATIVE OF THE PORT AUTHORITY

AVIATION DEPT.
PD & M - JFKIA
FILE COPY

Kennedy International Airport
Port Authority Lease No. AYB-876
Supplement No. 1

THIS AGREEMENT, made as of May 4, 1993, by and between THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY (hereinafter referred to as the "Port Authority") and BRITISH AIRWAYS, Plc. (hereinafter referred to as the "Lessee"),

WITNESSETH, That:

WHEREAS, by an agreement of lease made as of January 4, 1988, (which agreement of lease, as the same may have been heretofore supplemented and amended, is hereinafter referred to as the "Lease"), the Port Authority let to the Lessee and the Lessee hired and took from the Port Authority at Kennedy International Airport (hereinafter called the "Airport") certain premises as more particularly described in the Lease; and

WHEREAS, the Port Authority and the Lessee desire to amend the Lease in certain respects as hereinafter set forth.

NOW, THEREFORE, for and in consideration of the covenants and mutual agreements herein contained, the Port Authority and the Lessee hereby agree, effective on May 4, 1993, as follows:

The Port Authority and KIAC Partners, a New York General Partnership (hereinafter called "KIAC") have entered into agreements consisting of an Energy Purchase Agreement dated as of April 28, 1993, a Construction and Operations Agreement dated as of April 28, 1993, and an Agreement of Lease dated as of April 28, 1993, for the construction, installation and operation of a cogeneration facility at the Airport which will include portions of the Central Heating and Refrigeration Facility, as set forth

in Section 52 of the Lease. Effective May 4, 1993, Section 52 of the Lease entitled "The Central Heating and Refrigeration Facility" shall be deemed amended as follows:

1. The following shall be deemed inserted at the end of the introductory paragraph of Section 52 of the Lease:

> "The Port Authority has entered into agreements consisting of an Energy Purchase Agreement dated as of April 28, 1993, a Construction and Operations Agreement, dated as of April 28, 1993, and an Agreement of Lease, dated as of April 28, 1993, (hereinafter as the same may be supplemented, amended and extended from time to time collectively and individually called the 'Cogeneration Agreement') with KIAC Partners, a New York General Partnership (hereinafter called 'KIAC'), for the construction, installation and operation of a cogeneration facility at the Airport which will include portions of the Central Heating and Refrigeration Facility, as set forth above, now operated at the Airport, which cogeneration facility will, from and after the date of its 'Commercial Operation' as such term is defined in the Cogeneration Agreement, produce electricity, hot water and chilled water, as the terms hot water and chilled water are defined below, and which cogeneration facility is hereinafter called the 'Cogeneration Facility'. Effective on May 4, 1993, and while the construction of the Cogeneration Facility proceeds, KIAC will operate the Facility on behalf of the Port Authority to produce hot water and chilled water, as such terms are defined below, and the following shall be and continue in effect with respect to the sale, furnishing and supply of hot water and chilled water by the Port Authority to the Lessee."

2. The provisions of Section 52 (b) of the Lease shall be deemed deleted therefrom and the following shall be deemed inserted in lieu thereof:

> "(b) (1) The Annual Total Facility Cost for the calendar year commencing on January 1, 1995, and ending on December 31, 1995, shall consist of the sum of the following:
>
> (i) The amount of interest payable by the Port Authority to KIAC pursuant to the Cogeneration Agreement and determined at the rate

or rates provided for in the Cogeneration Agreement on (A) a principal amount of

(Ex. 2.a.)

tion of such calendar year commencing on January 1, 1995, and ending on May 3, 1995, plus (B) a principal amount of

(Ex. 2.a.)

or the portion of such calendar year commencing on May 4, 1995, and ending on December 31, 1995;

(ii) The amount of interest payable by the Port Authority to KIAC pursuant to the Cogeneration Agreement for expenditures for capital improvements that are useable and useful and that have the potential to provide both an immediate benefit to the operation of the Facility prior to Commercial Operation and would provide a continuing and significant benefit to the operation of the Cogeneration Facility after Commercial Operation;

(iii) The Annual Facility Operating and Maintenance Charge as defined in paragraph (g) hereof.

(2) The Annual Total Facility Cost for each calendar year commencing on and after January 1, 1996, shall consist of the sum of the following:

(i) The amount of interest payable by the Port Authority to KIAC pursuant to the Cogeneration Agreement and determined at the rate or rates provided for in the Cogeneration Agreement on a principal amount of

(ii) The amount of interest payable by the Port Authority to KIAC pursuant to the Cogeneration Agreement for expenditures for capital improvements that are useable and useful and that have the potential to provide both an immediate benefit to the operation of the Facility prior to Commercial Operation and would provide a continuing and significant benefit to the operation of the Cogeneration Facility after Commercial Operation;

(iii) The Annual Facility Operating and Maintenance Charge as defined in paragraph (g) hereof."

3. The provisions of Sections 52 (d) and 52 (e) of the Lease shall be deemed deleted therefrom.

4. (a) The provisions of the introductory portion of Section 52 (g) of the Lease shall be deemed deleted therefrom and the following shall be deemed inserted in lieu thereof:

"(g) The service of the Port Authority in furnishing, supplying, activating, cleaning, testing, providing, maintaining, repairing, servicing and operating the Facility and the hot water and chilled water emanating therefrom is hereinafter called the 'Facility Service'. The Cogeneration Agreement provides that KIAC shall furnish most aspects of the Facility Service to the Port Authority. The Annual Facility Operating and Maintenance Charge shall mean the cost to the Port Authority of the Facility Service for each calendar year. Without limiting the generality of the provisions of this paragraph, the said cost to the Port Authority shall include, but not be limited to, the Port Authority's payments to KIAC for the provision of the Facility Service. Said cost shall be determined in accordance with the Port Authority's normal accounting practice and shall consist of the following:"

(b) The provisions of item (4) of Section 52 (g) shall be deemed renumbered as item (4) (A) thereof and the following shall be deemed inserted as item (4) (B) thereof:

"(B) Payments to KIAC by the Port Authority under the Cogeneration Agreement in connection with the Facility Service;"

(c) The provisions of Section 52 (i) of the Lease shall be deemed deleted therefrom.

(d) The second and third sentences of the second paragraph of Section 52 (j) of the Lease shall be deemed deleted therefrom.

(e) The following shall be deemed inserted as the last sentence of Section 52 (l) of the Lease:

> "The Lessee hereby agrees that the Port Authority and KIAC and the contractors or suppliers of either of them shall have the right to enter upon the premises to install, operate and maintain facilities to bring hot water and chilled water to the rooms."

(f) The following shall be deemed inserted as paragraph (n) of Section 52 of the Lease:

> "(n) In the event of the termination of the Cogeneration Agreement, if the facilities at the Airport therefor are, in the opinion of the Port Authority, economically operable, the Port Authority, itself or pursuant to agreement with a contractor or permittee, shall supply hot water and chilled water to the premises and the Lessee shall take and pay therefor with the Annual Facility Operating and Maintenance Charge therefor to be the amount that would reimburse the Port Authority for its capital and operating costs in connection therewith determined in accordance with the Port Authority's normal accounting practice."

5. Effective on a date to be stated in a notice from the Port Authority to the Lessee, the provisions of Section 52 of the Lease as the same have been amended pursuant to Paragraphs 1, 2, 3 and 4 above shall be deemed deleted therefrom (this deletion not to affect or limit the obligation of the Lessee to pay all sums due under the said superseded Section 52 prior to the aforesaid effective date) and the following shall be deemed inserted in lieu thereof:

"Section 52. <u>Hot Water and Chilled Water Requirements</u>

> (a) (i) The Port Authority has entered into agreements consisting of an Energy Purchase Agreement, dated as of April 28, 1993, a Construction and Operations Agreement, dated as of April 28, 1993, and an Agreement of Lease, dated as of April 28, 1993, (hereinafter as the same may be supplemented, amended and extended from time to time collectively and individually called the

"Cogeneration Agreement") with KIAC Partners, a New York General Partnership (hereinafter called 'KIAC'), for the construction, installation and operation of a cogeneration facility at the Airport which will include portions of the Central Heating and Refrigeration Facility previously operated by the Port Authority at the Airport and which cogeneration facility will produce electricity, hot water (hereinafter called 'Hot Water') and chilled water (hereinafter called 'Chilled Water') and which cogeneration facility is hereinafter called the 'Cogeneration Facility'. The Cogeneration Facility shall include a thermal distribution system (the 'TDS') including distribution lines extending to the premises as provided in paragraph (f) below.

(ii) The Lessee acknowledges that it has received a copy of the Cogeneration Agreement and agrees that the supply by KIAC of Hot Water and Chilled Water to the premises is subject to all of the terms and provisions of the Cogeneration Agreement. The Lessee agrees that the Port Authority may grant waivers, consents and approvals to KIAC from time to time and the Port Authority and KIAC may, except to the extent provided in paragraph (i) below, supplement, amend or extend the Cogeneration Agreement from time to time and that the Lessee shall be subject to any such waivers, consents and approvals and supplements, amendments, and extensions as part of the Cogeneration Agreement. Copies of any such supplements, amendments and extensions will be made available to the Lessee upon request by the Lessee therefor.

(b) (i) The Cogeneration Agreement provides, among other things, that the Port Authority will purchase from KIAC for resale to the Lessee, and the Lessee hereby agrees that it will accept and purchase from the Port Authority from and after the date stated in a notice from the Port Authority (the 'Cogeneration Effective Date'), subject to all of the terms and conditions of the Cogeneration Agreement, for use on the premises, to the extent the same is delivered by KIAC to the Port Authority and by the Port Authority to the

Lessee, all of the Lessee's requirements at the premises for Hot Water and Chilled Water (excluding requirements exclusively for aircraft and loading bridges leading to aircraft); and the Lessee hereby agrees to pay the Port Authority therefor as follows:

(1) The Lessee acknowledges and agrees that the charge to the Lessee by the Port Authority for the Lessee's consumption of Hot Water and Chilled Water at the premises and Chilled Water makeup water and chemical treatment of makeup water (due to system leakage at the premises or otherwise) shall be the sum of (A) the amount payable by the Port Authority to KIAC therefor pursuant to the Cogeneration Agreement, plus (B) Five Percent (5%) of the foregoing and plus (C) all applicable taxes.

(2) The Lessee acknowledges that pursuant to the Cogeneration Agreement KIAC will furnish the Port Authority with measurements of the Lessee's consumption of (A) Hot Water based upon energy drawn by the Lessee from KIAC's Hot Water distribution lines, (B) Chilled Water based upon the energy absorbed from the Lessee by KIAC's Chilled Water distribution lines and (C) Chilled Water makeup water and chemical treatment of makeup water consumed on the premises, and the Lessee agrees that the provisions of the Cogeneration Agreement with respect to the accuracy of such measurements, the determination of such measurements in the event of inaccurate registration by metering devices, and the use of estimates in the event of the failure of such metering devices shall all be applicable to the Lessee under this Agreement as though set forth in full herein.

(3) The Lessee acknowledges that the Cogeneration Agreement provides that KIAC shall provide estimated bills to the Port Authority for consumption of Hot Water and Chilled Water on a monthly basis commencing approximately ten (10) days after the Cogeneration Effective Date for the first calendar month or portion thereof and on or about the tenth day of the month for each calendar

month thereafter. KIAC is then to render a final bill with respect to each estimated bill approximately ten (10) days after the conclusion of the said month together with the estimated bill for the then current month.

(4) Notwithstanding such arrangement between KIAC and the Port Authority, the Port Authority shall, with respect to each calendar year or fraction thereof, establish estimated unit rates, subject to change from time to time by the Port Authority, for the consumption on the premises of Hot Water and Chilled Water and shall render an estimated bill to the Lessee for the Lessee's consumption at such estimated rates monthly on the last day of the calendar month following each full or partial calendar month during the term hereof after the Cogeneration Effective Date which bill shall be payable on receipt.

(5) As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the amounts payable by the Lessee in accordance with the provisions of subparagraphs (1), (2) and (3) of this paragraph (b). A corrected billing based upon such determination shall thereupon be rendered by the Port Authority to the Lessee and if any monies are due to the Port Authority they shall be promptly paid by the Lessee and if any monies are due to the Lessee they shall be credited to it. In the event the term of this Agreement expires or is sooner terminated on a date other than the last day of a calendar year, the Port Authority shall have no obligation to immediately make the computations as hereinabove provided which would determine the amounts payable by the Lessee in accordance with subparagraphs (1), (2) and (3) of this paragraph (b) for the period during said year when this Agreement was in effect. In the event this Agreement expires on a day other than the last day of a calendar month and the actual consumption of and charges to the Lessee for such portion of the calendar month are not available, the charge to the Lessee shall be equitably prorated. Said computations shall be made

subsequent to the end of the calendar year as hereinabove provided, and if any monies are due to the Port Authority they shall be paid by the Lessee and if any monies are due to the Lessee they shall be paid to it by the Port Authority less such amounts, if any, then due and owing to the Port Authority from the Lessee.

(6) The Port Authority shall render a bill to the Lessee from time to time for the Lessee's Chilled Water distribution gallonage which shall be payable upon receipt. The charge therefor shall be based on KIAC's charge to the Port Authority for makeup water and chemical treatment of makeup water and shall be determined in accordance with subparagraphs (1) and (2) of this paragraph (b).

(7) In the event that the Lessee disputes any item of an estimated or final bill, the Lessee shall promptly pay the bill in full and the Port Authority shall make any necessary adjustments only after resolution of such dispute.

(ii) The Lessee agrees that in order that KIAC or any successor thereto may maintain the status of the Cogeneration Facility as a "qualifying cogeneration facility" under applicable Federal laws, rules and regulations ('QF Status') including the Public Utility Regulatory Policies Act of 1978 as the same may be amended and any successor statute thereto, the Lessee shall, at all times it is operating the premises for the purposes permitted in this Agreement, purchase from the Port Authority and use on an annual basis a minimum amount of thermal energy contained in Hot Water and Chilled Water produced by use of steam from the Cogeneration Facility equivalent to the lesser of (1) an amount that, together with all thermal energy contained in Hot Water and Chilled Water purchased and used by the Port Authority and all other lessees of premises in the Central Terminal Area, is sufficient to maintain the QF Status of the Cogeneration Facility and (2) the product of (x) 167,379 mmBTUs of thermal energy, which is one-third of the use of thermal energy contained

in Hot Water and Chilled Water in the Central Terminal Area of the Port Authority and the lessees of premises in the Central Terminal Area in the year ended December 31, 1989, and (y) a fraction, the numerator of which is the amount of the Lessee's use of thermal energy contained in Hot Water and Chilled Water at the premises in the most recent complete calendar year preceding the applicable date of determination and the denominator of which is the amount of all use in the Central Terminal Area of thermal energy contained in Hot Water and Chilled Water in such calendar year.

(iii) It is agreed that during or subsequent to the expiration of this Agreement no charge to or payment by the Lessee with respect to Hot Water, Chilled Water or Chilled Water distribution gallonage shall be included in, affect, or change in any way the calculation and determination of Port Authority costs or charges under any other agreement between the Lessee and the Port Authority at the Airport and any such Port Authority cost or charge shall be calculated and determined as if no charge to or payment by the Lessee with respect to Hot Water, Chilled Water or Chilled Water distribution gallonage had been incurred.

(c) THE LESSEE HEREBY WAIVES AND RELINQUISHES for itself, its successors and assigns any right it may have, and further agrees that it, its successors and assigns shall have no right, to manufacture or produce, to cause to be manufactured or produced, or to purchase or receive from any third party, Hot Water or Chilled Water for use on the premises or to use any other manner of air cooling or air heating at the premises except to purchase, receive and use Hot Water and Chilled Water from the Port Authority pursuant to this Agreement.

(d) There shall be no obligation to the Lessee by either KIAC or the Port Authority to furnish the goods and services covered by this Section at any time (i) while any component necessary therefor shall be prohibited or rationed by any federal,

state or municipal, law, rule, regulation, requirement, order or direction or while the Port Authority deems it in the public interest to comply therewith even though such law, rule, regulation, requirement, order or direction may not be mandatory on the Port Authority as a public agency, (ii) while the same are curtailed or stopped because of the need to repair, replace, rebuild or alter the Cogeneration Facility, (iii) during the continuance of any event of Force Majeure, as such term is defined in the Cogeneration Agreement or (iv) that the Lessee shall be in default under this Agreement after the period, if any, herein granted to cure such default shall have expired. No failure, delay or interruption in supplying said goods and services shall be or be construed to be an eviction of the Lessee or grounds for the diminution or abatement of rentals, fees or other charges, nor shall any such failure, delay or interruption be grounds for any claim by the Lessee for damages, consequential or otherwise, against the Port Authority or KIAC.

(e) Without limiting any other provision of this Section, any supply of Hot Water or Chilled Water to the premises from the Cogeneration Facility shall be limited by the safe and efficient operating capacity of the Cogeneration Facility as determined by KIAC and as approved by the Port Authority.

(f) (i) The Lessee has installed or shall install all machinery, equipment and facilities required to be installed in the premises in order to utilize Hot Water and Chilled Water to be distributed and has tied into or shall tie into the TDS at the heat exchangers, heretofore installed by the Port Authority or to be installed by KIAC, in the mechanical equipment rooms constructed by the Lessee on the premises.

(ii) The Lessee hereby agrees that the Port Authority, KIAC and the contractors or suppliers of either of them shall have the right, subject to and as provided in Section 17 of this Agreement, to enter upon the premises to install, operate and maintain any part of the Cogeneration Facility

however, that the Port Authority will not enter into any amendment, supplement or extension of the Cogeneration Agreement which will result in a change in the formula used to calculate the Hot Water and Chilled Water rates payable by the Lessee which change results in an increase in the rates payable by the Lessee pursuant to such formula (the Lessee hereby acknowledging that such formula may, according to its terms, provide for such rates to be adjusted from time to time) without the consent of the lessees (including the Port Authority as and to the extent that the Port Authority uses Hot Water and Chilled Water) of premises that purchased and used at least Fifty-one percent (51%) of the aggregate Hot Water and Chilled Water purchased and used in the Central Terminal Area during the last full calendar year preceding the effective date of such amendment, supplement or extension."

6. The amendment of the Lease by this Agreement shall not be deemed to affect or modify in any way the provisions the provisions of Section 51 entitled "Term" or Section 4 of the Lease entitled "Conditional Limitations: Performance of the Terminal Expansion Work - Termination of the Prior Lease".

7. Neither the execution of this Agreement by the parties hereto nor any reference herein to any date prior to January 1, 1995, shall be deemed to affect or modify in any way the provisions of Section 2 of the Lease entitled "Term" or Section 4 of the Lease entitled "Conditional Limitations: Performance of the Terminal Expansion Work - Termination of the Prior Lease".

8. The Lessee represents and warrants that no broker has been concerned in the negotiation of this Agreement or the extension hereunder and that there is no broker who is or may be entitled to be paid a commission in connection therewith. The Lessee shall indemnify and save harmless the Port Authority of and from any and all claims for commission or brokerage made by any and all persons, firms or corporations whatsoever for services in connection with the negotiation and execution of this Agreement or the extension hereunder.

9. Neither the Commissioners of the Port Authority nor any of them, nor any officer, agent or employee thereof, shall be charged personally by the Lessee with any liability, or held

liable to it under any term or provision of this Agreement, or because of its execution or attempted execution or because of any breach thereof.

10. As hereby amended, all of the terms, covenants, provisions, conditions and agreements of the Lease shall be and remain in full force and effect.

11. This Agreement and the Lease which it amends constitute the entire agreement between the Port Authority and the Lessee on the subject matter, and may not be changed, modified, discharged or extended except by instrument in writing duly executed on behalf of both the Port Authority and the Lessee. The Lessee agrees that no representations or warranties shall be binding upon the Port Authority unless expressed in writing in the Lease or this Agreement.

IN WITNESS WHEREOF, the Port Authority and the Lessee have executed these presents, as of the date first above written.

ATTEST:

Secretary

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

By _____

(Title) DEPUTY DIRECTOR OF AVIATION

(Seal)

~~ATTEST:~~ WITNESS:

General Counsel USA

BRITISH AIRWAYS, Plc.

By _____

(Title) SR Vice President

(Corporate Seal)

APPROVED: FORM | TERMS

FORM E - Acknowledgment (N.Y. Corp.) 6/24/72

STATE OF NEW YORK)
) ss.
COUNTY OF NEW YORK)

On the 21 day of July, 1994, before me came Gerald P. Fitzgerald, to me known, who, being by me duly sworn, did depose and say that he resides at Flushing, NY. that he is the Deputy Director of Aviation of The Port Authority of New York and New Jersey, one of the corporations described in, and which executed the foregoing instrument; that he knows the seal of the said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Commissioners of the said corporation; and that he signed his name thereto by like order.

JACQUELINE WHITE
Notary Public, State of New York
No. 4737769
Qualified in Suffolk County
Commission Expires May 31, 19

Jacqueline White
(notarial seal and stamp)

STATE OF)
) ss.
COUNTY OF Queens)

On the Fourteenth day of April, 1994, before me personally came Robert Kupala to me known, who being by me duly sworn, did depose and say, that he resides at 75-20 ASTORIA BLVD., JACKSON HEIGHTS, NY 11370, Sr. Vice that he is the President of BRITISH AIRWAYS, Plc. one of the corporations described in and which executed the foregoing instrument; that he knows the seal of the said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of the said corporation; and that he signed his name thereto by like order.

S. SAVERIO CAMMARATA JR.
Registration # 41-4902156
Qualified in Queens County
Commission Expires 7-22-95

(notarial seal and stamp)

STATE OF)
) ss.
COUNTY OF)

On the day of , 1994, before me personally came to me known, who being by me duly sworn, did depose and say; that he resides at that he is the President of one of the corporations described in and which executed the foregoing instrument; that he knows the seal of the said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of the said corporation; and that he signed his name thereto by like order.

(notarial seal and stamp)

Unit Terminal

PORT AUTHORITY LEASE NO. AVIC 876

SUPPLEMENT NO. 2

PORT AUTHORITY OF NEW YORK AND NEW JERSEY

AND

BRITISH AIRWAYS, PLC

(the "Lessee")

VOLUME I

utbba-97s2r7ex

THIS AGREEMENT SHALL NOT BE BINDING
UPON THE PORT AUTHORITY UNTIL DULY
EXECUTED BY AN EXECUTIVE OFFICER
THEREOF AND DELIVERED TO THE LESSEE
BY AN AUTHORIZED REPRESENTATIVE OF THE
PORT AUTHORITY

John F. Kennedy International Airport
Port Authority Lease No. **AYB-876**
Supplement No. 2

SUPPLEMENTAL AGREEMENT

THIS SUPPLEMENTAL AGREEMENT made as of April 9, 1998 (said date being hereinafter called the "Effective Date") by and between THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY (hereinafter called the "Port Authority") and BRITISH AIRWAYS, Plc. (hereinafter called the "Lessee"),

WITNESSETH, THAT:

WHEREAS, by an agreement of lease dated as of January 4, 1988 (which lease agreement, as the same has been supplemented and amended is hereinafter called the "Lease"), the Port Authority let to the Lessee and the Lessee hired and took from the Port Authority certain premises at John F. Kennedy International Airport, all as more particularly described in the Lease; and

WHEREAS, the Port Authority and the Lessee desire to amend the Lease in certain respects;

NOW, THEREFORE, for and in consideration of the covenants and mutual agreements herein contained, the Port Authority and the Lessee hereby agree, effective as of the Effective Date (except as otherwise expressly provided), as follows:

1. (a) In addition to the premises heretofore let to the Lessee under the Lease as to which the letting shall continue in full force and effect subject to all the terms and conditions of the Lease, as herein amended, the Port Authority hereby lets to the Lessee and the

Lessee hereby hires and takes from the Port Authority at John F. Kennedy International Airport, Queens, New York, effective as of 12:01 A.M. on the Effective Date (said date being also hereinafter sometimes referred to as the "Area 1 Commencement Date") the ground areas shown in stipple on the sketch attached hereto, hereby made a part hereof and marked "Exhibit A" Sheet 1 of 3 and identified thereon as "Area 1", together with the fixtures, improvements and other property of the Port Authority located or to be located therein or thereon (except as otherwise herein provided), said areas to be and become a part of the premises under the Lease, as herein amended, let to the Lessee (said additional areas being sometimes hereinafter referred to as "Area 1") subject to and in accordance with all of the terms, covenants, provisions and conditions of the Lease, as herein amended for and during all the residue and remainder of the term of the Lease; provided, however, that, notwithstanding anything to the contrary herein, the portions of the "Elevated Parking Structure" (as defined in Section 83 of the Lease, as hereby amended) to be located on or above said added areas shall not be or become part of the premises (or of Area 1) under the Lease, except for the portion thereof which constitutes the "Remote Check-in Space" as defined in Paragraph 3 hereof and which shall become part of the premises on the "Elevated Parking Structure Completion Date" as defined in said Paragraph 3 hereof.

(b) The parties acknowledge and agree that the aforesaid areas added to the premises under this Paragraph 1 constitute non-residential real property.

(c) Subject to Paragraph 2 below, the Lessee accepts Area 1 in its "as is" condition and agrees that the Port Authority shall not have any responsibility for any work or installation to make said Area 1 usable by the Lessee , to place them in any particular condition or to reimburse the Lessee for any work or installation as may be made by or on behalf of the Lessee, the Lessee having exclusive responsibility therefor. However, the Lessee shall not effect, without the prior written approval of the Port Authority, any modification, addition, removal or other change with respect to said areas. Subject to Paragraph 2 below, the Lessee hereby acknowledges that it has not relied upon any representation or statement of the Port Authority or its Commissioners, officers, employees or agents as to the condition of the said areas. The Lessee, prior to the execution of this Agreement, has thoroughly examined the said areas and determined them to be suitable for the Lessee's operations hereunder and the Lessee, subject to Paragraph 2 below, hereby agrees to take Area 1 in the condition it is in as of the Area 1 Commencement Date and, subject to Paragraph 2 below, to assume all responsibility for any and all risks, costs and expenses of any kind whatsoever caused by, arising out of or in connection with, the condition of the said areas whether any aspect of such condition existed prior to, on or after the effective date of the letting of the premises hereunder, including without limitation all Environmental Requirements (as defined in the Lease) and Environmental Damages (as defined in the Lease), and, subject to Paragraph 2 below, to indemnify and hold harmless the Port Authority for all such risks, requirements, costs and expenses. Without limiting any obligation of the Lessee to commence operations hereunder at the time and in the manner stated elsewhere in the Lease as herein amended, the Lessee agrees that no portion of the premises will be used initially or at any time during the letting which is in a condition unsafe or improper for

the conduct of the Lessee's operations hereunder so that there is possibility of injury or damage to life or property. All the obligations of the Lessee under the Lease as hereby amended with respect to the aforesaid responsibilities, risks, costs and expenses assumed by the Lessee shall survive the expiration or termination of the Lease.

(d) The foregoing areas added to the premises as Area 1 shall be subject to the height limitations set forth in paragraph (b) of Section 1 of the Lease, and further subject to the restrictions on construction and to the construction obligations of the Lessee under Section 83 of the Lease, as herein amended.

2. Area 1: Certain environmental testing and clean-up obligations:

(a) (1) Attached hereto, hereby made a part hereof is an exhibit marked "Exhibit L (Book 1 of 3 , Book 2 of 3 and Book 3 of 3)" with respect to Area 1 which consists of (i) a report entitled "J.F.K. International Airport British Airways Building 59 Environmental Investigation Summary Report" including its appendices and its compilation of reports and tests results of soil and water samples taken on various dates in November 1997 from nine (9) test boring and monitoring wells, and setting forth the levels of certain chemicals and compounds in the soil and the groundwater of the upper aquifer of Area 1, as said items are more specifically named and set forth therein; all of the aforesaid items mentioned in the foregoing clauses , as more specifically named and set forth in Exhibit L, for which the said samples were tested as set forth in Exhibit L are hereinafter collectively referred to as the "Analyzed Items".

(2) The said reports and tests results described in sub-subparagraph (1) above as applied by the methodology set forth in paragraph (b) below for the establishment of the levels of the Analyzed Items for all portions of Area 1 are hereinafter called the "Area 1 Initial Existing Condition".

(3) If after any remediation performed on Area 1, whether by the Lessee, the Port Authority or a third party(ies), the Port Authority shall sample and test the soil and upper aquifer of Area 1 or portions thereof (which testing shall be done by a duly qualified independent contractor and testing laboratory mutually acceptable to the Port Authority and the Lessee) and shall set forth the results of such subsequent tests in a report (it being understood however that the Port Authority shall not have any obligation hereunder to perform such subsequent sampling and testing or to set forth the results thereof in a subsequent report), upon delivery of such subsequent report and subsequent test results to the Lessee, such report and test results shall supersede Exhibit L or the applicable portions thereof if the test results and report are of Analyzed Items which have been previously tested and the results thereof reported in Exhibit L and the existing and new test results are from samples taken from the same well or a new well or boring which is immediately adjacent to such well or boring and shall supplement Exhibit L or the applicable portions thereof if the test results and report would not supersede any test results and reports in Exhibit L as aforesaid, and the results of such report setting forth the

levels of the Analyzed Items in the soil and upper aquifer of Area 1 together with those portions of Exhibit L which have not been superseded, as applied by the methodology set forth in paragraph (b) below for the establishment of the level of the Analyzed Items for all portions of Area 1, shall thereafter upon such delivery to the Lessee be and be deemed to be an "Area 1 Succeeding Existing Condition" with respect to Area 1 under this Paragraph; provided, however, and notwithstanding the foregoing, in no event shall the level of any Analyzed Item in any Area 1 Succeeding Existing Condition be above the lower of (i) the level for such Analyzed Item as set forth in the Area 1 Initial Existing Condition or (ii) the lowest level to which such Analyzed Item has been remediated as shown in an Area 1 Succeeding Existing Condition.

(4) The Area 1 Initial Existing Condition as superseded and supplemented by each Area 1 Succeeding Existing Condition is hereinafter called the " Area 1 Existing Condition". The Area 1 Existing Condition shall be, for the purposes of this Agreement, the level of the Analyzed Items in the soil and upper aquifer in Area 1 provided, however, and notwithstanding the foregoing, in no event shall the level of any Analyzed Item in any Area 1 Existing Condition be above the lower of (i) the level for such Analyzed Item as set forth in the Area 1 Initial Existing Condition or (ii) the lowest level to which such Analyzed Item has been remediated to as shown in an Area 1 Succeeding Existing Condition.

(b) The level of an Analyzed Item for any Area 1 Existing Condition at any location in Area 1 shall be the level of that Analyzed Item as shown in the reports and test results constituting such Area 1 Existing Condition taken from samples at the well or boring located on Area 1 at or nearest to such location.

(c) (l) The Lessee and the Port Authority agree as between themselves, and notwithstanding any other evidence to the contrary, that the levels of the Analyzed Items in the soil and upper aquifer of Area 1 as of the Area 1 Commencement Date (as defined in Paragraph 1 hereof) shall be and shall be deemed as set forth in Exhibit L and only as set forth in Exhibit L. Without limiting the generality of Section 39 of the Lease or of Paragraph 1 hereof, the Lessee agrees to accept Area 1 with the Area 1 Initial Existing Condition.

(2) (i) In addition to and without limiting the foregoing or any other term or provision of the Lease, including without limitation Sections 7, 8, 9, 10 and 11 thereof, it is expressly understood and agreed that the proper handling, delivery, treatment, storage, transportation, disposal, and depositing (all of the foregoing being hereinafter collectively referred to as "Disposal"), whether on or off the Airport, of any soil, dirt, sand, water or other matter (hereinafter collectively called the "Matter") excavated, disturbed or removed by the Lessee (or by any contractor or contractors of the Lessee) at or from Area 1 at any time or times, including without limitation any and all remediation and Disposal of said Matter and any and all other remediation, Disposal and clean up (whether soil, upper aquifer or otherwise) necessary, required or appropriate as a result of, caused by, incidental to or triggered by such excavation, disturbance or removal of the Matter or arising therefrom, and the taking or doing of

any and all other action or actions necessary, required or appropriate in connection therewith, shall be the sole and complete responsibility of the Lessee, including without limitation all costs and expenses thereof and any and all claims, penalties or other expenses relating thereto. The foregoing obligations of the Lessee shall obtain and apply with full force and effect irrespective of the nature or source of any contaminants, pollutant, chemical, waste or other substance or whether any of the same is an Analyzed Item or whether any of the same is at a level or levels above or below the level or levels of the Area 1 Existing Condition or whether there has or has not been any increase in such level or levels. The Lessee shall perform all of the foregoing in accordance with and subject to all the terms, provisions, covenants and conditions of the Lease including without limitation Sections 7, 8, 9, 10 and 11 thereof.

(ii) Notwithstanding any term or provision hereof to the contrary, the Lessee shall not be responsible for remediation of soil which is excavated by the Lessee from Area 1 in order for it to perform the On-Premises Area 1 Work or the Lessee LRS Work (as defined in and pursuant to and under Section 83 of the Lease as set forth in this Supplemental Agreement) and during the course of the said On-Premises Area 1 Work or the Lessee LRS Work and which soil is not used at Area 1; *provided that* (x) the Lessee shall deliver such soil at its expense to an on-Airport location as designated by the Port Authority, (y) the contaminant or contaminants in such soil were not caused by or did not result from any act or omission of the Lessee, and (z) the Lessee is able to prove to the reasonable satisfaction of the Port Authority that such contaminant or contaminants, if not listed in Exhibit L, in fact existed in Area 1 prior to the Area 1 Commencement Date.

(3) Notwithstanding anything to the contrary herein or in the Lease, the Lessee shall have no obligation under the Lease with respect to the Area 1 Existing Condition (other than the obligations described in subparagraph (2) above, the obligations described in subparagraph (4) below and the obligations described in paragraph (e) below) including but not limited to any other obligation to remediate the Area 1 Existing Condition, or to pay any claim, penalty or expense with respect thereto (including any which relate to other premises allegedly affected by the Area 1 Existing Condition or the spread of such contaminants from Area 1); provided, however, if any of the levels of the Analyzed Items, or any of them, in the soil or the upper aquifer of Area 1 shall increase above the Area 1 Existing Condition then the Lessee shall have such obligations with respect to such increase to the extent required by and in accordance with the terms and conditions of the Lease, as hereby amended; provided, further, however, if such increase is caused by the flow of ground water from outside the premises under the Lease or by the leaching of contaminants from outside the premises under the Lease or by the acts or omissions of the Port Authority, then the Lessee shall have no such obligations with respect to such increase.

(4) It is expressly understood and agreed that, notwithstanding anything to the contrary above, in the event the Area 1 Initial Existing Condition or any Area 1 Existing Condition or any portion thereof was caused by or resulted from the Lessee's use of or operations

at Area 1, or the Lessee's use or occupancy of any other portion of the premises under the Lease, or any act or omission of the Lessee or of any of its agents, contractors or representatives, or any act or omission of any subusers of the Lessee, then the Lessee shall have all obligations with respect to the remediation of Area 1, the Area 1 Initial Existing Condition and any Area 1 Existing Condition; and neither this Paragraph 2 nor any remediation of the Area 1 Initial Existing Condition by the Port Authority or of the Area 1 Existing Condition shall or shall be deemed to release or relieve the Lessee from its said obligations.

(d) Without limiting the generality of the provisions of Section 20 of the Lease, the Port Authority and its designees shall have the right but not the obligation to enter upon Area 1 upon forty-eight (48) hours' notice to the Lessee to conduct testing and related activities from the existing wells made by the borings referred to in paragraph (a) above, to make additional wells and borings and to conduct testing and related activities therefrom and to perform such activities as shall be necessary to remediate the Area 1 Initial Existing Condition including but not limited to conducting pumping operations from the wells made by borings referred to in paragraph (a) above and this paragraph (d). In the exercise of the foregoing rights the Port Authority and its designees shall not unreasonably interfere with the use and occupancy of Area 1 by the Lessee.

(e) Without limiting the generality of the provisions of Section 11 of the Lease, the Lessee agrees to protect and maintain the wells made by the borings referred to in paragraphs (a) and (d) above and shall repair any damage thereto not caused by the activities of the Port Authority, if any, or its designee(s), if any, pursuant to paragraphs (a) and (d) above. If in connection with the Construction Work under Section 83 of the Lease it is necessary to fill any of the said wells, then, provided that such filling is permitted or approved by the Port Authority, the Lessee shall perform such filling and all work necessary or required for a replacement well or wells in accordance with the terms and provisions of the Lease and the related Construction Applications (s) to be submitted by the Lessee covering such work in accordance with Section 83 of the Lease, as the same may be approved by the Port Authority, and, further the Lessee hereby agrees that all costs and expenses for and in connection with the filling of such well or wells and the drilling of a new well or well to replace the filled well or wells shall be borne by the Lessee and the Port Authority on an equal (50/50) basis provided that the Port Authority's said share of such costs and expenses shall not in any event exceed the amount of Fifteen Thousand Dollars and No Cents ($15,000.00). The said costs and expenses and each part and share thereof shall not form a part of the Cost of the Eligible Construction Work (except as otherwise expressly provided in Section 84 of the Lease) or the Cost of the Lessee LRS Work under Section 84 of the Lease. The obligation of the Lessee to protect and maintain the wells as set forth in the first sentence of this paragraph (e) shall be deemed to also pertain and apply to any and all such replacement wells.

(f) The Lessee acknowledges that it has been in occupancy of the premises under

the Lease (other than Area 1) prior to the Effective Date, and the Lessee's duties, responsibilities, liabilities and obligations, and the Port Authority's rights and remedies, with respect to said premises under the Lease shall not be or construed to be limited, diminished or impaired by this Paragraph 2.

(g) Nothing in this Paragraph 2 shall limit , modify waive or otherwise alter the rights, claims and remedies which the Port Authority or the Lessee may have against third parties or persons whether at law, equity or otherwise.

3. (a) In addition to the premises heretofore let to the Lessee under the Lease, as herein amended, as to which the letting shall continue in full force and effect subject to all the terms and conditions of the Lease, as herein amended, the Port Authority hereby lets to the Lessee and the Lessee hereby hires and takes from the Port Authority at John F. Kennedy International Airport, Queens, New York, effective as of 12:01 A.M. on the Elevated Parking Structure Completion Date (as defined below) the unenclosed space located on that portion of the second level of the Elevated Parking Structure (as defined in Section 83 of the Lease) as shown in stipple on the sketch attached hereto, hereby made a part hereof and marked "Exhibit A"Sheet 2 of 3, together with the fixtures, improvements and other property of the Port Authority located or to be located therein or thereon, said unenclosed space to be and become a part of Area 1 of the premises under the Lease, as herein amended, let to the Lessee (said unenclosed space being sometimes hereinafter referred to as "Area 1 Remote Check-in Space") subject to and in accordance with all of the terms, covenants, provisions and conditions of the Lease, as herein amended for and during all the residue and remainder of the term of the Lease.

For purposes of the foregoing, the term "Elevated Parking Structure Completion Date" shall mean the earliest to occur of (i) the Completion Date, as defined in Section 83 (r) (2) of the Lease; or (ii) the separate date, if any, set forth in a completion certificate delivered to the Lessee by the Port Authority under Section 83 (r) (3) of the Lease as the completion date of the Area 1 Remote Check-in Space.

(b) The parties acknowledge and agree that the aforesaid area added to the premises under this Paragraph 3 constitutes non-residential real property.

(c) The Lessee accepts the aforesaid area in its "as is" condition and agrees that the Port Authority shall not have any responsibility for any work or installation to make said area usable by the Lessee , to place them in any particular condition or to reimburse the Lessee for any work or installation as may be made by or on behalf of the Lessee, the Lessee having exclusive responsibility therefor. However, the Lessee shall not effect, without the prior written approval of the Port Authority, any modification, addition, removal or other change with respect to said area. The Lessee hereby acknowledges that it has not relied upon any representation or statement of the Port Authority or its Commissioners, officers, employees or agents as to the condition of the said area. The Lessee hereby agrees to take the aforesaid area

in the condition it is in as of the Elevated Parking Structure Completion Date, to assume all responsibility for any and all risks, costs and expenses of any kind whatsoever caused by, arising out of or in connection with, the condition of the said area whether any aspect of such condition existed prior to, on or after the effective date of the letting of the premises hereunder, including without limitation all Environmental Requirements (as defined in the Lease) and Environmental Damages (as defined in the Lease), and to indemnify and hold harmless the Port Authority for all such risks, requirements, costs and expenses. Without limiting any obligation of the Lessee to commence operations hereunder at the time and in the manner stated elsewhere in the Lease as herein amended, the Lessee agrees that no portion of the premises will be used initially or at any time during the letting which is in a condition unsafe or improper for the conduct of the Lessee's operations hereunder so that there is possibility of injury or damage to life or property. All the obligations of the Lessee under the Lease as hereby amended with respect to the aforesaid responsibilities, risks, costs and expenses assumed by the Lessee shall survive the expiration or termination of the Lease.

(d) The foregoing area added to the premises shall be subject to the height limitations set forth in paragraph (b) of Section 1 of the Lease, and further subject to the restrictions on construction and to the construction obligations of the Lessee under Section 83 of the Lease, as herein amended.

4. (a) Paragraph (a) of Section 3 of the Lease is hereby amended as follows: There shall be deemed added at the end thereof a new subparagraph (3) reading as follows:

"(3) Additional basic rental--Area 1:

(i) For the portion of the term of the letting hereunder commencing on the date of the commencement of the term of the letting of Area 1 of the premises hereunder, as such date is set forth in subparagraph (a) of Paragraph 1 of Supplement No. 2 of the Lease (the "Area 1 Commencement Date"), to and including the day preceding the Area 1 Remote Check-in Space Rent Start Date, as defined in subsubparagraph (ii) below, in addition to the other rentals set forth in the Lease, hereby agrees to and shall pay to the Port Authority basic rental for Area 1 at the annual rate of (2.a.)

subject to annual increases as provided in Subdivision II of paragraph (b) hereof and subject to the increases as provided in subsubparagraph (ii) below.

(ii) For the portion of the term of the letting hereunder commencing on the Area 1 Remote Check-in Space Rent Start Date, as defined herein, to and including the expiration of the term of the letting hereunder, in addition to the other rentals set forth in the Lease, hereby agrees to and shall pay to the Port Authority basic rental for Area 1 at the annual rate equal to the sum produced (x) by multiplying the number of square feet of the Area 1 Remote Control Check-in Space (to be constructed by the Lessee pursuant to Section 83 hereof)

by (2.a.) as increased on and after the first year anniversary of the Area 1 Commencement Date by the annual increases pursuant to Subdivision II of paragraph (b) below, and (y) by adding to the product of said multiplication the amount of the basic rental for Area 1 under subsubparagraph (i) above as increased effective on and after the first anniversary of the Area 1 Commencement Date by increases pursuant to Subdivision II of paragraph (b) below; said basic rental for Area 1 to be thereafter subject to further annual increases as provided in Subdivision II of paragraph (b) below.

For purposes of the above, the 'Area 1 Remote Check-in Space Rent Start Date' shall mean the earliest to occur of (i) the Completion Date, as defined in Section 83 (r) (2) of the Lease; (ii) the separate date, if any, set forth in a completion certificate delivered to the Lessee by the Port Authority under Section 83 (r) (3) hereof as the completion date of the Area 1 Remote Check-in Space, or (iii) March 31, 2002 ."

(b) Paragraph (b) of said Section 3 of the Lease is hereby amended as follows:

(1) The first line thereof shall be deemed amended to read as follows:

"(b) I. CPI Adjustments applicable to rentals under paragraphs (a) (1) and (a) (2) above:"

(2) The words "subparagraphs (1) and (2) of" shall be deemed inserted immediately preceding the fifth line of subparagraph (4) thereof.

(3) The following shall be deemed inserted immediately following subparagraph (6) thereof:

"II. Annual increases/CPI Adjustments applicable to Area 1 rental under subsubparagraph (i) and (ii) of paragraph (a) (3) above.

(1) 'Area 1 CPI' or 'Area 1 Consumer Price Index' shall mean the Consumer Price Index for all Urban Consumers, New York-Northern New Jersey, Long Island, NY- NJ-CT, (All Items unadjusted 1982-84=100) published by the Bureau of Labor Statistics of the United States Department of Labor.

(2) The Port Authority shall ascertain the Area 1 CPI for the month in which the Area 1 Commencement Date occurs and for the month in which the first year anniversary of the Area 1 Commencement Date occurs and for the same calendar month in each year thereafter during the term of this Agreement after the same has been published, and the Port Authority shall also determine the annual percentage increase, if any, for each such twelve month period after the same has been published (hereinafter

called 'the annual Area 1 CPI percentage increase').

(3) Effective on the first day of the month in which the first year anniversary of the Area 1 Commencement Date occurs the rentals set forth above in subsubparagraph (i) and (ii) of paragraph (a) (3) of this Section 3 shall be increased as follows: (i) the annual rental rates as set forth in said subsubparagraph (i) and (ii) of paragraph (a) (3) shall be multiplied by a percentage composed of l/2 of the annual Area 1 CPI percentage increase, if any, for the latest twelve month period using the same calendar month in accordance with subparagraph (2) above plus 100%; and (ii) the annual rental rates as set forth in said subsubparagraph(i) and (ii) of paragraph (a) (3) shall be multiplied by 104%; and the greater of the two products so obtained by the calculations set forth in the foregoing clauses (i) and (ii) shall be and become the annual rental for Area 1 in effect for the annual period commencing on the said first day of the month in which the first anniversary of the Area 1 Commencement Date occurs and ending on the last day of the immediately succeeding twelfth month.

It is understood that while the foregoing calculation shall also include the annual rental rate applicable to the Area 1 Remote Check-in Space for purposes of determining the annual increases thereto, the same shall become part of the annual rental for Area 1 upon the Area 1 Remote Check-in Space Rent Start Date, in accordance with and as provided in subsubparagraph (ii) of paragraph (a) (3) above.

(4) Effective on the first day of the month in which the second year anniversary of the Area 1 Commencement Date occurs and thereafter on the first day of the month in each succeeding year of the Area 1 Commencement Date during the term of the letting hereunder the basic rental for Area 1 set forth in paragraph (a) (3) of this Section 3 shall be increased as follows: (i) the annual rental rate as set forth in said subsubparagraph(i) and (ii) of paragraph (a) (3) as the same may have been last adjusted hereunder, shall be multiplied by a percentage composed of ½ of the annual Area 1 CPI percentage increase, if any, as determined for the latest twelve month period using the same calendar month in accordance with subparagraph (2) above plus 100%; (ii) and the said annual rental rate as set forth in said paragraph (a) (3) of this Section 3 as the same may have been last adjusted hereunder shall be multiplied by 104%; and the greater of the two products so obtained by the calculations set forth in the foregoing clauses (i) and (ii) shall be and become the basic annual rental for Area 1 in effect for the annual period ending on the last day of the immediately succeeding twelfth month.

It is understood that while the foregoing calculation shall also include the annual rental rate applicable to the Area 1 Remote Check-in Space for purposes of determining the annual increases thereto, the same shall become part of the annual rental for Area 1 upon the Area 1 Remote Check-in Space Rent Start Date, in accordance with and as provided in subsubparagraph (ii) of paragraph (a) (3) above.

the event the Area 1 CPI for the calendar month to be used in
e of the basic rental for Area 1 is not available as of the effective
the Lessee shall continue to pay the basic rental for Area 1 at the
t to retroactive adjustment and a lump sum payment of any
deficiency so determined at such time as the Area 1 Consumer Price Index for said calendar month becomes available. In the event that the Area 1 Consumer Price Index is not available for any specified month as hereinabove set forth within the time set forth for payment such index for the latest month then published shall be used to constitute the Area 1 Consumer Price Index. In the event of the change of basis or the discontinuance of the publication by the United States Department of Labor of the Area 1 Consumer Price Index such other appropriate index or indexes shall be substituted as may be agreed by the parties hereto as properly reflecting changes in the value of the current United States money in a manner similar to that established in the said indexes used in the latest adjustment. In the event of the failure of the parties to so agree, the Port Authority may select and use such index or indexes as it deems appropriate, provided, however, that the foregoing shall not preclude the Lessee from contesting the Port Authority's selection.

(6) In no event shall any rental rate established under this paragraph (b) be less than the rental rate it supersedes."

(c) Paragraph (c) of said Section 3 of the Lease is hereby amended by adding at the end thereof the following:

"That portion of the rental hereunder which constitutes the annual basic rental for Area 1 shall be payable by the Lessee in advance in equal monthly installments on the first day of the term of the letting of Area 1 (the Area 1 Commencement Date) and on the first day of each and every calendar month thereafter during the balance of the term of the letting. If the commencement date for the payment of basic rental for Area 1 herein be other than the first day of the month, or if any installment of basic rental for Area 1 payable hereunder shall be for less than a full calendar month, then the rental payment for the portion of the month for which said payment is due shall be the monthly installment prorated on a daily basis using the actual number of days in the said month."

(d) (1) Subparagraph (1) of paragraph (d) of Section 3 of the Lease is hereby amended by adding at the end thereof the following:

"For each square foot of land of Area 1 as shown in stipple on Sheet 1 of Exhibit A the use of which is denied to the Lessee at the daily rate of (2.a.) as appropriately adjusted to reflect any

and all CPI adjustments pursuant to paragraph (b) above."

(2) A new subparagraph (3) shall be deemed added to said paragraph (d) of said Section 3 of the Lease reading as follows:

"For each square foot of space in the Area 1 Remote Check-in Space as shown in stipple on Sheet 2 of Exhibit A , the use of which is denied to the Lessee at the daily rate of (2.a.) as appropriately adjusted to reflect any and all Area 1 CPI adjustments pursuant to paragraph (b) above."

5. Section 5 of the Lease is hereby amended by adding at the end of paragraph (20) thereof the following:

"(21) With respect to that portion of the premises shown in stipple on Sheet 2 of Exhibit A attached to Supplement No. 2 of the Lease, effective from and after the 'Area 1 Remote Check-in Space Completion Date' as defined in Paragraph 3 of Supplement No. 2 of the Lease, the Lessee shall use the same solely for the remote-check in of automobiles of passengers of the Lessee which automobiles are to parked in a public parking lot at the Airport; it being understood that the Lessee shall not and is expressly prohibited from parking or storing any automobiles or other vehicles on said portion of the premises."

6. (a) Section 83 of the Lease entitled "Entire Agreement" shall be deemed renumbered as Section 88 and the number appearing in the second line thereof as "83" shall be deemed amended to read "88", and the words "and also the Exhibits (A, B, C, D, E, F, G, H, I, J, K, L [Book 1 of 3, Book 2 of 3, and Book 3 of 3], M, and S) and the Attachment A and the Schedule E attached to Supplement No. 2 to this Lease" shall be added at the end of the first sentence thereof.

(b) New Sections 83, 83A, 83B, 84, 85, 86 and 87 are hereby added to the Lease and made a part thereof reading as follows:

"Section 83. Additional Construction by the Lessee

(a) (1) As used herein the term 'Construction Work Site' shall for the purposes of the Construction Work under this Section 83 mean:

(i) 'Area 1' which shall, for purposes of the Construction Work hereunder, consist of the ground areas added to the premises under Paragraph 1 of Supplement No. 2 to the Lease; and the area within the premises upon which the Terminal 7 Building

Expansion, as hereinafter defined, is to be constructed.

(ii) 'Area 2' which shall consist of the areas outside of the premises hereunder and located in 'Quadrant 4' of the Central Terminal Area of the Airport (which encompasses approach roads, exiting and recirculation roadways, frontage and parking areas located in front of the premises hereunder and also in front of Terminals 5 and 6 at the Airport and in front of the Cogeneration Facility (as defined in Supplement No. 1 of the Lease) and includes the north entry toll plaza to the parking lot located in front of Terminal 4 and known as the 'blue parking lot' , and the east parking garage) upon which the Lessee shall perform the Off-Premises Work (as defined below) and portions of the Lessee LRS Work (as defined below) pursuant to this Section 83 as such roads, roadways and areas are generally shown in bubble hatch and cross hatch on Sheet 1 of Exhibit B and in wavy hatch and in cross-hatch on Sheet 2 of Exhibit B attached to said Supplement No. 2 to the Lease.

(2) As used herein the term 'Terminal 7' shall mean the passenger terminal building forming a part of the premises hereunder.

(3) As used herein the terms 'Terminal 4' ,'Terminal 5' , and 'Terminal 6' shall mean the passenger terminal buildings at the Airport identified as such on Exhibit B.

(4) As used herein the term 'Project' shall mean the Construction Work as defined in paragraph (f) of this Section 83.

(5) As used herein the term 'Project Schedule' shall mean the schedule shown on Exhibit C attached hereto and hereby made a part hereof.

(6) As used herein the term 'Port Authority Basis of Design' shall refer to the document attached hereto entitled "Port Authority of New York and New Jersey Technical Design Criteria and Assumptions for JFK Roadway Contract Package # 5", hereby made a part hereof and marked 'Attachment A'.

(7) As used herein the terms 'LRS Contractor' and 'LRS DBOM Contractor' shall mean the contractor(s) hired by the Port Authority to build the 'LRS' (as defined in Section 75 of this Lease).

(8) The Lessee understands that the Port Authority presently has in effect and has planned various physical improvements and policies concerning and affecting the use of vehicular roadways in the Central Terminal Area of the Airport (the 'CTA' as generally shown on Exhibit S) for the limitation and control of traffic thereon including the limitation and control of vehicular traffic on the premises and vehicular traffic moving between the Air Terminal Highways, as designated from time to time by the Port Authority in the CTA of the Airport, and the vehicular roadways on the premises connecting to the said Air Terminal

Highways. It is further recognized that the Port Authority has developed design criteria for the development of the vehicular roadways in the Construction Work Site and that said design criteria is attached hereto and marked 'Attachment A' and hereby made a part hereof.

(b) The Lessee shall, prior to its submission to the Port Authority of the plans and specifications hereinafter provided for, submit to the Port Authority for its consent, the Lessee's comprehensive plan for the development of the Construction Work Site, including the Lessee's completion of the planning, design and performance of the roadway development (roadway package #5) in the Construction Work Site as part of the Construction Work and the construction of the On-Premises Area 1 Work and the Terminal 7 Building Expansion Work as set forth in paragraph (c) below and the construction of the Off-Premises Work as set forth in paragraph (d) below and the construction of the Lessee LRS Work as set forth in paragraph (e) below, including but not limited to renderings, layouts, locations, models, estimated commencement and completion dates, and preliminary functional plans. Said comprehensive plan shall also include the Port Authority's Basis of Design (Attachment A attached hereto), together with the further design development documents (the 'Design Development Documents') based thereon which shall be prepared by the Lessee and submitted to the Port Authority for its approval; said comprehensive plan, Port Authority's Basis of Design and said Design Development Documents as approved by the Port Authority shall constitute the Lessee's 'Comprehensive Plan' hereunder. The Lessee shall keep the Comprehensive Plan covered by this paragraph (b) (including the On-Premises Area 1 Work and the Terminal 7 Building Expansion Work covered by paragraph (c) below and the Off-Premises Work covered by paragraph (d) below and the construction of the Lessee LRS Work as set forth in paragraph (e) below) up to date and shall submit to the Port Authority for its prior approval any amendments, revisions, or modifications thereof, which amendments, supplements or modifications shall not become effective until the same have been approved by the Port Authority.

(c) <u>On-Premises Area 1 Work and Terminal 7 Building Expansion Work:</u> (1) Without limiting the above, the Lessee agrees that said Comprehensive Plan shall include the construction in, on and under the premises of the Terminal Building Expansion Work as defined and described in item (i) below; and the construction in, on and under Area 1 of the following portions of the Construction Work as defined and described in items (ii) through (x) below ("On-Premises Area 1 Work"):

(i) An expansion of the terminal building consisting of the addition of approximately 18,000 square feet of floor space to be located in the area generally shown in solid/broken diagonal hatch on Sheet 2 of Exhibit B, the foregoing together with all associated and related areas and facilities, including but not limited to stairwells, stairways, escalators and elevators being sometimes referred to hereinafter as the 'Terminal 7 Building Expansion';

(ii) The construction and installation of all appropriate lines, pipes, mains,

cables, manholes, wires, conduits and other facilities required in connection with or relating to the mechanical, utility, electrical, storm sewer, sanitary sewer, communications, security, telephone, fire alarm, fire protection, gas and other systems including all necessary relocations, and all work necessary or required to tie the foregoing to the utility access stubs now existing or to be constructed as part of the Off-Premises Work which include water, electrical power, sanitary service lines, including all necessary valves and other equipment and accessories necessary to the use and operation of the heating, electrical, water, communications and other utility systems serving or which are to serve the premises; and including all stubouts for the LRS station at Terminal 7 and guideway tie-ins based on information to be supplied to the Lessee by the Port Authority in a timely manner (said stubouts being hereinafter sometimes referred to as the 'LRS Station 7 Stubouts');

(iii) (1) To the extent permitted by KIAC (as defined in Supplement No. 1 to the Lease), all work necessary or required to relocate and/or construct lateral mains to tie into the Central Terminal Area ring supply lines for hot water for heating and domestic use purposes only and chilled water for air conditioning purposes only in accordance with the requirements and specifications as set forth in Section 52 of this Lease;

(2) To the extent permitted by KIAC, the work specified in subdivision (1) above, upon completion, will become the property of the Port Authority and will not be part of the premises;

(iv) New upper level and lower level roadways on Area 1 and all other necessary or appropriate ground and elevated roadways, ramps, sidewalks, vehicular service areas, and vehicular staging areas, and pedestrian circulation areas, including without limitation the on-premises portions of the following ramp and roads:

> a portion of the elevated ramp that will provide access to Terminal 7; an expanded lower-level Arrivals frontage for Terminal 7 that will provide a separate road and pick up island for private automobiles, taxis and buses; an expanded upper level Departures frontage for Terminal 7; a portion of the new recirculation road for Terminal 7; a portion of the road providing a HOV (high occupancy vehicle) connection between Terminal 6 and Terminal 7;

together with all related and associated areas and facilities (all of the foregoing being herein sometimes called the "Premises Circulation Areas" and the portion of the Construction Work consisting solely of the aforesaid upper level and lower level roadways, ramps, frontage roads, vehicular service areas and vehicular staging areas described in this clause (iv) is also sometimes hereinafter referred to as the 'On-Premises Area 1 Roads');

(v) All grading and paving of ground areas and appropriate landscaping together with all related and associated work, including without limitation decorative paving of

selected areas and landscaping and irrigation of the unpaved areas described in item (iv) above;

(vi) All necessary or required fencing including functional decorative fencing at locations identified by the Port Authority;

(vii) All necessary or required work to conform to Port Authority frontage control requirements, and all necessary or required work to conform to Port Authority requirements for access to public parking areas including static and dynamic sign systems;

(viii) All other appropriate or necessary work in connection with the foregoing items, including without limitation thereto, all borings, surveys, route marker signs, obstruction lights and material inspections and also including all other tie-ins to utility lines and roadway access stubs, and tie-ins to the Off-Premises Work hereunder; and

(ix) Subject to the terms and provisions set forth in Paragraph 2 of Supplement No. 2 of the Lease with respect to the Area 1 Initial Existing Condition, all appropriate, necessary or required demolition and removal work, and including without limitation all appropriate, required or necessary work for the removal, clean-up and remediation and off-airport disposal, in accordance with all Environmental Requirements, of all asbestos, lead and other Hazardous Substances, and including the handling, transporting and off-Airport disposal thereof in accordance with all Environmental Requirements (including, if required, disposal of asbestos in an off-Airport long-term asbestos-only disposal facility);

(x) All necessary or appropriate work within other areas of the premises outside of the Construction Work Site required in connection with the On-Premises Area 1 Work;

(2) All of the foregoing work described in subparagraph (1) of this paragraph (c) shall be constructed by the Lessee on Area 1 and on other portions of the premises where required and shall be and become a part of the premises under the Lease, except as otherwise provided in this Lease. All of the foregoing work described in items (ii) through (x) of the foregoing subparagraph (1) and any other on-premises work on Area 1 which the Lessee includes in its Comprehensive Plan and which is consented to by the Port Authority are sometimes herein collectively referred to as 'the On-Premises Area 1 Work'. The Terminal Building Expansion Work described in items (i) of the foregoing subparagraph (1) and the On-Premises Area 1 Work are sometimes collectively called the 'On-Premises Work'.

(d) Off-Premises Work: (1) In addition to all the hereinabove mentioned, the Lessee shall include as part of its Comprehensive Plan submitted in accordance with paragraph (b) hereof the construction of the following portions of the Project in, on and under Area 2, which construction, however, shall not be on the premises and shall not be part of the premises

under the Lease. The Lessee, its contractors, subcontractors, suppliers of materials and furnishers of services shall at all reasonable times have access to Area 2, subject and pursuant to and in accordance with the Port Authority's right of entry as to other tenant areas, and such other areas immediately adjacent thereto under the control of the Port Authority as necessary to perform the construction obligations set forth in this paragraph (d) of this Section 83. Said portions of the Construction Work outside of the premises under this Lease shall include:

(i) New airport roads and roadway ramps, including but not limited to approach, exiting and frontage roadways and recirculation roadways in Area 2, on the areas shown generally in wavy hatch and in cross-hatch on Sheet 2 of Exhibit B, attached hereto, hereby made a part hereof, and including all replacements to the existing road system in front of the premises and in front of Terminals 5 and 6 , separate circulation routes, all tie-ins to the Premises Circulation Areas and including all frontage, access, ingress and egress roads for Terminals 5 and 6 , as well as any and all associated or related extension, widening, realignment, relocation and rehabilitation of existing Airport roads, together with all appropriate ground lighting, lines, pipes, drains, wires, cables, manholes and conduits and other facilities; including but not limited to the following:

> demolition and reconstruction of a portion of the inbound three-lane road that will provide access to Terminal 5, Terminal 6 and the premises hereunder (Terminal 7); a portion of the elevated ramp that will provide access to Terminal 7; demolition and reconstruction of the access road to Terminal 5 and Terminal 6, a new signalized intersection between Terminal 5 and Terminal 6; modifications to the 'A' Road in front of Terminal 6; construction of a new egress road serving Terminal 5 and Terminal 6, construction of the recirculation road serving Terminal 5 and Terminal 6; construction of a portion of the new recirculation road for Terminal 7 located on the south side of the Cogeneration Facility; construction of a modified access road to the Cogeneration Facility on the south side of the Cogeneration Facility; construction of a portion of the road providing an HOV connection between Terminal 6 and Terminal 7;

all of the foregoing being sometimes hereinafter collectively called the 'Off-Premises Roads';

(ii) All retaining walls, bridge structures, sign bridges, ground mounted signs, static and dynamic sign systems for roads, parking and frontages, lift stations, guiderails and concrete barriers, traffic signals and controllers, canopies, light poles and high mast towers, parking lot entrance and exit plaza realignments, new exit toll plaza at Terminals 5 and 6, all modifications to the Revenue Control System associated with the reconfigured parking lots in the Construction Work Site including but not limited to ancillary structures and service buildings, crash gates at all parking lots, escape lanes between inner and outer frontage roads, a new entrance plaza and its approaching and exiting ramps on the north side of the 'blue parking lot' serving Terminal 4; reconfigured entrance/exit plazas and associated Revenue Control system equipment necessary for the parking lots serving Terminal 4, Terminal 5, Terminal 6 and

Terminal 7; together with all appropriate or necessary work in connection with any or all of the foregoing:

(iii) Expanded vehicular parking areas serving Terminal 7 and including an elevated vehicular parking structure with two (2) levels with a minimum of seven hundred and fifty (750) public parking spaces including all lamping, striping and all appropriate ground and upper-level lighting, lines, pipes, drains, wires, cables, manholes, conduits, fire alarm and fire protection system and other facilities and all other necessary or appropriate work in connection therewith ('the Elevated Parking Structure'), including without limitation all appropriate or necessary work to provide sufficient vertical clearance for equipment to access and maintain or replace utilities under the Elevated Parking Structure; with the second level of said Elevated Parking Structure to include all work necessary, required or appropriate for the 'Area 1 Remote Check-in Space in the area generally as shown in stipple on Exhibit A, Sheet 2.

(iv) Expanded vehicular parking areas serving Terminal 5 and Terminal 6 and including at-grade automobile parking areas to be located in front of Terminal 5 and Terminal 6 with a minimum of four hundred and fifty (450) public parking spaces including all static and dynamic signing required to divert persons parking their vehicles from the parking area known as the 'orange lot' into the 'blue lot' and from the 'blue lot' into the 'orange lot', all lamping, striping and all appropriate ground lighting, lines, pipes, drains, wires, cables, manholes and conduits and other facilities and all other necessary or appropriate work in connection therewith ('the At-Grade Parking Areas');

(v) Construction, including but not limited to all necessary or appropriate relocations, of all appropriate utility lines, mains, pipes, drains, manholes, wires, cables, conduits and other facilities in Area 2 including without limitation portions of the Airport-wide utility distribution network that must be relocated for the construction of the Elevated Parking Structure and the expanded frontage roads serving Terminal 7, the support structure for the LRS connector, station and guideways, and the roadway serving Terminal 7, and also including lift stations for the drainage systems serving below-grade roadways, and also including all service lines for the supply of water, electrical power, gas, communications, security, sanitary sewer, storm sewer, fire alarm, fire protection, and other systems and facilities necessary or appropriate to service all areas, buildings, facilities in Area 2; with the relocations to such locations as the Port Authority may designate; the foregoing being respectively called 'the water lines', or 'the electric lines', 'gas lines', 'sanitary lines', 'sewer lines', 'communication lines', and all of the foregoing being hereinafter called the 'Area 2 Utility Lines Construction';

(vi) With respect to the Area 2 Utility Lines Construction, all appropriate, necessary or required demolition and removal work including without limitation all appropriate, necessary or required removal, clean-up and remediation and off-airport disposal, in accordance with all Environmental Requirements, of all asbestos, lead and other Hazardous Substances, and including the handling, transporting and off-Airport disposal thereof in accordance with all

Environmental Requirements (including, if required, disposal of asbestos in an off-Airport long-term asbestos-only disposal facility);

(vii) All necessary or appropriate work in other areas of the Airport outside of the Construction Work Site and outside of the premises under the Lease directly impacted by the Construction Work and required to be constructed in connection with other portions of the Construction Work;

(viii) All grading and paving of ground areas and appropriate landscaping together with all related and associated work; including without limitation decorative paving of selected areas and landscaping and irrigation of the unpaved areas described in item (i) above;

(ix) All design and construction work and space necessary or required to construct a suitable supporting structure for a connector for the LRS (based upon information relating to design specifications of the LRS existing as of the date of approval by the Port Authority of the Design Development Documents), including without limitation, for the enclosed thirty (30) foot wide connector connecting the LRS station at Terminal 7, which connector is to be constructed by the LRS Contractor and to be located on the Elevated Parking Structure contiguous with the expanded Departures frontage for Terminal 7 as shown generally in bubble hatch on Sheet 1 of Exhibit B attached hereto and hereby made a part hereof; and the design criteria and specifications for the said supporting structure for the LRS connector will be based upon information existing as of the date of approval by the Port Authority of the Design Development Documents.

(2) All of the foregoing work described in subparagraph (1) of this paragraph (d) shall be constructed by the Lessee in, on and under Area 2 and outside of the premises and shall not be or become a part of the premises under the Lease and is herein collectively referred to as the 'Off-Premises Work'.

(3) The Lessee shall be responsible for developing a set of Design Development Documents as part of the Lessee's Comprehensive Plan which shall clearly delineate the Off-Premises Work and the On-Premises Area 1 Work and the Terminal 7 Building Expansion Work and the Lessee LRS Work (as defined in paragraph (e) below) and the Lessee shall provide separate construction costs estimates for the Off-Premises Work and for the On-Premises Area 1 Work and the Terminal 7 Building Expansion Work and the Lessee LRS Work. For purposes of coordination with the On-Premises Area 1 Work and the Lessee LRS Work, consolidated drawings clearly depicting the limits of each of the Off-Premises Work and the On-Premises Area 1 Work and the Terminal 7 Building Expansion Work and the Lessee LRS Work shall also be developed. The Lessee shall be responsible for developing contract documents including separated detailed construction costs estimates for the Off-Premises Work, the On-Premises Area 1 Work and the Lessee LRS Work. For purposes of coordination and review with contiguous On-Premises Area 1 Work, Terminal 7 Building Expansion Work , the Off-Premises

Work and the Lessee LRS Work, consolidated documents depicting the limits of each shall be included.

(e) Lessee LRS Work:

(1) In addition to and without limiting the above, the Lessee agrees that its Comprehensive Plan shall include the construction in, on and under Area 2 of the following:

(i) Fourteen (14) shared foundations at the LRS Station serving Terminal 7 and adjacent LRS guideways: the Lessee shall design and construct the fourteen (14)) common foundations and columns to support the LRS Station serving Terminal 7 as well as the Elevated Parking Structure (shared foundations) identified in Exhibit D, and in accordance with the criteria set forth in Exhibit E . These foundations and columns shall be constructed and completed to support the subsequent construction of the said LRS Station and guideways in accordance with the timeframe and stationing called for in paragraph (r) (2) below; and

(ii) Fourteen (14) independent foundations and columns to support the LRS Station and guideway identified in Exhibit D , and in accordance with the criteria set forth in Exhibit E . These foundations and columns shall be constructed and completed to support the subsequent construction of the said LRS Station and guideways in accordance with the timeframe and stationing called for in paragraph (o) (3) below; and

(iii) The LRS Station 7 Stubouts described in paragraph (c) (ii) above shall be deemed part of the Lessee LRS Work;

The foregoing work specified above in clauses (i), (ii) and (iii) of this paragraph (e) is herein collectively called the 'Lessee LRS Work'.

The Lessee and the Port Authority acknowledge and agree that the preliminary designs prepared by the Lessee as and when approved by the Port Authority for the Lessee LRS Work shall be used by the LRS Contractor to prepare the final construction documents for that portion of the LRS which shall be located on or relate to the premises

(2) LRS Construction Zones: The Lessee shall at all times provide and make available the LRS Construction Zones A through F pursuant to and as defined in paragraph (o) (2) below for the LRS and the LRS Contractor, and the other related items for the LRS called for in paragraph (o) (2) below.

(3) "Notice to Proceed"; "Notice Not to Proceed"; "Notice to Suspend";"Notice to Discontinue"; : In addition to and without limiting any other term or provision of this Lease, it

is specifically understood and agreed that the commencement and performance of the Lessee LRS Work by the Lessee shall be subject to the right of the Port Authority to give the following written notices to the Lessee at any time with respect to the Port Authority's election, exercisable by the Port Authority in its sole discretion, to have the Lessee proceed with or not proceed with the Lessee LRS Work, or portions thereof, or to commence or not to commence the construction of the Lessee LRS Work, or portions thereof, or to have the Lessee discontinue or suspend the construction of the Lessee LRS Work, or portions thereof, in accordance with the following:

(i) "Notice to Proceed": The Lessee shall not commence the construction of the Lessee LRS Work, or any portion thereof, unless and until the Port Authority provides to the Lessee a written notice advising the Lessee to commence with the Lessee LRS Work, or specified portions thereof; and upon the delivery by the Port Authority to the Lessee of such Notice to Proceed the Lessee shall commence the Lessee LRS Work, or the specified portions thereof; in accordance with this Agreement and said Notice.

(ii) "Notice Not to Proceed": The Port Authority shall have the right, exercisable in its sole discretion, to elect not to have the Lessee LRS Work performed by the Lessee, and in such case the Port Authority shall give the Lessee written notice thereof; and upon the delivery by the Port Authority to the Lessee of such Notice Not to Proceed the Lessee shall not have the right or the obligation to perform the Lessee LRS Work nor to receive any reimbursement from the Port Authority with respect thereto under Section 84 hereof; except for actual amounts incurred by the Lessee prior to the date of said Notice for engineering and architectural services forming part of the Cost of the Lessee LRS Work under item (iii) of subparagraph (6) of paragraph (a) of Section 84 hereof, provided that said actual amounts are actually paid by the Lessee not later than ninety (90) days after the date of said Notice and are included in a LRS Work Certificate submitted by the Lessee to the Port Authority pursuant to Section 84 hereof not later than ninety (90) days after the date of said Notice; provided, further, that any such reimbursement shall be made subject and pursuant to said Section 84 hereof.

(iii) "Notice to Suspend"

The Port Authority shall have the right, exercisable in its sole discretion, to suspend the Lessee LRS Work being performed by the Lessee, and in such case the Port Authority shall give the Lessee written notice thereof; and upon the delivery by the Port Authority to the Lessee of such Notice to Suspend the Lessee shall not have the right or the obligation to perform any further Lessee LRS Work nor to receive any further reimbursement from the Port Authority with respect thereto under Section 84 hereof or otherwise; except for actual amounts incurred by the Lessee prior to the date of said Notice for the Cost of the Lessee LRS Work as defined in subparagraph (6) of paragraph (a) of Section 84 hereof, provided that said actual amounts are actually paid by the Lessee not later than ninety (90) days after the date of said Notice and are included in a LRS Work Certificate submitted by the Lessee to the Port Authority pursuant to Section 84 hereof not later than ninety (90) days after the date of said

Notice; provided, further, that any such reimbursement shall be made subject and pursuant to said Section 84 hereof; provided, further, however, that the Lessee shall continue to perform such portions of the Lessee LRS Work that are integral in function to the On-Premises Area 1 Work or the Off-Premises Work as and to the extent designated by the Port Authority in its aforesaid Notice and such work as is reasonably necessary, in the opinion of the Port Authority, for the close-out of the Lessee LRS Work performed prior to the date of said Notice. The Port Authority shall have the right to have the Lessee continue with the Lessee LRS Work in accordance with the terms and provisions of this Lease upon subsequent written notice to the Lessee, the Lessee shall have the obligation to continue with the Lessee LRS Work in event of such subsequent notice from the Port Authority. In the event of any such suspension pursuant to a Notice to Suspend, the applicable time frames set forth in paragraph (o) (2) (A) (1) of this Section 83 shall be extended for each day (on a day per day basis) of the suspension; and in the event the Lessee LRS Work is reinstated subsequent to any such suspension thereof and such suspension and reinstatement has a direct impact on all of the other portions of the Construction Work and on the staging thereof as provided in paragraph (i) of this Section 83, then the date set forth in paragraph (g) (2) (1) (iii) of this Section 83 as the required date for the completion of the Construction Work shall be extended for each day (on a day per day basis) of the suspension.

(iv) "Notice to Discontinue":

The Port Authority shall have the right, exercisable in its sole discretion, to discontinue the Lessee LRS Work being performed by the Lessee, and in such case the Port Authority shall give the Lessee written notice thereof; and upon the delivery by the Port Authority to the Lessee of such Notice to Discontinue the Lessee shall not have the right or the obligation to perform any further Lessee LRS Work nor to receive any further reimbursement from the Port Authority with respect thereto under Section 84 hereof or otherwise, except for actual amounts incurred by the Lessee prior to the date of said Notice for the Cost of the Lessee LRS Work as defined in subparagraph (6) of paragraph (a) of Section 84 hereof, provided that said actual amounts are actually paid by the Lessee not later than ninety (90) days after the date of said Notice and are included in a LRS Work Certificate submitted by the Lessee to the Port Authority pursuant to Section 84 hereof not later than ninety (90) days after the date of said Notice; provided, further, that any such reimbursement shall be made subject and pursuant to said Section 84 hereof; provided, further, however, that the Lessee shall continue to perform such portions of the Lessee LRS Work that are integral in function to the On-Premises Area 1 Work or the Off-Premises Work as and to the extent designated by the Port Authority in its aforesaid Notice and such work as is reasonably necessary, in the opinion of the Port Authority, for the close-out of the Lessee LRS Work performed prior to the date of said Notice

(f) (1) The Lessee agrees at its sole cost and expense to design and to construct (i) the On-Premises Area 1 Work on Area 1 of the premises and the Terminal 7 Building Expansion Work on the premises as described in paragraph (c) above; (ii) the Off-Premises Work on Area 2 outside the premises as described in paragraph (d) above; and (iii) the

Lessee LRS Work on the premises (as to item 1 (iii) of paragraph (e) above and on Area 2 outside the premises (as to items items 1 (i) and (1) (ii) of paragraph (e) above); such design and construction of the On-Premises Area 1 Work and the Off-Premises Work and the Lessee LRS Work shall, without limiting any other term or provision of the Lease, also be in conformance with the Port Authority's Basis of Design and Port Authority standard design details and design criteria as contained in the Port Authority Tenant Construction Review Manual (as the same may be amended from time to time), and, where applicable, LRS design detail and design criteria (such design and construction of the On-Premises Area 1 Work and the Terminal 7 Building Expansion Work and the Off-Premises Work and the Lessee LRS Work being sometimes herein collectively referred to as 'the Construction Work').

(2) Prior to the commencement of the Construction Work, the Lessee shall submit to the Port Authority for the Port Authority's approval complete plans and specifications therefor. The Port Authority may refuse to grant approval with respect to the Construction Work if, in its opinion, any of the proposed Construction Work as set forth in said plans and specifications (all of which shall be in such detail as may reasonably permit the Port Authority to make a determination as to whether the requirements hereinafter referred to are met) shall:

(i) Be unsafe, unsound, hazardous or improper for the use and occupancy for which it is designed, or

(ii) Not comply with the Port Authority's requirements for harmony of external architecture of similar existing or presently planned future improvements at the Airport, or

(iii) Not comply with the Port Authority's requirements with respect to external and interior building materials and finishes of similar existing or presently planned future improvements at the Airport, or

(iv) Not provide for sufficient clearances for taxiways, runways and apron areas, or

(v) Be designed for use for purposes other than those authorized under the Agreement, or

(vi) Set forth ground elevations or heights other than those prescribed by the Port Authority, or

(vii) Not provide adequate and proper circulation areas, or

(viii) Not be at locations or not be oriented in accordance with the Lessee's approved Comprehensive Plan, or

(ix) Not comply with the provisions of the Basic Lease, including without limiting the generality thereof, those provisions of the Basic Lease providing that the Port Authority will conform to the enactments, ordinances, resolutions and regulations of the City of New York and its various departments, boards and businesses in regard to the construction and maintenance of buildings and structures and in regard to health and fire protection which would be applicable if the Port Authority were a private corporation to the extent that the Port Authority finds it practicable so to do, or

(x) Permit aircraft to overhang the boundary of the premises, except when entering or leaving the premises, or

(xi) Be in violation or contravention of any other provisions and terms of this Agreement, or

(xii) Not comply with all applicable governmental laws, ordinances, enactments, resolutions, rules and orders, or

(xiii) Not comply with all applicable requirements of the National Board of Fire Underwriters and the Fire Insurance Rating Organization of New York, or

(xiv) Not comply with the Port Authority's requirements with respect to landscaping, or

(xv) Not comply with Port Authority's requirements and standards with respect to noise, air pollution, water pollution or other types of pollution, or

(xvi) Not comply with the construction limitations set forth in Exhibit A, or Exhibit F ,if any, or elsewhere in this Agreement, or

(xvii) Without limiting any other term or provision hereof, not comply with the Americans With Disabilities Act of 1990 and all federal rules, regulations and guidelines pertaining thereto, or

(xviii) Not comply with the Port Authority's Basis of Design (Attachment A hereto), or

(xix) Not comply with the Port Authority's standard design details;

(xx) Not comply with the Port Authority's plans and policies with respect to ground transportation and traffic control and frontage control within the Central Terminal Area of the Airport, or

(xxi) Not be coordinated in design, functional planning, construction or scheduling or staging with other Port Authority or tenant construction in the Central Terminal Area at the Airport or with the Lessee's staging of the Construction Work hereunder or other ongoing Airport construction projects, including without limitation the Port Authority's planned LRS, or

(xxii) Not provide appropriate or adequate access for KIAC to its cogeneration facility and the Central Heating and Refrigeration Facility for all types of vehicular, including oversized, deliveries, or

(xxiii) Not comply with the construction scheduling set forth in Exhibit G attached hereto and hereby made a part hereof, if any, or

(xxiv) Not comply with the Port Authority's requirements with respect to design and construction of the Lessee LRS Work as contained in Exhibit E

(3) In addition to and without limiting the foregoing, with respect to the portion of the Construction Work representing the Off-Premises Work and the Lessee LRS Work, the Lessee's design thereof and the said plans and specifications shall be subject to the complete prior written approval of the Port Authority and the Lessee shall make all changes and modifications to the said design, plans and specifications as may be required or recommended by the Port Authority.

(4) The Lessee and the Port Authority shall establish a design and construction working group to review the development of the Project and all drawings, specifications, calculations and reports and like items prior to the submission of any drawings or plans to the Port Authority. The working group shall meet on a regular basis in order that the Port Authority will generally be informed of all areas of the design of the Project and be aware of all construction approval dates. The meetings shall be on an informal basis to encourage a full discussion of all appropriate issues and will not supersede the review or approval process of the Design Development Documents and the contract documents as described in this Section. The meetings shall continue until the Project is completed. Attached hereto as Exhibit H is a schedule of the submission by the Lessee to the Port Authority of specified 'Packages' of Design Development Documents and construction documents which include the plans and specifications covering the Construction Work ('Schedule of Design Packages').

(g) All Construction Work shall be done in accordance with the following terms and conditions:

(1) The Lessee hereby assumes the risk of loss or damage to all of the Construction Work prior to the completion thereof and the risk of loss or damage to all property of the Port Authority or others arising out of or in connection with the performance of the

Construction Work including without limitation any and all Environmental Requirements. In the event of such loss or damage, the Lessee shall forthwith repair, replace and make good the Construction Work and the property of the Port Authority or others without cost or expense to the Port Authority. The Lessee shall itself and shall also require its contractors to indemnify and hold harmless the Port Authority, its Commissioners, officers, agents and employees from and against all claims and demands, just or unjust, of third persons (including employees, officers, and agents of the Port Authority) arising or alleged to arise out of the performance of the Construction Work and for all expenses incurred by it and by them in the defense, settlement or satisfaction thereof, including without limitation thereto, claims and demands for death, for personal injury or for property damage, direct or consequential, whether they arise from the acts or omissions of the Lessee, of any contractors of the Lessee, of the Port Authority, or of third persons, or from acts of God or of the public enemy, or otherwise, (including claims of the City of New York against the Port Authority pursuant to the provisions of the Basic Lease whereby the Port Authority has agreed to indemnify the City against claims), excepting only claims and demands which result solely from affirmative wilful acts done by the Port Authority, its Commissioners, officers, agents and employees with respect to the Construction Work, provided, however, that the Lessee shall not be required to indemnify the Port Authority where indemnity would be precluded pursuant to the provisions of Section 5-322.1 of the General Obligations Law of the State of New York.

If so directed, the Lessee shall at its own expense defend any suit based upon any such claim or demand (even if such suit, claim or demand is groundless, false or fraudulent), and in handling such it shall not, without obtaining express advance written permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority, or the provisions of any statutes respecting suits against the Port Authority.

(2) (i) Prior to engaging or retaining an architect or architects for the Construction Work, the name or names of said architect or architects shall be submitted to the Port Authority for its approval. The Port Authority shall have the right to disapprove any architect who may be unacceptable to it. All Construction Work shall be done in accordance with plans and specifications to be submitted to and approved by the Port Authority prior to the commencement of the Construction Work, and until such approval has been obtained the Lessee shall continue to resubmit plans and specifications as required. Upon approval of such plans and specifications by the Port Authority (such approved plans and specifications as modified by a Change Order (as hereinafter defined) being herein sometimes called the 'Contract Documents'), the Lessee shall proceed diligently at its sole cost and expense to perform the Construction Work. All Construction Work, including workmanship and materials, shall be of first class quality. The Lessee shall re-do, replace or construct at its own cost and expense, any Construction Work not done in accordance with the approved plans and specifications, the provisions of this Section 83 or any further requirements of the Port Authority.

(ii) The Lessee shall expend not less than (2.a.) with respect to the following: the Off-Premises Work, the On-Premises Area 1 Work and the Existing Premises Renovation Work as defined in Section 83 B hereof; (and exclusive of the Lessee LRS Work).

(iii) The Lessee shall complete all of the Construction Work no later than March 31, 2002, subject to extensions for force majeure and applicable extensions for Change Orders (as defined in paragraph (iv) below).

(iv) For purposes of Sections 83 and 84 of this Agreement, a 'Change Order' shall mean (x) any material change to the Contract Documents (as defined above) for which the Lessee has received the prior written approval of the Port Authority in such form as may be required by the Port Authority or (y) any immaterial change to the Contract Documents which the Port Authority determines does not require the approval of the Port Authority. The following proposed change orders shall be deemed to be material changes (including but not limited to those resulting from authorized Port Authority Requested Changes as described in paragraph (h) (3) of this Section 83) requiring the prior written approval in such form as may be required by the Port Authority and authorization of the Port Authority:

(A) a proposed change order which increases or reduces the scope of , or the design intent of, the Project from the project described in the Port Authority's Summary Basis of Design (Attachment A) or in the Design Development Documents;

(B) a proposed change order which after the Port Authority has approved the Contract Documents results in the issuance of a new or revised drawing by the Lessee's architect or engineer;

(C) a proposed change order which adversely affects the quality of the Project so that the Project will not deliver a level of service 'C' as defined by AASHTO and IATA Standards during peak operation; or

(D) a proposed change order the performance of which would require an extension of the required completion date beyond March 31, 2002, other than by reason of force majeure.

In the event of any dispute as to whether a change is a material or an immaterial change to the contract documents, such dispute shall be referred to and determined by the Chief Engineer of the Port Authority. The Lessee will not start the work described in any proposed change order without the prior written of the Port Authority until such proposed change order has been so approved.

(3) Prior to entering into a contract for any part of the Construction

Work, the Lessee shall submit to the Port Authority for its approval the names of the contractors to whom the Lessee proposes to award said contracts. The Lessee shall require all proposed contractors to submit a detailed breakdown of bids at bid submittal which allows identification of On-Premises Area 1 Work, Off-Premises Work and Lessee LRS Work. The Port Authority shall have the right to disapprove any contractor who may be unacceptable to it. The Lessee shall include in all such contracts such provisions and conditions as may be reasonably required by the Port Authority. Without limiting the generality of the foregoing all of the Lessee's construction contracts shall provide as follows: 'If (i) the Contractor fails to perform any of his obligations under the Contract, including his obligation to the Lessee to pay any claims lawfully made against him by any materialman, subcontractor or workman or other third person which arises out of or in connection with the performance of the Contract or (ii) any claim (just or unjust) which arises out of or in connection with the Contract is made against the Lessee or (iii) any subcontractor under the Contract fails to pay any claims, lawfully made against him by any materialman, subcontractor, workman or other third persons which arises out of or in connection with the Contract or if in the Lessee's opinion any of the aforesaid contingencies is likely to arise, then the Lessee shall have the right, in its discretion, to withhold out of any payment (final or otherwise and even though such payments have already been certified as due) such sums as the Lessee may deem ample to protect it against delay or loss or to assume the payment of just claims of third persons, and to apply such sums in such manner as the Lessee may deem proper to secure such protection or satisfy such claims. All sums so applied shall be deducted from the Contractor's compensation. Omission by the Lessee to withhold out of any payment, final or otherwise, a sum for any of the above contingencies, even though such contingency has occurred at the time of such payment, shall not be deemed to indicate that the Lessee does not intend to exercise its right with respect to such contingency. Neither the above provisions for rights of the Lessee to withhold and apply monies nor any exercise, or attempted exercise of, or omission to exercise such rights by the Lessee shall create any obligation of any kind to such materialmen, subcontractors, workmen or other third persons. Until actual payment is made to the Contractor, his right to any amount to be paid under the Contract (even though such amount has already been certified as due) shall be subordinate to the rights of the Lessee under this provision.'

The Lessee shall file with the Port Authority a copy of its contracts with its contractors prior to start of the Construction Work.

(4) The Lessee shall furnish or require its architect to furnish a full time resident engineer during the construction period. The Lessee shall require certification by a licensed engineer of all pile driving data and of all controlled concrete work and such other certifications as may be required by the Port Authority from time to time.

(5) The Lessee agrees to be solely responsible for any plans and specifications used by it and for any loss or damages resulting from the use thereof, notwithstanding that the same have been approved by the Port Authority and notwithstanding the incorporation therein of Port Authority recommendations or requirements; provided that with respect to the Lessee LRS

Work, the Lessee shall submit to the Port Authority for its approval the names of the contractors to whom the Lessee proposes to award said contracts. The Lessee shall require all proposed contractors to submit a detailed breakdown of bids at bid submittal which allows identification of On-Premises Area 1 Work, Off-Premises Work and Lessee LRS Work. The Port Authority shall have the right to disapprove any contractor who may be unacceptable to it. The Lessee shall include in all such contracts such provisions and conditions as may be reasonably required by the Port Authority. Without limiting the generality of the foregoing all of the Lessee's construction contracts shall provide as follows: 'If (i) the Contractor fails to perform any of his obligations under the Contract, including his obligation to the Lessee to pay any claims lawfully made against him by any materialman, subcontractor or workman or other third person which arises out of or in connection with the performance of the Contract or (ii) any claim (just or unjust) which arises out of or in connection with the Contract is made against the Lessee or (iii) any subcontractor under the Contract fails to pay any claims, lawfully made against him by any materialman, subcontractor, workman or other third persons which arises out of or in connection with the Contract or if in the Lessee's opinion any of the aforesaid contingencies is likely to arise, then the Lessee shall have the right, in its discretion, to withhold out of any payment (final or otherwise and even though such payments have already been certified as due) such sums as the Lessee may deem ample to protect it against delay or loss or to assume the payment of just claims of third persons, and to apply such sums in such manner as the Lessee may deem proper to secure such protection or satisfy such claims. All sums so applied shall be deducted from the Contractor's compensation. Omission by the Lessee to withhold out of any payment, final or otherwise, a sum for any of the above contingencies, even though such contingency has occurred at the time of such payment, shall not be deemed to indicate that the Lessee does not intend to exercise its right with respect to such contingency. Neither the above provisions for rights of the Lessee to withhold and apply monies nor any exercise, or attempted exercise of, or omission to exercise such rights by the Lessee shall create any obligation of any kind to such materialmen, subcontractors, workmen or other third persons. Until actual payment is made to the Contractor, his right to any amount to be paid under the Contract (even though such amount has already been certified as due) shall be subordinate to the rights of the Lessee under this provision.'

The Lessee shall file with the Port Authority a copy of its contracts with its contractors prior to start of the Construction Work.

(4) The Lessee shall furnish or require its architect to furnish a full time resident engineer during the construction period. The Lessee shall require certification by a licensed engineer of all pile driving data and of all controlled concrete work and such other certifications as may be required by the Port Authority from time to time.

(5) The Lessee agrees to be solely responsible for any plans and specifications used by it and for any loss or damages resulting from the use thereof, notwithstanding that the same have been approved by the Port Authority and notwithstanding the incorporation therein of Port Authority recommendations or requirements; provided that with respect to the Lessee LRS

Work the foregoing shall not be deemed to create any Lessee responsibility for the underlying design assumptions made in the LRS design and supplied by the Port Authority to the Lessee with respect to the location of the LRS in the Construction Work Site. Notwithstanding the requirement for approval by the Port Authority of the contracts to be entered into by the Lessee or the incorporation therein of Port Authority requirements or recommendations, and notwithstanding any rights the Port Authority may have reserved to itself hereunder, the Port Authority shall have no liabilities or obligations of any kind to any contractors engaged by the Lessee or for any other matter in connection therewith and the Lessee hereby releases and discharges the Port Authority, its Commissioners, officers, representatives and employees of and from any and all liability, claims for damages or losses of any kind, whether legal or equitable, or from any action or cause of action arising or alleged to arise out of the performance of any Construction Work pursuant to the contracts between the Lessee and its contractors. Any warranties contained in any construction contract entered into by the Lessee for the performance of the Construction Work hereunder shall be for the benefit of the Port Authority as well as the Lessee, and the contract shall so provide.

(6) The Port Authority shall have the right, through its duly designated representatives, to inspect the Construction Work and the plans and specifications thereof, at any and all reasonable times during the progress thereof and from time to time, in its discretion, to take samples and perform testing on any part of the Construction Work.

(7) The Lessee agrees that it shall deliver to the Port Authority two (2) sets of 'as built' microfilm drawings of the Construction Work mounted on aperture cards, an electronic CADD data file in a format to be designated by the Port Authority, all of which shall conform to the specifications of the Port Authority (the receipt of a copy of said specifications prior to the execution of this Lease being hereby acknowledged by the Lessee), all engineering reports, engineering analysis, boring logs, survey information and engineering design calculations and operation and maintenance manuals in a comprehensive, coordinated package. The Lessee shall during the term of this Lease keep said microfilm drawings and digital electronic files of the drawings and said electronic CADD data file current showing thereon any changes or modifications which may be made. (No changes or modifications shall be made without prior Port Authority consent).

(8) The Lessee shall, if requested by the Port Authority, take all reasonable measures to prevent erosion of the soil and the blowing of sand during the performance of the Construction Work, including but not limited to the fencing of the premises or portions thereof or other areas and the covering of open areas with asphaltic emulsion or similar materials as the Port Authority may direct.

(9) Any soil, dirt, sand or other matter (hereinafter in this item (9) collectively called the 'matter') excavated by the Lessee during the course of the Construction Work and not used at the Construction Work Site shall be delivered and deposited by the Lessee at its expense to

any location on the Airport or to any location off the Airport within the Port of New York District as may be designated by the Port Authority, subject to and in accordance with the provisions hereof and all Environmental Requirements. The entire proceeds, if any, of the sale or other disposition of the matter shall belong to the Port Authority. Notwithstanding the foregoing the Port Authority may elect by prior written notice to the Lessee to waive any rights it may have hereunder as to all or portions of the matter in which event the Lessee at its expense shall dispose of the same without further instruction from the Port Authority, subject to and in accordance with the provisions hereof and with respect to Area 1 subject to Paragraph 2 of Supplement No. 2 of the Lease.

(10) The Lessee shall pay or cause to be paid all claims lawfully made against it by its contractors, subcontractors, materialmen and workmen, and all claims lawfully made against it by other third persons arising out of or in connection with or because of the performance of the Construction Work, and shall cause its contractors and subcontractors to pay all such claims lawfully made against them, provided, however, that nothing herein contained shall be construed to limit the right of the Lessee to contest any claim of a contractor, subcontractor, materialman, workman and/or other person and no such claim shall be considered to be an obligation of the Lessee within the meaning of this Section unless and until the same shall have been finally adjudicated. The Lessee shall use its best efforts to resolve any such claims and shall, keep the Port Authority fully informed of its actions with respect thereto. Nothing herein contained shall be deemed to constitute consent to the creation of any liens or claims against the premises, Area 2 or any other part of the Airport nor to create any rights in said third persons against the Port Authority.

(11) (i) The Lessee in its own name as insured and including the Port Authority as an additional insured shall procure and maintain Comprehensive General Liability insurance, including but not limited to premises-operations, products-completed operations, explosion, collapse and underground property damages, personal injury and independent contractors, with a broad form property damage endorsement, and with a contractual liability endorsement covering the obligations assumed by the Lessee pursuant to subparagraphs (1) and (5) of this paragraph (g), and Comprehensive Automobile Liability insurance covering owned, non-owned and hired vehicles. The said Comprehensive General Liability insurance policy shall have a limit of not less than $10,000,000 combined single limit per occurrence for bodily injury and property damage liability, and said Comprehensive Automobile Liability policy shall have a limit of not less than $10,000,000 combined single limit per accident for bodily injury and property damage liability.

Without limiting the provisions hereof, in the event the Lessee maintains the foregoing insurance in limits greater than aforesaid, the Port Authority shall be included therein as an additional insured to the full extent of all such insurance in accordance with all the terms and provisions hereof.

The foregoing shall be in addition to all policies of insurance otherwise required by this Agreement, or the Lessee may provide such insurance by requiring each contractor engaged by

it for the Construction Work to procure and maintain such insurance including such contractual liability endorsement; said insurance, whether procured by the Lessee or by a contractor engaged by it as aforesaid, not to contain any care, custody or control exclusions or any exclusion for bodily injury to or sickness, disease or death of any employee of the Lessee or of any of its contractors which would conflict with or in any way impair coverage under the contractual liability endorsement. The said policy or policies of insurance shall also provide or contain an endorsement providing that the protections afforded the Lessee thereunder with respect to any claim or action against the Lessee by a third person shall pertain and apply with like effect with respect to any claim or action against the Lessee by the Port Authority, and shall also provide or contain an endorsement providing that the protections afforded the Port Authority thereunder with respect to any claim or action against the Port Authority by the Lessee or its contractor(s) shall be the same as the protections afforded the Lessee thereunder with respect to any claim or action against the Lessee by a third person as if the Port Authority were the named insured thereunder; but such endorsement shall not limit, vary or affect the protections afforded the Port Authority thereunder as an additional insured.

(ii) The Lessee shall also procure and maintain in effect, or cause to be procured and maintained in effect Workers' Compensation Insurance and Employer's Liability Insurance in accordance with and as required by law.

(iii) The insurance required hereunder in this subparagraph (11) shall be maintained in effect during the performance of the Construction Work. As to the insurance required by the provisions of this paragraph (11), a certified copy of the policies or a certificate or certificates or binders, evidencing the existence thereof, shall be delivered by the Lessee to the Port Authority at least fifteen (15) days prior to the commencement of any Construction Work. Each policy, certificate or binder delivered as aforesaid shall bear the endorsement of or be accompanied by evidence of payment of the premium thereon. In the event a binder is delivered, it shall be replaced within thirty (30) days by a certified copy of the policy or a certificate. Each such copy or certificate with respect to the insurance required by the provisions of this paragraph (11), shall contain a valid provision or endorsement that the policy may not be canceled, terminated, changed or modified without giving thirty (30) days' written advance notice thereof to the Port Authority. Each such copy or certificate shall contain an additional endorsement providing that the insurance carrier shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, its Commissioners, officers, agents, or employees, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provisions of any statutes respecting suits against the Port Authority. Any renewal policy or certificate shall be delivered to the Port Authority prior to the expiration of each expiring policy, except for any policy expiring after the date of expiration of the term of this Agreement. The aforesaid insurance shall be written by a company or companies approved by the Port Authority, the Port Authority agreeing not to withhold its approval unreasonably. If at any time any of the insurance policies shall be or become unsatisfactory to the Port Authority as to the form or

substance or if any of the carriers issuing such policies shall be or become unsatisfactory to the Port Authority, the Lessee shall promptly obtain a new and satisfactory policy in replacement, the Port Authority covenanting and agreeing not to act unreasonably hereunder. If the Port Authority at any time so requests, a certified copy of each of the policies shall be delivered to the Port Authority.

(12) The Lessee shall be under no obligation to reimburse the Port Authority for expenses incurred by the Port Authority in connection with its normal review and approval of the original plans and specifications submitted by the Lessee pursuant to this Section. The Lessee however agrees to pay to the Port Authority upon its demand the expenses incurred by the Port Authority in connection with any additional review for approval of any changes, modifications or revisions of the original plans and specifications which may be proposed by the Lessee for the Port Authority's approval. The expenses of the Port Authority for any such additional review and approval shall be computed on the basis of direct payroll time expended in connection therewith plus 100%. Wherever in this Lease reference is made to "direct payroll time", costs computed thereunder shall include a prorata share of the cost to the Port Authority of providing employee benefits, including, but not limited to, pensions, hospitalization, medical and life insurance, vacations and holidays. Such computations shall be in accordance with the Port Authority's accounting principles as consistently applied prior to the execution of this Lease.

(13) The Lessee shall prior to the commencement of construction and at all times during construction submit to the Port Authority all engineering studies with respect to construction and samples of construction materials as may be required at any time and from time to time by the Port Authority.

(14) The Lessee shall procure and maintain Builder's Risk (All Risk) Completed Value Insurance covering the Construction Work during the performance thereof including material delivered to the Construction Work Site but not attached to the realty. Such insurance shall be in compliance with and subject to the applicable provisions set forth herein and shall name the Port Authority, the City of New York, the Lessee and its contractors and subcontractors as additional assureds and such policy shall provide that the loss shall be adjusted with and payable to the Lessee. Such proceeds shall be used by the Lessee for the repair, replacement or rebuilding of the Construction Work and any excess shall be paid over to the Port Authority. The policies or certificates representing insurance covered by this paragraph (14) shall be delivered by the Lessee to the Port Authority at least thirty (30) days prior to the commencement of construction of the Construction Work, and each policy or certificate delivered shall bear the endorsement of or be accompanied by evidence of payment of the premium thereof and, also, a valid provision obligating the insurance company to furnish the Port Authority and the City of New York thirty (30) days' advance notice of the cancellation, termination, change or modification of the insurance evidenced by said policy or certificate. Renewal policies or certificates shall be delivered to the Port Authority at least thirty (30) days before the expiration of the insurance which such policies are to renew.

The insurance covered by this paragraph (14) shall be written by companies approved by the Port Authority, the Port Authority covenanting and agreeing not to withhold its approval unreasonably. If at any time any of the insurance policies shall be or become unsatisfactory to the Port Authority as to the form or substance or if any of the carriers issuing such policies shall be or become unsatisfactory to the Port Authority, the Lessee shall promptly obtain a new and satisfactory policy in replacement, the Port Authority covenanting and agreeing not to act unreasonably hereunder. If at any time the Port Authority so requests, a certified copy of each of the said policies shall be delivered to the Port Authority.

(15) The Lessee shall at the time of submitting the Comprehensive Plan to the Port Authority as provided in paragraph (b) hereof submit to the Port Authority its forecasts of the number of people who will be working at various times during the term of the Lease at the Construction Work Site, the expected utility demands of the premises, noise profiles and such other information as the Port Authority may require. The Lessee shall continue to submit its latest forecasts and such other information as may be reasonably required as aforesaid as the Port Authority shall from time to time and at any time request.

(16) The Lessee shall execute and submit for the Port Authority's approval a Construction Application or Applications in the form prescribed by the Port Authority covering the Construction Work or portions thereof. The Lessee shall comply with all the terms and provisions of the approved Construction Applications. In the event of any inconsistency between the terms of any Construction Application and the terms of this Lease, the terms of this Lease shall prevail and control.

(17) Nothing contained in this Lease shall grant or be deemed to grant to any contractor, architect, supplier, subcontractor or any other person engaged by the Lessee or any of its contractors in the performance of any part of the Construction Work any right of action or claim against the Port Authority, its Commissioners, officers, agents and employees with respect to any work any of them may do in connection with the Construction Work. Nothing contained herein shall create or be deemed to create any relationship between the Port Authority and any such contractor, architect, supplier, subcontractor or any other person engaged by the Lessee or any of its contractors in the performance of any part of the Construction Work and the Port Authority shall not be responsible to any of the foregoing for any payments due or alleged to be due thereto for any work performed or materials purchased in connection with the Construction Work.

(18) (i) Without limiting any of the terms and conditions of this Lease, the Lessee understands and agrees that it shall put into effect prior to the commencement of any Construction Work an affirmative action program and Minority Business Enterprise (MBE) program and Women-owned Business Enterprise (WBE) program in accordance with the provisions of Schedule E, attached to Supplement No. 2 of the Lease and hereby made a part hereof; and as used in said Schedule E the term 'construction work' shall apply to the Construction Work hereunder. The provisions of said Schedule E of this Lease shall be applicable to the Lessee's contractor or

contractors and subcontractors at any tier of construction as well as to the Lessee itself and the Lessee shall include the provisions of said Schedule E within all of its construction contracts so as to make said provisions and undertakings the direct obligation of the construction contractor or contractors and subcontractors at any tier of construction. The Lessee shall and shall require its said contractor, contractors and subcontractors to furnish to the Port Authority such data, including but not limited to compliance reports relating to the operation and implementation of the affirmative action, MBE and WBE programs called for hereunder as the Port Authority may request at any time and from time to time regarding the affirmative action, Minority Business Enterprises and Women-owned Business Enterprises programs of the Lessee and its contractor, contractors, and subcontractors at any tier of construction, and the Lessee shall and shall also require that its contractor, contractors and subcontractors at any tier of construction make and put into effect such modifications and additions thereto as may be directed by the Port Authority pursuant to the provisions hereof and said Schedule E to effectuate the goals of affirmative action and Minority Business Enterprise and Women-owned Business Enterprise programs.

(ii) In addition to and without limiting any terms and provisions of this Lease, the Lessee shall provide in its contracts and all subcontracts covering the Construction Work or any portion thereof, that:

(aa) The contractor shall not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, and shall undertake or continue existing programs of affirmative action to ensure that minority group persons are afforded equal employment opportunity without discrimination. Such programs shall include, but not be limited to, recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, rates of pay or other forms of compensation, and selections for training or retraining, including apprenticeships and on-the-job training;

(bb) At the request of either the Port Authority or the Lessee, the contractor shall request such employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding and which is involved in the performance of the contract with the Lessee to furnish a written statement that such employment agency, labor union or representative shall not discriminate because of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will cooperate in the implementation of the contractor's obligations hereunder;

(cc) The contractor will state, in all solicitations or advertisements for employees placed by or on behalf of the contractor in the performance of the contract, that all qualified applicants will be afforded equal employment opportunity without discrimination because of race, creed, color, national origin, sex, age, disability or marital status;

(dd) The contractor will include the provisions of subparagraphs (aa) through (cc)

of this paragraph in every subcontract or purchase order in such a manner that such provisions will be binding upon each subcontractor or vendor as to its work in connection with the contract;

(ee) 'Contractor' as used herein in this paragraph (18) and in Schedule E shall include each contractor and subcontractor at any tier of construction.

(19) (i) Attached hereto, hereby made a part hereof and identified as "Exhibit M" is a copy of Long Island Well Permit No. 2-6308-00019/00005-0 effective for the period November 2, 1995 through December 31, 2000 issued by the New York State Department of Environmental Conservation ("NYSDEC") to the Port Authority covering the installation and operation of temporary dewatering systems associated with the Central Terminal Area redevelopment program at the Airport (which permit, including the attachment marked as Attachment 1 thereof, as the same may be extended or superseded or replaced by another dewatering permit, is hereinafter called the "General Dewatering Permit"). The Lessee has requested that it be permitted to conduct dewatering performed by it in connection with the certain portions of the Construction Work (hereinafter described) to be performed by the Lessee hereunder and pursuant to the General Dewatering Permit. The Port Authority hereby grants its permission for the Lessee to perform dewatering performed by it in connection with the limited portions of the Construction Work under and pursuant to the General Dewatering Permit on the following terms and conditions, provided, however, that the said permission shall be limited to and shall extend and apply solely to the portions of the Construction Work which consist of the Roadway Package # 5 work and the portion of the Lessee LRS Work stated in sub-subdivision (1) (B) below; and provided, further, however, that the permission granted hereunder with respect to any extension of or replacement or succeeding permit to Permit No. 2-6308-00019/00005-0 shall not be effective if the conduct of dewatering thereunder by the Lessee would be a violation of such permit:

(1) (A) The Lessee shall comply with all the terms and conditions of the General Dewatering Permit and with all additional requirements of the NYSDEC in connection with dewatering performed by the Lessee under the General Dewatering Permit and the JFK SPDES (New York State Pollution Discharge Elimination System) permit (No. NY 0008109) (the 'JFK SPDES Permit') and all other regulations in connection with any dewatering and/or discharge performed by the Lessee or contractor(s) of the Lessee at the Airport. The Lessee, in its own name, prior to the commencement of any portion of the Construction Work, shall also obtain, prior authorization under the NYSDEC Stormwater Discharge Permit for Construction Activity, which requires the Lessee to develop and implement an approved Stormwater Pollution prevention Plan tailored to the Construction Work Site, and the Lessee shall maintain compliance with that Plan for the duration of the Project.

(B) It is specifically understood and agreed that the permission of the Port Authority granted hereunder will allow the Lessee solely to dewater well points under the General Dewatering Permit contingent on NYSDSEC review for the Roadway Package # 5 work and the

installation of the columns for the Lessee LRS Work stated below, as described in Attachment 1 of Exhibit M; with the following additional conditions:

Condition for the Roadway Package #5 work: The Lessee shall not remove through installed deep wells more than 1,250,000 gallons per day under the General Dewatering Permit for the duration of the General Dewatering Permit.

Condition for the Lessee LRS Work: The permission hereunder shall be limited to the installation of columns. The allocation for well dewatering by the Lessee for the said portion of the Lessee LRS Work will be confirmed by the Port Authority Engineering Department, not to exceed 0.6 million gallons per day from October 1, 1998 through September 30, 1999. The Port Authority will allocate from available volume provided under the General Dewatering Permit, not to impact any other LRS construction, pending submission of complete calculations from the Lessee.

The Roadway Package #5 work and the Lessee LRS Work dewatering and discharges must be monitored and reported separately. Accordingly, separate monitoring systems shall be used to track dewatering and discharge activities at the respective portions of the Construction Work Site. In addition, quantities allocated for one portion may not be applied to any other portion of the Construction Work or any other portion of the Construction Work Site.

(2) (A) The Lessee shall designate, by written notice to the Port Authority given not later than five (5) days after the Lessee's execution of Supplement No. 2 to this Lease, a duly authorized representative of the Lessee (the 'Lessee Environmental Representative') who shall be responsible for the Lessee's compliance with the General Dewatering Permit and the aforesaid JFK SPDES Permit.

(B) Upon written notice to the Lessee by the Port Authority which may be given at any time upon any indication of non-compliance or potential non-compliance by the Lessee with the General Dewatering Permit, the Lessee shall immediately retain, at its own expense, under contract a qualified environmental consultant, independent of the Lessee's construction contractor, which qualified environmental consultant shall be subject to the approval of the Port Authority and which qualified environmental consultant shall provide liaison with the Port Authority and shall have the obligation to submit any and all reports, and any other requested information, directly to the Port Authority and to oversee installation of the dewatering wells by a licensed driller, and to monitor contractor compliance with all dewatering operations. The aforesaid Lessee Environmental Representative and/or the qualified environmental consultant of the Lessee shall promptly notify the Supervisor, Permits and Government Approvals of the Port Authority's Environmental Engineering Unit of the progress of scheduled activities, including initiation of

dewatering activities and shall provide weekly updates (by facsimile) on the activities at the Construction Work Site, including the status of dewatering activities (e.g. volumes removed, condition of waters). Anything to the contrary in the foregoing notwithstanding, the said environmental consultant shall at all times be a contractor of the Lessee. The Port Authority shall not be responsible for any act or omission or fault or neglect of the said environmental consultant nor shall the Port Authority have any liabilities or obligations of any kind to said environmental consultant nor any responsibility for any payments due or alleged to be due thereto.

(3) In addition to and without limiting sub-subdivision (5) below or any other term or provision of this Lease, the Lessee shall be solely responsible for any and all fines, penalties, assessments, or levies assessed due to deviation from or violation of the General Dewatering Permit and the requirements and conditions thereof or due to deviation from or violation of the aforesaid JFK SPDES Permit or of the Lessee's authorization to discharge stormwater during construction, mentioned above, or of any other permit, plan, authorization or permission mentioned herein. All design planning shall be in conformance with the requirements and conditions of the General Dewatering Permit, of the aforesaid JFK SPDES permit and applicable NYSDEC regulatory requirements and of any other permit, plan, authorization or permission mentioned herein. The Lessee is responsible for complete compliance with the said regulatory requirements and regulations.

(4) In the event that the projected zone of influence of planned dewatering system is found to extend into any area outside of the premises under this Lease, the Lessee shall notify the Port Authority by submitting to the Geotechnical Unit of the Port Authority the proposed dewatering design for review and approval. This proposed plan shall include the identification of potentially affected non-pile supported structures and pavements which may be impacted by drawdown effects during dewatering operations. In addition, the impact of pumped discharge (which will impact measurement of total suspended solids levels limited by the discharge permit conditions) during pumping and sumping operations shall be subject to prior review and approval by the Port Authority.

(5) The Lessee agrees to assume all risks arising out of its performance of dewatering and discharging at any portion or area of the Construction Work Site under the General Dewatering Permit the JFK SPDES Permit or any other applicable permit or of any other permit, plan, authorization or permission mentioned herein and, without limiting the generality of any other term or provision contained in this Agreement, the Lessee shall indemnify, hold harmless and reimburse the Port Authority, its Commissioners, officers, employees and representatives from and against (and shall reimburse the Port Authority for the Port Authority's costs and expenses including, without limitation, legal costs and expenses incurred in connection with the defense of) all claims and demands, penalties, fines, liabilities (including, without limitation, strict liability), settlements, attorney and consultant fees, investigation and laboratory fees, cleanup and remediation costs, court costs and litigation expenses, damages, judgements, losses, costs and expenses, including, without limitation, claims for personal injury, including death, and property damage, of

whatsoever kind or nature and whether known or unknown, contingent or otherwise, just or unjust, groundless or foreseeable or otherwise arising or alleged to arise out of, or any way related to the Lessee's performance of dewatering or any discharging at any portion of the Construction Work Site or the Airport or the use of the General Dewatering Permit or the JFK SPDES Permit by the Lessee or of any other permit, plan, authorization or permission mentioned herein. If so directed, the Lessee shall at its own expense defend any suit based upon the foregoing, and in handling such it shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provisions of any statutes respecting suits against the Port Authority.

(6) In accordance with Special Condition No. 3 of the General Dewatering Permit, the Lessee shall submit to the Supervisor, Permits and Government Approvals of the Port Authority's Environmental Engineering Division all information required by Special Condition No. 3 of the General Dewatering Permit at least forty-five (45) days prior to commencement of construction under each individual contract pursuant to which dewatering and discharge shall be performed by the Lessee. Exhibit M (the General Dewatering Permit) contains a listing of the designated requirements. The Lessee, prior to any performance of any portion of the Construction Work, shall also provide to the Port Authority copies of the Notice of Intent which the Lessee shall submit to the NYSDEC in the Lessee's application for the Construction Discharge Permit, mentioned above, under the JFK SPDES Permit.

(7) Monthly volume logs, water quality results, visual inspection logs and photographs required by the Special Conditions of the General Dewatering Permit covering each portion of the Construction Work Site are to be submitted by the Lessee to the Supervisor, Permits and Government Approvals of the Port Authority's Environmental Engineering Division by the 10th (tenth) day of the month following the month in which the foregoing are recorded or obtained. The parameters to be analyzed and reported will be specified by NYSDEC pursuant to Special Condition No. 4 of the General Dewatering Permit.

(8) The permission granted pursuant to this subdivision (i) of this subparagraph (19) for the Lessee to perform dewatering pursuant to the General Dewatering Permit and discharging pursuant to the JFK SPDES Permit, as aforesaid, and any other related matter may be revoked by the Port Authority upon twenty-four (24) hours' notice to the Lessee if the Lessee fails, within seven (7) days after receipt by the Lessee of notice of default from the Port Authority identifying the breach or breaches of this subdivision (i) of this subparagraph (19) , to cure any default of the terms and conditions of this subdivision (i) of this subparagraph (19) so identified.

(9) Not later than ten (10) days after completion by the Lessee of

dewatering activities, the Lessee shall perform and complete, a closure of the deep water wells in conformance with the NYSDEC requirements. As part of the closure of these wells. The Lessee and its contractor (s) shall notify both the Port Authority and the NYSDEC of this action.

(ii) (1) Dewatering criteria shall be developed to accommodate pile cap construction for thethe Elevated Parking Structure. The Lessee shall, at its sole cost and expense, promptly obtain from the NYSDEC and maintain in effect its own dewatering permit and its own New York State Pollution Discharge Elimination System (SPDES) construction permit covering the Elevated Parking Structure portion of the Construction Work and all other portions of the Construction Work Site not included in (i) of this subparagraph (19) (herein called 'the Lessee's Permits') for the removal of groundwater and discharge elimination in connection with all or any of the said work. Maximum flow from the dewatering systems shall not exceed permissible limits defined in the Lessee's Permits.

(2) In addition to and without limiting any of the terms or provisions of this Lease, the Lessee shall comply with all the terms and conditions of the Lessee's Permits and with any and all additional requirements of the NYSDEC. Without limiting the terms and provisions of the Lease, the Lessee hereby assumes all risks arising out of or in connection with the Lessee's performance of dewatering or discharging under the Lessee's Permits and, without limiting the generality of any other term or provision of this Lease the Lessee shall indemnify and hold harmless the Port Authority, its Commissioners, officers, agents and employees from and against (and shall reimburse the Port Authority for its costs and expenses including without limitation legal costs and expenses incurred in connection with the defense of) all claims and demands, penalties, fines, liabilities (including without limitation strict liability), settlements, attorney and consultant fees, investigation and laboratory fees, clean-up and remediation costs, court costs and litigation expenses, damages, judgements, losses, costs and expenses, including without limitation claims for personal injury, including death, and property damage, of whatsoever kind or nature and whether known or unknown, contingent or otherwise, just or unjust, groundless or foreseeable or otherwise arising or alleged to arise out of, or any related to the use of the Lessee's Permits by the Lessee or the performance of the dewatering or discharging by the Lessee. If so directed the Lessee shall at its expense defend any suit based upon any of the foregoing and in handling such it shall not without first having express advance permission from the General Counsel of the Port Authority raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provisions of any statutes respecting suits against the Port Authority.

(3) In the event that the projected zone of influence of planned dewatering system is found to extend into any area outside of the premises under this Agreement, the Lessee shall notify the Port Authority by submitting to the Geotechnical Unit of the Port Authority the proposed dewatering design for review and approval.

(h) In addition to and without limiting the terms and conditions set forth in paragraph (g) above, the portion of the Construction Work representing the Eligible Construction Work (as defined in Section 84 hereof) and the Lessee LRS Work shall be done in accordance with the following further terms and conditions:

(1) In addition to the submission of the names of the architects and contractors for Port Authority approval as required by subparagraphs (2) and (3) of paragraph (g) hereof, all proposed contracts covering the portion of the Construction Work representing the Eligible Construction Work, or any portion thereof submitted and/or the Lessee LRS Work or any portion thereof for Port Authority approval shall be subject to disapproval including but not limited to the disapproval of any contract the costs of which are not acceptable to the Port Authority. The Lessee shall include in all such contracts such provisions and conditions as may be required by the Port Authority. In addition to and without limiting any other right or remedy of the Port Authority under this Lease or otherwise, the Port Authority shall have the right to audit the books of any contractor (at any tier) with respect to any contract covering the Eligible Construction Work, or any portion thereof and/or the Lessee LRS Work or any portion thereof. It is expressly understood and agreed that in the event any proposed contract covers the construction of On-Premises Area 1 Work, or any portion thereof, as well as Off-Premises Work, or any portion thereof or the Lessee LRS Work or any portion thereof, or covers both Eligible Construction Work and other portions of the construction, then the contract shall contain an allocation of costs between the On-Premises Area 1 Work and the Off-Premises Work and between the Eligible Construction Work and the Lessee LRS Work or any portion thereof and the other portions of the Construction Work, or shall set forth a method for properly determining the allocation of such costs, provided, however, that if such contract does not properly allocate said costs or set forth a method for the allocation of said costs the Port Authority shall determine the costs thereof that are applicable to the Eligible Construction Work, or any portion thereof or the Lessee LRS Work or any portion thereof. It is further understood and agreed that the Port Authority shall have as full a right to require the use of competitive bidding and award, or other basis of award, for the construction of the Eligible Construction Work, or any portion thereof and for the Lessee LRS Work or any portion thereof as if such construction were to be performed by the Port Authority. The Lessee shall not enter into any proposed contract covering the Eligible Construction Work, or any portion thereof, or the Lessee LRS Work, or any portion thereof, without the prior written approval of the Port Authority, in accordance with the foregoing, and the Port Authority shall have the right to review each such proposed contract prior to the award or execution thereof.

(2) Without limiting subparagraph (1) above or any other term or provision of this Agreement, all construction documents and bid documents and all contracts including but not limited to any and all changes, supplements or amendments or changes thereto covering the Eligible Construction Work or any portion thereof, or the Lessee LRS Work or any portion thereof, shall be subject to the prior approval of the Port Authority, and, the Lessee shall not make any such changes, supplements or amendments without the prior approval of the Port Authority. In accordance with paragraph (g) (3) hereof all bid documents and proposed contracts

shall require a cost breakdown separately detailing Eligible Construction Work and Lessee LRS Work or any portion thereof, which shall be made available to the Port Authority for its review. In addition, with respect to the Lessee LRS Work, all bid documents shall contain a bid breakdown in accordance with the construction cost estimates for the Lessee LRS Work prepared by the Lessee and submitted to the Port Authority . Further, without limiting any other term or provision of this Agreement, the Lessee shall include in said construction documents, bid documents and contracts such terms, provisions and conditions as may be required by the Port Authority (including, without limitation, the terms, provisions and conditions required under Section 84 hereof and including, without limitation, provisions permitting retainage from amounts due the contractor until final completion by the contractor of the work under such contract and acceptance thereof by the Port Authority).

(3) Port Authority Requested Change Orders to the Eligible Construction Work and/or to the Lessee LRS Work:

(a) (i) The Lessee hereby specifically agrees that notwithstanding the Port Authority's approval of the Lessee's Comprehensive Plan or the Contract Documents or any Construction Application the Lessee shall, as directed by the Port Authority, design and make such changes or modifications in the Eligible Construction Work and the Lessee LRS Work as may be required by the Port Authority (including but not limited to any further conditions which may be imposed by the General Manager of the Airport), which changes and modifications will become a part of the Construction Application and the Construction Work; (each, a 'Port Authority Requested Change').

(ii) The Port Authority shall advise the Lessee in writing of each Port Authority Requested Change, and upon its receipt of each such Port Authority Requested Change the Lessee shall within ten (10) business days provide the Port Authority with a written statement setting forth in detail the Lessee's good faith estimates and itemization of the costs of each such Port Authority Requested Change (including the costs of any changes in related work) or the cost savings which would result from each such Port Authority Requested Change and the impact of the same (either positive or negative), cumulatively with all prior Change Orders (including but not limited to Port Authority Requested Change Orders), (A) on the Cost of the Eligible Construction Work or the Cost of the Lessee LRS Work, or both, as the case may be, and (B) on the required time for the completion by the Lessee of the Construction Work.

(iii) After its receipt of the said statement from the Lessee, the Port Authority shall in writing either (A) authorize such Port Authority Requested Change and instruct the Lessee to proceed with the same, or (B) disapprove such Port Authority Requested Change and such Port Authority Requested Change shall be deemed withdrawn. If the Port Authority shall so authorize in writing any such Port Authority Requested Change (each such, a 'Port Authority Requested Change Order') , then the Lessee shall design and make such

changes or modifications in the Eligible Construction Work and the Lessee LRS Work in accordance with the Port Authority Requested Change Order , which changes and modifications will become a part of the Construction Application and the Construction Work. If the Port Authority shall disapprove any such Port Authority Requested Change, then the Lessee shall not perform such change or modification, and the plans and specifications and the Construction Application shall not be changed to reflect such approved Port Authority Requested Change.

(iv) It is expressly understood and agreed, that the Port Authority shall have the right to approve in writing any and all work or services and the cost of each item of such work or services for the implementation of a Port Authority Requested Change; it being specifically understood and agreed that any and all Change Orders affecting the Eligible Construction Work, or any portion thereof, or the Lessee LRS Work, or any portion thereof, resulting from Port Authority Requested Changes shall be subject to the prior written authorization of the Port Authority, and, further, that the Lessee shall not authorize or permit any contractor to perform any work in connection with any such Port Authority Requested Change unless such prior authorization of the Port Authority is obtained. The Lessee hereby agrees to perform all work and services in connection with any such authorized Port Authority Requested Change Order not covered by any proposed contract for the Eligible Construction Work or the Lessee LRS Work.

(v) 'Port Authority Requested Change in Scope Change Order':

(A) With respect to the Eligible Construction Work, a Port Authority Requested Change Order shall be considered a Change in Scope if it changes the size, number, configuration or materials of the major components of the Comprehensive Plan as shown on the Design Development Drawings; or significantly increases the size or number of the ancillary components of the Comprehensive Plan above the requirements cited in Attachment A (each, a 'Port Authority Requested Change in Scope Change Order'). A Port Authority Requested Change Order shall not be considered a Change in Scope if it is in response to field conditions. For the purposes of determining Change in Scope, major components of the Comprehensive Plan include at-grade roadways, roadways on-embankment, elevated roadways on-structure, open-depressed roadways, roadways in tunnels, passenger islands, canopies, at-grade parking lots, structural parking decks, parking entry and exit plazas. All other elements and components of the Comprehensive Plan, regardless of whether they are or are not specifically shown on the Design Development Drawings or cited in Attachment A, necessary for the function of the said major components shall, for the purposes of determining Change in Scope, be considered ancillary components of the Comprehensive Plan. Ancillary components of the Comprehensive Plan shall include, but are not limited to, all utility systems and their required equipment, enclosures and structures (electrical power, communications, water, storm sewer, sanitary sewer, revenue control, security, natural gas, thermal distribution, chilled water); traffic signals; static and dynamic signing; striping; landscaping; and fencing.

(B) With respect to the Lessee LRS Work, a Port Authority Requested Change Order shall be considered a Change in Scope if it changes the size, number, configuration or materials of the major components of the LRS Work as shown on Exhibit D (each, a 'Port Authority Requested Change in Scope Change Order'). A Port Authority Requested Change Order shall not be considered a Change in Scope if it is in response to field conditions. For the purposes of determining Change in Scope, major components of the Lessee LRS Work shall include foundations and columns.

(vi) The term 'Net Amount of Port Authority Requested Change in Scope Change Orders' shall mean (A) with respect to Eligible Construction Work, the total cumulative sums of all Port Authority Requested Change in Scope Change Orders applicable to the Eligible Construction Work after deducting the total amounts of all cost savings resulting from all Change Orders (including but not limited to Port Authority Requested Change Orders) applicable to the Eligible Construction Work; and (B) with respect to the Lessee LRS Work, the total cumulative sums of all Port Authority Requested Change in Scope Change Orders applicable to the Lessee LRS Work after deducting the total amounts of all cost savings resulting from all Change Orders (including but not limited to Port Authority Requested Change Orders) applicable to the Lessee LRS Work.

(vii) Failure of the Lessee to comply with the provisions hereof shall be deemed a material breach of this Agreement. Without limiting the foregoing, in the event the Lessee shall fail to provide any statement or other information required to be provided by the Lessee under this paragraph with respect to a Port Authority Requested Change, the Port Authority shall nevertheless have the right to require the Lessee to proceed with such Port Authority Requested Change based upon Port Authority established cost estimates.

(i) The Lessee hereby acknowledges its awareness that the expeditious performance by the Lessee of the Eligible Construction Work and the Lessee LRS Work including the proper staging of the components thereof is a special inducement to the Port Authority in entering into this Agreement. Accordingly, the Lessee agrees that it shall perform the Construction Work in accordance with, and in the sequence as set forth in, the exhibit attached hereto, hereby made a part hereof and marked "Exhibit I ". The Lessee understands the importance of performing such portions of the Construction Work in such a manner and at such times so that the same will be completed expeditiously. Toward the accomplishment of the foregoing, and without limiting the terms and provisions of paragraph (r) hereof, the Lessee shall submit a Construction Application or Applications and the plans and specifications forming a part thereof in connection with the aforesaid specified portions of the Construction Work for the approval of the Port Authority. The Lessee shall monitor the progress of the architect and engineer in preparing said plans and specifications and shall cause the same to be completed expeditiously and shall promptly deliver the same to the Port Authority for approval. The Lessee shall continue diligently and expeditiously to submit and resubmit such material as may be required until approval is granted. The Lessee hereby agrees to commence construction of the

aforesaid specified portions of the Construction Work promptly after the approval of its Construction Application or Applications and the plans and specifications covering the same and to continue said construction diligently to completion. The foregoing provisions of this paragraph (i) shall not prevent the Lessee from proceeding with the On-Premises Area 1 Work at the same time it is proceeding with the Off-Premises Work and the Lessee LRS Work as long as the completion of the Off-Premises Work and the Lessee LRS Work is not unduly delayed.

(j) As aforesaid, it is understood and agreed that the Off-Premises Work, the On-Premises Area 1 Work and the Lessee LRS Work and all of the various portions thereof might not be constructed concurrently. Accordingly and expressly subject to the provisions of paragraph (r)of this Section 2 and without limiting said paragraph (r) or any other terms or provisions of this Agreement, the required approval by the Port Authority of the Lessee's plans and specifications under paragraph (f) hereof may be given as said plans and specifications for each of the portions of the Construction Work specified in paragraph (i) hereof are submitted. In addition, the Lessee may wish to commence construction of portions of the Construction Work prior to the approval by the Port Authority of the Lessee's complete plans and specifications pursuant to paragraph (f) hereof, and if it does it shall submit a written request to the Port Authority setting forth the work it proposes then to do.

The Port Authority shall have full and complete discretion as to whether or not to permit the Lessee to proceed with said work. If the Port Authority has no objection to the Lessee's proceeding with the work, it shall do so by writing a letter to the Lessee to such effect. If the Lessee performs the work covered by said letter it agrees all such work shall be performed subject to and in accordance with all of the provisions of the approval letter and subject to and in accordance with the following terms and conditions:

(1) The performance by the Lessee of the work covered by any request as aforesaid will be at its sole risk and if for any reason the plans and specifications for the Construction Work are not approved by the Port Authority or if the approval thereof calls for modifications or changes in the work undertaken by the Lessee under any approval granted by the Port Authority pursuant to this paragraph (j), the Lessee will, as directed by the Port Authority, at its sole cost and expense, either restore the area affected to the condition existing prior to the commencement of any such work or make such modifications and changes in any such work as may be required by the Port Authority.

(2) Nothing contained in any approval hereunder shall constitute a determination or indication by the Port Authority that the Lessee has complied with the applicable governmental laws, ordinances, enactments, resolutions, rules and orders, including but not limited to those of the City of New York, which may pertain to the work to be performed.

(3) The approved work will be performed in accordance with and subject to the terms, indemnities and provisions of the Lease covering the Construction Work and with the terms and conditions of any Construction Application which the Port Authority may request this Lessee to submit even though such Construction Application may not have, at the time of the approval under this paragraph (j), been approved by the Port Authority.

(4) No work under any such approval shall affect or limit the obligations of the Lessee under all prior approvals with respect to its construction of the Construction Work.

(5) The Lessee shall comply with all requirements, stipulations and provisions as may be set forth in the letters of approval.

(6) In the event that the Lessee shall at any time during the construction of any portion of the Construction Work under the approval granted by the Port Authority pursuant to this paragraph (j) fail, in the opinion of the General Manager of the Airport, to comply with all of the provisions of this Lease with respect to the Construction Work, the Construction Application or the approval letter covering the same or be, in the opinion of the General Manager, in breach of any of the provisions of this Lease, the Construction Application or the approval letter covering the same, the Port Authority shall have the right, acting through said General Manager to cause the Lessee to cease all or such part of the Construction Work as is being performed in violation of this Lease, the Construction Application or the approval letter. Upon such written direction from the General Manager the Lessee shall promptly cease construction of the portion of the Construction Work specified. The Lessee shall thereupon submit to the Port Authority for its written approval the Lessee's proposal for making modifications, corrections or changes in or to the Construction Work that has been or is to be performed so that the same will comply with the provisions of this Lease, the Construction Application and the approval letter covering the Construction Work. The Lessee shall not commence construction of the portion of the Construction Work that has been halted until such written approval has been received.

(7) It is hereby expressly understood and agreed that neither the field engineer covered by paragraph (k) hereof nor the Resident Engineer of the Port Authority at the Airport has any authority to approve any plans and specifications of the Lessee with respect to the Construction Work, to approve the construction by the Lessee of any portion of the Construction Work or to agree to any variation by the Lessee from compliance with the terms of this Lease, or the Construction Application or the approval letter with respect to the Construction Work. Notwithstanding the foregoing, should the field engineer or the Resident Engineer give any directions or approvals with respect to the Lessee's performance of any portion of the Construction Work which are contrary to

the provisions of this Lease, the Construction Application or the approval letter, said directions or approvals shall not affect the obligations of the Lessee as set forth herein nor release or relieve the Lessee from the strict compliance therewith. It is hereby further understood and agreed that the Port Authority has no duty or obligation of any kind whatsoever to inspect or police the performance of the Construction Work by the Lessee and the rights granted to the Port Authority hereunder shall not create or be deemed to create such a duty or obligation. Accordingly, the fact that the General Manager has not exercised the Port Authority's right to require the Lessee to cease its construction of all or any part of the Construction Work shall not be or be deemed to be an agreement or acknowledgment on the part of the Port Authority that the Lessee has in fact performed such portion of the Construction Work in accordance with the terms of the Lease, the Construction Application or the approval letter nor shall such fact be or be deemed to be a waiver by the Port Authority from the requirement of strict compliance by the Lessee with the provisions of the Lease, the Construction Application and the approval letter with respect to the Construction Work.

(8) Without limiting the discretion of the Port Authority hereunder, the Port Authority hereby specifically advises the Lessee that even if the Port Authority hereafter in the exercise of its discretion wishes to grant approvals under this paragraph (j), it may be unable to do so, so as to permit the Lessee to continue work without interruption following its completion of the work covered by any prior approval hereunder. The Lessee hereby acknowledges that if it commences work pursuant to this paragraph (j), it shall do so with full knowledge that there may not be continuity by it in the performance of its Construction Work under the procedures of this paragraph (j).

(9) No prior approval of any work in connection with the Construction Work shall create or be deemed to create any obligation on the part of the Port Authority to permit subsequent work to be performed in connection with such Construction Work prior to the approval by the Port Authority of the Lessee's complete plans and specifications thereof. It is understood that no such prior approval shall release or relieve the Lessee from its obligation to submit complete plans and specifications for the Construction Work and to obtain the Port Authority's approval of the same as set forth in paragraph (f) hereof. It is further understood that in the event the Lessee elects not to continue to seek further approval letter(s) pursuant to this paragraph (j), the obligations of the Lessee to restore the area and to make modifications and changes as set forth in subparagraph (1) above shall be suspended until the Lessee's submission of its complete plans and specifications in accordance with paragraph (f) hereof.

(k) The Lessee will give the Port Authority fifteen (15) days' notice prior to the commencement of construction. The Port Authority will assign to the Construction Work a full time field engineer or engineers. The Lessee shall pay to the Port Authority for the services of said engineer or engineers, the sum of (2.a.)

for each day or part thereof that the engineer or engineers are so assigned during the 1998 calendar year; and for each and every calendar year thereafter, the rate that the Port Authority shall charge Aircraft Operators at the Airport for the services of such engineer or engineers during such calendar year for each day or part thereof that the engineer or engineers are so assigned for such calendar year; not to exceed the total sum of (2.a.) Notwithstanding the foregoing provision for a maximum total amount, it is agreed that in the event the Lessee shall not complete the Construction Work on or before the required completion date therefor as stated in paragraph (g) (2) (iii) above then, in addition to and without limiting any other right or remedy of the Port Authority under this Agreement or otherwise, the Lessee shall pay to the Port Authority for the services of said engineer or engineers for each day or part thereof that the engineer or engineers are so assigned during calendar year from and after April 1, 2002 and for each and every calendar year thereafter, the rate that the Port Authority shall charge Aircraft Operators at the Airport for the services of such engineer or engineers during such calendar year for each day or part thereof that the engineer or engineers are so assigned for such calendar year, without any maximum dollar limitation. Nothing contained herein shall affect any of the provisions of paragraph (r) hereof or the rights of the Port Authority hereunder. The foregoing provisions of this paragraph (j) for the services of said field engineer may be revoked at any time by either party on thirty (30) days' written notice to the other, but if revoked by the Lessee the foregoing provisions of this paragraph (k) for the services of said field engineer shall continue during the period that construction under any partial approvals pursuant to paragraph (j) hereof is performed.

(l) (1) The Construction Work shall be constructed in such a manner that there will be at all times a minimum of air pollution, water pollution or any other type of pollution and a minimum of noise emanating from, arising out of or resulting from the operation, use or maintenance thereof by the Lessee and from the operations of the Lessee under this Agreement. Accordingly, and in addition to all other obligations imposed on the Lessee under this Agreement and without diminishing, limiting, modifying or affecting any of the same, the Lessee shall be obligated to construct as part of the Construction Work hereunder such structures, fences, equipment, devices and other facilities as may be necessary or appropriate to accomplish the foregoing and each of the foregoing shall be and become a part of Construction Work it affects and all of the foregoing shall be covered under the Comprehensive Plan of the Lessee submitted under paragraph (b) hereof and shall be part of the Construction Work hereunder.

(2) Notwithstanding the provisions of subparagraph (1) above and in addition thereto, the Port Authority hereby reserves the right from time to time and at any time during the term of the Lease to require the Lessee, subsequent to the completion of the On-Premises Work to design and construct at its sole cost and expense such further reasonable structures, fences, equipment, devices and other facilities as may be necessary or appropriate to accomplish the objectives as set forth in the first sentence of said subparagraph (1). All locations, the manner, type and method of construction and the size of any of the foregoing shall be determined by the Port Authority. The Lessee shall submit for Port Authority approval its

plans and specifications covering the required work and upon receiving such approval shall proceed diligently to construct the same. All other provisions of this Section 83 with respect to the Construction Work shall apply and pertain with like effect to any work which the Lessee is obligated to perform pursuant to this paragraph (l) and upon completion of each portion of such work it shall be and become a part of the Construction Work. The obligations assumed by the Lessee under this paragraph (l) are a special inducement and consideration to the Port Authority in entering into Supplement No. 2 to the Lease.

(m) Title to all the Construction Work shall pass to the City of New York as the same or any part thereof is erected, constructed or installed, and the portion thereof representing the On-Premises Work shall be and become part of the premises if located within the premises.

(n) The Lessee acknowledges that it will be continuing its operations at the existing premises under the Lease during the period of time it is performing the Construction Work hereunder. The Lessee further acknowledges that this may involve among other things inconvenience, noise, dust, interference and disturbance to the Lessee in its operations at the premises as well as to its customers, patrons, invitees and employees and possibly other risks as well. The Lessee hereby expressly assumes all of the foregoing risks and agrees that there will be no reduction or abatement of any of the rentals, fees or charges payable by the Lessee under the Lease or otherwise on account of its performance of the Construction Work and that the performance of the Construction Work shall not constitute an eviction or constructive eviction of the Lessee nor be grounds for any abatement of rentals, fees or charges payable by the Lessee under the Lease or otherwise nor give rise to or be the basis of any claim or demand by the Lessee against the Port Authority, its Commissioners, officers, employees or agents for damages, consequential or otherwise, under this Lease or otherwise.

(o) Minimization of disruption of, and coordination with, airport operations and other Port Authority activities and other tenant activities:

(1) (i) The Lessee acknowledges that the Port Authority as well as other users, lessees, tenants, airport patrons and invitees and others will be continuing their operations in the Central Terminal Area of the Airport ('CTA') during the period of time the Lessee is performing the Construction Work hereunder and that this will involve among other things inconvenience, noise, dust, interference and disturbance to said operations and possibly other risks as well. The Lessee further acknowledges that the Construction Work hereunder will impact traffic flow and control on the roadways in the CTA as well as the Terminal frontage roads in front of the premises and Terminals 5 and 6 as well as to customers, patrons, invitees and employees. The Lessee hereby expressly assumes all of the foregoing risks. Without limiting the foregoing, the Lessee shall and expressly hereby agrees to perform, and to require each of its contractors and subcontractors to perform, the Construction Work and each portion thereof in such a manner so as to minimize the impact and any disruption resulting therefrom on

said operations and on traffic control and traffic flow in the CTA. The Lessee shall, without limiting any other term or provision hereof, communicate and cooperate (and require each of its contractors to communicate and cooperate) with the Port Authority and with each of the users, lessees, tenants, airport patrons, invitees and others in all aspects of the Construction Work, and the Lessee shall coordinate and work in harmony with all said persons, including without limitation the users and occupants of Terminals 4, 5 and 6, the cogeneration facility and KIAC and Port Authority contractors. The Lessee shall also communicate and cooperate (and require each of its contractors to communicate and cooperate) with all ground transportation operators and providers including all taxi, limousine and bus operators throughout the entire period of time of the performance of the Construction Work.

(ii) Without limiting the foregoing, the Lessee specifically recognizes the importance of minimum disruption of the operations of KIAC (as defined in Supplement No. 1 of the Lease) and its operations at the cogeneration facility and the Central Heating and Refrigeration Facility at the Airport, and the Lessee shall use its best efforts to coordinate the Construction Work with said operations and shall require each of its contractors to cooperate with KIAC.

(iii) The Lessee shall include in each of its contracts and subcontracts covering the Construction Work or any portion thereof the foregoing requirements for minimization of disruption and for contractor cooperation and coordination.

(2) The Lessee shall perform and schedule the Construction Work with a high degree of coordination with the Port Authority's plan and schedule for the LRS in the CTA and the Lessee shall at all times during the construction of the planned LRS cooperate with the Port Authority and the Port Authority's contractors and the LRS Contractor, and the Lessee shall also require each of its contractors also to cooperate with the Port Authority and the Port Authority's contractors and the LRS Contractor.

The Lessee has been advised and understands that the Lessee LRS Work as defined in paragraph (e) hereof which the Lessee is obligated to perform and complete hereunder form an integral part and important portion of the LRS which the Port Authority plans to construct and operate for the transportation of passengers and others to and from the Airport; and that the completion and operation of the LRS for the benefit of the Airport requires the timely completion of the Lessee LRS Work. From time to time, the Port Authority shall keep the Lessee apprised of the progress of the construction of the LRS. The Lessee LRS Work is expected to be completed by the Lessee in stages and by the following projected completion dates:

Completion by February 28, 1999: All LRS foundations and piers for LRS Station: OL942+ 50 to OL950+ 00*

Completion by February 28, 1999 : Departures level of the Elevated Parking Structure to support LRS Connector between grid lines 02 and LRS03*

Completion by April 30, 1999 : All LRS foundations and piers for LRS Station OL950+ 00 to OL952+ 068*

Completion by November 30, 1999: Departures level of the Elevated Parking Structure to support LRS Connector between grid lines 01 and 02*

* Exhibit I

Any Port Authority directed modification or any modification mutually agreed to by the Port Authority and the Lessee to the above-stated time frames that results from a delay of the stated start date (expected to be on or about April 15, 1998) shall result in a corresponding extension of the applicable completion date, so that the time frame duration does not decrease.

Each of the aforesaid projected completion dates shall be modified to be the actual date (the 'LRS Contractor's Commencement Date'), set forth in the contract (the 'LRS Contract') with the LRS Contractor for the LRS Contractor to commence that portion of the LRS Contractor's work (which portion is hereinafter referred to as the 'LRS Contractor's Work') at the Construction Work Site which is to be performed upon the substantial completion of the applicable stage of the Lessee LRS Work, provided the LRS Contractor's Commencement Date is later that the applicable projected completion date set forth above. The Port Authority shall endeavor to include in the LRS Contract that the LRS Contractor will commence its work at the premises in accordance with the stages (but not necessarily by the projected completion dates) set forth above. In addition, each of the aforesaid projected completion dates shall be extended for each day after the LRS Contractor's Commencement Date that the LRS Contractor shall fail, for whatever reason (other than the failure of the Lessee to substantially complete the applicable stage of the Lessee LRS Work by the projected completion dates, as the same may be modified as provided in this paragraph), to commence the LRS Contractor's Work.

In the event that any stage of the Lessee LRS Work is not substantially completed and available to the Port Authority or the LRS Contractor for the LRS Contractor to commence the LRS Contractor's Work within sixty (60) days after the projected completion date therefor, as modified and extended as aforesaid (such projected completion date as so modified and extended being hereinafter, for purposes of this paragraph (o), referred to as the 'Lessee LRS Work Projected Completion Date'), then, upon ninety (90) days prior notice from the Port Authority to the Lessee (which notice may be given prior to the occurrence of the Lessee LRS Work Completion Date if the Port Authority believes in good faith that the Lessee will not be able to substantially complete the applicable portion of the Lessee LRS Work by the Lessee LRS Work Projected Completion Date), the LRS Contractor shall have the right to enter and use that portion of the premises or the Construction Work Site as shall be reasonably necessary, in the opinion of the Port Authority, for the LRS Contractor to perform that portion of the Lessee LRS Work; provided, however, that the LRS Contractor shall not have such right if the Lessee

shall substantially complete the applicable portion of the Lessee LRS Work by the sixtieth (60) day after the applicable Lessee LRS Work Projected Completion Date. The aforesaid right of the LRS Contractor to enter and use said portion of the premises or the Construction Work Site is intended to insure continuous and timely performance of the construction of the LRS. Any performance by the LRS Contractor of the Lessee LRS Work shall be done (1) in accordance with approved Design Development Documents and contract documents prepared by the Lessee hereunder, which will be made available to the Port Authority and the LRS Contractor by the Lessee for such purpose, and (2) in such manner so as to minimize interference with other portions of the Construction Work and the continuous operation of the premises as an air terminal facility. In the event that the LRS Contractor performs any portion of the Lessee LRS Work, the Lessee will be relieved of the obligation, set forth in clauses (1) (i) and (1) (ii)of paragraph (e), to build that portion to be performed by the LRS Contractor. Such portion of the Lessee LRS Work performed by the LRS Contractor, upon completion, will be turned over to the Lessee for purposes of becoming, and will become, part of the Construction Work, subject to all of the terms and conditions hereof (except that the same shall not form a part of the Cost of the Eligible Construction Work under Section 84 hereof or of the Cost of the Lessee LRS Work under Section 84 hereof).

The Lessee shall coordinate Off-Premises Work and On-Premises Area 1 Work and Lessee LRS Work in accordance with the following requirements for LRS construction. (Exhibit K attached hereto shows the requirements of the proposed LRS Contract for the LRS DBOM Contractor to provide access to and through LRS work zones during performance of the LRS DBOM Contractor's work in Quadrant 4):

A. Station & Guideway Construction Zones

1. A fifty (50) foot wide 'LRS Construction Zone A' which provides unimpeded access at ground level on the southern side of the LRS Station and Guideway at Terminals 5 and 6 and at the premises hereunder (Terminal 7), as generally shown in diagonal hatch on Exhibit J , attached hereto and hereby made a part hereof, shall be provided by the Lessee in accordance with the following timeframes and stationings. The LRS Construction Zone A will be isolated in its entirety by the LRS DBOM Contractor and shall be dedicated for the LRS DBOM Contractor(s)' use. Access through this Construction Zone A will be provided by the LRS DBOM Contractor in accordance with Exhibit K. Access to this LRS Construction Zone A shall be provided by the Lessee seven days per week, 24 hours per day during the listed timeframe.

LOCATION: Construction Zones	TIME FRAME	STATIONING*
Terminal 7 Area	December 1998 thru December 1999	Station OL935+00 - OL942+50
Terminal 7 Station	March 1999 thru April 2000	Station OL942+50 - OL948+00
Terminal 7 Connector (GL 02-LRS03)	March 1999 thru April 2000	Station OL946+92- OL947+17
Terminal 7 Connector (GL 01 - 02)	December 1999 thru April 2000	Station OL946+92- OL947+17
Terminal 7 Area	March 1999 thru February 2000	Station OL948+00 - OL950+00
Terminal 7 Area	May 1999 thru October 1999	Station OL950+00 - OL952+68
Terminals 5 & 6 Area	April 1999 thru February 2000	Station OL952+68 - OL955+50
Terminals 5 & 6 Station	April 1999 thru September 2000	Station OL955+50 - OL959+00
Terminals 5 & 6 Connector	April 1999 thru February 2000	
Terminals 5 & 6 Area	April 1999 thru February 2000	Station OL959+00 - OL966+00

2. A twenty-five (25) foot wide 'LRS Construction Zone B' which provides unimpeded access at the departures level of the Elevated Parking Structure on the northern side of the LRS Station and Guideway in the vicinity of the Elevated Parking Structure , as generally shown in cross-hatch on Exhibit J , attached hereto and hereby made a part hereof, shall be provided in accordance with the aforementioned timeframes and stationing. ~~Access in Zone B shall be from ground level on the south side of the LRS station.~~ The elevated LRS Construction Zone B will be isolated in its entirety by the LRS DBOM Contractor and shall be dedicated for the LRS DBOM Contractor(s)' use. Access to this LRS Construction Zone B shall be provided by the Lessee seven days per week, 24 hours per day during the aforementioned timeframes. ~~Access through this LRS Construction Zone B is to be provided by the LRS DBOM Contractor in accordance with Exhibit K.~~

The Elevated Parking Structure within the LRS Construction Zone B shall be designed and constructed for a live load of 200 pounds per square foot (PSF).

3. A twenty-five (25) foot wide 'LRS Construction Zone C' which provides unimpeded access at ground level on the northern side of the Terminals 5 and 6 Station

and Guideway in the areas other than the section addressed in clause 2 above, as generally shown in wavy hatch on Exhibit J , attached hereto and hereby made a part hereof, shall be provided in accordance with the aforementioned timeframes and stationing. This LRS Construction Zone C will be isolated in its entirety by the LRS DBOM Contractor and shall be dedicated for the LRS DBOM contractor(s)' use. Access to this LRS Construction Zone C shall be provided by the Lessee, seven days per week, 24 hours per day during the aforementioned timeframe. Access through this LRS Construction Zone C is to be provided by the LRS DBOM Contractor in accordance with Exhibit K.

B. LRS Connector at Terminal 7 Construction

A twenty-five (25) foot wide 'LRS Construction Zone D' on each side of the LRS connector, taking into account skylight positions, etc., all as shown on in double-lined hatch on Exhibit J , attached hereto and hereby made a part hereof, which provides unimpeded access at the departures level of the parking structure shall be provided in accordance with the aforementioned timeframe and stationing. Access in Zone D shall be from ground-level on the south side of the LRS station. The LRS Construction Zone D will be isolated in its entirety by the LRS DBOM Contractor and shall be dedicated for the LRS DBOM Contractor(s)' use. Access to this LRS Construction Zone D shall be provided by the Lessee seven days per week, 24 hours per day during the aforementioned timeframe. Access through this LRS Construction Zone D is to be provided by the LRS DBOM Contractor in accordance with Exhibit K.

The parking structure within the LRS Construction Zone D just described shall be designed and constructed by the Lessee for a live load of 200 pounds per square foot (PSF). In addition, to allow for the weight of the LRS Connector, the Elevated Parking Structure shall be designed and constructed by the Lessee for an uniformly distributed load of three (3) kips per linear foot.

C. LRS Connector at Terminals 5 & 6 Construction

A fifty (50) foot wide 'LRS Construction Zone E' the west side and a twenty-five (25) foot wide "LRS Construction Zone F " on the east side of the LRS connector; as well as the area directly beneath the connector, as generally shown in bubble hatch and in diagonal hatch on Exhibit J , attached hereto and hereby made a part hereof, which provides unimpeded access at ground level, shall be provided in accordance with the aforementioned timeframes and stationing. The LRS Construction Zone E and LRS Construction Zone F will be isolated in their entirety by the LRS DBOM Contractor and shall be dedicated for the LRS DBOM Contractor(s)' use. Access to the LRS Construction Zone E and LRS Construction Zone F shall be provided by the Lessee, seven days per week, 24 hours per day during the aforementioned timeframe. Access through these LRS Construction Zones E and F is to be provided by the LRS DBOM

Contractor in accordance with Exhibit K.

Without limiting the generality of any other provisions of this Section, the Lessee acknowledges and agrees that it shall be responsible for coordinating the proposed column locations for the Construction Work (and any currently-contemplated future expansion thereof) with utilities located on or outside the Construction Work Site, as such utilities may be relocated by the Lessee as part of the Construction Work. The Port Authority will cause the LRS Contractor to be responsible under the LRS Contract for the coordination of the locations of the columns and other structural and mechanical elements of the LRS with the utilities located on or outside the Construction Work Site, as such utilities may be relocated by the Lessee as part of the Construction Work (such utilities as so relocated being hereinafter referred to as the 'LRS Relocated Utilities'). The parties hereto acknowledge and agree that the Design Development Documents and /or the contract documents, to the extent then available, may be used by the LRS Contractor for purposes of coordinating the locations of the columns and other structural and mechanical elements of the LRS with the LRS Relocated Utilities, and for such purpose the Design Development Documents and/or the contract documents, as the case may be, shall be considered 'as built' conditions.

(3) 'Temporary construction program': In order to ensure appropriate levels of service to the users, occupants, and Airport patrons and others using the Airport during the performance of the Construction Work, the Lessee, not less than sixty (60) days prior to the commencement of any portion of the Construction Work and the implementation of each construction stage, shall prepare and submit to the Port Authority for its prior approval a temporary construction program (including, but not limited to, drawings, sketches, schedules and narrative descriptions) which sets forth plans for the continuing provision of all patron services, for roadway frontage for Terminals 5 and 6, and Terminal 7, and landside operations. Without limiting any other term or provision hereof, any temporary construction is and shall be subject to paragraph (r) (3) below, including, but not limited to, certifications of the Lessee and the Lessee's licensed architect or engineer and the issuance of a certificate of completion therefor by the Port Authority.

(4) Without limiting any other term or provision hereof, the Lessee shall complete the design and perform the Construction Work in a manner consistent with other on-going roadway, frontage and utility improvements of the Port Authority at the Airport.

(p) In addition to and without limiting paragraphs (d) or (e) or any other term or provision of this Section 83, the Lessee understands that there may be communications and utility lines and conduits located on or under the Construction Work Site which do not, and may not in the future, serve the premises. The Lessee agrees at its sole cost and expense, if directed by the Port Authority so to do, to relocate and reinstall such communications and utility lines and conduits on the Construction Work Site or off the Construction Work Site as directed by the Port Authority and to restore all affected areas (such work being hereinafter collectively called 'the

relocation work'). The Lessee shall perform the relocation work subject to and in accordance with all the terms and provisions of this Section 83 and the relocation work shall be and become a part of the Construction Work, it being understood, however, that the relocation work shall not be or become a part of the premises hereunder.

(q) It is expressly understood and agreed that neither the provisions of this Section 83 or of Section 84 shall or shall be deemed to grant to the Lessee any right, interest or claim to any portion of the Construction Work Site located outside of the premises other than for the performance of the Construction Work pursuant hereto, and further that neither the performance of the Construction Work or any portion thereof by the Lessee nor payment by the Lessee of any costs or expenses thereof shall grant to or be deemed to grant to the Lessee any right, interest or claim whatsoever, legal or equitable, to the use or occupancy of, or any other right, claim or interest whatsoever in, the Construction Work or any portion thereof, or any facility completed thereunder, located outside of the premises hereunder or to the receipt of any revenues or income from any facility forming a part of the Construction Work or the Construction Work Site outside of the premises hereunder. Further, any and all use or occupancy of the On-Premises Area 1 Work by the Lessee shall be subject to and in accordance with this Lease. Without limiting the foregoing or any other term or provision of this Section 83 or of Section 84 hereof, the Lessee expressly understands and agrees that all use of the Elevated Parking Structure and the At-Grade Parking Areas as well as all other parking areas (other than parking areas, if any, lying within the premises hereunder) shall be within the sole and exclusive control of the Port Authority (or of the Port Authority permittees, licensees, contractors or tenants authorized by separate agreement with the Port Authority to use the same) and that the Lessee shall have no right or claim whatsoever, legal nor equitable, under this Lease or otherwise, to said Elevated Parking Structure, At-Grade Parking Areas and other parking areas or to any income or revenues therefrom. Neither this Agreement nor the Lessee's performance of or payment of costs or expenses for or relating to the Construction Work or any portion thereof, or otherwise, shall or shall be deem to grant or constitute any such right, interest or claim of the Lessee.

(r) (1) When the Construction Work is substantially completed and ready for use the Lessee shall advise the Port Authority to such effect and the Lessee shall deliver to the Port Authority a certificate signed by an authorized officer of the Lessee and also signed by the Lessee's licensed architect or engineer certifying that the same has been constructed in accordance with the approved plans and specifications (including but not limited to all Change Orders) and the provisions of this Lease and in compliance with all applicable laws, ordinances and governmental rules, regulations and orders. Thereafter, the Construction Work will be inspected by the Port Authority and if the same has been completed as certified by the Lessee and the Lessee's licensed architect or engineer, as aforesaid, a certificate to such effect shall be delivered to the Lessee, subject to the condition that all risks thereafter with respect to the Construction Work and any liability therefor for negligence or other reason shall be borne by the Lessee. The Lessee shall not use or permit the use of the Construction Work or any portion

thereof for the purposes set forth in the Lease until such certificate is received from the Port Authority and the Lessee shall not use or permit the use of the Construction Work or any portion thereof even if such certificate is received if the Port Authority states in any such certificate that the same cannot be used until other specified portions which are necessary to such use are completed. Notwithstanding anything herein to the contrary with respect to the Off-Premises Work, or any of the aforesaid portions thereof, or Lessee LRS Work or any portion thereof when the same is substantially completed and ready for use and in the event the Lessee shall fail to deliver to the Port Authority the certificate required under the provisions of this paragraph, the Port Authority shall have the right to serve on the Lessee a notice requiring the Lessee to deliver said certificate and the Lessee shall deliver its certificate and shall use its best efforts to cause its licensed architect or engineer to issue the aforesaid certificate.

(2) The term 'Completion Date' shall mean for the purposes of this Lease the date appearing on the certificate issued by the Port Authority pursuant to subparagraph (1) of this paragraph.

(3) In addition to and without affecting the obligations of the Lessee under the preceding subparagraph, when an integral and material portion of the Construction Work is substantially completed or is properly usable the Lessee may advise the Port Authority to such effect and may deliver to the Port Authority a certificate signed by an authorized officer of the Lessee and also signed by the Lessee's licensed architect or engineer certifying that such portion of the Construction Work has been constructed in accordance with the approved plans and specifications (including but not limited to all Change Orders) and the provisions of this Lease and in compliance with all applicable laws, ordinances and governmental rules, regulations and orders, and specifying that such portion of the Construction Work can be properly used even though the Construction Work has not been completed and that the Lessee desires such use. The Port Authority may in its sole discretion deliver a certificate to the Lessee with respect to each such portion of the Construction Work permitting, with respect to the On-Premises Area 1 Work or the Terminal 7 Building Expansion Work, the Lessee to use such portion thereof for the purposes set forth in the Lease, and permitting, with respect to the Off-Premises Work or the Lessee LRS Work the use of such portion thereof by the persons which may be authorized by the Port Authority to use the same. In such event such portion may be so used subject to the condition that all risks thereafter with respect to the construction and installation of the same and any liability therefor for negligence or other reason shall be borne by the Lessee, and subject to the risks as set forth in paragraph (j) hereof in the event that the Port Authority shall not have then approved the complete plans and specifications for the Construction Work. Moreover, at any time prior to the issuance of the certificate required in subparagraph (1) above for the Construction Work, the Lessee shall promptly upon receipt of a written notice from the Port Authority cease its use of such portion of the Construction Work which it had been using pursuant to permission granted in this subparagraph (3).

(s) The Lessee shall be solely and fully responsible for any and all cost

overruns and delays in connection with the Construction Work and each portion thereof and each contract and subcontract covering the Construction Work and any portion thereof, without any reimbursement or claim or right to reimbursement from the Port Authority (except as otherwise expressly provided with respect to Port Authority Requested Change in Scope Change Orders in subparagraphs (2) and (4) of paragraph (e) of Section 84 hereof), notwithstanding anything to the contrary in any other term or provision of this Lease .

"Section 83A. Security Deposit/Letter(s) of Credit

(a) (1) For purposes of this Section 83A:

(i) 'Letter of Credit Delivery Date' shall mean the earlier of (A) December 31, 1998, or (B) 'the GMP Statement Date'.

For purposes of the foregoing, the GMP Statement Date shall mean the date of the receipt by the Port Authority of a notice signed by the Lessee (' the GMP Statement'), which the Lessee shall submit to the Port Authority, setting forth the Guaranteed Maximum Price ('GMP')established by and between the Lessee and the Lessee's General Contractor, pursuant to the contract between the Lessee and Lessee's General Contractor, as the maximum cost to the Lessee of the construction of all of the Off-Premises Work and the On-Premises Area 1 Work, guaranteed to the Lessee by said Lessee's General Contractor; which said notice from the Lessee shall state the amount of the said GMP and shall also contain an itemized listing of the components thereof. The Lessee shall submit the said GMP Statement to the Port Authority not later than five (5) days after the said GMP is so established between the Lessee and the Lessee's General Contractor. In the event the said GMP is at any time increased by the Lessee and the Lessee's General Contractor after the GMP Statement Date, the Lessee shall deliver to the Port Authority, not later than five (5) days after each such increase, a notice setting forth the increased GMP and the components thereof (each, a 'GMP Increase Notice').

(ii) 'Letter of Credit Required Amount' shall mean the sum of
ubject to increase as follows: In the event the GMP established by the Lessee and the Lessee's General Contractor, as aforesaid, and set forth in the GMP Statement exceeds the amount
the Letter of Credit Required Amount shall mean the amount of
lus the amount equivalent to the amount by which the said GMP exceeds and, further, in the event of any increase in the GMP after the GMP Statement Date, the Letter of Credit Required Amount shall be increased by adding thereto the amount equivalent to the amount of such increase as set forth in each GMP Increase Notice; so that the Letter of Credit Required Amount at all times shall equal the sum of
plus the amount, in the aggregate, by which the then current GMP exceeds subject to and in accordance with the provisions of paragraph

(b) below.

As used herein, the term 'Lessee's General Contractor' shall mean the general contractor hired by the Lessee for the performance of the Construction Work in accordance with the terms and provisions of Section 83 hereof.

(2) Upon the Letter of Credit Delivery Date, the Lessee shall deliver to the Port Authority as security for the Lessee's 'Construction Work Obligations' (as hereinafter defined in paragraph (d) below) a clean irrevocable letter of credit issued to and in favor of the Port Authority, by a banking institution having its main office within the Port of New York District and acceptable to the Port Authority, payable in the Port of New York District, in the Letter of Credit Required Amount ('Letter of Credit'). The form and terms of such Letter of Credit, as well as the institution issuing it, shall be subject to the prior and continuing approval of the Port Authority. Such Letter of Credit shall provide that it shall continue until 'Final Completion' (as defined in paragraph (c) below) and for a period of not less than six (6) months thereafter; such continuance may be by provision for automatic renewal or by substitution of a subsequent satisfactory clean irrevocable Letter of Credit. Upon notice of cancellation of a Letter of Credit the Lessee agrees that unless, by a date twenty (20) days prior to the effective date of cancellation, the Letter of Credit is replaced by another clean irrevocable Letter of Credit in accordance with this Section and satisfactory to the Port Authority, the Port Authority may draw down the full amount thereof without statement of default and thereafter the Port Authority will hold the same as security under this Section. Failure to provide such a Letter of Credit at any time during the term of this Lease, valid and available to the Port Authority, including any failure of any banking institution issuing any such Letter of Credit previously accepted by the Port Authority to make one or more payments as may be provided in such Letter of Credit shall be deemed to be a breach of this Lease on the part of the Lessee. In addition to any and all other remedies available to it, the Port Authority shall have the right, at its option, at any time and from time to time, with or without notice to draw upon said Letter of Credit or any part thereof, and use the security hereunder, in whole or partial satisfaction of any of its claims or demands against the Lessee. There shall be no obligation on the Port Authority to exercise such right and neither the existence of such right nor the holding of a Letter of Credit shall cure any default or breach of the Lease on the part of the Lessee. If requested by the Port Authority, said Letter of Credit shall be accompanied by a letter expressing the opinion of counsel for the banking institution that the issuance of said clean irrevocable Letter of Credit is an appropriate and valid exercise by the banking institution of the corporate power conferred upon it by law. If the Port Authority shall at any time make any drawing under a Letter of Credit held by the Port Authority hereunder, the Lessee on demand of the Port Authority and within two (2) days thereafter, shall bring the Letter of Credit back up to its full amount. If at any time any bank shall fail to make any payment to the Port Authority in accordance with any Letter of Credit issued by any such bank in favor of the Port Authority as herein provided, the Lessee shall cause to be delivered to the Port Authority on demand another clean irrevocable Letter of Credit satisfactory to the Port Authority and issued by another banking institution in favor of the Port Authority and satisfactory to it, in an amount

equal to the original amount of the said Letter of Credit. Notwithstanding anything hereinabove provided, any failure of any banking institution issuing a Letter of Credit in favor of the Port Authority to make payments as provided in said Letter of Credit shall be deemed to be a breach of this Lease by the Lessee. No action by the Port Authority pursuant to the terms of any Letter of Credit, or receipt by the Port Authority of funds from any bank issuing any such Letter of Credit, shall be or be deemed to be a waiver of any default by the Lessee under the terms of this Lease and all remedies of this Lease and of the Port Authority consequent upon such default shall not be affected by the existence of or recourse to any such Letter of Credit. Use, in accordance with this Section, of a Letter of Credit or Letters of Credit delivered to the Port Authority hereunder shall be at the sole and complete discretion of the Port Authority.

(b) Upon the GMP Statement Date (where the same occurs subsequent to December 31, 1998 and the GMP exceeds (2.a.) nd upon the date of each GMP Increase Notice described in paragraph (a) (1) (i) above, the Lessee shall and hereby agrees to cause to be delivered to the Port Authority, a proper amendment to the Letter of Credit delivered to and accepted by the Port Authority pursuant to paragraph (a) (2) above), satisfactory to the Port Authority and issued by the same banking institution which issued the Letter of Credit in accordance with paragraph (a) (2) above, whereby the aggregate amount of the Letter of Credit is increased by the amount of the increase set forth in the GMP Increase Notice, so that the total amount of the Letter of Credit with each Letter of Credit Increase Amendment shall total in the aggregate the amount of the original Letter of Credit plus the amount of each increase set forth in each GMP Increase Notice (each such amendment, a ' Letter of Credit Increase Amendment'). The form and terms of each such Letter of Credit Increase Amendment shall be subject to the prior and continuing approval of the Port Authority. Further, each such Letter of Credit Increase Amendment shall form part of the security required hereunder; and shall be in accordance with and subject to the requirements and provisions of paragraph (a) (2) above; and shall not change any of the other terms and conditions of the Letter of Credit.

(c) For purposes hereof, the term 'Final Completion', shall mean the full completion by the Lessee of all of the Off-Premises Work and all of the On-Premises Area 1 Work in accordance with Section 83 and the other terms and provisions of this Lease, including but not limited to the completion by the Lessee of any work or punch list items remaining after the Completion Date established for the Off-Premises Work and the On-Premises Area 1 Work under and as defined in Section 83 (r) hereof, and including the submission by the Lessee of all of the items specified in paragraph (c) (5) of Section 84 hereof and the satisfaction of the other requirements stated therein.

(d) (1) 'Construction Work Obligations' as used herein shall mean any and all obligations, duties, responsibilities, liabilities and indemnities of the Lessee relating to, in connection with, resulting from or arising out of the Off-Premises Work, or any portion thereof, or the On-Premises Work, or any portion thereof, and including without limitation the Lessee's obligations under Sections 83 and 84 of the Lease.

(2) Without limiting the generality of the foregoing, it is agreed, with respect to those circumstances where the Lessee has failed to meet a particular Construction Obligation the fulfillment of which would require construction activity by the Lessee over a period of time greater than thirty (30) days, that the Port Authority may, at its option exercisable in its sole discretion, prior to its drawing against the Letter of Credit with respect to the Lessee's failure to meet such Construction Obligation, deliver to the Lessee a letter requiring the Lessee to submit to the Port Authority, within thirty (30) days of the date of said letter, a written plan, satisfactory to the Port Authority, for the Lessee's corrective actions with respect to said Construction Obligation. In the event the Port Authority delivers such letter to the Lessee, the Lessee shall within thirty (30) days of the date of said Port Authority letter, deliver to the Port Authority a written plan, satisfactory to the Port Authority, detailing corrective actions to be immediately undertaken by the Lessee to fulfill said Construction Obligation. In the event the Port Authority finds said Lessee plan to be acceptable, the Lessee shall immediately commence and diligently continue without interruption the corrective actions under the accepted plan, in accordance with the terms and provisions of this Lease and all conditions of the Port Authority's acceptance. In the event the Port Authority elects not to deliver the aforesaid letter to the Lessee, or upon the Port Authority's determination that the Lessee has failed to deliver an acceptable corrective plan in accordance with the foregoing or that the Lessee has failed to immediately commence the corrective action(s) pursuant to the accepted plan or that the Lessee has failed to diligently continue the performance of the same without interruption, Port Authority may draw upon the Letter of Credit in accordance with and as provided in subparagraph (2) of paragraph (a) above.

(3) The foregoing shall not and shall not be construed to limit, impair, restrict, diminish, reduce or affect any of the rights or remedies of Port Authority under this Lease or otherwise; and Port Authority shall at all times have all such rights and remedies, including but not limited to its rights of termination under Section 25 of this Lease.

(e) For purposes of the foregoing, the Lessee hereby certifies that its I.R.S. Employer Identification No. is: (Ex. 1)

"Section 83 B. The Lessee's Existing Premises Renovation Work

The Lessee has, prior to the execution of Supplement No. 2 of the Lease, submitted to the Port Authority the following Alteration Applications covering the Lessee's proposed work in the premises under the Lease (exclusive of Area 1):

Alteration Application No. 7000.02--proposed demolition of concorde lounge;
Alteration Application No. 7000.03--proposed concorde lounge expansion
Alteration Application No. 7000.04--proposed north roadway foundation and expansion
Alteration Application No. 7000.05--proposed shell and fitout for north roadway

expansion, lounges, new elevators and escalators
Alteration Application No. 7000.06--proposed mechanical, electrical and plumbing and fire protection for the north roadway expansion and lounges

(said Alteration Applications, including any additional Alteration Application for the Existing Premises Renovation work which the Lessee may submit hereunder to the Port Authority, hereinafter collectively called the 'Alteration Applications'). The Lessee's proposed work in the premises (exclusive of Area 1) under the Alteration Applications, including but not limited to asbestos removal, being herein called 'the Existing Premises Renovation Work'. The Lessee shall perform at its sole cost and expense the Existing Premises Renovation Work in accordance with the Lease and in accordance with the Alteration Applications if, as and when the same are approved by the Port Authority. The Lessee hereby represents to the Port Authority that the Lessee expects to expend (2.a.) with respect to the Existing Premises Renovation Work. The Port Authority may assign to the Existing Premises RenovationWork a full time field engineer or engineers. The Lessee shall pay to the Port Authority for the services of said engineer or engineers, the sum of (2.a.) for each day or part thereof that the engineer or engineers are so assigned during the 1998 calendar year; and for each and every calendar year thereafter, the rate that the Port Authority shall charge Aircraft Operators at the Airport for the services of such engineer or engineers during such calendar year for each day or part thereof that the engineer or engineers are so assigned for such calendar year. Nothing contained herein shall affect any of the provisions of the Lease or any of the Alteration Applications or the rights of the Port Authority hereunder.

"Section 84. Cost of the Eligible Construction Work// Cost of the Lessee LRS Work// Port Authority Limited Payments

(a) As used herein the terms

(1) 'Eligible Construction Work' shall mean

(i) the Off-Premises Work as defined and set forth in paragraph (d) of Section 83 hereof (excluding the Lessee LRS Work and also excluding all LRS Work performed by the LRS Contractor as described in Section 83 (n) (2) hereof); and

(ii) 'Eligible On-Premises Area 1 Work'.
'Eligible On-Premises Area 1 Work' shall mean and include (A) only the following limited portions of the On-Premises Roads (as defined in Section 83 (c) (iv) hereof) which form a part of the On-Premises Area 1 Work, but solely to the extent that each of the following is consistent with the Comprehensive Plan: (aa) the On-Premises continuation of the Off-Premises portion of the access ramp to Terminal 7, to be constructed pursuant to paragraph (d) (i) of Section 83 hereof, up to and including the last span of the elevated portion where

it engages the Departures frontage of Terminal 7, as generally shown on Exhibit B attached hereto, and hereby made a part hereof; (bb) the On-Premises continuation of the Off-Premises portion of the access ramp to Terminal 7, to be constructed pursuant to paragraph (d) (i) of Section 83 hereof, as it descends to, and including those portions of the new lower-level Arrivals frontage at Terminal 7 as generally shown on Exhibit B; and (cc) the On-Premises continuation of the Off-Premises Terminal 7 recirculation road, to be constructed pursuant to paragraph (d) (i) of Section 83 hereof, to the terminus point where it meets the HOV-connection between Terminal 6 and Terminal 7 as generally shown on Exhibit B;

(2) 'the Cost of the Eligible Construction Work' shall mean the sum of (i) amounts actually paid by the Lessee to independent contractors for work actually performed and labor and materials actually furnished in connection with the Eligible Construction Work, plus (ii) fifteen percent (15%) of the amounts in the foregoing item (i) as and for amounts actually paid by the Lessee to its General Contractor in connection with the Eligible Construction Work (without duplication and excluding any amounts included in any other item hereof) for construction site maintenance; supervision of construction; construction inspection; materials testing; construction coordination; the installation, maintenance and removal of on-site construction trailers; the preparation and maintenance of all records and files, technical support to resolve construction issues, overhead expenses and profit.

The Cost of the Eligible Construction Work shall include only Eligible Construction Work performed by the Lessee in accordance with all the terms and provisions of this Lease, including without limitation Section 83 and Section 84 hereof, and the Construction Application(s) (including the final plans and specifications forming a part thereof) as approved by the Port Authority. Further, with respect to the On-Premises Area 1 Work, the Cost of the Eligible Construction Work shall include only those portions of the On-Premises Roads as described in the foregoing subparagraph (1) of this paragraph (a).

It is specifically understood and agreed that the Cost of the Eligible Construction Work shall not include any amounts paid or incurred for or in connection with any trade fixtures or other personal property of the Lessee. It is further specifically understood and agreed that the Cost of the Eligible Construction Work shall not include any amounts paid or costs incurred by the Lessee in connection with the Eligible Construction Work, or any other portion of the Construction Work, for engineering, architectural, design, or (except as provided above) for project management, professional and consulting services and supervision. It is further specifically understood and agreed that the Cost of the Eligible Construction Work shall not include any amounts paid or costs incurred by the Lessee, nor any other cost or fee, for or in connection with the Letter of Credit or Letters of Credit (or any amendment(s) thereto) required under Section 83A hereof. No payment or payments on account of any of the foregoing or any administrative or other overhead costs shall be included in the Cost of the Eligible Construction Work whether or not allocated to the Cost of the Eligible Construction Work by the Lessee's own

accounting practices. Further, the Cost of the Eligible Construction Work shall not include any cost or item or work forming a part of the Terminal 7 Building Expansion Work or other portions of the On-Premises Area 1 Work (except for the inclusion of those limited portions of the On-Premises Roads described in the foregoing subparagraph (1) of this paragraph (a)).

Further, the Cost of the Eligible Construction Work shall not include any cost or item or work forming a part of the Lessee LRS Work or any cost or item forming a part of the Existing Premises Renovation Work.

(3) 'Port Authority's Share of the Cost of the Eligible Construction Work' shall mean the sum of amounts allowed under subparagraph (2) above with respect to the Eligible Construction Work but limited to maximum amount of (2.a.) ; provided, however, that said maximum amount shall be deemed reduced by (i) the amount equal to one-half of the 'Costs of the Area 1 Environmental Condition Survey' and (ii) the amount of the Lessee's share of the cost of replacement wells in Area 1 of the premises as called for and pursuant to Paragraph 2 (e) of Supplement No. 2 of this Agreement.

For purposes of the foregoing, the term 'Costs of the Area 1 Environmental Condition Survey' shall mean the total amount expended or incurred by the Port Authority for the Area 1 Environmental Existing Condition Survey defined in Paragraph 2 of Supplement No. 2 to this Lease; it being understood and agreed that for the purposes hereof the said Costs of the Area 1 Environmental Condition Survey equals the amount of (2.a.) and that one-half of said Costs of the Area 1 Environmental Condition Survey shall be borne by the Port Authority, and that the balance of said Costs of the Area 1 Environmental Condition Survey shall be applied to the Port Authority's Share of the Cost of the Eligible Construction Work.

(4) 'Final Date' shall mean (i) the 365th day following the Completion Date, as defined in Section 83 (r) hereof, or (ii) the 90th day following the required date for the Lessee's completion of the Construction Work as provided in paragraph (g) (1) (iii) of Section 83 hereof ; whichever shall first occur.

(5) 'Elevated Parking Structure Cost Component' shall, for purposes of the priority of reimbursement provisions in paragraph (c) (3) (ii) hereof, mean those portions of the Cost of the Eligible Construction Work (as defined above) which are paid for or allocable to the portion of the Elevated Parking Structure (as defined in Section 83 hereof) located outside of the premises hereunder.

(6) 'the Cost of the Lessee LRS Work' shall mean the sum of (i) amounts actually paid by the Lessee to independent contractors for work actually performed and labor and materials actually furnished in connection with the Lessee LRS Work; plus (ii) seven percent (7%) of the amounts in the foregoing item (i) as and for amounts actually paid by the Lessee to its

General Contractor for and in connection with the Lessee LRS Work (without duplication and excluding any amounts included in any other item hereof) for general conditions and General Contractor's fees; plus (iii) amounts actually paid by the Lessee for all required engineering and architectural services for the Lessee LRS Work, provided, however, that payments under this item (iii) shall not exceed (2.a.)

The Cost of the Lessee LRS Work shall include only Lessee LRS Work performed by the Lessee in accordance with all the terms and provisions of Section 83 and Section 84 of this Lease and the Construction Application(s) (including the final plans and specifications forming a part thereof) as approved by the Port Authority. It is specifically understood and agreed that the Cost of the Lessee LRS Work shall not include any amounts paid or costs incurred by the Lessee in connection with the Eligible Construction Work or the On-Premises Area B Work or the Terminal 7 Building Expansion Work or the Off-Premises Work or any cost or item forming a part of the Existing Premises Renovation Work.

It is further specifically understood and agreed that the Cost of the Lessee LRS Work shall not include any amounts paid or incurred for or in connection with any trade fixtures or other personal property of the Lessee. It is further specifically understood and agreed that the Cost of the Lessee LRS Work shall not include any amounts paid or costs incurred by the Lessee in connection with the Eligible Construction Work, or any other portion of the Construction Work, for engineering, architectural, design, project management, or any professional and consulting services and supervision. It is further specifically understood and agreed that the Cost of the Lessee LRS Work shall not include any amounts paid or costs incurred by the Lessee, nor any other cost or fee, for or in connection with the Letter of Credit or Letters of Credit (or any amendment(s) thereto) required under Section 83A hereof. No payment or payments on account of any of the foregoing or any administrative or other overhead costs shall be included in the Cost of the Lessee LRS Work whether or not allocated to the Cost of the Lessee LRS Work by the Lessee's own accounting practices.

(7) 'Port Authority's Share of the Cost of the Lessee LRS Work' shall mean the sum of amounts allowed under subparagraph (6) above with respect to the Lessee LRS Work but limited to the maximum amount of (2.a.)

(b) It is specifically understood and agreed that notwithstanding anything to the contrary herein, all costs and expenses of the Construction Work and the Eligible Construction Work and the Lessee LRS Work shall be borne fully and solely by the Lessee without reimbursement or payment by the Port Authority except to the extent provided for herein and properly includable in the Cost of the Eligible Construction Work and the Port Authority's Share of the Cost of the Eligible Construction Work, or in the Cost of the Lessee LRS Work and the Port Authority's Share of the Cost of the Lessee LRS Work; and also subject to the limitations set forth in subparagraphs (a) and (e) hereof.

(c) The Port Authority shall reimburse the Lessee for the Port Authority's Share of the Cost of the Eligible Construction Work, as follows:

(1) (i) The Lessee shall periodically during the performance of the Eligible Construction Work (but not more often than once per month) deliver to the Port Authority certificates which shall be signed by a responsible fiscal officer of the Lessee, sworn to before a notary public and which shall set forth a representation by the Lessee that it will apply the reimbursement payment only to the Cost of the Eligible Construction Work and for no other purpose whatsoever and shall contain and have attached thereto all of the certifications and other documentation and items required to be attached thereto as described in this Section (each such certificate being hereinafter referred to as a 'Eligible Work Certificate'). Each such Eligible Work Certificate shall contain the Lessee's certification as to each of the amounts, payments and expenses and costs contained therein and that the same constitute portions of the Cost of the Eligible Construction Work in accordance with and as described and defined in paragraph (a) above. Each such Eligible Work Certificate shall also have attached thereto reproduction copies or duplicate originals of the invoices of the independent contractors of the Lessee and for such invoices an acknowledgment by the said independent contractors of the receipt by them of such amounts and payments; contain the Lessee's certification that the work for which payment is requested is in place and has been accomplished in accordance with the terms of the applicable contract and that the amounts requested have been paid; set forth the total cumulative payments made by the Lessee as aforesaid from the commencement of the Eligible Construction Work to the date of the Eligible Work Certificate; contain a certification by the Lessee that each portion of the Eligible Construction Work covered by said Eligible Work Certificate has been performed strictly in accordance with the terms of this Lease and the Construction Application(s); have attached thereto accurate, readable and complete copies of all change estimates, change orders, extra work authorizations, design change authorizations, purchase orders in connection with the Eligible Construction Work; have attached thereto true copies of any and all reports and schedules of any type submitted or kept, or required to be submitted or kept, by the Lessee or any contractor, architect, engineer or other consultant of the Lessee; and have attached thereto true copies of the items described in and required under items (ii) and (iii) of this subparagraph (1).

(ii) Each Eligible Work Certificate shall also contain a breakdown of each of the aforesaid amounts, payments and expenses which constitute portions of the Cost of the Eligible Construction Work, as aforesaid, listed separately by contract (or other agreement) (with sufficient detail as to identification and retainage) for each contractor or other person to whom payment has been made; it being expressly understood and agreed that each Eligible Work Certificate shall be for amounts net of applicable retainage amounts with respect to each contract (as approved by the Port Authority) but each Eligible Work Certificate shall state the amounts of such retainage on a cumulative basis as to each and every such contract and subcontract.

(iii) Each Eligible Work Certificate shall also identify and contain a

breakdown of costs as between the Off- Premises Work and the On-Premises Area 1 Work and the Lessee LRS Work; and without limiting the foregoing, each Eligible Work Certificate shall also separately identify and itemize, on a cumulative basis, the 'Elevated Parking Structure Cost Component'

(iv) In addition to and without limiting any term or provision of this Agreement, it is hereby expressly agreed that the Port Authority shall have, and the Lessee shall convey or cause to be conveyed to the Port Authority, full and unrestricted ownership (and free and clear of any and all security interests, liens, or other encumbrances) and all proprietary rights and interests in and to all documents produced for the design and construction of the Eligible Construction Work and each and every portion thereof, including without limitation drawings and specifications, work product, and the like, (including such which are or are to become the property of any 'Owner' named as such in such a contract or other agreements,) upon any payment made hereunder or otherwise therefore, or upon such earlier time or times as may be provided under the applicable contract(s)or other agreement(s), by the Port Authority for any item of the Eligible Construction Work, or applicable portion thereof, and each contract, purchase order, consultant agreement, architectural agreement, or any other type of agreement entered into by or on behalf of the Lessee for the Eligible Construction Work or of any portion thereof shall reflect and or provide for the foregoing. It is further hereby expressly agreed that if the applicable contract or other agreement gives to the Lessee any such rights of ownership that the same shall be deemed given to the Port Authority automatically without the requirement for any execution of any further documentation. The Lessee shall and hereby agrees, without limiting the foregoing, to execute any and all documents which may be required by the Port Authority to transfer to or evidence such ownership and proprietary rights of the Port Authority.

(v) The Eligible Work Certificate shall also contain such further information and documentation with respect to the Cost of the Eligible Construction Work as the Port Authority from time to time may require.

In addition to and without limiting the foregoing, and in addition to any and all other information required to be submitted pursuant to the Lease, the Lessee shall furnish to the Port Authority information concerning budget, costs, costs estimates, timing and scheduling of construction of the Construction Work as may be requested by the Port Authority with respect to the Cost of the Eligible Construction Work or the Cost of the Lessee LRS Work, or both, from time to time including but not limited to the following:

(aa) Reports of the construction manager hired by the Lessee and reports of the Lessee's architect, which reports must contain reports as to activity conducted in connection with the Construction Work on a continuing basis from the commencement of the work to the date of submission;

(bb) A certification signed by the Lessee's architect or licensed

professional engineer certifying the value of work in place;

(cc) A certification signed by the Lessee's licensed architects or licensed professional engineers that the applicable portion of the Construction Work is in compliance with the plans and specifications therefor as approved by the Port Authority;

(dd) Accurate, readable and complete copies of all change estimates, change orders, extra work authorizations, design change authorizations, purchase orders in connection with the Construction Work;

(ee) True copies of any and all reports and schedules of any type submitted or kept, or required to be submitted or kept, by the Lessee or any contractor, architect, engineer or other consultant of the Lessee;

(ff) True copies of any and all of the items described in and required under item (iv) of this subparagraph (1).

(2) Each contract covering the Eligible Construction Work or portion thereof shall contain provisions requiring retainage from amounts due the contractor until final completion of the work by the contractor and acceptance thereof. Such required retainage applicable to the Eligible Construction Work or any portion thereof under the contract shall be in percentage amounts as follows: retainage of not less than ten percent (10%) until fifty percent (50%) of the said work is completed and thereafter retainage of not less than five percent (5%) until final completion of all of the said work. Each Eligible Work Certificate shall set forth the totals of the amounts so retained with specific identification as to the applicable contract.

(3) (i) Within thirty (30) days after the delivery of a duly submitted Eligible Work Certificate by the Lessee, the Port Authority shall pay to the Lessee the amounts paid by the Lessee for the Cost of the Eligible Construction Work during the period covered by such Eligible Work Certificate, as certified in such Eligible Work Certificate (but only to the extent that such amounts or any portion thereof have not theretofore been included in a prior Eligible Work Certificate) (net of retainage) subject to the maximum amount of the Port Authority's Share of the Cost of the Eligible Construction Work as stated in paragraph (a) (3) above and subject to the limitations in paragraphs (e), (f) and (g) below; provided, further, however, in the event the Lease is not in full force end effect or if the Lessee shall be under a notice of termination of the Lease or in default under any term or provision thereof, the Port Authority shall have the right, in its discretion, to withhold payment to the Lessee, provided, further, no payment or withholding of a payment shall be or be deemed to have waived any rights of the Port Authority with respect to the termination of the Lease or to a default by the Lessee under any term or provision thereof or to the withholding or payment of future payments.

(ii) Notwithstanding the foregoing or anything to the contrary herein, subject to limitations set forth in paragraphs (a) and in paragraphs (e), (f) and (g) hereof, there shall be the following priority of reimbursement as between the portion of the Cost of the Eligible Construction Work which constitutes Elevated Parking Structure Cost Component and the other portions of the Cost of the Eligible Construction Work: the Port Authority shall not reimburse the Lessee for the 'Elevated Parking Structure Cost Component' or any portion thereof unless and until the cumulative total of the payments made hereunder by the Port Authority to the Lessee for all other portions of the Cost of the Eligible Construction Work (other than the Elevated Parking Structure Cost Component), including any and all retainage, equals or exceeds the amount of (2.a.) thereafter the Lessee shall include in its Eligible Work Certificates the Elevated Parking Structure Cost Component; subject to the limitations in paragraph (a) (3) and in paragraphs (e), (f) and (g) hereof; provided, however, any such reimbursement for the Elevated Parking Structure Cost Component shall be made only if said Elevated Parking Structure Cost Component has been included in Eligible Work Certificate (s) in accordance with and subject to this Section 84 and only if such reimbursement also meets the conditions and limitations of paragraphs (a) (3), (a) (5) hereof.

(iii) It is understood that at the election of the Port Authority no payment will be made if the Port Authority's inspection or audit does not substantiate the contents of any of said Eligible Work Certificates and until such matters have been resolved to the satisfaction of the Port Authority, but the Port Authority shall have no obligation to conduct any such inspection or audit at such time.

(4) The Lessee shall set forth in its final Eligible Work Certificate its final statement of the Cost of the Eligible Construction Work and shall mark such final Eligible Work Certificate as 'Final'. After submitting said final Eligible Work Certificate, the Lessee shall submit no further Eligible Work Certificate hereunder with respect to the Cost of the Eligible Construction Work.

(5) Notwithstanding anything to the contrary above or in any other Section of this Lease, the and notwithstanding the delivery by the Lessee of is Final Eligible Work Certificate, the Letter of Credit required under Section 83A of this Lease shall be retained by and shall remain available to the Port Authority, in accordance with and in the Letter of Credit Required Amount under said Section 83A, until the Lessee has, to the satisfaction of the Port Authority, fully complied with all of the terms of this Section 84 and Section 83 hereof and all other applicable terms of this Agreement, submitted to the Port Authority all certifications, documentation and the like required under this Section 84 and Section 83; submitted to the Port Authority such evidence of title to the Eligible Construction Work in accordance with the provisions of this Agreement, including without limitation any certifications, warranties, documentation, releases or waivers the Port Authority may require in connection therewith; and obtained the acceptance of the Port Authority of the Lessee's completion of the Eligible

Construction Work, and any and all other portions of the On-Premises Area 1 Work and the Off-Premises Work. No final payment by the Port Authority of the Port Authority's Share of the Cost of the Eligible Construction Work or any subsequent release or cancellation of the Letter of Credit shall constitute any waiver of claims or release by the Port Authority against the Lessee or any of its contractors, subcontractors, construction managers, architects or others, nor any waiver of the Port Authority's rights of audit and inspection, nor any waiver of any other rights or remedies, legal or equitable, of the Port Authority.

(6) In addition to and without limiting the foregoing provisions and without limiting or impairing or waiving any other right or remedy of the Port Authority under this Lease or otherwise, the Port Authority shall have the right, in its discretion, to withhold from any of the aforesaid payments to the Lessee the amounts of any or all items contained in an Eligible Work Certificate in any one or more of the following events or upon any one or more of the following bases (and the Port Authority shall notify Lessee of the same and the reason (s) therefor):

(i) Any contractor or other person included or covered by the Eligible Work Certificate is in default or under a notice of termination with respect to its contract or agreement, or has not complied with all of the applicable terms or provisions of its contract or agreement;

(ii) The Eligible Work Certificate or any of the certifications and documentation and other items required to be contained therein, attached thereto or submitted therewith is not in accord with the terms of this Lease or the applicable contract, or is not complete or is otherwise improper or inadequate, or the same fails to include or omits required items;

(iii) Inadequate or defective work or work not in accordance with this Lease or the approved Construction Application(s) or the approved plans and specifications; or materials and equipment are not properly stored or protected;

(iv) Claims related to the Eligible Construction Work made by the Port Authority against a contractor included in such Eligible Work Certificate which are outstanding;

(v) Failure of the Lessee to make payments to the contractor in connection with the Eligible Construction Work;

(vi) Work not performed but for which a Eligible Work Certificate has been submitted; or

(vii) Materials or supplies delivered to the Construction Work Site but not incorporated in the realty.

(d) The Port Authority shall reimburse the Lessee for the Port Authority's Share of the Cost of the Lessee LRS Work, as follows:

(1) (i) The Lessee shall periodically during the performance of the Lessee LRS Work (but not more often than once per month) deliver to the Port Authority certificates which shall be signed by a responsible fiscal officer of the Lessee, sworn to before a notary public and which shall set forth a representation by the Lessee that it will apply the Lessee LRS Work reimbursement payment only to the Cost of the Lessee LRS Work and for no other purpose whatsoever and shall contain and have attached thereto all of the certifications and other documentation and items required to be attached thereto as described in this Section (each such certificate being hereinafter referred to as a 'LRS Work Certificate'). Each such LRS Work Certificate shall contain the Lessee's certification as to each of the amounts, payments and expenses and costs contained therein and that the same constitute portions of the Cost of the Lessee LRS Work in accordance with and as described and defined in paragraph (a) above. Each such LRS Work Certificate shall also have attached thereto reproduction copies or duplicate originals of the invoices of the independent contractors of the Lessee and for such invoices an acknowledgment by the said independent contractors of the receipt by them of such amounts and payments; contain the Lessee's certification that the work for which payment is requested is in place and has been accomplished in accordance with the terms of the applicable contract and that the amounts requested have been paid; set forth the total cumulative payments made by the Lessee as aforesaid from the commencement of the Lessee LRS Work to the date of the LRS Work Certificate; contain a certification by the Lessee that each portion of the Lessee LRS Work covered by said LRS Work Certificate has been performed strictly in accordance with the terms of this Lease and the Construction Application(s); have attached thereto accurate, readable and complete copies of all change estimates, change orders, extra work authorizations, design change authorizations, purchase orders in connection with the Lessee LRS Work; have attached thereto true copies of any and all reports and schedules of any type submitted or kept, or required to be submitted or kept, by the Lessee or any contractor, architect, engineer or other consultant of the Lessee; and have attached thereto true copies of the items described in and required under items (ii) and (iii) of this subparagraph (1)

(ii) Each LRS Work Certificate shall also contain a breakdown of each of the aforesaid amounts, payments and expenses which constitute portions of the Cost of the Lessee LRS Work, as aforesaid, listed separately by contract (or other agreement) (with sufficient detail as to identification and retainage) for each contractor or other person to whom payment has been made; it being expressly understood and agreed that each LRS Work Certificate shall be for amounts net of applicable retainage amounts with respect to each contract (as approved by the Port Authority) but each LRS Work Certificate shall state the amounts of such retainage on a cumulative basis as to each and every such contract.

(iii) Each LRS Work Certificate shall also identify and contain a

breakdown of costs as between the Off- Premises Work and the Eligible On-Premises Area 1 Work and the Lessee LRS Work.

(iv) In addition to and without limiting any term or provision of this Agreement, it is hereby expressly agreed that the Port Authority shall have, and the Lessee shall convey or cause to be conveyed to the Port Authority, full and unrestricted ownership (and free and clear of any and all security interests, liens, or other encumbrances) and all proprietary rights and interests in and to all documents produced for the design and construction of the Lessee LRS Work and each and every portion thereof, including without limitation drawings and specifications, work product, and the like, (including such which are or are to become the property of any 'Owner' named as such in such a contract or other agreements,) upon any payment made hereunder or otherwise therefore, or upon such earlier time or times as may be provided under the applicable contract(s)or other agreement(s), by the Port Authority for any item of the Lessee LRS Work , or applicable portion thereof, and each contract, purchase order, consultant agreement, architectural agreement, or any other type of agreement entered into by or on behalf of the Lessee for the Lessee LRS Work or of any portion thereof shall reflect and or provide for the foregoing. It is further hereby expressly agreed that if the applicable contract or other agreement gives to the Lessee any such rights of ownership that the same shall be deemed given to the Port Authority automatically without the requirement for any execution of any further documentation. The Lessee shall and hereby agrees, without limiting the foregoing, to execute any and all documents which may be required by the Port Authority to transfer to or evidence such ownership and proprietary rights of the Port Authority.

(v) The LRS Work Certificate shall also contain such further information and documentation with respect to the Cost of the Lessee LRS Work as the Port Authority from time to time may require.

In addition to and without limiting the foregoing, and in addition to any and all other information required to be submitted pursuant to the Lease, the Lessee shall furnish to the Port Authority information concerning budget, costs, costs estimates, timing and scheduling of construction of the Construction Work as may be requested by the Port Authority with respect to the Cost of the Lessee LRS Work from time to time including but not limited to the following:

(aa) Reports of the construction manager hired by the Lessee and reports of the Lessee's architect, which reports must contain reports as to activity conducted in connection with the Construction Work on a continuing basis from the commencement of the work to the date of submission;

(bb) A certification signed by the Lessee's architect or licensed professional engineer certifying the value of work in place;

(cc) A certification signed by the Lessee's licensed architects or licensed professional engineers that the applicable portion of the Construction Work is in compliance with the plans and specifications therefor as approved by the Port Authority;

(dd) Accurate, readable and complete copies of all change estimates, change orders, extra work authorizations, design change authorizations, purchase orders in connection with the Construction Work;

(ee) True copies of any and all reports and schedules of any type submitted or kept, or required to be submitted or kept, by the Lessee or any contractor, architect, engineer or other consultant of the Lessee;

(ff) True copies of any and all of the items described in and required under item (iv) of this subparagraph (1).

(2) Each contract covering the Lessee LRS Work or portion thereof shall contain provisions requiring retainage from amounts due the contractor until final completion of the work by the contractor and acceptance thereof. Such required retainage applicable to the Lessee LRS Work or any portion thereof under the contract shall be in percentage amounts as follows: retainage of not less than ten percent (10%) until fifty percent (50%) of the said work is completed and thereafter retainage of not less than five percent (5%) until final completion of all of the said work. Each Lessee LRS Work Certificate shall set forth the totals of the amounts so retained with specific identification as to the applicable contract.

(3) Within thirty (30) days after the delivery of a duly submitted LRS Work Certificate by the Lessee, the Port Authority shall pay to the Lessee the amounts paid by the Lessee for the Cost of the Lessee LRS Work during the period covered by such LRS Work Certificate, as certified in such LRS Work Certificate (but only to the extent that such amounts or any portion thereof have not theretofore been included in a prior LRS Work Certificate) (net of retainage) subject to the maximum amount of the Port Authority's Share of the Cost of the LRS Work as stated in paragraph (a) (6) above and subject to the limitations in paragraphs (e), (f) and (g) below, and subject, further, to the "Notice to Proceed", "Notice Not to Proceed", "Notice to Suspend" and "Notice to Discontinue" provisions set forth in paragraph (e) of Section 83 hereof; provided, further, however, in the event the Lease is not in full force end effect or if the Lessee shall be under a notice of termination of the Lease or in default under any term or provision thereof, the Port Authority shall have the right, in its discretion, to withhold payment to the Lessee, provided, further, no payment or withholding of a payment shall be or be deemed to have waived any rights of the Port Authority with respect to the termination of the Lease or to a default by the Lessee under any term or provision thereof or to the withholding or payment of future

payments.

It is understood that at the election of the Port Authority no payment will be made if the Port Authority's inspection or audit does not substantiate the contents of any of said LRS Work Certificates and until such matters have been resolved to the satisfaction of the Port Authority, but the Port Authority shall have no obligation to conduct any such inspection or audit at such time.

(4) The Lessee shall set forth in its final LRS Work Certificate its final statement of the Cost of the Lessee LRS Work and shall mark such final LRS Work Certificate as 'Final'. After submitting said final LRS Work Certificate, the Lessee shall submit no further LRS Work Certificate hereunder with respect to the Cost of the Lessee LRS Work .

(5) Notwithstanding anything to the contrary above, the final reimbursement payment of the Cost of the Lessee LRS Work by the Port Authority to the Lessee based on the Lessee Final LRS Work Certificate shall not become due to the Lessee unless and until the Lessee has, to the satisfaction of the Port Authority, fully complied with all of the terms of this Section and all other applicable terms of this Agreement, submitted to the Port Authority all certifications, documentation and the like required under this Section; submitted to the Port Authority such evidence of title to the Lessee LRS Work in accordance with the provisions of this Agreement, including without limitation any certifications, warranties, documentation, releases or waivers the Port Authority may require in connection therewith; and obtained the acceptance of the Port Authority of the Lessee's completion of the Lessee LRS Work . No such final payment by the Port Authority shall constitute any waiver of claims or release by the Port Authority against the Lessee or any of its contractors, subcontractors, construction managers, architects or others, nor any waiver of the Port Authority's rights of audit and inspection, nor any waiver of any other rights or remedies, legal or equitable, of the Port Authority.

(6) In addition to and without limiting the foregoing provisions and without limiting or impairing or waiving any other right or remedy of the Port Authority under this Lease or otherwise, the Port Authority shall have the right, in its discretion, to withhold from any of the aforesaid payments to the Lessee the amounts of any or all items contained in a LRS Work Certificate in any one or more of the following events or upon any one or more of the following bases (and the Port Authority shall notify Lessee of the same and the reason (s) therefor):

(i) Any contractor or other person included or covered by the LRS Work Certificate is in default or under a notice of termination with respect to its contract or agreement, or has not complied with all of the applicable terms or provision of its contract or agreement;

(ii) The LRS Work Certificate or any of the certifications and documentation and other items required to be contained therein, attached thereto or

submitted therewith is not in accord with the terms of this Lease or the applicable contract, or is not complete or is otherwise improper or inadequate, or the same fails to include or omits required items;

(iii) Inadequate or defective work or work not in accordance with this Lease or the approved Construction Application(s) or the approved plans and specifications; or materials and equipment are not properly stored or protected;

(iv) Claims related to the Lessee LRS Work made by the Port Authority against a contractor included in such LRS Work Certificate which are outstanding;

(v) Failure of the Lessee to make payments to the contractor in connection with the Lessee LRS Work ;

(vi) Work not performed but for which a LRS Work Certificate has been submitted; or

(vii) Materials or supplies delivered to the Construction Work Site but not incorporated in the realty.

(e) (1) The entire obligation of the Port Authority under this Agreement to reimburse the Lessee for the Cost of the Eligible Construction Work shall be limited in amount to the Port Authority's Share of the Cost of the Eligible Construction Work, as defined in paragraph (a) (3) above, provided, however, that such obligation shall be further limited in time to Eligible Construction Work covered by Certificates of the Lessee in accordance with paragraph (c) above properly submitted by the Lessee in accordance with and under said paragraph (c) on or prior to the Final Date as defined in paragraph (a) above.

(2) In the event that the Net Amount of Port Authority Requested Change in Scope Change Orders applicable to the Eligible Construction Work (as defined and described in paragraph (h) (3) (vi) (A) of Section 83 hereof) causes the Cost of the Eligible Construction Work to exceed (2.a.) then in such event (and only in such event), the amount equal to the Net Amount of Port Authority Requested Change in Scope Change Orders for Eligible Construction Work shall be the responsibility of the Port Authority on condition that (i) the Lessee has complied with the requirements of paragraph (h) (3) of Section 83 hereof including without limitation its submission to the Port Authority of all cost estimations and statements with respect to each such Port Authority Requested Change in Scope Change Order; (ii) each Port Authority Requested Change in Scope Change Order has been duly authorized in writing by the Port Authority in accordance with said paragraph (h) (3) of Section 83 hereof); (iii) the Lessee shall have given prior written notice to the Port Authority promptly and not later than ninety (90) days prior to the expected date that the Net Amount of Port

Authority Requested Change in Scope Change Orders applicable to the Eligible Construction Work would cause the Cost of the Eligible Construction Work to exceed (2.a.) and (iv) said amount meets all of the other conditions for Port Authority reimbursement under this Section 84.

(3) The entire obligation of the Port Authority under this Agreement to reimburse the Lessee for the Cost of the Lessee LRS Work shall be limited in amount to the Port Authority's Share of the Cost of the Lessee LRS Work, as defined in paragraph (a) (7) above, , provided, however, that such obligation shall be further limited in time to Lessee LRS Work covered by LRS Work Certificates of the Lessee in accordance with paragraph (d) above properly submitted by the Lessee in accordance with and under said paragraph (d) on or prior to the Final Date as defined in paragraph (a) above;

(4) In the event the Net Amount of Port Authority Requested Change in Scope Change Orders for the Lessee LRS Work (as defined and described in paragraph (h) (3) (vi) (B) of Section 83 hereof) causes the Cost of the Lessee LRS Work to exceed (2.a.) then in such event (and only in such event) the amount equal to the Net Amount of Port Authority Requested Change in Scope Change Orders applicable to the Lessee LRS Work shall be the responsibility of the Port Authority on condition that (i) the Lessee has complied with the requirements of paragraph (h) (3) of Section 83 hereof including without limitation its submission to the Port Authority of all cost estimations and statements with respect to each such Port Authority Requested Change in Scope Change Order; (ii) and each Port Authority Requested Change in Scope Change Order has been duly authorized in writing by the Port Authority in accordance with said paragraph (h) (3) of Section 83 hereof); (iii) the Lessee shall have given prior written notice to the Port Authority promptly and not later than ninety (90) days prior to the expected date that the Net Amount of Port Authority Requested Change in Scope Change Orders for the Lessee LRS Work would cause the Cost of the Lessee LRS Work to exceed (2.a.) , and (iv) said amount meets all of the other conditions for Port Authority reimbursement of the Cost of the Lessee LRS Work under this Section 84.

(f) It is understood and agreed that the Lessee shall be responsible without any reimbursement from the Port Authority for all costs of the Construction Work, and that the Lessee shall be responsible without any reimbursement from the Port Authority (i) for all costs of the Eligible Construction Work in excess of the maximum amount of the Port Authority's Share of the Cost of the Eligible Construction Work (defined in paragraph (a) (3) above) and subject to paragraph (e) above; and (ii) for all costs of the Lessee LRS Work in excess of the maximum amount of the Port Authority's Share of the Cost of the Lessee LRS Work (defined in paragraph (a) (6) above) and subject to paragraph (e) above.

(g) (1) Without limiting Section 34 or any other term or provision of the

Lease, the Port Authority shall have the right by its agents, employees and representatives to audit and inspect at any time and from time to time the books and records and other data of the Lessee relating to the costs of the Construction Work including but not limited to the Cost of the Eligible Construction Work and the Cost of the Lessee LRS Work and any and all invoices relating to the Construction Work or any portion thereof and any and all contracts covering each portion of the Construction Work including but not limited to the Lessee's contracts and agreements with its architects, engineers, and construction managers and other contractors; it being specifically understood that the Port Authority shall not be bound by any prior audit or inspection conducted by it. The Lessee agrees to keep such books, records and other data within the Port of New York District, but the Lessee shall not be required to maintain any such books, records and other data for more than seven (7) years after it has delivered the final Certificate called for under paragraphs (c) and (d) above; unless they are material to litigation initiated within that time, in which event they shall be preserved until the final determination of the controversy.

(2) In the event that a Port Authority audit shall disclose that amounts paid by the Port Authority exceed the Port Authority's Share of the Cost of the Eligible Construction Work or the Port Authority's Share Cost of the Lessee LRS Work based upon certificates or otherwise then, upon thirty (30) days demand, the Lessee shall immediately pay to the Port Authority an amount equal to the excess amount paid by the Port Authority; the foregoing shall not be or be deemed to be any limitation, impairment or waiver of any other right or remedy of the Port Authority under the Lease or otherwise.

(h) The parties recognize that one or more of the contracts to be entered into by the Lessee for the performance of the Construction Work may cover the construction of portions of the Construction Work the costs of which pursuant to the terms of this Lease are not to be nor to become a part of the Cost of the Eligible Construction Work or the Cost of the Lessee LRS Work. The Lessee shall at all times maintain, and each certificate submitted by the Lessee to the Port Authority hereunder shall set forth, a proper breakdown and allocation of costs and payments as between the Eligible Construction Work, the Lessee LRS Work and the other portions of the Construction Work and between the On-Premises Area 1 Work and the Off-Premises Work, and the Lessee shall ensure that each applicable contract provides for such breakdown and allocation. In submitting the statements and certificates required of the Lessee hereunder, the Lessee shall in such event specifically and separately state the amounts covered by said contracts for portions of the Construction Work the costs of which are not to be a part of the Cost of the Eligible Construction Work, and for portions of the Construction Work the costs of which are not to be a part of the Cost of the Lessee LRS Work. Moreover the Lessee shall specifically and separately set forth therein the Cost of the Eligible Construction Work as defined in paragraph (a) (2) hereof; and the Lessee shall specifically and separately set forth therein the Cost of the Lessee LRS Work as defined in paragraph (a) (6) hereof. In the event the Port Authority questions the appropriateness or correctness of the amounts set forth by the Lessee, the Port Authority shall advise the Lessee to such effect and the Port Authority and the Lessee shall meet with each other in an attempt to agree upon and resolve their differences with respect thereto.

If the Lessee has included in any portion of the Cost of the Eligible Construction Work or in any portion of the Cost of the Lessee LRS Work any item which does not represent an appropriate division of the costs of a particular contract which are required to be designated according to time of performance or delivery, and the parties have been unable to resolve their differences within ninety (90) days after Port Authority gave its notice objecting to the same, the Port Authority's decision as to the nature of the item of construction cost shall be final.

(i) Without limiting any other term or provision of this Agreement and in addition to and without limiting any other right or remedy of the Port Authority under this Agreement or otherwise, each construction contract of the Lessee covering the Eligible Construction Work or any portion thereof, or covering the Lessee LRS Work or any portion thereof, shall contain a provision, in such form and content as is satisfactory to the Port Authority, providing to the Port Authority the right (but not the obligation) to have the contractor continue its performance of the work under and in accordance with such contract and to have such contract, or portion thereof, that covers the Eligible Construction Work or the Lessee LRS Work, assigned to the Port Authority prior to any termination thereof in the event that the Lessee shall be in default or notice of termination under this Lease or in the event that the Lessee shall be in default or notice of termination under said construction contract; such right to be exercisable by the Port Authority upon written notice given by the Port Authority at its election and in its sole discretion. In the event that the Port Authority exercises such right the Lessee and the contractor shall execute all such documents and take such actions, including without limitation the legal assignment of contractual rights, as the Port Authority may require for the purpose of fully vesting in the Port Authority all rights, interests and benefits of the Lessee in the contract, and if, appropriate in the subcontracts under the contract; provided that such assignment shall be effective notwithstanding any failure or refusal of the Lessee to execute such documents. The contract shall also provide that the Port Authority shall have the right to require the contractor to execute an addendum to the contract, if the Port Authority so requests, incorporating into the contract, such additional provisions normally found in a Port Authority contract for similar type of construction work. Nothing herein shall create any obligation or liability of the Port Authority under any such contract or any third party beneficiary rights. Neither the foregoing nor any exercise of the aforesaid right by the Port Authority shall or shall be deemed to constitute any waiver or release by Port Authority of any of its rights or remedies against the Lessee hereunder or otherwise, or to release or relieve the Lessee from any obligations or liabilities.

(j) It is hereby understood and agreed that nothing herein shall or shall be deemed for the benefit of any contractor of the Lessee.

"Section 85. Off-Premises Roads--No restriction of Port Authority Right

Neither the provisions of Section 83 hereof, nor the construction thereunder by the Lessee of the Off-Premises Roads, nor any payment of costs thereof by the Lessee nor any of the provisions of Section 84 shall prevent or restrict the right of the Port Authority to designate

the Off-Premises Roads as part of the Air Terminal Highway System, upon the Lessee's completion of the construction thereof, and to make the same available to the general public for general or limited highway use; the Port Authority to make said Off-Premises Roads, after the Lessee's satisfactory completion thereof and acceptance of the same by the Port Authority, as part of the Air Terminal Highway System in accordance with and subject to its policy or policies governing or which may govern such matters.

"Section 86. General Airport Agreement Expiration

It is recognized that the General Airport Agreement, as defined in Section 53 hereof, and the principles and formula set forth therein for the calculation of flight fees, including the costs recovery accounting principles, have by agreement or policy been the basis for determining flight fees payable by various aircraft operators at the Airport in addition to the aircraft operators who are the actual signatory lessees to the General Airport Agreement. In the event of the expiration and non-extension or non-renewal of the General Airport Agreement, the same formula, accounting principles and costs recovery methodology now set forth in the General Airport Agreement for the calculation of flight fees shall continue to be utilized for the calculation of flight fees at the Airport for the Lessee until such time as the General Airport Agreement is formally replaced by a new agreement or agreements or by a new policy or policies. The Port Authority has advised the Lessee that it is the intention of the Port Authority that with respect to the formula, accounting principles and the costs recovery methodology for the calculation of flight fees upon the expiration and non-extension or non-renewal of the General Airport Agreement all aircraft operators at the Airport which are similarly situated will be treated in a similar manner.

"Section 87. Airline Service Standards.

Subject to and without limiting or affecting any other term or provision of this Lease, the Lessee agrees to provide service at the premises for the benefit of the traveling public in a manner consistent with generally accepted airline industry standards for airport terminals and will cooperate with the Port Authority and other airlines serving the traveling public at the Airport in maintaining these standards through organized airport service improvement working groups."

7. Section 75 of the Lease shall be deemed deleted therefrom and the following new Sections 75 and 75A shall be deemed inserted in the Lease in lieu thereof:

"Section 75. Future Airport Transportation Facilities and Operations and Use of Portions of the Premises

(a) The Lessee understands that the Port Authority presently is planning to construct certain ground transportation facilities at the Airport including, but not limited

to, a light rail passenger distribution system ('LRS'). It is presently contemplated that the LRS will include a rail transportation system circulating around the Central Terminal Area of the Airport (as generally shown on Exhibit S of the Lease and herein called 'the CTA'), generally aligned along the roadway frontage of the passenger terminal buildings and with stations to serve the passenger terminal buildings in the CTA at various locations. At the discretion of the Port Authority, stations may be located to serve one or more passenger terminal buildings in the CTA, Airport parking areas, Airport rent-a-car facilities, other areas of the Airport and off Airport transit systems. Pedestrian access between the LRS stations and the passenger terminal buildings will be provided as part of the LRS. Vertical circulation areas, if needed, including stairs, escalators, ramps and elevators at the passenger terminal building on the premises will be the responsibility of the Lessee and shall be appropriate to the operation of the LRS. The Port Authority expects to commence planning and design for the LRS and upon completion of such planning and design, to implement the construction of the LRS and after the completion of such construction, to maintain and operate the LRS for the accommodation and transportation of persons desiring to use the same, and their baggage. The Lessee acknowledges and agrees that the LRS will be a benefit and enhancement to the Airport and to the Lessee's operations thereon.

(b) The Lessee understands that the construction and operation of the LRS may require the location on the premises of a passenger station (including pedestrian access between it and the passenger terminal building) and, in addition, may require the use of a portion or portions of the premises for and in connection with the construction, maintenance or operation of other portions of the LRS. The Lessee agrees that it shall make available to the Port Authority upon demand such portion or portions of the premises for use for or in connection with the construction, maintenance and operation of the LRS for such purposes as may be required or be appropriate therefor and, where such portion of the LRS exclusively serves the premises, the same shall be made available by the Lessee without abatement of rental or charges hereunder or any payments by the Port Authority to the Lessee therefor. Where such portion of the LRS does not exclusively serve the premises then the rental hereunder shall be abated in accordance with the rental abatement provisions of this Lease.

Without limiting the foregoing, the Lessee shall comply with the provisions of Section 83 hereof with respect to the design and construction of the LRS Work, as defined therein and the coordination of the same with the Construction Work as set forth in said Section 83.

(c) The Lessee understands that the Port Authority considers the construction, operation and maintenance of the LRS of the utmost importance to the efficient operation of the Airport and to the fulfillment of the Port Authority's governmental function to provide, maintain, develop and operate the Airport; that the efficient use and operation of

the LRS will require that the Lessee in the operation and use of its passenger terminal facilities under this Lease shall utilize and cooperate in the operation of the LRS to the end that the LRS shall be utilized to the fullest extent possible so that its advantages and efficiencies can be fully realized; and that the Port Authority does not by this Lease Agreement intend to enter into any agreement, understanding or commitment which will interfere with, limit, restrict, hinder or prevent in any way the development, construction, maintenance, operation or efficient use of the LRS.

(d) The Lessee also understands and acknowledges that the Port Authority's cost of planning, design, construction, maintenance and operation of the LRS will be accorded the same cost recovery treatment as the similar elements of the Air Terminal Highway System is accorded in the General Airport Agreement (as defined in Section 53 of the Lease) for calculation of the flight fees under the General Airport Agreement and the same cost recovery treatment as the Air Terminal Highway System is accorded for the calculation of other fees and charges under other existing agreements and policies at the Airport, and under any agreements or policies which may be entered into or implemented in the future including agreements or policies to replace such existing agreement(s) or the General Airport Agreement.

(e) Without limiting any other provisions of this Section, the Lessee understands and agrees that changes and modifications to certain provisions of the Lease including, but not limited to ingress and egress, and ground transportation within the Central Terminal Area and related terminal and roadway frontage management may be required or appropriate to conform such provisions to the operation of the LRS and the Lessee agrees upon the presentation to it of a form of supplemental agreement to this Lease which includes such modifications it will execute and return the same to the Port Authority. The Port Authority and the Lessee agree that each will consult with the other, from time to time, and will provide information to the other, from time to time, with respect to the study, planning, design, construction, maintenance and operation of the LRS and its interconnection with the passenger terminal facilities.

Section 75A. Restrictions on Use of Passenger Terminal Frontage Roadways - Use of Airport Taxi Dispatchers - and Roadway Frontage Management

(a) The Lessee understands that the Port Authority presently has in effect and has planned various physical improvements and policies concerning and affecting the use of vehicular roadways in the CTA for the limitation and control of vehicular traffic thereon including the limitation and control of vehicular traffic on the premises and vehicular traffic moving between the Air Terminal Highways, as designated from time to time by the Port Authority in the CTA of the Airport, and the vehicular roadways on the premises connecting to the said Air Terminal Highways. These improvements and policies, both in existence and planned, generally include the following:

(1) Restrictions on the use of roadways in the Central Terminal Area as set forth in Section 74 (Ground Transportation In The Central Terminal Area) and Section 72 (Ground Transportation) of the Lease.

(2) The use of Airport Taxi Dispatching Services (as generally set forth in paragraph (b) hereof) where the Port Authority, either itself or through its contractor, utilizes at passenger terminals under the control of the Port Authority and makes available to passenger terminals at the Airport operated by others, the services of a Taxi Dispatcher to assist in the expeditious and orderly flow of taxicabs to and from passenger terminals at the Airport.

(3) The planning, development and implementation of a central taxi holding and dispatching system for the Airport to be used in conjunction with the use of Taxi Dispatchers at the passenger terminals at the Airport.

(4) The designation of specified portions of the vehicular roadways on the premises for limited use exclusively by certain types of ground transportation vehicles and/or certain types of ground transportation carriers for the loading and unloading of passengers and their baggage.

(b) The Lessee agrees to restrict from the premises during the time period or time periods, as may be specified by the Port Authority from time to time (each such period being herein referred to as a 'Taxi Dispatcher Period' or 'TDP'), all taxicabs except those taxicabs which are discharging passengers at the premises and those taxicabs which are requested by a Taxi Dispatcher stationed on the premises and dispatched through the airport central taxi holding and dispatching facility (herein called 'the Airport Central Taxi Stack') to the premises. Further, during any TDP the Lessee agrees to take and accept from the Port Authority, and permit the stationing at an appropriate location or locations on the premises, of a Taxi Dispatcher or Taxi Dispatchers and the establishment of a taxicab waiting line on the premises of such number of vehicles as shall be specified by the Port Authority from time to time. A Taxi Dispatcher or Taxi Dispatchers when located on the premises shall provide the sole and exclusive dispatch of taxicabs to the Lessee's passengers and others desiring the use of a taxicab from the premises and shall perform such other duties and functions in connection therewith as may be specified by the Port Authority from time to time. The Lessee agrees to permit the installation on the premises by the Port Authority of such fixtures, equipment and improvements including, but not limited to, a taxi dispatcher shelter, telephone, radio transceiver and transponder receiving device as may be necessary or reasonably desired by the Port Authority in connection with the activities and operations of the Taxi Dispatchers. The Lessee understands and agrees that all expenses of the Port Authority associated with the implementation and operation of the Taxi Dispatchers on the Airport including, but not limited to, the Taxi Dispatchers on the premises and the construction, maintenance and operation of the Airport Central Taxi

Stack shall be included in and payable through the aircraft flight fees at the Airport and will be accorded the same cost recovery treatment as the Air Terminal Highway System is accorded for such purposes under the General Airport Agreement and the calculation of other fees and charges under other existing agreements and policies at the Airport, and under any agreements which may be entered into and any policies which may be implemented, in the future, including agreements and policies to replace such existing agreements and policies or the General Airport Agreement.

(c) In connection with and furtherance of the Port Authority's policies concerning ground transportation on the Airport, the operation of the Ground Transportation Counter as set forth in Section 67, the operation of Taxi Dispatchers and the Airport Central Taxi Stack as set forth in this Section 75A, and the provisions governing Ground Transportation Within The Central Terminal Area as set forth in Section 74, the Lessee hereby agrees that, from time to time, the Port Authority may designate and specify areas of roadways and curbs located on the premises, for the purpose of segregated and exclusive use by separate categories of vehicles, including but not limited to buses, taxicabs, private automobiles and other vehicles, and use by separate categories of ground transportation carriers, (including but not limited to Port Authority permittees), as may be designated by the Port Authority, from time to time, for the purpose of loading and unloading passengers and their baggage. The Lessee shall prohibit the operation of all other types of vehicular traffic on the roadways on the premises used for the loading and unloading of passengers and their baggage and shall prohibit parking or stopping except in the areas designated as aforesaid. Designated areas shall be clearly indicated by the Lessee by appropriate signing and marking on the premises as shall be directed or approved from time to time by the Port Authority. The Lessee shall permit the installation on the premises by the Port Authority of such fixtures, equipment and improvements, including, but not limited to transponder receiving devices and other vehicular tracking and monitoring devices; and the Lessee shall, through the use of appropriate and sufficient means including, but not limited to, removing unauthorized parked vehicles from the premises, security guards and other personnel stationed on the premises in the area of the said roadways, require that the limitations and restrictions established hereunder by the Port Authority on the use of the said roadways are complied with and enforced on a 24-hour basis, during any TDP and at other times as may be directed by the Port Authority.

(d) The Lessee understands that the Port Authority considers the provisions of this Section 75A and the use of the Lessee's passenger terminal roadway areas of the utmost importance to the efficient operation of the Air Terminal Highway System on the Airport and to the fulfillment of the Port Authority's governmental function to provide, maintain, develop, and operate the Airport; that the efficient use and operation of the Air Terminal Highway System requires that the Lessee, in the operation and use of its passenger terminal facilities under this Lease shall utilize and cooperate fully in all

respects in the operation and implementation of the provisions of this Section 75A to the end that the Air Terminal Highway System, including ingress thereto and egress therefrom, will operate in the most efficient manner; and that the Port Authority does not by this Lease intend to enter into any agreement, understanding, or commitment which will interfere with, limit, restrict, hinder, or prevent in any way, the efficient development, implementation and operation of the Air Terminal Highway System and the rights and discretion of the Port Authority with respect thereto."

8. Subparagraph (7) of paragraph (b) of Section 11 of the Lease shall be deemed amended by adding at the end thereof the following:

"Without limiting the foregoing, the Lessee understands and agrees that the Lessee shall be responsible for all paving, lighting, signage, storm drains, culverts, cables, supporting structures, cleaning and snow removal of the ground level and elevated roadways existing and to be constructed on access roadways on Area 2 which serve the premises exclusively."

9. Paragraph (a) of Section 76 of the Lease shall be deemed amended by adding at the end thereof the following:

"The term 'terminal roadways' as hereinbefore defined shall be deemed to include the On-Premises Roads to be constructed by the Lessee pursuant to Section 83 hereof."

10. Section 29 of the Lease shall be deemed amended as follows: paragraph "(c)" thereof shall be redesignated as paragraph "(e)" and the following new paragraphs "(c)" and "(d)" shall be inserted therein immediately preceding said paragraph (e) reading as follows:

"(c) In addition to and without limiting the foregoing or any other right, claim or remedy of the Port Authority hereunder or otherwise, in the event this Lease shall be terminated pursuant to Section 25 hereof and the Lessee shall not have completed the Construction Work, as defined in Section 83 hereof, or any portion thereof within the time period(s) specified in Section 83 (f) hereof, the Lessee shall and hereby agrees to pay to the Port Authority any and all amounts, costs and expenses, of any type whatsoever, paid or incurred by the Port Authority by reason of the failure of the Lessee so to complete the said Construction Work, or any portion thereof, including without limitation all interest and other costs, damages, direct and consequential, losses and penalties, and all of the same shall also be deemed treated as survived damages hereunder in addition to the foregoing.

(d) Notwithstanding anything to the contrary herein contained, all of the obligations of the Lessee under this Lease with respect to Environmental Damages and Environmental Requirements shall survive the expiration or termination of this Agreement."

11. Paragraph (a) of Section 7 of the Lease shall be deemed amended to read as follows:

"(a) The Lessee shall promptly comply with, observe and execute all laws and ordinances and governmental rules, regulations and orders now or at any time during the term of this Agreement which as a matter of law are applicable to or which affect (i) the premises, (ii) the operations of the Lessee at the premises hereunder or the Airport, (iii) the occupancy or use of the premises or (iv) with regard to Environmental Requirements, property outside the premises as a result of the Lessee's use and occupancy of the premises or a migration of Hazardous Substances from the premises. The Lessee shall, in accordance with and subject to the provisions of Section 44 hereof, make any and all structural and non-structural improvements, alterations or repairs of the premises and perform all remediation work and clean up of Hazardous Substances required in order to fully satisfy the compliance obligations set forth herein, including without limitation, the removal, containment, control or other action with respect to asbestos-containing material."

12. Section 9 of the Lease shall be deemed amended by adding at the end thereof the following:

"(m) Without limiting any other of the Lessee's obligations under the Lease, the Lessee shall provide the General Manager of the Airport at the cost and expense of the Lessee with such information, documentation, records, correspondence, notices, reports, tests, results, and certifications and any other information as the Port Authority shall request in connection with any Environmental Requirements or Environmental Damages, and the Lessee shall promptly acknowledge, swear to, sign or otherwise fully execute the same. The Lessee agrees that any of the foregoing may be filed by the Port Authority with the appropriate governmental authority on behalf of the Lessee at the Lessee's cost and expense. Further, the Lessee agrees unless directed otherwise by the Port Authority, to provide the General Manager of the Airport with copies of all information, documentation, records, correspondence, notice, certifications, reports, test results and all other submissions provided by the Lessee to a governmental authority and by a governmental authority to the Lessee within ten (10) business days that the same are made available to or received by the Lessee with respect to any Environmental Requirements.

(n) In addition to and without limiting the generality of the obligations of the Lessee set forth above and elsewhere in the Lease, the Lessee shall at its sole cost and

expense and in accordance with and subject to the provisions of Section 44 hereof, upon notice from the Port Authority, promptly take all actions to completely remove and remediate all Hazardous Substances on the premises or the Airport which result from the Lessee's use and occupancy of the premises or which have been disposed of, released, discharged or otherwise placed on, under or about the premises during the term of the letting hereunder, and to cleanup and remediate all other Hazardous Substances on, about or under the premises or which have migrated from the premises to any adjoining property, which any federal, state or local governmental agency or political subdivision or any Environmental Requirement or any violation thereof require to be remediated, and to cleanup and remediate all Hazardous Substances necessary to mitigate Environmental Damages. The foregoing obligations of the Lessee shall include without limitation the investigation of the environmental condition of the area to be remediated, the presentation of feasibility studies, reports and remedial plans, and the performance of any cleanup, remediation, containment, operation, maintenance, monitoring or restoration work; the standard for any of the foregoing to be that standard as required under Environmental Requirements and in the event that any Environmental Requirement sets forth more than one standard, the standard to be applied shall be that which requires the lowest level of a Hazardous Substance. Any actions of the Lessee under the foregoing shall be performed in a good, safe and workmanlike manner and shall minimize any impact on activities off the premises. The Lessee shall promptly provide to the Port Authority all copies of test results and reports generated in connection with such actions. Promptly upon completion of such investigation and remediation, the Lessee shall seal or cap all monitoring wells and test holes, remove all associated equipment and restore the remediated property.

The Lessee shall not be obligated under this Lease for the remediation of any Hazardous Substance or contamination of soil and groundwater to the extent that the same is caused by (1) acts or omissions of the Port Authority or (2) the flow of ground water from outside the premises hereunder or the leaching of soil from outside the premises hereunder.

Nothing herein shall limit, modify, waive or otherwise alter the rights, claims and remedies which the Port Authority or the Lessee may have against third parties or persons, whether at law, equity or otherwise, or which the Port Authority or the Lessee may have under the General Airport Agreement."

13. (a) Section 10 of the Lease shall be deemed amended by adding at the end thereof the following:

"(o) The Lessee shall not dispose of, release or discharge nor permit anyone to dispose of, release or discharge any Hazardous Substance on the premises or at the Airport. Any Hazardous Substance disposed of, released or discharged by the Lessee (or permitted by the Lessee to be disposed of, released or discharged) on the premises or at the

Airport, shall upon notice by the Port Authority to the Lessee and subject to the provisions of Section 44 hereof and all Environmental Requirements, be completely removed, cleaned up and/or remediated by the Lessee. The obligations of the Lessee pursuant to this paragraph (o) shall survive the expiration or termination of this Agreement.

(b) Section 81 of the Lease is hereby amended by inserting at the end thereof the following new paragraphs "(w)", "(x)" and "(y)":

"(w) 'Environmental Requirements' and 'Environmental Requirement' shall mean all applicable present and future laws, statutes, enactments, resolutions, regulations, rules, ordinances, codes, licenses, permits, orders, approvals, plans, authorizations, concessions, franchises, requirements and similar items, of any and all Governmental Authority(ies), and all pollution prevention programs, 'best management plans' and other voluntary programs adopted and agreements made by the Port Authority with any and all Governmental Authority(ies) and all applicable judicial, administrative, and regulatory decrees, judgments, and orders relating to the protection of human health or the environment, and in the event that there shall be more than one compliance standard, the standard for any of the foregoing to be that which requires the lowest level of a Hazardous Substance, the foregoing to include without limitation:

(i) All requirements pertaining to reporting, licensing, permitting, investigation, and remediation of emissions, discharges, releases, or threatened releases of Hazardous Substances into the air, surface water, groundwater, or land, or relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport, or handling of Hazardous Substances; and

(ii) All requirements, pertaining to the protection of the health and safety of employees or the public.

(x) 'Hazardous Substance' and 'Hazardous Substances' shall mean and include without limitation any pollutant, contaminant, toxic or hazardous waste, dangerous substance, potentially dangerous substance, noxious substance, toxic substance, flammable, explosive, radioactive material, urea formaldehyde foam insulation, asbestos, polychlorinated biphenyls (PCBs), chemicals known to cause cancer or reproductive toxicity, petroleum and petroleum products and other substances which have been or in the future shall be declared to be hazardous or toxic, or the removal of which has or in the future shall be required, or the manufacture, preparation, production, generation, use, maintenance, treatment, storage, transfer, handling or ownership of which has or in the future shall be restricted, prohibited, regulated or penalized by any Environmental Requirement."

(y) "Environmental Damages" shall mean any one or more of the following: (i) the

presence on, about or under the premises of any Hazardous Substance and/or (ii) the disposal, release or threatened release of any Hazardous Substance from the premises, and/or (iii) the presence of any Hazardous Substance on, about or under other property at the Airport as a result of the Lessee's use and occupancy of the premises or a migration of a Hazardous Substance from the premises, and/or (iv) any personal injury (including wrongful death) or property damage arising out of or related to any such Hazardous Substance, and/or (v) the violation of any Environmental Requirements pertaining to any such Hazardous Substance, the premises and/or the activities thereon.

14. Paragraph (b) of Section 20 of the Lease shall be deemed amended by inserting on the seventh (7th) line thereof after the word "systems" the following:

> "(including without limitation the foundations, columns and support structure for the LRS and the Elevated Parking Structure (as such terms are defined in Section 83 hereof) which are or are to be located in or on the premises)".

15. Schedule E attached hereto shall be deemed to replace Schedule E attached to the Lease and from and after the effective date hereof shall be deemed to be and become a part of the Lease.

16. As hereby amended, all of the terms, covenants, provisions, conditions and agreements of the Lease shall be and remain in full force and effect.

17. The Lessee represents and warrants that no broker has been concerned in the negotiation of this Supplemental Agreement or the extension hereunder and that there is no broker who is or may be entitled to be paid a commission in connection therewith. The Lessee shall indemnify and save harmless the Port Authority of and from any and all claims for commission or brokerage made by any and all persons, firms or corporations whatsoever for services in connection with the negotiation and execution of this Supplemental Agreement or the extension hereunder.

18. No Commissioner, director, officer, agent or employee of any party to this Supplemental Agreement shall be charged personally or held contractually liable by or to any other party under any term or provision of this Supplemental Agreement or of any supplement, modification or amendment to the Lease or because of its or their execution or attempted execution or because of any breach or alleged or attempted breach thereof.

19. This Supplemental Agreement (consisting of Volume 1 which includes Paragraphs 1 through 19 and Exhibits A, B, C, D, E, F, G, H, I, J, K, L [Book 1 of 3], M and S, and Attachment A and Schedule E; Volume 2 which consists of Book 2 of Exhibit L; and Volume 3 which consists of Book 3 of Exhibit L) and the Lease which it amends constitute the entire agreement between the

Port Authority and the Lessee on the subject matter, and may not be changed, modified, discharged or extended except by instrument in writing duly executed on behalf of both the Port Authority an the Lessee. The Lessee and the Port Authority agree that no representations or warranties shall be binding upon the other unless expressed in writing in the Lease or in this Supplemental Agreement.

IN WITNESS WHEREOF, the Port Authority and the Lessee have executed these presents as of the date first above written.

ATTEST:

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

_____
Secretary

By_____

(Title)_____

Seal

ATTEST:

BRITISH AIRWAYS, Plc.

_____
Secretary

By_____

(Title)_____President

(Corporate Seal)

SCHEDULE E

AFFIRMATIVE ACTION-EQUAL OPPORTUNITY---MINORITY BUSINESS ENTERPRISES ---WOMEN-OWNED BUSINESS ENTERPRISES REQUIREMENTS

Part I. Affirmative Action Guidelines - Equal Employment Opportunity

I. As a matter of policy the Port Authority hereby requires the Lessee and the Lessee shall require the Contractor, as hereinafter defined, to comply with the provisions set forth hereinafter in this Schedule E and in Section 83 (e) (18) of Port Authority Agreement No. AYB-876 (herein called the "Lease") with BRITISH AIRWAYS, Plc. (herein and in the Lease called the "Lessee"). The provisions set forth in this Part I are similar to the conditions for bidding on federal government contract adopted by the Office of Federal Contract Compliance and effective May 8, 1978.

The Lessee as well as each bidder, contractor and subcontractor of the Lessee and each subcontractor of a contractor at any tier of construction (herein collectively referred to as "the Contractor") must fully comply with the following conditions set forth herein as to each construction trade to be used on the construction work or any portion thereof (said conditions being herein called "Bid Conditions"). The Lessee hereby commits itself to the goals for minority and female utilization set forth below and all other requirements, terms and conditions of the Bid Conditions. The Lessee shall likewise require the Contractor to commit itself to the said goals for minority and female utilization set forth below and all other requirements, terms and conditions of the Bid Conditions by submitting a properly signed bid.

II. The Lessee and the Contractor shall each appoint an executive of its company to assume the responsibility for the implementation of the requirements, terms and conditions of the following Bid Conditions:

(a) The goals for minority and female participation expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work are as follows:

(1)	Minority participation	
	Minority, except laborers	30%
	Minority, laborers	40%
(2)	Female participation	
	Female, except laborers	6.9%
	Female, laborers	6.9%

These goals are applicable to all the Contractor's construction work performed in and for the premises.

The Contractor's specific affirmative action obligations required herein of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make good faith efforts to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract. Compliance with the goals will be measured against the total work hours performed.

(b) The Contractor shall provide written notification to the Lessee and the Lessee shall provide written notification to the Manager of the Office of Business and Job Opportunity of the Port Authority within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

(c) As used in these specifications:

(1) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941:

(2) "Minority" includes:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

(ii) Hispanic (all persons of Mexican, Puerto Rican, Dominican, Cuban, Central or South American culture or origin, regardless of race);

(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(d) Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the construction work involving any construction trade, it shall physically include in each

subcontract in excess of $10,000 those provisions which include the applicable goals for minority and female participation.

(e) The Contractor shall implement the specific affirmative action standards provided in subparagraphs (1) through (16) of Paragraph (h) hereof. The goals set forth above are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the premises. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

(f) Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations hereunder.

(g) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(h) The Contractor shall take specific affirmative actions to ensure equal employment opportunity ("EEO").

The evaluation of the Contractor's compliance with these provisions shall be based upon its good faith efforts to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

(1) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each Phase of the construction project. The Contractor, shall specifically ensure that all foremen, superintendents, and other supervisory personnel at the premises are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at the premises.

(2) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Maintain a current file of the names, addresses and telephone number of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

(4) Provide immediate written notification to the Lessee when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and training programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under subparagraph (2) above.

(6) Disseminate the Contractor's EEO Policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the Contractor's newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the Contractor's EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

(7) Review, at least every six months the Contractor's EEO policy and affirmative action obligations hereunder with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decision including specific review of these items with on-premises supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at the premises. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

(9) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations and to State-certified minority referral agencies serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the premises and in areas of a Contractor's workforce.

(11) Tests and other selecting requirements shall comply with 41 CFR Part 60-3.

(12) Conduct, at least every six months, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

(13) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations hereunder are being carried out.

(14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

(15) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least every six months, of all supervisors' adherence to and performance under the Contractors' EEO policies and affirmative action obligations.

(i) Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (subparagraphs (1)-(16) of Paragraph (h) above). The efforts of a contractor association, joint contractor-union, contractor-community, or

other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under Paragraph (h) hereof provided that: the Contractor actively participates in the group, makes good faith efforts to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes good faith efforts to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's non-compliance.

(j) A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation hereof if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation hereof if a specific minority group of women is underutilized).

(k) The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.

(l) The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

(m) The Contractor shall carry out such sanctions and penalties for violation of this clause including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered by the Lessee. Any Contractor who fails to carry out such sanctions and penalties shall be in violation hereof.

(n) The Contractor, in fulfilling its obligations hereunder shall implement specific affirmative actions steps, at lease as extensive as those standards prescribed in paragraph (h) hereof so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of these provisions, the Lessee shall proceed accordingly.

(o) The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanical apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work is performed. Records shall be

maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

(p) Nothing herein provided shall be construed as a limitation upon the application of any laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

(q) Without limiting any other obligation, term or provision under the Lease, the Contractor shall cooperate with all federal, state or local agencies established for the purpose of implementing affirmative action compliance programs and shall comply with all procedures and guidelines established or which may be established by the Port Authority.

PART II. MINORITY BUSINESS ENTERPRISES/WOMEN-OWNED BUSINESS ENTERPRISES

As a matter of policy the Port Authority requires the Lessee and the Lessee shall itself and shall require the general contractor or other construction supervisor and each of the Lessee's contractors to use every good faith effort to provide for meaningful participation by Minority Business Enterprises (MBEs) and Women-owned Business Enterprises (WBEs) in the construction work pursuant to the provisions of this Schedule E. For purposes hereof, "Minority Business Enterprise" "(MBE)" shall mean any business enterprise which is at least fifty-one percentum owned by, or in the case of a publicly owned business, at least fifty-one percentum of the stock of which is owned by citizens or permanent resident aliens who are minorities and such ownership is real, substantial and continuing. For the purposes hereof, "Women-owned Business Enterprise" "(WBE)" shall mean any business enterprise which is at least fifty-one percentum owned by, or in the case of a publicly owned business, at least fifty-one percentum of the stock of which is owned by women and such ownership is real, substantial and continuing. A minority shall be as defined in paragraph II(c) of Part I of this Schedule E. "Meaningful participation" shall mean that at least seventeen percent (17%) of the total dollar value of the construction contracts (including subcontracts) covering the construction work are for the participation of Minority Business Enterprises and Women-owned Business Enterprises, of which at least twelve percent (12%) are for the participation of Minority Business Enterprises. Good faith efforts to include meaningful participation by MBEs and WBEs shall include at least the following:

(a) Dividing the work to be subcontracted into smaller portions where feasible.

(b) Actively and affirmatively soliciting bids for subcontracts from MBEs and WBEs, including circulation of solicitations to minority and female contractor associations. The Contractor shall maintain records detailing the efforts made to provide for meaningful MBE and WBE participation in the work, including the names and addresses of all MBEs and WBEs contacted and,

if any such MBE or WBE is not selected as a joint venturer or subcontractor, the reason for such decision.

(c) Making plans and specifications for prospective construction work available to MBEs and WBEs in sufficient time for review.

(d) Utilizing the list of eligible MBEs and WBEs maintained by the Port Authority or seeking minorities and women from other sources for the purpose of soliciting bids for subcontractors.

(e) Encouraging the formation of joint ventures, partnerships or other similar arrangements among subcontractors, where appropriate, to insure that the Lessee and Contractor will meet their obligations hereunder.

(f) Insuring that provision is made to provide progress payments to MBEs and WBEs on a timely basis.

(g) Not requiring bonds from and/or providing bonds and insurance for MBEs and WBEs, where appropriate.

Certification of MBEs and WBEs hereunder shall be made by the Office of Business and Job Opportunity of the Port Authority. If the Contractor wishes to utilize a firm not already certified by the Port Authority, it shall submit to the Port Authority a written request for a determination that the proposed firm is eligible for certification. This shall be done by completing and forwarding such form as may be then required by the Port Authority. All such requests shall be in writing addressed to the Office of Business and Job Opportunity, the Port Authority of New York and New Jersey, One World Trade Center, 63 East, New York, New York 10048 or such other address as the Port Authority may specify by notice to the Lessee. Certification shall be effective only if made in writing the Director in charge of the Office of Business and Job Opportunity of the Port Authority. The determination of the Port Authority shall be final and binding.

The Port Authority has compiled a list of the firms that the Port Authority has determined satisfy the criteria for MBE and WBE certification. This list may be supplemented and revised from time to time by the Port Authority. Such list shall be made available to the Contractor upon request. The Port Authority makes no representation as the financial responsibility or such, firms, their technical competence to perform, or any other performance-related qualifications.

Only MBE's and WBE's certified by the Port Authority will count toward the MBE and WBE goals.

Please note that only sixty percent (60%) of expenditures to MBE or WBE suppliers will count towards meeting the MBE and WBE goals. However, expenditures to MBE or WBE

manufacturer's (i.e. suppliers that produce goods from raw materials or substantially alter them before resale) are counted dollar for dollar.

_____
For the Port Authority

Initialled:

_____
For the Lessee

ATTACHMENT A

PORT AUTHORITY OF NEW YORK AND NEW JERSEY
TECHNICAL DESIGN CRITERIA AND ASSUMPTIONS
FOR JFK ROADWAY CONTRACT PACKAGE #5

Rev. April 2, 1998

1.0 ROADWAY DESIGN

1.0.1 Codes, Standards, and References

1.0.1.1 Traffic

The codes, specifications and guidelines (latest editions) will be used but not be limited to the following:

- Transportation Research Board Highway Capacity Manual
- USDOT Manual on Uniform Traffic Control Devices.
- Airport Signing Standard Manual
- All criteria for pavement marking, signals, concrete barrier, lane closures and signs in conformance with Port Authority "Traffic Design Standards" unless otherwise noted.

1.0.1.2 Civil

The codes, specifications and guidelines (latest editions) of the following will be used:

- AASHTO Policy on Geometric Design of Highway and Streets (1990)
- USDOT Manual on Uniform Traffic Control Devices.
- All criteria for storm drainage, sanitary sewer, and water distribution will conform the Port Authority "Civil Design Standards" unless otherwise noted.
- The water distribution system is designed to meet or exceed the New York City and National Fire Prevention Association guidelines.

1.0.1.3 Structural

- Standard Specifications for Highway Bridges, adopted by the AASHTO, 15th Edition, 1992, with interim specifications up to and including 1993 and 1994.
- Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals, adopted by the AASHTO, 1985 Edition updated to 1994.
- The AASHTO Guide Specifications for Horizontally Curved Highway Bridges, 1980 Edition updated to 1993.

1.0.1.4 Electrical Codes for Entrance/Exit Plaza Canopies, Booths, and Service Building

- NYC Electrical Code
- National Electric Code

1.0.1.5 Geotechnical

Data and results of previous studies to be found in a report entitled "JFK 2000 - Geotechnical Study and Evaluation of Foundation Design Concepts", dated September 1987.

1.0.2 **Design Criteria and Assumptions:**

1.0.2.1 Traffic

1.0.2.1.1 Planning Horizon

Design Year 2015 - 45 Million Annual Air Passengers (MAAP)

Traffic generation inputs are based on the 1988 JFKIA Central Terminal Area Air Passenger Vehicle History and Forecast (revised January 1990), on the Year 2000 Travel Demand (revised final report October, 1989), and on the updated Year 2015 JFK Redevelopment Planning Parameters (June 9, 1994 draft final report).

The passenger projections updated by the Port Authority in 1993 determined that the average annual growth rate is 2.5% at JFK for the period of 1994 - 2003. This is lower than the earlier projection of 3% annual growth rate for the airport in the Year 2000. Due to various factors related to the aviation industry and more recent data available, the revised JFK Planning Parameters for the Year 2015 resulted in a lower growth rate of 2.3 %. Consequently, the planning horizon of 45 million annual passengers activity level projected by Year 2000 would be reached in the Year 2015.

Distribution of total air passengers among the unit terminals is based on available information for Year 1992 and the effects of the Terminal One reconstruction by TOGA, the IAB renovation beginning in 1997, and the relocation of Tower Air Terminal flights into the new IAB. Growth factors for each unit terminal were developed by comparing actual 1992 and projected 2015 volumes.

August Peak Month - 5.1 million air passengers
Design day - 167,500 air passengers
Orange Quadrant - 14.85 million air passengers

Terminals 5 and 6- (TWA)	9.99 MAAP
Terminal 7 - (BA)	4.86 MAAP

1.0.2.1.2 Peak Hour Demand

1.0.2.1.2.1

Orange Quadrant Unit Terminal Peak Hour Passengers:

	Arrivals	Departures
Terminal 5 (TWA)	1814	1950
Terminal 6 (TWA)	3079	2241
Terminal 7- (BA)	1874	1457

These volumes were based on the actual passenger peak hour volumes obtained in 1992 and the growth factors applied to them. The following were assumed in this methodology:

- Increase in passenger peak hour volumes is linearly proportional to the increase in annual volume.
- Growth rate can be applied throughout the entire day, including the peak period.
- Airside operations at JFK can accommodate this growth.

The actual 1992 passenger peak hour volumes represent the peak hour of the average day of the peak month or the tenth highest hour. This corresponds to the peak hour developed on Sunday, August 23, 1992. The departure passenger peak hour occurred from 2:30 PM to 3:30 PM and the arrivals peak hour occurred from 4:00 PM to 5:00 PM.

The new projected peak hour volumes for Terminals 5 and 6 (TWA) are similar to the earlier Year 2000 projections. The volumes for Terminal 7 (British Airways) are considerably higher compared to the original

forecast. This is attributed to the higher baseline condition for this terminal which experienced approximately 20% growth in the Year 1992 - 1993. This high growth rate is not predicted to continue, nevertheless, a higher projected annual volume than the Year 2000 Travel Design Parameters is marked.

1.0.2.1.3 Design Elements

Roadway Functional Requirements:

Level of service for all elements of the Orange Quadrant (previously Area 4) roadway system (roadways, signalized and unsignalized intersections, pedestrian crosswalks and walkways) shall be equal to or better than Level of Service "C" as defined in the Transportation Research Board 1994 Highway Capacity Manual. Weaving sections shall also operate at level of service "C". Level of service "C" capacity levels (mixed vehicle per hour per lane) for various roadways are described in Exhibit A.

1.0.2.1.4 Planning Parameters

The design of the roadway system will not include provisions for a separate quadrant. The Terminals 5, 6, and 7 will be served as the Orange Quadrant without variation.

The roadway system is to be designed to include the following:

- Inter-area roadway connections at the arrivals level.
- All on-airport HOVs including buses to long term parking/other terminals, courtesy vans, short haul taxis and limos shall have full access to the Orange Quadrant and use the dedicated HOV frontage.
- All mass transit buses (NYCTA) and employee buses will access the Orange Quadrant from either the Blue Quadrant (previously Area 2) or the expressways. These buses must have a dedicated curb area.
- The underpass between the parking lots of the Blue and Orange Quadrants is to be maintained in service at all times.
- Access to the Central Taxi Hold located off JFK Expressway.
- Inter-terminal pedestrian movements are to be maintained in the new scheme.

- Private Auto - Primary Movement Decision Sequence: Entering CTA via Van Wyck or JFK Expwy

- Area Decision
- Terminal Frontage/parking decision
- Specific Unit Terminal decisions

Leaving Unit Terminals
- Airport Exit - Van Wyck/JFK Expwy
- Return to Terminals
- To area parking
- To long term parking
- Rental car returns
- To other terminals

Leaving Area Parking Lots
- Airport Exit - Van Wyck/JFK Expwy
- Return to Terminals.
- Return to area parking
- To long term parking
- Rental car returns

Inter-Area Movements
- Via JFK or Van Wyck Expwy and their Recirculation loops
- Taxi - Primary Movement Decision Sequence:

Drop-off air passengers at Unit Terminals and exit airport -
- Same movement as for private automobiles

Drop-off air passengers at Unit Terminals and proceed to Central Taxi Hold -
- Inbound movement same as for private automobiles
- Access to Central Taxi Hold from CTA provided from outbound JFK Expwy and Recirculation Loop

Inbound empty taxis to Central Terminal Area -
- Inbound empty taxis on JFK Expwy will be diverted directly to Central Taxi Hold
- Inbound empty taxis on Van Wyck will be diverted to JFK Expwy and Central Taxi Hold
- Short haul taxi decision sequence:
- Via area roadways and JFK/Van Wyck Expwy Recirculation Loops

Courtesy Vehicles - Decision Sequence -
- All passenger pick-up and drop-off activity will be at designated stops along the HOV frontage.

Courtesy vehicles - Service Type -

- Bus to Long Term Parking/NYCTA Subway - schedule
- Airline Connection - schedule
- Rental Car Courtesy Van/Bus - schedule
- Hotel Courtesy Van - schedule
- NY Helicopter Van - demand only

Local Bus - Decision Sequence -
- All passenger pick-up and drop-off activity will be at designated stops along the HOV frontage.

Local Bus - Service Type -
- Q10 Greenline Bus to Queens - schedule
- Q3 NYCTA Bus to Queens - schedule
- B15 NYCTA Bus to Brooklyn - schedule
- Airport Employee Bus - schedule

Commercial Bus, Ground Transportation Permittees - Decision Sequence -
- All passenger pick-up and drop-off activity will be at designated stops along the HOV frontage

Vehicles - Service Type:
- Carey Bus (Manhattan)-schedule
- Carey Bus (LaGuardia)-schedule
- Carey Bus (Brooklyn)-schedule
- Carey Bus (Jamaica Station)-schedule
- Flight Catcher-schedule
- Connecticut Limousine-schedule
- Transport Classic-schedule
- Trans-Bridge-schedule
- Westchester Express-schedule
- Princeton Airporter-schedule
- Salem Transport-schedule
- Grayline Air shuttle-schedule
- Giraldo Limousine-schedule
- Classic Airport Share Ride-schedule
- Others-demand
- Charter Bus Activity - is assumed to be along the HOV frontage

1.0.2.1.5 Passengers Classification and Transfers

Distribution of passengers between terminating, interlining and intralining at each unit terminal is as follows:

Terminals 5 and 6 (TWA):

Arriving passengers:	
Peak hour terminating passengers	40%
Peak hour interlining terminating passengers	20%
Peak hour intralining terminating passengers	40%
Departing passengers:	
Peak hour originating passengers	40%
Peak hour interlining originating passengers	20%
Peak hour intralining originating passengers	40%

Terminal 7 (BA):

Arriving passengers:	
Peak hour terminating passengers	80%
Peak hour interlining terminating passengers	10%
Peak hour intralining terminating passengers	10%
Departing passengers:	
Peak hour originating passengers	80%
Peak hour interlining originating passengers	10%
Peak hour intralining originating passengers	10%

Modal distribution of peak hour terminating and originating passengers is as follows:

LOV: (74%)

Auto:	37%
Taxi:	18%
For-Hire:	14%
Rental Car:	3%
Long Term Park:	2%

HOV: (26%)

Limousines:	12%
Bus/Van:	8%
Mass Transit:	4%
Courtesy cars:	2%

Modal distribution of peak hour interlining passengers is as follows:

Total LOV (taxi only) 7%
Total HOV 93% (81% bus/van and 12% limo)

Meeters / Greeters:
Meeters and greeters are included in determining frontage requirements. No. of greeters = 70% of terminating passengers using autos + 10% of terminating passengers using HOVs, rental cars and long term parking.

No of meeters = 70% of originating passengers using autos + 10% of originating passengers using HOVs, rental cars and long term parking.

1.0.2.1.6 Frontages

The following is to be used in the frontage design:

- Weather protected passenger pick-up and drop-off areas along the arrival, HOV, and departure curbs.
- Minimum platform width = 20 feet
- Minimum frontage roadways requirement is to provide two 10 feet wide parking/maneuvering lanes and two 12 feet wide lanes for bypass traffic.
- Frontages will be provided for LOVs, HOVs, and taxis with right-door loading.
- Minimum overhead roadway clearance = 14'-6"
- All frontages should be at level grade.
- All inter-terminal transfer passengers go directly to frontage and use HOVs and LOVs in the proportion stated previously.
- Intra-terminal passengers do not use frontage.
- Poisson distribution is assumed for the peak hour vehicles arrival rate. It is a random distribution taking into account the peaking characteristics occurring within the hour. Frontage requirement thus calculated reflects a 90% probability for each vehicle to find an empty space.
- The frontage requirement calculated above will be reduced by 30% for level of service C criteria. It assumes that 30% of the traffic will park in the second parking lane provided along the curb.

- There is no inter-area HOV access to the Departures Roadway. Except single terminal HOVs, all departure HOVs are assigned to the HOV Frontage and therefore, included in the HOV frontage requirement.

- Taxis picking up passengers will be provided with separate frontage and taxi feed line.

- Frontage assigned to the LOVs will be shared as a common frontage by all types of LOVs. "Common" frontage analysis will be used to determine LOV frontage requirement.

- Different types of HOVs will have their own processing area. "Segmented" frontage analysis will be used to determine HOV frontage requirement.

- No HOV holding area will be provided at the site.

- HOV projection is based on demand and not "schedule oriented".

- Frontage analysis for Terminals 5, 6, and 7 is described in Exhibits B, C, and D respectively.

ROADWAY CRITERIA

CATEGORY			ACCESS	CENTRAL TERMINAL AREA		
ITEM	EXPRESS ROAD SYSTEM	COLL_ DIST_ ROAD SYSTEM	AREA ROAD SYSTEM			
Design Speed (MPH)	50	40	30	25	20	15
Minimum Radius (FT)	720	510	230	150	90	50
Maximum Super	0.06	0.06	0.06	0.04	0.04	0.04
Stopping Sight Distance (FT)	400-475	275-325	200	150	125	N/R
Maximum Grade	5%	6%	6%	6%	6%	6%
Speed Change Lanes	Yes	No	No	No	No	No
Reserve Area for Crash cushion Barrier	Yes	Yes	Yes	No	No	No
Roadway Widths	Widths shall be based on the most recent AASHTO policy for design condition B. Widths of tangent sections on structure of 20; 29; and 42' and 54' for 1, 2, 3 and 4 lanes.					
Bridge Rail	In accordance with AASHTO standards					
Roadside Objects	Objects must be located behind or atop the bridge rail so that the rail has a smooth surface that will not snag errant vehicles. On grade proper protection or sufficient clearance must be provided					
Sidewalks	None will be provided along the roadways in most cases. Pedestrian requirements for interterminal movements and parking movements will be determined separately.					
Shoulders	On Structure - None will be provided. On Grade - Asphalt block paver shoulders behind mountable curb where possible					

Clearances	Public parking under deck- 11'-0" minimum w/o utilities, 13'-6" w/utilities. Other - 14'-6" minimum bridge clearance Overhead Sign Structure 15'-6" minimum Overhead Traffic Signal 15'-6" minimum/17'-6" maximum.* * Based on Manual of Uniform Traffic Control Devices.

1.0.2.2 Civil

1.0.2.2.1 Roadway Ramp Designation

Ramps shall be designated such that the origin and the destination of that roadway are given in order.

Design Speed-- 30 MPH Desirable

The central radius of a ramp and maximum superelevation (0.04) shall be used for design speed control

CENTRAL RAMP RADIUS IN FEET	RECOMMENDATION DESIGN SPEED IN MPH
90	20
150	25
230	30

Horizontal Alignment

Desirable Minimum Radius 230 ft.

The minimum length of tangent between reverse curves is controlled by the superelevation runoff.

Ramp width vary with the horizontal radii and are as follows:

RADIUS AT LANE EDGE OF INSIDE CURVE	LANE WIDTH FOR ONE LANE RAMP	LANE WIDTH FOR TWO LANE RAMP
90'	23'	33'
150'	22'	32'
200'	22'	31'
250'	22'	31'
300'	21'	30'
400'	21'	30'
500'	21'	30'
600' or more	20'	29'

If any obstruction is encountered, sight distance shall control. In the area of horizontal transition curves, it is intended that smooth lane width transitions, controlled by the central radius, be used. Changes in pavement width shall utilize a taper rate of 1:15 or $\frac{W \times V}{60}$

1.0.2.2.2 Acceleration/Deceleration

For typical acceleration and deceleration lane treatment, see the following tables and consult with the Traffic Engineer.

Acceleration Lane (AASHTO) page 986

Deceleration Lane (AASHTO) page 991

1.0.2.2.3 Vertical Clearance

Minimum clearance between profiles is based on 14'-6" roadway clearance plus the depth of structure.

1.0.2.2.4 Vertical Alignment

Grades:
a) Maximum upgrade 6.0 percent
b) Desirable maximum upgrade 5.0 percent
c) Maximum downgrade 6.0 percent
d) Absolute minimum grade 0.5 percent

1.0.2.2.5 Vertical Curves

Minimum length determined by: L = A x K
Where: L, A, and K are defined in the "Collector Distribution Road System-Vertical Alignment", with minimum K values as follows:

DESIGN SPEED		STOPPING SIGHT	DESIRABLE		ABSOLUTE MIN.	
MPH	FPS	DISTANCE (ft)	CREST K	SAG K	CREST K	SAG K*
10	17	50	10	10	8	
15	22	75	10	10	8	
20	29	125	10	20	8.6	
25	37	150	20	30	14.4	
30	44	200	30	40	23.7	

* Because all roadways will be lighted, minimum sag curves may be based on riding comfort.

1.0.2.2.6 Superelevation

Maximum 4 percent.

The rate of change of the cross slope is not to exceed 2 percent per distance traveled in one second at the design speed.

Change in cross slope between adjacent lanes not to exceed 4 percent

Ramp superelevation shall be controlled by the central curve of the ramp. Full superelevation as indicated by the central radius of a ramp shall not be attained before that radius is reached. A smooth superelevation transition shall be provided over the length of the corresponding horizontal transition. By the use of the proper superelevation, it is intended that the driver be discouraged from "over-driving" the ramp.

Where there are no transition curves adjacent to the central radius, the approximately two-third of the transition length is to set on the approach tangent with the remaining one-third within the central curve.

Current AASHTO tables relating design speed and horizontal curvature of the central curve for a maximum superelevation of 4 percent shall be used a minimum criteria.

1.0.2.2.7 Superelevation

Recirculation Roads and Frontage Roads.

The central radius for a ramp shall be: 125 ft Absolute minimum 50 feet.

Central Angle Radius (Feet)	Recommended design Speed (MPF)
50	10
75	15
125	20

Desirable Minimum Radius

Pavement widths:

Radius	1 Lane	2 Lanes
50'	26'	38'
75'	24'	35'
125'	23'	32'

1.0.2.3 Architectural Design Criteria for Elevated Roadways and Retaining Walls

Elevated roadways shall be consistent with the JFK Redevelopment Program Standards established by the Roadway Packages.

Major Materials:

Painted Steel Railings (color to match Benjamin Moore Light Gray 1594).

Concrete Parapet (match existing profile).

Exposed recessed painted steel superstructure (color to match Benjamin Moore Dark Gray 1631).

Round concrete columns encased.

Drainage piping to be within the concrete columns.

1.0.2.4 Structural Design Criteria

1.0.2.4.1 Structural Loads for Elevated Roadways

Dead Load includes a 30 psf future Wearing Surface overlay.
Live Load: HS20-44
Seismic Load: Seismic Performance Category B.
Acceleration Coefficient A= 0.19
All other loads as per AASHTO Specifications.

1.0.2.4.1.1 Reinforced Concrete Design:

Materials:

- Reinforcing Steel shall be ASTM A615 Grade 60.
- Concrete shall be class 'B', f'c = 4000 psi except for footings and pile caps, which shall be class 'D', f'c = 3000 psi.

1.0.2.4.1.2 Structural Steel Design:

Materials:

- Unless otherwise specified, all structural steel shall be AASHTO M270 Grade 50 (ASTM A709 Grade 50).

- Structural Tubing shall be ASTM A500 Grade B.

1.0.2.4.1.4 Foundations:

Bridge Piers, Abutments and Retaining Walls shall be supported on monotube piles as per section 8.1.2.6.3.1. Retaining walls 6' high and below shall be supported on spread footings.

Light Structures: - Use 30 Ton Timber Piles

Pile Capacities:

Compression:	30 Tons
Tension:	5 Tons
Lateral Capacity:	1 Ton

Where spread footing is used, the allowable bearing pressure shall be recommended by the Geotechnical Engineering Department.

1.0.2.5 Electrical Design Criteria

100 ft. high rigid steel mast floodlight poles (see "Parking Lots") will be used for lighting of the on-grade roadways in the vicinity of the parking lots.

30 ft. high aluminum lighting poles with 5' arms will be used for on-grade roadway lighting out of the CTA. The pole spacing will be approximately 100 ft. and an average lighting level of 2 F.C will be maintained for all roadways. Cutoff (no uplight component) outdoor 250W high pressure sodium lighting fixtures with high power factor ballasts will be mounted beneath overpasses to provide lighting for on-grade roads under structures.

Roadways adjacent to terminal and canopies will be illuminated by outdoor high pressure sodium lighting fixtures with high power factor ballasts mounted on these structures.

Lighting for elevated roads will be provided by 30 ft. high aluminum lighting poles.

One 250W high pressure sodium cutoff outdoor lighting fixture with high power factor ballast will be utilized.

The pole spacing will be approximately 100 ft.

An average level of 2 FC will be maintained.

Elevated roads, power, and communication cables will be installed within rigid galvanized steel conduits mounted on roadway structures.

1.0.2.6 Geotechnical Design Criteria and Assumptions

Liquefaction analyses are to be performed for all significant structures.

Details of methods proposed to perform liquefaction analysis and incorporation of the results into foundation designs are to be submitted to Port Authority Geotechnical Unit.

A boring program is to be performed that conforms with Port Authority standards, including using safety hammer during split spoon sampling. PDA measurement is to be performed on selected borings to confirm applied energy from safety hammer.

The boring program is to be carried out utilizing hand auguring to a depth of seven feet to minimize potential risk of impacting utilities. Borings may subsequently be advanced twelve inches from the auger hole. Jetting of soil shall not be permitted.

Boring logs and cone penetration test data is to be transmitted to the Port Authority, Geotechnical Group on a daily basis to permit review of results.

1.0.2.6.1 Embankments:

Geotechnical inputs to design embankments will be based on the following investigations, studies and analyses:

Detailed evaluation of subsurface soils will be based on site investigations planned for this project. Existing subsurface data, along with additional borings to be carried out as required, will be used in foundation design of the structures.

Laboratory testing of soil samples will be performed to confirm representative engineering properties for design.

Preliminary investigations and cost comparisons of alternative methods of embankment construction should be performed with the objective of minimizing the overall length of the planned elevated roadway structure. Methods of construction will include the following:

Lightweight fill
Pile supported embankment
Preloading and surcharging

Criteria for embankment design is based on post construction differential settlement between pile supported abutment and approach embankment not exceeding 3.5 inches over a 10 year period..

Surcharging by fill or lightweight fill is to be used to minimize differential settlement if above value is exceeded. Waiting period of 3 months may be imposed between completion of embankment construction and start of paving.

1.0.2.6.2 Foundations

All piers, abutments, wingwalls and portions of retaining walls in excess of a height of six (6) feet shall be supported on piles: Retaining walls less than six (6) feet in height and other minor structures may be supported on spread footings.

1.0.2.6.2.1 Pile Types

A major comprehensive pile test program was completed in the CTA area covering a wide variety of acceptable pile types. In addition a pile test program was conducted in conjunction with the foundation contract for the Air Traffic Control Tower. Results of the load test programs were evaluated in order to recommend the optimum pile types to support the elevated roadway structures, abutments and retaining walls. Details are included in the "Pile Load Test Report dated June 1989."

1.0.2.6.3 Roadways

1.0.2.6.3.1 Elevated Structures

Provisions of AASHTO including seismic design and liquefaction analyses will be performed for elevated roadway structures including piers, abutments, wingwalls, retaining walls and embankments. Piers for elevated roadway structures outside terminal will be supported by Monotube piles (3NJ8X14) as indicated in Table B. Vertical and batter piles will be used to minimize impact of liquefaction.

TABLE B

Vertical	Uplift
100 tons	30 tons

Batter piles will be provided to resist lateral forces. The pile batter shall not exceed 1 (horizontal) to 4 (vertical)

Abutments wingwalls and retaining walls will be supported by Monotube piles (5NJ8X14)

Bearing capacity	65 tons
Length	50 feet

Monotube piles used to support abutments, wingwalls and retaining walls will be designed for the following downdrag values:
Vertical Piles 11 tons
Batter Piles
Inner Row 3 tons
Outer Row negligible

Soil parameters and seismic response coefficients for determination of earth pressures on bridge abutments and wingwalls and retaining wall will be as follows:

Unit weight of backfill: 120 pcf
Angle of internal friction of backfill material: 30°
Coefficient of active earth pressure: 0.33
Coefficient of passive earth pressure: 3.00
Friction coefficient between concrete footing and sand (fill) : 0.40

Structural design of permanent walls will be carried out using a coefficient of at rest pressure of 0.50.

1.0.2.6.3.2 Bridge Abutments

Surcharging period will be required before start of paving of approach embankments to bridge abutments. Structural approach slab supported at the abutment will be provided at each bridge location.

1.0.6.2.4 *Miscellaneous Structures*

The following structures will be supported on spread footing type foundations: Light poles, Toll plaza structures, Lighting vaults, Ground mounted signs. For temporary loading conditions, the allowable bearing pressure at the edge of the footing may be increased by 33%.

The allowable bearing pressure for spread footing type foundations will be determined as needed.

1.0.6.2.5 Settlement Monitoring

A settlement monitoring program will be employed during construction to assess the performance of the surcharging and filling and to verify the schedule for surcharge removal. Instrumentation for the program may consist of: Settlement plates to be monitored by optical survey.
Settlement markers to be installed on top of retaining walls that are not pile supported. Piezometers, to measure pore pressure dissipation.

1.0.6.2.5 Dewatering

Dewatering criteria will be developed to accommodate pile cap, utility and depressed roadway construction. British Airways will be included under the existing Port Authority General Dewatering Permit, issued by the

NYSDEC (DEC Permit Number 2-638-00019/00005-0), and is for withdrawals of groundwater from the roadway construction area. Under the Port Authority allocations, British Airways may withdraw up to 1.25 million gallons of water per day. If British Airways is not in compliance with the requirements of the permit, British Airways shall hire a qualified environmental consultant, independent of the construction contractor, to provide liaison with and serve under the direction of the Port Authority, to oversee installation of the dewatering wells by a licensed driller, and to monitor dewatering operations (e.g., provide photo-documentation of affected outfalls and timely notification to the Port Authority when dewatering activities are occurring; maintain all logs and records of activity). British Airways will be responsible for any and all fines associated with deviation from compliance with the requirements of the General Dewatering Permit. The complete terms and requirements for compliance are contained in the Tenant Lease Agreement. All design planning shall be in conformance with the applicable NYSDEC regulatory requirements.

Dewatering criteria will be developed to accommodate pile cap construction for the British Airways Terminal Building and the proposed Garage structure. Maximum flow from the dewatering systems will not exceed permissible limits defined in a separate General Dewatering Permit to be issued to British Airways by NYSDEC.

2.0 PAVEMENT

2.0.1 Design Criteria and Assumptions

2.0.1.1 General

All roadway pavement will be flexible pavement and will be based on H20-S16 loading. The typical sections for different roadways are as follows:

a. Pavement section for Access Expressways, Ramps, Recirculation Roads, and Frontage Access Roads

4" asphalt Concrete Top Course
4" Plant Mix Macadam
6" Dense Graded Aggregate Base Course

b. Pavement section for Parking Lots
2" Asphalt Concrete Top Course
6" Dense Graded Aggregate Base Course

All roadways will have 6" concrete curb (either mountable or non-mountable).

At grade roadway where shoulder is provided, a 5 foot berm will be maintained with a maximum of 2:1 side slope. This also applies for embankment area without retaining walls.

Concrete barriers and box beam guide rail will be used as per the AASHTO Roadside Design Guide. The guiderail shall conform to PA criteria used at the other terminals at JFK Airport.

A 3 foot gutter on both sides will be provided for three or more lane roadway.

The maximum slope for cut and fill for embankment is 2 on 1.

Median treatment- median with between roadways greater than 10 feet shall be topsoiled and seeded. Widths less than 10 feet shall be paved with Asphalt Block Pavers.

A three-foot wide asphalt-block-paver salt splash shall be installed immediately behind curbs in locations where the adjacent area will be landscaped. The salt splash shall be installed for the full length of the landscaped area.

3.0 UTILITIES/ DRAINAGE

3.0.1 Design Criteria and Assumptions

3.0.1.1 General

All existing pipes, electrical conduits, ductbanks, and other structures not capable of being utilized will be removed or plugged and abandoned. All electrical cables are to be pulled before abandoning any conduits or ductbanks.

3.0.1.2 Electrical

All power and communication services external to the buildings will be run inside concrete encased underground duct banks buried at a minimum depth of 30 inches. FRE(Fiber glass reinforced epoxy) and PVC-H conduits will be used for medium voltage and low voltage installations respectively. All conduits for medium voltage duct banks will be 5 inches in diameter. Main runs of low voltage power and communications duct bank conduits will be 4 inches diameter.

Sufficient number of spare conduits (a minimum of 25% or 1 whichever is greater) will be included for all duct banks.

Manhole spacing for power cables will not exceed 500 feet. A minimum separation of 20 feet will be provided between two main 5 KV duct banks.

Medium voltage power cables will be either 500 MCM or 350 MCM. Low voltage power cables will be minimum #10 AWG.

3.0.1.3 Storm Drainage:

The new storm water system is designed following the Port Authority "Civil Utility Standards". A 10- year frequency storm was used for the preliminary pipe sizing. The hydraulic grade line should not exceed the catch basin rim elevation. The new and existing storm trunk lines are connected to relieve the overloaded conditions. A 25-year frequency storm shall be used to design the drainage system for areas below the design groundwater elevation.

3.0.1.3.1 Drainage at Intersection Area

Drainage at large areas of pavements specifically at intersection areas with minimum slopes will be studied carefully to avoid sheet flow conditions and/or puddle situations. Depending on the final grading at those locations, trench drains and/or a series of catch basins may be provided.

3.0.1.3.2 Drainage at Low Points

Because of the high quantities of debris, it is recommended to use two or three inlets at the low point by placing one at the low point and the others on both sides as appropriate.

The roof drainage from the entrance/exit plazas and frontage canopies will be collected.

All pipes are circular reinforced concrete (Class V), unless otherwise noted.

Catch basins are not provided in landscaped areas.

Unless otherwise noted, the existing drainage system will be utilized.

Certain assumptions have been made regarding existing drainage structures (manholes and catch basins) such as modifying or adjusting casting elevations to suit the finished grade.

3.0.1.4 Sanitary Sewer

The sanitary sewer system will include new connections to the service building at the parking lot exit plaza.

3.0.1.5 Water Distribution

The existing low pressure water system is assume to be able to maintain a minimum peak flow pressure of 50 psi throughout the system. During a fire, the system will be able to provide minimum 30 psi of pressure at the fire and minimum 20 psi at all other locations.

New fire hydrants are provided to cover the entire parking lot and the circulation roadways.

The water distribution system will include connections to the service building at the parking lot exit plaza.

4.0 SITE PREPARATION/ DEMOLITION

4.0.1 Civil Design Criteria and Assumptions

Site preparation will include the removal of existing concrete curbs, concrete islands, asphalt or concrete pavements, fences, concrete barriers, guide rail, all cleared and grubbed items, and unsuitable excavated materials.

Utility structures (catch basins and manholes) will be demolished and removed. Sections of pipes (drainage, sanitary or water lines) may be removed or plugged and left in place.

5.0 PARKING LOTS

5.0.1 Codes, Standards, and References

5.0.1.1 Traffic Standard

USDOT Manual on Uniform Traffic Control Devices

5.0.1.2 Architectural Codes

American with Disabilities Act (ADA)

5.0.1.3 Electrical Codes

NYC Electrical Code
National Electric Code

5.0.2 Design Criteria and Assumptions

5.0.2.1 Traffic Design Criteria

The planned Light Rail System (LRS) has not been considered in projecting parking demand.

Limited vehicular egress/ingress points shall be provided to preclude evasion of parking fees. Parking Lot Entrance and Exit plazas shall be provided in all parking lots.

Peak hour potential air passenger parking demand is composed of all originating and terminating passengers who use autos and who may park. This excludes all transfer passengers. It is assumed that 44% of all O/D air passengers are auto users and use parking facilities.
The 1987 peak hour parking space demand will be utilized as the baseline demand as this information is derived from actual revenue and non-revenue parkers and represents the latest available information.

Crash gates are required in all parking lots and an escape ramp is to be provided at all parking entry plazas.

A minimum of five exit lanes are required for the British Airways Terminal parking lot.

5.0.2.2 Electrical Design Criteria

5.0.2.2.1 Parking Lot - Lighting Vault

Electrical power load not exceeding 250KVA @ 480 Volt, 3 phase, will be supplied from the existing lighting vault substation #6. A new lighting

vault, double ended substation will be required if the load exceeds 250 KVA.. The design of a new vault will contain two medium voltage incoming load interrupter switches with ground switches and automatic transfer, two 4330-480 Volt indoor dry type transformers and 480 Volt switchgear. Secondary breakers of the transformers and the tie breaker will have provision for manually selectable (closed or open transition) mode of automatic transfer. The transformers will have provisions for fan cooling, 80 degree C temperature rise and be rated such that each is capable of supplying the entire load of the substation without fans.

The lighting vault will be complete with all necessary 480/277 Volt distribution boards to supply all the types of loads. The loads will consist of parking lot entrance/exit plazas, parking lot high mast light towers, street lights, traffic lights, overhead signs, lighting for walking bridge between East Parking garage and IAB etc. Photocell controlled lighting contactors will be housed within the vault for all outdoor lighting feeders.

5.0.2.2.2 Parking Lot Lighting- High Mast Towers

100 ft., rigid steel high mast floodlight pole, complete with head assembly and lowering device, exactly duplicating those already installed in the other Central terminal Area parking lots, with five (5) 1000W Metal Halide and five (5) 1000W HPS lamps, 277V, high power factor ballast and cutoff fixtures (no uplight component) will be installed as required. An average of 5 F.C. will be maintained throughout the parking area.

Three phase, 480/277 volt power supply feeders from main feeder to lighting high mast pole will be installed in 2 inch concrete encased PVC - H conduit.

High Mast Lighting Tower foundation design criteria is included in "Structural" portion of this criteria.

6.0 PARKING LOT ENTRANCE/EXIT PLAZA CANOPIES, BOOTHS, AND SERVICE BUILDING

6.0.1 Codes, Standards, and References

6.0.1.1 Structural Codes for Plaza Canopies

- Building Officials and Code Administrators (BOCA, latest edition)
- The Building Code of the City of New York (latest edition)
- Standard Specifications for Highway Bridges (AASHTO, latest edition)

6.0.1.2 Electrical Codes for Plaza Canopies, Booths, and Service Building

- NYC Electrical Code
- National Electric Code

6.0.2 Design Criteria and Assumptions

6.0.2.1 General/Traffic Design Criteria

Entrance and exit plaza lane requirements will be finalized based on queuing analysis at entrance and exit plazas.

To maintain level of service "C" at the parking lot plazas, a service rate of 350 vehicles per hour/entrance booth and 100 vehicles per hour/exit booth is required.

Parking Lot Entrance and Exit plazas, canopies, booths and service building shall be consistent with the JFK Redevelopment Program standards established by the Roadway Packages.

6.0.2.2 Architectural Design Criteria

6.0.2.2.1. Plaza Canopies:

Major Materials: Painted Steel Canopy (color to match Benjamin Moore Dark Gray 1631).

All plaza structures shall be consistent with the JFK Redevelopment Program Standards and Design.

6.0.2.2.2. Booths

Major Materials: Stainless Steel, clad with color coded accent painted band. Color coding to be per JFK Redevelopment requirements.

6.0.2.2.3. Service Building

Major Materials: Stainless Steel clad with color coded accent painted band Color coding to be per JFK Redevelopment requirements.

6.0.2.3 Structural

6.0.2.3.1 Loads

6.0.2.3.1.1 Loads for Plaza Canopies

1. Wind Load (AASHTO)

a. Uplift = 20 PSF (applied at the windward quarter point of the transverse superstructure width)
b. Transverse direction = 50 PSF
c. Longitudinal direction = 12 PSF

2. Snow Loads (BOCA)

a. Uniform = 21 PSF
b. Drift effect (where applicable)

3. Temperature Load (AASHTO)

Temperature range = 0 to 120 deg. Fahrenheit (moderate climate)

4. Earthquake (BOCA)

SEISMIC hazard exposure Group I and effective peak velocity related acceleration = 0.15

6.0.2.3.1.2 Loads for Service Building

All loading shall be as per BOCA requirements.

6.0.2.3.2 Materials

Unless otherwise specified, all structural steel shall be ASTM A36. All structural tubing shall be ASTM A500 Grade B.

Concrete shall be Class 'D' f'c = 3 KSI.

Reinforcing steel shall be ASTM A615 Grade 60

Foundations for spread footings: The allowable bearing pressure shall be recommended by the Engineering Department, Geotechnical Design Division.

6.0.2.3.3 Load Combinations

6.0.2.3.3.1 Plaza Canopy Load Combinations

	% Overstress
1. Dead + Snow (Uniform)	100
2. Dead + Wind	125
3. Dead + Wind + Snow (Unbalanced)	133
4. Dead + Snow (Uniform) + Temp	125
5. Dead + Wind + Temp	125
6. Dead + Snow (Unbalanced) + Wind + Temp	145
7. Dead + Seismic	133
8. Dead + Snow (Uniform) + Seismic	140

6.0.2.3.3.2 Service Building Load Combinations

Service Building loading combinations shall be as per BOCA requirements.

6.0.2.3.4 Allowable Deflections

Snow Load = L/240
Wind Load = L/180

6.0.2.4 Mechanical/Plumbing Design Criteria for Plazas, Booths, and Service Building

All booths, and service buildings will be heated and cooled.

Booths will be supplied with a packaged air conditioning unit providing both heating and cooling. supplementary heating will be provided by baseboard heaters.

Service building restroom will be heated and ventilated. An exhaust fan shall be provided for ventilation of the plaza electrical room. Service building restroom will be provided with a water closet, lavatory, hot and cold water. Roof drains and interior leaders will be provided for storm water.

6.0.2.5 Electrical

6.0.2.5.1 Electrical Design Criteria for Service Building

Electrical room in the parking lot entrance/exit plaza service building will house the following equipment: 112.5KVA, 480-208/120V, 3 phase dry type transformer to feed the plazas electrical and electronic equipment.

200 amp, 208/120v, 3 phase, 4W distribution panel.

200A, 480V service entrance circuit breaker.

6.0.2.5.2 Electrical Design Criteria for Plaza

All wiring for plazas will be in rigid steel conduits. An average of 10 F.C. shall be maintained for the length and width of all lanes in each entrance and exit plaza.

6.0.2.5.3 Electronics Design Criteria for Booths

New booths will be designed to support the permanent RCS.

Assumptions:

The front counter will be provided by the RCS contractor

A cutout will be specified in the side wall of the booth for the installation of an exit ticket reader/verifier, for use in the "normal" mode and in "rapid exit" mode.

Space requirements for housing of electronic equipment will be based on the CTA Parking Lot booth design.

6.0.2.5.4 Electronics Design Criteria for Revenue Control System (RCS)

The permanent RCS will be furnished and installed by NYNEX. The lane equipment will be manufactured by Trindel.

The RCS will consist of ticket dispensers, automatic gates, cashier terminals, and other interface equipment necessary to operate in both stand-alone and central control (on-line) modes. RCS equipment will perform all required functions.

6.0.2.5.5 Electrical Design Criteria for Manual Closing Gate

Manual closing gate will be designed and positioned as not to interface with electronic equipment.

6.0.2.5.6 Electrical Design Criteria for Prepaid Only Sign

The prepaid only sign identifies lanes to be used by those who have prepaid parking fees in the RCS System.

7.0 OVERHEAD & GROUND MOUNTED TRAFFIC SIGNS AND TRAFFIC SIGNALS

7.0.1 Codes, Standards, and References

7.0.1.1 Structural Codes

Standard Specifications for Structural Supports for Highway Signs, Luminaries and traffic Signals (AASHTO), latest edition.

Standard Specifications for Highway Bridges (AASHTO), latest edition.

7.0.1.2 Traffic Standards: Motorist Information System

7.0.1.2.1 Static Information Requirement

Regulatory notice messages
Warning messages
Route Guidance messages
Information messages

7.0.1.2.2 Real-Time Motorist Advisory Information

Alternate inbound routes to the terminal
Terminal frontage status
Outbound diversion to Van Wyck or JFK Expressway
Emergency roadway conditions

7.0.1.2.3 Message Display Types

Overhead sign structures
Ground mounted sign structures
Fixed message sign panels
Changeable message sign panels

7.0.1.3 Electrical Codes

NYC Electrical Code
National Electric Code

7.0.2 **Design Criteria and Assumptions**

7.0.2.1 Traffic Design Criteria

All sign structures shall be consistent with the JFK Redevelopment Program Standards.

7.0.2.1 Structural Design Criteria

All sign structures shall be designed as per requirements of "Standard specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals" (AASHTO), latest edition.

All overhead sign structures shall be designed for temperature and seismic requirements as per "Standard Specifications for Highway Bridges" (AASHTO), latest edition.

7.0.2.2 Electrical Design Criteria

7.0.2.2.1 Static Sign

Sign lighting will be provided by installing on sign structure 250W metal halide outdoor sign lighting fixtures. An average illumination of about 30 to 40 foot-candles on the sign panel surface will be provided. Each overhead or ground mounted sign lighting will be automatically controlled by a dusk to dawn photosensor cell installed on each sign.

7.0.2.2.2 Electronics

Variable Message Sign (VMS) System will be provided as follows:

The design of the variable message sign (VMS) system will be based on the master system currently being developed by PA Engineering. All overhead sign structures shall be fully equipped with VMS including wiring and cable connections.

The hardware must be compatible with that of the existing CTA system and with NTCIP (National Transportation Council for ITS Protocol)

7.0.2.3 Traffic: Sign Placement Criteria

650 feet - minimum sign viewing distance for primary message.
450 feet - minimum sign viewing distance for secondary message.
450 feet - minimum separation between overhead sign structures.

250 feet - minimum separation between overhead and ground mount sign structures.
250 feet - minimum separation between ground mount structures when limited to two (2) adjacent locations.
450 feet - minimum separation between ground mount structures in series of more than two (2) adjacent locations.
250 feet - minimum separation between sign structures and traffic signal installations.

7.0.3 TRAFFIC SIGNALS

7.0.3.1 Codes, Standards and References

Traffic Standards

USDOT Manual on Uniform Traffic Control Devices
Port Authority's "Traffic Design Standards"

7.0.3.2 Design Criteria

The signal design including the surveillance system must follow PA standards.

Any modifications or changes to the existing to remain signal system must be coordinated with PA.

All permanent signalized intersections shall be connected and compatible to the existing centralized Traffic Signal System (JFK 2000 System).

All vehicular signal heads used within the CTA shall be 12" in diameter.

Mast arms and pedestal poles shall be generally used as permanent structures for traffic signals. Span wire shall not be acceptable.

All vehicle signal phases shall have a minimum of 1.8 seconds of all red clearance time and 3.0 seconds of yellow time.

All major vehicle phases shall have a minimum green time of 12 seconds.

All minor vehicle phases shall have a minimum green time of 7 seconds.

Pedestrian traffic signals shall use STOP HAND and WALKING PERSON symbols utilizing incandescent illumination. Each symbol shall be a minimum of 12" in height and 7" in width.

Pedestrian push buttons shall be installed at all signalized pedestrian crosswalks.

The design walking speed of pedestrians is 3.5 feet per second.

8.0 FRONTAGE CANOPIES

8.0.1 Codes, Standards, and References

8.0.1.1 Architectural/Graphics

8.0.1.1.1 Architectural

Americans with Disabilities Act (ADA)

8.0.1.1.2 Graphics

The Port Authority of New York and New Jersey Airport Signing and Graphic Standards Manual including Terminal, Curbside, Parking, and Roadway Frontage Standards.
Guidelines for Airport Signing and Graphics Terminals and Land-side, Second Edition, 1994.
Symbol Signs Reproduction Art The American Institute of Graphic Arts
JFK Area 3 Graphics Port Authority Contract JFK 584.002
Manual for Uniform Traffic Control Devices 1995

8.0.1.2 Structural Codes

Building Officials and Code Administrators (BOCA, latest edition)
The Building Code of the City of New York (latest edition)
Standard Specifications for Highway Bridges (AASHTO, latest edition)

8.0.1.3 Electrical Codes

NYC Electrical Code
National Electric Code

8.0.2 Design Criteria and Assumptions

8.0.2.1 Architectural/Graphics

8.0.2.1.1 Canopies

Passengers shall be able to travel to/ from the terminal building and frontage areas under uninterrupted cover.

Frontage canopy shall maintain 14'-6" minimum clearance above any roadways--there shall be a 3'-6" overhang beyond curb edge to provide weather protection for passengers while entering or exiting vehicles.

The design of the canopies and other frontage-related elements shall be architecturally consistent with the JFK Redevelopment Program Standards.

8.0.2.1.1.1 Major canopy materials:

Painted aluminum ceiling panels and nosing

2-ply built-up roof

Precast concrete column covers

Exterior jacketed fluorescent light fixture--surface mounted in to ceiling panel.

Windscreens and shelters major materials:

Precast concrete base.

Stainless steel tube frames and tinted glass panels.

Flip-up seats.

Infrared heating units shall be supplied in bus shelters.

8.0.2.1.2 Frontage sidewalks materials

Scored concrete with exposed aggregate concrete edging shall be used in public pick-up/drop-off areas.

Roadways under canopies shall be concrete, with exposed aggregate concrete edging..

Handicap parking spaces shall be sloped concrete surface with exposed aggregate concrete aisle areas.

8.0.2.1.2 Signage/Graphics

Directional signage, providing for pedestrian orientation, shall be illuminated signs hung from canopy structures and non-illuminated ground mounted signs and parking aisle markers.

Informational signage shall be provided for in the form of illuminated boxes similar to those shown in typical JFK wind screens.

Regulatory signage shall be kept to a minimum. Similar regulatory messages shall be formatted in the same way.

Provide ADA compliant signage as required by Federal law.

The typeface for all signage shall be Helvetica Medium and utilize the Helvetica family of fonts.

Architectural graphics shall have a consistent copy style, with recognizable terminology and utilize universally acceptable DOT symbols.

Message content shall be in language understandable by the general public.

Provide a comprehensive signing and architectural graphics plan, including but not limited to:

- Sign type elevations showing Wayfinding, Informational, and Regulatory Signs following ADA requirements.

- Sign schedule including all sign message text, arrow placement, and symbols.

- Sign location plan keyed to the sign schedule

General construction and fabrication criteria for terminal, frontage, parking signage as follows:

- Materials and construction methods shall match these used in other areas including Porcelain aisle marker enamel on steel and internally illuminated sign boxes.

- Use only the highest quality materials and method of construction.

- Visible public fasteners shall be kept to an absolute minimum and if used shall match adjacent material finish and color.

8.0.2.2 Structural Design Criteria

8.0.2.2.1 Loads

1. Wind Load: AASHTO
   a. Uplift = 20 PSF (applied at the windward quarter point of the transverse superstructure width)
   b. Transverse direction = 50 PSF
   c. Longitudinal direction = 12 PSF

2. Snow Load: BOCA
   a. Uniform = 21 PSF
   b. Drift effect (where applicable)

3. Temperature Load: AASHTO
   Temperature range = 0 to 120 deg. Fahrenheit (moderate climate)

4. Earthquake: BOCA

5.Seismic: Hazard exposure Group I, and effective peak velocity related acceleration, $A_v = 0.15$

8.0.2.2.2 Materials

Steel Fy = 36 KSI.
Concrete f'c = 3 KSI.
Reinforcing Fy = 60 KSI

8.0.2.2.3 Foundations

Piles: 14" Diam. Monotube Pile Capacity:
Compression - 100 Ton
Tension - 30 Ton
Soil Bearing capacity = 3 KSF

8.0.2.2.4 Load Combinations

	% Overstress
1. Dead + Snow (Uniform)	100
2. Dead + Wind	125
3. Dead + Wind + Snow (Unbalanced)	133
4. Dead + Snow (Uniform) + Temp	125
5. Dead + Wind + Temp	125
6. Dead + Snow (Unbalanced) + Wind + Temp	145
7. Dead + Seismic	133
8. Dead + Snow (Uniform) + Seismic	140

8.0.2.2.5 Allowable Deflections

Snow Load = L/240
Wind Load = L/180

8.0.2.2.6 Miscellaneous

Allowable stress in structural steel due to loss of support at expansion joints, induced by earthquake, is limited to yield stress.

8.0.2.3 Mechanical/Plumbing Design Criteria

Bus shelters will be heated with infrared heating which will be automatically controlled with motion detectors.

Canopy drains and leaders will be provided for storm water drainage.

8.0.2.4 Electrical Design Criteria

Pedestrian canopies will be illuminated by fluorescent lighting fixtures with outdoor high power factor ballasts.

A minimum of lighting level of 10 F.C. will be maintained. Power for lighting off the leasehold will be from the main street lighting feeders. Bus Shelters, signage etc. will be powered from separate feeders. Power for canopies within the leasehold shall be provided by Terminal 7.

8.0.2.6 Geotechnical Design Criteria

A supplementary site investigation program will be conducted to provide information on subsurface conditions for the canopy structure foundations.

Final recommendations on foundation design of canopies were prepared after the final plan location and vertical alignment of the roadways was determined.

Foundations and structures will be designed in accordance with NYC Building Codes and Port Authority policy on seismic design including potential for liquefaction.

9.0 LANDSCAPING/ HARDSCAPING

9.0.1 Codes, Standards, and References

JFK Redevelopment Program Investigation Studies: Bird Hazard, Soils, Irrigation, Hanna/Olin, Ltd. December 1988.

International JFK Airport Central Terminal Area: Parking Lot Perimeter, Port Authority Engineering Dept. , February 1993

9.0.2 General Design Criteria and Assumptions

Landscaping provides a beneficial experience for the airport patron and is critical in re-establishing a strong and attractive image for JFK International Airport.

Innovative and effective landscape design, while comprising only a small fraction of the overall cost of the entire project, can be one of the most powerful tools in the creation of a new image for the airport. The areas available for landscape treatment for the most part are residual scraps of land between the parking fields, roadways, overpasses and assorted buildings-all of which work against the possibility of creating a unified landscape in a traditional manner.

9.0.2.1 Goals

The goal of the JFK Redevelopment Landscape Program is to provide a quality landscape environment that complements the design elements serving the airport patron while providing a minimum of attractants to birds. In order to achieve this goal a successful landscape must satisfy these objectives:

A design that is approved by the FAA/USDA Wildlife Damage Control Division.

A contract that requires a two year maintenance follow up by the installing Contractor, who shall have as his superintendent over the entire installation an maintenance a New York State Certified Arborist knowledgeable and experienced in this type of Work.

9.0.2.2 Design Parameters

The frontages of the parking fields will provide an eight-foot wide collector sidewalk, and security fencing and functional decorative fencing. Security fencing will be a tubular steel construction four feet in height,

finished in black. The design, material and use of decorative functional fencing shall be consistent with the Port Authority design and installation at Terminals 8 and 9.

Small irregular islands occurring at the extreme ends of the frontage islands shall consist of seasonal flowering displays and masses of evergreen and deciduous groundcover.

Larger irregular islands will contain ornamental trees as well as a few specimen canopy trees in order to add a sense of maturity and to match the scale of the overpasses and wide expansive roads.

Salt splash shall consist of eight-inch hexagonal asphalt pavers laid out in a random pattern composed of two different color aggregates, CP-Central Park Formula and RB/B-Reading Brown with Brown sand. Salt splash shall be three feet wide.

9.0.2.3 Design Criteria for Plant Material

9.0.2.3.1 Trees

- Trees shall be selected that meet the following criteria:
- To withstand pollution and tough urban environments,
- To tolerate poor soils, wind and drought
- To tolerate excessive road de-icing salts and salt-laced prevailing winds.
- To be unattractive to birds as a food source and meet FAA approval
- To be unattractive to birds as a roosting site and meet FAA approval
- To be primarily deciduous, since evergreen trees are an ideal bird habitat.
- To have interesting flowers, fall color, size, shape or habit
- To be obtainable on the commercial market

Sample List

Gleditsia triacanthos "Halka"	Moraine Honeylocust
Koelreuteria paniculata	Golden Raintree
Metasequoia gyptostroboides	Dawn Redwood
Platanus acerifolia "Bloodgood"	Bloodgood London Plane
Pyrus calleryana "Chanticleer"	Chanticleer Pear
Quercus phellos	Willow Oak
Sophora japonica	Japanese Pagodatree

Tilia euchlora	Crimean Linden
Zelkova serrata	Japanese Zelkova

9.0.2.3.2 Shrubs and Groundcover

Shrubs and groundcover shall meet the same criteria as trees.

Sample List

Abelia x grandiflora	Glossy Abelia
Deutzia gracilis	Slender Deutzia
Euonymus alata "Compacta"	Dwarf Winged Euonymus
Forsythia suspense	Weeping Forsythia
Ilex crenata helleri	Heller's Dwarf Japanese Holly
Juniperus chinensis sargenti	Sargent's Chinese Juniper
Spiraea nipponica "Snowmound"	Snowmound Spirea
Taxus x media wardii	Ward's Yew
Weigela florida "Red Prince"	Purple Leaf Weigela

9.0.2.3.3 Lawn

Select cultivars that can thrive on low nutrient, low water availability and that are an "endophyte enhanced" variety and resistant to insects.

Select native grasses that can thrive on low nutrient and low water availability while providing varying heights, textures and colors.

A landscape design least likely to attract birds should have the following qualities: avoid plant material and design features that provide birds with a source of food, water, cover, and spatial domain. .

Canopy trees should be planted in linear rows, canopies spaced 15-20 feet apart at maturity. (Adjacent canopies should never be touching).

Shrubs and small trees should be used moderately and not be planted under or directly adjacent to canopy trees.

Shrub beds should be small in size and discontinuous.

Flowering ornamental trees should be limited in quality.

Groundcover should be well manicured, healthy, dense, moderately tall lawn, a fruitless low growing groundcover, gravel or bark mulch.

All plants should be planted at the same size and time.

9.0.2.3.4 Irrigation

Seasonal display areas and landscaped areas adjacent to pedestrian nodes should be irrigated with automatic sprinklers.

Trees, shrubs and groundcover may be irrigated with automatic sprinklers or at the very least have non freeze surface mounted box hydrants installed for 1" hose connections. Trees not handled by automatic sprinklers should be irrigated with tree graters for the first two years after installation.

Lawn, meadows and mature grass may not necessarily be irrigated after the initial six months after germination.

Water supply will be from connections to the existing water mains. The water will be metered and supplied with a backflow preventer.

9.0.2.3.5 Maintenance-The IPM Approach

The goal of the Integrated Pest Management (IPM) approach is to manage pests and the environment to balance costs, benefits, public health and environmental quality.

The contractor shall employ as supervisor for the installation and maintenance a New York State Certified Arborist (represented by an individual certified and qualified to evaluate horticulture requirements).

STANDARD SPECIFICATIONS

02520 ASPHALT BLOCK PAVER
02920 SCREENED TOPSOIL
02930 SEED
02954 TREES, SHRUBS AND GROUNDCOVER
02971 MAINTENANCE OF PERMANENT PLANTINGS
02997 GRAVEL MULCH FOR NON-LANDSCAPED AREAS.

10.0 ENVIRONMENTAL INVESTIGATIONS

10.0.1 Codes, Standards, and References

10.0.1.1 Codes

Article 15 Environmental Conservation Law
NYCRR Part 360 Solid Waste Management Facilities

10.0.1.2 Procedures:

American Society for Testing and Materials (ASTM), E 1527-93, standard practice for environmental site assessments: Phase 1 site assessment process.

Sampling guidelines & protocols, technological background and quality control/quality assurance for NYSDEC spill response program.

Stars memo #1 Petroleum-Contaminated Soil Guidance Policy prepared by New York State Department of Environmental Conservation, Division of Construction Management, Bureau of Spill Prevention and Response, August 1992.

10.0.2 Environmental Program Criteria

10.0.2.1 Asbestos Abatement Design Criteria

Site specific sampling of suspected Asbestos Containing Material (ACM) will be performed in accordance with Asbestos Hazard Response Emergency Act (AHERA).

Analysis of suspected ACM will be performed as per NESHAPS-40 CFR Part 61, NYS-12 NYCRR Part 56, and NYC-ACP Section 8101.

Design of asbestos abatement will be in accordance with Port Authority Specification 02081 and New York State Industrial Code Rule 56 (12 NYCRR Part 56).

10.0.2.2. Lead

Lead program shall be in compliance with the provisions of OSHA Interim Final Rule 29 CFR 1926.62 "Lead in Construction".

10.0.2.3 PCB Ballast

Dismantling,, removal and storage of fluorescent lighting ballast containing non-leaking PCB shall be accomplished accordance with 40CFR 761.

11.0 POWER, HVAC, AND COMMUNICATIONS SYSTEMS

11.0.1 Codes, Standards, and References

11.0.1.1 Mechanical Codes

Rerouted CHW piping, associated removal work, new piping and air conditioning installation shall conform to the following codes, Standards and Specifications:
American Iron and Steel Institute (AISI).
American National Standards Institute (ANSI).
American Society of Mechanical Engineers (ASME)
American Society for Testing and Materials (ASTM).
Manufacturers Standardization Society of the Valve and Fittings Industry (MSS).
Underwriters Laboratory Incorporated (UL)
Port Authority Specifications.
New York City Building Code.
American Society of Heating, Refrigeration and Air conditioning Engineers (ASHRAE)
Sheet Metal and Air conditioning Contractors' National Association (SMACNA).
National Fire Protection Association (NFPA)

11.0.1.2 Electrical Codes

NYC Electrical Code
National Electric Code

11.0.2 Design Criteria and Assumptions

11.0.2.1 Mechanical

11.0.2.1.1 Environmental Issues

The existing CHW and abandoned HTW piping may contain asbestos which has to be removed along with the contaminated soil.

11.0.2.1.2 Planning Factors

Establish the building demarcation lines to allow a clear definition of the extent of work.

Establish the terminal building's heating and cooling loads, and associated chilled and hot water pipe sizes.

Establish the terminal building foundation's outline coordinates.

Identify the estimated square footage intended for construction such as the parking garage.

Phased planning of chilled and hot water piping installation for existing and remaining sections of the terminal building.

11.0.2.1.3 Design Criteria

All new underground chilled water piping will be cathodically protected and will need to be coordinated with the Port Authority Electrical group.

During construction, the existing underground piping systems, consisting of Medium Temperature Hot Water and Chilled Water piping will be maintained. Rerouting and protection of the existing piping will be necessary where it conflicts with proposed structures including building foundations, canopy and elevated roadway columns. Existing abandoned piping shall be cut and capped where conflicts occur.

Chilled water piping shall be butt-welded/seamless, black steel pipe in accordance with ASTM-A53 Grade B, standard wall. Fittings shall conform to ANSI-B16.9 and ASTM A 234 Grade WEB.

Chilled Water Piping will be protected from corrosion with sacrificial anodes and shall be insulated with pre-formed cellular glass with an outer insulating jacket.

The Medium Temperature Hot Water piping will be installed in accordance with the KIAC requirements and specifications. Final determination on materials and installation will be as authorized by KIAC.

11.0.2.2 Power Design Criteria

Primary medium voltage power will be distributed at 4330 Volts AC. Sufficient number of feeders will be provided to supply full power to the terminal on a second contingency basis.

All outdoor lighting fixtures will be rated at 277 Volts AC. Motors rated 3/4 HP and above will be rated for 460 Volts 3 ph. AC. Only circuit breakers will be used for all low voltage power distribution system.

11.0.2.3 Communication Design Criteria

Provision for telephones will be made for all the toll booths, the Service Building at the toll plaza, at selected locations within the pedestrian canopies, and the lighting vault. Provision will be made for installation of Revenue Control System for the toll plazas. Necessary provisions will be made for running communication links interconnecting all Variable Message Signs for central control. Communication duct banks will normally run parallel to the roadways to facilitate installation of communication system.

12.0 LRS INTERFACE

12.0.1 Design Criteria and Assumptions:

12.0.1.1 General

To allow for construction (by others) of a LRS station.

The station will allow passengers to access other terminals, long term parking, the rental car areas, and off-airport stations.

The station will be, and will allow for, easy access for both arriving and departing passengers.

The entrance to the station shall be located such that direct access is provided for all passengers exiting.

The station design shall allow for passengers on the emergency walkway to enter the station.

The station entrance(s) shall allow for a future fare control & baggage cart storage system.

For matters of life safety, the station will comply with the National Fire Protection Association (NFPA)--as are all JFK-LRS stations.

13.0 ADDITIONAL TERMINAL DESIGN CRITERIA

13.0.1 TERMINAL GRAPHICS

13.0.1.1 Codes, Specifications and Standards:

Site-wide signage and graphics shall conform to the following standards and codes and follow PA contracts listed for sign face layout and multilingual design intent:

The Port Authority of New York and New Jersey Airport Signing and Graphic Standards

Manual including Terminal, Curbside, Parking and Roadway Frontage Standards.

Guidelines for Airport Signing and Graphics Terminals and Landside, Latest Edition

Symbol Signs Reproduction Art The American Institute of Graphic Arts.

13.0.1.2 Design Criteria and Assumptions:

13.0.1.2.1 General

The typeface for all signage shall be Helvetica Medium and utilize the Helvetica family of fonts.

Architectural graphics shall have a consistent copy style, with recognizable terminology and utilize universally acceptable DOT symbols.

Message content shall be in language understandable by the general public.

Provide a comprehensive signing and architectural graphics plan, including but not limited to:

Sign type elevations showing Directional, Informational, Regulatory and ADA signs.

Sign schedule including all sign message text, arrow placement, and symbols.

Sign location plan keyed to the sign schedule.

13.0.1.2.2. Directional signage

Directional signage shall provide for pedestrian orientation.

Informational signage shall be provided for in the form of illuminated boxes similar to those shown in JFK Area 3 wind screens.

Regulatory signage shall be kept to a minimum. Similar regulatory messages shall be formatted in the same way.

Provide ADA compliant signage as required by Federal law.

Directional messages shall be displayed in 5 languages: English, French, Spanish, German and Japanese.

For general graphic layout standards, the PA contract for the Federal Inspection Hall at Newark Airport shall be followed .

Construction, fabrication criteria:

Materials and construction methods shall match these used in Area 3 including Porcelain enamel on steel and internally illuminated sign boxes.

Use only the highest quality materials and method of construction

Visible fasteners shall be kept to an absolute minimum and if used shall match adjacent material finish and color.

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

4.2 Loadings

Design Loads are in accordance with the LRS Technical Provisions and other documents described in section 4.1. Prior to the selection of the successful DBOM contractor, certain loadings, which are system dependent, have been agreed with the Port Authority in order for foundation design to proceed. Following the award of the DBOM contract, these loadings will be reviewed with the system designer to assess if the foundation designs are adequate. These loadings are as follows:

4.2.1 Terminal 7 Station

The Port Authority has provided schedules of design forces acting on the station support bents due to loadings from the platform structure and guideways. These schedules are attached as Exhibit 1. These forces have been calculated assuming that the station supports are simple free-standing bents. The bents form part of a frame structure with the deck below (refer to the outline structural scheme shown in Figure.2.).

Directly below the platform superstructure is an intermediate level, which forms part of the parking lot deck, and also the M&E support space for the station. The Port Authority have instructed that approximately 50% of this area may be designated as machine room space for the Station. To facilitate this, the portion of this space which is enclosed by grid lines LRS 03, LRS 04, H and M (See Figure 1) will be designed with a live load of 250 psf. The remainde of this floor is been designed for a live load of 200 psf, to allow for the use of constructio vehicles during the construction of the LRS station and guideways above.

4.2.2 LRS Guideway Superstructure

The superstructure may consist of simply supported post-tensioned concrete box girders. Thes in turn support emergency walkways, parapet units, track plinths, and rails. The loads to b used for the foundation design are as follows:

- Precast Concrete Girder
- Emergency Walkway
- Parapet Units & Railings
- Concrete Track Plinths

For the purposes of calculating the Rail/Structure interaction forces, the rail section is assumed to be 115 RE continuously welded rail with an installation temperature of 90 ^{o}F

4.2.3 LRS Vehicle Live Loading

The loading diagram for foundation design has been taken from the LRS Technical Provisions document, and is attached as Figure.3. It is assumed that this will be more severe than the actual vehicle design. However, this will be reviewed with the DBOM contractor.

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

4.3 Piled Foundations

For the British Airways Quadrant 4 Roadway Contract 18" monotube piles (3NY8X18) have been selected as the most economic pile type for most heavy structural applications. These will have a cast-in-place 5000 psi concrete fill, reinforced with Grade 60 reinforcing bars to achieve the required design moment capacity or to meet the requirements of AASHTO. To achieve an effective moment connection, the reinforcement will extend into the pile cap to provide adequate anchorage and the pile will extend a minimum of 12 inches into the pilecap.

Final pile design capacities are to be determined by the pile load tests within an area of the Terminal 7 construction site that has subsurface conditions representative of those along the portion of the LRS within the scope of work and as close as practicable to the LRS alignment. However, for initial design, capacities for 18" monotube piles have been determined by theoretical analysis, and by extrapolating historical data for 14" monotube piles driven on adjacent sites.

4.4 Ground Water Levels

Normal High Water Level	+ 8.0	feet above site datum
Extreme Water Level	+11.0	feet above site datum

4.5 Geometric Control

The control monument points used for the Quadrant 4 Roadways project will also be used for the LRS elements constructed within this scheme. Details of the monument points are shown in Figure.4.

5.0 METHODS OF ANALYSIS

5.1 Liquefaction

It is recognized that the soil strata in the airport region are comprised of saturated sands that are prone to liquefaction. To determine the range within which these sands may liquefy, a series of analyses utilizing borehole logs and N values will be completed. The analysis shall be composed of two parts. The first will be the determination of the soil behavior, amplification characteristics and shear stresses using the Ove Arup & Partners program SIREN. This analysis will use the input bedrock seismic parameters as given by the PANYNJ in section 15.6.9 of the "Basic Design Criteria" as referenced in section 4.1 above. The second part of the analysis will utilize the results form SIREN in conjunction with the methodology developed by Seed et al (JGE 1985) to determine the liquefaction potential.

The methodology by Seed et al calculates the cyclic shear stress ratio (CSR) based on overburden stresses, ground acceleration and depth, and, for different magnitude earthquakes, calculates the critical N(60)-value below which liquefaction may occur. The N(field)-value at which liquefaction may occur is back-calculated for comparison with field data. A magnitude 5.75 bedrock earthquake will be assumed with an acceleration a/g=0.15.

Data obtained from test boring logs at the site including Standard Penetration Test (SPT) N-values and details of soil stratification will be compared with the calculated values from the analysis to assess the liquefaction potential at a given level. If the actual N-value recorded is less than the value calculated there is a risk of liquefaction. In this instance it may be necessary to specify longer piles that penetrate to a depth where the risk of liquefaction is minimized. Additionally, an overall assessment of the information will be made as specific areas of risk may be localized or caused by specific bands of soil.

The results of the analyses will be compared with the results of other studies undertaken at JKF Airport, in particular the work for Terminal 4 which is currently in progress and using similar types of pile foundation.

5.2 Foundations

Pile group layouts will be analyzed using a soil structure interaction model to determine the pile forces arising from the applied external loading. The effects of liquefaction will also be modeled in accordance with LRS design criteria and requirements. The results from the pilegroup analysis will be used to determine pilegroup stiffness parameters to be used for the substructure design.

5.3 Pilecaps and Columns

5.3.1 Static Analysis

Single column piers will be analyzed as free cantilevers supported on a piled foundation with the pilecap and piles structural system represented as a series of horizontal and vertical springs taking into consideration pile/soil interaction. All other substructures may be analyzed as space frames. Pilecaps will be modeled as soil springs reflecting the group effect on stiffness of the pilegroup selected for cases both with and without liquefaction as applicable.

5.3.2 Dynamic Analysis

All substructures will be analyzed for seismic loading according to the multi-mode spectral analysis method (procedure 3), as described in AASHTO. Structures will be modeled as space frames, and a dynamic analysis will be performed using analysis procedures and programs which follow the design intentions contained in the Seismic Provisions and Commentary of the AASHTO Guide Specifications.

5.4 Computer Software

5.4.1 Structural

The primary structural analysis software will be Oasys-GSA, with Oasys-GDSPEC used to determine seismic load effects. These are general structural analysis software programs, and are based on normal stiffness matrix principles. Documentation of program verification, in addition to the users' manuals required to be provided for all programs, shall be submitted to the Port Authority for review and approval prior to the commencement of final design. No specific bridge analysis software is proposed for the analysis of these structures

Oasys-GSA is a General Structural Analysis program for static and dynamic analysis of 2D and 3D skeletal frames; additionally, structures comprising combinations of skeletal elements and plate elements can be analyzed.

Oasys-GDSPEC is a post-processor to GSA to perform response spectrum analysis. Using modal data from a GSA dynamic analysis file, a response spectrum, a specified modal combination method (SRSS or CQC) and a specified number of modes the displacements and element forces can be obtained. The critical modes are identified and worst case combinations of displacements and forces for lateral and longitudinal effects calculated. The output from GDSPEC must be added to the permanent load effects obtained from GSA to obtain forces for design of elements.

5.4.2 Geotechnical

Three computer software systems are utilized. One is the TTI Pile Driving Analysis Wave Equation program. The second is the Geosoft Laterally Loaded Pile Analysis program and the third program is SIREN. A set of users' manuals for all programs to be used shall be provided for review by the Port Authority. In addition, if software developed in house is to be used, documentation of program verification, shall be submitted to the Port Authority for review and approval prior to the commencement of final design.

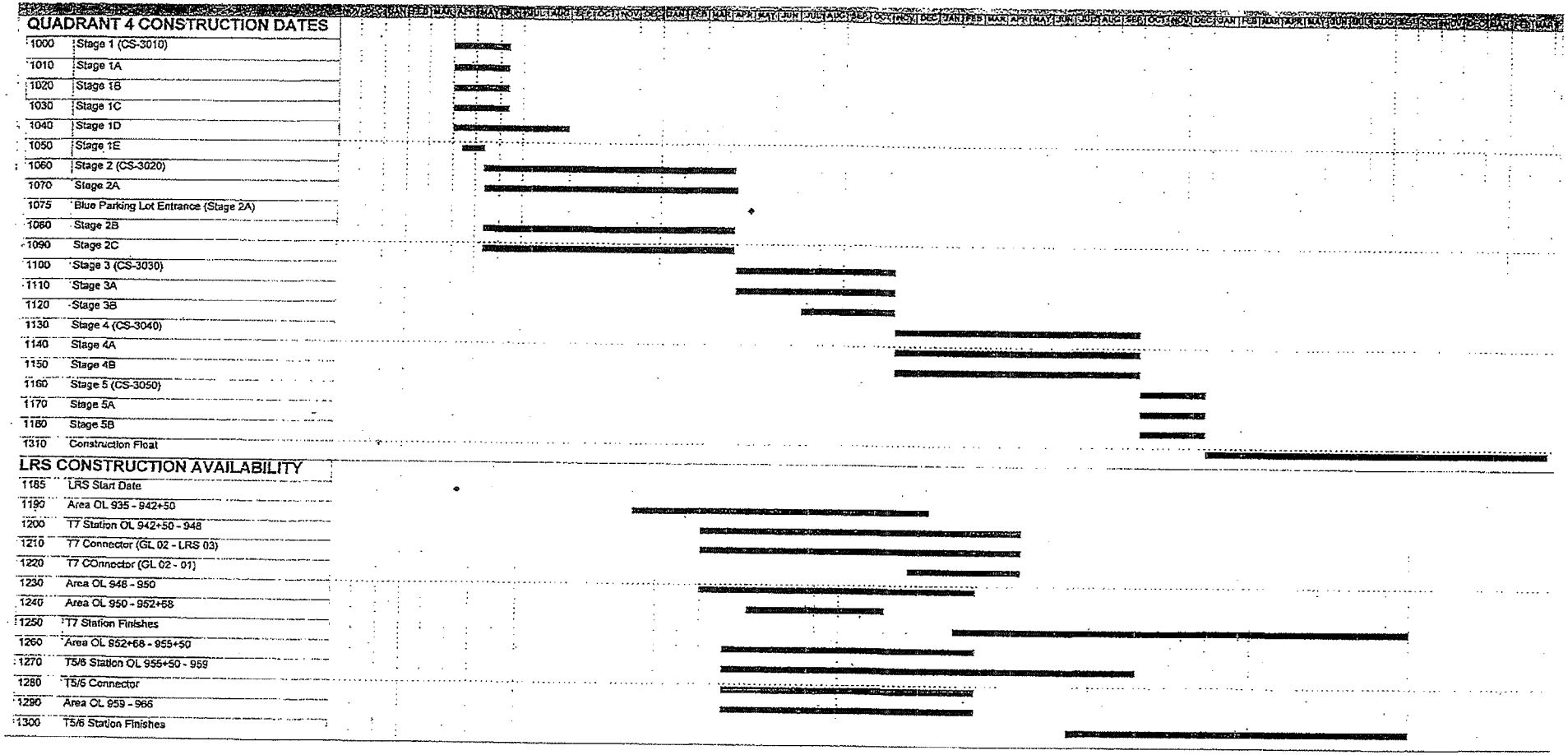
TTI Pile Driving Analysis Wave Equation is a computer program written in Fortran which utilizes finite element analysis methodology for a pile-soil-capblock system wherein the system experiences the impact of a piling hammer's ram at a specific velocity at the capblock end of the system. The analysis results include net penetration of the pile tip, driving resistance, and maximum pile stress corresponding to a specified soil resistance. This analysis is essential to the evaluation of pile types and sizes and to the selection of appropriate piling hammer sizes and energies.

Geosoft Laterally Loaded Pile Analysis is a computer program written in Basic which utilizes finite difference equation methodology for a pile-soil system wherein the top of the pile experiences a specified lateral load combined with either a specified moment or a specified rotation. The analysis results include the lateral movement and bending moment along the length of the pile. This analysis is essential to the evaluation of pile types and sizes and for calculating lateral pile springs needed for structural analysis of the superstructure.

SIREN is a seismic site response program developed by Ove Arup & Partners to analyze the response of one dimensional soil column due to earthquake motion input at its base. The soil column is modeled assuming infinite horizontal layers with vertically propagating shear waves. The soil layers are represented by the following parameters: bulk density, stiffness, strain degradation curves and damping ratios.

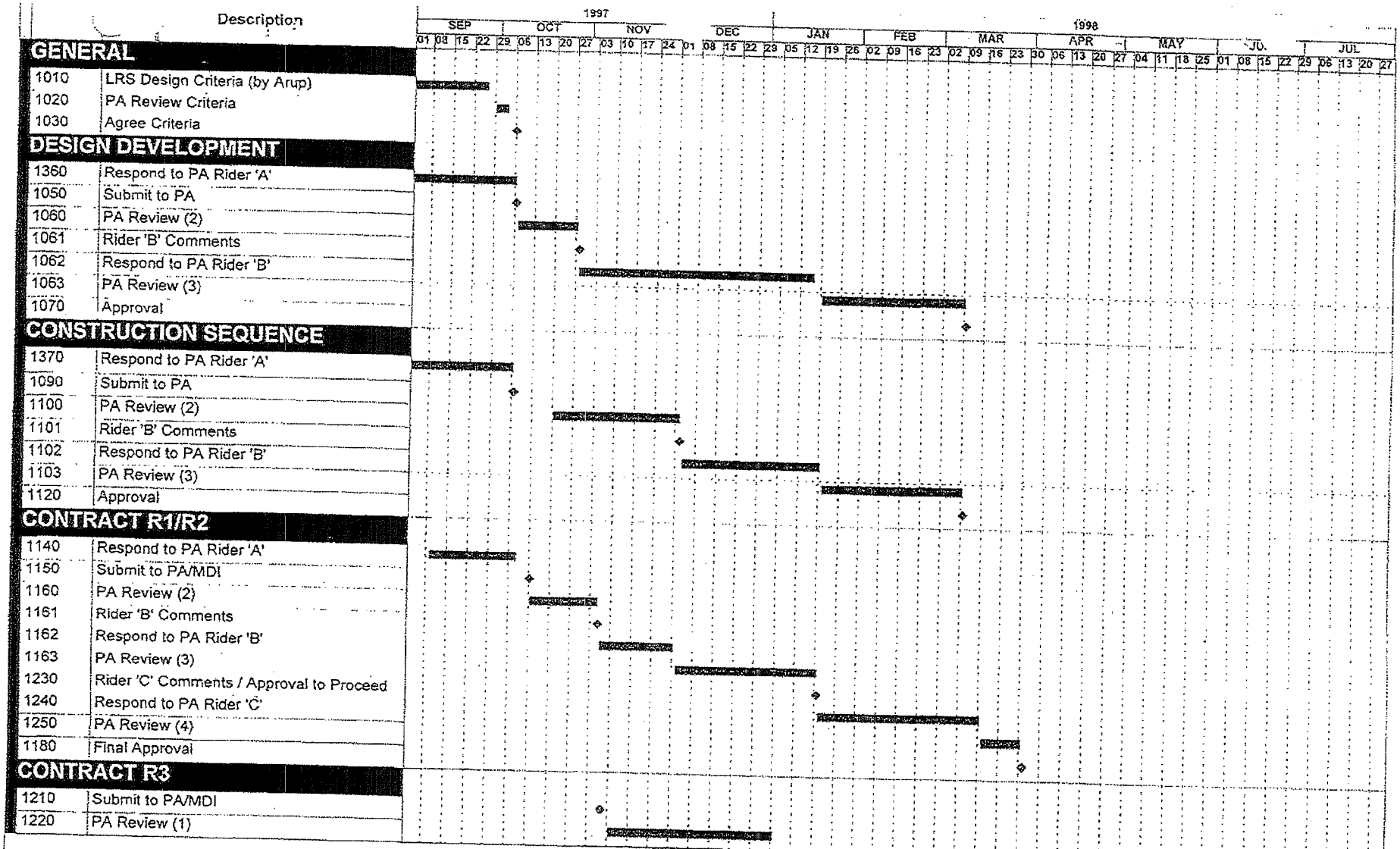
Exhibit 1

PA Station Design Forces



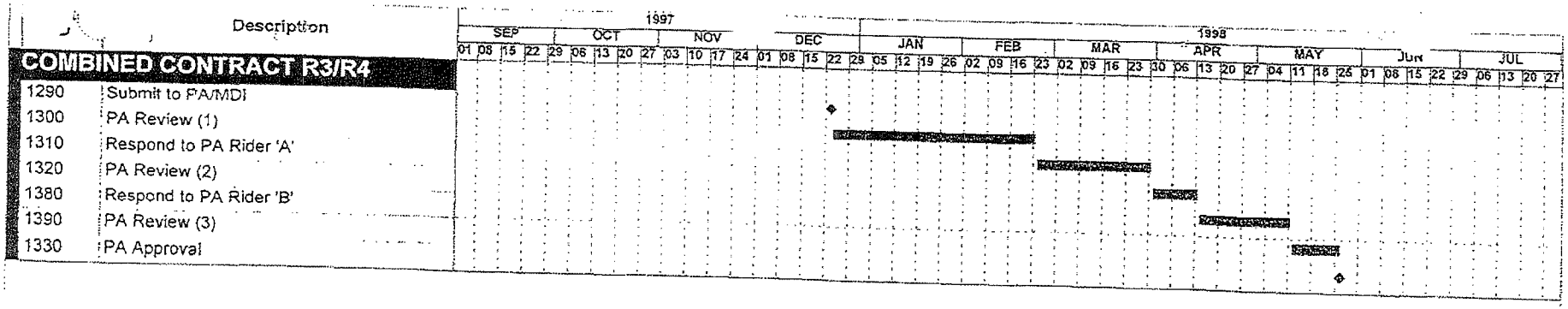
CONSTRUCTION SCHEDULE

EXHIBIT G



BRITISH AIRWAYS SUBMISSION SCHEDULE

EXHIBIT H
Sheet 1 of 2



BRITISH AIRWAYS SUBMISSION SCHEDULE

EXHIBIT H
Sheet 2 of 2

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

EXHIBIT K

Requirements for LRS DBOM Contractor at Quadrant 4 to Provide Access to and Through LRS Work Zone

Access and egress shall be provided for each of the LRS work zones from/to the Terminal roadways, and shall be maintained by the LRS Contractor during construction of the LRS guideway and stations by LRS Contractor. This will enable the delivery of construction materials and personnel to the sites. In addition, to facilitate continued functioning of Terminals 5, 6 and 7 during construction of the LRS guideway and stations, the following access and egress easements are required through the LRS construction zones:

1. Pedestrian access (ground level) shall be maintained from the parking areas to each terminal.

2. Vehicular access and egress (ground level) to the parking areas in front of Terminals 5 and 6.

3. Vehicular access and egress to the parking areas in front of Terminal 7. (This access is separate from that required for Terminals 5 and 6.)

4. Construction access, egress and through passage is required at Terminal 7 for the Quadrant 4 roadways contractor to facilitate the construction of the parking structure.

5. Where appropriate, access through the LRS corridor will be required to facilitate the diversion of utilities and to ensure the continued functioning of the adjoining terminals.

Environmental Engineering Unit
Aviation Design Division

J.F.K. International Airport British Airways Building 59 Environmental Investigation Summary Report

December 1997

Engineering Department
The Port Authority of NY & NJ

Engineering Department

THE PORT AUTHORITY OF NY & NJ

Entitled: For the Port Authority
FOR the Lessee

EXHIBIT L Book 1 of 3

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EXECUTIVE SUMMARY

The Environmental Engineering Unit of the Port Authority of New York and New Jersey has conducted an Environmental Investigation of a portion of the roadway and parking areas in front of the British Airways Terminal. This property is to be included in the new leasehold for British Airways. The property to be leased is located at John F. Kennedy International Airport (JFKIA) in Jamaica, Queens, New York. The environmental investigation included site reconnaissance, drilling, installation of nine monitoring wells, and sampling of soil and groundwater as part of this program. The location of the monitoring wells installed for this investigation are shown on the drawing ENV-1. The Port Authority Materials Engineering Division supervised the drilling of the soil borings, soil sampling, installation of nine monitoring wells, development of monitoring wells and groundwater sampling. Nine soil and nine groundwater samples were collected and submitted for laboratory analysis of volatiles, semi-volatiles, metals, pesticides, methyl-tert butyl ether (MTBE) and total petroleum hydrocarbons (TPHC).

TPHC was detected in nine soil samples and its concentration ranged from (17-93) mg/Kg. Metals were detected in nine soil samples and their concentration ranged from (6.8-26) mg/Kg. Diedrin, a pesticide was detected in soil samples from the borings of MW-3, and MW-8 with concentrations of 5.4 ug/Kg, and 21 ug/Kg respectively.. Volatiles and semi-volatiles were not detected in any of the soil samples.

Zinc was detected in three groundwater samples and its concentration ranged from (0.057 - 0.958) mg/L. Volatiles and semi-volatiles were not detected in the groundwater samples. DDT and endosulfan are pesticides which were detected in two samples with the concentrations 0.05 ug/L and 0.06 ug/L respectively.

1.0 INTRODUCTION

1.1 Site Location

The site is located in an area in front of the British Airways Terminal at JFKIA in Jamaica, Queens, New York, as shown on the drawing ENV-1. This area is south of the Terminal and consists of approximately two and half acres. The investigation included installing, developing, and sampling nine monitoring wells at the roadside and in the parking areas across the British Airways Terminal at JFK International Airport.

1.2 Geological Background

In general, the soils found beneath JFKIA consist of a top layer of fine to medium sand to a depth of approximately seven to ten feet below grade. This brown and gray sand originated from Jamaica Bay and was hydraulically placed prior to the development of the airport in the 1940's. Underlying the fill in most areas is a layer of relatively impermeable organic soils. This layer varies from two to seven feet in thickness and is made up of intermittent layers of organic peat and gray organic silt and clays. This is the original marsh soil which covered most of JFKIA prior to airport development. Beneath the organic material is a stratum of glacial outwash. In areas where the organic layer exists, a perched water table can be found at approximately six feet below grade. In other areas, the groundwater is eight to ten feet below grade and generally flows south toward Jamaica Bay.

1.3 Project Background

The Port Authority is entering into a lease agreement with British Airways for the roadway and the parking areas in front of the British Airways Terminal at JFK International Airport in Jamaica, New York. At present the portion of the roadway and parking areas which are to be included in the new leasehold are used for vehicular traffic and parking cars.

1.4 Objectives

The purpose of the investigation is to prepare an environmental baseline which is to determine the existing environmental conditions of the site. This information is to be included in the new lease agreement.

2.0 FIELD METHODS, SAMPLING PROCEDURES AND CHEMICAL TESTING

2.1 Drilling and Soil Sampling

Nine boreholes were drilled at the site between November 5 and November 10, 1997. The boring locations were chosen based on a review of site information and site reconnaissance. See Drawing ENV-1 for boring locations.

The boreholes were drilled as per ASTM standard protocols using a drill rig equipped with hollow-stem augers. A Port Authority Materials Engineering Division representative was present during drilling operations to log the lithology of the boring, note any visible indications of contamination and collect soil samples. Prior to drilling the borehole, all downhole equipment was steam cleaned. Drilling logs are contained in Appendix A.

Soils from borings were sampled at two foot intervals from ground level to the top of the groundwater which lies about 5 to 10 feet below ground surface using a 2-foot long, split-spoon sampler. A headspace test for total ionizable vapors was conducted on the split-spoon samples after they were placed in jars. An HNu model photo-ionization organic vapor detector calibrated to an isobutylene standard was used. The HNu quantifies the amount of total ionizable vapors that have partitioned from the soil into the headspace of the jar. The vapor phase concentrations varied from 0 to 220 parts per million (ppmv) VOCs in the headspace.

The soil sample from each borehole showing the highest VOC reading was saved, and delivered to the laboratory for chemical analyses. When VOC's were not detected, the sample was obtained from immediately above the groundwater and selected for analysis.

2.2 Soil and Groundwater Chemical Testing

The soil and groundwater samples were analyzed in accordance with an Environmental Protection Agency (EPA) approved methods: 624, 8260, and 9065. The soil and groundwater samples were tested for priority pollutants + 40, TPHC and MTBE.

3.0 RESULTS

3.1 Soil Quality

The soil samples were collected and analyzed in accordance with EPA methods and NYSDEC protocols. The soil sample results are summarized in Tables I - IV. Laboratory reports of soil samples are presented in Appendix B.

HNu readings were not encountered during borings. TPH was detected in nine soil samples and its concentration ranged from (17-93) mg/Kg. Zinc was detected in nine soil samples and its concentration ranged from (6.8-26) ug/Kg. Chromium with a concentration of 17 mg/Kg and cadmium with a concentration of 22 mg/Kg were detected in a soil sample # (MW-3, s-4). The volatile detected was methylene chloride. Methylene chloride was detected in nine soil samples and its concentration ranged from (8-13) ug/Kg. However, methylene chloride was also detected in field blank samples. Semi-volatiles were not detected in the soil samples. TPHC was detected in nine soil samples and its concentration ranged from (17-93) mg/Kg.

3.2 Groundwater Quality

The analytical testing results for groundwater samples are summarized in Table V-VIII. The laboratory reports of groundwater samples are presented in Appendix C.

Zinc was detected in three groundwater sample results and its concentration ranged from (0.064-0.958) mg/L. Semi-volatiles were detected in five groundwater sample results. Bis(2-Ethylhexyl)phthalate was detected in five groundwater sample results and its concentration ranged from (2-7) ug/L. However, bis(2-Ethylhexyl)phthalate was also detected in method blank sample. Endosulfan and DDT, pesticides were detected in two samples and their concentrations were 0.05 ug/L and 0.06 ug/L respectively.

JFK INTERNATIONAL AIRPORT
British Airways, Building 59
TABLE I

SOIL SAMPLE ID #	MW-7, S-5	MW-8, S-4	MW-9, S-5	MW-10, S-5
% Solids, Total	81	85	84	80
Total Cyanide (TCN)	u	u	u	u
Total Phenol	u	u	u	u
	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Total Petroleum Hydrocarbons	37	27	29	29
METALS				
Silver	u	u	u	u
Arsenic	u	u	u	u
Beryllium	u	u	u	u
Cadmium	u	u	u	u
Chromium	u	u	u	u
Copper	u	u	u	u
Mercury	u	u	u	u
Nickel	u	u	u	u
Lead	u	u	u	u
Antimony	u	u	u	u
Selenium	u	u	u	u
Thallium	u	u	u	u
Zinc	9.6	11	9.4	7.1

Note: "u" - Not Detected.

"j" - Compound detected but below detection limit.

"b" - Compound found in method blank.

JFK INTERNATIONAL AIRPORT
Building 59, British Airways
TABLE II

SOIL SAMPLE ID #	MW-2,S-4	MW-3, S-5	MW-4, S-5	MW-5, S-4	MW-6, S-5
VOC	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
(Volatile Organics Analysis)					
Chloromethane	u	u	u	u	u
Bromomethane	u	u	u	u	u
Vinyl Chloride	u	u	u	u	u
Chloroethane	u	u	u	u	u
Trichlorofluoromethane	u	u	u	u	u
Methylene Chloride	9b	10b	13b	8b	11b
1,1-Dichloroethene	u	u	u	u	u
1,1-Dichloroethane	u	u	u	u	u
trans-1,2-Dichloroethene	u	u	u	u	u
Chloroform	u	u	u	u	u
1,2-Dichloroethane	u	u	u	u	u
1,1,1-Trichlorethane	u	u	u	u	u
Carbon Tetrachloride	u	u	u	u	u
Bromodichloromethane	u	u	u	u	u
1,2-Dichloropropane	u	u	u	u	u
Trichloroethene	u	u	u	u	u
Dibromochloromethane	u	u	u	u	u
1,1,2-Trichloroethane	u	u	u	u	u
Benzene	u	u	u	u	u
trans-1,3-Dichlorpropene	u	u	u	u	u
Bromoform	u	u	u	u	u
Tetrachloroethene	u	u	u	u	u
1,1,2,2-Tetrachlorethane	u	u	u	u	u
Toluene	u	u	u	u	u
Chlorobenzene	u	u	u	u	u
Ethylbenzene	u	u	u	u	u
Xylenes (para & meta)	u	u	u	u	u
Xylenes (ortho)	u	u	u	u	u
Methyl-tert butyl ether	u	u	u	u	u
tert-Butyl Alcohol	u	u	u	u	u
Acrlein	u	u	u	u	u
Acrylonitrile	u	u	u	u	u

Note: "u" - Not detected.

"j" - Compound detected but below detection limit.

"b" - Compound found in method blank.

JFK INTERNATIONAL AIRPORT
Building 59, British Airways
TABLE III

SOIL SAMPLE ID #	MW-2, S-5	MW-3, S-4	MW-4, S-4	MW-5, S-4	MW-6, S-4
Semivolatile	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
N-nitrosodimethylamine	u	u	u	u	u
Phenol	u	u	u	u	u
bis(2-Chlorethyl)ether	u	u	u	u	u
2-Chlorphenol	u	u	u	u	u
1,3-Dichlorobenzene	u	u	u	u	u
1,4-Dichlorobenzene	u	u	u	u	u
1,2-Dichlorobenzene	u	u	u	u	u
bis(2-chloroisopropyl)ether	u	u	u	u	u
N-Nitoroso-Di-n-propylamine	u	u	u	u	u
Hexachloroethane	u	u	u	u	u
Nitrobenzene	u	u	u	u	u
Isophorone	u	u	u	u	u
2-Nitrophenol	u	u	u	u	u
2,4-Dimethylphenol	u	u	u	u	u
Bis(2-Chloroethoxy)Methane	u	u	u	u	u
2,4-Dichlorophenol	u	u	u	u	u
1,2,4-Trichlorobenzene	u	u	u	u	u
Naphthalene	u	u	u	u	u
Hexachlorobutadiene	u	u	u	u	u
4-Chloro-3-methylphenol	u	u	u	u	u
Hexachlorocyclopentadiene	u	u	u	u	u
2,4,6-Trichlorophenol	u	u	u	u	u
2-Chloronaphthalene	u	u	u	u	u
Dimethylphthalate	u	u	u	u	u
Acenapthylene	u	u	u	u	u
2,6-Dinitrophenol	u	u	u	u	u
4-Nitrophenol	u	u	u	u	u
2,4-Dinitrotoluene	u	u	u	u	u
Acenaphthene	u	u	u	u	u
2,4-Dinitrophenol	u	u	u	u	u
4-Nitrophenol	u	u	u	u	u
2,4-Dinitrotoluene	u	u	u	u	u
Diethylphthalate	u	u	u	u	u
Fluorene	u	u	u	u	u
4-Chlorophenyl-penylether	u	u	u	u	u
4,6-Dinitro-2-methylphenol	u	u	u	u	u
n-Nitrosodiphenylamine	u	u	u	u	u
1,2-Dipheylhydrazine	u	u	u	u	u
4-Bromophenyl-phenylether	u	u	u	u	u
Hexachlorobenzene	u	u	u	u	u
Pentachlorophenol	u	u	u	u	u
Phenanthrene	u	u	u	u	u

JFK INTERNATIONAL AIRPORT
Building 59, British Airways
TABLE III

SOIL SAMPLE ID #	MW-2, S-5	MW-3, S-4	MW-4, S-4	MW-5, S-4	MW-6, S-4
Semivolatile	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Di-n-butylphthalate	u	u	u	u	u
Fluoranthene	u	u	u	u	u
Benzidine	u	u	u	u	u
Pyrene	u	u	u	u	u
Butylbenzylphthalate	u	u	u	u	u
Benzo(a)anthracene	u	u	u	u	u
3,3-Dichlorobenzidine	u	u	u	u	u
Chrysene	u	u	u	u	u
bis(2-Ethylhexyl)phthalate	u	u	u	u	u
Di-n-octylphthalate	u	u	u	u	u
Benzo(a)fluroanthene	u	u	u	u	u
Benzo(k)fluroanthene	u	u	u	u	u
Benzo(a)pyrene	u	u	u	u	u
Indeno(1,2,3-cd)pyrene	u	u	u	u	u
Dibenz(a,h)anthracene	u	u	u	u	u
Benzo(g,h,i)perylene	u	u	u	u	u

Note: "u" - Not Detected.

"j" - Compound detected but below detection limit.

"b" - Compound found in method blank.

JFK INTERNATIONAL AIRPORT
Building 59, British Airways
TABLE II

SOIL SAMPLE ID #	MW-7, S-5	MW-8, S-4	MW-9, S-4	MW-10, S-4
VOC	ug/Kg	ug/Kg	ug/Kg	ug/Kg
(Volatile Organics Analysis)				
Chloromethane	u	u	u	u
Bromomethane	u	u	u	u
Vinyl Chloride	u	u	u	u
Chloroethane	u	u	u	u
Trichlorofluoromethane	u	u	u	u
Methylene Chloride	10b	12b	10b	11b
1,1-Dichloroethene	u	u	u	u
1,1-Dichloroethane	u	u	u	u
trans-1,2-Dichloroethene	u	u	u	u
Chloroform	u	u	u	u
1,2-Dichloroethane	u	u	u	u
1,1,1-Trichlorethane	u	u	u	u
Carbon Tetrachloride	u	u	u	u
Bromodichloromethane	u	u	u	u
1,2-Dichloropropane	u	u	u	u
Trichloroethene	u	u	u	u
Dibromochloromethane	u	u	u	u
1,1,2-Trichloroethane	u	u	u	u
Benzene	u	u	u	u
trans-1,3-Dichlorpropene	u	u	u	u
Bromoform	u	u	u	u
Tetrachloroethene	u	u	u	u
1,1,2,2-Tetrachlorethane	u	u	u	u
Toluene	u	u	u	u
Chlorobenzene	u	u	u	u
Ethylbenzene	u	u	u	u
Xylenes (para & meta)	u	u	u	u
Xylenes (ortho)	u	u	u	u
Methyl-tert butyl ether	u	u	u	u
tert-Butyl Alcohol	u	u	u	u
Acrlein	u	u	u	u
Acrylonitrile	u	u	u	u

Note: "u" - Not detected.

"j" - Compound detected but below detection limit.

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JFK INTERNATIONAL AIRPORT
Building 59, British Airways
TABLE III

SOIL SAMPLE ID #	MW-7, S-5	MW-8, S-4	MW-9, S-5	MW-10, S-5
Semivolatile	ug/Kg	ug/Kg	ug/Kg	ug/Kg
N-nitrosodimethylamine	u	u	u	u
Phenol	u	u	u	u
bis(2-Chlorethyl)ether	u	u	u	u
2-Chlorphenol	u	u	u	u
1,3-Dichlorobenzene	u	u	u	u
1,4-Dichlorobenzene	u	u	u	u
1,2-Dichlorobenzene	u	u	u	u
bis(2-chloroisopropyl)ether	u	u	u	u
N-Nitoroso-Di-n-propylamine	u	u	u	u
Hexachloroethane	u	u	u	u
Nitrobenzene	u	u	u	u
Isophorone	u	u	u	u
2-Nitrophenol	u	u	u	u
2,4-Dimethylphenol	u	u	u	u
Bis(2-Chloroethoxy)Methane	u	u	u	u
2,4-Dichlorophenol	u	u	u	u
1,2,4-Trichlorobenzene	u	u	u	u
Naphthalene	u	u	u	u
Hexachlorobutadiene	u	u	u	u
4-Chloro-3-methylphenol	u	u	u	u
Hexachlorocyclopentadiene	u	u	u	u
2,4,6-Trichlorophenol	u	u	u	u
2-Chloronaphthalene	u	u	u	u
Dimethylphthalate	u	u	u	u
Acenapthylene	u	u	u	u
2,6-Dinitrophenol	u	u	u	u
4-Nitrophenol	u	u	u	u
2,4-Dinitrotoluene	u	u	u	u
Acenaphthene	u	u	u	u
2,4-Dinitrophenol	u	u	u	u
4-Nitrophenol	u	u	u	u
2,4-Dinitrotoluene	u	u	u	u
Diethylphthalate	u	u	u	u
Fluorene	u	u	u	u
4-Chlorophenyl-penylether	u	u	u	u
4,6-Dinitro-2-methylphenol	u	u	u	u
n-Nitrosodiphenylamine	u	u	u	u
1,2-Dipheylhydrazine	u	u	u	u
4-Bromophenyl-phenylether	u	u	u	u
Hexachlorobenzene	u	u	u	u
Pentachlorophenol	u	u	u	u
Phenanthrene	u	u	u	u

JFK INTERNATIONAL AIRPORT
Building 59, British Airways
TABLE III

SOIL SAMPLE ID #	MW-7, S-5	MW-8, S-4	MW-9, S-5	MW-10, S-5
Semivolatile	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Di-n-butylphthalate	u	u	u	u
Fluoranthene	u	u	u	u
Benzidine	u	u	u	u
Pyrene	u	u	u	u
Butylbenzylphthalate	u	u	u	u
Benzo(a)anthracene	u	u	u	u
3,3-Dichlorobenzidine	u	u	u	u
Chrysene	u	u	u	u
bis(2-Ethylhexyl)phthalate	u	u	u	u
Di-n-octylphthalate	u	u	u	u
Benzo(a)fluroanthene	u	u	u	u
Benzo(k)fluroanthene	u	u	u	u
Benzo(a)pyrene	u	u	u	u
Indeno(1,2,3-cd)pyrene	u	u	u	u
Dibenz(a,h)anthracene	u	u	u	u
Benzo(g,h,l)perylene	u	u	u	u

Note: "u" - Not Detected.

"j" - Compound detected but below detection limit.

"b" - Compound found in method blank.

JFK INTERNATIONAL AIRPORT
British Airways, Building 59
TABLE IV

SOIL SAMPLE ID #	MW-2, S-5	MW-3, S-4	MW-4, S-4	MW-5, S-4	MW-6, S-4	MW-7, S-5	MW-8, S-4	MW-9, S-5	MW-10, S-5
Pesticide	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
alpha-BHC	u	u	u	u	u	u	u	u	u
beta-BHC	u	u	u	u	u	u	u	u	u
delta-BHC	u	u	u	u	u	u	u	u	u
gamma-BHC	u	u	u	u	u	u	u	u	u
Heptachlor	u	u	u	u	u	u	u	u	u
Endosulfan I	u	u	u	u	u	u	u	u	u
Dieldrin	u	5.4	u	u	u	u	21	u	u
4,4'-DDE	u	u	u	u	u	u	u	u	u
Endrin	u	u	u	u	u	u	u	u	u
Endosulfan II	u	u	u	u	u	u	u	u	u
4,4'-DDD	u	u	u	u	u	u	u	u	u
Methoxychlor	u	u	u	u	u	u	u	u	u
Endrin Ketone	u	u	u	u	u	u	u	u	u
Endrin aldehyde	u	u	u	u	u	u	u	u	u
Chlordane	u	u	u	u	u	u	u	u	u
Toxaphene	u	u	u	u	u	u	u	u	u
Polychlorinated biphenyls (PCBs)									
Aroclor-1016	u	u	u	u	u	u	u	u	u
Aroclor-1221	u	u	u	u	u	u	u	u	u
Aroclor-1232	u	u	u	u	u	u	u	u	u
Aroclor-1242	u	u	u	u	u	u	u	u	u
Aroclor-1248	u	u	u	u	u	u	u	u	u
Aroclor-1254	u	u	u	u	u	u	u	u	u
Aroclor-1260	u	u	u	u	u	u	u	u	u

Note: "u" - Not Detected.

"j" - Compound detected but below detection limit.

"b" - Compound found in method blank.

JFK INTERNATIONAL AIRPORT
British Airways, Building 59
TABLE V

GROUNDWATER	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9A	MW-10
SAMPLE ID#	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Total Petroleum Hydrocarbons	u	u	no sample	u	u	u	u	u	u	u
Total Cyanide (TCN)	u	u	N/A	u	u	u	u	u	u	u
Total Phenol	u	u	N/A	u	u	u	u	u	u	u
METALS			N/A							
Silver	u	u	N/A	u	u	u	u	u	u	u
Arsenic	u	u	N/A	u	u	u	u	u	u	u
Beryllium	u	u	N/A	u	u	u	u	u	u	u
Cadmium	u	u	N/A	u	u	u	u	u	u	u
Chromium	u	u	N/A	u	u	u	u	u	u	u
Copper	u	u	N/A	u	u	u	u	u	u	u
Mercury	u	u	N/A	u	u	u	u	u	u	u
Nickel	u	u	N/A	u	u	u	u	u	u	u
Lead	u	u	N/A	u	u	u	u	u	u	u
Antimony	u	u	N/A	u	u	u	u	u	u	u
Selenium	u	u	N/A	u	u	u	u	u	u	u
Thallium	u	u	N/A	u	u	u	u	u	u	u
Zinc	u	u	N/A	0.064	u	u	u	0.958	0.057	u

Note: "u" - Not Detected.

"J" - Compound detected but below detection limit.

"b" - Compound found in method blank.

"A" - Monitoring well # with an "A" designation indicates a duplicate sample taken from that well.

JFK INTERNATIONAL AIRPORT
British Airways, Building 59
TABLE VI

WATER SAMPLE ID #	MW-2	MW-3	MW-5	MW-6
VOC	ug/L	ug/L	ug/L	ug/L
(Volatile Organics Analysis)				
Chloromethane	u	u	u	u
Bromomethane	u	u	u	u
Vinyl Chloride	u	u	u	u
Chloroethane	u	u	u	u
Trichlorofluoromethane	u	u	u	u
Methylene Chloride	u	u	u	u
1,1-Dichloroethene	u	u	u	u
1,1-Dichloroethane	u	u	u	u
trans-1,2-Dichloroethene	u	u	u	u
Chloroform	u	u	u	u
1,2-Dichloroethane	u	u	u	u
1,1,1-Trichlorethane	u	u	u	u
Carbon Tetrachloride	u	u	u	u
Bromodichloromethane	u	u	u	u
1,2-Dichloropropane	u	u	u	u
Trichloroethene	u	u	u	u
Dibromochloromethane	u	u	u	u
1,1,2-Trichloroethane	u	u	u	u
Benzene	u	u	u	u
trans-1,3-Dichlorpropene	u	u	u	u
Bromoform	u	u	u	u
Tetrachloroethene	u	u	u	u
1,1,2,2-Tetrachlorethane	u	u	u	u
Toluene	u	u	u	u
Chlorobenzene	u	u	u	u
Ethylbenzene	u	u	u	u
Xylenes (para & meta)	u	u	u	u
Xylenes (ortho)	u	u	u	u
2-Chloroethyl vinyl ether	u	u	u	u
1,3-Dichlorobenzene	u	u	u	u
1,4 Dichlorobenzene	u	u	u	u
1,2-Dichlorbenzene	u	u	u	u
Acrolein	u	u	u	u
Acrylonitrile	u	u	u	u
Methyl-tert-butyl ether	u	u	u	u
tert-Butyl Alcohol	u	u	u	u

Note: "u" - Not detected.

"j" - Compound detected but below detection limit.

"b" - Compound found in method blank.

JFK INTERNATIONAL AIRPORT
British Airways, Building 59
TABLE VI

WATER SAMPLE ID #	MW-7	MW-8	MW-9	MW-9A	MW-10
VOC	ug/L	ug/L	ug/L	ug/L	ug/L
(Volatile Organics Analysis)					
Chloromethane	u	u	u	u	u
Bromomethane	u	u	u	u	u
Vinyl Chloride	u	u	u	u	u
Chloroethane	u	u	u	u	u
Trichlorofluoromethane	u	u	u	u	u
Methylene Chloride	u	u	u	u	u
1,1-Dichloroethene	u	u	u	u	u
1,1-Dichloroethane	1	2	u	u	u
trans-1,2-Dichloroethene	u	u	u	u	u
Chloroform	u	u	u	u	u
1,2-Dichloroethane	u	u	u	u	u
1,1,1-Trichlorethane	u	u	u	u	u
Carbon Tetrachloride	u	u	u	u	u
Bromodichloromethane	u	u	u	u	u
1,2-Dichloropropane	u	u	u	u	u
Trichloroethene	u	u	u	u	u
Dibromochloromethane	u	u	u	u	u
1,1,2-Trichloroethane	u	u	u	u	u
Benzene	u	u	u	u	u
trans-1,3-Dichlorpropene	u	u	u	u	u
Bromoform	u	u	u	u	u
Tetrachloroethene	u	u	u	u	u
1,1,2,2-Tetrachlorethane	u	u	u	u	u
Toluene	u	u	u	u	u
Chlorobenzene	u	u	u	u	u
Ethylbenzene	u	u	u	u	u
Xylenes (para & meta)	u	u	u	u	u
Xylenes (ortho)	u	u	u	u	u
2-Chloroethyl vinyl ether	u	u	u	u	u
1,3-Dichlorobenzene	u	u	u	u	u
1,4 Dichlorobenzene	u	u	u	u	u
1,2-Dichlorbenzene	u	u	u	u	u
Acrolein	u	u	u	u	u
Acrylonitrile	u	u	u	u	u
Methyl-tert-butyl ether	u	u	u	u	u
tert-Butyl Alcohol	u	u	u	u	u

Note: "u" - Not detected.

"j" - Compound detected but below detection limit.

"b" - Compound found in method blank.

"A" - Monitoring well # with an "A" designation indicates a duplicate sample taken from that well.

JFK INTERNATIONAL AIRPORT
British Airways, Building 59
TABLE VII

WATER SAMPLE ID #	MW-2	MW-3	MW-5	MW-6
Semivolatile	ug/L	ug/L	ug/L	ug/L
N-nitrosodimethylamine	u	u	u	u
Phenol	u	u	u	u
bis(2-Chlorethyl)ether	u	u	u	u
2-Chlorphenol	u	u	u	u
1,3-Dichlorobenzene	u	u	u	u
1,4-Dichlorobenzene	u	u	u	u
1,2-Dichlorobenzene	u	u	u	u
bis(2-chloroisopropyl)ether	u	u	u	u
N-Nitoroso-Di-n-propylamine	u	u	u	u
Hexachloroethane	u	u	u	u
Nitrobenzene	u	u	u	u
Isophorone	u	u	u	u
2-Nitrophenol	u	u	u	u
2,4-Dimethylphenol	u	u	u	u
Bis(2-Chloroethoxy)Methane	u	u	u	u
2,4-Dichlorophenol	u	u	u	u
1,2,4-Trichlorobenzene	u	u	u	u
Naphthalene	u	u	u	u
Hexachlorobutadiene	u	u	u	u
4-Chloro-3-methylphenol	u	u	u	u
Hexachlorocyclopentadiene	u	u	u	u
2,4,6-Trichlorophenol	u	u	u	u
2-Chloronaphthalene	u	u	u	u
Dimethylphthalate	u	u	u	u
Acenapthylene	u	u	u	u
2,6-Dinitrophenol	u	u	u	u
4-Nitrophenol	u	u	u	u
2,4-Dinitrotoluene	u	u	u	u
Acenaphthene	u	u	u	u
2,4-Dinitrophenol	u	u	u	u
4-Nitrophenol	u	u	u	u
2,4-Dinitrotoluene	u	u	u	u
Diethylphthalate	u	u	u	u
Fluorene	u	u	u	u
4-Chlorophenyl-penylether	u	u	u	u
4,6-Dinitro-2-methylphenol	u	u	u	u
n-Nitrosodiphenylamine	u	u	u	u
1,2-Dipheylhydrazine	u	u	u	u
4-Bromophenyl-phenylether	u	u	u	u
Hexachlorobenzene	u	u	u	u
Pentachlorophenol	u	u	u	u
Phenanthrene	u	u	u	u

JFK INTERNATIONAL AIRPORT
British Airways, Building 59
TABLE VII

WATER SAMPLE ID #	MW-2	MW-3	MW-5	MW-6
Semivolatile	ug/L	ug/L	ug/L	ug/L
Benzidine	u	u	u	u
Pyrene	u	u	u	u
Butylbenzylphthalate	u	u	u	u
Benzo(a)anthracene	u	u	u	u
3,3-Dichlorobenzidine	u	u	u	u
Chrysene	u	u	u	u
bis(2-Ethylhexyl)phthalate	2b	u	u	u
Di-n-octylphthalate	u	u	u	u
Benzo(a)fluroanthene	u	u	u	u
Benzo(k)fluroanthene	u	u	u	u
Benzo(a)pyrene	u	u	u	u
Indeno(1,2,3-cd)pyrene	u	u	u	u
Dibenz(a,h)anthracene	u	u	u	u
Benzo(g,h,i)perylene	u	u	u	u

Note: "u" - Not Detected.

"j" - Compound detected but below detection limit.

"b" - Compound found in method blank.

JFK INTERNATIONAL AIRPORT
British Airways, Building 59
TABLE VII

WATER SAMPLE ID #	MW-7	MW-8	MW-9	MW-9A	MW-10
Semivolatile	ug/L	ug/L	ug/L	ug/L	ug/L
N-nitrosodimethylamine	U	U	U	U	U
Phenol	U	U	U	U	U
bis(2-Chlorethyl)ether	U	U	U	U	U
2-Chlorphenol	U	U	U	U	U
1,3-Dichlorobenzene	U	U	U	U	U
1,4-Dichlorobenzene	U	U	U	U	U
1,2-Dichlorobenzene	U	U	U	U	U
bis(2-chloroisopropyl)ether	U	U	U	U	U
N-Nitoroso-Di-n-propylamine	U	U	U	U	U
Hexachloroethane	U	U	U	U	U
Nitrobenzene	U	U	U	U	U
Isophorone	U	U	U	U	U
2-Nitrophenol	U	U	U	U	U
2,4-Dimethylphenol	U	U	U	U	U
Bis(2-Chloroethoxy)Methane	U	U	U	U	U
2,4-Dichlorophenol	U	U	U	U	U
1,2,4-Trichlorobenzene	U	U	U	U	U
Naphthalene	U	U	U	U	U
Hexachlorobutadiene	U	U	U	U	U
4-Chloro-3-methylphenol	U	U	U	U	U
Hexachlorocyclopentadiene	U	U	U	U	U
2,4,6-Trichlorophenol	U	U	U	U	U
2-Chloronaphthalene	U	U	U	U	U
Dimethylphthalate	U	U	U	U	U
Acenapthylene	U	U	U	U	U
2,6-Dinitrophenol	U	U	U	U	U
4-Nitrophenol	U	U	U	U	U
2,4-Dinitrotoluene	U	U	U	U	U
Acenaphthene	U	U	U	U	U
2,4-Dinitrophenol	U	U	U	U	U
4-Nitrophenol	U	U	U	U	U
2,4-Dinitrotoluene	U	U	U	U	U
Diethylphthalate	U	U	U	U	U
Fluorene	U	U	U	U	U
4-Chlorophenyl-penylether	U	U	U	U	U
4,6-Dinitro-2-methylphenol	U	U	U	U	U
n-Nitrosodiphenylamine	U	U	U	U	U
1,2-Dipheylhydrazine	U	U	U	U	U
4-Bromophenyl-phenylether	U	U	U	U	U
Hexachlorobenzene	U	U	U	U	U
Pentachlorophenol	U	U	U	U	U
Phenanthrene	U	U	U	U	U

JFK INTERNATIONAL AIRPORT
British Airways, Building 59
TABLE VII

WATER SAMPLE ID #	MW-7	MW-8	MW-9	MW-9A	MW-10
Semivolatile	ug/L	ug/L	ug/L	ug/L	ug/L
Benzidine	u	u	u	u	u
Pyrene	u	u	u	u	u
Butylbenzylphthalate	u	u	u	u	u
Benzo(a)anthracene	u	u	u	u	u
3,3-Dichlorobenzidine	u	u	u	u	u
Chrysene	u	u	u	u	u
bis(2-Ethylhexyl)phthalate	7b	3b	2b	u	3b
Di-n-octylphthalate	u	u	u	u	u
Benzo(a)fluroanthene	u	u	u	u	u
Benzo(k)fluroanthene	u	u	u	u	u
Benzo(a)pyrene	u	u	u	u	u
Indeno(1,2,3-cd)pyrene	u	u	u	u	u
Dibenz(a,h)anthracene	u	u	u	u	u
Benzo(g,h,I)perylene	u	u	u	u	u

Note: "u" - Not Detected.

"j" - Compound detected but below detection limit.

"b" - Compound found in method blank.

"A" - Monitoring well # with an "A" designation indicates a duplicate sample taken from that well.

JFK INTERNATIONAL AIRPORT
British Airways, Building 59
TABLE VIII

WATER SAMPLE ID #	MW-2	MW-3	MW-5	MW-6	MW-7	MW-8	MW-9	MW-9A	MW-10
Pesticide	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
alpha-BHC	u	u	u	u	u	u	u	u	u
beta-BHC	u	u	u	u	u	u	u	u	u
delta-BHC	u	u	u	u	u	u	u	u	u
gamma-BHC	u	u	u	u	u	u	u	u	u
Heptachlor	u	u	u	u	u	u	u	u	u
Endosulfan I	u	u	u	u	u	0.06	u	u	u
Dieldrin	u	u	u	u	u	u	u	u	u
4,4'-DDE	u	u	u	u	u	u	u	u	u
Endrin	u	u	u	u	u	u	u	u	u
Endosulfan II	u	u	u	u	u	u	u	u	u
4,4'-DDT	u	u	u	0.05	u	u	u	u	u
Methoxychlor	u	u	u	u	u	u	u	u	u
Endrin Ketone	u	u	u	u	u	u	u	u	u
Endrin aldehyde	u	u	u	u	u	u	u	u	u
Chlordane	u	u	u	u	u	u	u	u	u
Toxaphene	u	u	u	u	u	u	u	u	u
Polychlorinated biphenyls (PCBs)		u	u	u	u	u	u	u	u
Aroclor-1016	u	u	u	u	u	u	u	u	u
Aroclor-1221	u	u	u	u	u	u	u	u	u
Aroclor-1232	u	u	u	u	u	u	u	u	u
Aroclor-1242	u	u	u	u	u	u	u	u	u
Aroclor-1248	u	u	u	u	u	u	u	u	u
Aroclor-1254	u	u	u	u	u	u	u	u	u
Aroclor-1260	u	u	u	u	u	u	u	u	u

Note: "u" - Not Detected.

"j" - Compound detected but below detection limit.

"b" - Compound found in method blank.

"A" - Monitoring well # with an "A" designation indicates a duplicate sample taken from that well.

APPENDIX "A"

BORING LOGS AND MONITORING WELLS DEVELOPMENT DATA

PA 547
6-90

THE PORT AUTHORITY OF NY & NJ

Engineering Department
Construction Division
Materials Engineering Section

BORING REPORT

SHEET 1 OF 4

PROJECT	NAME OF CONTRACTOR	BORING NO.	SURFACE ELEV.
JFK - British Air	Craig	MW-2	
LOCATION		CONTRACT NO.	DATE
3' south of orig location (Grass area)		426-97-006	11/5/97

SPOON	CASING SIZE	HOLE TYPE
3 "O.D. 2 3/8 "I.D.	Augers	4" monitor

HAMMER	HAMMER
140 # FALL 30 "	# FALL "

DRILLER: P Pennell

INSPECTOR: T. Ryan

GROUND WATER LEVEL

Date	Time	Depth	Remarks
11/5/97	PM	9.0'	In sample # 5

CASING BLOWS/FT.	DEPTH	SPOON BLOWS/6"	RE- COV'D	SAMP. NO.	SAMPLE DESCRIPTION AND REMARKS (Grass Covered) — LINE LOCATES CHANGE OF PROFILE
	0	Hand Auger	Full		Top Soil 1.0'
			Rec	1	Fill- Br M-F Sand, little Gravel, little Asp.
				2	Same
	5			3	Fill- Br M-F Sand, tr Silt, tr Gr
Augers		4-5			
		5-5	20"	4	Same
		6-3		5	Same
	10	4-3	21"		
		4-6		6	Sand
		8-9	17"		
		5-7		7	Same w/ peat in tip of spoon
		7-8	18"		14.0'
	15				Bottom of Boring
	20				Note: Sample # 5 was saved for testing. Samples # 1-4 & 6-7 were screened w/ PID & then discarded.

NOTES: 1 — Length recovered; 0" — Loss of Sample, T — Trap used
2 — U = undisturbed; A = auger; OER = open end rod; V = vane
3 — Log depth of change in color of wash water, loss of water, artesian water, sand heave in casing, etc.

PORT AUTHORITY OF NY & NJ
Engineering Department - Materials Division

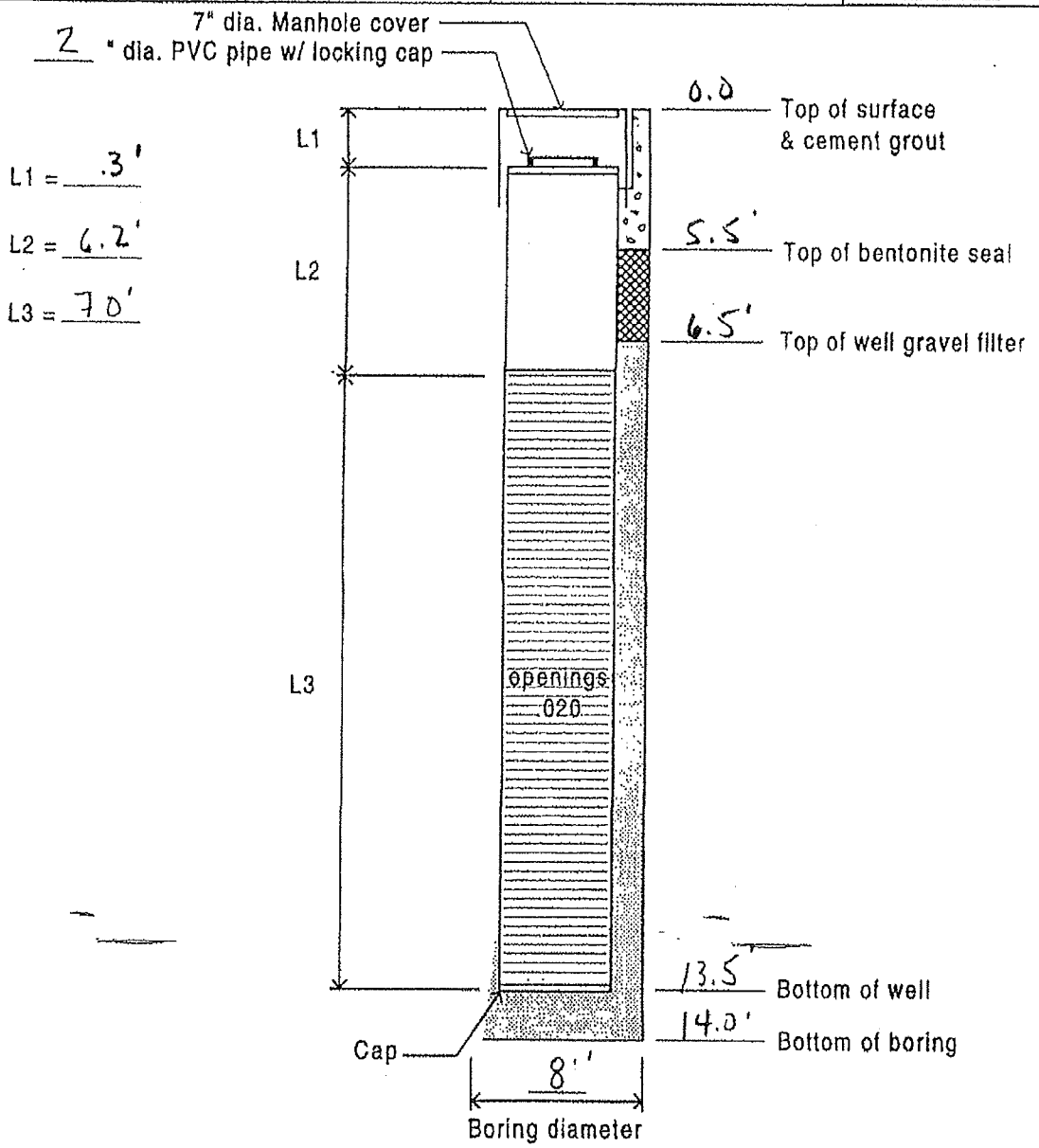
Well Installation Report

PROJECT				CONTRACT NO.
JFK- British Air				426-97-006
LOCATION				CONTRACTOR
3' south of original location				Craig
WELL NO.	WELL TYPE	INSPECTOR	DRILLER	DATE
2	A monitor	T. Ryan	P. Pennell	11/5/97

Well Development Report

(NOTE: WATER LEVEL READINGS FROM TOP OF PVC)

DATE	WATER LEVEL BEFORE	WATER LEVEL AFTER	TAKEN
11/5/97	8.3'	8.5'	20 MINUTES AFTER



REMARKS: Backfilled w/ Bent from 14.0' to 13.5'

THE PORT AUTHORITY OF N.Y & N.J.

ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
PID READINGS

PROJECT: JFK - British Air

BORING No. MW-2 DATE: 11/5/97

FIELD READINGS BY: T. Ryan PID Model: 14

TIME	SAMPLE No.	IN-SITU Split Spoon Reading	HEAD-Space Reading	BREATHING Zone Reading	REMARKS
PM	1		0.0		
	2		0.0		
	3		0.0		
	4		0.0		
	5		0.0		
	6		0.0		
↓	7		0.0		

THE PORT AUTHORITY OF N.Y & N.J.

ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
CHAIN OF CUSTODY RECORD

Sheet 4 of 4

PROJECT: JFK - British Air	
LOCATION: 3' south of orig location	DATE: 11/5/97
BORING No: MW-2	TOTAL No. OF SAMPLES: 1 + FB
SIGNATURE OF ALL PRESENT AT SAMPLING	T. Ryan

RELINQUISHED BY (SIGN)	T. Ryan	DATE 11/5/97 TIME	RECEIVED BY (SIGN)
RELINQUISHED BY (SIGN)		DATE TIME	RECEIVED BY (SIGN)
RELINQUISHED BY (SIGN)		DATE TIME	RECEIVED BY LAB

REMARKS: 1 sample in 1-16 oz jar & 1-Voa jar + 1 FB in 2-Vials

PA 547
6-90

THE PORT AUTHORITY OF NY & NJ

Engineering Department
Construction Division
Materials Engineering Section

BORING REPORT

SHEET 1 OF 2

PROJECT: JFK - British Air	NAME OF CONTRACTOR: Cray	BORING NO.: B-2A	SURFACE ELEV.:
LOCATION: As laid out by P.A. survey		CONTRACT NO.: 426-97-006	DATE: 11/5/97
SPOON: N/A "O.D. "I.D.	CASING SIZE:	HOLE TYPE: 1	
HAMMER: # FALL "	HAMMER: # FALL "		
DRILLER: P. Pennell			
INSPECTOR: T. Ryan			

GROUND WATER LEVEL

Date	Time	Depth	Remarks
			No water

CASING BLOWS/FT.	DEPTH	SPOON BLOWS/6"	RE-COV'D [1]	SAMP. [2] NO.	[3] SAMPLE DESCRIPTION AND REMARKS — LINE LOCATES CHANGE OF PROFILE	
	0	Hand	Full		Top Soil	1.0'
		Auger	Ref	1	Fill - Brn M-F Sand, little Gravel, little Asp.	2.0'
	5				Hit Asphalt Refusal - Bottom of Boring	
	10				Note: No samples saved.	
	15					
	20					

NOTES: 1 — Length recovered; 0" — Loss of Sample, T — Trap used
2 — U = undisturbed; A = auger; OER = open end rod; V = vane
3 — Log depth of change in color of wash water, loss of water, artesian water, sand heave in casing, etc.

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
PID READINGS

PROJECT: JFK - British Air

BORING No. B-2A DATE: 11/5/97

FIELD READINGS BY: T. Ryan PID Model: 14

TIME	SAMPLE No.	IN-SITU Split Spoon Reading	HEAD-Space Reading	BREATHING Zone Reading	REMARKS
PM	1		0.0		

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ENGINEERING DEPARTMENT

MATERIALS ENGINEERING DIVISION

PID READINGS

Sheet 2 of 2

PROJECT: JFK - British Air

BORING No. B-2A | DATE: 11/5/97

FIELD READINGS BY: T. Ryan | PID Model: 14

TIME	SAMPLE No.	IN-SITU Split Spoon Reading	HEAD-Space Reading	BREATHING Zone Reading	REMARKS
PM	1		0.0		

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Engineering Department
Construction Division
Materials Engineering Section

BORING REPORT

SHEET 1 OF 4

PROJECT	NAME OF CONTRACTOR	BORING NO.	SURFACE ELEV.
JFK-British Air	Craig	MW-3	
LOCATION: As laid out by P.A. survey		CONTRACT NO. 426-97-006	DATE 11/10/97

SPOON	CASING SIZE	HOLE TYPE
3 "O.D. 2 3/8 "I.D.	Augers	'A' monitor
HAMMER 140 # FALL 30 "	HAMMER # FALL "	
DRILLER: P. Pennell		
INSPECTOR: T Ryan		

GROUND WATER LEVEL

Date	Time	Depth	Remarks
11/10/97	AM	8.0'	In sample #4

CASING BLOWS/FT.	DEPTH	SPOON BLOWS/6"	RE-COV'D[1]	SAMP.[2] NO.	[3]SAMPLE DESCRIPTION AND REMARKS ___ LINE LOCATES CHANGE OF PROFILE
Bottom head	0				ASPHALT 0.5'
					SAND & GRAVEL 1.0'
		Hand Auger	Full Rec	1	Fill - Br M-F Sand, tr Silt, tr Gravel, tr Boulders (cone)
				2	Fill - Br M-F Sand, tr Silt, tr Gravel
	5			3	Same
augers		2-3		4	Same
		2-2	18"		
		4-5		5	Same
	10	5-7	19"		
		4-6		6	Same
		4-4	17"		
		5-4		7 A	Same 13.0'
		2-3	20"	7 B	Br Peat, little org clay 14.0'
	15				Bottom of Boring
	20				Note: Sample #4 was saved for testing. Samples #1-3 & 5-7B were screened w/ PID & thin discarded

NOTES: 1 — Length recovered; 0" — Loss of Sample, T — Trap used
2 — U = undisturbed; A = auger; OER = open end rod; V = vane
3 — Log depth of change in color of wash water, loss of water, artesian water, sand heave in casing, etc.

PORT AUTHORITY OF NY & NJ

Engineering Department - Materials Division

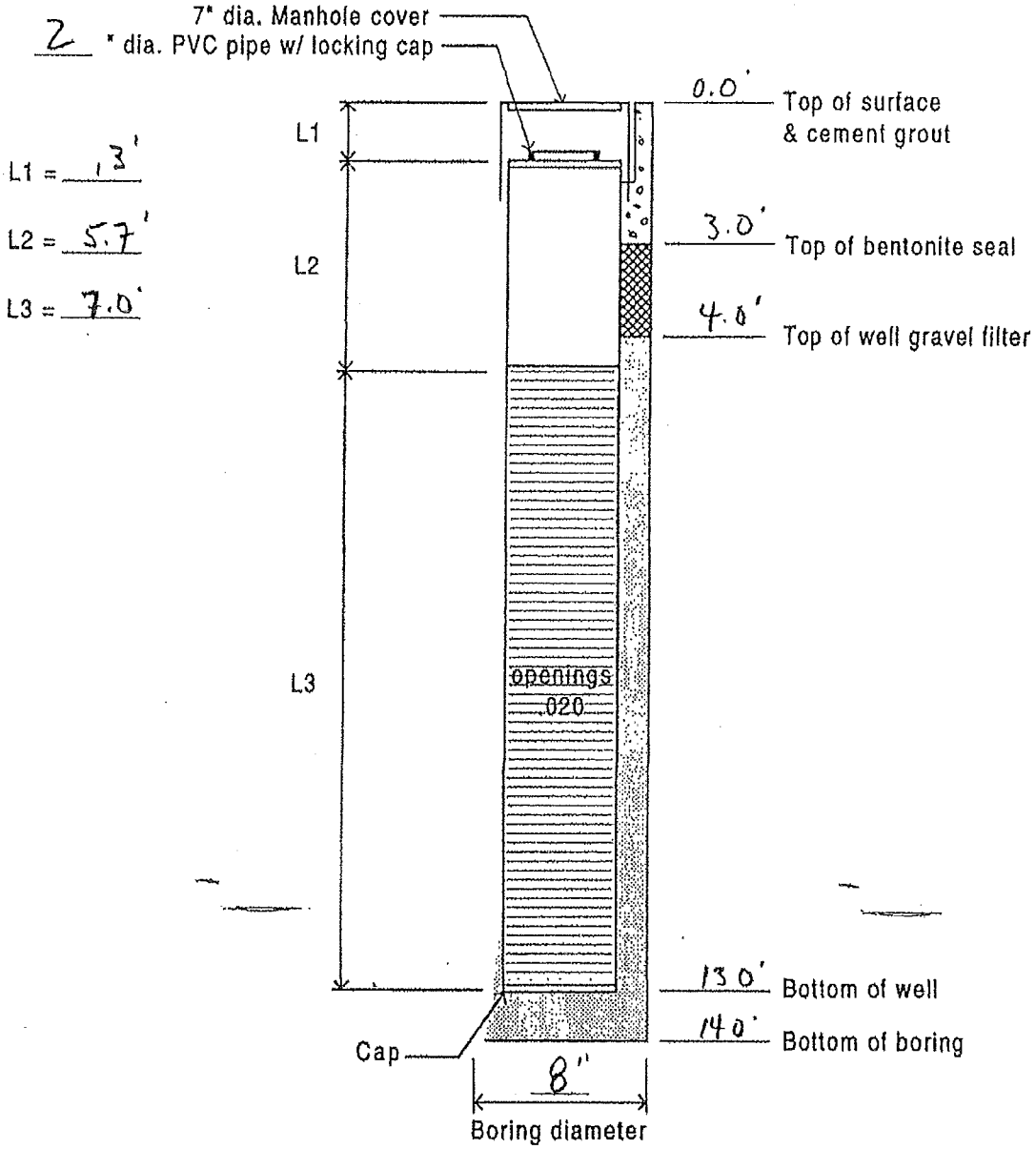
Well Installation Report

PROJECT				CONTRACT NO.
JFK - British Air				426-97-006
LOCATION				CONTRACTOR
As laid out by P.A. survey				Craig
WELL NO.	WELL TYPE	INSPECTOR	DRILLER	DATE
3	A monitor	T. Ryan	P Bennell	11/10/97

Well Development Report

(NOTE: WATER LEVEL READINGS FROM TOP OF PVC)

DATE	WATER LEVEL BEFORE	WATER LEVEL AFTER	TAKEN
11/10/97	8.0'	8.0'	15 MINUTES AFTER



REMARKS: Backfilled w/ bentonite from 14.0' to 13.0'.

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
PID READINGS

PROJECT: JFK - British Air

BORING No. MW-3 DATE: 11/10/97

FIELD READINGS BY: T Ryan PID Model: 14

TIME	SAMPLE No.	IN-SITU Split Spoon Reading	HEAD-Space Reading	BREATHING Zone Reading	REMARKS
AM	1		0.0		
	2		0.0		
	3		0.0		
	4		0.0		
	5		0.0		
	6		0.0		
	7A		0.0		
↓	7B		0.0		

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
CHAIN OF CUSTODY RECORD

Sheet 4 of 4

PROJECT: JFK - British Air

DATE: 11/10/97

LOCATION: As laid out by P.A. survey.

BORING No: MW-3

TOTAL No. OF SAMPLES: 1 + FB

SIGNATURE OF ALL PRESENT AT SAMPLING: T. Ryan

RELINQUISHED BY (SIGN) T. Ryan	DATE 11/10/97 TIME	RECEIVED BY (SIGN)	
RELINQUISHED BY (SIGN)	DATE TIME	RECEIVED BY (SIGN)	
RELINQUISHED BY (SIGN)	DATE TIME	RECEIVED BY LAB	

REMARKS: 1 sample in 1-16 oz jar & 1-Voa jar & 1-FB in 2 vials

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Engineering Department
Construction Division
Materials Engineering Section

BORING REPORT

SHEET 1 OF 4

PROJECT: JFK - British Air	NAME OF CONTRACTOR: Craig	BORING NO.: MW-4	SURFACE ELEV.:
LOCATION: 5' east of orig location		CONTRACT NO.: 426-97-006	DATE: 11/11/97

SPOON: 3 "O.D. 2 3/8 "I.D.	CASING SIZE: Augers	HOLE TYPE: Ammonite
HAMMER: 140 # FALL 30 "	HAMMER: # FALL "	
DRILLER: P. Pennell		
INSPECTOR: T Ryan		

GROUND WATER LEVEL

Date	Time	Depth	Remarks
11/11/97	AM	8.0'	In sample # 4

CASING BLOWS/FT.	DEPTH	SPOON BLOWS/6"	RE-[1] COV'D	SAMP.[2] NO.	[3]SAMPLE DESCRIPTION AND REMARKS — LINE LOCATES CHANGE OF PROFILE
Bentonite Grout	0				ASPHALT 0.3'
					SAND & GRAVEL 1.0'
		Hand Auger	Full	1	Fill - Br M-F Sand, tr Silt, tr Gravel, tr Conc Boulders.
			Rec		Same
				2	
	5			3	Fill - Br M-F Sand, tr Silt, tr Gravel
Augers		6-5			Same
		6-4	18"	4	
		7-6			Same
		4-5	20"	5	
	10	4-6			Same w/ Br Peat in tip of spoon
		5-3	14"	6	12.0'
					Bottom of Boring
	15				
					Note: Sample #4 was saved for testing. Samples # 1-3 & 5-6 were screened w/ PID & then discarded.

NOTES: 1 — Length recovered; 0" — Loss of Sample, T — Trap used
2 — U = undisturbed; A = auger; OER = open end rod; V = vane
3 — Log depth of change in color of wash water, loss of water, artesian water, sand heave in casing, etc.

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Engineering Department - Materials Division

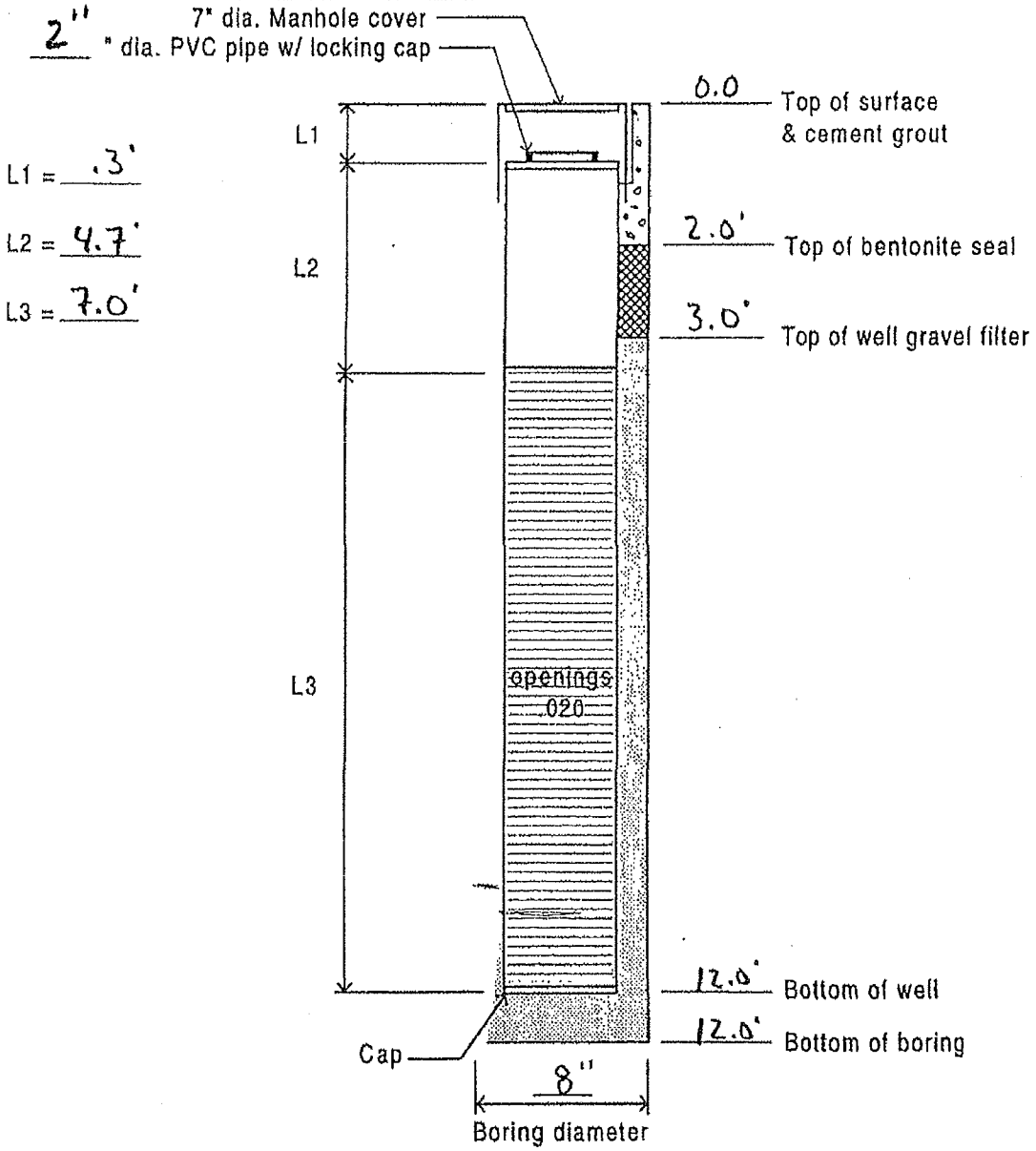
Well Installation Report

PROJECT				CONTRACT NO.
JFK - British Air				424-97-006
LOCATION				CONTRACTOR
5' east of original location				Craig
WELL NO.	WELL TYPE	INSPECTOR	DRILLER	DATE
4	A monitor	T Ryan	P Pennell	11/11/97

Well Development Report

(NOTE: WATER LEVEL READINGS FROM TOP OF PVC)

DATE	WATER LEVEL BEFORE	WATER LEVEL AFTER	TAKEN
11/11/97	8.0'	8.0'	20 MINUTES AFTER



REMARKS:

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
PID READINGS

PROJECT: JFK- British Air

BORING No. MW-4 DATE: 11/11/97

FIELD READINGS BY: T Ryan PID Model: 14

TIME	SAMPLE No.	IN-SITU Split Spoon Reading	HEAD-Space Reading	BREATHING Zone Reading	REMARKS
AM	1		0.0		
	2		0.0		
	3		0.0		
	4		0.0		
	5		0.0		
↓	6		0.0		

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
CHAIN OF CUSTODY RECORD

PROJECT: JFK - British Air

LOCATION: 5' east of original location | DATE: 11/11/97

BORING No: MW-4 | TOTAL No. OF SAMPLES: 1 + 1-FB

SIGNATURE OF ALL PRESENT AT SAMPLING: T. Ryan

RELINQUISHED BY (SIGN) T. Ryan	DATE 11/11/97 TIME	RECEIVED BY (SIGN)
RELINQUISHED BY (SIGN)	DATE TIME	RECEIVED BY (SIGN)
RELINQUISHED (SIGN)	DATE TIME	RECEIVED BY LAB

REMARKS: 1 sample in 1-16 oz jar & 1-Voa jar & 1-FB in 2-Vials.

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Engineering Department
Construction Division
Materials Engineering Section

BORING REPORT

SHEET 1 OF 4

PROJECT: JFK - British Air	NAME OF CONTRACTOR: Craig	BORING NO.: MW-5	SURFACE ELEV.:
LOCATION: As laid out by P.A. survey		CONTRACT NO.: 426-97-006	DATE: 11/6/97

SPOON	CASING SIZE	HOLE TYPE
3 "O.D. 2 3/8 "I.D.	Augers	Ammitor

HAMMER	HAMMER
140 # FALL 30 "	# FALL "

DRILLER: P Pennell

INSPECTOR: T. Ryan

GROUND WATER LEVEL

Date	Time	Depth	Remarks
11/6/97	PM	8.0'	In sample # 4

CASING BLOWS/FT.	DEPTH	SPOON BLOWS/6"	RE-COV'D	SAMP.[2] NO.	[3]SAMPLE DESCRIPTION AND REMARKS — LINE LOCATES CHANGE OF PROFILE
Bullet Head	0				Asphalt 0.5'
					Sand & Gravel 1.0'
		Hand Auger	Full Rec	1	Fill - Br M-F Sand, tr Silt, tr Asp
				2	Same
	5			3	Fill - Br M-F Sand, tr Silt, tr Gravel
augers		4-5			
		5-5	18"	4	Same
		3-4			
		5-7	20"	5	Same
	10	3-3			
		3-3	17"	6	Sand
		4-3			
		2-2	19"	7	Same 13.0'
					Bl Mill Clay, some Peat 14.0'
	15				Bottom of Boring
					Note: Sample # 4 was saved for testing. Sample #s 1-3 & 5-7 were screened w/ PID & then discarded.
	20				

NOTES: 1 — Length recovered; 0" — Loss of Sample, T — Trap used
2 — U = undisturbed; A = auger; OER = open end rod; V = vane
3 — Log depth of change in color of wash water, loss of water, artesian water, sand heave in casing, etc.

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Engineering Department - Materials Division

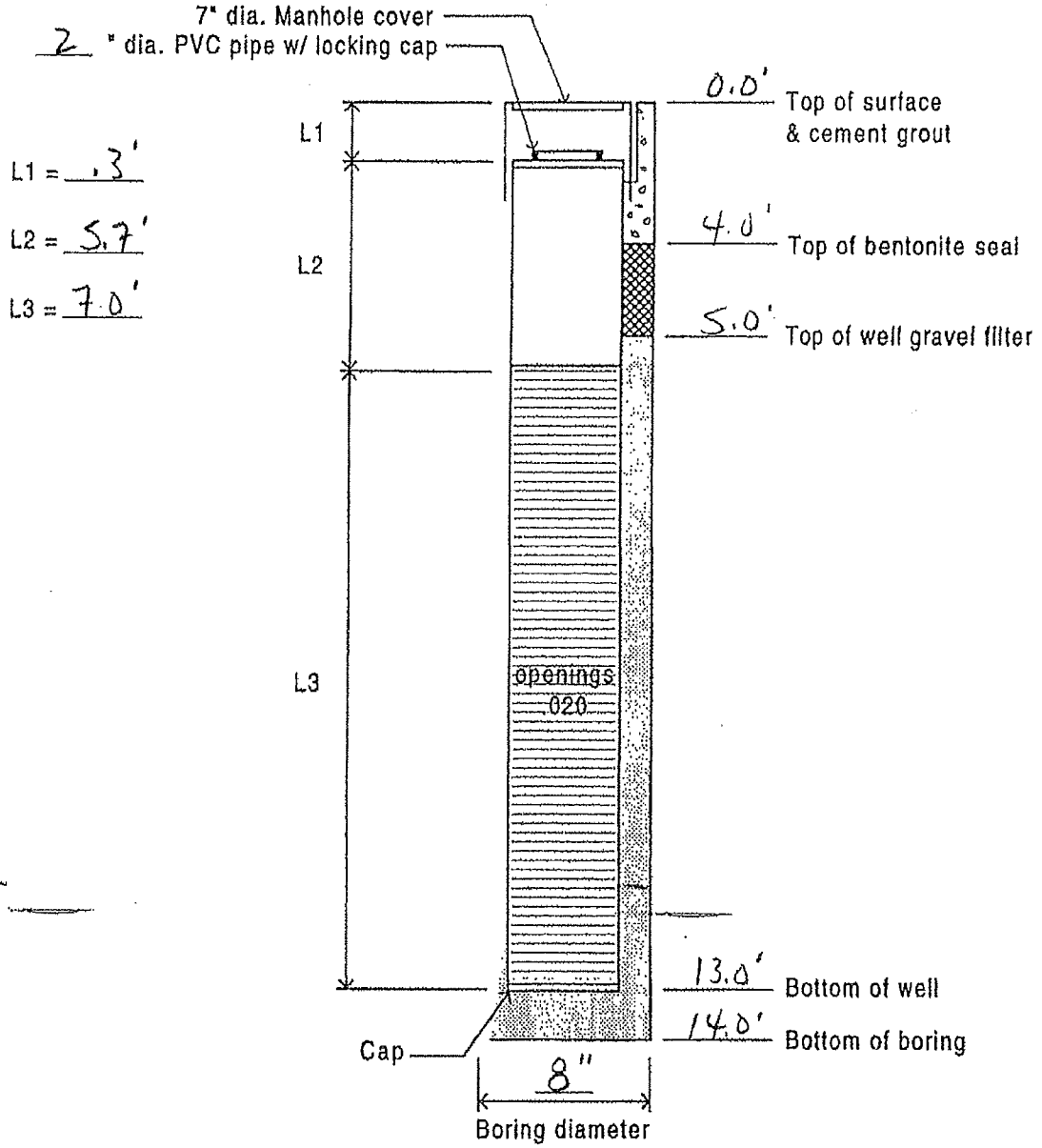
Well Installation Report

PROJECT				CONTRACT NO.
JFK - British Air				426-97-006
LOCATION				CONTRACTOR
As laid out by PA. survey				Craig
WELL NO.	WELL TYPE	INSPECTOR	DRILLER	DATE
5	A monitor	T. Ryan	P. Bennell	11/6/97

Well Development Report

(NOTE: WATER LEVEL READINGS FROM TOP OF PVC)

DATE	WATER LEVEL BEFORE	WATER LEVEL AFTER	TAKEN
11/6/97	8.1	8.1	15 MINUTES AFTER



REMARKS:

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
PID READINGS

PROJECT: JFK-British Air

BORING No. MW-5 DATE: 11/6/97

FIELD READINGS BY: T. Ryan PID Model: 14

TIME	SAMPLE No.	IN-SITU Split Spoon Reading	HEAD-Space Reading	BREATHING Zone Reading	REMARKS
PM	1		0.0		
	2		0.0		
	3		0.0		
	4		0.0		
	5		0.0		
	6		0.0		
↓	7		0.0		

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
CHAIN OF CUSTODY RECORD

Sheet 4 of 4

PROJECT: JFK- British Air

LOCATION: As laid out by P.A. survey | DATE: 11/6/97

BORING No: MW-5 | TOTAL No. OF SAMPLES: 1

SIGNATURE OF ALL PRESENT AT SAMPLING: T. Ryan

RELINQUISHED BY (SIGN) T. Ryan	DATE 11/6/97 TIME	RECEIVED BY (SIGN)
RELINQUISHED BY (SIGN)	DATE TIME	RECEIVED BY (SIGN)
RELINQUISHED (SIGN)	DATE TIME	RECEIVED BY LAB

REMARKS: 1 sample in 1-16oz jar & 1-Voa jar

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Engineering Department
Construction Division
Materials Engineering Section

BORING REPORT

SHEET 1 OF 4

PROJECT: JFK - British Air	NAME OF CONTRACTOR: Craig	BORING NO.: MW-6	SURFACE ELEV.:
LOCATION: As laid out by P.A. survey.		CONTRACT NO.: 426-97-006	DATE: 11/10/97

SPOON: 3 "O.D. 2 3/8 "I.D. | CASING SIZE: Augers | HOLE TYPE: Amonitor

HAMMER: 140 # FALL 30 " | HAMMER: # FALL "

DRILLER: P. Pennell

INSPECTOR: T. Ryan

GROUND WATER LEVEL

Date	Time	Depth	Remarks
11/10/97	PM	7.5'	In sample # 4

CASING BLOWS/FT.	DEPTH	SPOON BLOWS/6"	RE-COV'D[1]	SAMP.[2] NO.	[3]SAMPLE DESCRIPTION AND REMARKS ____ LINE LOCATES CHANGE OF PROFILE
Bullet Head	0				ASPHALT 0.3'
					Sand & Gra 1.0'
		Hand Auger	Full	1	Fill - Br M-F Sand, tr Silt, tr Gravel
			Rec.	2	Same w/ tr Boulders (conc)
	5			3	Fill - Br M-F Sand, tr Silt, tr Gravel
gers		5-7		4	Same
		8-6	14"		
		4-6		5	Same
	10	7-5	17"		
		5-5		6 A	Same 11.0'
		2-2	15"	6 B	Bl org silty Clay, tr Peat 12.0'
	15				Bottom of Boring

Note: Sample # 4 was saved for testing. Samples # 1-3 & 5-6B were screened w/ PID & then discarded.

NOTES: 1 — Length recovered; 0" — Loss of Sample, T — Trap used
2 — U = undisturbed; A = auger; OER = open end rod; V = vane
3 — Log depth of change in color of wash water, loss of water, artesian water, sand heave in casing, etc.

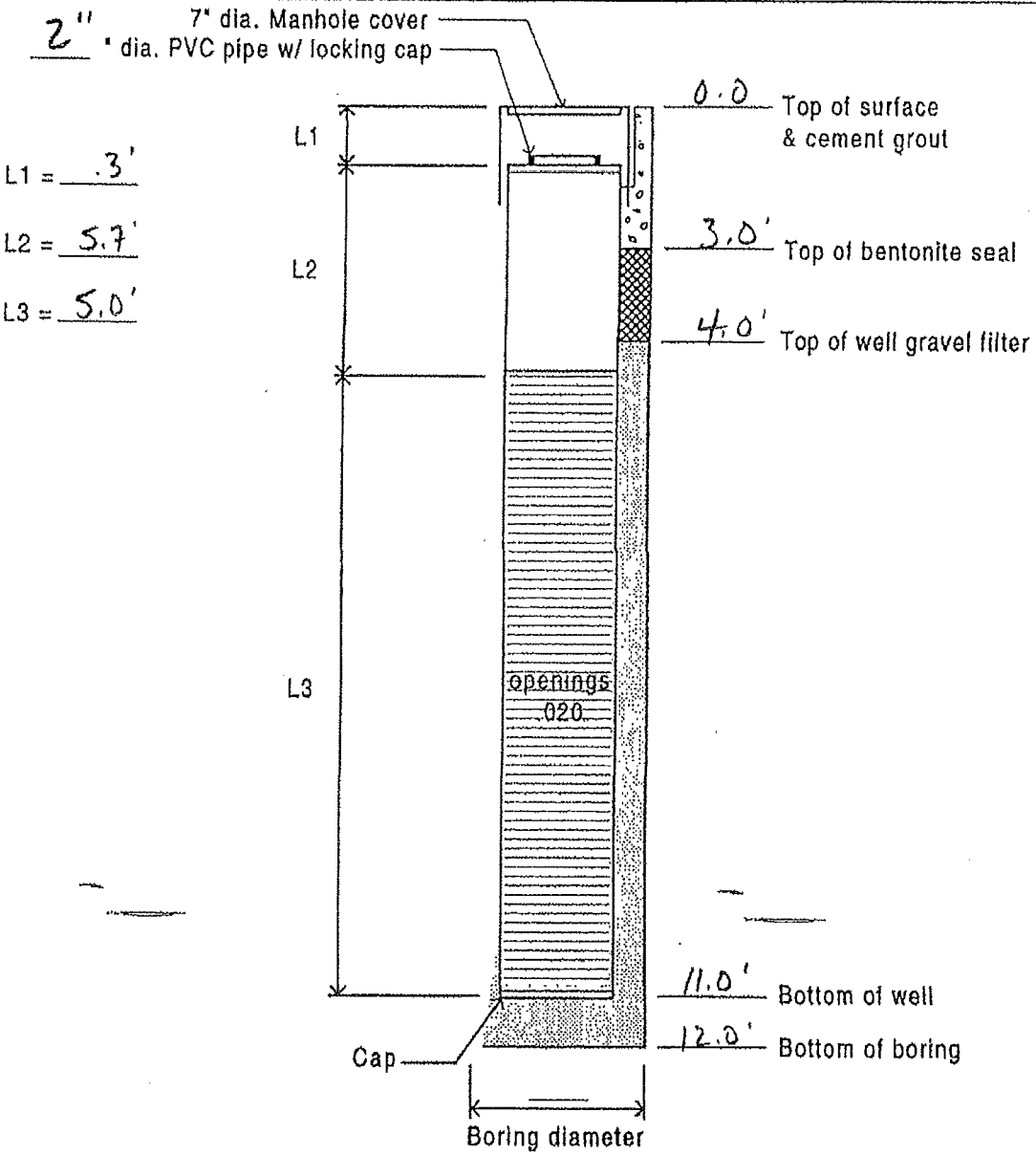
PORT AUTHORITY OF NY & NJ
Engineering Department - Materials Division

Well Installation Report

PROJECT				CONTRACT NO.
JFK - British Air				426-97-006
LOCATION				CONTRACTOR
As laid out by P.A. survey				Craig
WELL NO.	WELL TYPE	INSPECTOR	DRILLER	DATE
6	A monitor	T. Ryan	P. Pennell	11/10/97

Well Development Report (NOTE: WATER LEVEL READINGS FROM TOP OF PVC)

DATE				
11/10/97	WATER LEVEL BEFORE 7.7'	WATER LEVEL AFTER 7.7'	TAKEN 20	MINUTES AFTER



REMARKS: Backfilled w/ Bent. from 12.0' – 11.0'

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ENGINEERING DEPARTMENT

MATERIALS ENGINEERING DIVISION

PID READINGS

PROJECT: JFK- British Air

BORING No. MW-6 DATE: 11/10/97

FIELD READINGS BY: T Ryan PID Model: 14

TIME	SAMPLE No.	IN-SITU Split Spoon Reading	HEAD-Space Reading	BREATHING Zone Reading	REMARKS
PM	1		0.0		
↓	2		0.0		
↓	3		0.0		
↓	4		0.0		
↓	5		0.0		
↓	6A		0.0		
↓	6B		0.0		

THE PORT AUTHORITY OF N.Y. & N.J.

ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
CHAIN OF CUSTODY RECORD

Sheet 4 of 4

PROJECT: JFK - British Air	
LOCATION: As laid out by P.A. survey	DATE: 11/10/97
BORING No: M.W. - 6	TOTAL No. OF SAMPLES: 1
SIGNATURE OF ALL PRESENT AT SAMPLING: T. Ryan	
RELINQUISHED BY (SIGN): T. Ryan	DATE 11/10/97 TIME — RECEIVED BY (SIGN)
RELINQUISHED BY (SIGN)	DATE — TIME — RECEIVED BY (SIGN)
RELINQUISHED (SIGN)	DATE — TIME — RECEIVED BY LAB

REMARKS: 1 sample in 1-16oz. jar & 1-Voa jar

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THE PORT AUTHORITY OF NY & NJ

Engineering Department
Construction Division
Materials Engineering Section

BORING REPORT

SHEET 1 OF 4

PROJECT	NAME OF CONTRACTOR	BORING NO.	SURFACE ELEV.
JFK - British Air	Craig	MW-7	
LOCATION		CONTRACT NO.	DATE
As laid out by PA survey		426-97-006	11/6/97

SPOON	CASING SIZE	HOLE TYPE
3 "O.D. 2 3/8 "I.D.	Augers	Ammiton

HAMMER	HAMMER
140 # FALL 30 "	# FALL "

DRILLER: P Pennell

INSPECTOR: T Ryan

GROUND WATER LEVEL

Date	Time	Depth	Remarks
11/6/97	AM	10.0'	In tip of spoon of S-5

CASING BLOWS/FT.	DEPTH	SPOON BLOWS/6"	RE- [1] COV'D	SAMP.[2] NO.	[3]SAMPLE DESCRIPTION AND REMARKS — LINE LOCATES CHANGE OF PROFILE
Bullet Head	0				ASPHALT 0.5'
					SAND & GRAVEL 1.0'
		Hand	Full	1	Fill - Br M-F Sand, little Gravel
		Auger	Rec	2	Same
	5			3	Same
ugers		7-8		4	Same
		10-11	20"		
		12-15		5	Same
	10	15-18	19"		
		9-10		6	Same
		10-10	18"		
		12-9		7	Same
		13-15	18"		
	15	10-12		8	Same
		11-12	21"		
					16.0'
					Bottom of Boring
	20				
					Note: Sample # 5 was saved for testing. Samples # 1-4 & 6-8 were screened w/ PID & then discarded

NOTES: 1 — Length recovered; 0" — Loss of Sample, T — Trap used
2 — U = undisturbed; A = auger; OER = open end rod; V = vane
3 — Log depth of change in color of wash water, loss of water, artesian water, sand heave in casing, etc.

PORT AUTHORITY OF NY & NJ
Engineering Department - Materials Division

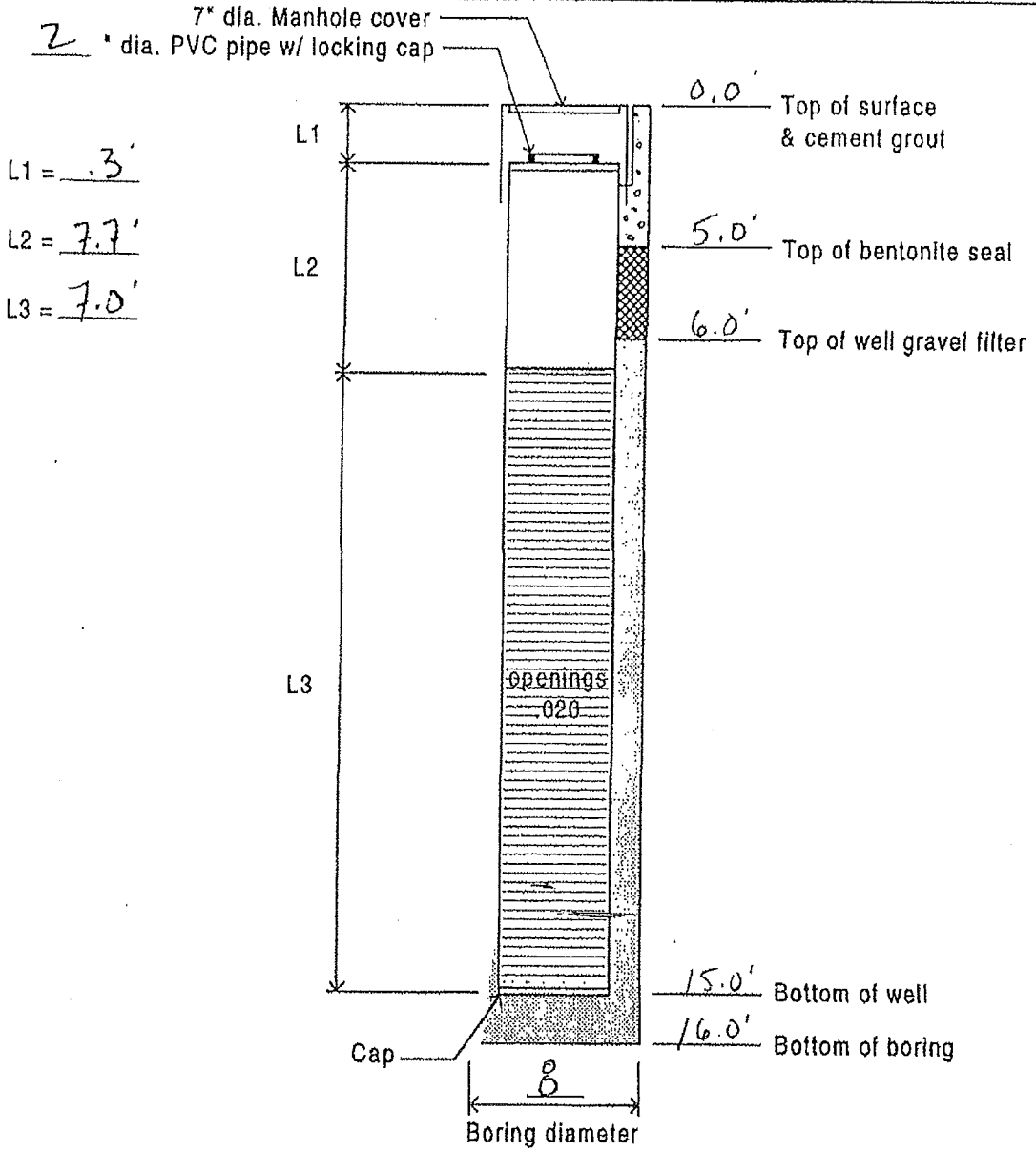
ell Installation Report

PROJECT				CONTRACT NO.
JFK - British Air				426-97-006
LOCATION				CONTRACTOR
As laid out by PA survey				Craig
WELL NO.	WELL TYPE	INSPECTOR	DRILLER	DATE
7	A monitor	T. Ryan	P. Pennell	11/6/97

Well Development Report

(NOTE: WATER LEVEL READINGS FROM TOP OF PVC)

DATE	WATER LEVEL BEFORE	WATER LEVEL AFTER	TAKEN
11/6/97	9.9'	9.9'	20 MINUTES AFTER



REMARKS: Backfilled w/ sand from 16.0' to 15.0'

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
PID READINGS

PROJECT: JFK- British Air

BORING No. MW-7 DATE: 11/6/97

FIELD READINGS BY: T. Ryan PID Model: 14

TIME	SAMPLE No.	IN-SITU Split Spoon Reading	HEAD-Space Reading	BREATHING Zone Reading	REMARKS
AM	1		0.0		
	2		0.0		
	3		0.0		
	4		0.0		
	5		0.0		
	6		0.0		
	7		0.0		
↓	8		0.0		

THE PORT AUTHORITY

ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
CHAIN OF CUSTODY RECORD

Sheet 4 of 4

PROJECT: JFK - British Air

LOCATION: As laid out by P.A. Survey.

DATE: 11/6/97

BORING No: MW-7

TOTAL No. OF SAMPLES: 1

SIGNATURE OF ALL PRESENT AT SAMPLING: T. Ryan

RELINQUISHED BY (SIGN): T. Ryan — DATE 11/6/97 — TIME — RECEIVED BY (SIGN)

RELINQUISHED BY (SIGN) — DATE — TIME — RECEIVED BY (SIGN)

RELINQUISHED BY (SIGN) — DATE — TIME — RECEIVED BY LAB

REMARKS: 1 sample in 1-16oz jar & 1-VOA jar

PA 547
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THE PORT AUTHORITY OF NY & NJ

Engineering Department
Construction Division
Materials Engineering Section

BORING REPORT

SHEET 1 OF 4

PROJECT	NAME OF CONTRACTOR	BORING NO.	SURFACE ELEV.
JFK - British Air	Craig	MW-8	
LOCATION		CONTRACT NO.	DATE
5' east of orig. location		426-97-006	11/10/97

SPOON	CASING SIZE	HOLE TYPE
3 "O.D. 2 1/8 "I.D.	Auger	Monitor

HAMMER	HAMMER
140 # FALL 30 "	# FALL "

DRILLER: P. Pennell

INSPECTOR: T. Ryan

GROUND WATER LEVEL

Date	Time	Depth	Remarks
11/10/97	AM	8.0'	In sample # 4

CASING BLOWS/FT.	DEPTH	SPOON BLOWS/6"	RE-COV'D	SAMP.[2] NO.	[3]SAMPLE DESCRIPTION AND REMARKS _____ LINE LOCATES CHANGE OF PROFILE	
Bucket Head					ASPHALT	0.3'
					Sand & Gravel	1.0'
		Hand Auger	Full Rec	1	Fill - Br M-F Sand, tr Silt, tr Gravel	
		↓	↓	2	Same	
	5	↓	↓	3	Same w/ tr wood	
water		10-8		4	Fill - Br M-F Sand, tr Silt, tr Gravel.	
↓		7-7	19"			
		5-4		5	Same	
	10	5-5	16"			
		6-5		6	Same	
		6-7	20"			
↓		5-4		7A	Same	13.0'
		3-3	18"	7B	Br Peat, little org Clay	14.0'
	15					
					Bottom of Boring	
					Note: Sample #4 was saved for testing. Samples #1-3 & 5-7B were screened w/ PID & then discarded.	
	20					

NOTES: 1 — Length recovered; 0" — Loss of Sample, T — Trap used
2 — U = undisturbed; A = auger; OER = open end rod; V = vane
3 — Log depth of change in color of wash water, loss of water, artesian water, sand heave in casing, etc.

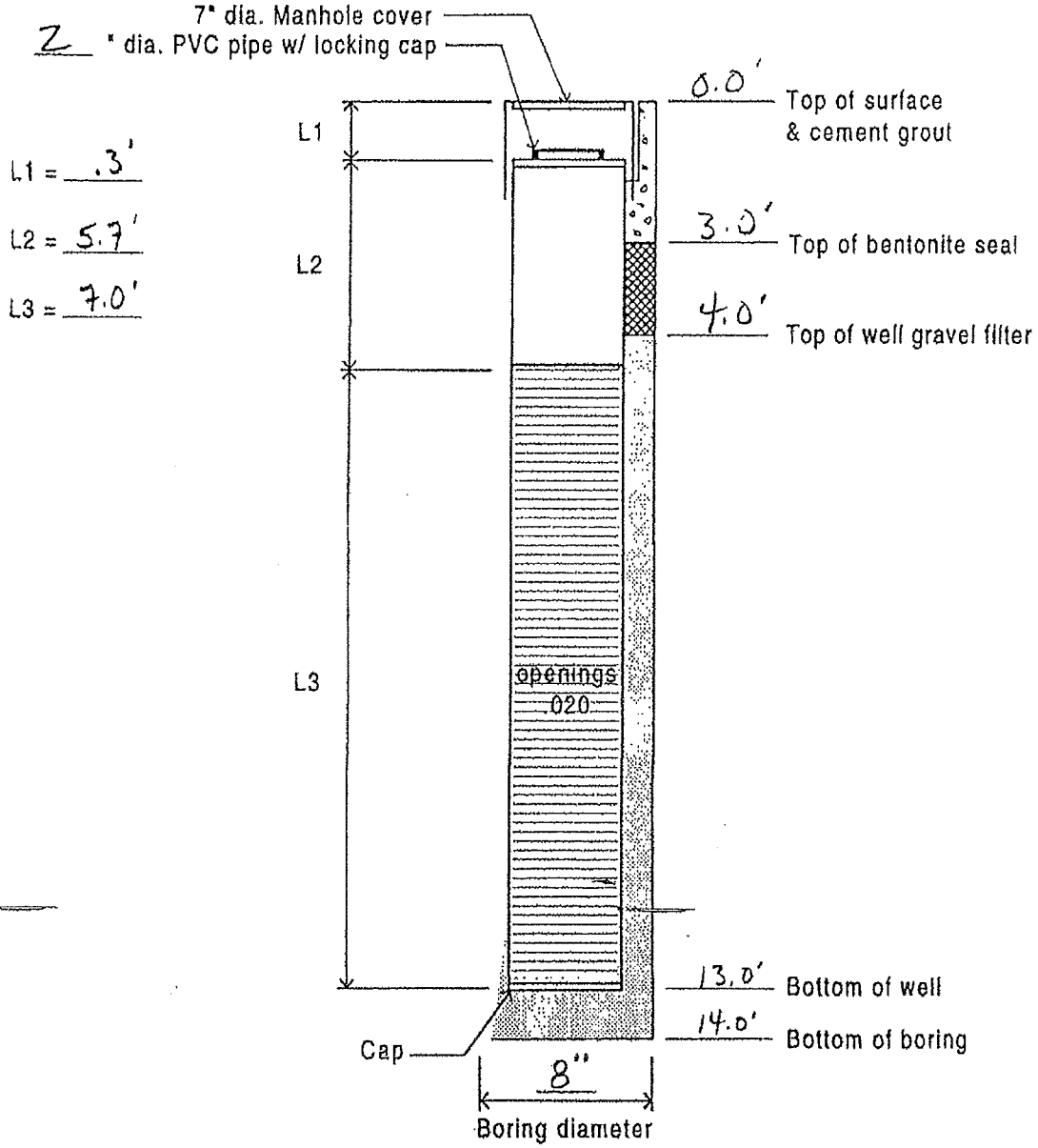
PORT AUTHORITY OF NY & NJ
Engineering Department - Materials Division

ell Installation Report Sheet 2 of 4

PROJECT				CONTRACT NO.
JFK - British Air				426-97-006
LOCATION				CONTRACTOR
5' east of original location				Craig
WELL NO.	WELL TYPE	INSPECTOR	DRILLER	DATE
8	A monitor	T. Ryan	P. Pennell	11/10/97

Well Development Report (NOTE: WATER LEVEL READINGS FROM TOP OF PVC)

DATE	WATER LEVEL BEFORE	WATER LEVEL AFTER	TAKEN
11/10/97	7.9'	8.2'	15 MINUTES AFTER



REMARKS: Bore filled w/ Bentonite from 14.0' to 13.0'

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ENGINEERING DEPARTMENT

MATERIALS ENGINEERING DIVISION

PID READINGS

PROJECT: JFK- British

BORING No. MW-8 DATE: 11/10/97

FIELD READINGS BY: T Ryan PID Model: 14

TIME	SAMPLE No.	IN-SITU Split Spoon Reading	HEAD-Space Reading	BREATHING Zone Reading	REMARKS
AM	1		0.0		
	2		0.0		
	3		0.0		
	4		0.0		
	5		0.0		
	6		0.0		
	7A		0.0		
↓	7B		0.0		

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
CHAIN OF CUSTODY RECORD

PROJECT: JFK- British Air		
LOCATION: 5' east of original location		DATE: 11/10/97
BORING No: B		TOTAL No. OF SAMPLES: 1
SIGNATURE OF ALL PRESENT AT SAMPLING	T. Ryan	
RELINQUISHED BY (SIGN) T. Ryan	DATE 11/10/97 TIME	RECEIVED BY (SIGN)
RELINQUISHED BY (SIGN)	DATE TIME	RECEIVED BY (SIGN)
RELINQUISHED (SIGN)	DATE TIME	RECEIVED BY LAB

REMARKS: 1 sample in 1-16oz jar & 1-Voa jar

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THE PORT AUTHORITY OF NY & NJ

Engineering Department
Construction Division
Materials Engineering Section

BORING REPORT

SHEET 1 OF 1

PROJECT: JFK - British Air	NAME OF CONTRACTOR: Craig	BORING NO.: 8-A	SURFACE ELEV.:
LOCATION: As laid out by PA survey.		CONTRACT NO.: 426-97-006	DATE: 11/10/97

SPOON: 3 "O.D. 2 3/8 "I.D.	CASING SIZE: Augers	HOLE TYPE: 1
HAMMER: 140 # FALL 30 "	HAMMER: # FALL "	
DRILLER: P. Pennell		
INSPECTOR: T. Ryan		

GROUND WATER LEVEL

Date	Time	Depth	Remarks
			No water encountered

CASING BLOWS/FT.	DEPTH	SPOON BLOWS/6"	RE- [1] COV'D	SAMP.[2] NO.	[3]SAMPLE DESCRIPTION AND REMARKS — LINE LOCATES CHANGE OF PROFILE
	0				ASPHALT 0.5'
					SAND & GRAVEL 1.0'
		Hand Auger	Full Rec	1	Fill - Br M-F Sand, tr Silt, tr Gravel, tr Boulders (conc)
				2	Fill - Br M-F Sand, tr Silt, tr Gravel.
	5			3	Same
		5 - 8 6 - 25/0"	14"	4	Same
					7.5'
	10				Met Obstruction - Moved Boring - Bottom of Boring
					See MW-8
					Note: No samples were saved.

NOTES: 1 — Length recovered; 0" — Loss of Sample, T — Trap used
2 — U = undisturbed; A = auger; OER = open end rod; V = vane
3 — Log depth of change in color of wash water, loss of water, artesian water, sand heave in casing, etc.

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THE PORT AUTHORITY OF NY & NJ

Engineering Department
Construction Division
Materials Engineering Section

BORING REPORT

SHEET 1 OF 4

PROJECT: JFK - British Air	NAME OF CONTRACTOR: Craig	BORING NO.: MW-9	SURFACE ELEV.:
LOCATION: As laid out by P.A survey		CONTRACT NO.: 426-97-006	DATE: 11/6/97

SPOON	CASING SIZE	HOLE TYPE
3 "O.D. 2 3/8 "I.D.	Augers	A monitor

HAMMER	HAMMER
140 # FALL 30 "	# FALL "

DRILLER: P. Pennell

INSPECTOR: T. Ryan

GROUND WATER LEVEL

Date	Time	Depth	Remarks
11/6/97	AM	10.0'	In Typspoon S-5

CASING BLOWS/FT.	DEPTH	SPOON BLOWS/6"	RE- [1] COV'D	SAMP. [2] NO.	[3] SAMPLE DESCRIPTION AND REMARKS — LINE LOCATES CHANGE OF PROFILE
Bullet Head	0				Asphalt 0.5'
					Sand & Gravel 1.0'
		Hand Auger	Full Rec	1	Fill - Fine M-F Sand to Silt
				2	Same
	5			3	Same
augers		18-17			
		18-18	20"	4	Same
		10-12			
	10	13-11	17"	5	Same
		11-12			
		14-13	19"	6	Same
		9-11			
		11-10	18"	7	Same
	15	10-13			
		11-11	19"	8	Same
					16.0' Bottom of Boring

Note: Sample # 5 was saved for testing. Samples # 1-4 and 6-8 were screened w/ PID & then discarded.

NOTES: 1 — Length recovered; 0" — Loss of Sample, T — Trap used
2 — U = undisturbed; A = auger; OER = open end rod; V = vane
3 — Log depth of change in color of wash water, loss of water, artesian water, sand heave in casing, etc.

PORT AUTHORITY OF NY & NJ

Engineering Department - Materials Division

Well Installation Report

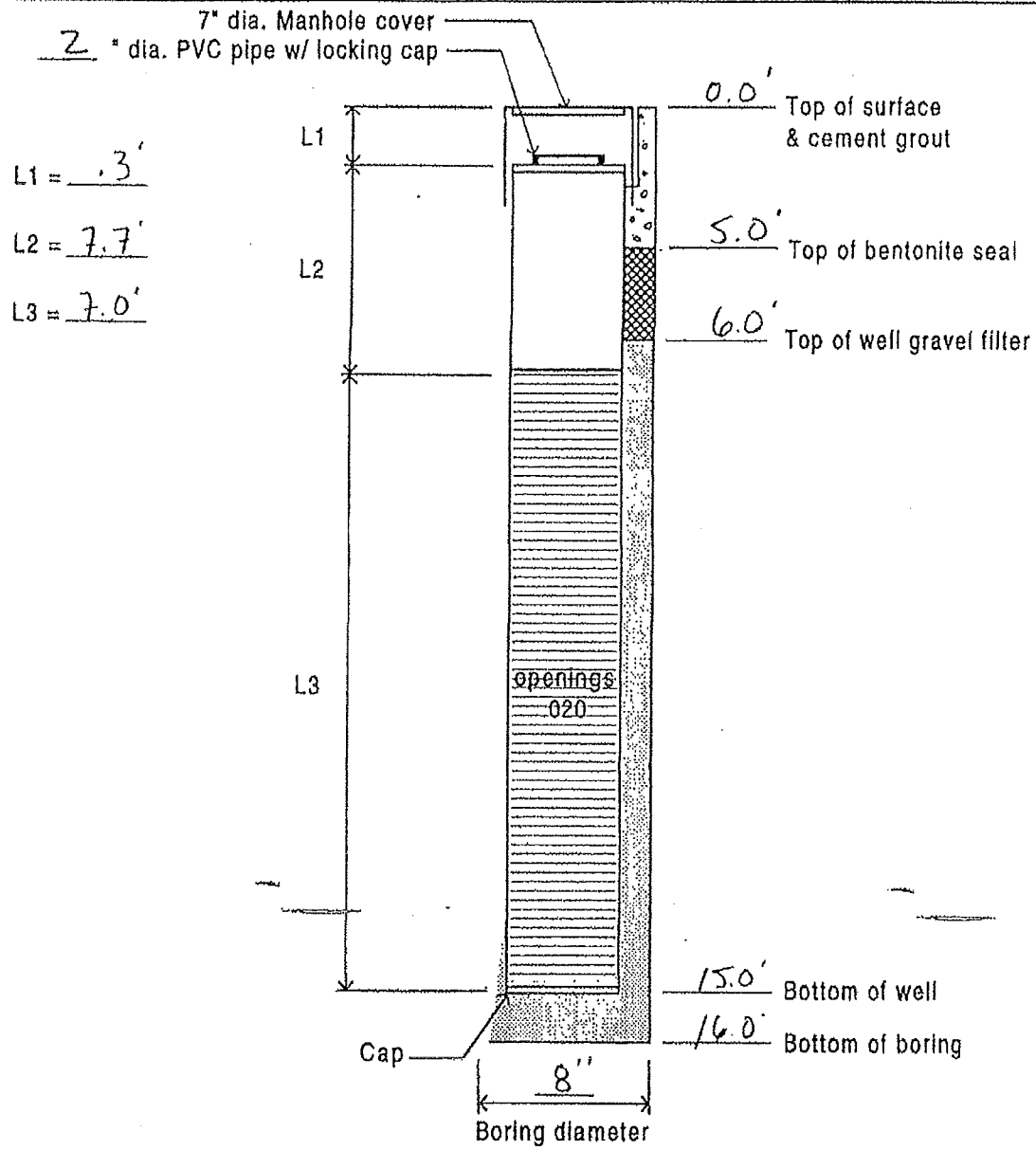
Sheet 2 of 4

PROJECT				CONTRACT NO.
JFK - British Air				426-97-006
LOCATION				CONTRACTOR
As laid out by P.A survey				Craig
WELL NO.	WELL TYPE	INSPECTOR	DRILLER	DATE
9	A' monitor	T. Ryan	P. Bennell	11/6/97

Well Development Report

(NOTE: WATER LEVEL READINGS FROM TOP OF PVC)

DATE				
11/6/97	WATER LEVEL BEFORE 10.0'	WATER LEVEL AFTER 10.1'	TAKEN 20	MINUTES AFTER



REMARKS: Backfilled w/ sand from 16.0' to 15.0'

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
PID READINGS

PROJECT: JFK- British Air

BORING No. MW-9 | DATE: 11/6/97

FIELD READINGS BY: T. Ryan | PID Model: 14

TIME	SAMPLE No.	IN-SITU Split Spoon Reading	HEAD-Space Reading	BREATHING Zone Reading	REMARKS
AM	1		0.0		
	2		0.0		
	3		0.0		
	4		0.0		
	5		0.0		
	6		0.0		
	7		0.0		
↓	8		0.0		

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
CHAIN OF CUSTODY RECORD

Sheet 4 of 4

PROJECT: JFK - British Air	
LOCATION: As laid out by P.A. survey	DATE: 11/6/97
BORING No: MW-9	TOTAL No. OF SAMPLES: 1 + 1 FB

SIGNATURE OF ALL PRESENT AT SAMPLING	T. Ryan	
RELINQUISHED BY (SIGN) T. Ryan	DATE 11/6/97 TIME	RECEIVED BY (SIGN)
RELINQUISHED BY (SIGN)	DATE TIME	RECEIVED BY (SIGN)
RELINQUISHED (SIGN)	DATE TIME	RECEIVED BY LAB

REMARKS: 1 sample in 1-16 oz jar & 1-Voa jar + 1 FB in 2 vials

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Construction Division
Materials Engineering Section

BORING REPORT

SHEET 1 OF 4

PROJECT: JFK - British Air	NAME OF CONTRACTOR: Craig	BORING NO.: MW-10	SURFACE ELEV.
LOCATION: ± 10' South of orig location (Grass Area)		CONTRACT NO.: 426-97-006	DATE: 11/5/97
SPOON: 3 "O.D. 2 3/8 "I.D.	CASING SIZE: Augers	HOLE TYPE: Monitor	
HAMMER: 140 # FALL 30 "	HAMMER: # FALL "		
DRILLER: P Pennell			
INSPECTOR: T Ryan			

GROUND WATER LEVEL

Date	Time	Depth	Remarks
11/5/97	AM	10.0'	In sample #6

CASING BLOWS/FT.	DEPTH	SPOON BLOWS/6"	RE-[1] COV'D	SAMP.[2] NO.	[3]SAMPLE DESCRIPTION AND REMARKS — LINE LOCATES CHANGE OF PROFILE (Grass Covered)
	0	Hand Auger	Full	1	Fill: Brn M-F Sand, little Silt, tr Gr
			Rec		
				2	Same
	5			3	Same
augers		23-20		4	Same
		22-21	19"		
		12-10		5	Same
	10	8-8	17"		
		1-3		6	Same
		3-4	14"		
		4-5		7	Same
		4-4	20"		
	15	5-5		8	Same w/ Peat in tip of spoon
		5-5	18"		
					16.0' Bottom of Boring

Note: Sample #5 was saved for testing. Samples #1-4 & 6-8 were screened w/ PID & then discarded.

NOTES: 1 — Length recovered; 0" — Loss of Sample, T — Trap used
2 — U = undisturbed; A = auger; OER = open end rod; V = vane
3 — Log depth of change in color of wash water, loss of water, artesian water, sand heave in casing, etc.

PORT AUTHORITY OF NY & NJ
Engineering Department - Materials Division

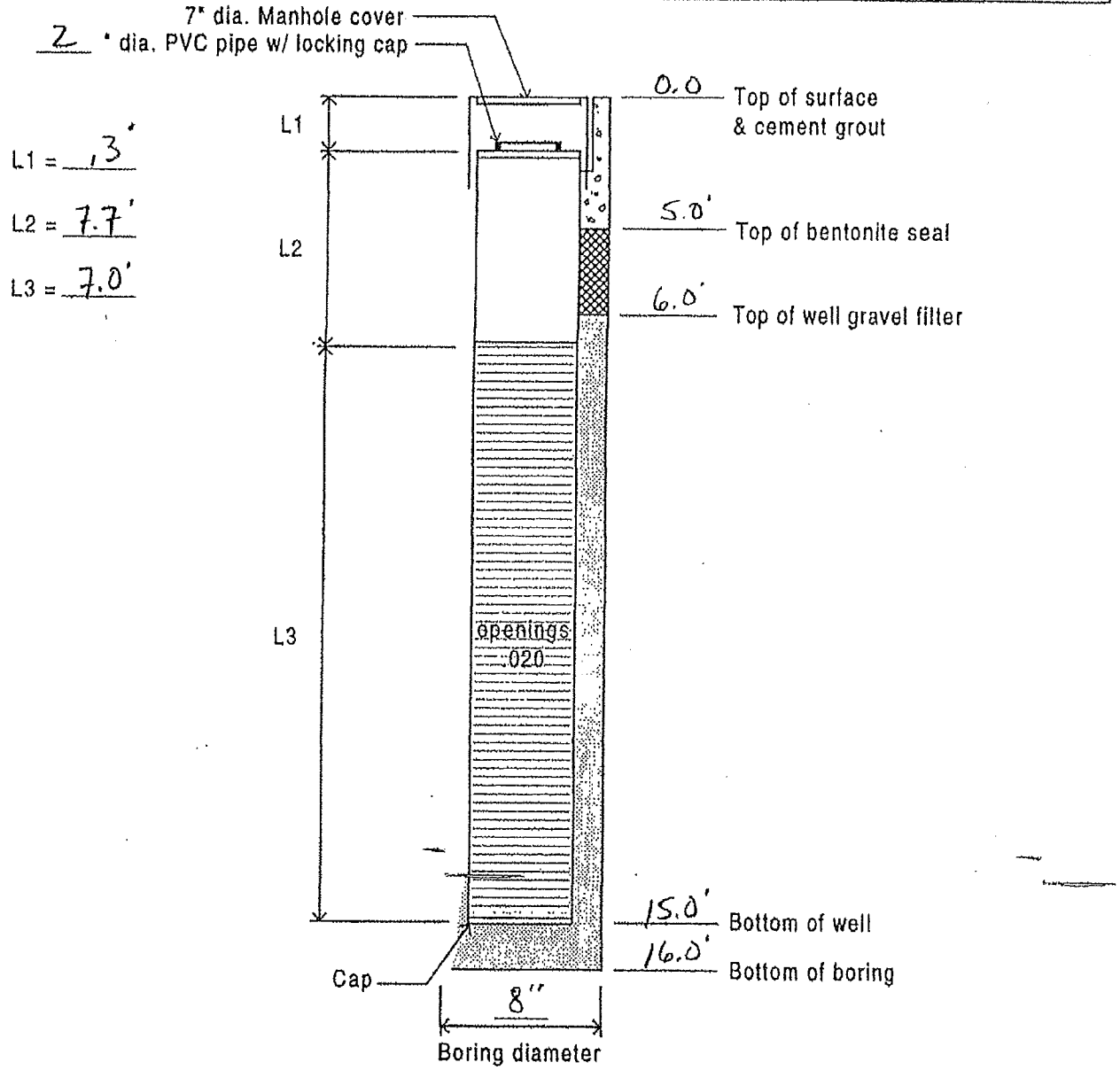
Well Installation Report

PROJECT				CONTRACT NO.
JFK - British Air				426-97-006
LOCATION				CONTRACTOR
± 10' South of original location				Craig
WELL NO.	WELL TYPE	INSPECTOR	DRILLER	DATE
10	A monitor	T Ryan	P Bennell	11/5/97

Well Development Report

(NOTE: WATER LEVEL READINGS FROM TOP OF PVC)

DATE	WATER LEVEL BEFORE	WATER LEVEL AFTER	TAKEN
11/5/97	10.0'	10.1'	15 MINUTES AFTER



REMARKS: Backfilled w/ Bent from 16.0' to 15.0'

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
PID READINGS

PROJECT: JFK - British Air Ways

BORING No. MW-10 DATE: 11/5/97

FIELD READINGS BY: T Ryan PID Model: 14

TIME	SAMPLE No.	IN-SITU Split Spoon Reading	HEAD-Space Reading	BREATHING Zone Reading	REMARKS
AM	1		0.0		
	2		0.0		
	3		0.0		
	4		0.0		
	5		0.0		
	6		0.0		
	7		0.0		
↓	8		0.0		

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
CHAIN OF CUSTODY RECORD

PROJECT: JFK - British Air ways	
LOCATION: 10' south of original location	DATE: 11/5/97
BORING No: MW-10	TOTAL No. OF SAMPLES: 1

SIGNATURE OF ALL PRESENT AT SAMPLING	T. Ryan	
RELINQUISHED	DATE 11/5/97	RECEIVED
BY (SIGN) T. Ryan	TIME	BY (SIGN)
RELINQUISHED	DATE	RECEIVED
BY (SIGN)	TIME	BY (SIGN)
RELINQUISHED	DATE	RECEIVED
(SIGN)	TIME	BY LAB

REMARKS: 1 sample in 1-16 oz jar & 1-Voa jar.

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Engineering Department
Construction Division
Materials Engineering Section

BORING REPORT

SHEET 1 OF 2

PROJECT: JFK - British Air	NAME OF CONTRACTOR: Craig	BORING NO.: B-10A	SURFACE ELEV.:
LOCATION: As laid out by P.A. survey		CONTRACT NO.: 426-97-006	DATE: 11/5/97

SPOON: 3 "O.D. 2 3/8 "I.D.	CASING SIZE: Augers	HOLE TYPE: 1	
HAMMER: 140 # FALL 30 "	HAMMER: # FALL "		
DRILLER: P. Pennell			
INSPECTOR: T. Ryan			

GROUND WATER LEVEL

Date	Time	Depth	Remarks
			No water

CASING BLOWS/FT. (Pavement Break)	DEPTH	SPOON BLOWS/6"	RE-[1] COV'D	SAMP.[2] NO.	[3]SAMPLE DESCRIPTION AND REMARKS — LINE LOCATES CHANGE OF PROFILE
	0				ASPHALT 0.7'
					GRAVEL 1.0'
		Hand Auger	Full Rec	1	Fill - Br M-F Sand, little Gravel, little Asphalt
				2	Same
	5			3	Fill - Br M-F Sand, tr Silt, tr G.
		5-8-10-25/0	12"	4	Same w/ Cones on Tops of spoon
					7.5'
	10				Hit Refusal - Conc Suspected - Bottom of Boring
					See MW-10
	15				
					Note: No samples were saved. Samples were screened w/ PID & then discarded
	20				

NOTES: 1 — Length recovered; 0" — Loss of Sample, T — Trap used
2 — U = undisturbed; A = auger; OER = open end rod; V = vane
3 — Log depth of change in color of wash water, loss of water, artesian water, sand heave in casing, etc.

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ENGINEERING DEPARTMENT

MATERIALS ENGINEERING DIVISION

PID READINGS

Sheet 2 of 2

PROJECT: JFK - British Air

BORING No. 10·A

DATE: 11/5/97

FIELD READINGS BY: T. Ryan

PID Model: 14

TIME	SAMPLE No.	IN-SITU Split Spoon Reading	HEAD-Space Reading	BREATHING Zone Reading	REMARKS
AM	1		0.0		
↓	2		0.0		
↓	3		0.0		
↓	4		0.0		

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Construction Division
Materials Engineering Section

BORING REPORT

SHEET 1 OF 2

PROJECT: JFK - British Air	NAME OF CONTRACTOR: Craig	BORING NO.: B-10.B	SURFACE ELEV.:
LOCATION: 7' west of original locations		CONTRACT NO.: 426-97-006	DATE: 11/5/97

SPOON: 3 "O.D. 2 3/8 "I.D.	CASING SIZE: Augers	HOLE TYPE: 1
HAMMER: 140 # FALL 30 "	HAMMER: # FALL "	
DRILLER: P. Pennell		
INSPECTOR: T Ryan		

GROUND WATER LEVEL

Date	Time	Depth	Remarks
			No water

CASING BLOWS/FT.	DEPTH	SPOON BLOWS/6"	RE-COV'D [1]	SAMP. [2] NO.	[3] SAMPLE DESCRIPTION AND REMARKS ____ LINE LOCATES CHANGE OF PROFILE
Bullet seal	0				ASPHALT 0.7'
					GRAVEL 1.0'
		Hand Auger	Full Rec	1	Fill - Br M F Sand little Gravel little Asp.
				2	Same
	5			3	Same
		3-5		4	Fill Br M F Sand w/ Conc on top of spoon
		4-4	16"		
		10/0"			3.0'
	10				Hit Refusal - Conc Suspected - Bottom of Boring
					See MW-10
	15				
					Note: No samples were saved. Samples were screened w/ PID & then discarded
	20				

NOTES: 1 — Length recovered; 0" — Loss of Sample, T — Trap used
2 — U = undisturbed; A = auger; OER = open end rod; V = vane
3 — Log depth of change in color of wash water, loss of water, artesian water, sand heave in casing, etc.

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
PID READINGS

PROJECT: JFK - British Air

BORING No. 10-B | DATE: 11/5/97

FIELD READINGS BY: T Ryan | PID Model: 14

TIME	SAMPLE No.	IN-SITU Split Spoon Reading	HEAD-Space Reading	BREATHING Zone Reading	REMARKS
AM	1		0.0		
↓	2		0.0		
↓	3		0.0		
↓	4		0.0		

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
MONITOR WELL DEVELOPMENT DATA SHEET

JOB No.: A3-972.010

OJECT: JFK BA.

LL LOCATION:

DATE: 11.17.97

LLPOINT No.: MW 2

CK-UP DISTANCE: FLUSH feet

CASING DIAMETER: Inche

PTH OF WELL FROM TOP OF PIPE: 13.00 fee

ELLPOINT DEPTH:

	TIME	DISTANCE FROM TOP OF PIPE TO: WATER, feet	OIL, feet
BEFORE DEVELOPMENT	10:23AM	8.68	—
AFTER DEVELOPMENT	10:43AM	8.71	—

OLUME TO BE REMOVED:

DEPTH OF WELL	13.00	feet
DEPTH TO WATER	8.68	feet
DEPTH OF WATER COLUMN	4.32	feet
FACTOR *	X 0.618	liters / feet
VOLUME TO BE REMOVED	2.67	liters

VELL DEVELOPMENT:

UMBER OF OLUMES	TIME	pH	TEMP. degrees C	CONDUCTIVITY umohs / cm	SALINITY 0 / 00
1	10:24AM	6.50	19.8°	3140	2.3
2	10:32AM	6.59	20.4°	2870	2.3
3	10:37AM	6.50	20.4°	3210	2.35
4					
5					

GNATURES OF ALL PERSONS PRESENT:

R. [illegible]

MARKS: WELL SAMPLED AT 10:40AM

FACTOR = 0.618 FOR 2 INCH DIAMETER WELL CASING
FACTOR = 2.471 FOR 4 INCH DIAMETER WELL CASING

THE PORT AUTHORITY OF N.Y & N.J.

ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
MONITOR WELL DEVELOPMENT DATA SHEET

JOB No.: A3-978-010

JECT: JFK B.A.

LL LOCATION:

LLPOINT No.: MW 3

DATE: 11-17-97

CK-UP DISTANCE: FLUSH feet

CASING DIAMETER: 2 Inche

TH OF WELL FROM TOP OF PIPE: 12.60 fee

ELLPOINT DEPTH:

	TIME	DISTANCE FROM TOP OF PIPE TO: WATER, feet	OIL, feet
BEFORE DEVELOPMENT	9:51Am	7.90	—
AFTER DEVELOPMENT	10:09Am	8.22	—

OLUME TO BE REMOVED:

DEPTH OF WELL	12.60	feet
DEPTH TO WATER	- 7.90	feet
DEPTH OF WATER COLUMN	4.70	feet
FACTOR *	X .0618	liters / feet
VOLUME TO BE REMOVED	2.9	liters

/ELL DEVELOPMENT:

JMBER OF OLUMES	TIME	pH	TEMP. degrees C	CONDUCTIVITY umohs / cm	SALINITY 0 / 00
1	9:36Am	6.48	21.2°	2850	2.0
2	9:59Am	6.46	21.0°	2800	2.2
3	10:03Am	6.52	21.0°	2300	2.1
4					
5					

GNATURES OF ALL PERSONS PRESENT:

R. [illegible]

MARKS: WELL SAMPLED AT 10:07Am

FACTOR = 0.618 FOR 2 INCH DIAMETER WELL CASING

FACTOR = 2.471 FOR 4 INCH DIAMETER WELL CASING

THE PORT AUTHORITY OF N.Y. & N.J.

ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
MONITOR WELL DEVELOPMENT DATA SHEET

OJECT: JFK B.A. | JOB No.: A3-479.010

ELL LOCATION:

ELLPOINT No.: MW5 | DATE: 11-17-97

ICK-UP DISTANCE: 2.94 feet | CASING DIAMETER: 2 Inche

PTH OF WELL FROM TOP OF PIPE: 17.58 fee

VELLPOINT DEPTH:

	TIME	DISTANCE FROM TOP OF PIPE TO: WATER, feet	OIL, feet
BEFORE DEVELOPMENT	9:33Am	7.82	
AFTER DEVELOPMENT	9:47Am	12.01	

'OLUME TO BE REMOVED:

DEPTH OF WELL	12.58	feet
DEPTH TO WATER	7.82	feet
DEPTH OF WATER COLUMN	4.76	feet
FACTOR *	X 0.618	liters / feet
VOLUME TO BE REMOVED	2.94	liters

WELL DEVELOPMENT:

NUMBER OF VOLUMES	TIME	pH	TEMP. degrees C	CONDUCTIVITY umohs / cm	SALINITY 0 / 00
1 *	9:37Am	6.25	22.8°	4,200	4.6
2					
3					
4					
5					

IGNATURES OF ALL PERSONS PRESENT:

EMARKS: WELL SAMPLED AT 9:45Am.
* WELL EVACUATED DURING 1ST VOLUME.

* FACTOR = 0.618 FOR 2 INCH DIAMETER WELL CASING
* FACTOR = 2.471 FOR 4 INCH DIAMETER WELL CASING

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
MONITOR WELL DEVELOPMENT DATA SHEET

JECT: JFK P.A. | JOB No.: A3-972, C10

LL LOCATION:

LLPOINT No.: MW6 | DATE: 4-17-97

CK-UP DISTANCE: FLUSH feet | CASING DIAMETER: 2 Inche

TH OF WELL FROM TOP OF PIPE: 10.45 fee

ELLPOINT DEPTH:

	TIME	DISTANCE FROM TOP OF PIPE TO: WATER, feet	OIL, feet
BEFORE DEVELOPMENT	12:03PM	6.68	—
AFTER DEVELOPMENT	12:47PM	6.70	—

OLUME TO BE REMOVED:

DEPTH OF WELL	10.45	feet
DEPTH TO WATER	- 6.68	feet
DEPTH OF WATER COLUMN	3.77	feet
FACTOR *	X 0.618	liters / feet
VOLUME TO BE REMOVED	2.33	liters

ELL DEVELOPMENT:

UMBER OF OLUMES	TIME	pH	TEMP. degrees C	CONDUCTIVITY umohs / cm	SALINITY 0 / 00
1	12:12PM	6.19	20.3°	5700	6.4
2	12:19PM	6.28	20.5°	5900	6.3
3	12:30PM	6.31	21.2°	8,900	6.4
4	12:33PM	6.32	21.3°	9,000	6.5
5					

GNATURES OF ALL PERSONS PRESENT:

P. Tuttle

MARKS: WELL SAMPLED AT 12:45PM

FACTOR = 0.618 FOR 2 INCH DIAMETER WELL CASING
FACTOR = 2.471 FOR 4 INCH DIAMETER WELL CASING

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MATERIALS ENGINEERING DIVISION
MONITOR WELL DEVELOPMENT DATA SHEET

JECT: JFK R.A | JOB No.: A3-972.010
L LOCATION:
LPOINT No.: MW 7 | DATE: 11-17-97
CK-UP DISTANCE: FLUSH feet | CASING DIAMETER: 2 Inche
TH OF WELL FROM TOP OF PIPE: 14.88 fee

ELLPOINT DEPTH:

	TIME	DISTANCE FROM TOP OF PIPE TO: WATER, feet	OIL, feet
BEFORE DEVELOPMENT	8:10AM	7.94	—
AFTER DEVELOPMENT	9:28Am	10.97	—

OLUME TO BE REMOVED:

DEPTH OF WELL	14.88	feet
DEPTH TO WATER	7.94	feet
DEPTH OF WATER COLUMN	6.94	feet
FACTOR *	X 0.618	liters / feet
VOLUME TO BE REMOVED	4.29	liters

ELL DEVELOPMENT:

JMBER OF OLUMES	TIME	pH	TEMP. degrees C	CONDUCTIVITY umohs / cm	SALINITY 0 / 00
1	9:12Am	6.83	21.0°	4200	3.2
2	9:15Am	6.89	21.3°	4570	3.4
3	9:19Am	6.81	22.3°	4840	3.7
4					
5					

GNATURES OF ALL PERSONS PRESENT:

R. Hill

MARKS: WELL SAMPLED AT 9:23AM

FACTOR = 0.618 FOR 2 INCH DIAMETER WELL CASING
FACTOR = 2.471 FOR 4 INCH DIAMETER WELL CASING

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ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
MONITOR WELL DEVELOPMENT DATA SHEET

JECT: JFK B.A. | JOB No.: A3-97E.010
L LOCATION:
LPOINT No.: MW 8 | DATE: 11.17.97
CK-UP DISTANCE: FLUSH feet | CASING DIAMETER: 2 inche
TH OF WELL FROM TOP OF PIPE: 12.18 fee

ELLPOINT DEPTH:

	TIME	DISTANCE FROM TOP OF PIPE TO: WATER, feet	OIL, feet
BEFORE DEVELOPMENT	11:25AM	7.01	—
AFTER DEVELOPMENT	11:49AM	7.03	—

OLUME TO BE REMOVED:

DEPTH OF WELL	12.18	feet
DEPTH TO WATER	7.01	feet
DEPTH OF WATER COLUMN	5.17	feet
FACTOR *	X 0.618	liters / feet
VOLUME TO BE REMOVED	3.20	liters

ELL DEVELOPMENT:

UMBER OF OLUMES	TIME	pH	TEMP. degrees C	CONDUCTIVITY umohs / cm	SALINITY 0 / 00
1	11:29AM	6.67	20.8°	4,350	3.4
2	11:33AM	6.76	21.0°	4420	3.5
3	11:38AM	6.81	21.0°	4490	3.5
4					
5					

GNATURES OF ALL PERSONS PRESENT:
R. Gill

MARKS: WELL SAMPLED AT 11:47AM

FACTOR = 0.618 FOR 2 INCH DIAMETER WELL CASING
FACTOR = 2.471 FOR 4 INCH DIAMETER WELL CASING

THE PORT AUTHORITY OF N.Y & N.J.

ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
MONITOR WELL DEVELOPMENT DATA SHEET

OJECT: JFK B.A. | JOB No.: A3-972.010
LL LOCATION:
LLPOINT No.: MW 9 | DATE: 11-17-97
CK-UP DISTANCE: FLUSH feet | CASING DIAMETER: 2 inche
PTH OF WELL FROM TOP OF PIPE: fee

ELLPOINT DEPTH:

	TIME	DISTANCE FROM TOP OF PIPE TO: WATER, feet	OIL, feet
BEFORE DEVELOPMENT	8:30AM	8.54	—
AFTER DEVELOPMENT	9:05AM	8.58	—

OLUME TO BE REMOVED:

DEPTH OF WELL	14.96	feet
DEPTH TO WATER	8.54	feet
DEPTH OF WATER COLUMN	6.42	feet
FACTOR *	X 0.618	liters / feet
VOLUME TO BE REMOVED	4.04	liters

VELL DEVELOPMENT:

UMBER OF VOLUMES	TIME	pH	TEMP. degrees C	CONDUCTIVITY umohs / cm	SALINITY 0 / 00
1	8:35Am	6.34	19.0°	5100	3.4
2	8:39Am	6.32	19.0°	4200	3.3
3	8:43Am	6.29	19.0°	3900	3.3
4					
5					

IGNATURES OF ALL PERSONS PRESENT:

[signature]

MARKS: WELL SAMPLED AT 8:55AM

MW 9A — DUP. AT 9:00AM * DUPLICATE *

FACTOR = 0.618 FOR 2 INCH DIAMETER WELL CASING
FACTOR = 2.471 FOR 4 INCH DIAMETER WELL CASING

THE PORT AUTHORITY OF N.Y. & N.J.

ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
MONITOR WELL DEVELOPMENT DATA SHEET

OJECT: JFK B.F. | JOB No.: A5-972.010
LL LOCATION:
LLPOINT No.: MW 10 | DATE: 11.17.97
CK-UP DISTANCE: FLUSH feet | CASING DIAMETER: 2 Inche
TH OF WELL FROM TOP OF PIPE: 14.80 fee

ELLPOINT DEPTH:

	TIME	DISTANCE FROM TOP OF PIPE TO: WATER, feet	OIL, feet
BEFORE DEVELOPMENT	10:45AM	9.44	—
AFTER DEVELOPMENT	11:09AM	9.49	—

OLUME TO BE REMOVED:

DEPTH OF WELL	14.80	feet
DEPTH TO WATER	9.44	feet
DEPTH OF WATER COLUMN	5.36	feet
FACTOR *	X 0.618	liters / feet
VOLUME TO BE REMOVED	3.31	liters

ELL DEVELOPMENT:

UMBER OF OLUMES	TIME	pH	TEMP. degrees C	CONDUCTIVITY umohs / cm	SALINITY 0 / 00
1	10:50Am	6.49	20.2°	5100	3.9
2	11:57Am	6.61	21.9	5000	4.0
3	11:09Am	6.63	21.8°	5050	4.1
4					
5					

GNATURES OF ALL PERSONS PRESENT:

R Hall

MARKS: WELL SAMPLED AT 11:07AM

FACTOR = 0.618 FOR 2 INCH DIAMETER WELL CASING
FACTOR = 2.471 FOR 4 INCH DIAMETER WELL CASING

DEC PERMIT NUMBER
2-6308-00019/00005-0

FACILITY/PROGRAM NUMBER(S)
3864

PERMIT

Long Island Wells
Article 15, Title 15
Environmental
Conservation Law

EFFECTIVE DATE
November 2, 1995

EXPIRATION DATE(S)
December 31, 2000

PERMIT ISSUED TO	TELEPHONE NUMBER
The Port Authority of New York and New Jersey	(212) 435-7289
ADDRESS OF PERMITTEE	
One World Trade Center, Room 4011, New York, NY 10048	
CONTACT PERSON FOR PERMITTED WORK	TELEPHONE NUMBER
Bernice R. Malione, Manager, Permits and Governmental Approvals	(212) 435-7289
NAME AND ADDRESS OF PROJECT/FACILITY	
JFK International Airport	
LOCATION OF PROJECT/FACILITY	
JFK International Airport - Central Terminal Area	

COUNTY	CITY	WATERCOURSE/WETLAND NO.	
Queens	New York City	Jamaica Bay	

DESCRIPTION OF AUTHORIZED ACTIVITY:

Installation and operation of temporary dewatering systems associated with the Central Terminal Area redevelopment program. Dewatering activities will be undertaken over a five year period through fifteen (15) separate contracts for which certain details must be filed with the Department under the terms of this permit. The average daily groundwater withdrawal rate must not exceed 1.5 million gallons per day (mgd) over the term of this permit.. The average daily withdrawal rate may be increased to a maximum of 6.25 mgd over a single six (6) continuous month period within the term of the permit . All dewatering will be discharged to storm sewers which are directed to Jamaica Bay.

SPECIAL DETERMINATIONS

In accordance with 19NYCRR Part 600.4(c), the New York State Department of Environmental Conservation certifies that this activity is consistent with the policies and purposes of the New York City Waterfront Revitalization Program to the maximum extent practicable. Furthermore, under the State Environmental Quality Review Act the Department has determined that the activities authorized in this permit will not have a significant adverse impact on the environment.

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified (see page 2) and any Special Conditions included as part of this permit.

CHIEF PERMIT ADMINISTRATOR:
GEORGE A. DANSKIN

ADDRESS 50 Wolf Road
Albany, NY 12233-1750

AUTHORIZED SIGNATURE GADanskin

DATE 11/2/95

GENERAL CONDITIONS

Inspections

1. The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301 and SAPA 401(3). A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

Permit Changes and Renewals

2. The Department reserves the right to modify, suspend or revoke this permit when:
   a) the scope of the permitted activity is exceeded or a violation of any condition of the permit or provisions of the ECL and pertinent regulations is found;
   b) the permit was obtained by misrepresentation or failure to disclose relevant facts;
   c) new material information is discovered: or
   d) environmental conditions, relevant technology, or applicable law or regulation have materially changed since the permit was issued.

3. The permittee must submit a separate written application to the Department for renewal, modification or transfer of this permit. Such application must include any forms, fees or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing.

4. The permittee must submit a renewal application at least:
   a) 180 days before expiration of permits for State Pollutant Discharge Elimination System (SPDES), Hazardous Waste Management Facilities (HWMF), major Air Pollution Control (APC) and Solid Waste Management Facilities (SWMF); and
   b) 30 days before the expiration of all other permit types.

5. Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

Other Legal Obligations of Permittee

6. The permittee has accepted expressly, by the execution of the application, the full legal responsibility for all damages, direct or indirect, of whatever nature and by whomever suffered, arising out of the project described in this permit and has agreed to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from this project.

7. The permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

8. The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required for this project.

5/20/14

Special Conditions

1. Dewatering may not commence until notice of the specific contract is provided to the Department in accordance with the terms of this permit.

2. Not less than 60 days after receipt of this permit, the permittee must submit to the Regional Water Engineer a list of all contracts, briefly indicating the scope and nature of the work to be undertaken thereunder and an overall schedule of operations .

3. Prior to commencement of construction under any specific contract, the permittee must notify the Regional Water Engineer not less than 30 days prior to construction. Notification must include:

   a. A completed Notification Form (sample attached).

   b. A location map of sufficient detail to locate the project and significant cultural and natural features within the confines of the airport and the immediate vicinity.

   c. A plan drawing depicting the proposed work, dewatering system, zone of influence of dewatering systems, all known sites of storage tanks, oil spills, groundwater plumes and the locations of previous storage tanks which have since been removed.

   d. A map locating each point of dewatering discharge to Jamaica Bay and a recent color photograph of each outfall.

   e. Data on each storage tank, oil spill or underground plume or former site of storage tank, must be provided that includes: date and results of the most recent tests of tanks and groundwater samples taken, or for sites where no tests or samples have been performed, or where tests indicate the potential for release of tank contents, details of monitoring wells to be located at the affected area.

   f. Analyses of a representative screening sample(s) of the groundwater for the following parameters using methods specified:

Parameter	EPA Method
pH	150.1
Temperature	After pumping
Fecal Coliform	5 tubes - 3 dilutions
Oil and Grease	413.1
BOD_6	405.1
Total Suspended Solids	160.2
Settleable Solids	160.5
Chlorides	325.1 - 325.3
Benzene	602
Toluene	602
Xylene	602

Special Conditions

3. (Continued)

Parameter	EPA Method
PCB's	608
Pesticides	608
Priority metals (13)	200 Series
Acids/Base Neutrals	625-GC/MS
Halogenated Volitiles	601-GC
Nitrate/Nitrite	300 or 353.3
Aromatic Volitiles	602-GC
Cyanide	335.1 - 335.2

4. Upon receipt and review of the initial screening, the Regional Water Engineer will determine which of the parameters specified in Special Condition 3 must be monitored on an extended basis. Unless otherwise specified, extended monitoring will be performed monthly.

5. Any extended monitoring samples must be taken at the discharge point prior to entering the storm sewer. Methods of analysis must conform to those specified in Special Condition 3.

6. All sampling procedures to comply with US EPA protocol. All laboratory analyses to be performed by New York State Department of Health certified laboratories.

7. The volume of water pumped under each contract must be reported to the Regional Water Engineer monthly and not later than the 15th day of the month following that in which it was pumped. Results of water quality sampling and analysis must be reported to the Regional Water Engineer monthly and not later than the 15th day of the month following that in which the samples were taken.

8. Visual inspections of the shoreline must be made daily. Photographs of the outfall through which dewatering is discharged must be taken once a week at low tide and submitted to the Regional Water Engineer not later than the 15th of each month following that in which the photographs were taken.

9. The dewatering operations must be carried out by a well driller registered in accordance with Section 15-1525 of the Environmental Conservation Law.

10. No disturbance to or alteration of tidal or freshwater wetlands is authorized by this permit. The discharge of groundwater must not result in deposition of silt or sediment on tidal or freshwater wetlands, or otherwise adversely affect them.

11. The Department reserves the right to require the permittee to provide additional physical, chemical and biological analysis of the water discharged from the dewatering systems and, may require treatment of this water in order to prevent contamination of waters into which it is discharged.

END OF CONDITIONS

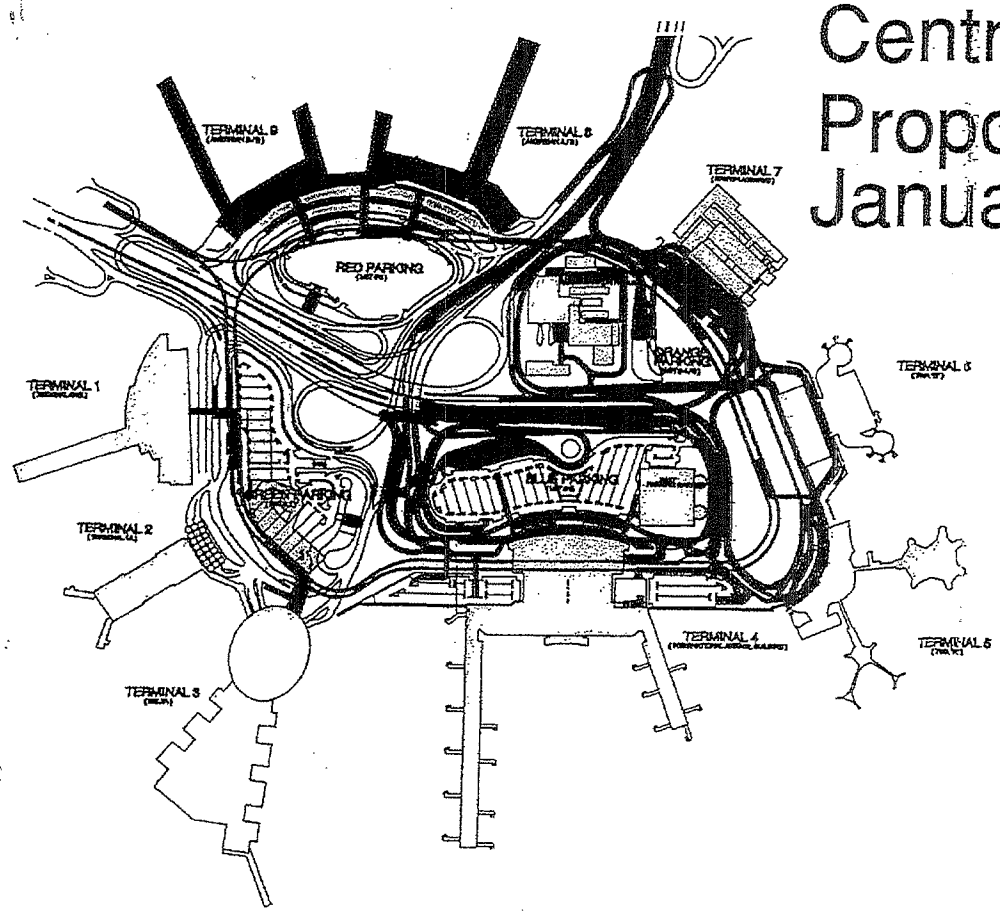
B. Roadway Construction Package #5 - This project includes road work in front of the TWA terminals (TWA) and British Airways (BA). This contract work is targeted to start August, 1996 and to be completed in December, 1999. Dewatering is expected to start in December, 1996 and end in June, 1999. The volume of dewatering is estimated to be from 1.0-1.5 mgd. Included in the scope will be the following items of work:

- Construction of all paved roadways in the designated work area, including required subsurface drainage, and associated catch basins and supporting infrastructure.
- Construction and enlargement of existing depressed roadways, adjacent to TWA and in front of the BA arrivals area.
- Relocation of all underground utilities that interfere with the contract requirements of this RWCP #5.
- Relocation of below-grade Terminal facilities, such as fresh air intakes into mechanical room basements, which conflict with the contract requirements.
- Construction of all new utilities that lie within the contract limits.
- Construction of area lighting within the contract limits.
- Construction of overhead sign structures, including below grade supporting foundations for signage that lie within this contract area.
- Construction of a passenger connector from the east parking garage to TWA. The work will include foundations and supporting structures for the connector.

L. Passenger Distribution System (PDS) - A twenty-first century Automated Guidance Transit system to facilitate the movement of passengers and visitors between terminals and parking lots at the Central Terminal Area (CTA), with a rail hook-up to LaGuardia Airport, Jamaica, and Manhattan. Conceptual planning is under way now with construction targeted to begin in October, 1997, and be completed by September, 1999. The scope of work requiring dewatering includes the following:

- Construction of foundations and footings for the PDS elevated structures which includes the guidance system, stations and connectors.
- Relocation of underground utilities which conflict with the PDS.
- Construction of terminal connection facilities and stations, including foundations, support structures, and necessary infrastructure to accommodate the PDS.
- Construction of all new below grade utilities to service the PDS terminals.
- Construction of area lighting necessary to service the PDS.

Exhibit S
Central Terminal Area and Proposed JFK Redevelopment
January 1998



THE PORT AUTHORITY OF
NEW YORK AND NEW JERSEY
JOHN F. KENNEDY
INTERNATIONAL AIRPORT

INITIALED:

FOR THE PORT AUTHORITY

FOR THE LESSEE

FORM E - Acknowledgment (N.Y. Corp.) 6/24/72

STATE OF NEW YORK)
) ss.
COUNTY OF NEW YORK)

On the day of , 1998, before me came , to me known, who, being by me duly sworn, did depose and say that he resides at that he is the of The Port Authority of New York and New Jersey, one of the corporations described in, and which executed the foregoing instrument; that he knows the seal of the said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Commissioners of the said corporation; and that he signed his name thereto by like order.

(notarial seal and stamp)

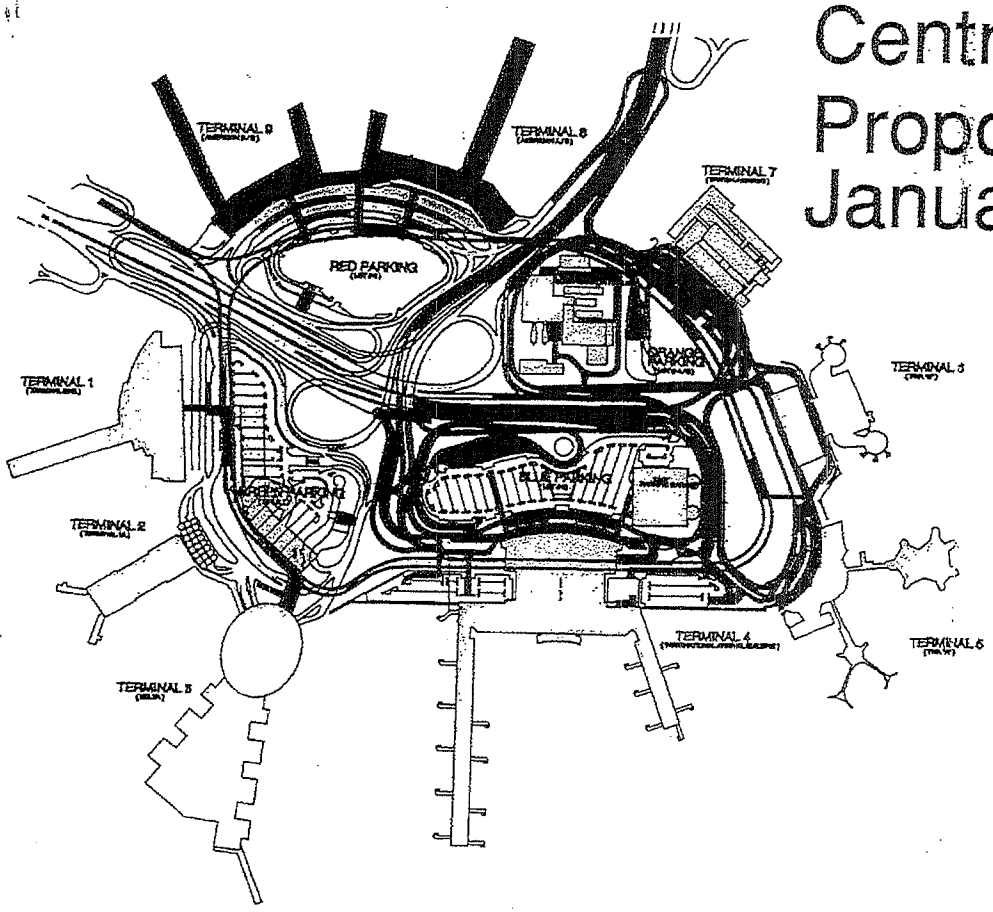
STATE OF)
) ss.
COUNTY OF)

On the day of , 1998, before me personally came to me known, who being by me duly sworn, did depose and say, that he resides at

that he is the President of BRITISH AIRWAYS, Plc. one of the corporations described in and which executed the foregoing instrument; that he knows the seal of the said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of the said corporation; and that he signed his name thereto by like order.

(notarial seal and stamp)

Exhibit S
Central Terminal Area and Proposed JFK Redevelopment January 1998



THE PORT AUTHORITY OF
NEW YORK AND NEW JERSEY
JOHN F. KENNEDY
INTERNATIONAL AIRPORT

INITIALED:

FOR THE PORT AUTHORITY

FOR THE LESSEE

PORT AUTHORITY LEASE NO. LA-[illegible]

SUPPLEMENT NO. 1

PORT AUTHORITY OF NEW YORK AND NEW JERSEY

AND

BRITISH AIRWAYS, PLC

VOLUME 2

Environmental Engineering Unit
Aviation Design Division

J.F.K. International Airport British Airways Building 59 Environmental Investigation Summary Report

December 1997

Engineering Department
The Port Authority of NY & NJ

Exhibit L
Book 2 of 3

Initialed: For the Port Authority
For the Lessee

EMSL ANALYTICAL, INC.

Asbestos – Lead – Environmental – Materials

Corporate Office and Lab
108 Haddon Avenue
Westmont, NJ
609-858-4800

3 Cooper Street
Westmont, NJ
609-858-4800

San Mateo, CA
415-570-5401

S. Pasadena, CA
213-254-9960

N. Miami Beach, FL
305-650-0577

Smyrna, GA
770-333-6066

Indianapolis, IN
317-570-5892

Lexington, KY
606-293-1590

Ann Arbor, MI
313-668-6810

Piscataway, NJ
732-981-0550

New York, NY
212-290-0051

Carle Place, NY
516-997-7251

Buffalo, NY
516-997-7251

Charlotte, NC
704-567-1521

Greensboro, NC
910-297-1487

Dallas, TX
214-831-9725

Houston, TX
713-686-3635

le, WA
-233-9007

MSL France
Paris
011-33-147014805

ANALYTICAL DATA REPORT
FOR
PORT AUTHORITY OF NY & NJ
Engineering Department
241 Erie Street, Room 234
Jersey City, NJ 07310-1397

PROJECT: **JFK-B.A. Terminal**

EMSL Project: # 97122494, 97122697

Field Sample No. & Location	Laboratory Sample ID	Matrix	Date & Time of Collection	Date Received
MW-2, S-5	97-78619	Solid	11/5/97 *	11/7/97
MW-10, S-5	97-78620	Solid	11/5/97 *	11/7/97
Field Blank 11/5	97-78621	Aqueous	11/5/97 *	11/7/97
MW-5, S-4	97-78622	Solid	11/6/97 *	11/7/97
MW-7, S-5	97-78623	Solid	11/6/97 *	11/7/97
MW-9, S-5	97-78624	Solid	11/6/97 *	11/7/97
Field Blank 11/6	97-78625	Aqueous	11/6/97 *	11/7/97
MW-3, S-4	97-82199	Solid	11/10/97 *	11/12/97
MW-6, S-4	97-82200	Solid	11/10/97 *	11/12/97
MW-8, S-4	97-82201	Solid	11/10/97 *	11/12/97
MW-4, S-4	97-82202	Solid	11/11/97 *	11/12/97
Field Blank 11/10	97-82203	Aqueous	11/10/97 *	11/12/97
Field Blank 11/11	97-82204	Aqueous	11/11/97 *	11/12/97

***Time not provided on Chain of Custody.**

Laboratory Name — EMSL ANALYTICAL, INC.

Certification No. — NJDEPE No. 04653

Supervisor/Manager Signature

Printed Name — Paul V. Laraia

Date — 11-26-97

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. Continuing Calibration BFB Tune	
. Continuing Calibration Data	
. Internal Standards Area Summary	
. Sample Results	
. Surrogate Recovery Form	
. Method Blank Data	
. Matrix Spike/Matrix Spike Duplicate Data	
GC/MS Semivolatile Organic Data Package	
. Initial Calibration DFTPP Tune	272-434
. Initial Calibration Data	
. Continuing Calibration DFTPP Tune	
. Continuing Calibration Data	
. Internal Standards Area Summary	
. Sample Results	
. Surrogate Recovery Form	
. Method Blank Data	
. Matrix Spike/Matrix Spike Duplicate Data	
Pesticides & PCB Analysis Data Package	
. Standard Data	435-569
. Sample Results	
. Surrogate Recovery Form	
. Method Blank	
. Matrix Spike/Matrix Spike Duplicate Data	
Metals Analysis Data Package	
. Sample Results	570-586
. Calibrations	
. Blanks	
. Spike Recovery	
. Duplicates	
. Laboratory Control Sample	

Petroleum Hydrocarbons Analysis Data Package ---------- 587-600
- Sample Results
- Method Blank Data
- Matrix Spike Data
- Duplicate Data
- Laboratory Control Sample
- Spectra

General Chemistry Analytical Data Package ---------- 601-606
- Sample Results
- Blanks
- Quality Assurance Data

Statement of Authentication ---------- 607

SAMPLE DATA SUMMARY PACKAGE

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK-B.A.Terminal

Client Designation: MW-2,S-5

Date of Report: 11/25/97
Project Number: 97122494
Lab ID: 97-0078619
Date Collected: 11/05/97 00:00
Collected By: Client
Date Received: 11/07/97 18:20

	Conc.	Unit
LIMITED		
Phenolics as phenol	<1.2	mg/kg
Total Cyanide	<0.25	mg/kg
Petroleum Hydrocarbons, Total (I.R)	17	mg/kg
Solids, Total	84	%
METALS		
Silver	<5.9	mg/kg
Arsenic	<12	mg/kg
Beryllium	<1.2	mg/kg
Cadmium	<2.4	mg/kg
Chromium	<5.9	mg/kg
Copper	<5.9	mg/kg
Mercury	<0.12	mg/kg
Nickel	<5.9	mg/kg
Lead	<24	mg/kg
Antimony	<0.59	mg/kg
Selenium	<0.59	mg/kg
Thallium	<0.59	mg/kg
Zinc	6.8	mg/kg
ORGANIC		
Pesticides		
Pesticides and PCBs by 8080	see attached	ug/kg
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/kg
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/kg
MTBE by GC/MS(624/8260)	see attached	ug/kg
VOA by 8260 with Library Search	see attached	ug/kg

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-2, S-5

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-78619

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E113

% Moisture: 16 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/20/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	2	U
319-85-7	beta-BHC	2	U
319-86-8	delta-BHC	2	U
58-89-9	gamma-BHC (Lindane)	2	U
76-44-8	Heptachlor	2	U
309-00-2	Aldrin	2	U
1024-57-3	Heptachlor epoxide	2	U
959-98-8	Endosulfan I	2	U
60-57-1	Dieldrin	2	U
72-55-9	4,4'-DDE	4	U
72-20-8	Endrin	4	U
33213-65-9	Endosulfan II	4	U
72-54-8	4,4'-DDD	4	U
1031-07-8	Endosulfan sulfate	4	U
50-29-3	4,4'-DDT	4	U
72-43-5	Methoxychlor	4	U
53494-70-5	Endrin ketone	20	U
7421-36-3	Endrin aldehyde	4	U
57-74-9	Chlordane	4	U
8001-35-2	Toxaphene	20	U
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778619B
MW-2, 5-5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778619B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7190.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 16 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Column = DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	400	U
108-95-2	Phenol	400	U
111-44-4	bis(2-Chloroethyl)ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
95-50-1	1,2-Dichlorobenzene	400	U
108-60-1	bis(2-chloroisopropyl)ether	400	U
621-64-7	N-Nitroso-Di-n-propylamine	400	U
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol	400	U
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
91-58-7	2-Chloronaphthalene	400	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	400	U
606-20-2	2,6-Dinitrotoluene	400	U
83-32-9	Acenaphthene	400	U
51-28-5	2,4-Dinitrophenol	990	U
100-02-7	4-Nitrophenol	990	U
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	400	U
86-73-7	Fluorene	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778619B
MW-2, S-5

U

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778619B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7190.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 16 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	990	U
86-30-6	n-Nitrosodiphenylamine	400	U
122-66-7	1,2-Diphenylhydrazine(as azo)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	990	U
85-01-08	Phenanthrene	400	U
120-12-7	Anthracene	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	400	U
92-87-5	Benzidine	2000	U
129-00-0	Pyrene	400	U
85-68-7	Butylbenzylphthalate	400	U
56-55-3	Benzo[a]anthracene	400	U
91-94-1	3,3'-Dichlorobenzidine	790	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	400	U
117-84-0	Di-n-octylphthalate	400	U
205-99-2	Benzo[b]fluoranthene	400	U
207-08-9	Benzo[k]fluoranthene	400	U
50-32-8	Benzo[a]pyrene	400	U
193-39-5	Indeno[1,2,3-cd]pyrene	400	U
53-70-3	Dibenz[a,h]anthracene	400	U
191-24-2	Benzo[g,h,i]perylene	400	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778619B
MB-2, 5-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778619B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7190.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 16 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778619V

MW-2, 5-5

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Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778619V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6476.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 16 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-09-2	Methylene chloride	9	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert Butyl Alcohol	30	U
107-02-8	Acrolein	60	U
107-13-1	Acrylonitrile	60	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778619V
MW-2 5-5
01

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778619V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6476.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 16 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 138-86-3	Limonene	19.10	7	J
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Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK-B.A.Terminal

Client Designation: MW-10,S-5

Date of Report: 11/25/97
Project Number: 97122494
Lab ID: 97-0078620
Date Collected: 11/05/97 00:00
Collected By: Client
Date Received: 11/07/97 18:20

	Conc.	Unit
LIMITED		
Phenolics as phenol	<1.2	mg/kg
Total Cyanide	<0.25	mg/kg
Petroleum Hydrocarbons, Total (I.R)	29	mg/kg
Solids, Total	80	%
METALS		
Silver	<6.1	mg/kg
Arsenic	<12	mg/kg
Beryllium	<1.2	mg/kg
Cadmium	<2.4	mg/kg
Chromium	<6.1	mg/kg
Copper	<6.1	mg/kg
Mercury	<0.12	mg/kg
Nickel	<6.1	mg/kg
Lead	<24	mg/kg
Antimony	<0.61	mg/kg
Selenium	<0.61	mg/kg
Thallium	<0.61	mg/kg
Zinc	7.1	mg/kg
ORGANIC		
Pesticides		
Pesticides and PCBs by 8080	see attached	ug/kg
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/kg
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/kg
MTBE by GC/MS(624/8260)	see attached	ug/kg
VOA by 8260 with Library Search	see attached	ug/kg

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-10, S-5

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-78620

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E114

% Moisture: 20 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/20/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	3	U
319-85-7	beta-BHC	3	U
319-86-8	delta-BHC	3	U
58-89-9	gamma-BHC (Lindane)	3	U
76-44-8	Heptachlor	3	U
309-00-2	Aldrin	3	U
1024-57-3	Heptachlor epoxide	3	U
959-98-8	Endosulfan I	3	U
60-57-1	Dieldrin	3	U
72-55-9	4,4'-DDE	5	U
72-20-8	Endrin	5	U
33213-65-9	Endosulfan II	5	U
72-54-8	4,4'-DDD	5	U
1031-07-8	Endosulfan sulfate	5	U
50-29-3	4,4'-DDT	5	U
72-43-5	Methoxychlor	5	U
53494-70-5	Endrin ketone	30	U
7421-36-3	Endrin aldehyde	5	U
57-74-9	Chlordane	5	U
8001-35-2	Toxaphene	30	U
12674-11-2	Aroclor-1016	60	U
11104-28-2	Aroclor-1221	50	U
11141-16-5	Aroclor-1232	50	U
53469-21-9	Aroclor-1242	50	U
12672-29-6	Aroclor-1248	50	U
11097-69-1	Aroclor-1254	50	U
11096-82-5	Aroclor-1260	50	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778620B

MW-10, S-5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778620B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7191.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 20 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	420	U
108-95-2	Phenol	420	U
111-44-4	bis(2-Chloroethyl)ether	420	U
95-57-8	2-Chlorophenol	420	U
541-73-1	1,3-Dichlorobenzene	420	U
106-46-7	1,4-Dichlorobenzene	420	U
95-50-1	1,2-Dichlorobenzene	420	U
108-60-1	bis(2-chloroisopropyl)ether	420	U
621-64-7	N-Nitroso-Di-n-propylamine	420	U
67-72-1	Hexachloroethane	420	U
98-95-3	Nitrobenzene	420	U
78-59-1	Isophorone	420	U
88-75-5	2-Nitrophenol	420	U
105-67-9	2,4-Dimethylphenol	420	U
111-91-1	bis(2-Chloroethoxy)methane	420	U
120-83-2	2,4-Dichlorophenol	420	U
120-82-1	1,2,4-Trichlorobenzene	420	U
91-20-3	Naphthalene	420	U
87-68-3	Hexachlorobutadiene	420	U
59-50-7	4-Chloro-3-methylphenol	420	U
77-47-4	Hexachlorocyclopentadiene	420	U
88-06-2	2,4,6-Trichlorophenol	420	U
91-58-7	2-Chloronaphthalene	420	U
131-11-3	Dimethylphthalate	420	U
208-96-8	Acenaphthylene	420	U
606-20-2	2,6-Dinitrotoluene	420	U
83-32-9	Acenaphthene	420	U
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	420	U
84-66-2	Diethylphthalate	420	U
86-73-7	Fluorene	420	U
7005-72-3	4-Chlorophenyl-phenylether	420	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778620B
MW-10, S-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778620B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7191.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 20 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	420	U
122-66-7	1,2-Diphenylhydrazine(as azo)	420	U
101-55-3	4-Bromophenyl-phenylether	420	U
118-74-1	Hexachlorobenzene	420	U
87-86-5	Pentachlorophenol	1000	U
85-01-08	Phenanthrene	420	U
120-12-7	Anthracene	420	U
84-74-2	Di-n-butylphthalate	420	U
206-44-0	Fluoranthene	420	U
92-87-5	Benzidine	2100	U
129-00-0	Pyrene	420	U
85-68-7	Butylbenzylphthalate	420	U
56-55-3	Benzo[a]anthracene	420	U
91-94-1	3,3'-Dichlorobenzidine	830	U
218-01-9	Chrysene	420	U
117-81-7	bis(2-Ethylhexyl)phthalate	420	U
117-84-0	Di-n-octylphthalate	420	U
205-99-2	Benzo[b]fluoranthene	420	U
207-08-9	Benzo[k]fluoranthene	420	U
50-32-8	Benzo[a]pyrene	420	U
193-39-5	Indeno[1,2,3-cd]pyrene	420	U
53-70-3	Dibenz[a,h]anthracene	420	U
191-24-2	Benzo[g,h,i]perylene	420	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778620B
MW-10, S-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778620B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7191.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 20 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778620V

MW-16, 5-5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778620V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6477.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 20 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl chloride	13	U
75-00-3	Chloroethane	13	U
75-69-4	Trichlorofluoromethane	13	U
75-09-2	Methylene chloride	11	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	31	U
107-02-8	Acrolein	63	U
107-13-1	Acrylonitrile	63	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9778620V
MW-16, S-5

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778620V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6477.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 20 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
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30.				

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK-B.A.Terminal

Client Designation: F.B. 11/5

Date of Report: 11/21/97
Project Number: 97122494
Lab ID: 97-0078631
Date Collected: 11/05/97 00:00
Collected By: Client
Date Received: 11/07/97 18:20

	Conc.	Unit
ORGANIC		
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/l
VOA by 8260 with Library Search	see attached	ug/l

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778621V
F. B. 11/5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9778621V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V6475.D

Level: (low/med) _____ Date Received: 11/7/97

% Moisture: not dec. _____ Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-09-2	Methylene chloride	12	B
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-65	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
108-38-3	Xylene (para & meta)	5	U
75-01-4	Xylene (ortho)	5	U
75-65-0	Methyl-tert butyl ether	5	U
1634-04-4	tert-Butyl Alcohol	25	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO. 021
9778621V
E.B. 11/5

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9778621V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V6475.D

Level: (low/med) Date Received: 11/7/97

% Moisture: not dec. Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
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EMSL

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK-B.A.Terminal

Client Designation: MW-5,S-4

Date of Report: 11/25/97
Project Number: 97122494
Lab ID: 97-0078622
Date Collected: 11/06/97 00:00
Collected By: Client
Date Received: 11/07/97 18:20

	Conc.	Unit
LIMITED		
Phenolics as phenol	<1.2	mg/kg
Total Cyanide	<0.25	mg/kg
Petroleum Hydrocarbons, Total (I.R)	20	mg/kg
Solids, Total	88	%
METALS		
Silver	<5.7	mg/kg
Arsenic	<11	mg/kg
Beryllium	<1.1	mg/kg
Cadmium	<2.3	mg/kg
Chromium	<5.7	mg/kg
Copper	<5.7	mg/kg
Mercury	<0.11	mg/kg
Nickel	<5.7	mg/kg
Lead	<23	mg/kg
Antimony	<0.57	mg/kg
Selenium	<0.57	mg/kg
Thallium	<0.57	mg/kg
Zinc	9.3	mg/kg
ORGANIC		
Pesticides		
Pesticides and PCBs by 8080	see attached	ug/kg
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/kg
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/kg
MTBE by GC/MS(624/8260)	see attached	ug/kg
VOA by 8260 with Library Search	see attached	ug/kg

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5, S-4

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-78622

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E115

% Moisture: 12 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/20/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	2	U
319-85-7	beta-BHC	2	U
319-86-8	delta-BHC	2	U
58-89-9	gamma-BHC (Lindane)	2	U
76-44-8	Heptachlor	2	U
309-00-2	Aldrin	2	U
1024-57-3	Heptachlor epoxide	2	U
959-98-8	Endosulfan I	2	U
60-57-1	Dieldrin	2	U
72-55-9	4,4'-DDE	4	U
72-20-8	Endrin	4	U
33213-65-9	Endosulfan II	4	U
72-54-8	4,4'-DDD	4	U
1031-07-8	Endosulfan sulfate	4	U
50-29-3	4,4'-DDT	4	U
72-43-5	Methoxychlor	4	U
53494-70-5	Endrin ketone	20	U
7421-36-3	Endrin aldehyde	4	U
57-74-9	Chlordane	4	U
8001-35-2	Toxaphene	20	U
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778622B
MW-5, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778622B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7192.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 12 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column = DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	380	U
108-95-2	Phenol	380	U
111-44-4	bis(2-Chloroethyl)ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
95-50-1	1,2-Dichlorobenzene	380	U
108-60-1	bis(2-chloroisopropyl)ether	380	U
621-64-7	N-Nitroso-Di-n-propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	380	U
111-91-1	bis(2-Chloroethoxy)methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
91-20-3	Naphthalene	380	U
87-68-3	Hexachlorobutadiene	380	U
59-50-7	4-Chloro-3-methylphenol	380	U
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	380	U
91-58-7	2-Chloronaphthalene	380	U
131-11-3	Dimethylphthalate	380	U
208-96-8	Acenaphthylene	380	U
606-20-2	2,6-Dinitrotoluene	380	U
83-32-9	Acenaphthene	380	U
51-28-5	2,4-Dinitrophenol	950	U
100-02-7	4-Nitrophenol	950	U
121-14-2	2,4-Dinitrotoluene	380	U
84-66-2	Diethylphthalate	380	U
86-73-7	Fluorene	380	U
7005-72-3	4-Chlorophenyl-phenylether	380	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778622B
MW-5, 5-4

025

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778622B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7192.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 12 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Column = DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	950	U
86-30-6	n-Nitrosodiphenylamine	380	U
122-66-7	1,2-Diphenylhydrazine(as azo)	380	U
101-55-3	4-Bromophenyl-phenylether	380	U
118-74-1	Hexachlorobenzene	380	U
87-86-5	Pentachlorophenol	950	U
85-01-08	Phenanthrene	380	U
120-12-7	Anthracene	380	U
84-74-2	Di-n-butylphthalate	380	U
206-44-0	Fluoranthene	380	U
92-87-5	Benzidine	1900	U
129-00-0	Pyrene	380	U
85-68-7	Butylbenzylphthalate	380	U
56-55-3	Benzo[a]anthracene	380	U
91-94-1	3,3'-Dichlorobenzidine	760	U
218-01-9	Chrysene	380	U
117-81-7	bis(2-Ethylhexyl)phthalate	380	U
117-84-0	Di-n-octylphthalate	380	U
205-99-2	Benzo[b]fluoranthene	380	U
207-08-9	Benzo[k]fluoranthene	380	U
50-32-8	Benzo[a]pyrene	380	U
193-39-5	Indeno[1,2,3-cd]pyrene	380	U
53-70-3	Dibenz[a,h]anthracene	380	U
191-24-2	Benzo[g,h,i]perylene	380	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778622B
MW-5, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778622B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7192.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 12 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
2.				
3.				
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778622V
MW-5, S-4

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778622V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6478.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 12 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl chloride	11	U
75-00-3	Chloroethane	11	U
75-69-4	Trichlorofluoromethane	11	U
75-09-2	Methylene chloride	8	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	28	U
107-02-8	Acrolein	57	U
107-13-1	Acrylonitrile	57	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778622V
MW-5, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778622V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6478.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 12 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
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29.				
30.				

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Date of Report: 11/25/97
Project Number: 97122494
Lab ID: 97-0078523
Date Collected: 11/06/97 00:00
Collected By: Client
Date Received: 11/07/97 18:20

Client Project: JFK-B.A.Terminal

Client Designation: MW-7,S-5

	Conc.	Unit
LIMITED		
Phenolics as phenol	<1.2	mg/kg
Total Cyanide	<0.25	mg/kg
Petroleum Hydrocarbons, Total (I.R)	37	mg/kg
Solids, Total	81	%
METALS		
Silver	<6.1	mg/kg
Arsenic	<12	mg/kg
Beryllium	<1.2	mg/kg
Cadmium	<2.4	mg/kg
Chromium	<6.1	mg/kg
Copper	<6.1	mg/kg
Mercury	<0.12	mg/kg
Nickel	<6.1	mg/kg
Lead	<24	mg/kg
Antimony	<0.61	mg/kg
Selenium	<0.61	mg/kg
Thallium	<0.61	mg/kg
Zinc	9.6	mg/kg
ORGANIC		
Pesticides		
Pesticides and PCBs by 8080	see attached	ug/kg
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/kg
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/kg
MTBE by GC/MS(624/8260)	see attached	ug/kg
VOA by 8260 with Library Search	see attached	ug/kg

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-7, S-5

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-78623

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E116

% Moisture: 19 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/20/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	3	U
319-85-7	beta-BHC	3	U
319-86-8	delta-BHC	3	U
58-89-9	gamma-BHC (Lindane)	3	U
76-44-8	Heptachlor	3	U
309-00-2	Aldrin	3	U
1024-57-3	Heptachlor epoxide	3	U
959-98-8	Endosulfan I	3	U
60-57-1	Dieldrin	5	U
72-55-9	4,4'-DDE	5	U
72-20-8	Endrin	5	U
33213-65-9	Endosulfan II	5	U
72-54-8	4,4'-DDD	5	U
1031-07-8	Endosulfan sulfate	5	U
50-29-3	4,4'-DDT	5	U
72-43-5	Methoxychlor	30	U
53494-70-5	Endrin ketone	5	U
7421-36-3	Endrin aldehyde	5	U
57-74-9	Chlordane	30	U
8001-35-2	Toxaphene	60	U
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	50	U
11141-16-5	Aroclor-1232	50	U
53469-21-9	Aroclor-1242	50	U
12672-29-6	Aroclor-1248	50	U
11097-69-1	Aroclor-1254	50	U
11096-82-5	Aroclor-1260	50	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778623B

MW-7, 5-5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778623B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7193.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 19 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	410	U
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl)ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
108-60-1	bis(2-chloroisopropyl)ether	410	U
621-64-7	N-Nitroso-Di-n-propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy)methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-methylphenol	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
91-58-7	2-Chloronaphthalene	410	U
131-11-3	Dimethylphthalate	410	U
208-96-8	Acenaphthylene	410	U
606-20-2	2,6-Dinitrotoluene	410	U
83-32-9	Acenaphthene	410	U
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	410	U
86-73-7	Fluorene	410	U
7005-72-3	4-Chlorophenyl-phenylether	410	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778623B

MW-7, 5-5 W32

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778623B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7193.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 19 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	410	U
122-66-7	1,2-Diphenylhydrazine(as azo)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol	1000	U
85-01-08	Phenanthrene	410	U
120-12-7	Anthracene	410	U
84-74-2	Di-n-butylphthalate	410	U
206-44-0	Fluoranthene	410	U
92-87-5	Benzidine	2100	U
129-00-0	Pyrene	410	U
85-68-7	Butylbenzylphthalate	410	U
56-55-3	Benzo[a]anthracene	410	U
91-94-1	3,3'-Dichlorobenzidine	820	U
218-01-9	Chrysene	410	U
117-81-7	bis(2-Ethylhexyl)phthalate	410	U
117-84-0	Di-n-octylphthalate	410	U
205-99-2	Benzo[b]fluoranthene	410	U
207-08-9	Benzo[k]fluoranthene	410	U
50-32-8	Benzo[a]pyrene	410	U
193-39-5	Indeno[1,2,3-cd]pyrene	410	U
53-70-3	Dibenz[a,h]anthracene	410	U
191-24-2	Benzo[g,h,i]perylene	410	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778623B
MW-7, 5-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778623B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7193.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 19 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.99	210	J
2.				
3.				
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778623V
MW-7, S-5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778623V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6479.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 19 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-09-2	Methylene chloride	10	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	31	U
107-02-8	Acrolein	62	U
107-13-1	Acrylonitrile	62	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778623V
MW-7 5-5

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778623V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6479.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 19 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
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Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK-B.A.Terminal

Client Designation: MW-9,S-5

Date of Report: 11/25/97
Project Number: 97122494
Lab ID: 97-0078624
Date Collected: 11/06/97 00:00
Collected By: Client
Date Received: 11/07/97 18:20

	Conc.	Unit
LIMITED		
Phenolics as phenol	<1.2	mg/kg
Total Cyanide	<0.25	mg/kg
Petroleum Hydrocarbons, Total (I.R)	29	mg/kg
Solids, Total	84	%
METALS		
Silver	<5.9	mg/kg
Arsenic	<12	mg/kg
Beryllium	<1.2	mg/kg
Cadmium	<2.4	mg/kg
Chromium	<5.9	mg/kg
Copper	<5.9	mg/kg
Mercury	<0.12	mg/kg
Nickel	<5.9	mg/kg
Lead	<24	mg/kg
Antimony	<0.59	mg/kg
Selenium	<0.59	mg/kg
Thallium	<0.59	mg/kg
Zinc	9.4	mg/kg
ORGANIC		
Pesticides		
Pesticides and PCBs by 8080	see attached	ug/kg
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/kg
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/kg
MTBE by GC/MS(624/8260)	see attached	ug/kg
VOA by 8260 with Library Search	see attached	ug/kg

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9, S-5

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-78624

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E117

% Moisture: 16 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/21/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	2	U
319-85-7	beta-BHC	2	U
319-86-8	delta-BHC	2	U
58-89-9	gamma-BHC (Lindane)	2	U
76-44-8	Heptachlor	2	U
309-00-2	Aldrin	2	U
1024-57-3	Heptachlor epoxide	2	U
959-98-8	Endosulfan I	2	U
60-57-1	Dieldrin	4	U
72-55-9	4,4'-DDE	4	U
72-20-8	Endrin	4	U
33213-65-9	Endosulfan II	4	U
72-54-8	4,4'-DDD	4	U
1031-07-8	Endosulfan sulfate	4	U
50-29-3	4,4'-DDT	4	U
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	4	U
7421-36-3	Endrin aldehyde	4	U
57-74-9	Chlordane	20	U
8001-35-2	Toxaphene	50	U
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778624B

MW-9, S-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778624B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7194.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 16 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column = DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	400	U
108-95-2	Phenol	400	U
111-44-4	bis(2-Chloroethyl)ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
95-50-1	1,2-Dichlorobenzene	400	U
108-60-1	bis(2-chloroisopropyl)ether	400	U
621-64-7	N-Nitroso-Di-n-propylamine	400	U
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol	400	U
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
91-58-7	2-Chloronaphthalene	400	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	400	U
606-20-2	2,6-Dinitrotoluene	400	U
83-32-9	Acenaphthene	400	U
51-28-5	2,4-Dinitrophenol	990	U
100-02-7	4-Nitrophenol	990	U
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	400	U
86-73-7	Fluorene	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778624B

MW-9, 5-5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778624B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7194.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 16 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	990	U
86-30-6	n-Nitrosodiphenylamine	400	U
122-66-7	1,2-Diphenylhydrazine(as azo)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	990	U
85-01-08	Phenanthrene	400	U
120-12-7	Anthracene	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	400	U
92-87-5	Benzidine	2000	U
129-00-0	Pyrene	400	U
85-68-7	Butylbenzylphthalate	400	U
56-55-3	Benzo[a]anthracene	400	U
91-94-1	3,3'-Dichlorobenzidine	790	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	400	U
117-84-0	Di-n-octylphthalate	400	U
205-99-2	Benzo[b]fluoranthene	400	U
207-08-9	Benzo[k]fluoranthene	400	U
50-32-8	Benzo[a]pyrene	400	U
193-39-5	Indeno[1,2,3-cd]pyrene	400	U
53-70-3	Dibenz[a,h]anthracene	400	U
191-24-2	Benzo[g,h,i]perylene	400	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778624B
MW-9, 5-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778624B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7194.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 16 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778624V

MW-9, 5-5

U41

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778624V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6480.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 16 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-09-2	Methylene chloride	10	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	30	U
107-02-8	Acrolein	60	U
107-13-1	Acrylonitrile	60	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO. 9778624V MW-9, 5.5

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778624V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6480.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 16 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
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Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK-B.A.Terminal

Client Designation: F.B. 11/6

Date of Report: 11/21/97
Project Number: 97122494
Lab ID: 97-0078635
Date Collected: 11/05/97 00:00
Collected By: Client
Date Received: 11/07/97 18:20

	Conc.	Unit
ORGANIC		
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/l
VOA by 8260 with Library Search	see attached	ug/l

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778625V

F.B. 11/6

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9778625V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V6474.D

Level: (low/med) Date Received: 11/7/97

% Moisture: not dec. Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-09-2	Methylene chloride	6	B
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-65	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
108-38-3	Xylene (para & meta)	5	U
75-01-4	Xylene (ortho)	5	U
75-65-0	Methyl-tert butyl ether	5	U
1634-04-4	tert-Butyl Alcohol	25	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778625V
F.B. 11/6

U45

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9778625V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V6474.D

Level: (low/med) Date Received: 11/7/97

% Moisture: not dec. Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
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Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK-B.A.Terminal

Client Designation: MW-3,S-4

Date of Report:	11/25/97	
Project Number:	97122697	
Lab ID:	97-0082199	
Date Collected:	11/10/97 03:00	
Collected By:	Client	
Date Received:	11/12/97 17:00	

	Conc.	Unit
LIMITED		
Phenolics as phenol	<1.2	mg/kg
Total Cyanide	<0.25	mg/kg
Petroleum Hydrocarbons, Total (I.R)	93	mg/kg
Solids, Total	86	%
METALS		
Silver	<5.8	mg/kg
Arsenic	<12	mg/kg
Beryllium	<1.2	mg/kg
Cadmium	<2.3	mg/kg
Chromium	17	mg/kg
Copper	22	mg/kg
Mercury	<0.12	mg/kg
Nickel	<5.8	mg/kg
Lead	<23	mg/kg
Antimony	<0.58	mg/kg
Selenium	<0.58	mg/kg
Thallium	<0.58	mg/kg
Zinc	26	mg/kg
ORGANIC		
Pesticides		
Pesticides and PCBs by 8080	see attached	ug/kg
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/kg
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/kg
MTBE by GC/MS(624/8260)	see attached	ug/kg
VOA by 8260 with Library Search	see attached	ug/kg

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-3, 5-4

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-82199

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E131

% Moisture: 14 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/21/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	2	U
319-85-7	beta-BHC	2	U
319-86-8	delta-BHC	2	U
58-89-9	gamma-BHC (Lindane)	2	U
76-44-8	Heptachlor	2	U
309-00-2	Aldrin	2	U
1024-57-3	Heptachlor epoxide	2	U
959-98-8	Endosulfan I	2	U
60-57-1	Dieldrin	5.4	
72-55-9	4,4'-DDE	4	U
72-20-8	Endrin	4	U
33213-65-9	Endosulfan II	4	U
72-54-8	4,4'-DDD	4	U
1031-07-8	Endosulfan sulfate	4	U
50-29-3	4,4'-DDT	4	U
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	4	U
7421-36-3	Endrin aldehyde	4	U
57-74-9	Chlordane	20	U
8001-35-2	Toxaphene	50	U
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782199B
MW-3, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782199B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7198.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 14 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	390	U
108-95-2	Phenol	390	U
111-44-4	bis(2-Chloroethyl)ether	390	U
95-57-8	2-Chlorophenol	390	U
541-73-1	1,3-Dichlorobenzene	390	U
106-46-7	1,4-Dichlorobenzene	390	U
95-50-1	1,2-Dichlorobenzene	390	U
108-60-1	bis(2-chloroisopropyl)ether	390	U
621-64-7	N-Nitroso-Di-n-propylamine	390	U
67-72-1	Hexachloroethane	390	U
98-95-3	Nitrobenzene	390	U
78-59-1	Isophorone	390	U
88-75-5	2-Nitrophenol	390	U
105-67-9	2,4-Dimethylphenol	390	U
111-91-1	bis(2-Chloroethoxy)methane	390	U
120-83-2	2,4-Dichlorophenol	390	U
120-82-1	1,2,4-Trichlorobenzene	390	U
91-20-3	Naphthalene	390	U
87-68-3	Hexachlorobutadiene	390	U
59-50-7	4-Chloro-3-methylphenol	390	U
77-47-4	Hexachlorocyclopentadiene	390	U
88-06-2	2,4,6-Trichlorophenol	390	U
91-58-7	2-Chloronaphthalene	390	U
131-11-3	Dimethylphthalate	390	U
208-96-8	Acenaphthylene	390	U
606-20-2	2,6-Dinitrotoluene	390	U
83-32-9	Acenaphthene	390	U
51-28-5	2,4-Dinitrophenol	970	U
100-02-7	4-Nitrophenol	970	U
121-14-2	2,4-Dinitrotoluene	390	U
84-66-2	Diethylphthalate	390	U
86-73-7	Fluorene	390	U
7005-72-3	4-Chlorophenyl-phenylether	390	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782199B

MW-3, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782199B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7198.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 14 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column = DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	970	U
86-30-6	n-Nitrosodiphenylamine	390	U
122-66-7	1,2-Diphenylhydrazine(as azo)	390	U
101-55-3	4-Bromophenyl-phenylether	390	U
118-74-1	Hexachlorobenzene	390	U
87-86-5	Pentachlorophenol	970	U
85-01-08	Phenanthrene	390	U
120-12-7	Anthracene	390	U
84-74-2	Di-n-butylphthalate	390	U
206-44-0	Fluoranthene	390	U
92-87-5	Benzidine	1900	U
129-00-0	Pyrene	390	U
85-68-7	Butylbenzylphthalate	390	U
56-55-3	Benzo[a]anthracene	390	U
91-94-1	3,3'-Dichlorobenzidine	780	U
218-01-9	Chrysene	390	U
117-81-7	bis(2-Ethylhexyl)phthalate	390	U
117-84-0	Di-n-octylphthalate	390	U
205-99-2	Benzo[b]fluoranthene	390	U
207-08-9	Benzo[k]fluoranthene	390	U
50-32-8	Benzo[a]pyrene	390	U
193-39-5	Indeno[1,2,3-cd]pyrene	390	U
53-70-3	Dibenz[a,h]anthracene	390	U
191-24-2	Benzo[g,h,i]perylene	390	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782199B
MW-3, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782199B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7198.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 14 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 1002-84-2	Pentadecanoic acid	23.01	170	J
2.				
3.				
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782199V
MW-3, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782199V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8498.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 14 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-09-2	Methylene chloride	10	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	29	U
107-02-8	Acrolein	58	U
107-13-1	Acrylonitrile	58	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782199V
MW-3, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782199V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8498.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 14 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	1.89	9	J
2.	Unknown Hydrocarbon	5.99	6	J
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4.				
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Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Date of Report: 11/25/97
Project Number: 97122697
Lab ID: 97-0082200
Date Collected: 11/10/97 00:00
Collected By: Client
Date Received: 11/12/97 17:00

Client Project: JFK-B.A.Terminal

Client Designation: MW-6,S-4

	Conc.	Unit
LIMITED		
Phenolics as phenol	<1.2	mg/kg
Total Cyanide	<0.25	mg/kg
Petroleum Hydrocarbons, Total (I.R)	22	mg/kg
Solids, Total	83	%
METALS		
Silver	<5.9	mg/kg
Arsenic	<12	mg/kg
Beryllium	<1.2	mg/kg
Cadmium	<2.4	mg/kg
Chromium	<5.9	mg/kg
Copper	<5.9	mg/kg
Mercury	<0.12	mg/kg
Nickel	<5.9	mg/kg
Lead	<24	mg/kg
Antimony	<0.59	mg/kg
Selenium	<0.59	mg/kg
Thallium	<0.59	mg/kg
Zinc	7.1	mg/kg
ORGANIC		
Pesticides		
Pesticides and PCBs by 8080	see attached	ug/kg
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/kg
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/kg
MTBE by GC/MS(624/8260)	see attached	ug/kg
VOA by 8260 with Library Search	see attached	ug/kg

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6, S-4

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-82200

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E124

% Moisture: 17 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/21/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	3	U
319-85-7	beta-BHC	3	U
319-86-8	delta-BHC	3	U
58-89-9	gamma-BHC (Lindane)	3	U
76-44-8	Heptachlor	3	U
309-00-2	Aldrin	3	U
1024-57-3	Heptachlor epoxide	3	U
959-98-8	Endosulfan I	3	U
60-57-1	Dieldrin	5	U
72-55-9	4,4'-DDE	5	U
72-20-8	Endrin	5	U
33213-65-9	Endosulfan II	5	U
72-54-8	4,4'-DDD	5	U
1031-07-8	Endosulfan sulfate	5	U
50-29-3	4,4'-DDT	5	U
72-43-5	Methoxychlor	30	U
53494-70-5	Endrin ketone	5	U
7421-36-3	Endrin aldehyde	5	U
57-74-9	Chlordane	30	U
8001-35-2	Toxaphene	60	U
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	50	U
11141-16-5	Aroclor-1232	50	U
53469-21-9	Aroclor-1242	50	U
12672-29-6	Aroclor-1248	50	U
11097-69-1	Aroclor-1254	50	U
11096-82-5	Aroclor-1260	50	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782200B

MW-6, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782200B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7199.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 17 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	400	U
108-95-2	Phenol	400	U
111-44-4	bis(2-Chloroethyl)ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
95-50-1	1,2-Dichlorobenzene	400	U
108-60-1	bis(2-chloroisopropyl)ether	400	U
621-64-7	N-Nitroso-Di-n-propylamine	400	U
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol	400	U
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
91-58-7	2-Chloronaphthalene	400	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	400	U
606-20-2	2,6-Dinitrotoluene	400	U
83-32-9	Acenaphthene	400	U
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	400	U
86-73-7	Fluorene	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782200B
MW-6, S-4

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9782200B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7199.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 17 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	400	U
122-66-7	1,2-Diphenylhydrazine(as azo)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	1000	U
85-01-08	Phenanthrene	400	U
120-12-7	Anthracene	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	400	U
92-87-5	Benzidine	2000	U
129-00-0	Pyrene	400	U
85-68-7	Butylbenzylphthalate	400	U
56-55-3	Benzo[a]anthracene	400	U
91-94-1	3,3'-Dichlorobenzidine	800	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	400	U
117-84-0	Di-n-octylphthalate	400	U
205-99-2	Benzo[b]fluoranthene	400	U
207-08-9	Benzo[k]fluoranthene	400	U
50-32-8	Benzo[a]pyrene	400	U
193-39-5	Indeno[1,2,3-cd]pyrene	400	U
53-70-3	Dibenz[a,h]anthracene	400	U
191-24-2	Benzo[g,h,i]perylene	400	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782200B
MW-6, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782200B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7199.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 17 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
2.				
3.				
4.				
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6.				
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782200V
MW-6, S-4

050

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9782200V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8499.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 17 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-09-2	Methylene chloride	11	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1;1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	30	U
107-02-8	Acrolein	60	U
107-13-1	Acrylonitrile	60	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9782200V
MW-6, S-4

J59

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782200V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8499.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 17 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	1.89	8	J
2. 138-86-3	Limonene	19.12	8	J
3.				
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Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK-B.A.Terminal

Client Designation: MW-8,S-4

Date of Report: 11/25/97
Project Number: 97122697
Lab ID: 97-0082201
Date Collected: 11/10/97 00:00
Collected By: Client
Date Received: 11/12/97 17:00

	Conc.	Unit
LIMITED		
Phenolics as phenol	<1.2	mg/kg
Total Cyanide	<0.25	mg/kg
Petroleum Hydrocarbons, Total (I.R)	27	mg/kg
Solids, Total	85	%
METALS		
Silver	<5.9	mg/kg
Arsenic	<12	mg/kg
Beryllium	<1.2	mg/kg
Cadmium	<2.3	mg/kg
Chromium	<5.9	mg/kg
Copper	<5.9	mg/kg
Mercury	<0.12	mg/kg
Nickel	<5.9	mg/kg
Lead	<23	mg/kg
Antimony	<0.59	mg/kg
Selenium	<0.59	mg/kg
Thallium	<0.59	mg/kg
Zinc	11	mg/kg
ORGANIC		
Pesticides		
Pesticides and PCBs by 8080	see attached	ug/kg
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/kg
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/kg
MTBE by GC/MS(624/8260)	see attached	ug/kg
VOA by 8260 with Library Search	see attached	ug/kg

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-8, S-4

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-82201

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E126

% Moisture: 15 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/21/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	2	U
319-85-7	beta-BHC	2	U
319-86-8	delta-BHC	2	U
58-89-9	gamma-BHC (Lindane)	2	U
76-44-8	Heptachlor	2	U
309-00-2	Aldrin	2	U
1024-57-3	Heptachlor epoxide	2	U
959-98-8	Endosulfan I	2	U
60-57-1	Dieldrin	2	U
72-55-9	4,4'-DDE	21	
72-20-8	Endrin	4	U
33213-65-9	Endosulfan II	4	U
72-54-8	4,4'-DDD	4	U
1031-07-8	Endosulfan sulfate	4	U
50-29-3	4,4'-DDT	4	U
72-43-5	Methoxychlor	4	U
53494-70-5	Endrin ketone	20	U
7421-36-3	Endrin aldehyde	4	U
57-74-9	Chlordane	4	U
8001-35-2	Toxaphene	20	U
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U
		40	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782201B
MW-8, S-4

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9782201B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7200.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 15 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	390	U
108-95-2	Phenol	390	U
111-44-4	bis(2-Chloroethyl)ether	390	U
95-57-8	2-Chlorophenol	390	U
541-73-1	1,3-Dichlorobenzene	390	U
106-46-7	1,4-Dichlorobenzene	390	U
95-50-1	1,2-Dichlorobenzene	390	U
108-60-1	bis(2-chloroisopropyl)ether	390	U
621-64-7	N-Nitroso-Di-n-propylamine	390	U
67-72-1	Hexachloroethane	390	U
98-95-3	Nitrobenzene	390	U
78-59-1	Isophorone	390	U
88-75-5	2-Nitrophenol	390	U
105-67-9	2,4-Dimethylphenol	390	U
111-91-1	bis(2-Chloroethoxy)methane	390	U
120-83-2	2,4-Dichlorophenol	390	U
120-82-1	1,2,4-Trichlorobenzene	390	U
91-20-3	Naphthalene	390	U
87-68-3	Hexachlorobutadiene	390	U
59-50-7	4-Chloro-3-methylphenol	390	U
77-47-4	Hexachlorocyclopentadiene	390	U
88-06-2	2,4,6-Trichlorophenol	390	U
91-58-7	2-Chloronaphthalene	390	U
131-11-3	Dimethylphthalate	390	U
208-96-8	Acenaphthylene	390	U
606-20-2	2,6-Dinitrotoluene	390	U
83-32-9	Acenaphthene	390	U
51-28-5	2,4-Dinitrophenol	980	U
100-02-7	4-Nitrophenol	980	U
121-14-2	2,4-Dinitrotoluene	390	U
84-66-2	Diethylphthalate	390	U
86-73-7	Fluorene	390	U
7005-72-3	4-Chlorophenyl-phenylether	390	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782201B
MW-8, S4

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9782201B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7200.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 15 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	980	U
86-30-6	n-Nitrosodiphenylamine	390	U
122-66-7	1,2-Diphenylhydrazine(as azo)	390	U
101-55-3	4-Bromophenyl-phenylether	390	U
118-74-1	Hexachlorobenzene	390	U
87-86-5	Pentachlorophenol	980	U
85-01-08	Phenanthrene	390	U
120-12-7	Anthracene	390	U
84-74-2	Di-n-butylphthalate	390	U
206-44-0	Fluoranthene	390	U
92-87-5	Benzidine	2000	U
129-00-0	Pyrene	390	U
85-68-7	Butylbenzylphthalate	390	U
56-55-3	Benzo[a]anthracene	390	U
91-94-1	3,3'-Dichlorobenzidine	780	U
218-01-9	Chrysene	390	U
117-81-7	bis(2-Ethylhexyl)phthalate	390	U
117-84-0	Di-n-octylphthalate	390	U
205-99-2	Benzo[b]fluoranthene	390	U
207-08-9	Benzo[k]fluoranthene	390	U
50-32-8	Benzo[a]pyrene	390	U
193-39-5	Indeno[1,2,3-cd]pyrene	390	U
53-70-3	Dibenz[a,h]anthracene	390	U
191-24-2	Benzo[g,h,i]perylene	390	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782201B
MW-8, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782201B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7200.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 15 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
2.				
3.				
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782201V
MW-8, S-4

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9782201V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8500.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 15 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-09-2	Methylene chloride	12	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	29	U
107-02-8	Acrolein	59	U
107-13-1	Acrylonitrile	59	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782201V
MW-8, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782201V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8500.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 15 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 811-97-2	Norflurane	1.88	8	J
2. 80-56-8	.alpha.-Pinene	16.82	7	J
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29.				
30.				

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JPK-B.A.Terminal

Client Designation: MW-4,S-4

Date of Report: 11/25/97
Project Number: 97122697
Lab ID: 97-0082202
Date Collected: 11/11/97 09:00
Collected By: Client
Date Received: 11/12/97 17:00

	Conc.	Unit
LIMITED		
Phenolics as phenol	<1.2	mg/kg
Total Cyanide	<0.25	mg/kg
Petroleum Hydrocarbons, Total (I.R)	27	mg/kg
Solids, Total	80	%
METALS		
Silver	<6.1	mg/kg
Arsenic	<12	mg/kg
Beryllium	<1.2	mg/kg
Cadmium	<2.4	mg/kg
Chromium	<6.1	mg/kg
Copper	<6.1	mg/kg
Mercury	<0.12	mg/kg
Nickel	<6.1	mg/kg
Lead	<25	mg/kg
Antimony	<0.61	mg/kg
Selenium	<0.61	mg/kg
Thallium	<0.61	mg/kg
Zinc	12	mg/kg
ORGANIC		
Pesticides		
Pesticides and PCBs by 8080	see attached	ug/kg
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/kg
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/kg
MTBE by GC/MS(624/8260)	see attached	ug/kg
VOA by 8260 with Library Search	see attached	ug/kg

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-4, S-4

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-82202

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E125

% Moisture: 20 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/21/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	3	U
319-85-7	beta-BHC	3	U
319-86-8	delta-BHC	3	U
58-89-9	gamma-BHC (Lindane)	3	U
76-44-8	Heptachlor	3	U
309-00-2	Aldrin	3	U
1024-57-3	Heptachlor epoxide	3	U
959-98-8	Endosulfan I	3	U
60-57-1	Dieldrin	5	U
72-55-9	4,4'-DDE	5	U
72-20-8	Endrin	5	U
33213-65-9	Endosulfan II	5	U
72-54-8	4,4'-DDD	5	U
1031-07-8	Endosulfan sulfate	5	U
50-29-3	4,4'-DDT	5	U
72-43-5	Methoxychlor	30	U
53494-70-5	Endrin ketone	5	U
7421-36-3	Endrin aldehyde	5	U
57-74-9	Chlordane	30	U
8001-35-2	Toxaphene	60	U
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	50	U
11141-16-5	Aroclor-1232	50	U
53469-21-9	Aroclor-1242	50	U
12672-29-6	Aroclor-1248	50	U
11097-69-1	Aroclor-1254	50	U
11096-82-5	Aroclor-1260	50	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782202B
MW-4, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782202B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7201.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 20 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	420	U
108-95-2	Phenol	420	U
111-44-4	bis(2-Chloroethyl)ether	420	U
95-57-8	2-Chlorophenol	420	U
541-73-1	1,3-Dichlorobenzene	420	U
106-46-7	1,4-Dichlorobenzene	420	U
95-50-1	1,2-Dichlorobenzene	420	U
108-60-1	bis(2-chloroisopropyl)ether	420	U
621-64-7	N-Nitroso-Di-n-propylamine	420	U
67-72-1	Hexachloroethane	420	U
98-95-3	Nitrobenzene	420	U
78-59-1	Isophorone	420	U
88-75-5	2-Nitrophenol	420	U
105-67-9	2,4-Dimethylphenol	420	U
111-91-1	bis(2-Chloroethoxy)methane	420	U
120-83-2	2,4-Dichlorophenol	420	U
120-82-1	1,2,4-Trichlorobenzene	420	U
91-20-3	Naphthalene	420	U
87-68-3	Hexachlorobutadiene	420	U
59-50-7	4-Chloro-3-methylphenol	420	U
77-47-4	Hexachlorocyclopentadiene	420	U
88-06-2	2,4,6-Trichlorophenol	420	U
91-58-7	2-Chloronaphthalene	420	U
131-11-3	Dimethylphthalate	420	U
208-96-8	Acenaphthylene	420	U
606-20-2	2,6-Dinitrotoluene	420	U
83-32-9	Acenaphthene	420	U
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	420	U
84-66-2	Diethylphthalate	420	U
86-73-7	Fluorene	420	U
7005-72-3	4-Chlorophenyl-phenylether	420	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782202B
MW-4, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782202B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7201.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 20 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	420	U
122-66-7	1,2-Diphenylhydrazine(as azo)	420	U
101-55-3	4-Bromophenyl-phenylether	420	U
118-74-1	Hexachlorobenzene	420	U
87-86-5	Pentachlorophenol	1000	U
85-01-08	Phenanthrene	420	U
120-12-7	Anthracene	420	U
84-74-2	Di-n-butylphthalate	420	U
206-44-0	Fluoranthene	420	U
92-87-5	Benzidine	2100	U
129-00-0	Pyrene	420	U
85-68-7	Butylbenzylphthalate	420	U
56-55-3	Benzo[a]anthracene	420	U
91-94-1	3,3'-Dichlorobenzidine	830	U
218-01-9	Chrysene	420	U
117-81-7	bis(2-Ethylhexyl)phthalate	420	U
117-84-0	Di-n-octylphthalate	420	U
205-99-2	Benzo[b]fluoranthene	420	U
207-08-9	Benzo[k]fluoranthene	420	U
50-32-8	Benzo[a]pyrene	420	U
193-39-5	Indeno[1,2,3-cd]pyrene	420	U
53-70-3	Dibenz[a,h]anthracene	420	U
191-24-2	Benzo[g,h,i]perylene	420	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782202B
MW-4, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782202B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7201.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 20 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
2.				
3.				
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782202V
MW-4, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782202V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8501.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 20 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl chloride	13	U
75-00-3	Chloroethane	13	U
75-69-4	Trichlorofluoromethane	13	U
75-09-2	Methylene chloride	13	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	31	U
107-02-8	Acrolein	63	U
107-13-1	Acrylonitrile	63	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782202V
MW-4, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782202V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8501.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 20 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 811-97-2	Norflurane	1.89	7	J
2.				
3.				
4.				
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30.				

EMSL

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK-B.A.Terminal

Client Designation: F.B. 11/10

Date of Report: 11/21/97
Project Number: 97122697
Lab ID: 97-0062203
Date Collected: 11/10/97 00:00
Collected By: Client
Date Received: 11/12/97 17:00

	Conc.	Unit
ORGANIC		
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/L
VOA by 8260 with Library Search	see attached	ug/l

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782203V
F.B. 11/10

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9782203V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V8496.D

Level: (low/med) _____ Date Received: 11/12/97

% Moisture: not dec. _____ Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-09-2	Methylene chloride	7	B
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-65	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
108-38-3	Xylene (para & meta)	5	U
75-01-4	Xylene (ortho)	5	U
75-65-0	Methyl-tert butyl ether	5	U
1634-04-4	tert-Butyl Alcohol	25	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782203V
R.B 11/10

U7

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9782203V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V8496.D

Level: (low/med) Date Received: 11/12/97

% Moisture: not dec. Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 3 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	17.71	27	J
2.	Unknown	21.10	9	J
3.	Unknown	21.12	12	J
4.				
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Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK-B.A.Terminal

Client Designation: F.B. 11/11

Date of Report:	11/21/97
Project Number:	97122697
Lab ID:	97-0062204
Date Collected:	11/11/97 00:00
Collected By:	Client
Date Received:	11/12/97 17:00

	Conc.	Unit
ORGANIC		
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260	see attached	ug/L
VOA by 8260 with Library Search	see attached	ug/l

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782204V

F.B. 11/11

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9782204V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V8495.D

Level: (low/med) Date Received: 11/12/97

% Moisture: not dec. Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-09-2	Methylene chloride	7	B
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-65	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
108-38-3	Xylene (para & meta)	5	U
75-01-4	Xylene (ortho)	5	U
75-65-0	Methyl-tert butyl ether	5	U
1634-04-4	tert-Butyl Alcohol	25	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782204V
F.B. 11/11

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9782204V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V8495.D

Level: (low/med) Date Received: 11/12/97

% Moisture: not dec. Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
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LABORATORY DELIVERABLES

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following laboratory deliverables shall be included in the data submission. All deviations from the accepted methodology and procedures, or performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The proposed "Technical Requirements for Site Remediation" rules, which appeared in the May 4, 1992 New Jersey Register, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits be included in one section of the data package and in the main body of the report.

		Check If Complete
1.	Cover Page, Title Page listing Lab Certification #, facility name, address & date of report	X
2.	Table of Contents	X
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds.	X
4.	Summary Table cross-referencing field ID #'s vs. Lab ID #'s.	X
5.	Document bound, paginated and legible.	X
6.	Chain of Custody	X
7.	Methodology Summary	X
8.	Laboratory Chronicle and Holding Time Check.	X
9.	Results submitted on a dry weight basis (if applicable).	X
10.	Method Detection Limits.	X
11.	Lab certified by NJDEP for parameters or appropriate category of parameters or a member of the USEP CLP.	X
12.	Non-Conformance Summary	X

Laboratory Manager or Environmental Consultant's Signature

12-2-97
Date

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QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

A. Checklist which must be attached to the Summary

The following information must be reported in the Closure Plan Implementation Summary for all laboratory analyses performed in the compliance with the site assessment requirements:

Page #		
1	1.	Name and address of the facility.
1	2.	Name of the laboratory performing the sample analysis.
1	3.	NJDEP certification number assigned to the laboratory pursuant to N.J.A.C. 7:18.
1	4.	Laboratory sample identification number.
1	5.	Customer sample identification number corresponding to the laboratory sample identification.
1	6.	Sample Location (also on the site diagram).
1	7.	Matrix of the sample analyzed (i.e., water or sediments; including soil, sediment, and sludges). All sediment results must be reported on a dry weight basis.
93-96	8.	The reference for the method used (e.g., EPA Method 625, 40 CFR Part 136).
1	9.	The signature of the person completing the report form.
1	10.	The dates the laboratory report form was prepared, as well as the dates the sample were collected, submitted and analyzed.
97	11.	A list of all parameters (constituents and conditions) for which the analyses were performed.
4-79	12.	Sample results and corresponding units for each parameter.

CHAIN OF CUSTODY

THE PORT AUTHORITY OF N.Y. & N.J.
ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
CHAIN OF CUSTODY REPORT

9712249683

LABORATORY DESTINATION: EMSL

PAGE OF

BILLING INFORMATION		PROJECT INFORMATION	
BILL TO:	PA NY & NJ	PROJECT:	JFK – B.A. TERMINAL
ADDRESS:	241 Erie Street	JOB#:	A3-972.010
	Jersey City, NJ 07310-1397	LOCATION:	N.Y.
ATTENTION:	V. Berndt	CONTACT:	Dorian Bailey/Angelos Zafirelis
TELEPHONE:	201-216-2963	SAMPLED BY:	Terry
FAX:	201-216-2949	ANALYTICAL PROTOCOL:	

SAMPLE ID	DATE	TIME	SAMPLE TYPE: COMPOSITE	SAMPLE TYPE: GRAB	SAMPLE MATRIX	# OF BOTTLES	ANALYSIS (METHOD): PP+40 + MTBE + Ac + Ac + Xylenes	TPHC	VOAs+15 + MTBE + Ac + Ac + Xylenes										PRESERVATIVES: H2SO4	HCL	HNO3	NAOH	NON-PRES
MW-2, S-5	11/5/97	786	19		SOIL	2	✓	✓															2
MW-10, S-5	↓		20		SOIL	2	✓	✓															2
F.B. 11/5	↓		21		AQ	2			✓											2			
MW-5, S-4	11/6/97		22		SOIL	2	✓	✓															2
MW-7, S-5	↓		23		↓	2	✓	✓															2
MW-9, S-5	↓		24		↓	2	✓	✓															2
F.B. 11/6	↓		25		AQ	2			✓											2			

TURNAROUND (INDICATE IN CALENDAR DAYS): 2 weeks FAX: HARD COPY:

RELINQUISHED BY: [signature]	DATE: 11/7/97 TIME: 3:00	DELIVERABLES/ (CIRCLE ONE): DATA SUM (RED/DELIV) CLP NY/ASP OTHER:
RECEIVED BY: [signature] EMSL	DATE: 11-7-97 TIME: 3:00	
RELINQUISHED BY:	DATE: TIME:	COMMENTS: One Hardcopy report for all soil samples by 11/26/97
RECEIVED BY:	DATE: 11/7	

THE PORT AUTHORITY OF N.Y. & N.J.
ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
CHAIN OF CUSTODY REPORT

97122697 v3

LABORATORY DESTINATION: EMSL

PAGE OF

BILLING INFORMATION		PROJECT INFORMATION	
BILL TO:	PA NY & NJ	PROJECT:	JFK – B.A. TERMINAL
ADDRESS:	241 Erie Street	JOB#:	A3-972.010
	Jersey City, NJ 07310-1397	LOCATION:	N.Y.
ATTENTION:	V. Berndt	CONTACT:	Dorian Bailey/Angelos Zafirelis
TELEPHONE:	201-216-2963	SAMPLED BY:	Terry
FAX:	201-216-2949	ANALYTICAL PROTOCOL:	

SAMPLE ID	DATE	TIME	SAMPLE TYPE: COMPOSITE	SAMPLE TYPE: GRAB	SAMPLE MATRIX	# OF BOTTLES	ANALYSIS (METHOD): PP+40+MTBE+Ac+Ac+Xylenes	TPHC	VOA+15+MTBE+Ac+Ac+Xylenes	PRESERVATIVES: H2SO4	HCL	HNO3	NAOH	NON-PRES
MW-3, S-4	11/10/97	821	99		SOIL	2	✓	✓						2
MW-6, S-4	↓	200			↓	2	✓	✓						2
MW-8, S-4	↓	201			↓	2	✓	✓						2
MW-4, S-4	11/11/97	202			↓	2	✓	✓						2
F.B. 11/10	11/10/97	203			AQ	2			✓		2			
F.B. 11/11	11/11/97	204			AQ	2			✓		2			

TURNAROUND (INDICATE IN CALENDAR DAYS): 2 weeks FAX: HARD COPY:

INQUISHED BY: [signature]	DATE: 11/12/97 TIME: ~~[illegible]~~ 10:55	DELIVERABLES/ (CIRCLE ONE): DATA SUM NY/ASP RED/DELIV CLP OTHER:
RECEIVED BY: Joe Flinn EMSL	DATE: 11-12-97 TIME: 10:55	
RELINQUISHED BY:	DATE: TIME:	COMMENTS: One Hardcopy report for all soil samples by 11/26/97
RECEIVED BY:	DATE: 11/12	

EMSL ANALYTICAL, INC.

INTERNAL CHAIN OF CUSTODY

PETROLEUM HYDROCARBONS

ATE	TIME	SAMPLE ID #	ANALYSIS	INITIALS	SIGNATURE
11/5/97	15:00	73398+399	TPH/S	V.W.	Velisa Walthus
↓	↓	73444-446	↓	↓	↓
		74149-150			
	↓	75568-572	↓	↓	↓
11/8/97	10:00	78291+92	TPH/S	V.W.	Velisa Walthus
11/9/97	12:00	77051-54	TPH/AQ	P.S.	Velisa Walthus
		77677			
		78588-91			
	↓	78618	↓	↓	↓
11/10/97	18:30	80893-95	TPH/S	V.W.	Velisa Walthus
↓	↓	78612-16	↓	↓	↓
		78459+60			
11/11/97	15:00	81171-84	TPH/S	V.W.	Velisa Walthus
11/12/97	12:00	78619-24 29-38-43	TPH/S	V.W.	Velisa Walthus
↓	↓	81911-913	↓	↓	↓
11/13/97	14:00	81569	TPH/AQ	P.S.	Velisa Walthus
↓	↓	82448	↓	↓	↓
	16:30	81863-69	TPH/S	V.W.	Velisa Walthus
		81908			
		82199-202			
↓		82574-76	↓	↓	↓

Organics Internal COC

Sample Number(s)	Analysis	Date	Name(Print)	Initial
78619-25	VOA+ACAC+MTBE+LS	11/12/97	S. Ostrowski	So
82199-204	VOA+ACAC+MTBE+LS	11/13/97	S. Ostrowski	So
81904	~~TCLP Benzene~~ Zhe	11/13/97	S. Ostrowski	So
81904	TCLP Benzene	11/14/97	S. Ostrowski	So
78627	BN	11/13/97	SVAnetta	SV
78285	BNA			
78426; 31-35	BNA			
77748-57; 66	BN	11/12-3/97		
78427-28	624	11/13-11/14/97	S. Hessler	SV
778431-39	624+	11/13/97		
81276	624	11/14/97		
81279-88	624	11/13-11/14/97		
81841-	624	11/14/97		
82184-87	624+	11/14/97		
82196-98	624+	11/14/97		
77758-65	BN	11/13/97	SVAnetta	SV
78626	BNW	11/15/97		
78436-8	BNAW	11/15/97		
83201 83200 83199	BTEX	11/18/97		
78618		11/14/97		
78581/5				
82574-6		11/15-18/97		
83229	BTEX	11/18/97		
82182-83	524.2+	11/17/97	S. Hessler	SV
83221-26	524.2	11/17-11/18/97		
83202-18	VOA+PAH	11/17-18/97	SVAnetta	SV
82855-60	BTEX624	11/15, 11/18/97	S. Hessler	SV
9777689	624	11/18/97		
81186-87	624	11/14, 11/18/97		
85370-1	8020	11/18/97	SVAnetta	SV
85650-53	VOA + QC	11/19/97	S. Ostrowski	So
-25, 78628-34, 82199-202	BN8070	11/17/97	SVAnetta	SV

Mercury Analysis
Post Sequence Summary Report

Methodology EPA

Operator: E.TAYLOR
Reviewer:
Data file C:\HGTALK\DATA\HGNOV14B
Samples Prepared 11/14/97

Wavelength 253.7 nm
Loop size ml
Instrument ID: AMI200
Lab. Name: EMSL
IDL : .05 ug/L
CRDL : .2 ug/L
Detector Range 1.0 Au/1 volt
Final Sample Volume 100 ml

Current
C:\HGTALK\METHOD\HGSOIL.EME
C:\HGTALK\SEQUENCE\HGNOV14B.hsq
Fri Nov 14 17:30:46 1997

Original
C:\HGTALK\METHOD\HGSOIL.EME
C:\HGTALK\SEQUENCE\HGNOV14B.hsq
Fri Nov 14 17:30:46 1997

SDG No	Inj No	Time	Vial	Sample ID	Samp Type	Calc Amt	Test Value	Result	Dil Fact
	1	17:31	1/11	RINSE	sample	0.0142 ug/L		Pass	1.00
	2	17:35	1/1	BLANK	blank	0.0 ug/L			1.00
	3	17:38	1/2	S1	standard	0.2000 ug/L			1.00
	4	17:42	1/3	S2	standard	0.5000 ug/L			1.00
	5	17:46	1/4	S3	standard	1.0000 ug/L			1.00
	6	17:49	1/5	S4	standard	2.0000 ug/L			1.00
	7	17:53	1/6	S5	standard	5.0000 ug/L			1.00
Correlation coefficient 0.999921 Passed									
Rf0 -4.5512e-002 Rf1 4.5542e-005									
Standard Error Passed									
	8	17:57	1/11	RINSE	sample	0.0046 ug/L		Pass	1.00
	9	18:00	1/7	ICV	ICV	2.0708 ug/L	103.54%	Pass	1.00
	10	18:04	1/11	RINSE	sample	0.0120 ug/L		Pass	1.00
	11	18:08	1/1	ICB	ICB	0.0052 ug/L		Pass	1.00
	12	18:12	1/1	PREP BLK	PB	0.0032 ug/L		Pass	1.00
	13	18:15	2/1	CONTROL	LCS	1.9878 ug/L	99.39%	Pass	1.00
	14	18:19	2/2	78619	sample	0.0049 mg/Kg		Pass	1.00
	15	18:23	2/3	78619 DUP	duplicate	0.0080 mg/Kg	0.00%	Fail	1.00
	16	18:26	2/4	78619 MS	sample	0.9773 mg/Kg		Pass	1.00
	17	18:30	2/5	78619 MSD	sample	0.9656 mg/Kg		Pass	1.00
	18	18:34	2/6	78620	sample	0.0002 mg/Kg		Pass	1.00
	19	18:37	2/7	78622	sample	0.0058 mg/Kg		Pass	1.00
	20	18:41	2/8	78623	sample	-0.0005 mg/Kg		Pass	1.00
	21	18:45	2/9	78624	sample	0.0004 mg/Kg		Pass	1.00
	22	18:48	1/11	RINSE	sample	0.0044 ug/L		Pass	1.00
	23	18:52	1/7	CCV1	CCV	1.9108 ug/L	95.54%	Pass	1.00
	24	18:56	1/10	RINSE	sample	0.0110 ug/L		Pass	1.00
	25	18:59	1/1	CCB1	CCB	0.0109 ug/L		Pass	1.00
Batch Passed									
	26	19:03	2/10	82199	sample	0.0018 mg/Kg		Pass	1.00
	27	19:07	2/11	82200	sample	0.0061 mg/Kg		Pass	1.00
	28	19:11	2/12	82201	sample	-0.0012 mg/Kg		Pass	1.00
	29	19:14	2/13	82202	sample	0.0001 mg/Kg		Pass	1.00
	30	19:18	2/14	81572	sample	0.0096 mg/Kg		Pass	1.00
	31	19:22	1/10	RINSE	sample	0.0104 ug/L		Pass	1.00
	32	19:25	1/7	CCV2	CCV	1.8506 ug/L	92.53%	Pass	1.00
	33	19:29	1/10	RINSE	sample	0.0095 ug/L		Pass	1.00
	34	19:33	1/9	CCB2	CCB	0.0036 ug/L		Pass	1.00
Batch Passed									

End of Report. Number of page(s) 1

EJT 11/14/97

Continued on Page

Read and Understood By

Signed _____ Date _____ Signed _____ Date _____

USC

EMSL ANALYTICAL, INC.

INTERNAL CHAIN OF CUSTODY

ORGANIC PREP.

DATE	TIME	SAMPLE ID #	ANALYSIS	INITIALS	SIGNATURE	REC'D BY	DATE
11/17	3:00	BIK	BNA 30g	BY	Bryan Young		11/18/97
		78619					
		78620					
		78622					
		78623					
		78624					
	4:30	78628	BN 30g				
		78632					
		78634					
		82199	BNA 30g				
		82200					
		82201					
	5:30	82202					
		83202	BN 30g				
		83203					
		83204					
		83205					
		83206					

Organic Preparation Log

QC Number: 454

Fraction: P/P Soil

	Sample (EMSL No.)	A-type (bna,bn, etc.)	Amount (g or mL)	FV (final vol)	Ext. (ext. date)	By (initials)	Conc. (conc. date)	By (initials)	Clnup (clean-up)	Comments
1	81969	P/P	5.0	10	11/18	DC	11/18	DC		MB # 451-3
2	81970		↓							
3	78619		30							
4	78620									
5	78622									
6	78623									
7	78624									
8	82199									
9	82200									
10	82201									
11	82202									
12										
13										
14										
15										
16										
17										
18										
19										
20										
Blank 1										
Blank 2										
Blank 3										
LS										
LSD										

Extraction Method: SepF ____ LIQ/LIQ ____ Sonicat ____ Dilution ____

Lot Information

Surrogat	Lot#	Amount(ul)	Spike Solutions	Lot#	Amount(uL)	Solvent	Lot#
BN			BN			MeCl2	
Acid			Acid			Acetone	
Pest/PCB			Pest/PCB			Hexane	
			TPH			SodSulfate	
			Other			Other	

Sample Digestion Chain of Custody

Digestion Date Begin: 11/18/97

Tech(s): TL

Batch Number: B652

Book: 277 Page: 1 Temp (C))

Matrix:	Aqueous	Soil	Sludge	Oil	Filter	Paintchips	Cassette	TCLP	Other:
		X							

Analysis: X ICP X GFAA

Analysis Date(s) 11-19-97

#	EMSL Sample ID	Prep Amount Wt(g)/Vol(ml)	Volume(ml)	Element(s) Required	TS%	Due
S10C	78619	0.5027	50	As, Be, Cd, Cr, Cu, Pb, Ni, Ag, Zn	84	② 11/20
S11	78620	0.5115	50		80	②
S27	78622	0.5004	50		88	②
S12	78623	0.5029	50		81	②
S13	78624	0.5035	50		84	②
S14	82199	0.5003	50		86	② 11/21
S15	82200	0.5070	50		83	②
S16	82201	0.5014	50		85	②
S17	82202	0.5092	50		80	②
S18	81905	2.0013	50	Ba	8.5	① 11/19
S19	85120	0.5006	50		97	11/21
S20	85121	0.5013	50		84	
S21	85122	0.5039	50		95	
S22	85123	0.4992	50		89	
S23	85124	0.4994	50		95	
S24	85125	0.5077	50		85	
S25	85126	0.5019	50		97	
S26	85127	0.5003	50		84	
S28				① Reported 11-19-97 16:00 SMP		
S29				② Reported 11-20-97 15:30 JB		
	Ref# 97-857			~~Tier~~		
				NOV19A		

#			Batch QC Provided: Initial Wt g/Vol mL	Final Vol
S2,3	2	Prep Blank	20 ml	50
S4	1	Control #1 ICP	20ml	50
S6	1	Sample Dup	0.5067	50
S7	1	Matrix Spike #1 ICP	0.5000	50
S8	1	M.Spike DuP #1 ICP	0.5006	50
S5	1	Control #2 GFAA	20ml	50
		SampleDup #2		
S9	1	Matrix Spike#2 GFAA	0.5019	50
S10	1	M.Spike Dup#2 GFAA	0.5075	50

Digestion Method:

	SW-846 3005	X	SW-846 3051
	SW-846 3010		DIG 200 for ICP/GFAA
	SW-846 3015		NIOSH
	SW-846 3020	Other:	
	SW-846 3040		
	SW-846 3050		

Amount Spike Added (ml)	Standard Serial ID	
0.5	ICP	109-23-D
0.5	GF	257-27-G

Lot # HNO3 Lot # HCL

Lot # 1+1HNO3 Lot # 1+1HCL

Lot # H2O2

Relinquished By: John [signature] Date: 11/19/97 Received By: S M Pomeroy Date: 11-19-97

EMSL ANALYTICAL, INC.

INTERNAL CHAIN OF CUSTODY

WET CHEMISTRY

DATE	TIME	SAMPLE ID #	ANALYSIS	INITIALS	SIGNATURE
11/13/97	9 PM	81569	NH_3-N	MY	Mary Yan
↓	↓	75432-38	↓	↓	↓
11/17/97	9 AM	78458	TKN	MY	Mary Yan
↓	↓	75434-38	↓	↓	↓
11/18/97	8 AM	75431	Phenol	MY	Mary Yan
		75434-38			
		75599-78607	↓		
↓	↓	85120-29	T-CN	↓	↓
11/19/97	8 AM	78608-11	Phenol	MY	Mary Yan
		81156-87			
		81279-82			
		81252-87	↓	↓	↓
		81862	TSS	MY	Mary Yan
↓	↓	85148	↓	↓	↓
11/19/97	3 PM	85722	TDS	MY	Mary Yan
11/20/97	9 AM	85130-39	T-CN	MY	Mary Yan
		78619-24	Phenol	MY	Mary Yan
		81185			
		82199-82202			
↓	✓	83233	↓	↓	↓

EMSL ANALYTICAL, INC.

INTERNAL CHAIN OF CUSTODY

EMSL LAB ID NO. 78619-25, 82199-204

PROJECT NO. 97122494 97122697

SAMPLE/CONTAINERS

PARAMETERS

DATE	TIME	ANALYSIS	NAME (PRINT)	SIGNATURE
11/13-11/14/97		T. Cyanide	Parittan Singh	
11/20-11/21/97		Pest/PCB's	Jim Kelley	

METHODOLOGY SUMMARY

METHODOLOGY SUMMARY

Mercury, Solid/Aqueous

SW 846 Method 7471, a cold-vapor atomic absorption method, is based on the absorption of radiation at the 253.7-nm wavelength by mercury vapor. The mercury is reduced to the elemental state and aerated from solution in a closed system. The mercury vapor passes through a cell positioned in the light path of an atomic absorption spectrophotometer. Absorbance (peak height) is measured as a function of mercury concentration.

Metals - Solid

This is a procedure used to determine metals concentrations in soils. It involves an acidic digestion under oxidizing conditions of approximately one (1) gram of soil or material. Nitric and hydrochloric acids as well as hydrogen peroxide are employed in the digestion. The digested sample is filtered and diluted to 100 milliliters. The analysis is performed by Flame Atomic Absorption, Furnace Atomic Absorption or ICP analysis. Reference methods are SW-846 3rd Edition, September 1986, Revised July 1992 and Methods for the Determination of Metals in Environmental Samples EPA/600/4-91/010 June 1991.

Pesticide/PCB's - Solid

Method 8080 - This method covers the determination of pesticides and polychlorinated biphenyls (PCB's) in samples by extraction/concentration with organic solvents and subsequent qualification/quantification by Gas Chromatography. The gas chromatograph utilizes an electron capture detector (ECD) which is applicable for the determination of the compounds listed for this method in Test Methods for Evaluating Solid Waste, SW-846, 3rd Edition, November, 1986.

Soil samples were prepared as prescribed in Method 3550 from SW-846.

Phenolics

A portion of sample is distilled at pH 4. An aliquot of the distillate is reacted with 4-aminoantipyrene to form a dye, the intensity of which is proportional to concentration. Reference method is EPA Method 420.1.

Semivolatiles by GC/MS - Solid

Method 8270 - This is a gas chromatograph/mass spectrometer (GC/MS) method applicable to the determination of a number of organic compounds that are partitioned in an organic solvent and amenable to gas chromatography. Test Methods for Evaluating Solid Waste, SW846, 3rd Edition, November, 1986.

An HP5890/5970B GC/MS was used with a DB-5 fused silica capillary column.

Method detection limits are as stated.

Soil samples were prepared for analysis as prescribed in Method 3550 from SW846.

Aqueous samples were prepared for analysis as prescribed in Method 3510 from SW846.

Cyanide

An aliquot of sample is acidified under analysis conditions liberating cyanide as HCN. A distillation follows leaving behind interferences and scrubbing the distilled HCN in sodium hydroxide solution. An aliquot of the NaOH solution is analyzed colorimetrically for cyanide ion. Reference method is EPA Method 335.2.

Petroleum Hydrocarbons by IR - Solid

This is a soxhlet extraction and Infrared Spectrophotometer (IR) method used to determine petroleum hydrocarbon levels in solid matrices. An aliquot of the sample is soxhlet extracted with freon, the non-petroleum hydrocarbons are removed with silica gel and the extract is analyzed by IR against a series of standard mixtures. Reference Methods are EPA Methods 3540 and 418.1.

Total Solids, Percent

This is a gravimetric analytical method used to determine the moisture content present in either aqueous or solid matrices. An aliquot of the sample is weighed into a tared beaker and then dried at 103-105 deg. C. The final weight is subtracted from the initial weight and then the percent total solids present in the sample is calculated. Reference method is Standard Methods for the Examination of Water and Wastewater, 16th Edition, Method 209A.

Volatile Organics by GC/MS

Reference Method SW-846 8240/8260/624

A representative sample, typically 5.0 grams for soils and 5.0 mLs for waters, is analyzed by the purge and trap method. The purged sample components are trapped in a tube containing suitable sorbent materials. The trapped components are then introduced into the gas chromatograph and analyzed using mass spectrometry.

Sample spectra and area responses are compared to standards analyzed in an identical way using the internal standard calculation technique.

Surrogate compounds are added to monitor analytical efficiency.

If tentatively identified compounds are requested, a computer program analyzes the non-priority pollutant/HSL/TCL compounds with standard mass spectra found in the latest version of the NIH/NBS/EPA mass spectral library.

METHODOLOGY

All analyses are adapted from one or more of the following reference methods:

- "Guidelines Establishing Test Procedures for the Analysis of Pollutants", Code of Federal Regulations Vol. 40, Part 136.
- "Test Methods for Evaluating Solid Waste", SW846 Third Edition, September 1986, USEPA.
- Code of Federal Regulations Vol. 40, Part 261, "Appendix II-Method 1311 Toxicity Characteristic Leaching Procedure (TCLP)".
- "Standard Methods for the Examination of Water and Wastewater", 15th, 16th and 17th editions.
- "Methods for the Chemical Analysis of Water and Wastes", EPA 600/4-79-020, March 1983, U.S.EPA, EMSL.
- "Annual Book of Standards, Section 11-Water", American Society for Testing and Materials (ASTM).
- "Methods for the Determination of Organic Compounds in Drinking Water", EPA 600/4-88/039, December 1988.
- "Official Methods of Analysis", Association of Official Analytical Chemists AOAC 15th Edition, 1990.
- NIOSH Manual of Analytical Methods, Third Edition, 1984, Revised 8/15/90, DHHS Pub. No. 84-100.

DEFINITIONS OF ABBREVIATIONS

U:	Not Detected
E:	Estimated Concentration
NFL:	No Free Liquid
NR:	Not Reactive
NS:	Not requested
<:	Less than minimum detection limit
NC:	Not calculable
LCS:	Laboratory Control Sample
MS/MSD:	Matrix Spike/Matrix Spike Duplicate
RSD:	Relative Standard Deviation
NTU:	Nephelometric Turbidity Units; used for turbidity.
deg. C:	degrees celcius
ug:	microgram; there are 1000 ug in 1 mg.
g:	gram; there are 1000 g in 1 Kg.
ul:	microliter; there are 1000 ul in 1 ml.
L	Liter
ppb	Parts per billion = ug/Kg, ug/L
ppm	Parts per million = mg/Kg, ug/g mg/L, ug/ml; 1 ppm = 1000 ppb.
B:	Compound found in method blank
J:	Compound detected, however below reportable detection limit
NA:	Not Applicable
NI:	Not Ignitable
ND:	Not Detected
MDL:	Method detection limit. Can be a limit specified by the method or a number determined by performing an MDL study.
RPD:	Relative Percent Difference
umhos:	Conductivity units; resistance is expressed in ohms.
col/3:	Colonies per volume of sample analyzed; used for bacteriology.
deg. F:	degrees Fahrenheit
mg:	milligram; there are 1000 mg in 1 g.
Kg:	kilogram
ml:	milliliter; there are 1000 ml in 1 liter.

COMMENTS: All soil samples are calculated on a dry weight basis except as noted.

LABORATORY CHRONICLE

Lab ID: 97-78619 to 97-78625
97-82199 to 97-82204

Client: Port Authority of NY & NJ

	I DATE	II Hold Time
Date Sampled	11/5-11/11/97	
Receipt/Refrigeration	11/7-11/12/97	
Extractions		
1. Metals prep	11/18/97	—
2. Mercury prep	11/14/97	—
3. Semivolatiles	11/17/97	14 Days
4. Pesticides/PCBs	11/18/97	14 Days
Analyses		
1. Metals	11/19-11/20/97	180 Days
2. Mercury	11/14/97	28 Days
3. Semivolatiles	11/17/97-11/18/97	40 Days
4. Pesticides/PCBs	11/20-11/21/97	40 Days
5. Phenolics	11/20/97	28 Days
6. Total Cyanide	11/13-11/14/97	14 Days
7. Total Petroleum Hydrocarbons	11/12-11/19/97	14 Days
8. Volatile Organics	11/12-11/13/97	14 Days

QC Supervisor
Review & Approval

(Signature) [signature]
(Printed Name) Peter B. Panton

(Date) 11-26-97

NOTE: If fractions are re-extracted and re-analyzed because the initial endeavors failed to meet the required Quality Control Criteria, the dates of re-extraction and/or re-analysis will be entered in Column II Additionally.

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		No	Yes
1.	Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)		X
2.	GC/MS Tune Specifications		
	a. BFB Meet Criteria		X
	b. DFTPP Meet Criteria		
3.	GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series.		X
4,	GC/MS Calibration - Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series.		X
5.	GC/MS Calibration - Initial Requirements		
	a. Calibration Check Compounds		X
	b. System Performance Check Compounds		
6.	Blank Contamination - If yes, list compounds and concentrations in each blank:		X
	a. VOA Fraction **Methylene Chloride 5-7 ppb.**		
	b. B/N Fraction		
	c. Acid Fraction		
7.	Surrogate Recoveries Meet Criteria		X
	If not met, list those compounds and their recoveries which fall outside the acceptable range:		
	a. VOA Fraction		
	b. B/N Fraction		
	c. Acid Fraction		
	If not met, were the calculations checked and the results qualified as "estimated"?		
8.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries which fall outside the acceptable range)	X	
	a. VOA Fraction		
	b. B/N Fraction		
	c. Acid Fraction **Pentachlorophenol: 9% and 10% recovery.**		
9.	Internal Standard Area/Retention Time Shift Meet Criteria **Semivolatile MSD: Is #6 outside QC limits.**	X	

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT, cont.

		No	Yes
10.	Extraction Holding Time Met		X
	If not met, list number of days exceeded for each sample:		
11.	Analysis Holding Time Met		X
	If not met, list number of days exceeded for each sample:		

12. Definitions:
U=Not Detected. J=Detected, but below report detection limit. B=Compound found in blank. E=Estimated concentration. NA=Not Applicable

Additional Comments:

Laboratory Manager M Date: 11-26-97

GC ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

	No	Yes
1. Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)		X
2. Standards Summary Submitted		X
3. Calibration-Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of sample analysis.		X
4. Blank Contamination - If yes, list compounds and concentrations in each blank:	X	
a. VOA Fraction		
b. B/N Fraction		
c. Acid Fraction		
d. Pesticides/PCB's		
e. Other		
5. Surrogate Recoveries Meet Criteria (If Applicable)		X
a. VOA Fraction		
b. B/N Fraction		
c. Acid Fraction		
d. Pesticides/PCB's		
e. Other		
If not Met, were the calculations checked and the results qualified (if applicable)		
6. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (if applicable)		X
(if not met, list those compounds and their recoveries which fall outside the acceptable range)		
a. VOA Fraction		
b. B/N Fraction		
c. Acid Fraction		
d. Pesticides/PCB's		
e. Other		
7. Retention Time Shift Meet Criteria (if applicable)		X

GC ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT, cont.

		No	Yes
8.	Extraction Holding Time Met If not met, list number of days exceeded for each sample:		X
9.	Analysis Holding Time Met If not met, list number of days exceeded for each sample:		X

10. Definitions:
U=Not Detected. J=Detected, but below report detection limit. B=Compound found in blank. E=Estimated concentration. NA=Not Applicable

Additional Comments:

Laboratory Manager: [signature] Date: 11-26-97

METALS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMA

		No	Yes
1.	Calibration Summary Meet Criteria		X
2.	ICP Interference Check Sample Results Summary Submitted (if applicable) Meet Criteria		X
3.	Serial Dilution Summary Submitted (if applicable) / Meet Criteria		NA
4.	Laboratory Control Sample Summary Submitted (if applicable) / Meet Criteria		X
5.	Blank Contamination - If yes, list compounds and concentrations in each blank. **Cv-prep blank=detection limit (5.00 mg/kg)**		X
6.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (if not met, list those compounds and their recoveries which fall outside the acceptable range) **Sb: MS/MSD outside QC limits, post-spike recovery is within limits.**	X	
7.	Extraction Holding Time Met If not met, list number of days exceeded for each sample:		X
8.	Analysis Holding Time Met If not met, list number of days exceeded for each sample:		X

9. Definitions: U=Not Detected. J=Detected, but below report detection limit. B=Compound found in blank, E=Estimated concentration. NA=Not Applicable

Additional Comments:

Laboratory Manager: [signature] Date: 11-26-97

PHC ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

	No	Yes
1. Blank Contamination - If yes, list the sample and the corresponding concentration in each blank:	X	
2. Matrix Spike Duplicate Recoveries Meet Criteria (if not met, list the sample and corresponding recovery which falls outside the acceptable range) 82202 RPD=25.	X	
3. IR Spectra submitted for all standards, blanks & samples		X
4. Chromatograms submitted for all standards, blanks, & samples if GC finger-printing was conducted		NA
5. Extraction Holding Time Met		X
If not met, list number of days exceeded for each sample:		
6. Analysis Holding Time Met		X
If not met, list number of days exceeded for each sample:		

7. Definitions: U=Not Detected. J=Detected, but below report detection limit. B=Compound found in blank. E=Estimated concentration. NA=Not Applicable

Additional Comments:

Laboratory Manager: JM Date: 11-26-97

GC/MS VOLATILE ORGANIC DATA PACKAGE

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

8240

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID: V8178.D BFB Injection Date: 10/22/97

Instrument ID: 5970-AVOA BFB Injection Time: 1009

GC Column: HP-624 X 75 M ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	20.6
75	30.0 - 66.0% of mass 95	50.2
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	86.4
175	4.0 - 9.0% of mass 174	7.3 (8.4)1
176	93.0 - 101.0% of mass 174	86.2 (99.8)1
177	5.0 - 9.0% of mass 176	6.7 (7.8)2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

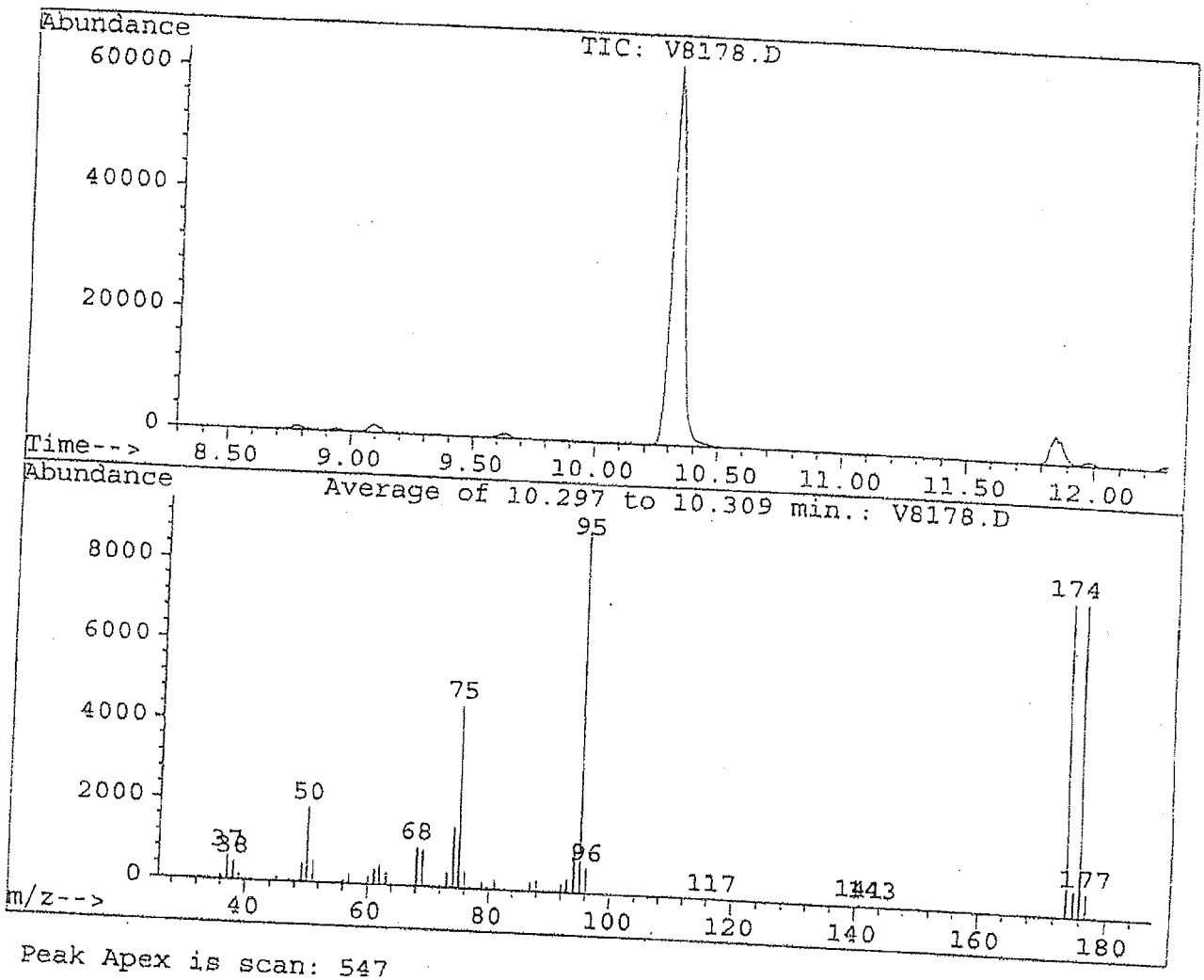
	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		10 PPB STND	V8179.D	10/22/97	1049
02		20 PPB STND	V8180.D	10/22/97	1127
03		50 PPB STND	V8181.D	10/22/97	1204
04		100 PPB STND	V8182.D	10/22/97	1242
05		150 PPB STND	V8183.D	10/22/97	1320
06		200 PPB STND	V8184.D	10/22/97	1357
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

CLPBFB

Data File : C:\HPCHEM\1\DATA2\V8178.D
Acq On : 22 Oct 97 10:09 am
Sample : BFB TUNE..... Converted from RTE d
Misc : 50 NG.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration



Peak Apex is scan: 547

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.6	1860	PASS
75	95	30	60	50.2	4541	PASS
95	95	100	100	100.0	9045	PASS
96	95	5	9	6.9	627	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	86.4	7816	PASS
175	174	5	9	8.4	656	PASS
176	174	95	101	99.8	7802	PASS
177	176	5	9	7.8	605	PASS

V8178.D 8240.M Wed Oct 22 10:24:22 1997 AVOA

Average of 10.297 to 10.309 min.: V8178.D

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	113	54.90	35	72.05	30	88.00	275
37.05	607	55.90	41	73.05	383	90.90	29
38.05	457	56.10	85	74.05	1497	92.10	204
39.05	138	57.10	260	75.05	4541	93.05	313
45.10	117	60.10	169	76.05	421	94.10	1040
47.00	31	61.10	383	77.05	23	95.15	9045
47.20	66	62.05	480	78.95	185	96.15	627
47.90	50	63.10	312	79.90	67	116.90	18
49.10	437	68.05	978	81.00	221	140.90	69
50.05	1860	69.05	927	81.90	18	143.05	44
51.05	574	70.05	38	87.00	232	173.95	7816

Average of 10.297 to 10.309 min.: V8178.D

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
175.00	656						
176.00	7802						
176.95	605						
177.75	16						

Response Factor Report AVOA

Method : C:\HPCHEM\1\METHODS\102297H.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 22 15:13:47 1997
Response via : Initial Calibration

Calibration Files
10 =V8179.D 20 =V8180.D 50 =V8181.D
100 =V8182.D 150 =V8183.D 200 =V8184.D

		Compound	10	20	50	100	150	200	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------							
2)	P	Chloromethane	0.550	0.509	0.680	0.865	0.932	0.844	0.730	24.19
3)	C	Vinyl chloride	0.950	0.916	1.144	1.349	1.261	1.270	1.148	15.62
4)	T	Bromomethane	0.288	0.298	0.380	0.401	0.439	0.485	0.382	20.31
5)	T	Chloroethane	0.483	0.406	0.589	0.628	0.617	0.683	0.568	18.12
6)	T	Trichlorofluorometh	2.339	2.175	2.186	2.586	2.515	2.495	2.383	7.39
7)	T	Acrolein	0.150	0.183	0.211	0.193	0.167	0.194	0.183	11.80
8)	MC	1,1-Dichloroethene	2.531	2.385	2.477	2.743	2.656	2.755	2.591	5.81
9)	T	Acetone	1.206	1.173	1.044	1.042	0.836	0.615	0.986	22.67
10)	T	Carbon disulfide	3.415	3.189	3.539	4.124	4.132	3.907	3.718	10.60
11)	T	Methylene chloride		2.312	2.270	2.297	2.170	2.302	2.270	2.56
12)	T	Acrylonitrile	0.408	0.450	0.451	0.469	0.365	0.431	0.429	8.78
13)	T	trans-1,2-Dichloroe	2.449	2.304	2.360	2.540	2.339	2.427	2.403	3.59
14)	T	Methyl-tert butyl e	4.698	4.202	4.446	4.231	3.907	4.023	4.251	6.74
15)	T	tert-Butyl Alcohol	0.291	0.305	0.296	0.292	0.247	0.278	0.285	7.24
16)	P	1,1-Dichloroethane	3.359	3.075	3.226	3.337	3.226	3.470	3.282	4.17
18)	T	cis-1,2-Dichloroeth	2.637	2.454	2.529	2.613	2.568	2.592	2.565	2.59
19)	T	2-Butanone	1.323	1.383	1.298	1.363	1.165	1.076	1.268	9.56
20)	T	Chloroform	3.162	2.844	3.153	3.142	3.078	3.170	3.092	4.06
21)	T	1,1,1-Trichloroetha	2.547	2.451	2.545	2.568	2.487	2.579	2.530	1.97
22)	T	Carbon tetrachlorid	2.376	2.169	2.238	2.279	2.270	2.379	2.285	3.56
23)	S	1,2-Dichloroethane-	1.999	2.007	2.099	2.105	2.088	2.013	2.052	2.44
24)	M	Benzene	3.940	3.781	3.801	4.251	4.122	4.402	4.049	6.21
25)	T	1,2-Dichloroethane	2.970	2.789	2.922	2.998	2.851	2.821	2.892	2.92
26)	I	1,4-Difluorobenzene	----------ISTD----------							
27)	M	Trichloroethene	0.431	0.400	0.425	0.426	0.383	0.413	0.413	4.46
28)	C	1,2-Dichloropropane	0.343	0.308	0.342	0.312	0.325	0.332	0.327	4.51
29)	T	Bromodichloromethan	0.785	0.701	0.752	0.700	0.663	0.703	0.717	6.11
30)	T	2-Chloroethyl vinyl	0.201	0.182	0.225	0.205	0.164	0.207	0.197	10.83
31)	T	trans-1,3-Dichlorop	0.590	0.538	0.605	0.575	0.551	0.570	0.571	4.31
32)	T	4-Methyl-2-pentanon	0.467	0.486	0.449	0.422	0.379	0.421	0.437	8.74
33)	S	Toluene-d8	0.963	0.953	1.028	0.977	0.940	1.052	0.986	4.52
34)	MC	Toluene	1.013	1.008	1.006	1.014	0.959	1.003	1.000	2.08
35)	T	cis-1,3-Dichloropro	0.648	0.557	0.639	0.580	0.546	0.582	0.592	7.15
36)	T	1,1,2-Trichloroetha	0.343	0.330	0.353	0.333	0.308	0.327	0.332	4.62
37)	T	2-Hexanone	0.309	0.370	0.365	0.348	0.304	0.300	0.333	9.55
38)	T	Tetrachloroethene	0.515	0.449	0.498	0.472	0.437	0.441	0.469	6.86
39)	T	Dibromochloromethan	0.663	0.615	0.667	0.603	0.537	0.535	0.603	9.61
40)	I	Chlorobenzene-d5	----------ISTD----------							
41)	MP	Chlorobenzene	0.924	0.866	0.899	0.876	0.866	0.922	0.892	3.00
42)	T	1,1,1,2-Tetrachloro	0.528	0.496	0.491	0.489	0.431	0.422	0.476	8.63
43)	C	Ethylbenzene	1.632	1.549	1.564	1.433	1.424	1.308	1.485	7.95
44)	T	Xylene (para & meta	1.454	1.380	1.360	1.235	0.971	0.871	1.212	19.66
45)	T	Xylene (ortho)	1.426	1.355	1.389	1.289	1.168	1.134	1.294	9.27
46)	T	Styrene	0.961	0.956	1.048	0.928	0.891	0.832	0.936	7.77
47)	P	Bromoform	0.619	0.610	0.617	0.594	0.564	0.528	0.589	6.17

48)	S	4-Bromofluorobenzen	0.766	0.802	0.822	0.824	0.809	0.879	0.817	4.55
49)	T	1,1,2,2-Tetrachloro	0.681	0.675	0.708	0.700	0.648	0.690	0.684	3.09
50)	T	1,3-Dichlorobenzene	0.965	0.943	1.044	0.983	0.834	0.842	0.935	8.83
51)	T	1,4-Dichlorobenzene	1.071	1.051	1.107	0.999	0.963	0.919	1.018	6.94
52)	T	1,2-Dichlorobenzene	1.012	0.934	1.064	0.922	0.903	0.882	0.953	7.39

(#) = Out of Range

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8179.D
Acq On : 22 Oct 97 10:49 am
Sample : 10 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 11:36 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.93	128	62996	50.00	ug/l	-0.08
26) 1,4-Difluorobenzene	9.90	114	275896	50.00	ug/l	-0.08
40) Chlorobenzene-d5	15.05	117	249241	50.00	ug/l	-0.11
System Monitoring Compounds						
23) 1,2-Dichloroethane-d4	9.03	65	125940	54.10	ug/l	%Recovery 108.21%
33) Toluene-d8	12.51	98	265820	52.40	ug/l	104.80%
48) 4-Bromofluorobenzene	17.18	95	190805	47.60	ug/l	95.20%
Target Compounds						
2) Chloromethane	2.23	50	6933	7.30	ug/l	Qvalue 96
3) Vinyl chloride	2.37	62	11972	10.03	ug/l	87
4) Bromomethane	2.78	94	3628	5.14	ug/l	85
5) Chloroethane	2.92	64	6086	11.62	ug/l	92
6) Trichlorofluoromethane	3.28	101	29473	7.64	ug/l	96
7) Acrolein	3.92	56	1889	14.87	ug/l	100
8) 1,1-Dichloroethene	4.04	61	31884	12.34	ug/l	95
9) Acetone	4.22	43	15200	16.45	ug/l	97
10) Carbon disulfide	4.36	76	43021	11.30	ug/l	100
11) Methylene chloride	4.91	49	67268	28.24	ug/l	93
12) Acrylonitrile	5.46	53	5143	15.86	ug/l	100
13) trans-1,2-Dichloroethene	5.46	61	30854	13.28	ug/l	85
14) Methyl-tert butyl ether	5.55	73	59191	12.75	ug/l	97
15) tert-Butyl Alcohol	5.39	59	16590	59.01	ug/l	100
16) 1,1-Dichloroethane	6.30	63	42326	13.78	ug/l	98
18) cis-1,2-Dichloroethene	7.47	61	33225	13.61	ug/l #	77
19) 2-Butanone	7.63	43	16671	14.55	ug/l	93
20) Chloroform	8.14	83	39843	10.94	ug/l	93
21) 1,1,1-Trichloroethane	8.43	97	32095	9.16	ug/l	87
22) Carbon tetrachloride	8.73	117	29934	9.10	ug/l m	89
24) Benzene	9.12	78	49636	12.52	ug/l	100
25) 1,2-Dichloroethane	9.17	62	37424	13.69	ug/l	93
27) Trichloroethene	10.33	130	23761	10.88	ug/l	97
28) 1,2-Dichloropropane	10.72	63	18908	12.33	ug/l	97
29) Bromodichloromethane	11.25	83	43320	11.92	ug/l	99
30) 2-Chloroethyl vinyl ether	11.84	63	11113	53.15	ug/l	100
31) trans-1,3-Dichloropropene	12.05	75	32542	11.25	ug/l	93
32) 4-Methyl-2-pentanone	12.39	43	25777	12.87	ug/l	97
34) Toluene	12.62	91	55908	11.08	ug/l	91
35) cis-1,3-Dichloropropene	13.06	75	35761	12.64	ug/l	89
36) 1,1,2-Trichloroethane	13.36	97	18934	10.59	ug/l	92
37) 2-Hexanone	13.88	43	17076	11.11	ug/l	93
38) Tetrachloroethene	13.59	166	28422	11.03	ug/l	87
39) Dibromochloromethane	14.04	129	36569	11.36	ug/l	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8179.D
Acq On : 22 Oct 97 10:49 am
Sample : 10 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 11:36 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

111

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
41) Chlorobenzene	15.12	112	46055	10.38	ug/l	87
42) 1,1,1,2-Tetrachloroethane	15.28	131	26324	10.09	ug/l	88
43) Ethylbenzene	15.35	91	81356	10.84	ug/l	89
44) Xylene (para & meta)	15.55	91	144981	22.56	ug/l	99
45) Xylene (ortho)	16.26	91	71078	11.46	ug/l	98
46) Styrene	16.29	104	47881	10.37	ug/l	86
47) Bromoform	16.56	173	30849	9.75	ug/l	95
49) 1,1,2,2-Tetrachloroethane	17.48	83	33939	9.72	ug/l	97
50) 1,3-Dichlorobenzene	19.15	146	48124	9.56	ug/l	95
51) 1,4-Dichlorobenzene	19.31	146	53384	9.66	ug/l	94
52) 1,2-Dichlorobenzene	19.97	146	50441	9.84	ug/l	77

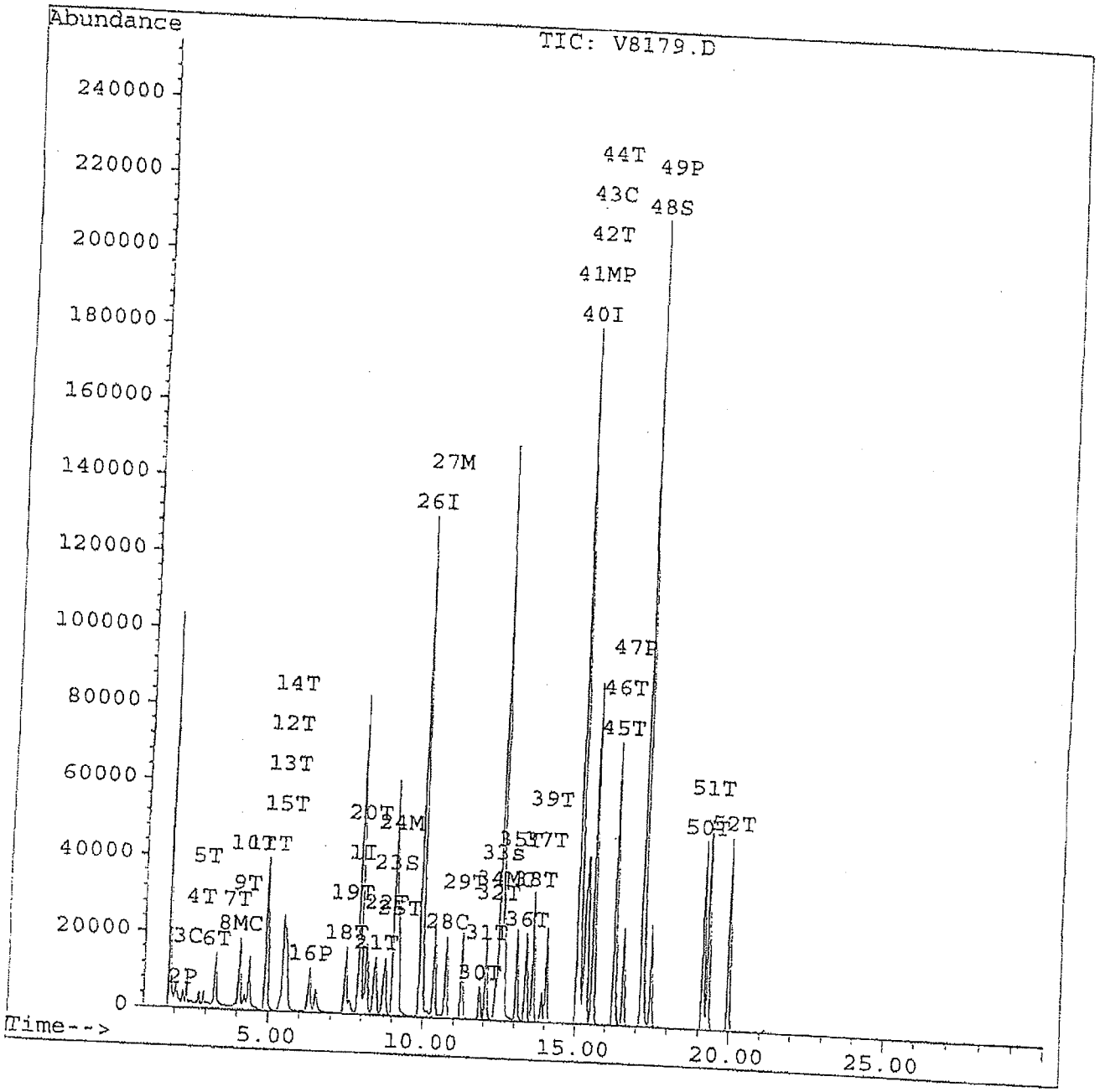
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8179.D
Acq On : 22 Oct 97 10:49 am
Sample : 10 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 11:36 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration



Quantitation Report

11

Data File : C:\HPCHEM\1\DATA2\V8180.D
Acq On : 22 Oct 97 11:27 am
Sample : 20 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 11:59 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.93	128	61369	50.00	ug/l	-0.07
26) 1,4-Difluorobenzene	9.90	114	277939	50.00	ug/l	-0.07
40) Chlorobenzene-d5	15.06	117	241517	50.00	ug/l	-0.10
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	9.03	65	123177	54.32	ug/l	108.64%
33) Toluene-d8	12.51	98	264905	51.84	ug/l	103.67%
48) 4-Bromofluorobenzene	17.19	95	193662	49.86	ug/l	99.71%
Target Compounds						Qvalue
2) Chloromethane	2.23	50	12499	13.51	ug/l	94
3) Vinyl chloride	2.37	62	22491	19.34	ug/l	94
4) Bromomethane	2.76	94	7317	10.63	ug/l	89
5) Chloroethane	2.90	64	9974	19.55	ug/l	100
6) Trichlorofluoromethane	3.26	101	53390	14.21	ug/l	95
7) Acrolein	3.93	56	4492	36.29	ug/l	100
8) 1,1-Dichloroethene	4.04	61	58535	23.25	ug/l	89
9) Acetone	4.20	43	28789	31.98	ug/l	94
10) Carbon disulfide	4.36	76	78287	21.11	ug/l	100
11) Methylene chloride	4.91	49	56746	24.45	ug/l	82
12) Acrylonitrile	5.46	53	11057	35.00	ug/l	100
13) trans-1,2-Dichloroethene	5.44	61	56550	24.99	ug/l	82
14) Methyl-tert butyl ether	5.53	73	103158	22.81	ug/l	91
15) tert-Butyl Alcohol	5.37	59	33856	123.62	ug/l	100
16) 1,1-Dichloroethane	6.29	63	75487	25.22	ug/l	95
18) cis-1,2-Dichloroethene	7.48	61	60228	25.33	ug/l #	71
19) 2-Butanone	7.61	43	33956	30.43	ug/l	97
20) Chloroform	8.14	83	69815	19.67	ug/l	88
21) 1,1,1-Trichloroethane	8.42	97	60163	17.62	ug/l	96
22) Carbon tetrachloride	8.74	117	53250	16.62	ug/l	88
24) Benzene	9.13	78	92825	24.04	ug/l	100
25) 1,2-Dichloroethane	9.17	62	68453	25.71	ug/l	96
27) Trichloroethene	10.34	130	44419	20.19	ug/l	90
28) 1,2-Dichloropropane	10.73	63	34264	22.19	ug/l	97
29) Bromodichloromethane	11.26	83	77881	21.27	ug/l	97
30) 2-Chloroethyl vinyl ether	11.85	63	20286	96.31	ug/l	100
31) trans-1,3-Dichloropropene	12.06	75	59783	20.52	ug/l	83
32) 4-Methyl-2-pentanone	12.40	43	54084	26.81	ug/l	95
34) Toluene	12.63	91	112055	22.04	ug/l	87
35) cis-1,3-Dichloropropene	13.06	75	61887	21.71	ug/l	99
36) 1,1,2-Trichloroethane	13.36	97	36675	20.37	ug/l	96
37) 2-Hexanone	13.89	43	41088	26.53	ug/l	85
38) Tetrachloroethene	13.59	166	49963	19.25	ug/l	96
39) Dibromochloromethane	14.05	129	68392	21.10	ug/l	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8180.D
Acq On : 22 Oct 97 11:27 am
Sample : 20 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 11:59 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
41) Chlorobenzene	15.10	112	83635	19.46	ug/l	86
42) 1,1,1,2-Tetrachloroethane	15.26	131	47893	18.95	ug/l	87
43) Ethylbenzene	15.33	91	149681	20.58	ug/l	91
44) Xylene (para & meta)	15.56	91	266722	42.83	ug/l	100
45) Xylene (ortho)	16.25	91	130945	21.78	ug/l	90
46) Styrene	16.27	104	92350	20.65	ug/l	98
47) Bromoform	16.57	173	58925	19.22	ug/l	97
49) 1,1,2,2-Tetrachloroethane	17.48	83	65206	19.28	ug/l	87
50) 1,3-Dichlorobenzene	19.13	146	91130	18.69	ug/l	87
51) 1,4-Dichlorobenzene	19.31	146	101550	18.96	ug/l	89
52) 1,2-Dichlorobenzene	19.98	146	90247	18.17	ug/l	85

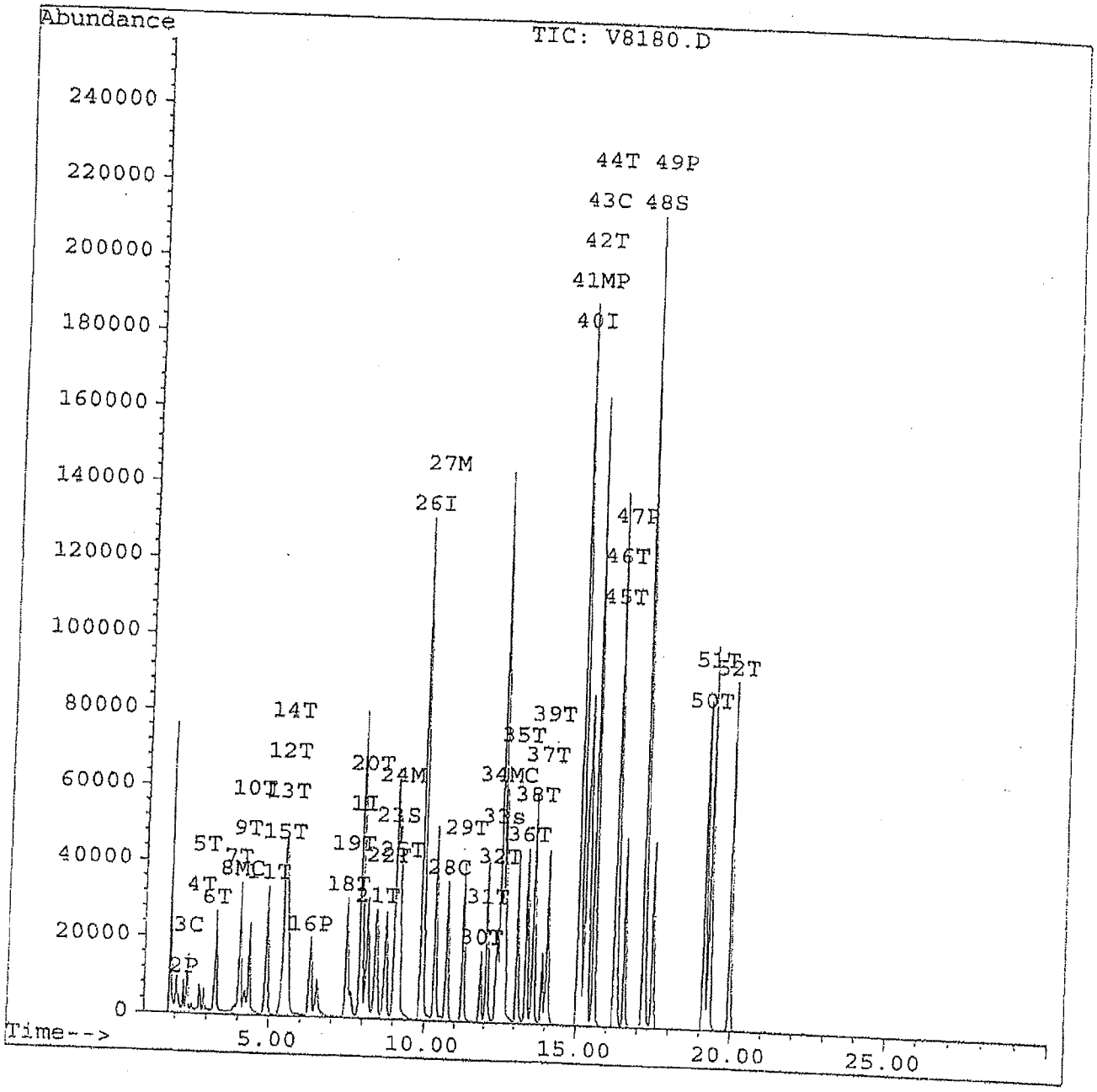
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8180.D
Acq On : 22 Oct 97 11:27 am
Sample : 20 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 11:59 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8181.D
Acq On : 22 Oct 97 12:04 pm
Sample : 50 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 12:40 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.91	128	55680	50.00	ug/l	-0.10
26) 1,4-Difluorobenzene	9.88	114	241420	50.00	ug/l	-0.10
40) Chlorobenzene-d5	15.05	117	216317	50.00	ug/l	-0.10
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	9.03	65	116854	56.80	ug/l	113.59%
33) Toluene-d8	12.51	98	248241	55.92	ug/l	111.85%
48) 4-Bromofluorobenzene	17.19	95	177892	51.13	ug/l	102.26%
Target Compounds						Qvalue
2) Chloromethane	2.23	50	37835	45.06	ug/l	97
3) Vinyl chloride	2.37	62	63711	60.39	ug/l	99
4) Bromomethane	2.76	94	21186	33.93	ug/l	97
5) Chloroethane	2.92	64	32810	70.88	ug/l	99
6) Trichlorofluoromethane	3.26	101	121737	35.70	ug/l	86
7) Acrolein	3.92	56	11730	104.44	ug/l	100
8) 1,1-Dichloroethene	4.04	61	137933	60.39	ug/l	90
9) Acetone	4.20	43	58125	71.17	ug/l	87
10) Carbon disulfide	4.36	76	197065	58.56	ug/l	100
11) Methylene chloride	4.91	49	126388	60.03	ug/l	80
12) Acrylonitrile	5.44	53	25084	87.52	ug/l	100
13) trans-1,2-Dichloroethene	5.44	61	131424	64.02	ug/l	81
14) Methyl-tert butyl ether	5.53	73	247536	60.32	ug/l	98
15) tert-Butyl Alcohol	5.37	59	74555	300.05	ug/l	100
16) 1,1-Dichloroethane	6.28	63	179603	66.14	ug/l	90
18) cis-1,2-Dichloroethene	7.47	61	140803	65.25	ug/l #	71
19) 2-Butanone	7.61	43	72291	71.40	ug/l	98
20) Chloroform	8.14	83	175540	54.52	ug/l	98
21) 1,1,1-Trichloroethane	8.41	97	141712	45.74	ug/l	94
22) Carbon tetrachloride	8.73	117	124621	42.86	ug/l	94
24) Benzene	9.12	78	211625	60.40	ug/l	100
25) 1,2-Dichloroethane	9.17	62	162682	67.35	ug/l	97
27) Trichloroethene	10.34	130	102659	53.72	ug/l	86
28) 1,2-Dichloropropane	10.73	63	82604	61.58	ug/l	99
29) Bromodichloromethane	11.25	83	181560	57.08	ug/l	95
30) 2-Chloroethyl vinyl ether	11.85	63	54240	296.46	ug/l	100
31) trans-1,3-Dichloropropene	12.05	75	146129	57.73	ug/l	87
32) 4-Methyl-2-pentanone	12.38	43	108413	61.87	ug/l m	39
34) Toluene	12.63	91	242918	55.00	ug/l	93
35) cis-1,3-Dichloropropene	13.06	75	154326	62.32	ug/l	96
36) 1,1,2-Trichloroethane	13.36	97	85116	54.42	ug/l	97
37) 2-Hexanone	13.89	43	88079	65.48	ug/l	91
38) Tetrachloroethene	13.59	166	120121	53.28	ug/l	98
39) Dibromochloromethane	14.02	129	161032	57.19	ug/l	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8181.D
Acq On : 22 Oct 97 12:04 pm
Sample : 50 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 12:40 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
41) Chlorobenzene	15.10	112	194426	50.50	ug/l	84
42) 1,1,1,2-Tetrachloroethane	15.26	131	106167	46.90	ug/l	96
43) Ethylbenzene	15.33	91	338374	51.95	ug/l	91
44) Xylene (para & meta)	15.56	91	588435	105.49	ug/l	98
45) Xylene (ortho)	16.25	91	300558	55.82	ug/l	93
46) Styrene	16.29	104	226614	56.57	ug/l	98
47) Bromoform	16.57	173	133474	48.60	ug/l	90
49) 1,1,2,2-Tetrachloroethane	17.48	83	153117	50.54	ug/l	87
50) 1,3-Dichlorobenzene	19.13	146	225931	51.73	ug/l	96
51) 1,4-Dichlorobenzene	19.31	146	239519	49.93	ug/l	79
52) 1,2-Dichlorobenzene	19.98	146	230240	51.76	ug/l	100

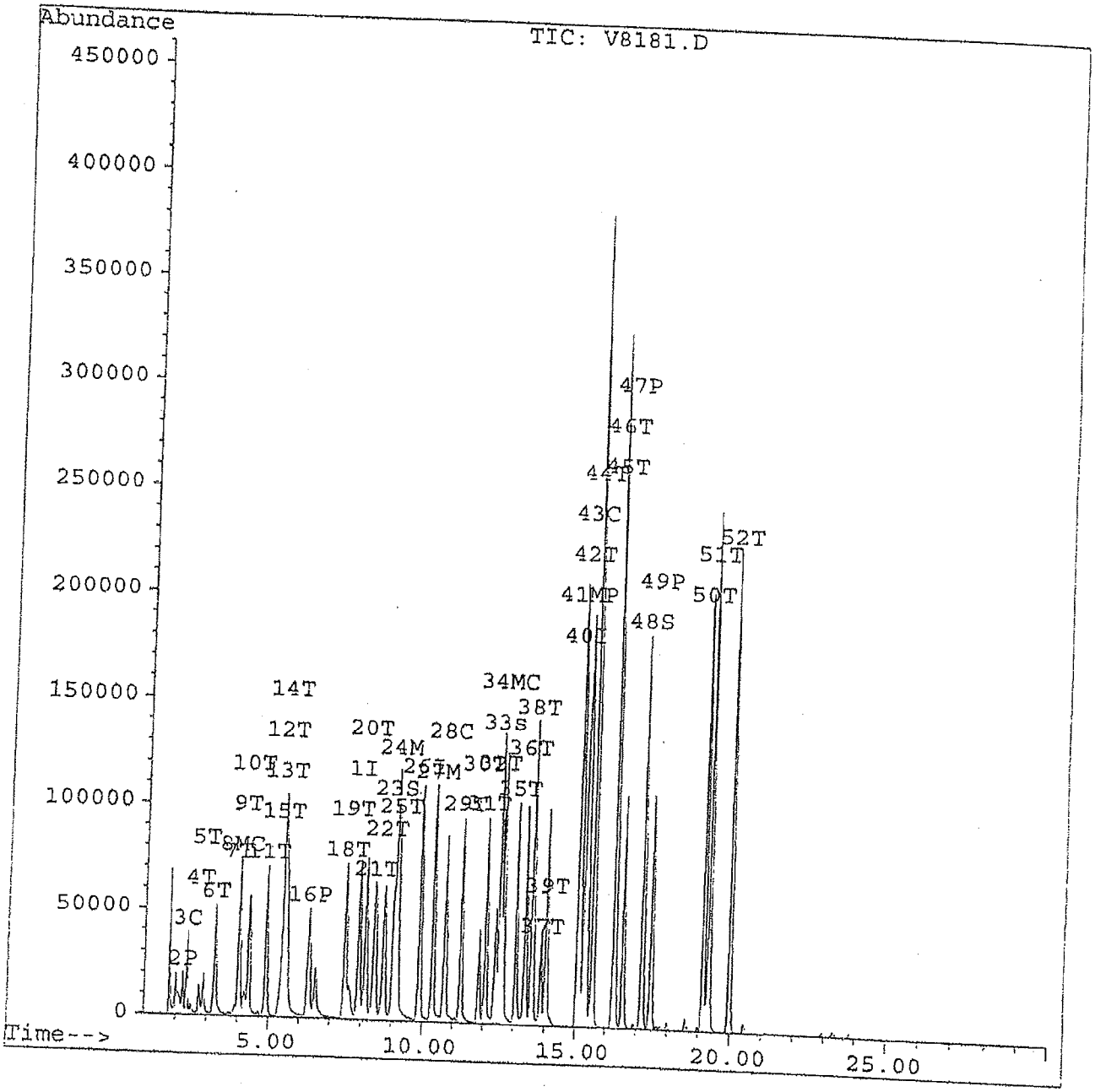
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8181.D
Acq On : 22 Oct 97 12:04 pm
Sample : 50 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 12:40 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8182.D
Acq On : 22 Oct 97 12:42 pm
Sample : 100 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 13:15 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	7.91	128	58293	50.00	ug/l		-0.10
26) 1,4-Difluorobenzene	9.90	114	278946	50.00	ug/l		-0.07
40) Chlorobenzene-d5	15.06	117	242904	50.00	ug/l		-0.10
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	9.03	65	122684	56.96	ug/l		113.92%
33) Toluene-d8	12.51	98	272446	53.12	ug/l		106.24%
48) 4-Bromofluorobenzene	17.19	95	200234	51.25	ug/l		102.51%
Target Compounds							Qvalue
2) Chloromethane	2.23	50	100870	114.76	ug/l		98
3) Vinyl chloride	2.37	62	157305	142.42	ug/l		98
4) Bromomethane	2.76	94	46800	71.59	ug/l		98
5) Chloroethane	2.89	64	73168	150.98	ug/l		95
6) Trichlorofluoromethane	3.28	101	301495	84.45	ug/l		88
7) Acrolein	3.92	56	22481	191.19	ug/l		100
8) 1,1-Dichloroethene	4.04	61	319829	133.76	ug/l		92
9) Acetone	4.20	43	121468	142.06	ug/l		98
10) Carbon disulfide	4.36	76	480800	136.47	ug/l		100
11) Methylene chloride	4.91	49	267819	121.51	ug/l		80
12) Acrylonitrile	5.44	53	54724	182.37	ug/l		100
13) trans-1,2-Dichloroethene	5.46	61	296175	137.81	ug/l	#	76
14) Methyl-tert butyl ether	5.53	73	493332	114.83	ug/l		95
15) tert-Butyl Alcohol	5.39	59	153911	591.66	ug/l		100
16) 1,1-Dichloroethane	6.31	63	389059	136.84	ug/l		96
18) cis-1,2-Dichloroethene	7.47	61	304682	134.87	ug/l	#	68
19) 2-Butanone	7.61	43	158858	149.86	ug/l		98
20) Chloroform	8.14	83	366325	108.68	ug/l		94
21) 1,1,1-Trichloroethane	8.41	97	299367	92.30	ug/l		94
22) Carbon tetrachloride	8.71	117	265711	87.30	ug/l		86
24) Benzene	9.12	78	495664	135.12	ug/l		100
25) 1,2-Dichloroethane	9.17	62	349537	138.21	ug/l		99
27) Trichloroethene	10.34	130	237478	107.54	ug/l		88
28) 1,2-Dichloropropane	10.73	63	173961	112.24	ug/l		98
29) Bromodichloromethane	11.25	83	390276	106.19	ug/l		91
30) 2-Chloroethyl vinyl ether	11.85	63	114471	541.49	ug/l		100
31) trans-1,3-Dichloropropene	12.06	75	320543	109.61	ug/l		93
32) 4-Methyl-2-pentanone	12.40	43	235262	116.21	ug/l		98
34) Toluene	12.63	91	565662	110.85	ug/l		99
35) cis-1,3-Dichloropropene	13.06	75	323601	113.09	ug/l		98
36) 1,1,2-Trichloroethane	13.36	97	185733	102.78	ug/l		92
37) 2-Hexanone	13.87	43	194060	124.85	ug/l		89
38) Tetrachloroethene	13.59	166	263197	101.03	ug/l		92
39) Dibromochloromethane	14.03	129	336442	103.41	ug/l		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8182.D
Acq On : 22 Oct 97 12:42 pm
Sample : 100 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 13:15 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
41) Chlorobenzene	15.10	112	425706	98.48	ug/l	93
42) 1,1,1,2-Tetrachloroethane	15.26	131	237678	93.49	ug/l	84
43) Ethylbenzene	15.33	91	696276	95.20	ug/l	99
44) Xylene (para & meta)	15.56	91	1200013	191.57	ug/l	85
45) Xylene (ortho)	16.25	91	626251	103.58	ug/l	82
46) Styrene	16.27	104	450673	100.20	ug/l	100
47) Bromoform	16.57	173	288603	93.59	ug/l	99
49) 1,1,2,2-Tetrachloroethane	17.49	83	340039	99.96	ug/l	91
50) 1,3-Dichlorobenzene	19.13	146	477369	97.33	ug/l	89
51) 1,4-Dichlorobenzene	19.32	146	485287	90.09	ug/l	94
52) 1,2-Dichlorobenzene	19.98	146	448008	89.69	ug/l	85

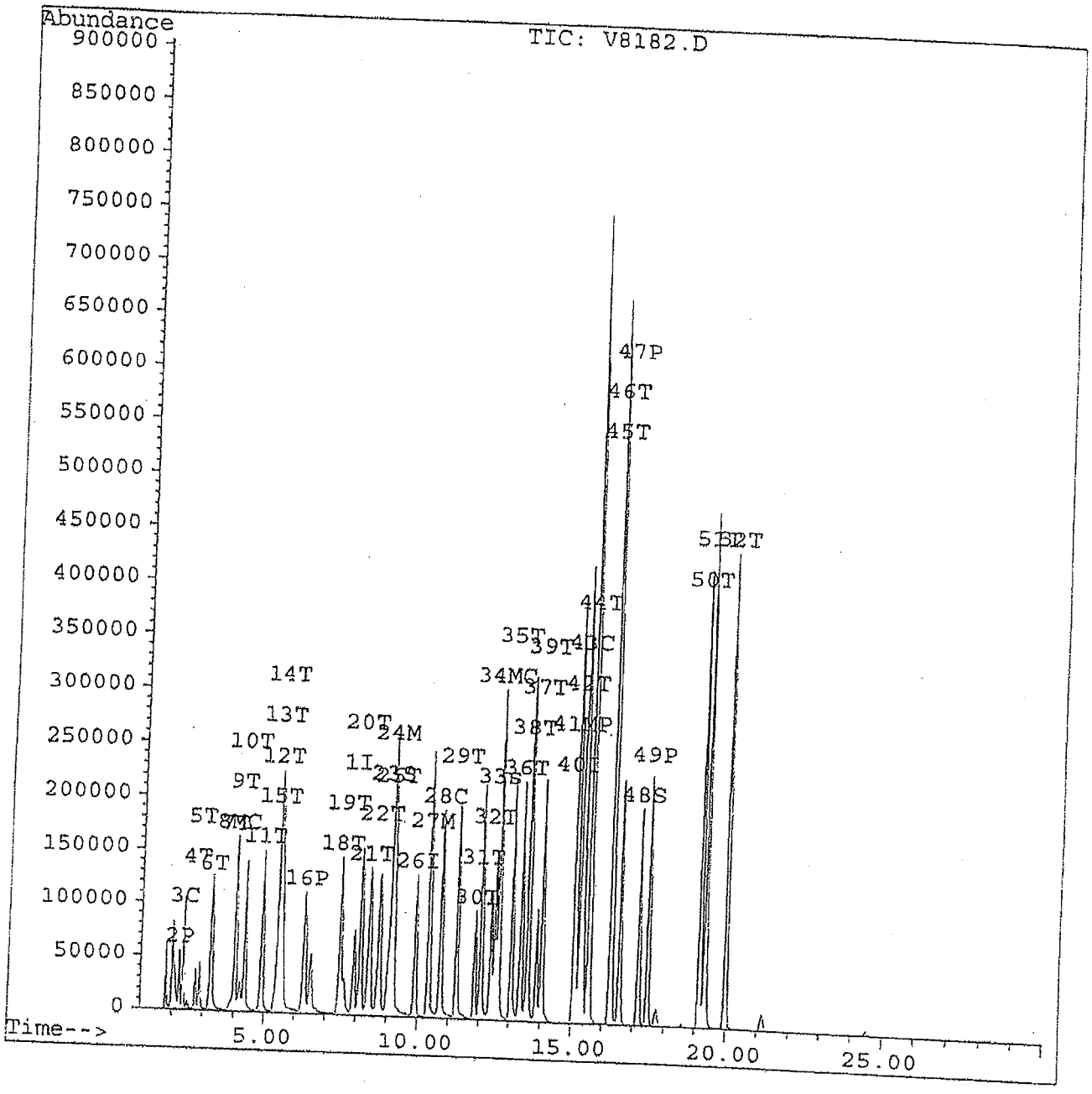
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8182.D
Acq On : 22 Oct 97 12:42 pm
Sample : 100 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 13:15 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8183.D
Acq On : 22 Oct 97 1:20 pm
Sample : 150 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 14:03 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	7.93	128	58350	50.00	ug/l		-0.07
26) 1,4-Difluorobenzene	9.90	114	284488	50.00	ug/l		-0.07
40) Chlorobenzene-d5	15.06	117	243821	50.00	ug/l		-0.10
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	9.03	65	121823	56.50	ug/l		113.01%
33) Toluene-d8	12.52	98	267388	51.12	ug/l		102.23%
48) 4-Bromofluorobenzene	17.19	95	197326	50.32	ug/l		100.64%
Target Compounds							Qvalue
2) Chloromethane	2.23	50	163216	185.50	ug/l		96
3) Vinyl chloride	2.37	62	220693	199.61	ug/l		95
4) Bromomethane	2.76	94	76801	117.37	ug/l		96
5) Chloroethane	2.92	64	107964	222.57	ug/l		97
6) Trichlorofluoromethane	3.28	101	440239	123.20	ug/l		92
7) Acrolein	3.93	56	29271	248.69	ug/l		100
8) 1,1-Dichloroethene	4.04	61	464951	194.26	ug/l		89
9) Acetone	4.20	43	146427	171.08	ug/l		96
10) Carbon disulfide	4.36	76	723321	205.11	ug/l		100
11) Methylene chloride	4.91	49	379905	172.19	ug/l		84
12) Acrylonitrile	5.44	53	63871	212.65	ug/l		100
13) trans-1,2-Dichloroethene	5.46	61	409514	190.36	ug/l		80
14) Methyl-tert butyl ether	5.53	73	683949	159.04	ug/l		95
15) tert-Butyl Alcohol	5.39	59	195489	750.76	ug/l		100
16) 1,1-Dichloroethane	6.28	63	564740	198.44	ug/l		88
18) cis-1,2-Dichloroethene	7.48	61	449521	198.80	ug/l	#	72
19) 2-Butanone	7.61	43	203989	192.24	ug/l		97
20) Chloroform	8.14	83	538757	159.68	ug/l		99
21) 1,1,1-Trichloroethane	8.44	97	435402	134.11	ug/l		98
22) Carbon tetrachloride	8.74	117	397296	130.40	ug/l		83
24) Benzene	9.13	78	721586	196.51	ug/l		100
25) 1,2-Dichloroethane	9.17	62	499017	197.13	ug/l		97
27) Trichloroethene	10.34	130	326999	145.20	ug/l		87
28) 1,2-Dichloropropane	10.73	63	277717	175.69	ug/l		98
29) Bromodichloromethane	11.26	83	565583	150.89	ug/l		97
30) 2-Chloroethyl vinyl ether	11.85	63	139581	647.41	ug/l		100
31) trans-1,3-Dichloropropene	12.06	75	470532	157.76	ug/l		95
32) 4-Methyl-2-pentanone	12.38	43	323864	156.85	ug/l		98
34) Toluene	12.63	91	818443	157.26	ug/l		96
35) cis-1,3-Dichloropropene	13.07	75	466238	159.77	ug/l		98
36) 1,1,2-Trichloroethane	13.36	97	262543	142.45	ug/l		92
37) 2-Hexanone	13.87	43	259275	163.56	ug/l		86
38) Tetrachloroethene	13.59	166	372785	140.31	ug/l		86
39) Dibromochloromethane	14.03	129	457891	138.00	ug/l	#	73

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8183.D
Acq On : 22 Oct 97 1:20 pm
Sample : 150 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 14:03 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
41) Chlorobenzene	15.11	112	633555	146.01	ug/l	90
42) 1,1,1,2-Tetrachloroethane	15.27	131	315249	123.54	ug/l	98
43) Ethylbenzene	15.34	91	1041812	141.90	ug/l	99
44) Xylene (para & meta)	15.56	91	1421109	226.02	ug/l	74
45) Xylene (ortho)	16.25	91	854308	140.77	ug/l	91
46) Styrene	16.27	104	651656	144.34	ug/l	90
47) Bromoform	16.55	173	412879	133.38	ug/l	91
49) 1,1,2,2-Tetrachloroethane	17.49	83	474102	138.85	ug/l	87
50) 1,3-Dichlorobenzene	19.16	146	609868	123.88	ug/l	97
51) 1,4-Dichlorobenzene	19.32	146	704531	130.30	ug/l	92
52) 1,2-Dichlorobenzene	19.98	146	660282	131.69	ug/l	94

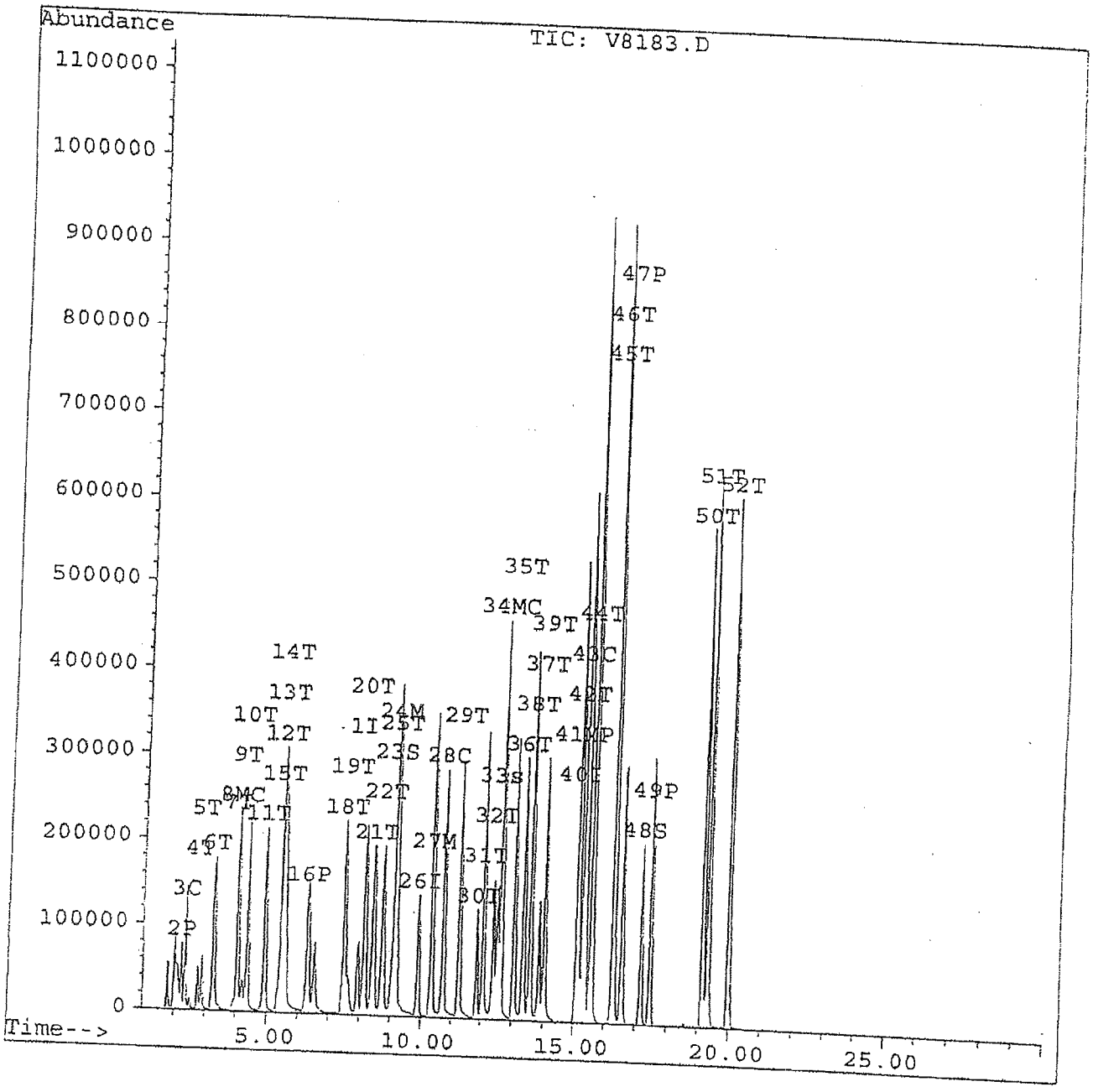
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8183.D
Acq On : 22 Oct 97 1:20 pm
Sample : 150 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 14:03 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8184.D
Acq On : 22 Oct 97 1:57 pm
Sample : 200 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 15:06 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.91	128	57473	50.00	ug/l	-0.09
26) 1,4-Difluorobenzene	9.91	114	280253	50.00	ug/l	-0.07
40) Chlorobenzene-d5	15.06	117	243422	50.00	ug/l	-0.09
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	9.04	65	115713	54.49	ug/l	108.98%
33) Toluene-d8	12.52	98	294803	57.21	ug/l	114.42%
48) 4-Bromofluorobenzene	17.17	95	214039	54.67	ug/l	109.34%
Target Compounds						Qvalue
2) Chloromethane	2.23	50	194083	223.95	ug/l	100
3) Vinyl chloride	2.37	62	291863	268.01	ug/l	93
4) Bromomethane	2.76	94	111505	173.00	ug/l	81
5) Chloroethane	2.92	64	156953	328.49	ug/l	99
6) Trichlorofluoromethane	3.26	101	573664	162.99	ug/l	86
7) Acrolein	3.93	56	44654	385.17	ug/l	100
8) 1,1-Dichloroethene	4.04	61	633262	268.62	ug/l	88
9) Acetone	4.20	43	141384	167.71	ug/l	96
10) Carbon disulfide	4.36	76	898276	258.61	ug/l	100
11) Methylene chloride	4.91	49	529303	243.56	ug/l	82
12) Acrylonitrile	5.44	53	99151	335.15	ug/l	100
13) trans-1,2-Dichloroethene	5.46	61	557966	263.32	ug/l	78
14) Methyl-tert butyl ether	5.53	73	924908	218.35	ug/l	92
15) tert-Butyl Alcohol	5.37	59	290661	1133.29	ug/l	100
16) 1,1-Dichloroethane	6.31	63	797738	284.59	ug/l	93
18) cis-1,2-Dichloroethene	7.48	61	595818	267.52	ug/l #	75
19) 2-Butanone	7.59	43	247429	236.74	ug/l	96
20) Chloroform	8.14	83	728846	219.31	ug/l	100
21) 1,1,1-Trichloroethane	8.44	97	592933	185.42	ug/l	97
22) Carbon tetrachloride	8.74	117	546984	182.27	ug/l m	88
24) Benzene	9.13	78	1011873	279.77	ug/l	100
25) 1,2-Dichloroethane	9.17	62	648548	260.10	ug/l	94
27) Trichloroethene	10.32	130	462791	208.60	ug/l	89
28) 1,2-Dichloropropane	10.73	63	372119	238.97	ug/l	94
29) Bromodichloromethane	11.26	83	787827	213.35	ug/l	93
30) 2-Chloroethyl vinyl ether	11.86	63	232293	1093.71	ug/l	100
31) trans-1,3-Dichloropropene	12.06	75	639029	217.49	ug/l	89
32) 4-Methyl-2-pentanone	12.38	43	471506	231.81	ug/l m	39
34) Toluene	12.64	91	1123894	219.22	ug/l	95
35) cis-1,3-Dichloropropene	13.05	75	652536	226.99	ug/l	92
36) 1,1,2-Trichloroethane	13.37	97	366135	201.66	ug/l	85
37) 2-Hexanone	13.87	43	336682	215.60	ug/l	89
38) Tetrachloroethene	13.60	166	494028	188.76	ug/l	92
39) Dibromochloromethane	14.03	129	600191	183.62	ug/l	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8184.D
Acq On : 22 Oct 97 1:57 pm
Sample : 200 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 15:06 1997

Vial: 0 126
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
41) Chlorobenzene	15.11	112	897793	207.24	ug/l		94
42) 1,1,1,2-Tetrachloroethane	15.27	131	410826	161.26	ug/l		99
43) Ethylbenzene	15.34	91	1273629	173.76	ug/l		82
44) Xylene (para & meta)	15.57	91	1695915	270.17	ug/l	m	98
45) Xylene (ortho)	16.26	91	1103882	182.19	ug/l		89
46) Styrene	16.30	104	809797	179.66	ug/l		86
47) Bromoform	16.55	173	513640	166.20	ug/l		100
49) 1,1,2,2-Tetrachloroethane	17.47	83	671755	197.05	ug/l		93
50) 1,3-Dichlorobenzene	19.14	146	820068	166.84	ug/l		98
51) 1,4-Dichlorobenzene	19.30	146	895112	165.82	ug/l		91
52) 1,2-Dichlorobenzene	19.99	146	858426	171.49	ug/l		80

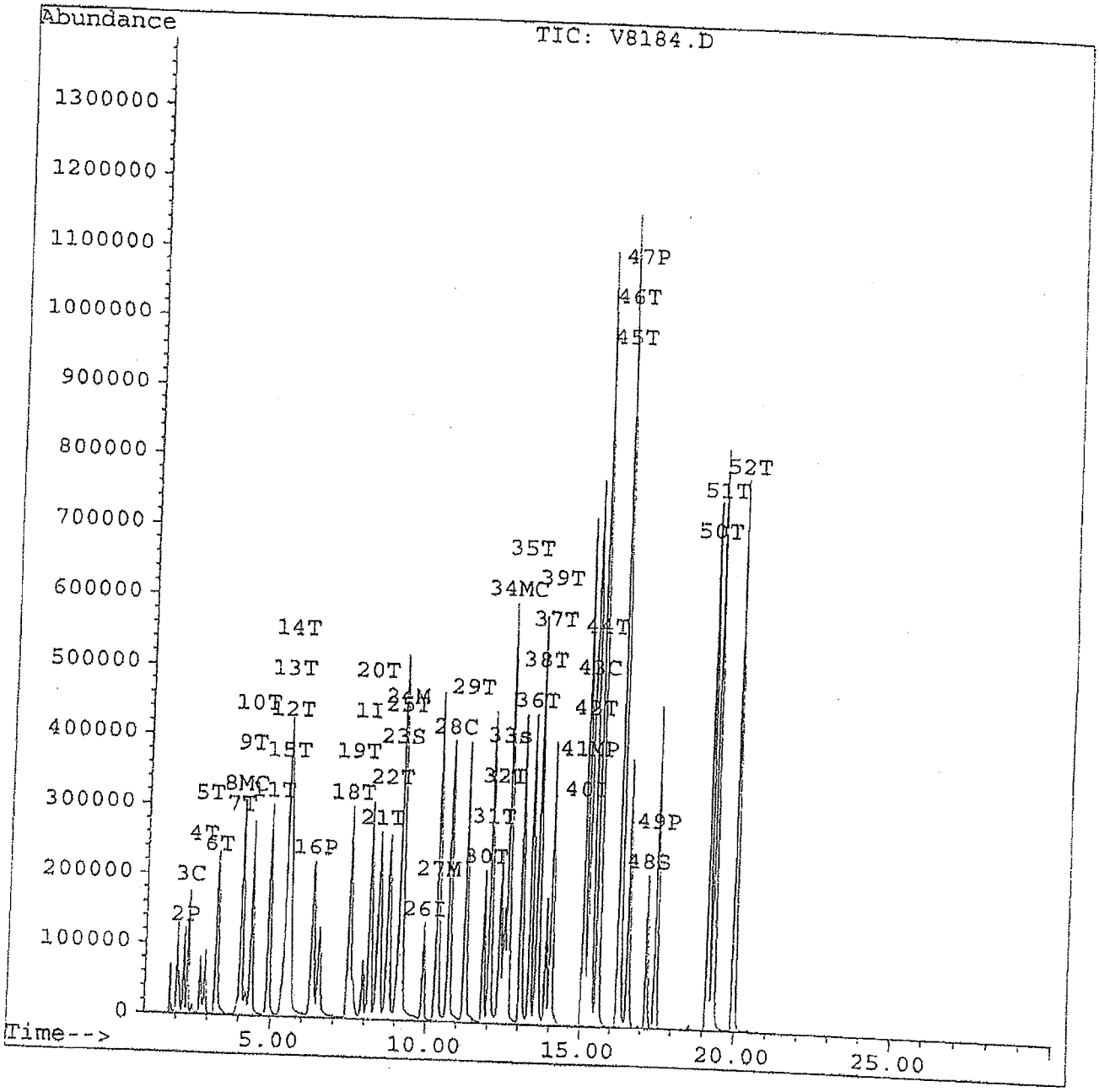
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8184.D
Acq On : 22 Oct 97 1:57 pm
Sample : 200 STANDARD..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Oct 22 15:06 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240.M
Title : VOA Standards for 5 point calibration
Last Update : Wed Oct 08 17:58:15 1997
Response via : Multiple Level Calibration



5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID: V8469.D BFB Injection Date: 11/12/97

Instrument ID: 5970-AVOA BFB Injection Time: 1253

GC Column: HP-624 X 75M ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	20.2
75	30.0 - 66.0% of mass 95	49.5
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	78.1
175	4.0 - 9.0% of mass 174	5.9 (7.6)1
176	93.0 - 101.0% of mass 174	78.8 (100.9)1
177	5.0 - 9.0% of mass 176	4.9 (6.2)2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

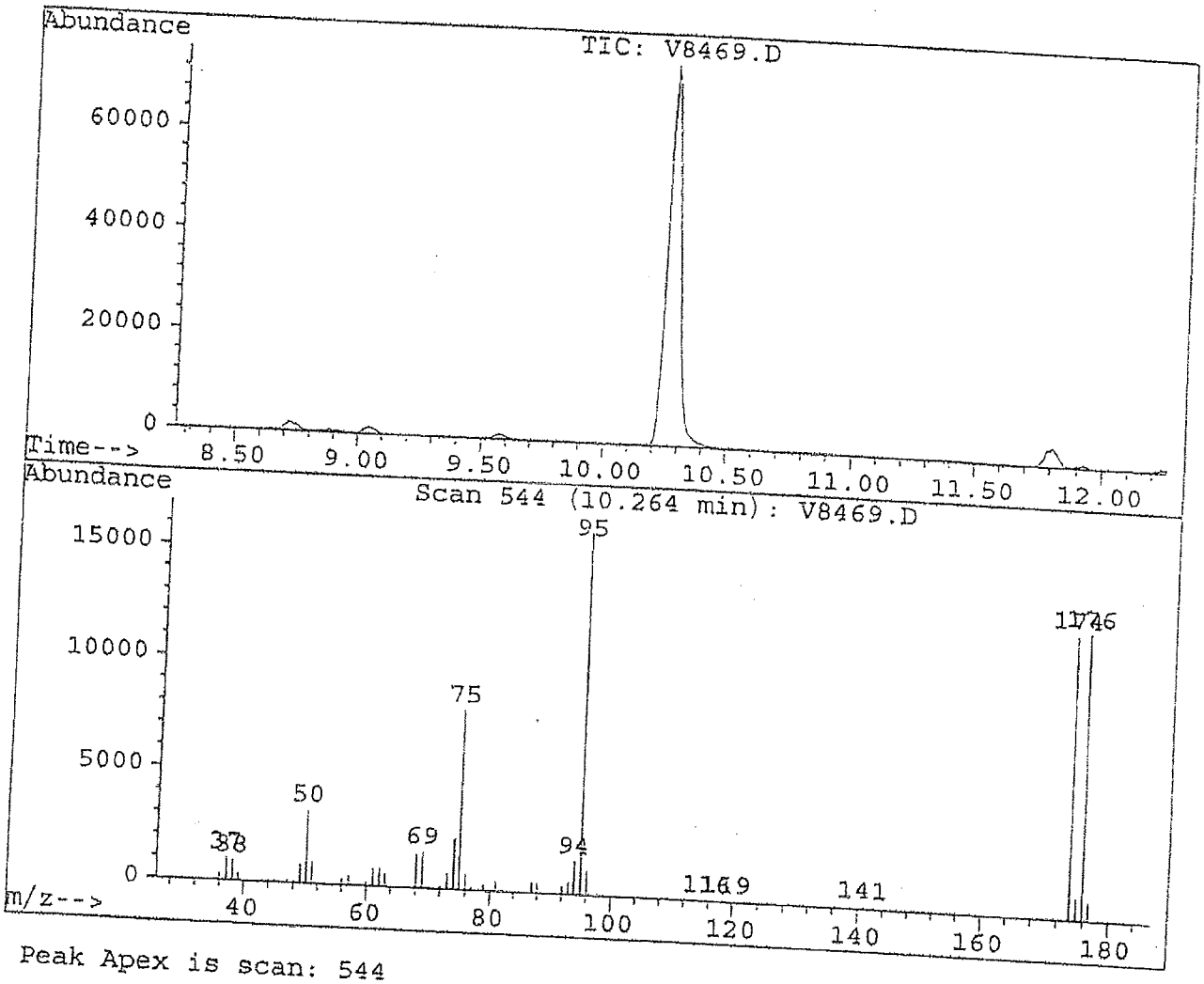
	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	50 STND	V6470.D	11/12/97	1343
02	VBLK01	MEOHBLK	V6471.D	11/12/97	1420
03	VBLK02	M.BLANK	V6472.D	11/12/97	1458
04	9778293V	9778293V	V6473.D	11/12/97	1536
05	9778625V	9778625V	V6474.D	11/12/97	1613
06	9778621V	9778621V	V6475.D	11/12/97	1651
07	9778619V	9778619V	V6476.D	11/12/97	1728
08	9778620V	9778620V	V6477.D	11/12/97	1806
09	9778622V	9778622V	V6478.D	11/12/97	1843
10	9778623V	9778623V	V6479.D	11/12/97	1920
11	9778624V	9778624V	V6480.D	11/12/97	1957
12	9778619MS	78619MS	V6481.D	11/12/97	2035
13	9778619MSD	78619MSD	V6482.D	11/12/97	2112
14	20 LCS	20 LCS	V6483.D	11/12/97	2149
15	9778292V	9778292V	V6485.D	11/12/97	2304
16					
17					
18					
19					
20					
21					
22					

CLPBFB

Data File : C:\HPCHEM\1\DATA2\V8469.D
Acq On : 12 Nov 97 12:53 pm
Sample : BFB TUNE.....
Misc : 50 NG..... Converted from RTE d

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration



Peak Apex is scan: 544

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.2	3274	PASS
75	95	30	60	49.5	8004	PASS
95	95	100	100	100.0	16186	PASS
96	95	5	9	6.6	1072	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	78.1	12649	PASS
175	174	5	9	7.6	959	PASS
176	174	95	101	100.9	12762	PASS
177	176	5	9	6.2	794	PASS

V8469.D 8240H.M Wed Nov 12 13:21:10 1997 AVOA

Scan 544 (10.264 min): V8469.D
BFB TUNE..... Converted from RTE data file >V8469::D4

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	295	56.00	295	73.05	714	91.00	46
37.05	1030	57.10	460	74.05	2262	92.10	350
38.05	906	60.00	196	75.05	8004	93.10	521
39.05	341	61.05	808	76.05	708	94.00	1493
44.00	142	62.05	811	77.05	145	95.15	16186
45.00	181	63.05	599	79.00	294	96.15	1072
47.00	131	67.15	76	80.10	86	103.95	84
48.10	139	68.05	1530	81.00	443	115.90	50
49.10	846	69.05	1631	81.90	61	119.00	59
50.10	3274	70.05	102	87.00	470	140.95	137
51.10	960	72.05	122	88.00	429	142.85	116

Scan 544 (10.264 min): V8469.D
BFB TUNE..... Converted from RTE data file >V8469::D4

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
171.75	36						
173.95	12649						
174.95	959						
175.95	12762						
176.95	794						

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Instrument ID: 5970-AVOA Calibration Date: 11/12/97 Time: 1343

Lab File ID: V6470.D Init. Calib. Date(s): 10/22/97

Heated Purge: (Y/N) Y Init. Calib. Times:

GC Column: HP-624 X 75M ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Chloromethane	0.730	0.622	0.300	14.8	25.0
Bromomethane	0.382	0.295	0.100	22.8	25.0
Vinyl chloride	1.148	0.987	0.100	14.0	25.0
Chloroethane	0.568	0.484	0.100	14.8	25.0
Trichlorofluoromethane	2.383	1.922	0.100	19.3	25.0
Methylene chloride	2.270	2.369	0.100	-4.4	25.0
1,1-Dichloroethene	2.591	2.300	0.100	11.2	25.0
1,1-Dichloroethane	3.282	3.100	0.300	5.5	25.0
trans-1,2-Dichloroethene	2.403	2.309	0.100	3.9	25.0
Chloroform	3.092	2.898	0.100	6.3	25.0
1,2-Dichloroethane	2.892	2.807	0.100	2.9	25.0
1,1,1-Trichloroethane	2.530	2.212	0.100	12.6	25.0
Carbon tetrachloride	2.285	2.787	0.100	-22.0	25.0
Bromodichloromethane	0.717	0.749	0.100	-4.5	25.0
1,2-Dichloropropane	0.327	0.331	0.100	-1.2	25.0
cis-1,3-Dichloropropene	0.592	0.606	0.100	-2.4	25.0
Trichloroethene	0.413	0.447	0.100	-8.2	25.0
Dibromochloromethane	0.603	0.624	0.100	-3.5	25.0
1,1,2-Trichloroethane	0.332	0.351	0.100	-5.7	25.0
Benzene	4.049	3.932	0.100	2.9	25.0
trans-1,3-Dichloropropene	0.571	0.592	0.100	-3.7	25.0
Bromoform	0.589	0.670	0.300	-13.8	25.0
Tetrachloroethene	0.469	0.507	0.100	-8.1	25.0
1,1,2,2-Tetrachloroethane	0.684	0.731	0.300	-6.9	25.0
Toluene	1.000	1.002	0.100	-0.2	25.0
Chlorobenzene	0.892	0.933	0.300	-4.6	25.0
Ethylbenzene	1.485	1.568	0.100	-5.6	25.0
Xylene (para & meta)	1.212	1.337	0.100	-10.3	25.0
Xylene (ortho)	1.294	1.282	0.100	0.9	25.0
1,2-Dichloroethane-d4	2.052	2.161	0.100	-5.3	25.0
Toluene-d8	0.986	0.962	0.100	2.4	25.0
4-Bromofluorobenzene	0.817	0.834	0.010	-2.1	25.0

All other compounds must meet a minimum RRF of 0.010.

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\V6470.D
Acq On : 12 Nov 97 1:43 pm
Sample : 50 PPB CHK STND... Converted from RTE d
Misc : 5 ML.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Min. RRF : 0.300 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	Bromochloromethane	1.000	1.000	0.0	155#	-0.07
2	P	Chloromethane	0.730	0.622	14.9	142	-0.03
3	C	Vinyl chloride	1.148	0.987	14.1	134	-0.03
4	T	Bromomethane	0.382	0.295#	22.6	120	-0.03
5	T	Chloroethane	0.568	0.484	14.7	127	-0.03
6	T	Trichlorofluoromethane	2.383	1.922	19.4	136	-0.03
7	T	Acrolein	0.183	0.168#	8.2	124	-0.05
8	MC	1,1-Dichloroethene	2.591	2.300	11.2	144	-0.05
9	T	Acetone	0.986	0.986	-0.0	146	-0.05
10	T	Carbon disulfide	3.718	3.451	7.2	151#	-0.05
11	T	Methylene chloride	2.270	2.369	-4.4	162#	-0.07
12	T	Acrylonitrile	0.429	0.436	-1.6	150	-0.07
13	T	trans-1,2-Dichloroethene	2.403	2.309	3.9	152#	-0.05
14	T	Methyl-tert butyl ether	4.251	4.197	1.3	146	-0.05
15	T	tert-Butyl Alcohol	0.285	0.262#	8.1	137	-0.05
	P	1,1-Dichloroethane	3.282	3.100	5.6	149	-0.07
17		Diisopropyl ether	0.000	0.000#	0.0	0#	-0.05
18	T	cis-1,2-Dichloroethene	2.565	2.393	6.7	147	-0.05
19	T	2-Butanone	1.268	1.356	-6.9	162#	-0.07
20	T	Chloroform	3.092	2.898	6.2	142	-0.05
21	T	1,1,1-Trichloroethane	2.530	2.212	12.6	135	-0.05
22	T	Carbon tetrachloride	2.285	2.787	-22.0	193#	-0.09
23	S	1,2-Dichloroethane-d4	2.052	2.161	-5.3	160#	-0.07
24	M	Benzene	4.049	3.932	2.9	160#	-0.07
25	T	1,2-Dichloroethane	2.892	2.807	2.9	149	-0.05
26	I	1,4-Difluorobenzene	1.000	1.000	0.0	161#	-0.07
27	M	Trichloroethene	0.413	0.447	-8.3	170#	-0.07
28	C	1,2-Dichloropropane	0.327	0.331	-1.1	156#	-0.07
29	T	Bromodichloromethane	0.717	0.749	-4.5	161#	-0.07
30	T	2-Chloroethyl vinyl ether	0.197	0.209#	-5.8	150	-0.05
31	T	trans-1,3-Dichloropropene	0.571	0.592	-3.7	158#	-0.07
32	T	4-Methyl-2-pentanone	0.437	0.450	-2.9	162#	-0.07
33	S	Toluene-d8	0.986	0.962	2.4	151#	-0.07
34	MC	Toluene	1.000	1.002	-0.1	161#	-0.07
35	T	cis-1,3-Dichloropropene	0.592	0.606	-2.4	153#	-0.07
36	T	1,1,2-Trichloroethane	0.332	0.351	-5.8	161#	-0.07
37	T	2-Hexanone	0.333	0.368	-10.7	163#	-0.05
38	T	Tetrachloroethene	0.469	0.507	-8.1	164#	-0.07
39	T	Dibromochloromethane	0.603	0.624	-3.5	151#	-0.07
41	I	Chlorobenzene-d5	1.000	1.000	0.0	153#	-0.07

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\V6470.D
Acq On : 12 Nov 97 1:43 pm
Sample : 50 PPB CHK STND... Converted from RTE d
Misc : 5 ML.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Min. RRF : 0.300 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
41	MP	Chlorobenzene	0.892	0.933	-4.6	159#	-0.07
42	T	1,1,1,2-Tetrachloroethane	0.476	0.519	-9.0	161#	-0.07
43	C	Ethylbenzene	1.485	1.568	-5.6	153#	-0.07
44	T	Xylene (para & meta)	1.212	1.337	-10.3	150#	-0.07
45	T	Xylene (ortho)	1.294	1.282	0.9	141	-0.05
46	T	Styrene	0.936	0.981	-4.8	143	-0.07
47	P	Bromoform	0.589	0.670	-13.9	166#	-0.07
48	S	4-Bromofluorobenzene	0.817	0.834	-2.1	155#	-0.07
49	P	1,1,2,2-Tetrachloroethane	0.684	0.731	-7.0	158#	-0.07
50	T	1,3-Dichlorobenzene	0.935	1.024	-9.5	150	-0.07
51	T	1,4-Dichlorobenzene	1.018	1.157	-13.6	160#	-0.07
52	T	1,2-Dichlorobenzene	0.953	1.008	-5.8	145	-0.07
53	T	Naphthalene	1.800	0.000#	100.0#	0#	-23.39#
54		1,2-Dibromoethane	0.000	0.000#	0.0	0#	-14.10#
55		1,4-Dioxane	0.000	0.000#	0.0	0#	-10.98#
	T	n-Butyl methacrylate	0.000	0.000#	0.0	0#	-18.64#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V6470.D
Acq On : 12 Nov 97 1:43 pm
Sample : 50 PPB CHK STND... Converted from RTE d
Misc : 5 ML.....
Quant Time: Nov 12 14:17 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.86	128	86304	50.00	ug/l	-0.07
26) 1,4-Difluorobenzene	9.83	114	389201	50.00	ug/l	-0.07
40) Chlorobenzene-d5	14.99	117	330323	50.00	ug/l	-0.07
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.96	65	186502	52.66	ug/l	105.32%
33) Toluene-d8	12.45	98	374258	48.78	ug/l	97.57%
48) 4-Bromofluorobenzene	17.12	95	275514	51.04	ug/l	102.08%
Target Compounds						Qvalue
2) Chloromethane	2.21	50	53650	42.57	ug/l	94
3) Vinyl chloride	2.34	62	85159	42.96	ug/l	97
4) Bromomethane	2.73	94	25498	38.68	ug/l	100
5) Chloroethane	2.87	64	41793	42.66	ug/l	99
6) Trichlorofluoromethane	3.24	101	165834	40.32	ug/l	99
7) Acrolein	3.88	56	14489	45.88	ug/l	100
8) 1,1-Dichloroethene	3.99	61	198531	44.39	ug/l	91
9) Acetone	4.15	43	85110	50.00	ug/l	99
10) Carbon disulfide	4.31	76	297869	46.42	ug/l	100
11) Methylene chloride	4.84	49	204460	52.18	ug/l	93
12) Acrylonitrile	5.39	53	37616	50.79	ug/l	100
13) trans-1,2-Dichloroethene	5.39	61	199233	48.03	ug/l	93
14) Methyl-tert butyl ether	5.48	73	362241	49.36	ug/l	96
15) tert-Butyl Alcohol	5.32	59	102187	207.73	ug/l	100
16) 1,1-Dichloroethane	6.24	63	267514	47.22	ug/l	95
18) cis-1,2-Dichloroethene	7.43	61	206519	46.64	ug/l	100
19) 2-Butanone	7.54	43	117018	53.46	ug/l	97
20) Chloroform	8.09	83	250139	46.88	ug/l	98
21) 1,1,1-Trichloroethane	8.37	97	190916	43.72	ug/l	94
22) Carbon tetrachloride	8.67	117	240563	60.99	ug/l	97
24) Benzene	9.05	78	339380	48.55	ug/l	100
25) 1,2-Dichloroethane	9.12	62	242272	48.54	ug/l	96
27) Trichloroethene	10.27	130	174088	54.17	ug/l	91
28) 1,2-Dichloropropane	10.66	63	128660	50.54	ug/l	98
29) Bromodichloromethane	11.19	83	291604	52.24	ug/l	94
30) 2-Chloroethyl vinyl ether	11.80	63	81285	52.90	ug/l	98
31) trans-1,3-Dichloropropene	11.99	75	230534	51.83	ug/l	96
32) 4-Methyl-2-pentanone	12.33	43	175148	51.44	ug/l	90
34) Toluene	12.56	91	389911	50.07	ug/l	96
35) cis-1,3-Dichloropropene	13.00	75	236011	51.21	ug/l	99
36) 1,1,2-Trichloroethane	13.29	97	136758	52.90	ug/l	95
37) 2-Hexanone	13.82	43	143273	55.33	ug/l	97
38) Tetrachloroethene	13.52	166	197223	54.07	ug/l	88
39) Dibromochloromethane	13.98	129	242943	51.73	ug/l	82

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V6470.D
Acq On : 12 Nov 97 1:43 pm
Sample : 50 PPB CHK STND... Converted from RTE d
Misc : 5 ML.....
Quant Time: Nov 12 14:17 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
41) Chlorobenzene	15.06	112	308251	52.30	ug/l	97
42) 1,1,1,2-Tetrachloroethane	15.19	131	171375	54.48	ug/l	99
43) Ethylbenzene	15.29	91	517856	52.78	ug/l	99
44) Xylene (para & meta)	15.49	91	883574	110.35	ug/l	96
45) Xylene (ortho)	16.20	91	423466	49.55	ug/l	94
46) Styrene	16.23	104	324032	52.42	ug/l	93
47) Bromoform	16.50	173	221438	56.94	ug/l	100
49) 1,1,2,2-Tetrachloroethane	17.42	83	241546	53.48	ug/l	89
50) 1,3-Dichlorobenzene	19.09	146	338336	54.76	ug/l	94
51) 1,4-Dichlorobenzene	19.25	146	382149	56.80	ug/l	97
52) 1,2-Dichlorobenzene	19.91	146	332947	52.89	ug/l	96

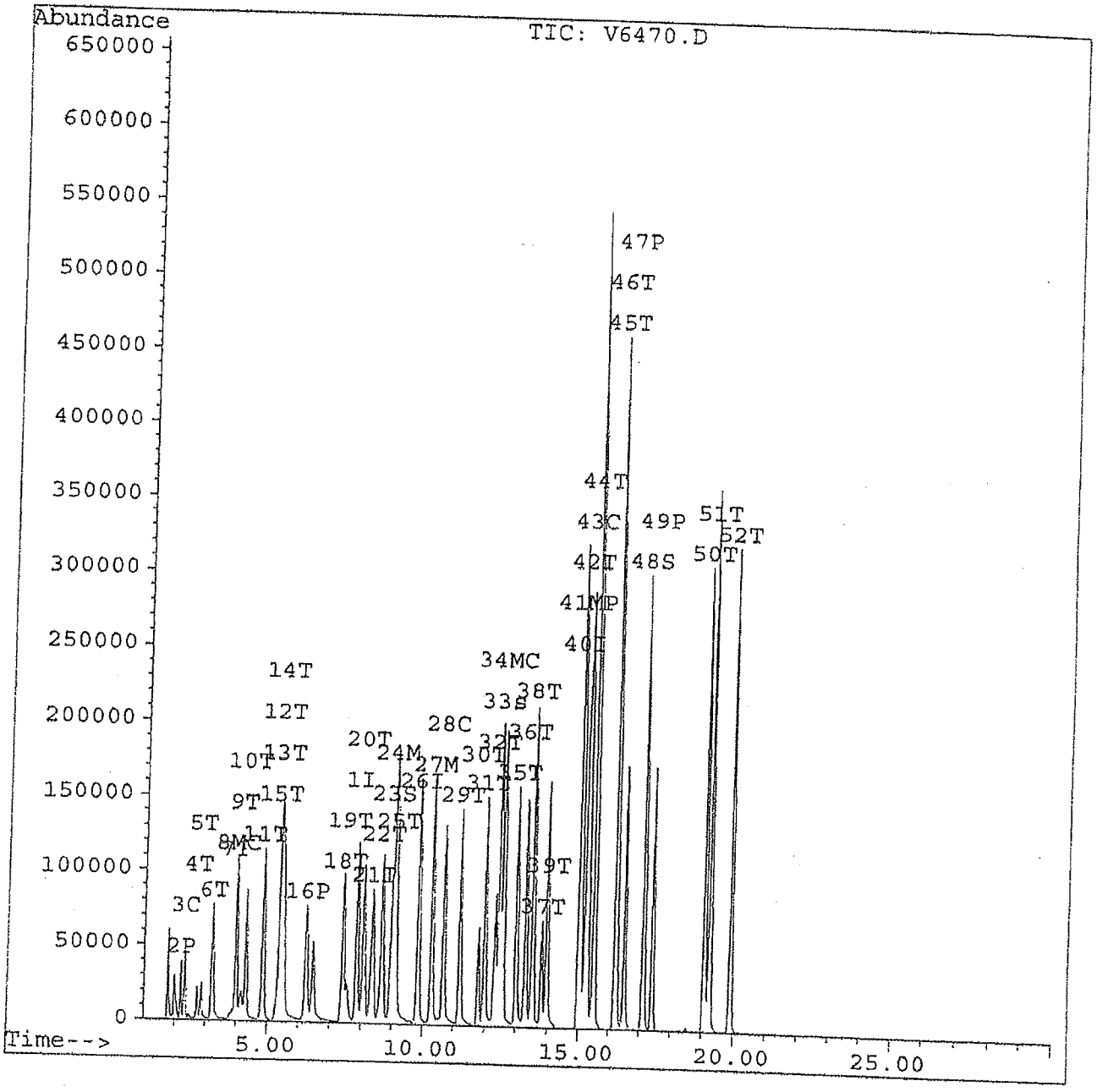
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V6470.D
Acq On : 12 Nov 97 1:43 pm
Sample : 50 PPB CHK STND... Converted from RTE d
Misc : 5 ML.....
Quant Time: Nov 12 14:17 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration



5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID: V8492.D BFB Injection Date: 11/13/97

Instrument ID: 5970-AVOA BFB Injection Time: 1425

GC Column: HP-624 X 7 ID: 0.53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	21.3
75	30.0 - 66.0% of mass 95	55.6
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	77.1
175	4.0 - 9.0% of mass 174	5.5 (7.2)1
176	93.0 - 101.0% of mass 174	77.0 (99.9)1
177	5.0 - 9.0% of mass 176	4.4 (5.7)2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

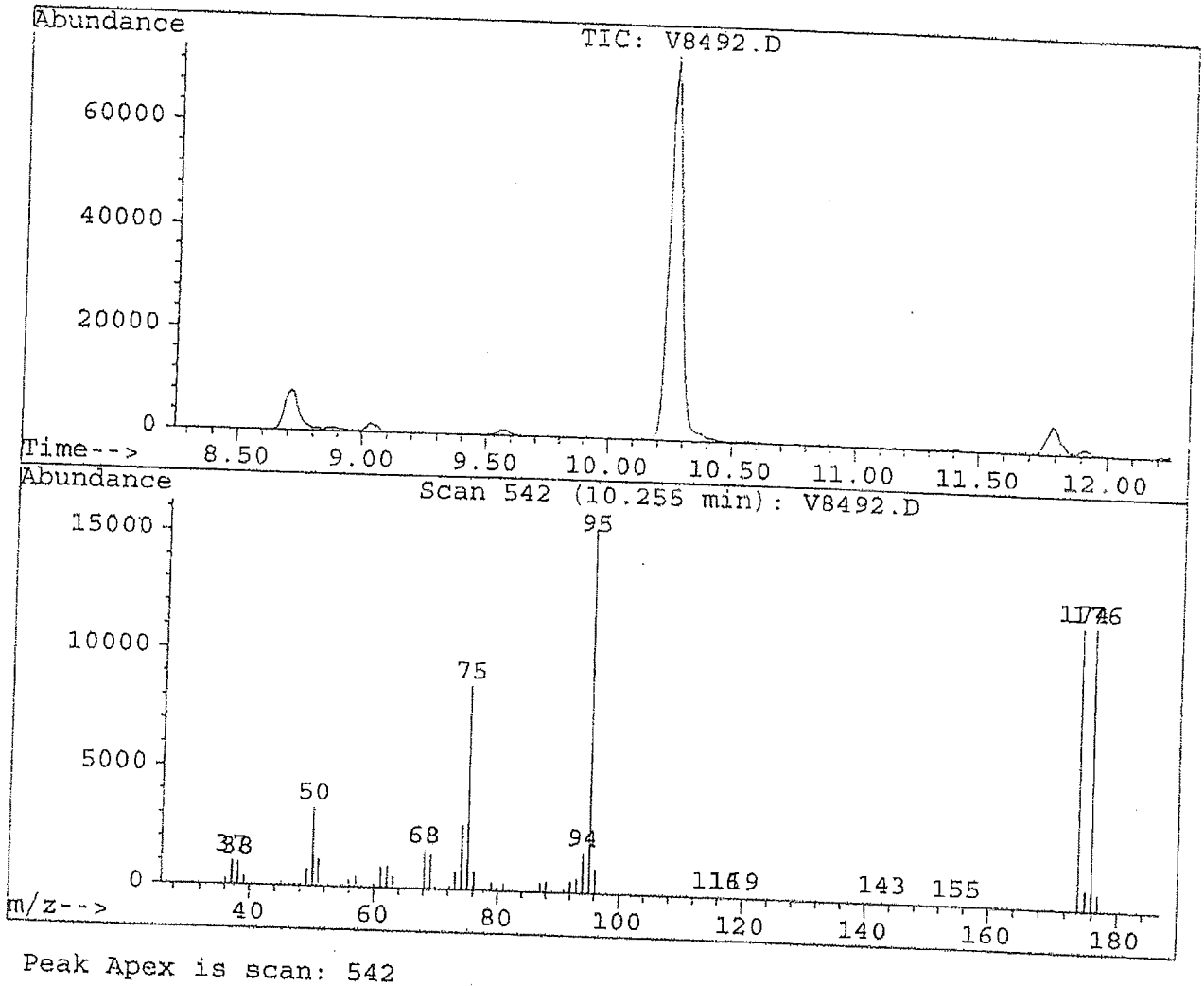
	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	50 STND	V8493.D	11/13/97	1508
02	VBLK01	M.BLANK	V8494.D	11/13/97	1545
03	9782204V	9782204V	V8495.D ✓	11/13/97	1622
04	9782203V	9782203V	V8496.D ✓	11/13/97	1659
05	9781438V	9781438V	V8497.D	11/13/97	1736
06	9782199V	9782199V	V8498.D ✓	11/13/97	1814
07	9782200V	9782200V	V8499.D ✓	11/13/97	1851
08	9782201V	9782201V	V8500.D ✓	11/13/97	1928
09	9782202V	9782202V	V8501.D ✓	11/13/97	2006
10	9781433V	9781433V	V8502.D	11/13/97	2043
11	9781434V	9781434V	V8503.D	11/13/97	2120
12	9781435V	9781435V	V8504.D	11/13/97	2157
13	9781436V	9781436V	V8505.D	11/13/97	2235
14	9781437V	9781437V	V8506.D	11/13/97	2312
15	9782199MS	82199MS	V8507.D	11/13/97	2349
16	9782199MSD	82199MSD	V8508.D	11/14/97	0026
17					
18					
19					
20					
21					
22					

CLPBFB

Data File : C:\HPCHEM\1\DATA2\V8492.D
Acq On : 13 Nov 97 2:25 pm
Sample : BFB TUNE..... Converted from RTE d
Misc : 50 NG.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration



Peak Apex is scan: 542

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.3	3300	PASS
75	95	30	60	55.6	8617	PASS
95	95	100	100	100.0	15500	PASS
96	95	5	9	6.9	1075	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	77.1	11947	PASS
175	174	5	9	7.2	857	PASS
176	174	95	101	99.9	11937	PASS
177	176	5	9	5.7	675	PASS

V8492.D 8240H.M Thu Nov 13 14:45:22 1997 AVOA

Scan 542 (10.255 min): V8492.D
BFB TUNE..... Converted from RTE data file >V8492::D4

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	254	56.00	314	72.15	126	87.00	355
37.05	1014	57.10	418	73.05	711	88.00	467
38.05	946	60.00	144	74.05	2689	91.00	115
39.05	338	61.05	845	75.05	8617	92.00	472
45.10	169	62.05	909	76.05	779	93.10	581
47.20	103	63.05	498	77.05	105	94.10	1653
48.10	122	64.05	63	77.80	77	95.15	15500
49.10	708	67.15	44	79.00	340	96.15	1075
50.10	3300	68.05	1583	79.90	139	97.05	63
51.00	1145	69.05	1447	81.00	298	104.95	32
55.00	87	69.95	121	82.00	68	116.00	66

Scan 542 (10.255 min): V8492.D
BFB TUNE..... Converted from RTE data file >V8492::D4

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
119.00	71						
142.95	137						
155.00	90						
170.15	68						
173.95	11947						
175.05	857						
175.95	11937						
176.95	675						

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Instrument ID: 5970-AVOA Calibration Date: 11/13/97 Time: 1508

Lab File ID: V8493.D Init. Calib. Date(s): 10/22/97

Heated Purge: (Y/N) Y Init. Calib. Times:

GC Column: HP-624 X 7 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Chloromethane	0.730	0.555	0.300	24.0	25.0
Bromomethane	0.382	0.328	0.100	14.1	25.0
Vinyl chloride	1.148	0.923	0.100	19.6	25.0
Chloroethane	0.568	0.536	0.100	5.6	25.0
Trichlorofluoromethane	2.383	2.080	0.100	12.7	25.0
Methylene chloride	2.270	2.378	0.100	-4.8	25.0
1,1-Dichloroethene	2.591	2.401	0.100	7.3	25.0
1,1-Dichloroethane	3.282	3.024	0.300	7.9	25.0
trans-1,2-Dichloroethene	2.403	2.251	0.100	6.3	25.0
Chloroform	3.092	2.938	0.100	5.0	25.0
1,2-Dichloroethane	2.892	2.867	0.100	0.9	25.0
1,1,1-Trichloroethane	2.530	2.355	0.100	6.9	25.0
Carbon tetrachloride	2.285	2.690	0.100	-17.7	25.0
Bromodichloromethane	0.717	0.745	0.100	-3.9	25.0
1,2-Dichloropropane	0.327	0.317	0.100	3.1	25.0
cis-1,3-Dichloropropene	0.592	0.594	0.100	-0.3	25.0
Trichloroethene	0.413	0.444	0.100	-7.5	25.0
Dibromochloromethane	0.603	0.626	0.100	-3.8	25.0
1,1,2-Trichloroethane	0.332	0.345	0.100	-3.9	25.0
Benzene	4.049	3.764	0.100	7.0	25.0
trans-1,3-Dichloropropene	0.571	0.585	0.100	-2.5	25.0
Bromoform	0.589	0.640	0.300	-8.7	25.0
Tetrachloroethene	0.469	0.519	0.100	-10.7	25.0
1,1,2,2-Tetrachloroethane	0.684	0.691	0.300	-1.0	25.0
Toluene	1.000	0.985	0.100	1.5	25.0
Chlorobenzene	0.892	0.903	0.300	-1.2	25.0
Ethylbenzene	1.485	1.537	0.100	-3.5	25.0
Xylene (para & meta)	1.212	1.353	0.100	-11.6	25.0
Xylene (ortho)	1.294	1.318	0.100	-1.9	25.0
Methyl-tert butyl ether	4.251	3.880	0.100	8.7	25.0
tert-Butyl Alcohol	0.285	0.237	0.100	16.8	25.0
Acrolein	0.183	0.147		19.7	40.0
Acrylonitrile	0.429	0.401		6.5	40.0
1,2-Dichloroethane-d4	2.052	2.314	0.100	-12.8	25.0
Toluene-d8	0.986	0.962	0.100	2.4	25.0
4-Bromofluorobenzene	0.817	0.832	0.010	-1.8	25.0

All other compounds must meet a minimum RRF of 0.010.

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\V8493.D
Acq On : 13 Nov 97 3:08 pm
Sample : 50 PPB CHK STND... Converted from RTE d
Misc : 5 ML.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Min. RRF : 0.300 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	Bromochloromethane	1.000	1.000	0.0	162#	-0.07
2	P	Chloromethane	0.730	0.555	23.9	132	-0.02
3	C	Vinyl chloride	1.148	0.923	19.6	130	-0.02
4	T	Bromomethane	0.382	0.328	14.0	140	-0.02
5	T	Chloroethane	0.568	0.536	5.6	147	-0.02
6	T	Trichlorofluoromethane	2.383	2.080	12.7	154#	-0.02
7	T	Acrolein	0.183	0.147#	19.8	113	-0.05
8	MC	1,1-Dichloroethene	2.591	2.401	7.3	157#	-0.05
9	T	Acetone	0.986	0.959	2.7	149	-0.05
10	T	Carbon disulfide	3.718	3.370	9.4	154#	-0.05
11	T	Methylene chloride	2.270	2.378	-4.8	169#	-0.07
12	T	Acrylonitrile	0.429	0.401	6.7	144	-0.07
13	T	trans-1,2-Dichloroethene	2.403	2.251	6.3	154#	-0.05
14	T	Methyl-tert butyl ether	4.251	3.880	8.7	141	-0.05
15	T	tert-Butyl Alcohol	0.285	0.237#	16.7	130	-0.07
16	P	1,1-Dichloroethane	3.282	3.024	7.9	152#	-0.07
17		Diisopropyl ether	0.000	0.000#	0.0	0#	-0.07
18	T	cis-1,2-Dichloroethene	2.565	2.396	6.6	153#	-0.07
19	T	2-Butanone	1.268	1.278	-0.7	159#	-0.07
20	T	Chloroform	3.092	2.938	5.0	151#	-0.07
21	T	1,1,1-Trichloroethane	2.530	2.355	6.9	150	-0.07
22	T	Carbon tetrachloride	2.285	2.690	-17.7	194#	-0.09
23	S	1,2-Dichloroethane-d4	2.052	2.314	-12.8	178#	-0.07
24	M	Benzene	4.049	3.764	7.1	160#	-0.07
25	T	1,2-Dichloroethane	2.892	2.867	0.8	159#	-0.04
26	I	1,4-Difluorobenzene	1.000	1.000	0.0	163#	-0.07
27	M	Trichloroethene	0.413	0.444	-7.6	170#	-0.07
28	C	1,2-Dichloropropane	0.327	0.317	3.0	151#	-0.07
29	T	Bromodichloromethane	0.717	0.745	-3.9	161#	-0.07
30	T	2-Chloroethyl vinyl ether	0.197	0.188#	4.6	136	-0.07
31	T	trans-1,3-Dichloropropene	0.571	0.585	-2.3	157#	-0.07
32	T	4-Methyl-2-pentanone	0.437	0.391	10.5	142	-0.07
33	S	Toluene-d8	0.986	0.962	2.4	152#	-0.07
34	MC	Toluene	1.000	0.985	1.5	159#	-0.07
35	T	cis-1,3-Dichloropropene	0.592	0.594	-0.4	151#	-0.07
36	T	1,1,2-Trichloroethane	0.332	0.345	-4.0	159#	-0.07
37	T	2-Hexanone	0.333	0.322	3.1	144	-0.07
38	T	Tetrachloroethene	0.469	0.519	-10.7	169#	-0.07
39	T	Dibromochloromethane	0.603	0.626	-3.7	152#	-0.07
	I	Chlorobenzene-d5	1.000	1.000	0.0	158#	-0.07

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\V8493.D
Acq On : 13 Nov 97 3:08 pm
Sample : 50 PPB CHK STND... Converted from RTE d
Misc : 5 ML.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Min. RRF : 0.300 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
41	MP	Chlorobenzene	0.892	0.903	-1.2	159#	-0.07
42	T	1,1,1,2-Tetrachloroethane	0.476	0.527	-10.7	170#	-0.07
43	C	Ethylbenzene	1.485	1.537	-3.5	155#	-0.09
44	T	Xylene (para & meta)	1.212	1.353	-11.7	157#	-0.07
45	T	Xylene (ortho)	1.294	1.318	-1.9	150	-0.07
46	T	Styrene	0.936	1.000	-6.9	151#	-0.07
47	P	Bromoform	0.589	0.640	-8.7	164#	-0.07
48	S	4-Bromofluorobenzene	0.817	0.832	-1.8	160#	-0.07
49	P	1,1,2,2-Tetrachloroethane	0.684	0.691	-1.1	154#	-0.07
50	T	1,3-Dichlorobenzene	0.935	1.021	-9.1	154#	-0.09
51	T	1,4-Dichlorobenzene	1.018	1.061	-4.2	151#	-0.07
52	T	1,2-Dichlorobenzene	0.953	0.974	-2.2	145	-0.07
53	T	Naphthalene	1.800	0.000#	100.0#	0#	-23.39#
54		1,2-Dibromoethane	0.000	0.000#	0.0	0#	-14.10#
55		1,4-Dioxane	0.000	0.000#	0.0	0#	-0.57#
	T	n-Butyl methacrylate	0.000	0.000#	0.0	0#	-18.64#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8493.D
Acq On : 13 Nov 97 3:08 pm
Sample : 50 PPB CHK STND... Converted from RTE d
Misc : 5 ML.....
Quant Time: Nov 13 15:46 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.87	128	90041	50.00	ug/l	-0.07
26) 1,4-Difluorobenzene	9.84	114	392553	50.00	ug/l	-0.07
40) Chlorobenzene-d5	14.99	117	341754	50.00	ug/l	-0.07
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.97	65	208341	56.39	ug/l	112.77%
33) Toluene-d8	12.45	98	377558	48.79	ug/l	97.59%
48) 4-Bromofluorobenzene	17.12	95	284295	50.90	ug/l	101.81%
Target Compounds						Qvalue
2) Chloromethane	2.21	50	50012	38.04	ug/l	97
3) Vinyl chloride	2.35	62	83094	40.18	ug/l	97
4) Bromomethane	2.74	94	29571	42.99	ug/l	99
5) Chloroethane	2.87	64	48270	47.22	ug/l	96
6) Trichlorofluoromethane	3.24	101	187317	43.65	ug/l	97
7) Acrolein	3.88	56	13208	40.08	ug/l	100
8) 1,1-Dichloroethene	4.00	61	216229	46.34	ug/l	97
9) Acetone	4.16	43	86353	48.63	ug/l	98
10) Carbon disulfide	4.32	76	303406	45.32	ug/l	100
11) Methylene chloride	4.84	49	214131	52.38	ug/l	99
12) Acrylonitrile	5.39	53	36066	46.67	ug/l	100
13) trans-1,2-Dichloroethene	5.39	61	202702	46.84	ug/l	89
14) Methyl-tert butyl ether	5.48	73	349388	45.64	ug/l	97
15) tert-Butyl Alcohol	5.30	59	96619	188.26	ug/l	100
16) 1,1-Dichloroethane	6.24	63	272239	46.06	ug/l	98
18) cis-1,2-Dichloroethene	7.41	61	215733	46.70	ug/l	92
19) 2-Butanone	7.55	43	115029	50.37	ug/l	97
20) Chloroform	8.07	83	264582	47.52	ug/l	96
21) 1,1,1-Trichloroethane	8.35	97	212077	46.56	ug/l	87
22) Carbon tetrachloride	8.67	117	242213	58.86	ug/l m	95
24) Benzene	9.06	78	338880	46.47	ug/l	100
25) 1,2-Dichloroethane	9.13	62	258176	49.58	ug/l	96
27) Trichloroethene	10.27	130	174398	53.81	ug/l	94
28) 1,2-Dichloropropane	10.66	63	124567	48.52	ug/l	99
29) Bromodichloromethane	11.19	83	292386	51.93	ug/l	99
30) 2-Chloroethyl vinyl ether	11.78	63	73919	47.69	ug/l	98
31) trans-1,3-Dichloropropene	11.99	75	229527	51.16	ug/l	99
32) 4-Methyl-2-pentanone	12.33	43	153615	44.73	ug/l m	41
34) Toluene	12.56	91	386739	49.24	ug/l	88
35) cis-1,3-Dichloropropene	13.00	75	233346	50.20	ug/l	99
36) 1,1,2-Trichloroethane	13.30	97	135542	51.98	ug/l	98
37) 2-Hexanone	13.80	43	126495	48.44	ug/l	98
38) Tetrachloroethene	13.53	166	203547	55.33	ug/l	84
39) Dibromochloromethane	13.98	129	245548	51.84	ug/l	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8493.D
Acq On : 13 Nov 97 3:08 pm Vial: 0
Sample : 50 PPB CHK STND... Converted from RTE d Operator: SCOTTK
Misc : 5 ML..... Inst : AVOA
Quant Time: Nov 13 15:46 1997 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
41) Chlorobenzene	15.06	112	308639	50.61	ug/l	98
42) 1,1,1,2-Tetrachloroethane	15.20	131	180207	55.37	ug/l	95
43) Ethylbenzene	15.27	91	525271	51.74	ug/l	98
44) Xylene (para & meta)	15.50	91	925078	111.67	ug/l	98
45) Xylene (ortho)	16.18	91	450425	50.94	ug/l	88
46) Styrene	16.23	104	341894	53.46	ug/l	90
47) Bromoform	16.50	173	218593	54.33	ug/l	94
49) 1,1,2,2-Tetrachloroethane	17.42	83	236210	50.55	ug/l	94
50) 1,3-Dichlorobenzene	19.07	146	348855	54.57	ug/l	99
51) 1,4-Dichlorobenzene	19.25	146	362580	52.09	ug/l	95
52) 1,2-Dichlorobenzene	19.92	146	332890	51.11	ug/l	98

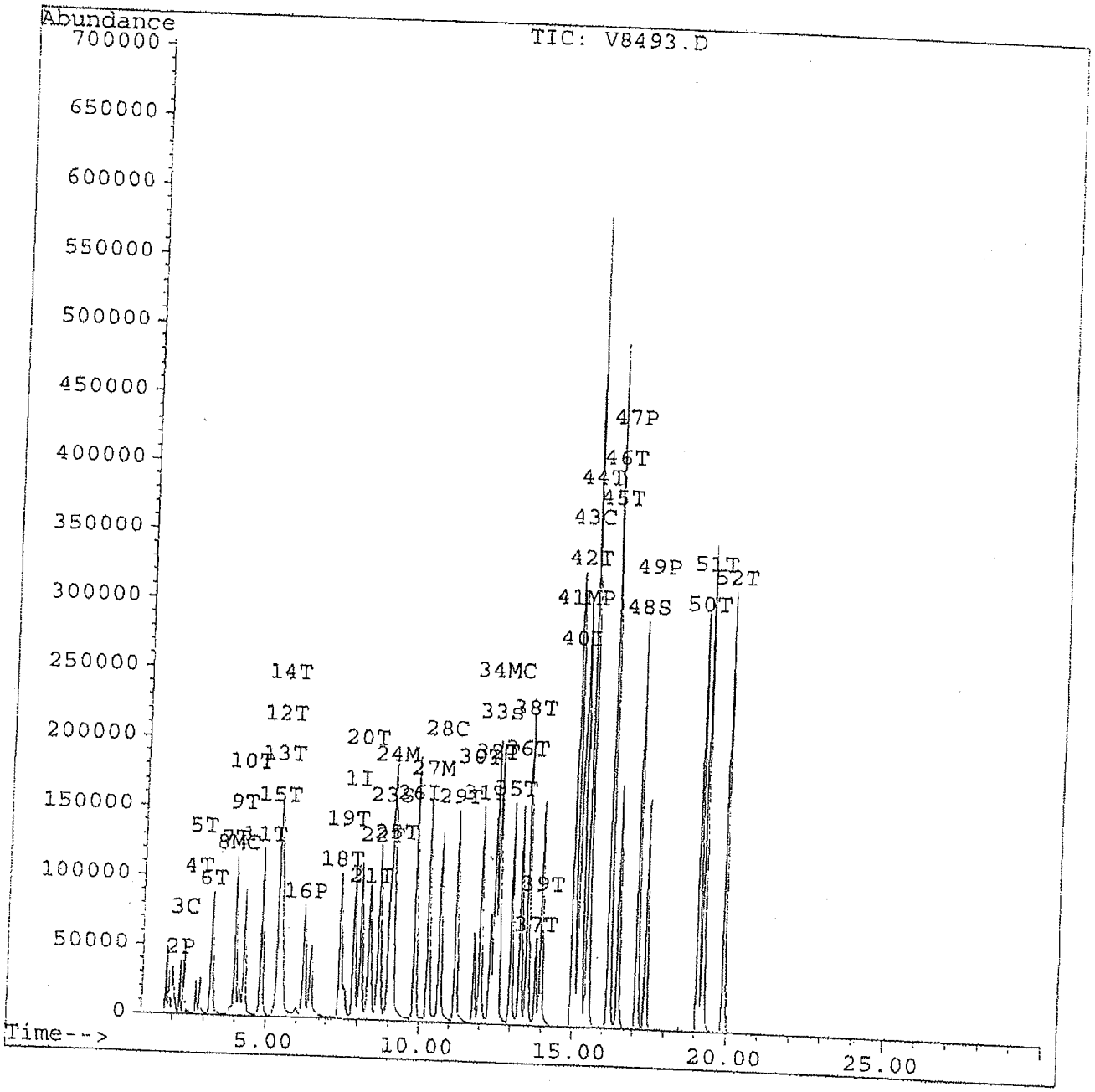
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\V8493.D
Acq On : 13 Nov 97 3:08 pm
Sample : 50 PPB CHK STND... Converted from RTE d
Misc : 5 ML.....
Quant Time: Nov 13 15:46 1997

Vial: C
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration



8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Lab File ID (Standard): V6470.D Date Analyzed: 11/12/97

Instrument ID: 5970-AVOA Time Analyzed: 1343

GC Column: HP-624 X 75M ID: 0.53 (mm) Heated Purge (Y/N) Y

		IS1 (BCM) AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
	12 HOUR STD	86304	7.86	389201	9.83	330323	14.99
	UPPER LIMIT	172608	8.36	778402	10.33	660646	15.49
	LOWER LIMIT	43152	7.36	194601	9.33	165162	14.49
	SAMPLE NO.						
01	VBLK01	78024	7.86	395901	9.83	350580	14.98
02	VBLK02	76618	7.84	359021	9.81	306477	14.98
03	9778293V	80269	7.84	415100	9.83	362929	14.98
04	9778625V	72665	7.84	378277	9.84	329561	14.99
05	9778621V	75761	7.84	365175	9.83	316667	14.98
06	9778619V	73027	7.84	305021	9.81	267765	14.98
07	9778620V	74028	7.84	309473	9.81	277728	14.98
08	9778622V	70000	7.82	291325	9.81	255872	14.98
09	9778623V	70649	7.84	296727	9.83	243073	14.98
10	9778624V	70841	7.84	277733	9.81	267410	14.98
11	9778619MS	65196	7.85	292527	9.82	248864	14.97
12	9778619MSD	67594	7.84	295877	9.81	245032	14.97
13	20 LCS	82787	7.84	356142	9.81	320523	14.97
14	9778292V	71293	7.84	330534	9.81	282018	14.98
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID (Standard): V8493.D Date Analyzed: 11/13/97

Instrument ID: 5970-AVOA Time Analyzed: 1508

GC Column: HP-624 X 75M ID: 0.53 (mm) Heated Purge (Y/N) Y

		IS1 (BCM) AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
	12 HOUR STD	90041	7.87	392553	9.84	341754	14.99
	UPPER LIMIT	180082	8.37	785106	10.34	683508	15.49
	LOWER LIMIT	45021	7.37	196277	9.34	170877	14.49
	SAMPLE NO.						
01	VBLK01	74877	7.86	316507	9.83	286746	14.98
02	9782204V	79231	7.84	364724	9.83	315563	14.98
03	9782203V	80945	7.84	354024	9.83	321072	14.98
04	9781438V	74496	7.84	360585	9.83	310197	14.98
05	9782199V	72816	7.84	288894	9.83	247971	14.98
06	9782200V	70049	7.84	288638	9.83	247221	14.98
07	9782201V	72543	7.85	305340	9.82	242064	14.99
08	9782202V	67866	7.84	283606	9.83	258331	14.98
09	9781433V	82356	7.84	346587	9.83	306934	14.98
10	9781434V	83963	7.84	372172	9.84	334385	14.99
11	9781435V	77278	7.84	337776	9.81	309665	14.98
12	9781436V	78248	7.85	337670	9.84	307494	14.99
13	9781437V	76375	7.84	338601	9.83	301028	14.98
14	9782199MS	65468	7.84	282411	9.81	229606	14.99
15	9782199MSD	68148	7.84	287007	9.84	219201	14.99
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778619V

MW1-2, S-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778619V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6476.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 16 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-09-2	Methylene chloride	9	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert Butyl Alcohol	30	U
107-02-8	Acrolein	60	U
107-13-1	Acrylonitrile	60	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778619V
MW-2, S-5

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778619V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6476.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 16 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 138-86-3	Limonene	19.10	7	J
2.				
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Quantitation Report

Data File : c:\hpchem\1\data2\v6476.d
Acq On : 12 Nov 97 5:28 pm
Sample : 9778619V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:49 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.84	128	73027	50.00	ug/l	-0.09
26) 1,4-Difluorobenzene	9.81	114	305021	50.00	ug/l	-0.09
40) Chlorobenzene-d5	14.98	117	267765	50.00	ug/l	-0.08
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.94	65	157721	52.63	ug/l	105.26%
33) Toluene-d8	12.42	98	294976	49.06	ug/l	98.12%
48) 4-Bromofluorobenzene	17.11	95	204218	46.67	ug/l	93.34%
Target Compounds						Qvalue
11) Methylene chloride	4.84	49	25266	7.62	ug/l	94

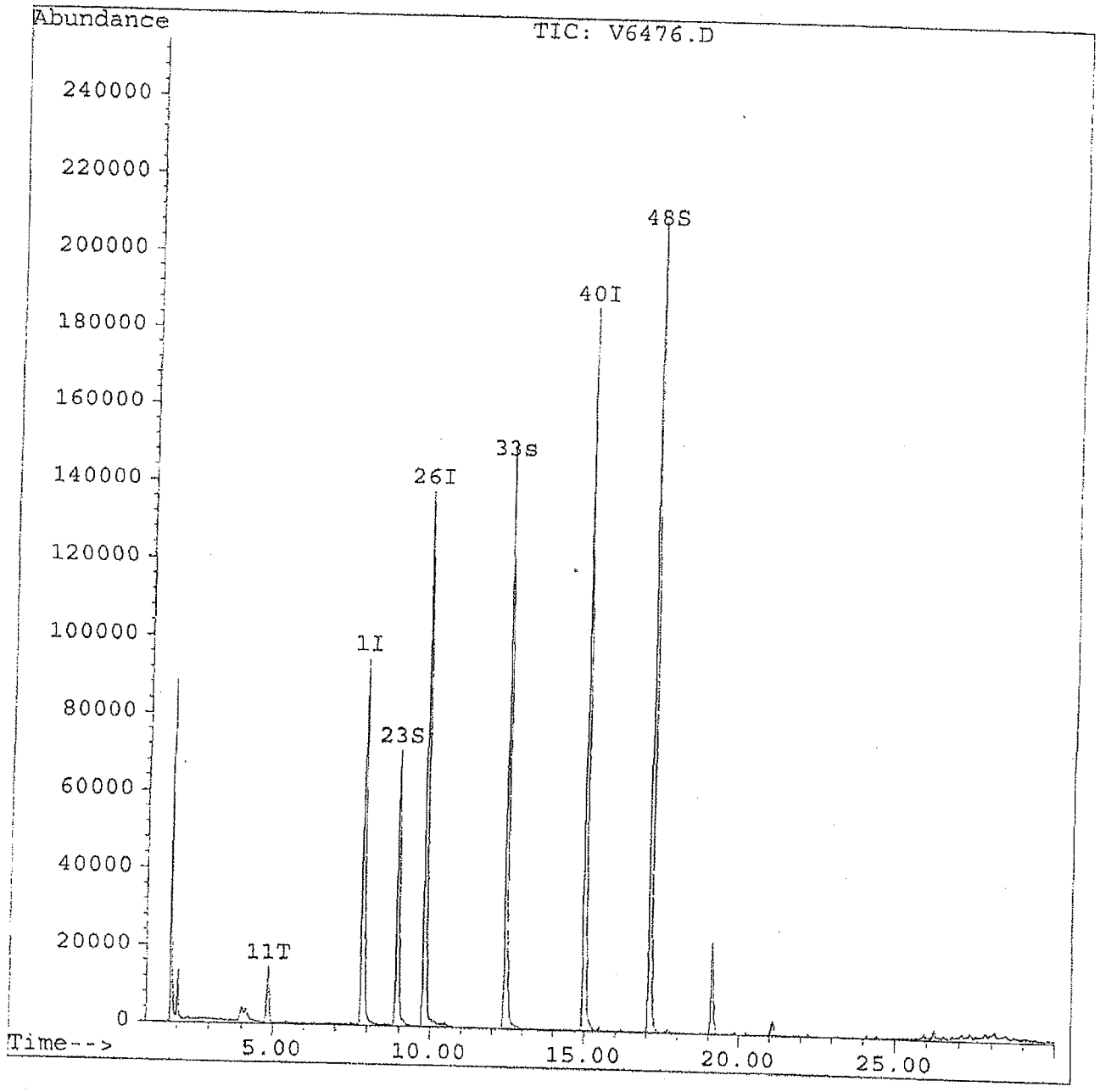
(#) = qualifier out of range (m) = manual integration

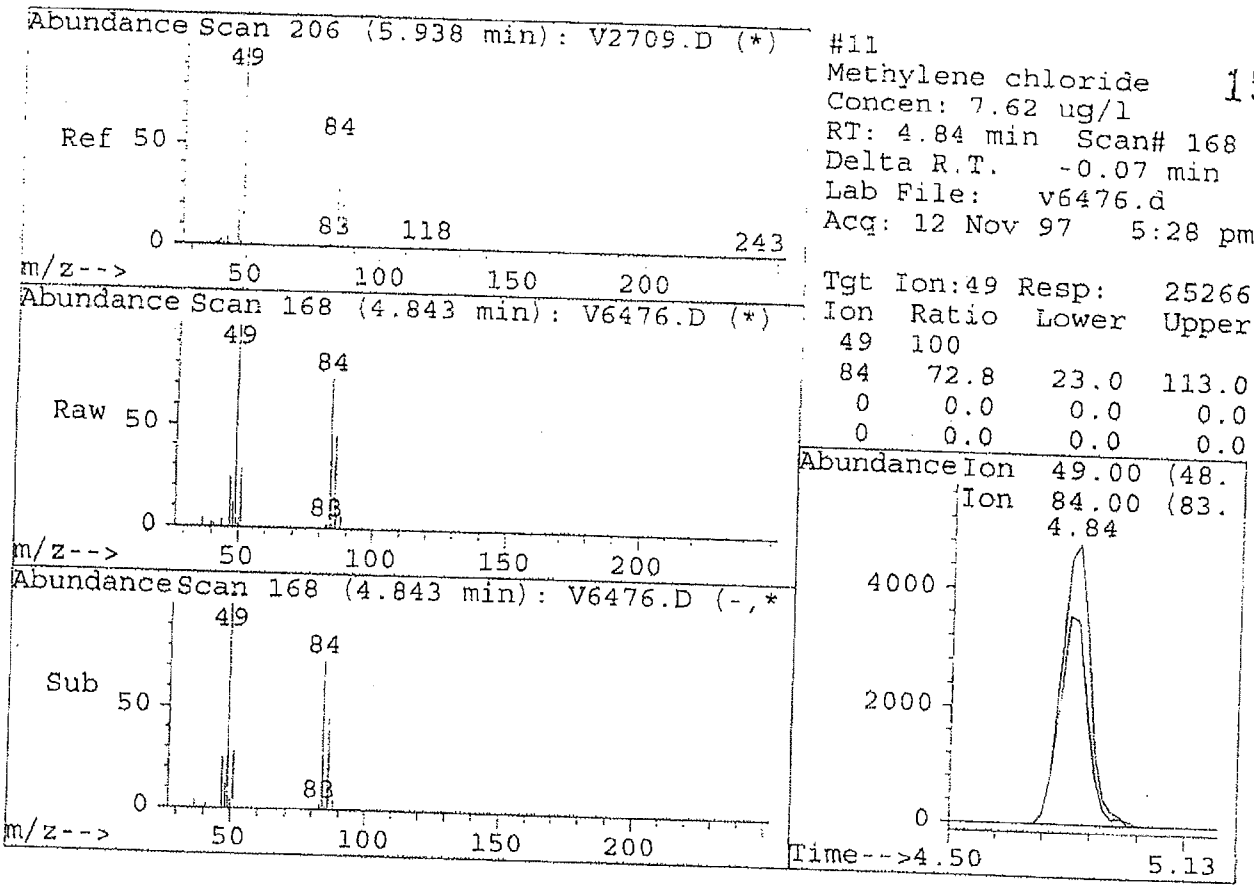
Quantitation Report

Data File : c:\hpchem\1\data2\v6476.d
Acq On : 12 Nov 97 5:28 pm
Sample : 9778619V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:49 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration





#11
Methylene chloride 152
Concen: 7.62 ug/l
RT: 4.84 min Scan# 168
Delta R.T. -0.07 min
Lab File: v6476.d
Acq: 12 Nov 97 5:28 pm

Tgt Ion:49 Resp: 25266

Ion	Ratio	Lower	Upper
49	100		
84	72.8	23.0	113.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

Library Search Compound Report

153

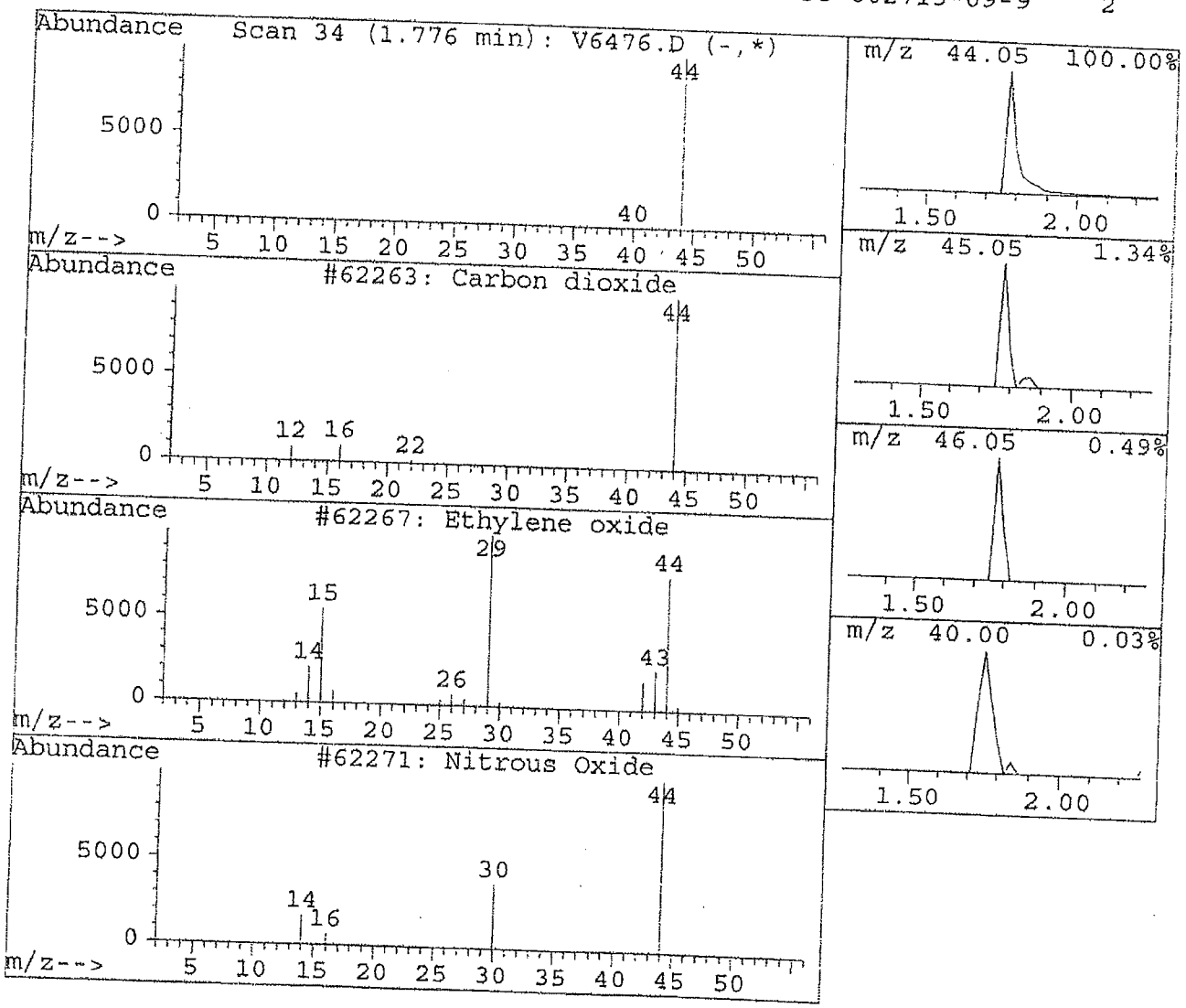
Data File : c:\hpchem\1\data2\v6476.d
Acq On : 12 Nov 97 5:28 pm
Sample : 9778619V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.78	19.58 ug/1	207938	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Ethylene oxide	62267	000075-21-8	3
3	Nitrous Oxide	62271	010024-97-2	3
4	Acetaldehyde	62265	000075-07-0	2
5	Ethyne, fluoro-	35	002713-09-9	2



Library Search Compound Report

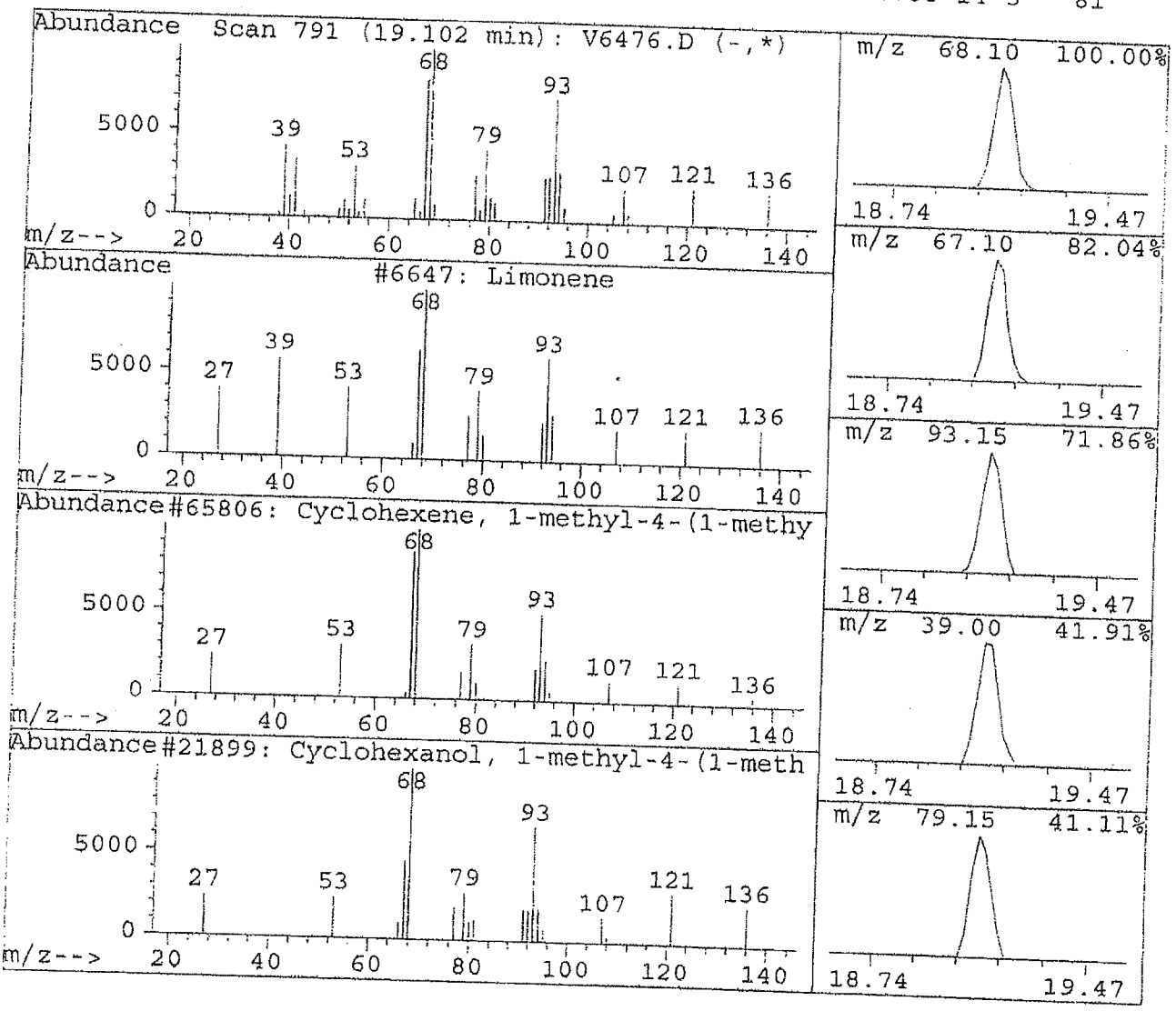
Data File : c:\hpchem\1\data2\v6476.d
Acq On : 12 Nov 97 5:28 pm
Sample : 9778619V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
19.10	5.72 ug/l	99151	Chlorobenzene-d5	14.98

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Limonene	6647	000138-86-3	94
2	Cyclohexene, 1-methyl-4-(1-methylet	65806	005989-54-8	78
3	Cyclohexanol, 1-methyl-4-(1-methyle	21899	010198-23-9	64
4	D-Limonene	6664	005989-27-5	81
5	1,5-Cyclooctadiene, 1,5-dimethyl-	65749	003760-14-3	81



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778620V

MW-10 S.S

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778620V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6477.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 20 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl chloride	13	U
75-00-3	Chloroethane	13	U
75-69-4	Trichlorofluoromethane	13	U
75-09-2	Methylene chloride	11	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	31	U
107-02-8	Acrolein	63	U
107-13-1	Acrylonitrile	63	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9778620V
MW-10 5-5

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778620V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6477.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 20 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
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Quantitation Report

Data File : c:\hpchem\1\data2\v6477.d
Acq On : 12 Nov 97 6:06 pm
Sample : 9778620V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:49 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.84	128	74028	50.00	ug/l	-0.10
26) 1,4-Difluorobenzene	9.81	114	309473	50.00	ug/l	-0.10
40) Chlorobenzene-d5	14.98	117	277728	50.00	ug/l	-0.08
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.94	65	176239	58.02	ug/l	116.03%
33) Toluene-d8	12.44	98	302544	49.60	ug/l	99.19%
48) 4-Bromofluorobenzene	17.11	95	219508	48.36	ug/l	96.73%
Target Compounds						Qvalue
11) Methylene chloride	4.82	49	28791	8.57	ug/l	97

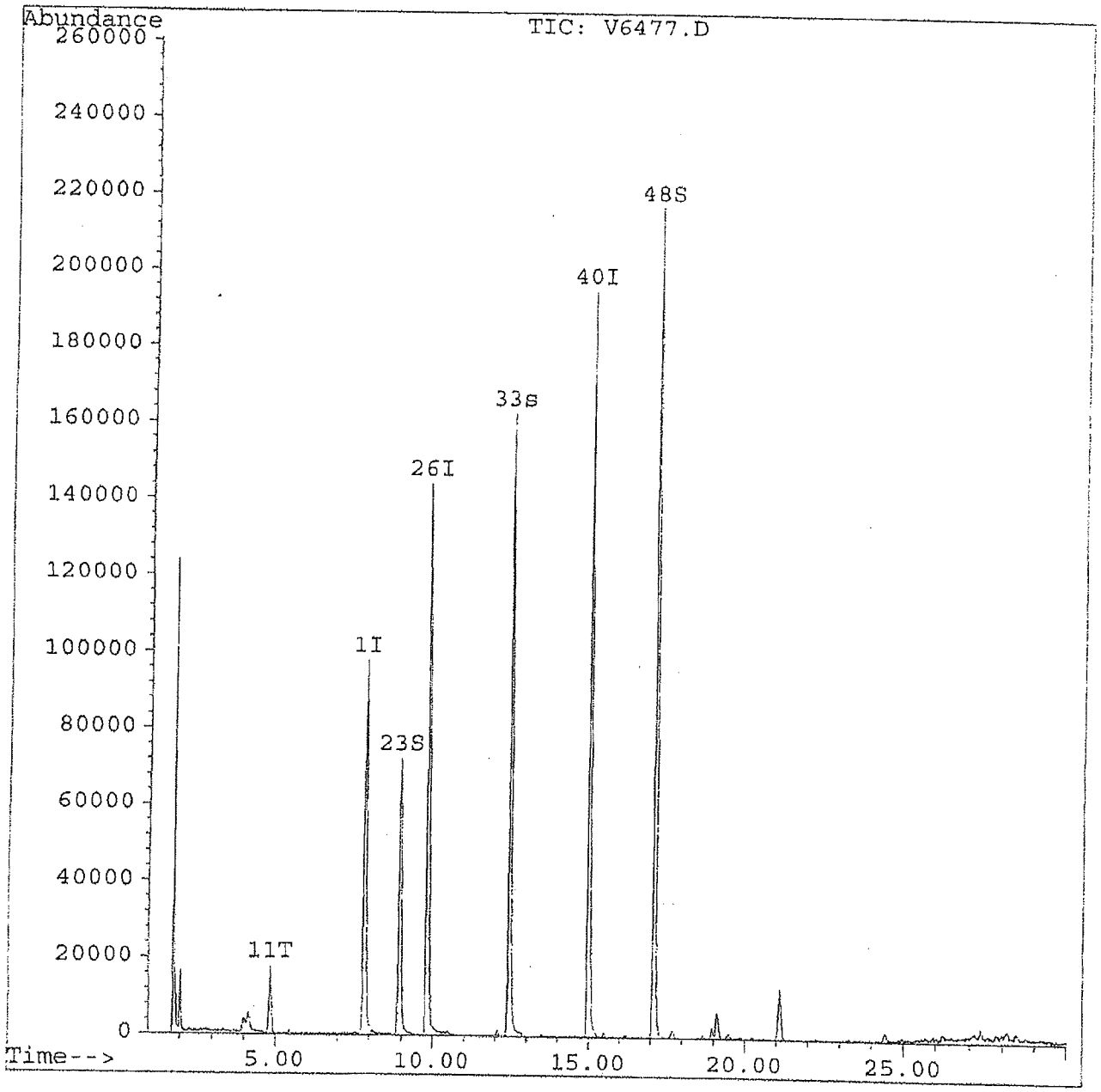
(#) = qualifier out of range (m) = manual integration

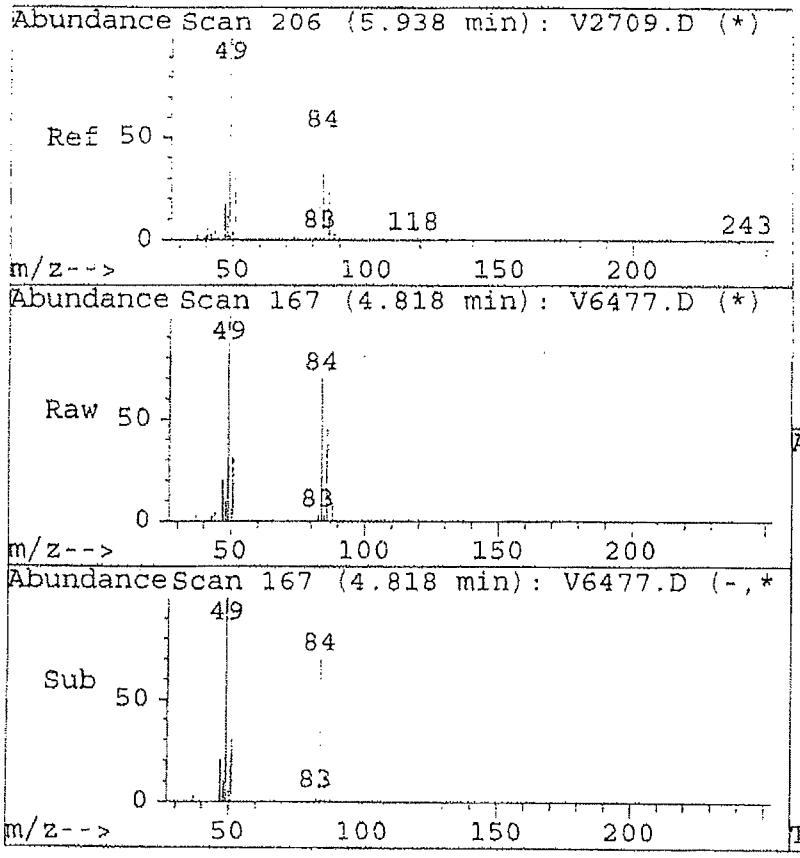
Quantitation Report

Data File : c:\hpchem\1\data2\v6477.d
Acq On : 12 Nov 97 6:06 pm
Sample : 9778620V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:49 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

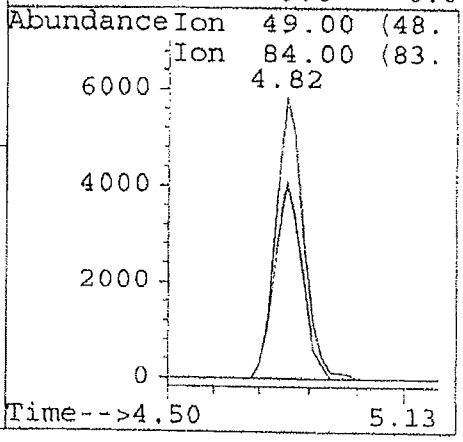




#11
Methylene chloride
Concen: 8.57 ug/l
RT: 4.82 min Scan# 167
Delta R.T. -0.09 min
Lab File: v6477.d
Acq: 12 Nov 97 6:06 pm

Tgt Ion:49 Resp: 28791

Ion	Ratio	Lower	Upper
49	100		
84	70.2	23.0	113.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

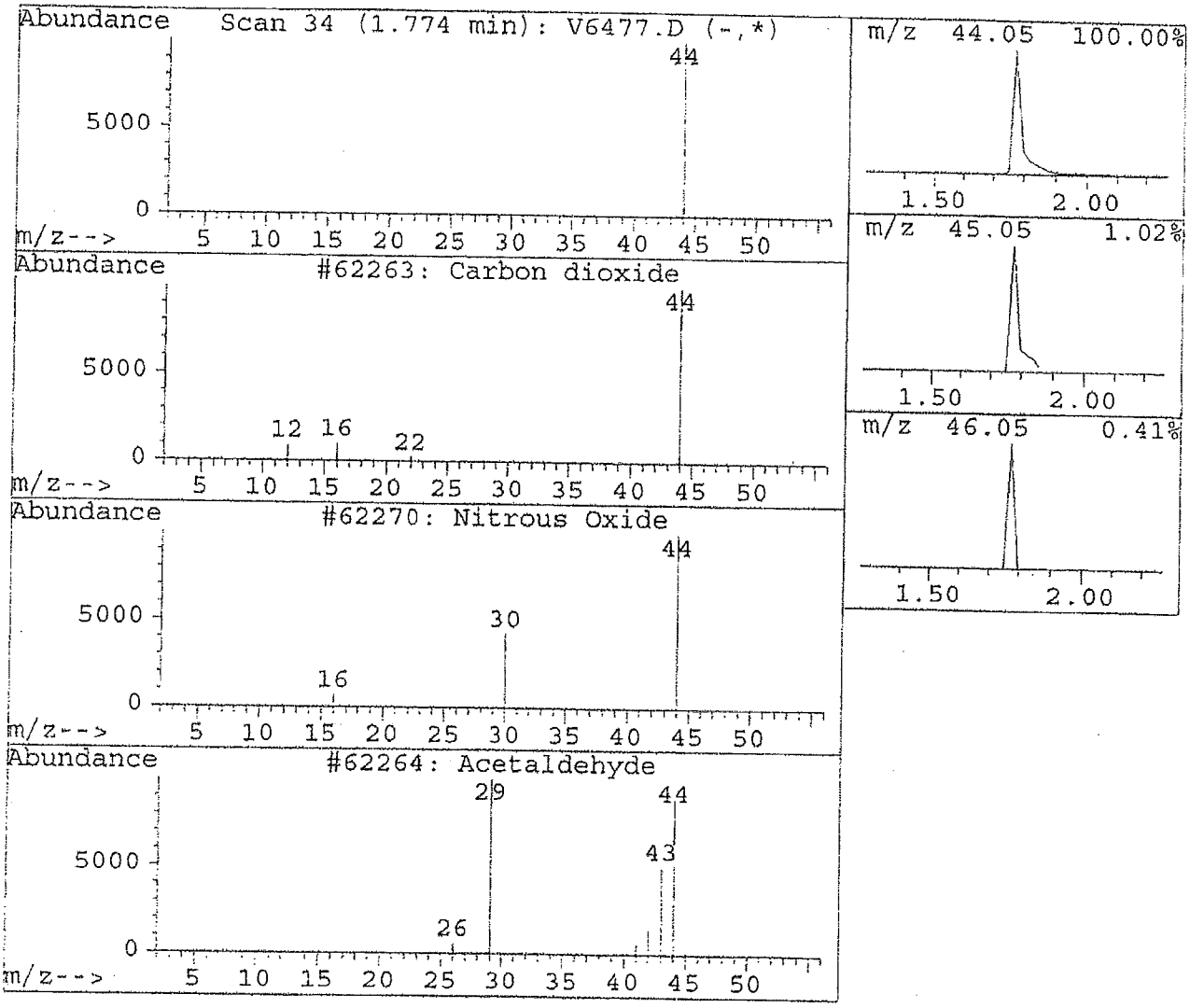
Data File : c:\hpchem\1\data2\v6477.d
Acq On : 12 Nov 97 6:06 pm
Sample : 9778620V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.77	20.65 ug/l	220000	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Nitrous Oxide	62270	010024-97-2	3
3	Acetaldehyde	62264	000075-07-0	2
4	Ethylene oxide	62267	000075-21-8	2
5	Ethyne, fluoro-	35	002713-09-9	2



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778621V
FB 11/5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9778621V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V6475.D

Level: (low/med) Date Received: 11/7/97

% Moisture: not dec. Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-09-2	Methylene chloride	12	B
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-65	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
108-38-3	Xylene (para & meta)	5	U
75-01-4	Xylene (ortho)	5	U
75-65-0	Methyl-tert butyl ether	5	U
1634-04-4	tert-Butyl Alcohol	25	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO. 9778621V FB 11/5

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9778621V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V6475.D

Level: (low/med) Date Received: 11/7/97

% Moisture: not dec. Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
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30.				

Quantitation Report

Data File : c:\hpchem\1\data2\v6475.d
Acq On : 12 Nov 97 4:51 pm
Sample : 9778621V..... Converted from RTE d
Misc : 5 ML FB.....
Quant Time: Nov 13 9:48 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.84	128	75761	50.00	ug/l	-0.09
26) 1,4-Difluorobenzene	9.83	114	365175	50.00	ug/l	-0.07
40) Chlorobenzene-d5	14.98	117	316667	50.00	ug/l	-0.08
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.96	65	176870	56.89	ug/l	113.78%
33) Toluene-d8	12.44	98	354337	49.23	ug/l	98.45%
48) 4-Bromofluorobenzene	17.11	95	240804	46.53	ug/l	93.06%
Target Compounds						Qvalue
11) Methylene chloride	4.84	49	42650	12.40	ug/l	94

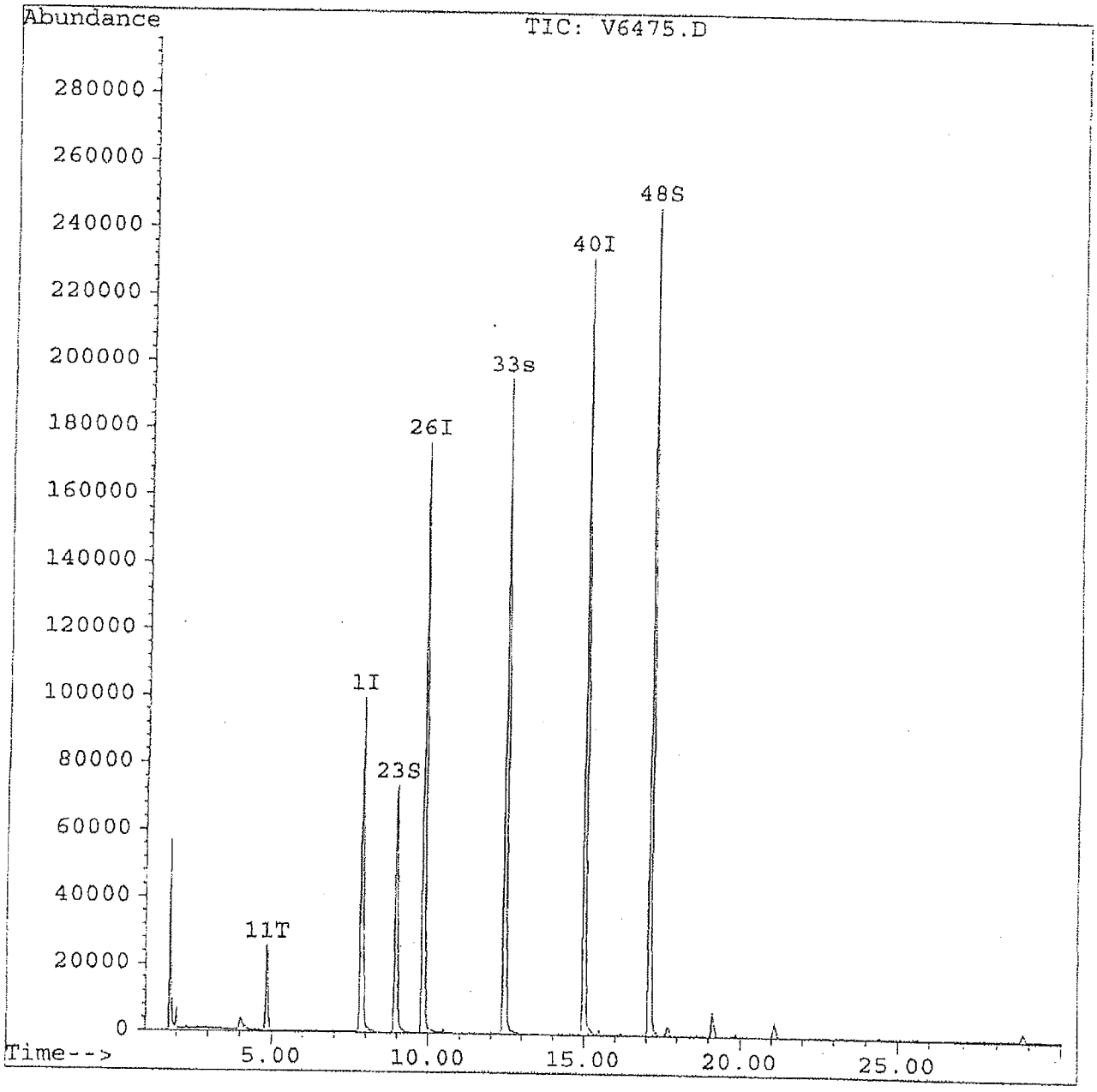
(#) = qualifier out of range (m) = manual integration

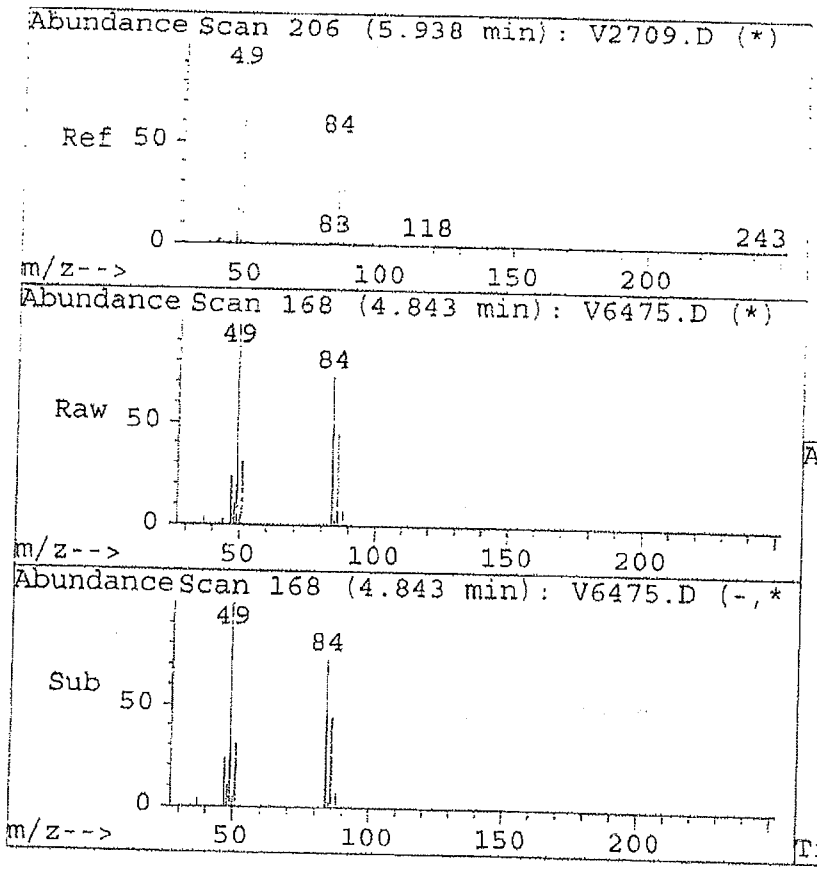
Quantitation Report

Data File : c:\hpchem\1\data2\v6475.d
Acq On : 12 Nov 97 4:51 pm
Sample : 9778621V..... Converted from RTE d
Misc : 5 ML FB.....
Quant Time: Nov 13 9:48 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

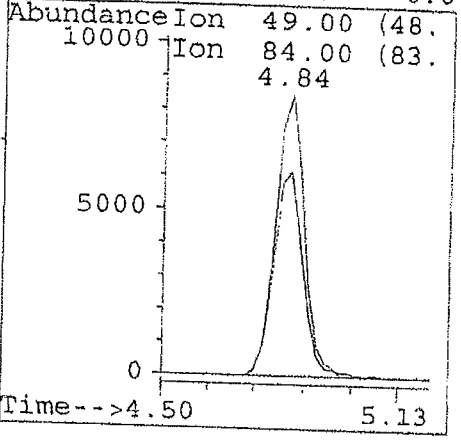




#11
Methylene chloride
Concen: 12.40 ug/l
RT: 4.84 min Scan# 168
Delta R.T. -0.07 min
Lab File: v6475.d
Acq: 12 Nov 97 4:51 pm

Tgt Ion:49 Resp: 42650

Ion	Ratio	Lower	Upper
49	100		
84	72.9	23.0	113.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

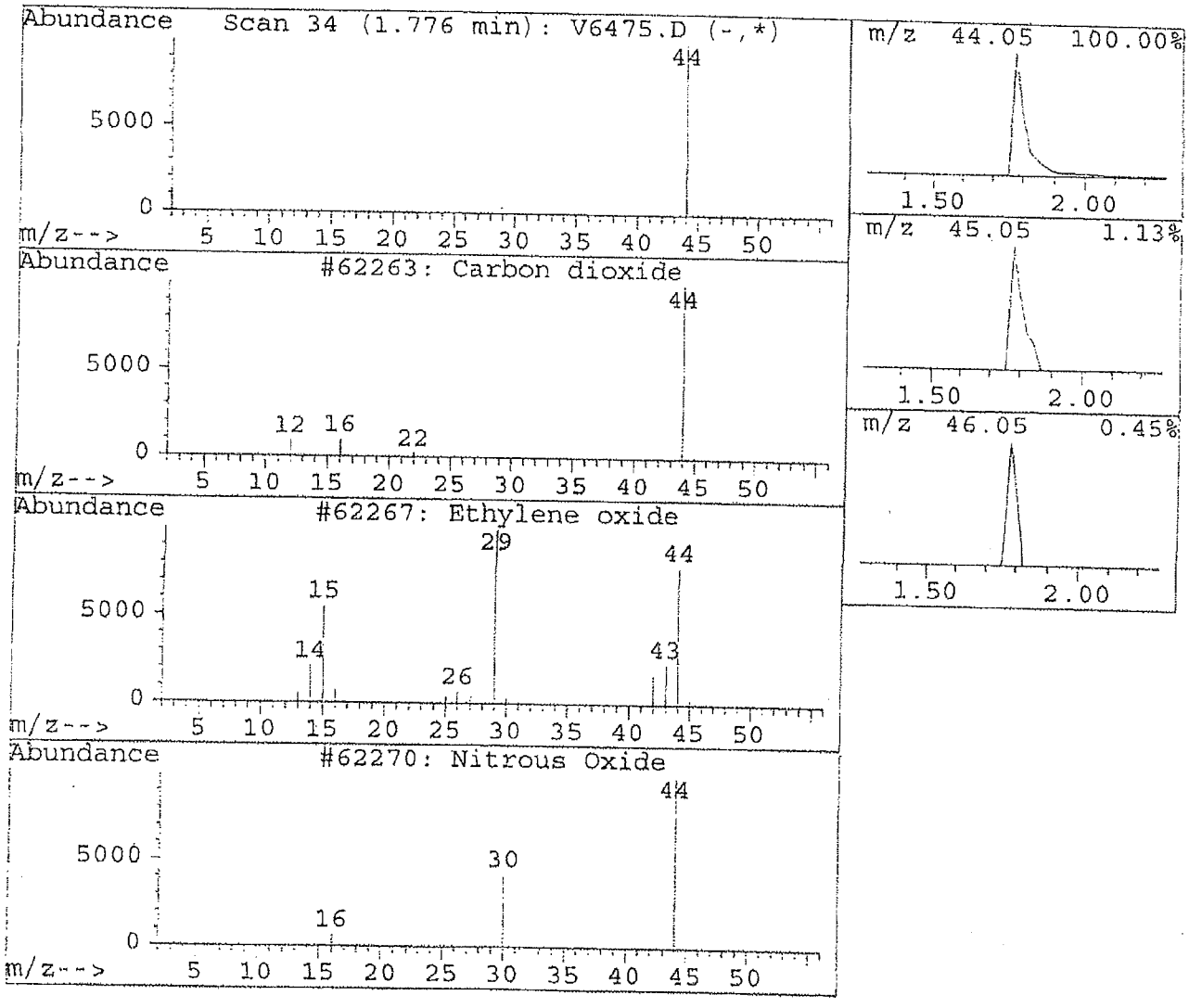
Data File : c:\hpchem\1\data2\v6475.d
Acq On : 12 Nov 97 4:51 pm
Sample : 9778621V..... Converted from RTE d
Misc : 5 ML FB.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.78	13.82 ug/l	151572	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Ethylene oxide	62267	000075-21-8	3
3	Nitrous Oxide	62270	010024-97-2	3
4	Acetaldehyde	62264	000075-07-0	2
5	Ethyne, fluoro-	35	002713-09-9	2



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778622V

MW-5 5-4

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778622V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6478.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 12 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl chloride	11	U
75-00-3	Chloroethane	11	U
75-69-4	Trichlorofluoromethane	11	U
75-09-2	Methylene chloride	8	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	28	U
107-02-8	Acrolein	57	U
107-13-1	Acrylonitrile	57	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9778622V

1E

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778622V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6478.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 12 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
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24.				
25.				
26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data2\v6478.d
Acq On : 12 Nov 97 6:43 pm
Sample : 9778622V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:50 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.82	128	70000	50.00	ug/l	-0.12
26) 1,4-Difluorobenzene	9.81	114	291325	50.00	ug/l	-0.10
40) Chlorobenzene-d5	14.98	117	255872	50.00	ug/l	-0.08
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.94	65	150627	52.44	ug/l	104.87%
33) Toluene-d8	12.44	98	281346	48.99	ug/l	97.99%
48) 4-Bromofluorobenzene	17.11	95	197089	47.13	ug/l	94.27%
Target Compounds						Qvalue
11) Methylene chloride	4.82	49	21536	6.78	ug/l	93

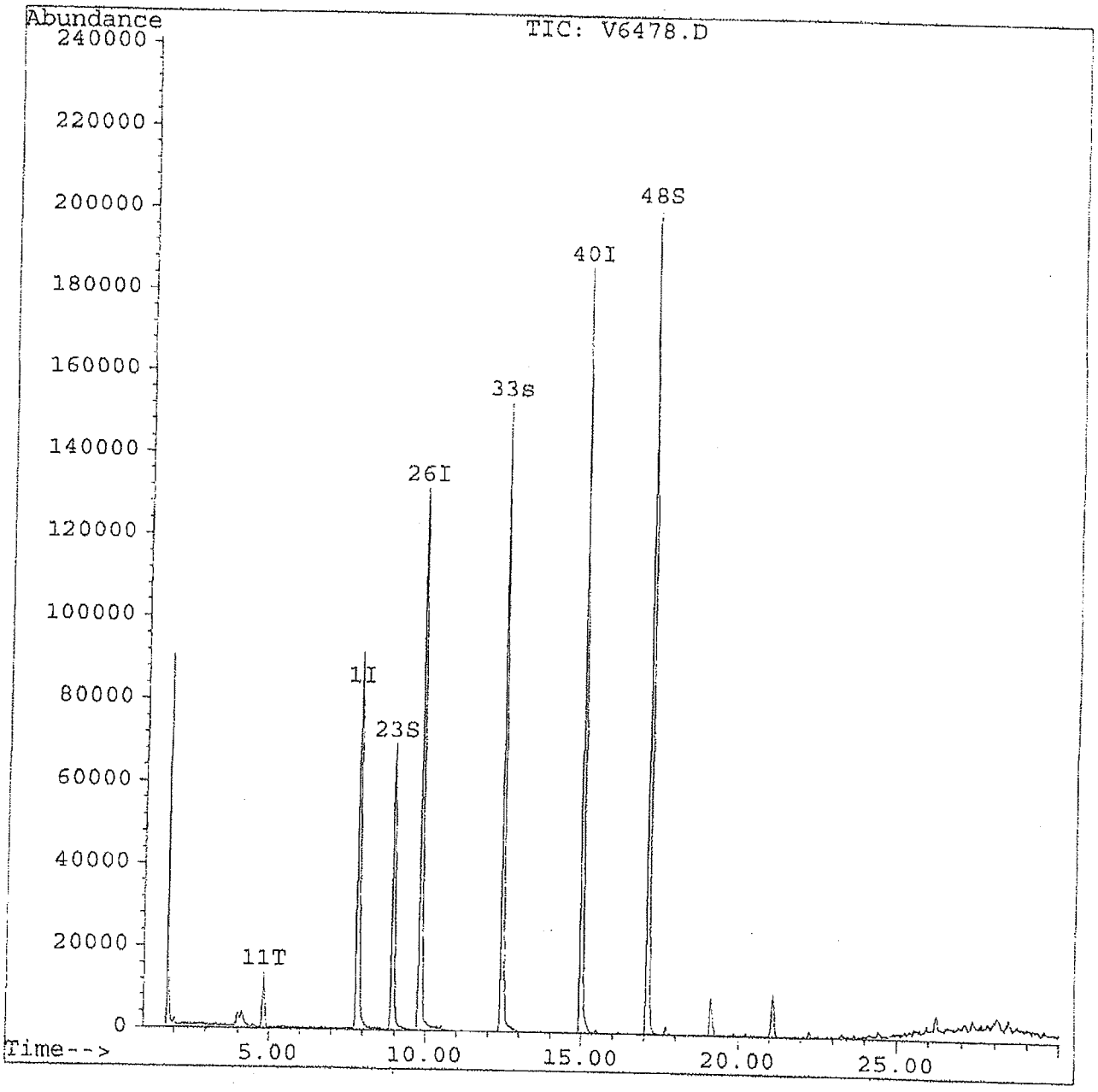
(#) = qualifier out of range (m) = manual integration

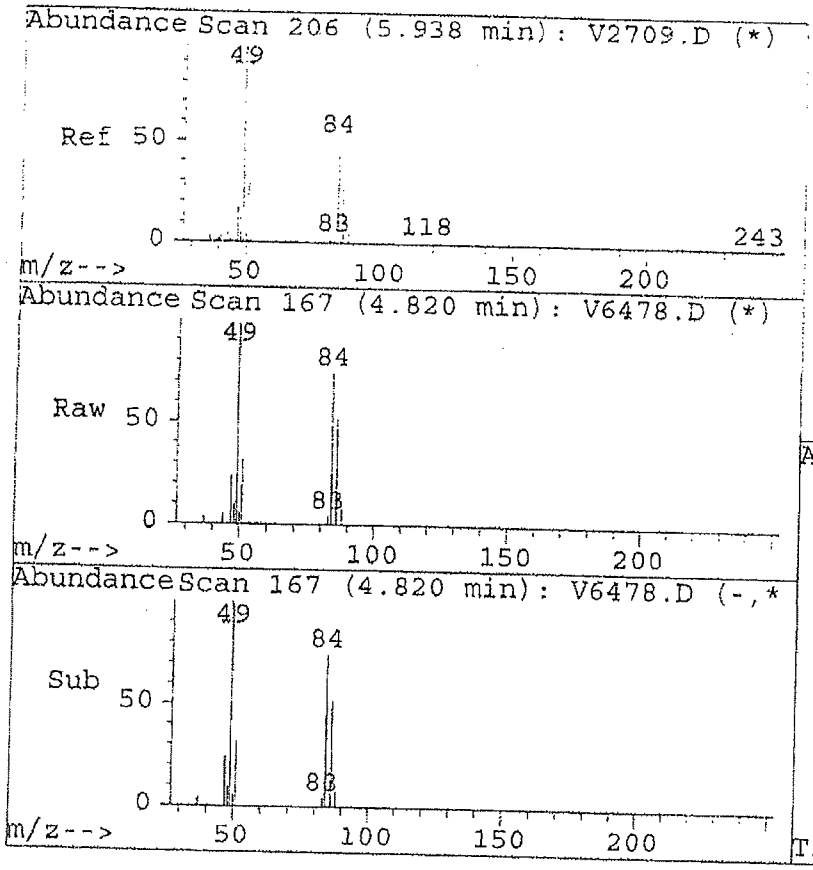
Quantitation Report

Data File : c:\hpchem\1\data2\v6478.d
Acq On : 12 Nov 97 6:43 pm
Sample : 9778622V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:50 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

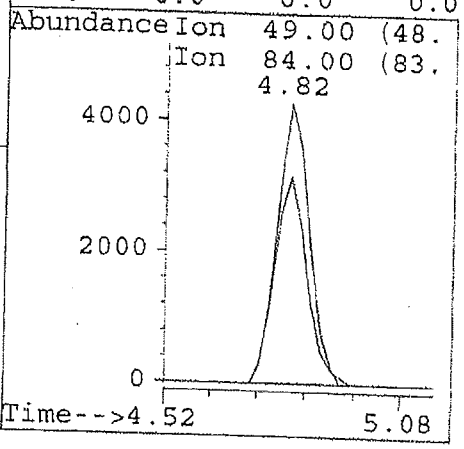




#11
Methylene chloride
Concen: 6.78 ug/l
RT: 4.82 min Scan# 167
Delta R.T. -0.09 min
Lab File: v6478.d
Acq: 12 Nov 97 6:43 pm

Tgt Ion:49 Resp: 21536

Ion	Ratio	Lower	Upper
49	100		
84	74.0	23.0	113.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

17

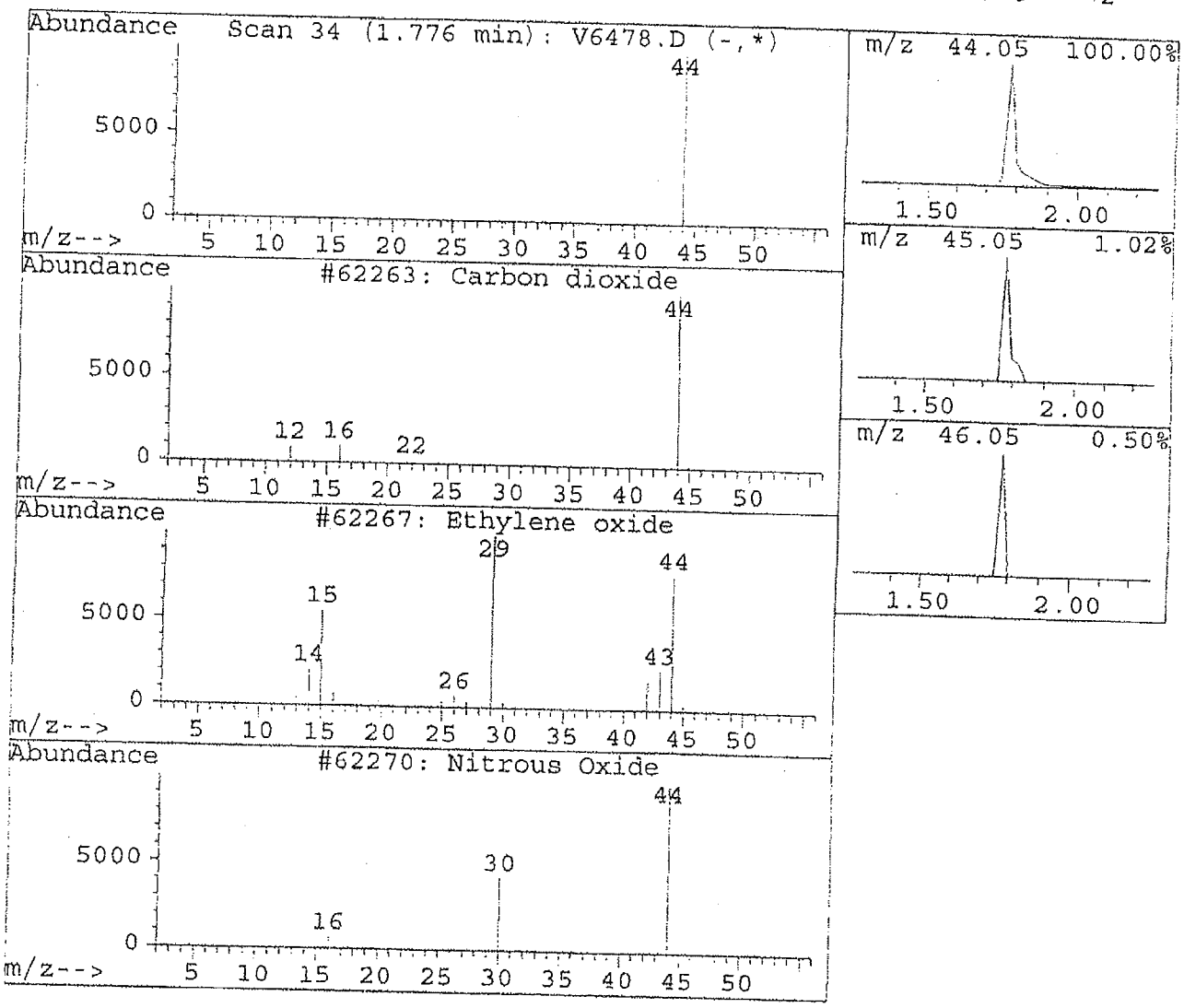
Data File : c:\hpchem\1\data2\v6478.d
Acq On : 12 Nov 97 6:43 pm
Sample : 9778622V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.78	15.98 ug/l	164700	Bromochloromethane	7.82

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Ethylene oxide	62267	000075-21-8	3
3	Nitrous Oxide	62270	010024-97-2	3
4	Acetaldehyde	62264	000075-07-0	2
5	Ethyne, fluoro-	35	002713-09-9	2



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778623V

MW-7, 5-5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778623V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6479.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 19 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-09-2	Methylene chloride	10	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	31	U
107-02-8	Acrolein	62	U
107-13-1	Acrylonitrile	62	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO. 9778623V mw-7, 5-5

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778623V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6479.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 19 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
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22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data2\v6479.d
Acq On : 12 Nov 97 7:20 pm
Sample : 9778623V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:50 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.84	128	70649	50.00	ug/l	-0.10
26) 1,4-Difluorobenzene	9.83	114	296727	50.00	ug/l	-0.07
40) Chlorobenzene-d5	14.98	117	243073	50.00	ug/l	-0.08
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.94	65	165840	57.20	ug/l	114.41%
33) Toluene-d8	12.44	98	255021	43.60	ug/l	87.20%
48) 4-Bromofluorobenzene	17.09	95	200735	50.53	ug/l	101.07%
Target Compounds						Qvalue
11) Methylene chloride	4.82	49	25921	8.08	ug/l	88

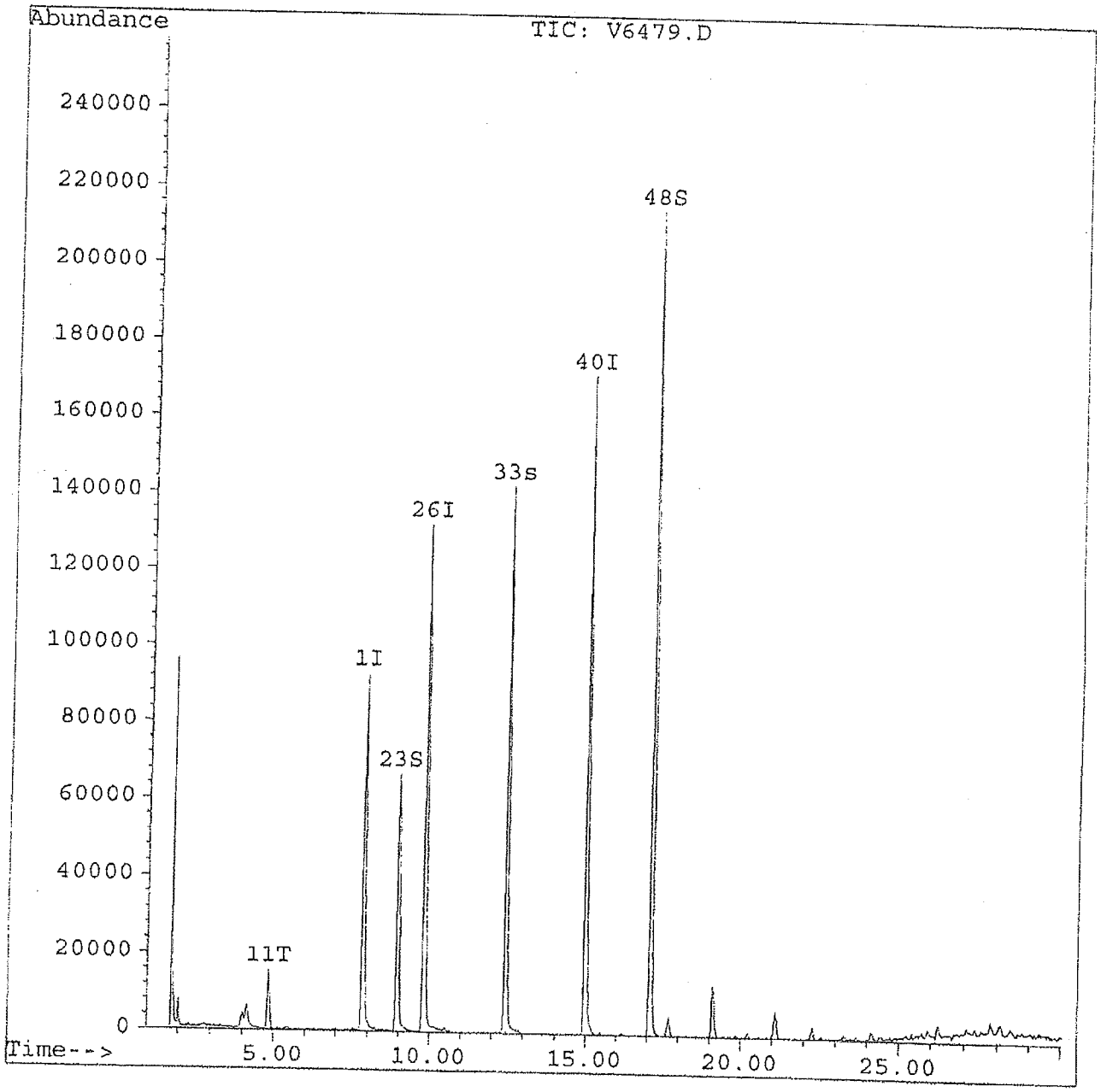
(#) = qualifier out of range (m) = manual integration

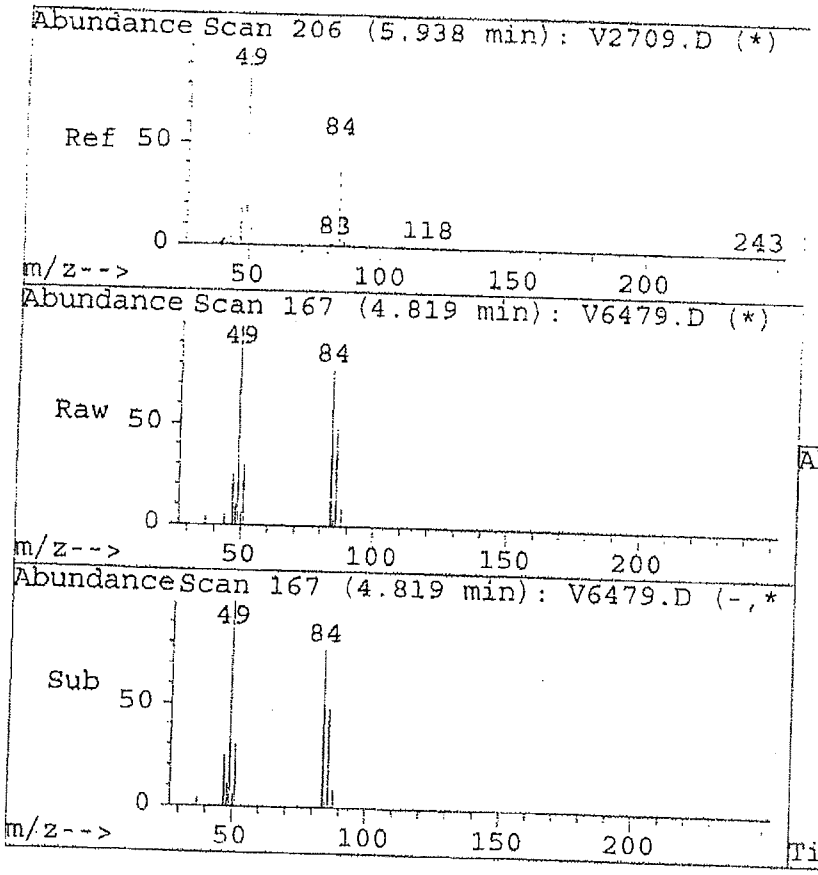
Quantitation Report

Data File : c:\hpchem\1\data2\v6479.d
Acq On : 12 Nov 97 7:20 pm
Sample : 9778623V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:50 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

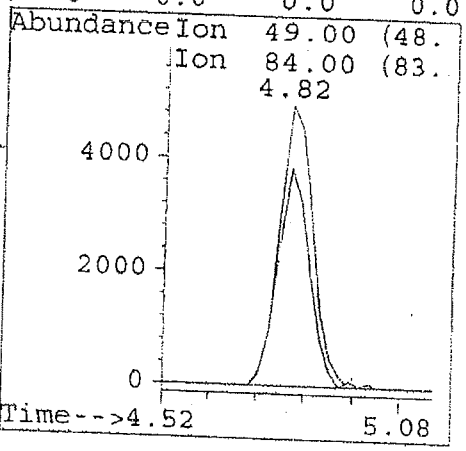




#11
Methylene chloride
Concen: 8.08 ug/l
RT: 4.82 min Scan# 167
Delta R.T. -0.09 min
Lab File: v6479.d
Acq: 12 Nov 97 7:20 pm

Tgt Ion:49 Resp: 25921

Ion	Ratio	Lower	Upper
49	100		
84	77.4	23.0	113.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

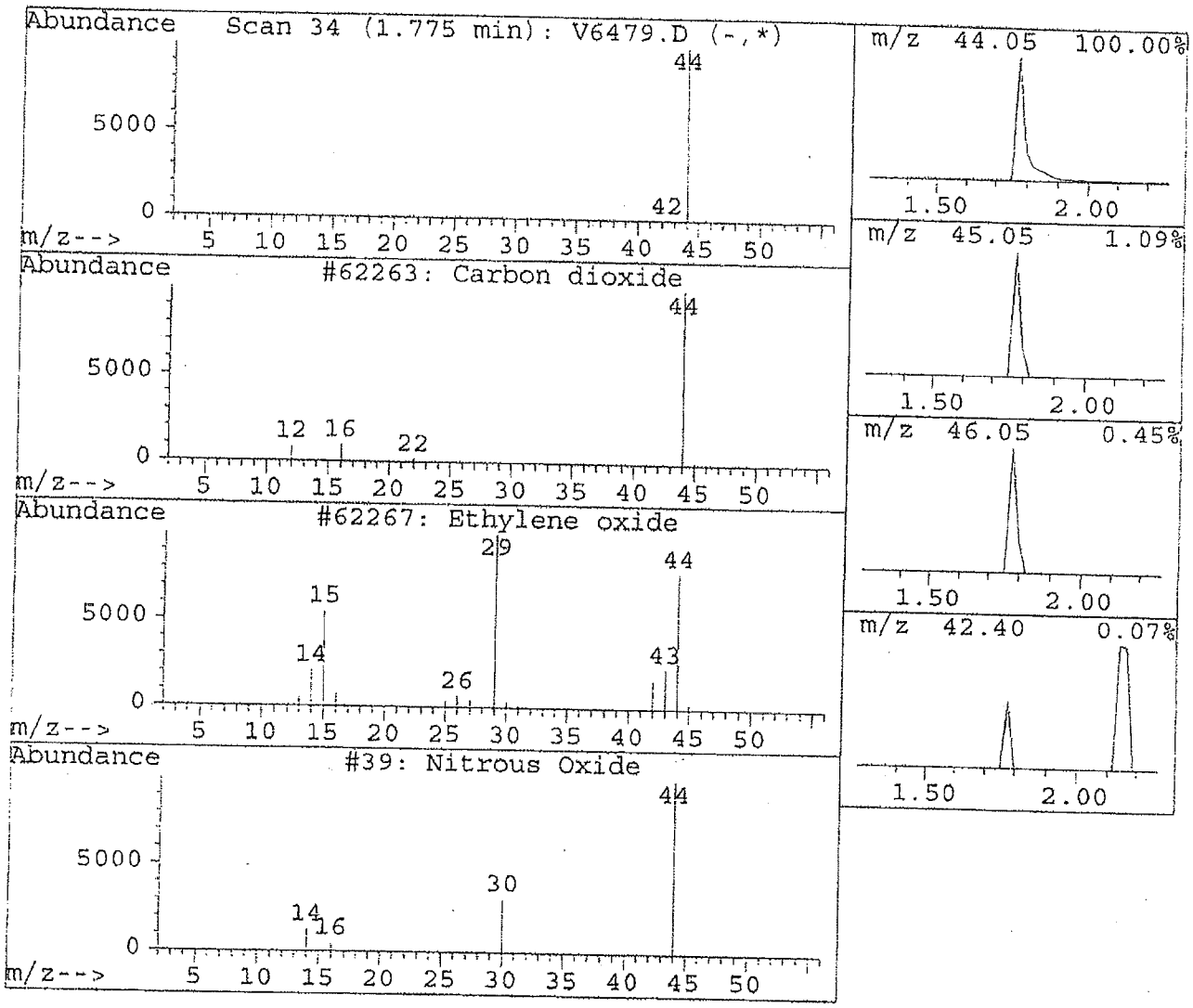
Data File : c:\hpchem\1\data2\v6479.d
Acq On : 12 Nov 97 7:20 pm
Sample : 9778623V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.77	19.59 ug/l	199316	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Ethylene oxide	62267	000075-21-8	3
3	Nitrous Oxide	39	010024-97-2	3
4	Acetaldehyde	62265	000075-07-0	2
5	Ethyne, fluoro-	35	002713-09-9	2



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778624V

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778624V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6480.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 16 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-09-2	Methylene chloride	10	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	30	U
107-02-8	Acrolein	60	U
107-13-1	Acrylonitrile	60	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778624V
MW-4, 5-5

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778624V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V6480.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: not dec. 16 Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data2\v6480.d
Acq On : 12 Nov 97 7:57 pm
Sample : 9778624V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:50 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.84	128	70841	50.00	ug/l	-0.09
26) 1,4-Difluorobenzene	9.81	114	277733	50.00	ug/l	-0.10
40) Chlorobenzene-d5	14.98	117	267410	50.00	ug/l	-0.08
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.94	65	155365	53.44	ug/l	106.89%
33) Toluene-d8	12.42	98	290145	53.00	ug/l	106.00%
48) 4-Bromofluorobenzene	17.09	95	202122	46.25	ug/l	92.50%
Target Compounds						Qvalue
11) Methylene chloride	4.82	49	26203	8.15	ug/l	92

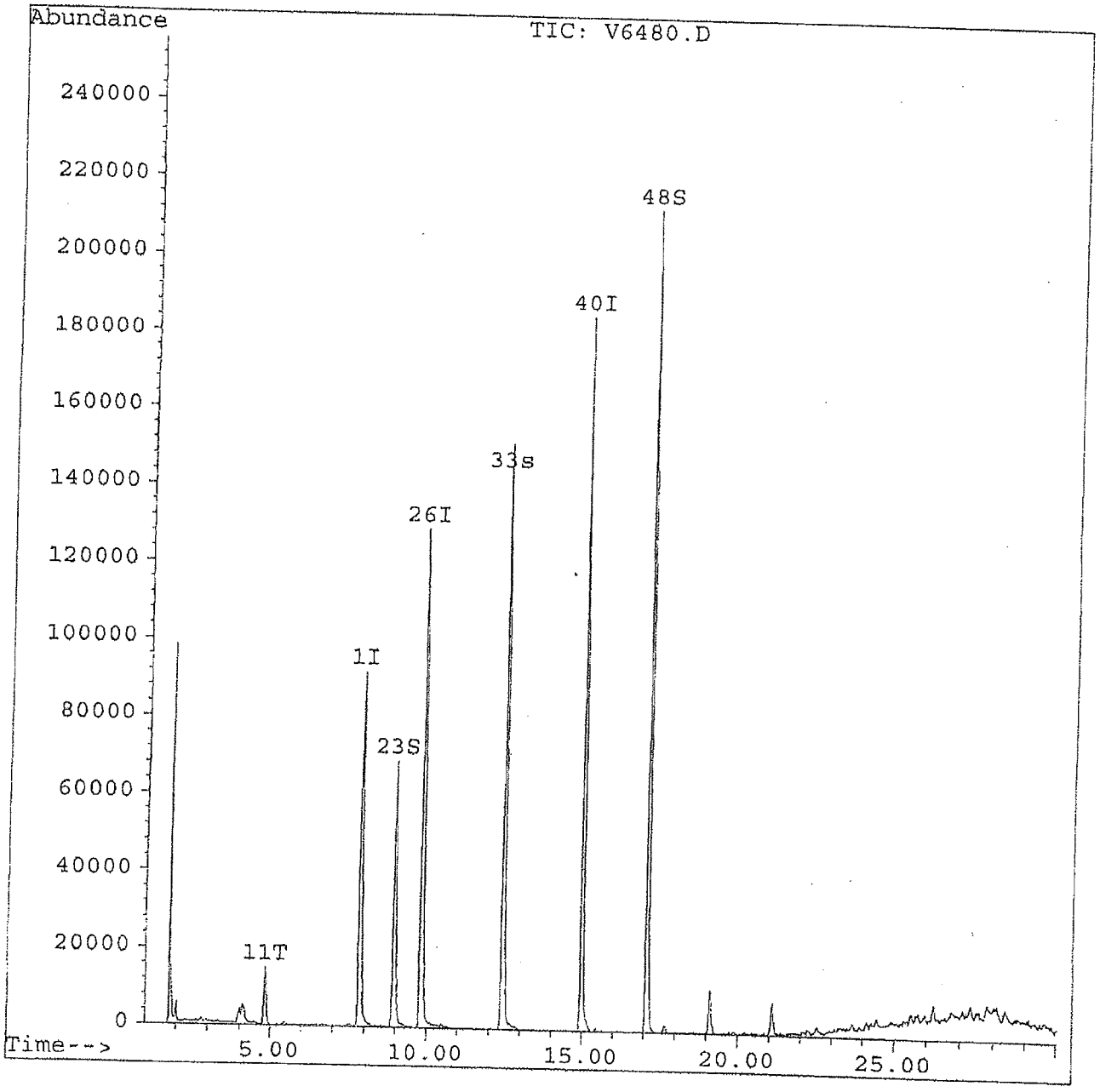
(#) = qualifier out of range (m) = manual integration

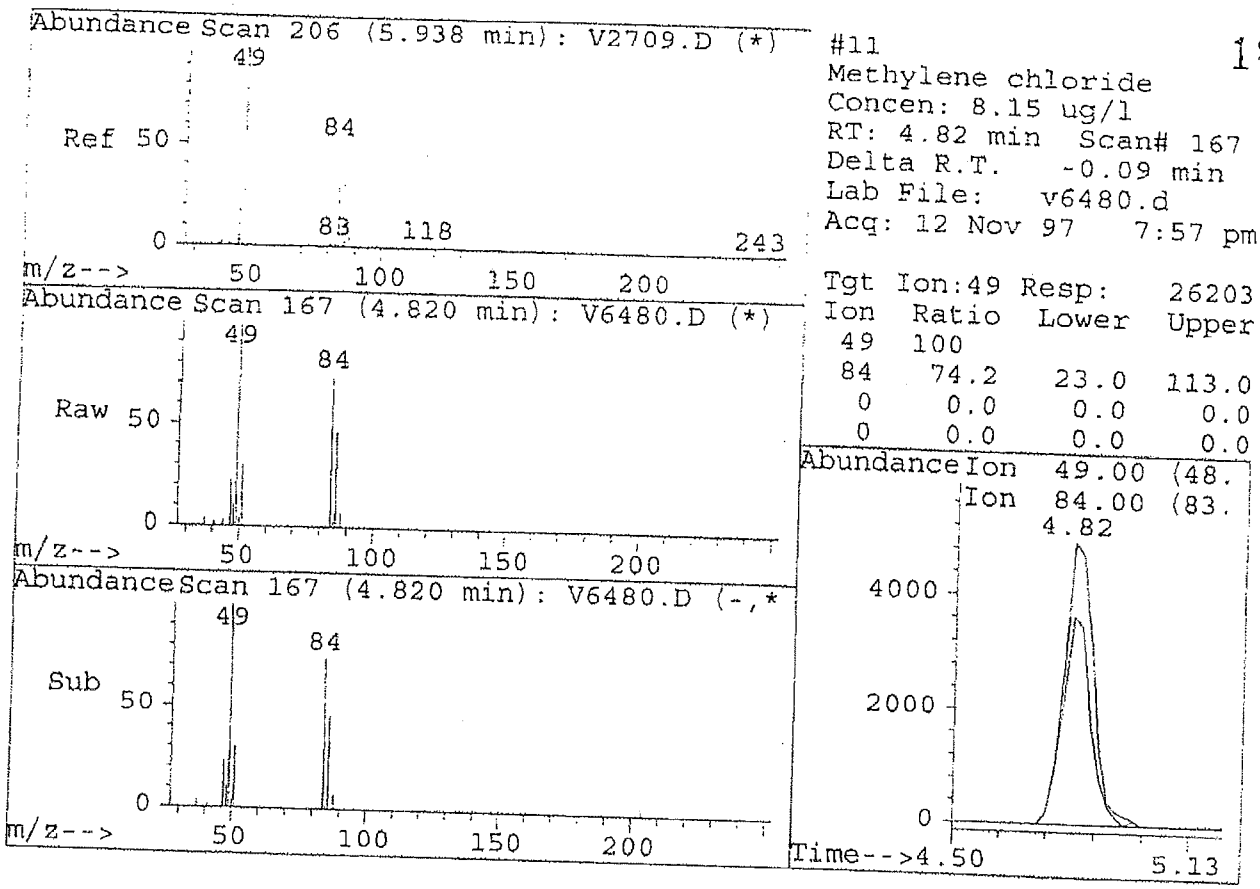
Quantitation Report

Data File : c:\hpchem\1\data2\v6480.d
Acq On : 12 Nov 97 7:57 pm
Sample : 9778624V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:50 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration





#11
Methylene chloride
Concen: 8.15 ug/l
RT: 4.82 min Scan# 167
Delta R.T. -0.09 min
Lab File: v6480.d
Acq: 12 Nov 97 7:57 pm

Tgt Ion:49 Resp: 26203

Ion	Ratio	Lower	Upper
49	100		
84	74.2	23.0	113.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

Library Search Compound Report

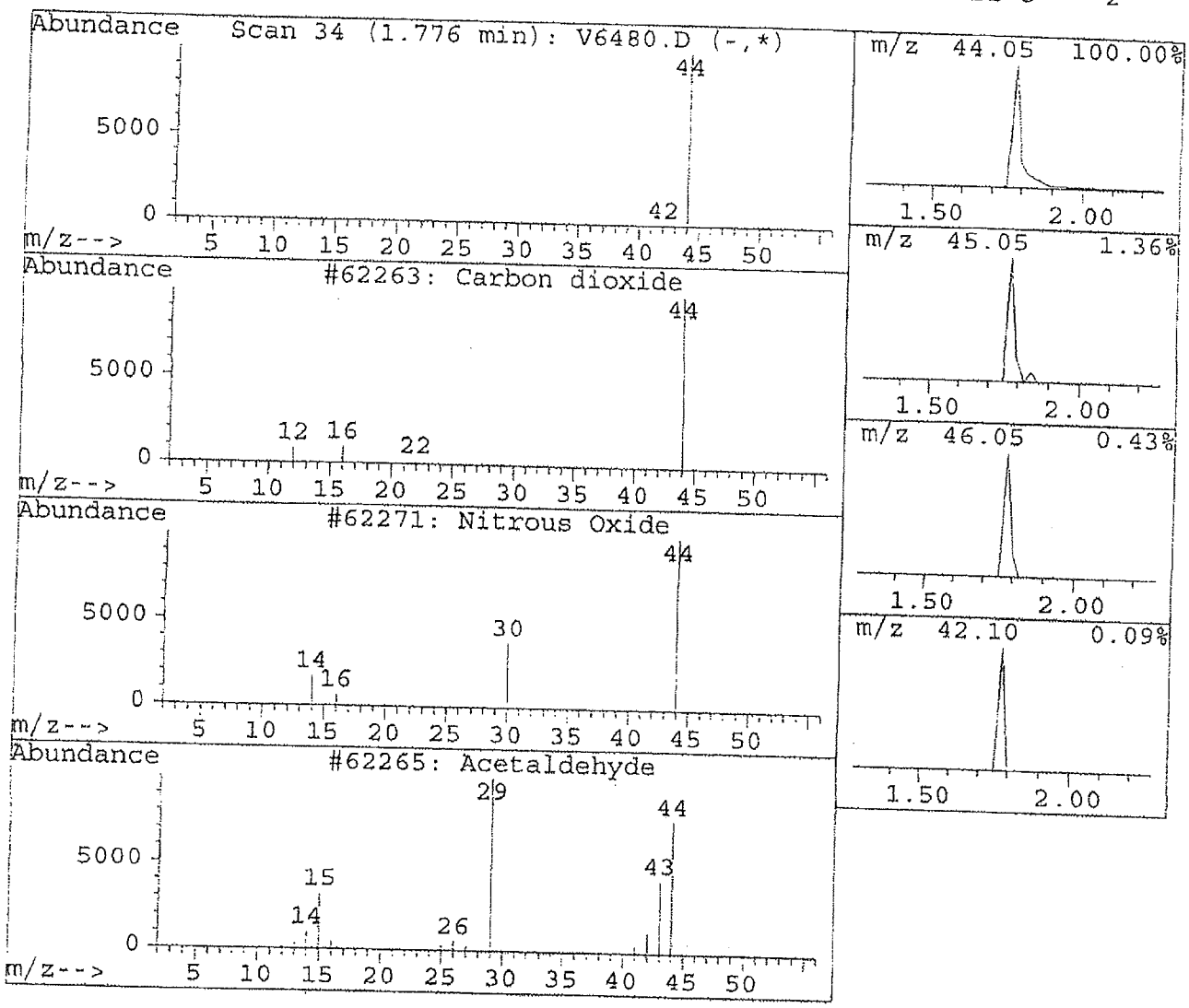
Data File : c:\hpchem\1\data2\v6480.d
Acq On : 12 Nov 97 7:57 pm
Sample : 9778624V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.78	19.29 ug/l	198164	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Nitrous Oxide	62271	010024-97-2	3
3	Acetaldehyde	62265	000075-07-0	2
4	Ethyne, fluoro-	35	002713-09-9	2
5	Ethylene oxide	62267	000075-21-8	2



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778625V
FB 11/6

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9778625V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V6474.D

Level: (low/med) _____ Date Received: 11/7/97

% Moisture: not dec. _____ Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-09-2	Methylene chloride	6	B
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-65	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
108-38-3	Xylene (para & meta)	5	U
75-01-4	Xylene (ortho)	5	U
75-65-0	Methyl-tert butyl ether	5	U
1634-04-4	tert-Butyl Alcohol	25	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778625V
FB 11/6

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9778625V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V6474.D

Level: (low/med) Date Received: 11/7/97

% Moisture: not dec. Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
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26.				
27.				
28.				
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30.				

Quantitation Report

Data File : c:\hpchem\1\data2\v6474.d
Acq On : 12 Nov 97 4:13 pm
Sample : 9778625V..... Converted from RTE d
Misc : 5 ML FB.....
Quant Time: Nov 12 16:42 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.84	128	72665	50.00	ug/l	-0.09
26) 1,4-Difluorobenzene	9.84	114	378277	50.00	ug/l	-0.07
40) Chlorobenzene-d5	14.99	117	329561	50.00	ug/l	-0.07
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.97	65	166246	55.75	ug/l	111.50%
33) Toluene-d8	12.44	98	361938	48.54	ug/l	97.08%
48) 4-Bromofluorobenzene	17.11	95	235718	43.77	ug/l	87.53%
Target Compounds						Qvalue
11) Methylene chloride	4.85	49	18308	5.55	ug/l	94

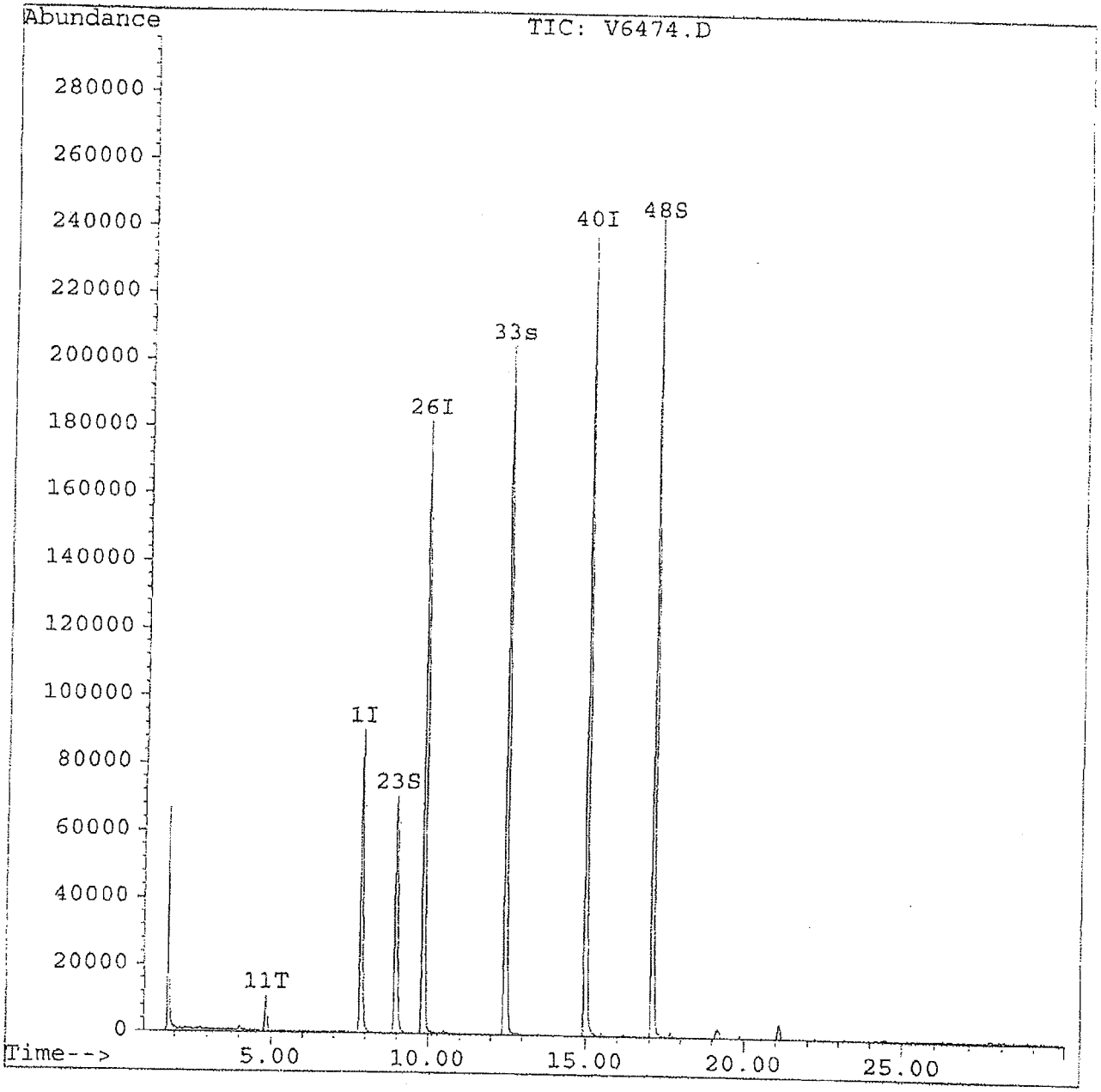
(#) = qualifier out of range (m) = manual integration

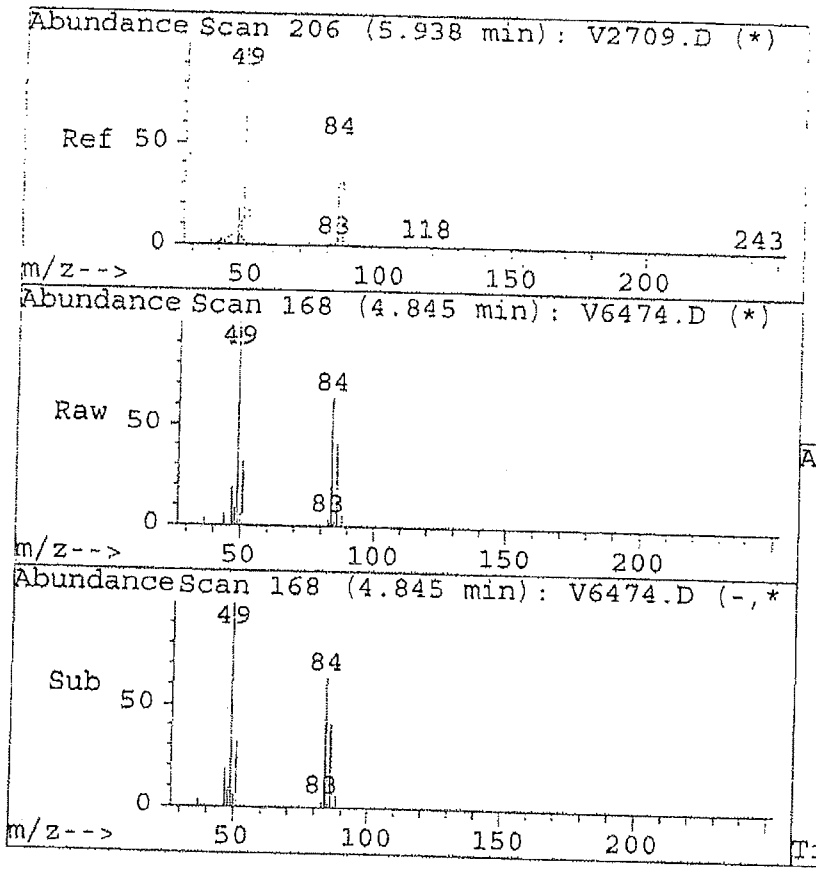
Quantitation Report

Data File : c:\hpchem\1\data2\v6474.d
Acq On : 12 Nov 97 4:13 pm
Sample : 9778625V..... Converted from RTE d
Misc : 5 ML FB.....
Quant Time: Nov 12 16:42 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

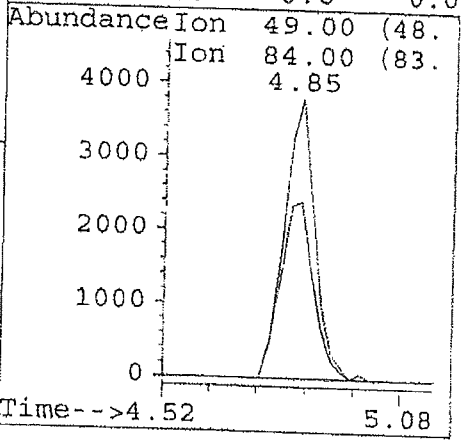




#11
Methylene chloride
Concen: 5.55 ug/l
RT: 4.85 min Scan# 168
Delta R.T. -0.07 min
Lab File: v6474.d
Acq: 12 Nov 97 4:13 pm

Tgt Ion:49 Resp: 18308

Ion	Ratio	Lower	Upper
49	100		
84	63.3	23.0	113.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

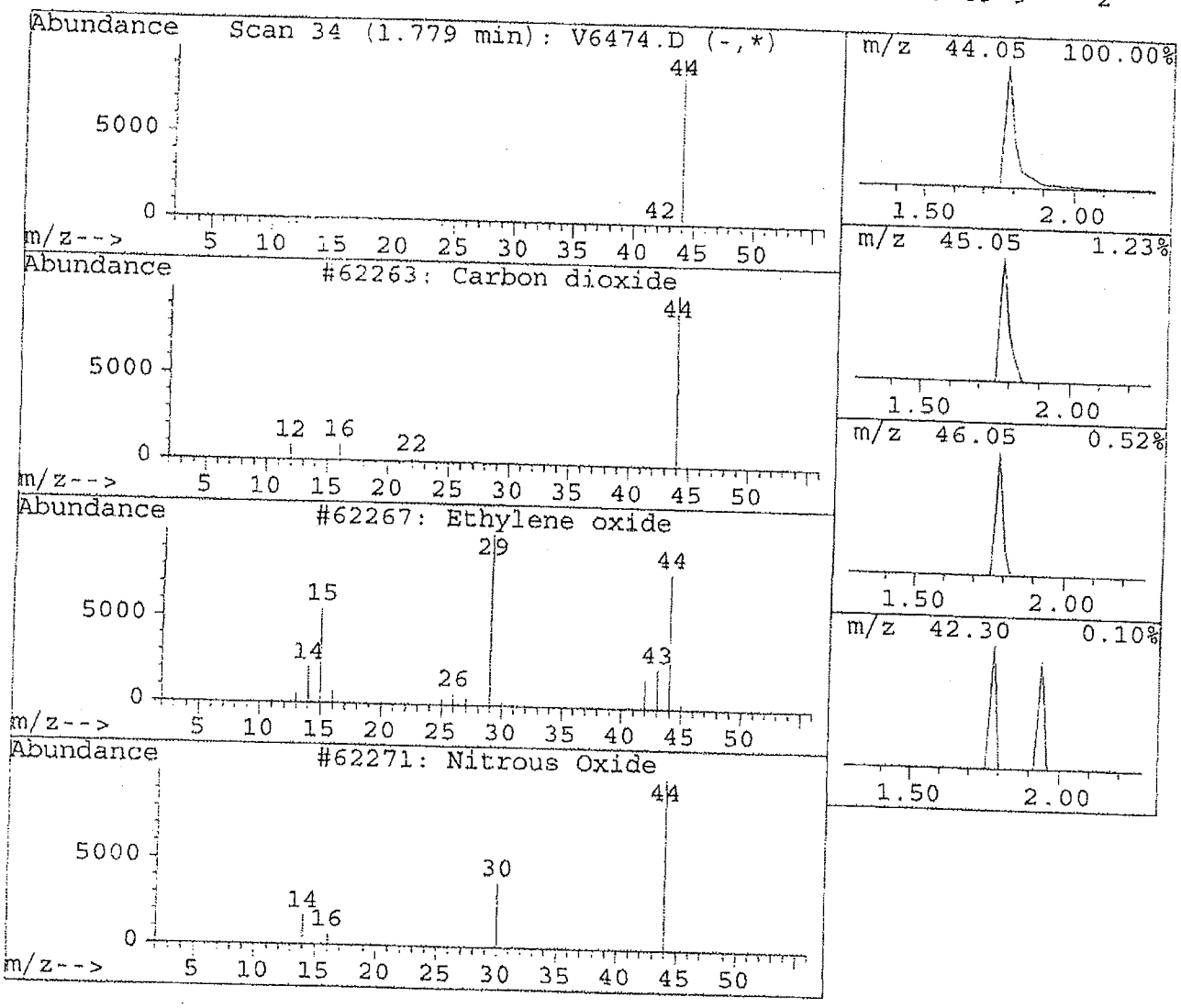
Data File : c:\hpchem\1\data2\v6474.d
Acq On : 12 Nov 97 4:13 pm
Sample : 9778625V..... Converted from RTE d
Misc : 5 ML FB.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.78	15.04 ug/1	154463	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Ethylene oxide	62267	000075-21-8	3
3	Nitrous Oxide	62271	010024-97-2	3
4	Acetaldehyde	62265	000075-07-0	2
5	Ethyne, fluoro-	35	002713-09-9	2



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782199V

Mic-3 5-4

19

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9782199V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8498.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 14 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-09-2	Methylene chloride	10	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	29	U
107-02-8	Acrolein	58	U
107-13-1	Acrylonitrile	58	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782199V
MB-3,54

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782199V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8498.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 14 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	1.89	9	J
2.	Unknown Hydrocarbon	5.99	6	J
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
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16.				
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18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data2\v8498.d
Acq On : 13 Nov 97 6:14 pm
Sample : 9782199V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 14 9:13 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.84	128	72816	50.00	ug/l	-0.09
26) 1,4-Difluorobenzene	9.83	114	288894	50.00	ug/l	-0.07
40) Chlorobenzene-d5	14.98	117	247971	50.00	ug/l	-0.08
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.96	65	166840	55.84	ug/l	111.67%
33) Toluene-d8	12.44	98	281929	49.51	ug/l	99.02%
48) 4-Bromofluorobenzene	17.11	95	171292	42.27	ug/l	84.54%
Target Compounds						Qvalue
11) Methylene chloride	4.82	49	27927	8.45	ug/l	99

(#) = qualifier out of range (m) = manual integration

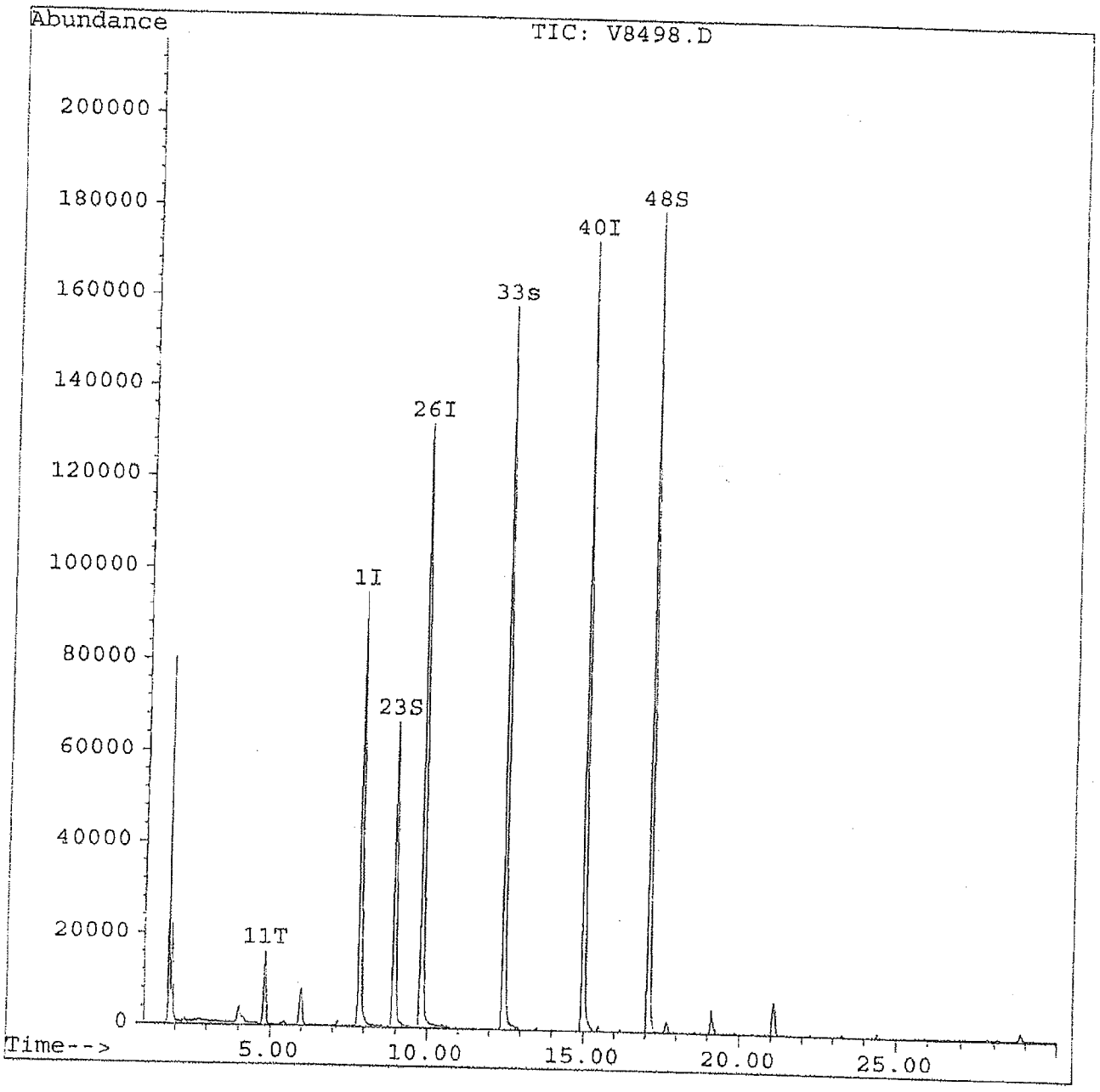
Quantitation Report

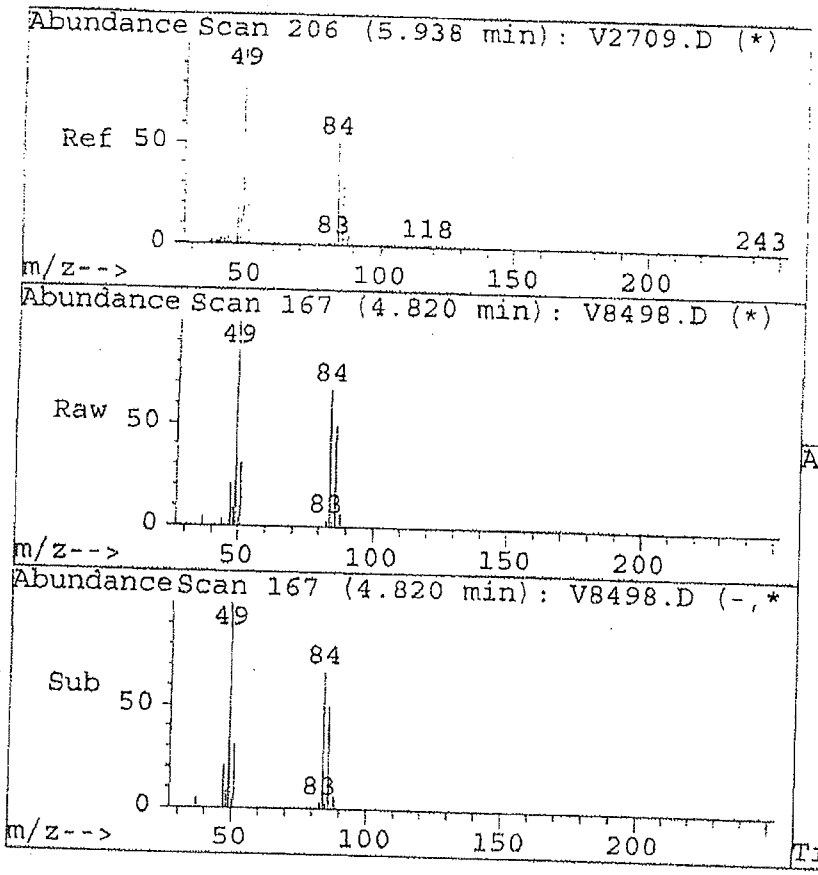
Data File : c:\hpchem\1\data2\v8498.d
Acq On : 13 Nov 97 6:14 pm
Sample : 9782199V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 14 9:13 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

19

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

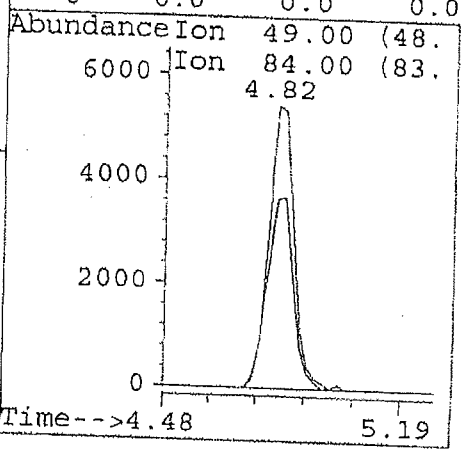




#11
Methylene chloride
Concen: 8.45 ug/l
RT: 4.82 min Scan# 167
Delta R.T. -0.09 min
Lab File: v8498.d
Acq: 13 Nov 97 6:14 pm

Tgt Ion:49 Resp: 27927

Ion	Ratio	Lower	Upper
49	100		
84	67.1	23.0	113.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

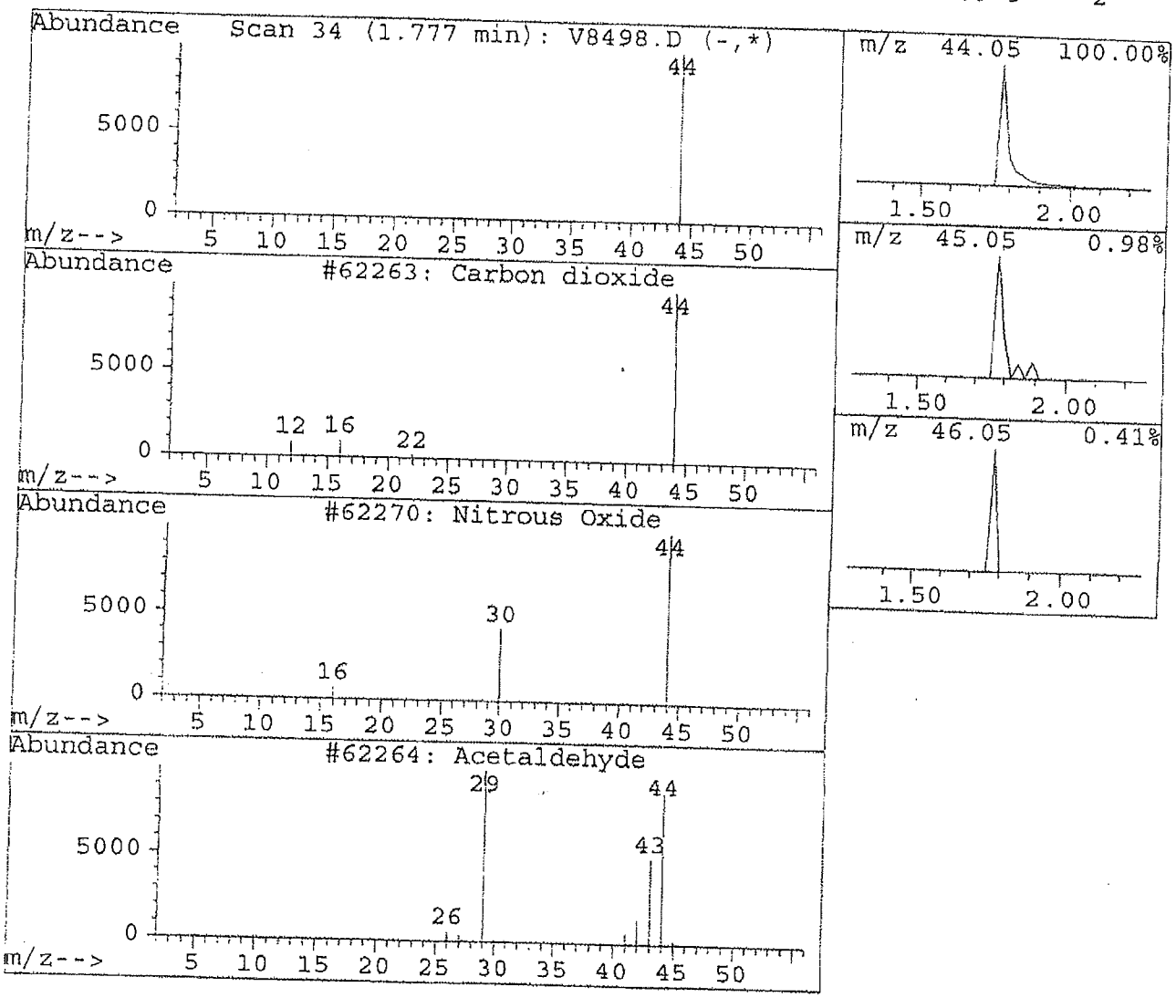
Data File : c:\hpchem\1\data2\v8498.d
Acq On : 13 Nov 97 6:14 pm
Sample : 9782199V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.78	14.89 ug/l	152830	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Nitrous Oxide	62270	010024-97-2	3
3	Acetaldehyde	62264	000075-07-0	2
4	Ethylene oxide	62267	000075-21-8	2
5	Ethyne, fluoro-	35	002713-09-9	2



Library Search Compound Report

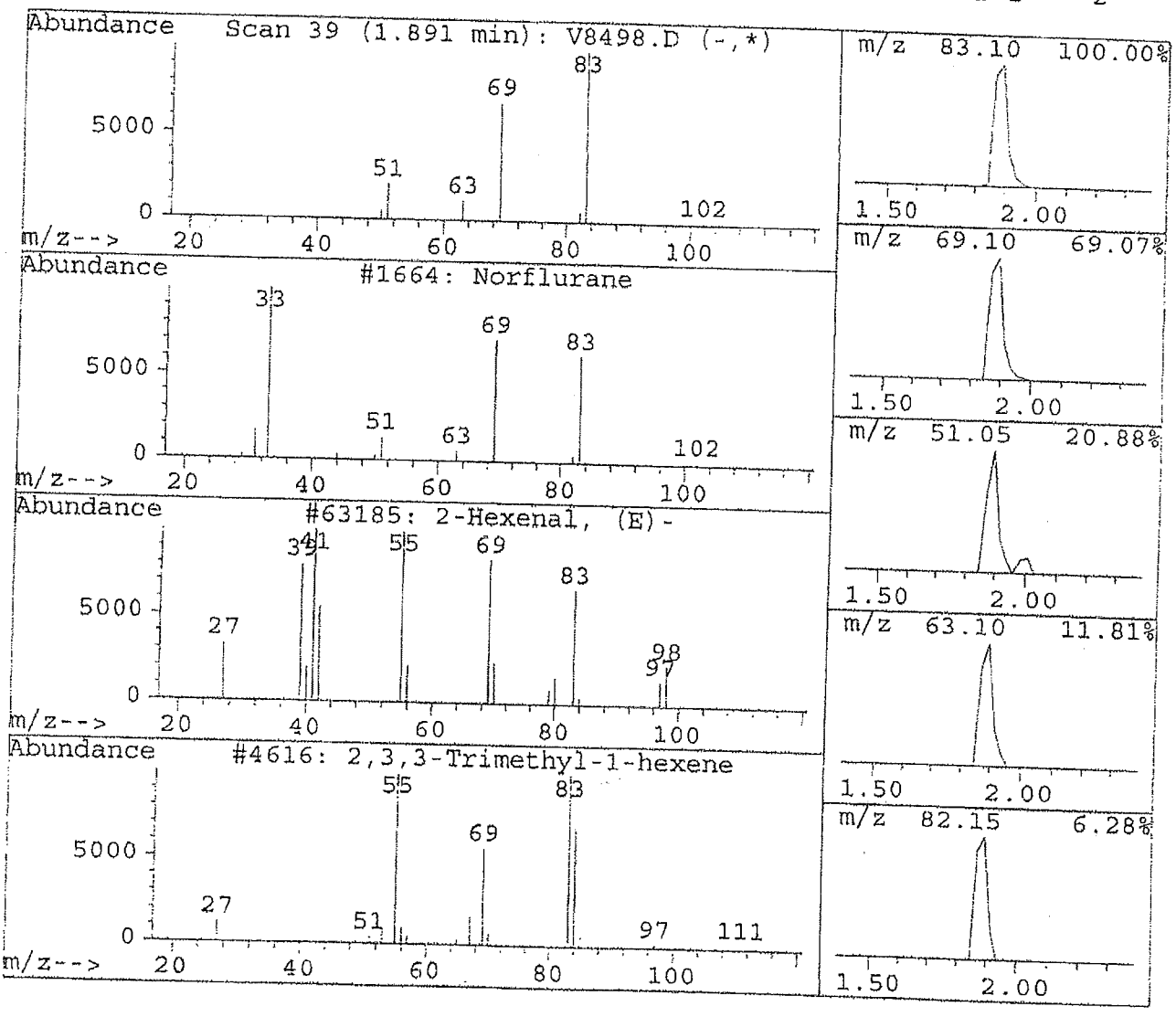
Data File : c:\hpchem\1\data2\v8498.d
Acq On : 13 Nov 97 6:14 pm
Sample : 9782199V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.89	7.34 ug/l	75360	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Norflurane	1664	000811-97-2	43
2	2-Hexenal, (E)-	63185	006728-26-3	1
3	2,3,3-Trimethyl-1-hexene	4616	000000-00-0	1
4	2-Pentene, 2,4-dimethyl-	63271	000625-65-0	1
5	1-Methyl-1H-1,2,4-triazole	62696	006086-21-1	2



Library Search Compound Report

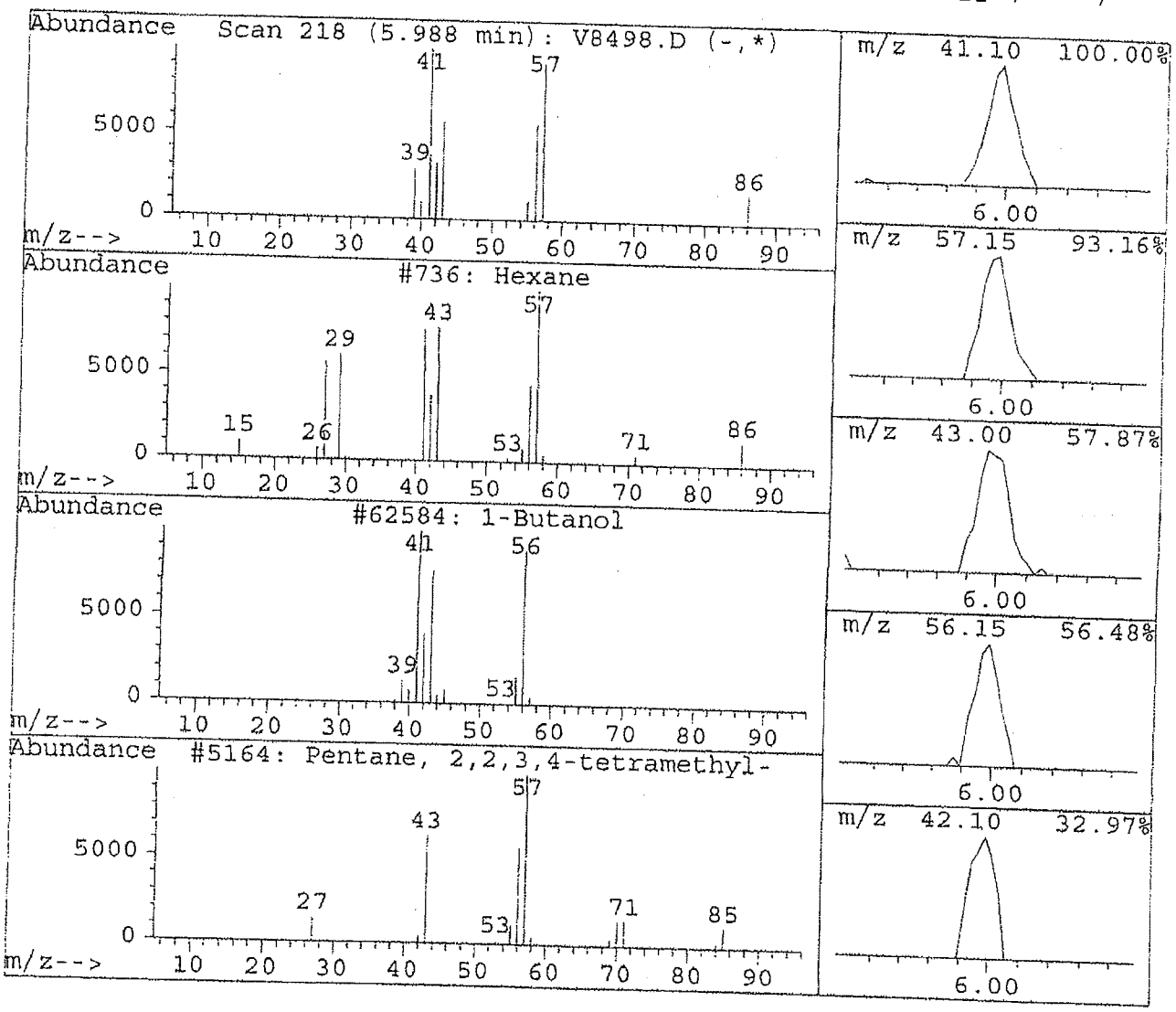
Data File : c:\hpchem\1\data2\v8498.d
Acq On : 13 Nov 97 6:14 pm
Sample : 9782199V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
5.99	5.58 ug/l	57279	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexane	736	000110-54-3	45
2	1-Butanol	62584	000071-36-3	9
3	Pentane, 2,2,3,4-tetramethyl-	5164	001186-53-4	9
4	3-Buten-1-ol, 3-methyl-	719	000763-32-6	7
5	1-Propene, 2-methyl-	62304	000115-11-7	7



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
9782200V
MW-6, S-1

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782200V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8499.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 17 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-09-2	Methylene chloride	11	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	30	U
107-02-8	Acrolein	60	U
107-13-1	Acrylonitrile	60	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782200V
mw 6.5-1

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782200V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8499.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 17 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	1.89	8	J
2. 138-86-3	Limonene	19.12	8	J
3.				
4.				
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Quantitation Report

Data File : c:\hpchem\1\data2\v8499.d
Acq On : 13 Nov 97 6:51 pm
Sample : 9782200V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 14 9:14 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.84	128	70049	50.00	ug/l	-0.09
26) 1,4-Difluorobenzene	9.83	114	288638	50.00	ug/l	-0.07
40) Chlorobenzene-d5	14.98	117	247221	50.00	ug/l	-0.08
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.94	65	159997	55.66	ug/l	111.32%
33) Toluene-d8	12.44	98	272348	47.87	ug/l	95.74%
48) 4-Bromofluorobenzene	17.11	95	218115	53.99	ug/l	107.97%
Target Compounds						Qvalue
11) Methylene chloride	4.82	49	29985	9.43	ug/l	99

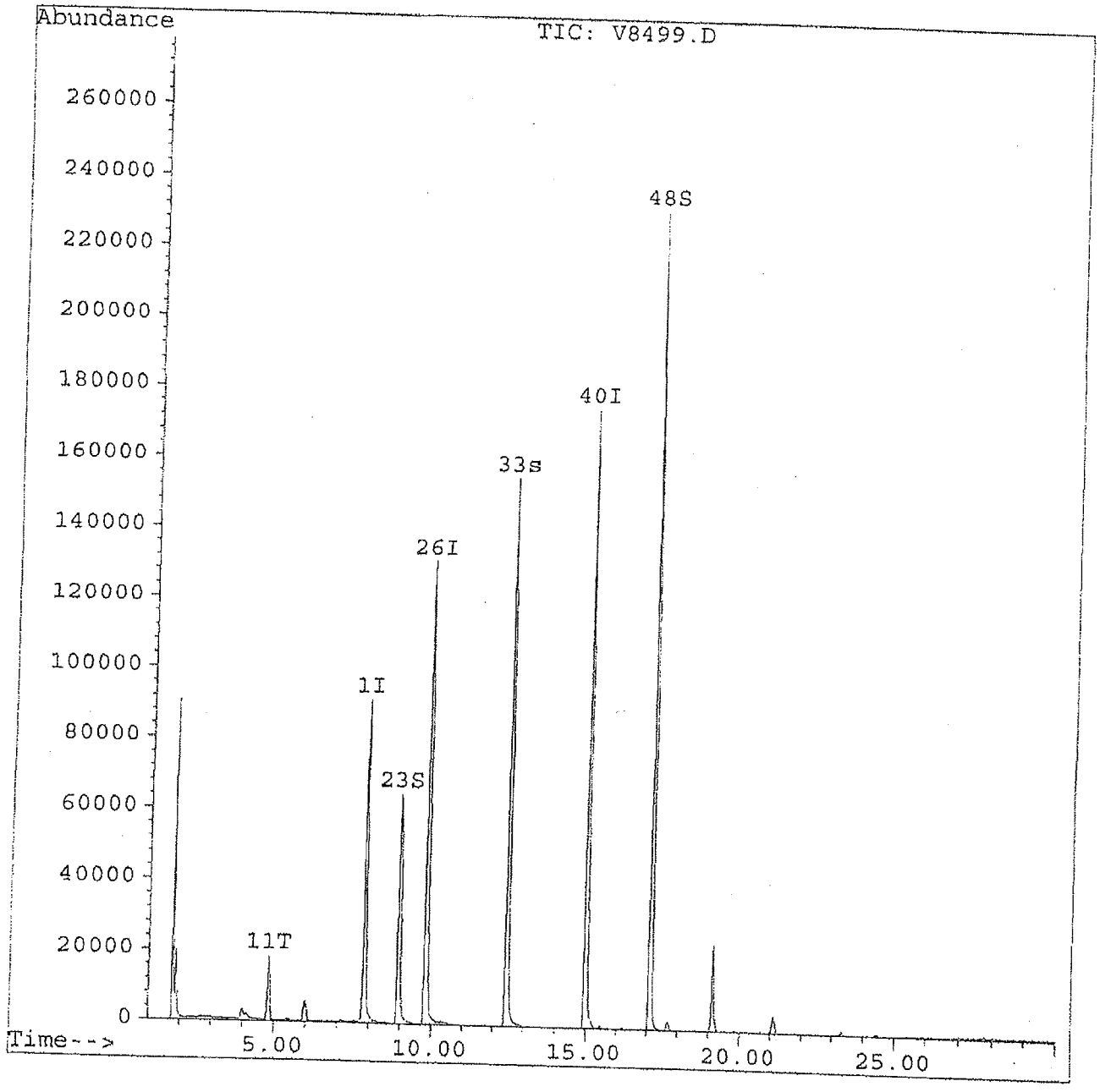
(#) = qualifier out of range (m) = manual integration

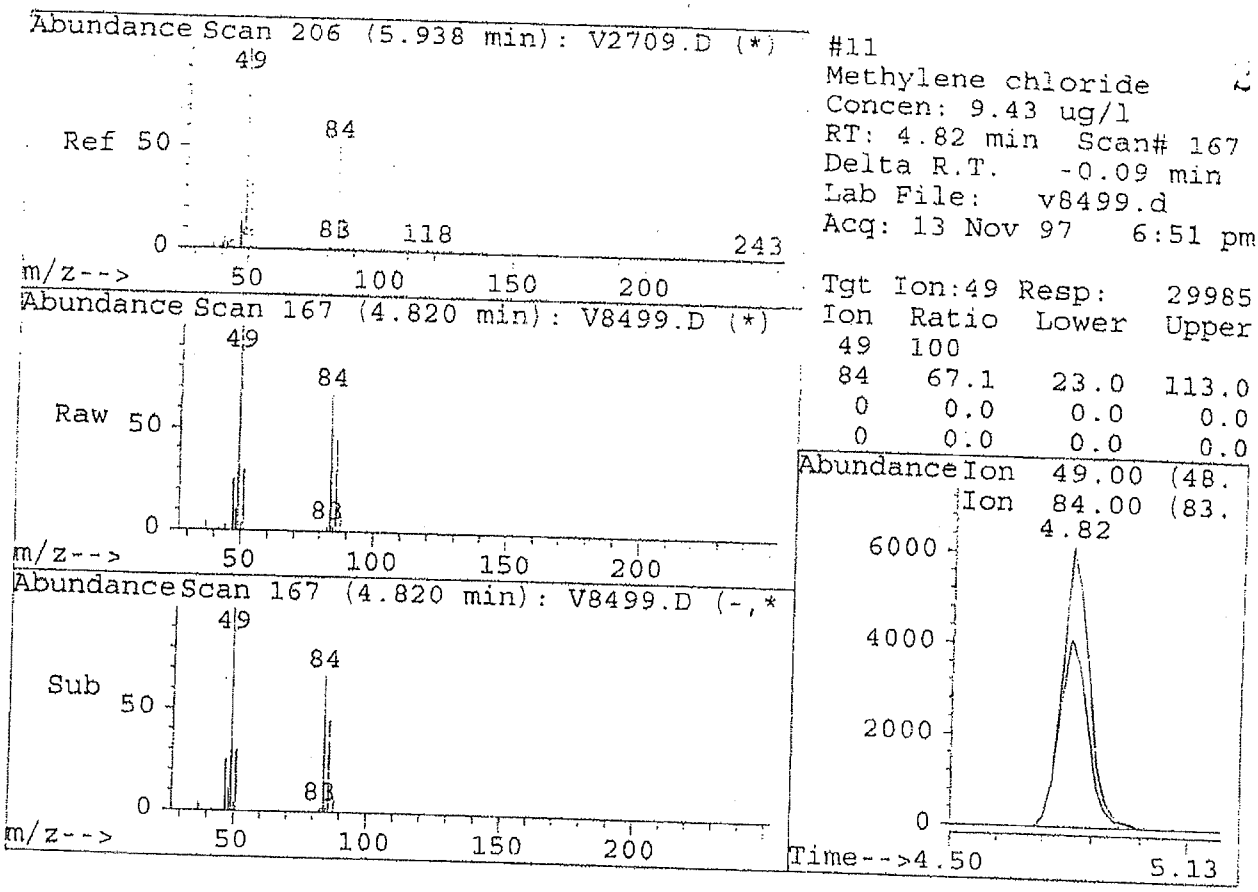
Quantitation Report

Data File : c:\hpchem\1\data2\v8499.d
Acq On : 13 Nov 97 6:51 pm
Sample : 9782200V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 14 9:14 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration





#11
Methylene chloride
Concen: 9.43 ug/l
RT: 4.82 min Scan# 167
Delta R.T. -0.09 min
Lab File: v8499.d
Acq: 13 Nov 97 6:51 pm

Tgt Ion:49 Resp: 29985

Ion	Ratio	Lower	Upper
49	100		
84	67.1	23.0	113.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

Library Search Compound Report

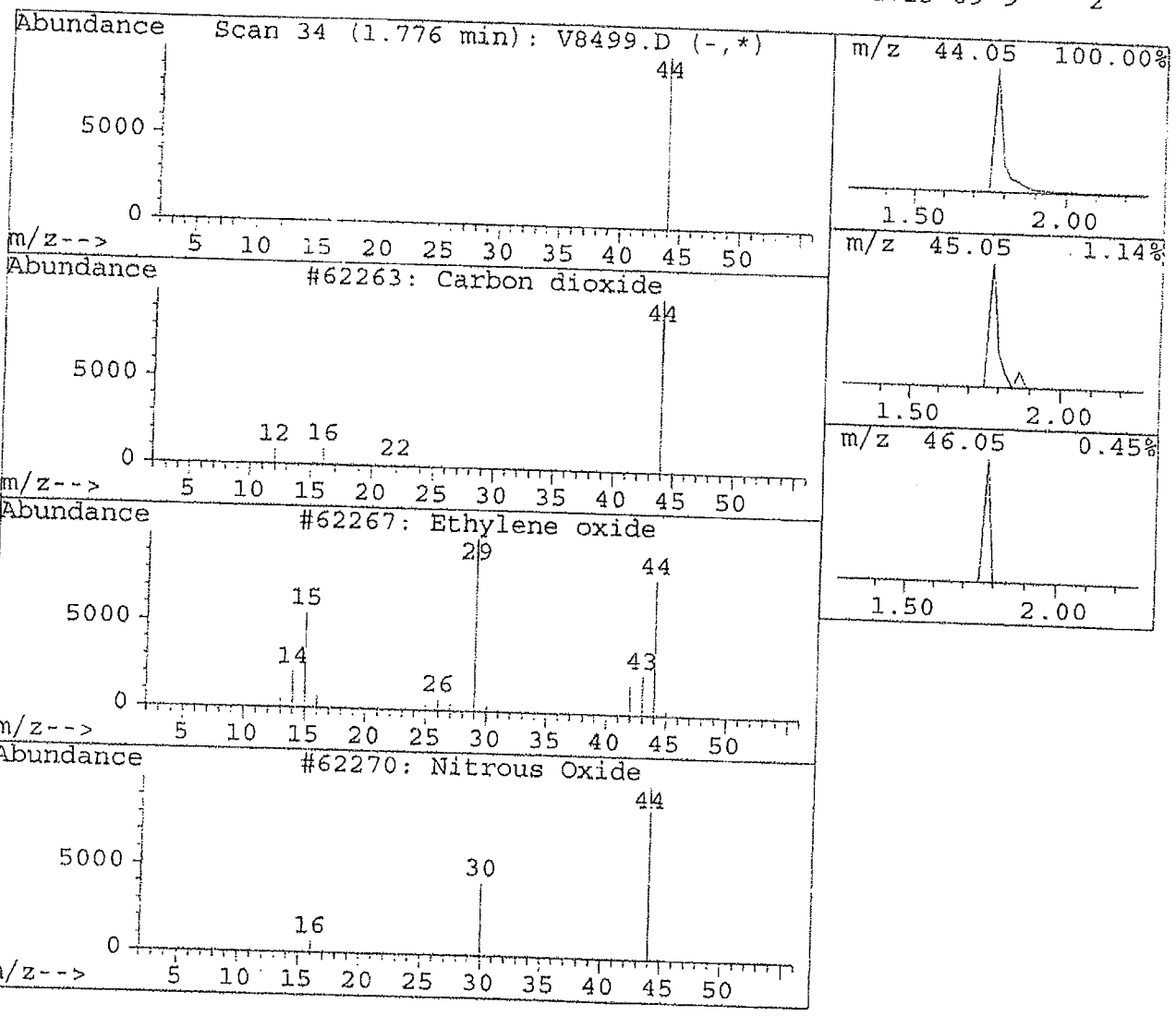
Data File : c:\hpchem\1\data2\v8499.d
Acq On : 13 Nov 97 6:51 pm
Sample : 9782200V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.78	17.73 ug/l	173612	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Ethylene oxide	62267	000075-21-8	3
3	Nitrous Oxide	62270	010024-97-2	3
4	Acetaldehyde	62264	000075-07-0	2
5	Ethyne, fluoro-	35	002713-09-9	2



Library Search Compound Report

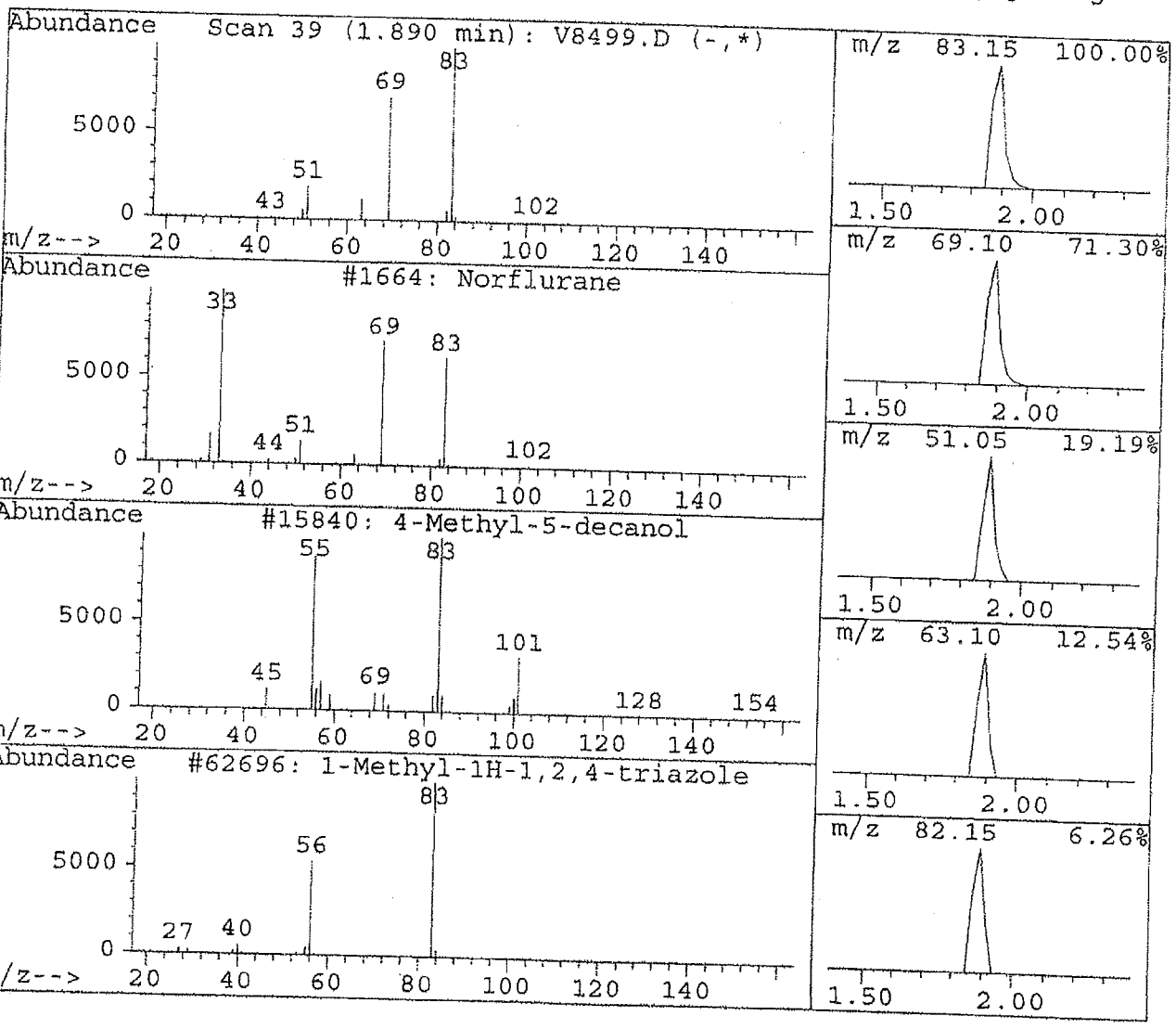
Data File : c:\hpchem\1\data2\v8499.d
Acq On : 13 Nov 97 6:51 pm
Sample : 9782200V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.89	7.01 ug/l	68641	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Norflurane	1664	000811-97-2	33
2	4-Methyl-5-decanol	15840	000000-00-0	1
3	1-Methyl-1H-1,2,4-triazole	62696	006086-21-1	2
4	1H-1,2,4-Triazole, 3-methyl-	511	007170-01-6	2
5	4H-1,2,4-Triazole, 4-methyl-	509	010570-40-8	3



Library Search Compound Report

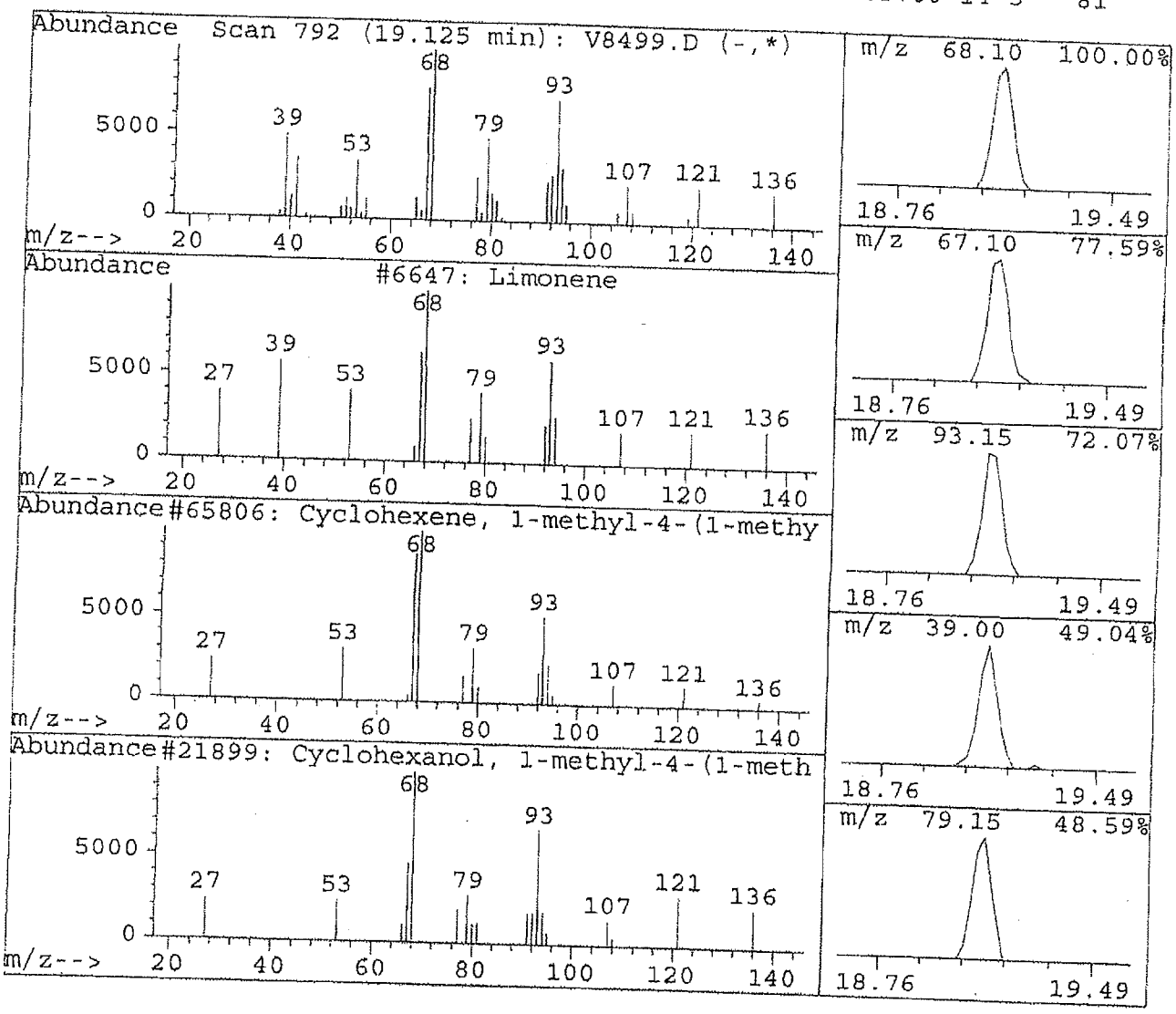
Data File : c:\hpchem\1\data2\v8499.d
Acq On : 13 Nov 97 6:51 pm
Sample : 9782200V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
19.12	6.37 ug/l	104111	Chlorobenzene-d5	14.98

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Limonene	6647	000138-86-3	94
2	Cyclohexene, 1-methyl-4-(1-methylet	65806	005989-54-8	35
3	Cyclohexanol, 1-methyl-4-(1-methyle	21899	010198-23-9	43
4	D-Limonene	65790	005989-27-5	81
5	1,5-Cyclooctadiene, 1,5-dimethyl-	65749	003760-14-3	81



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782201V

MW-8, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782201V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8500.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 15 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-69-4	Trichlorofluoromethane	12	U
75-09-2	Methylene chloride	12	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	29	U
107-02-8	Acrolein	59	U
107-13-1	Acrylonitrile	59	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782201V
MB-8, S-1

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782201V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8500.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 15 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 811-97-2	Norflurane	1.88	8	J
2. 80-56-8	.alpha.-Pinene	16.82	7	J
3.				
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Quantitation Report

Data File : c:\hpchem\1\data2\v8500.d
Acq On : 13 Nov 97 7:28 pm
Sample : 9782201V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 14 9:14 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.85	128	72543	50.00	ug/l	-0.09
26) 1,4-Difluorobenzene	9.82	114	305340	50.00	ug/l	-0.09
40) Chlorobenzene-d5	14.99	117	242064	50.00	ug/l	-0.07
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.95	65	170111	57.14	ug/l	114.29%
33) Toluene-d8	12.45	98	283748	47.15	ug/l	94.29%
48) 4-Bromofluorobenzene	17.10	95	185397	46.87	ug/l	93.73%
Target Compounds						Qvalue
11) Methylene chloride	4.83	49	32991	10.02	ug/l	90

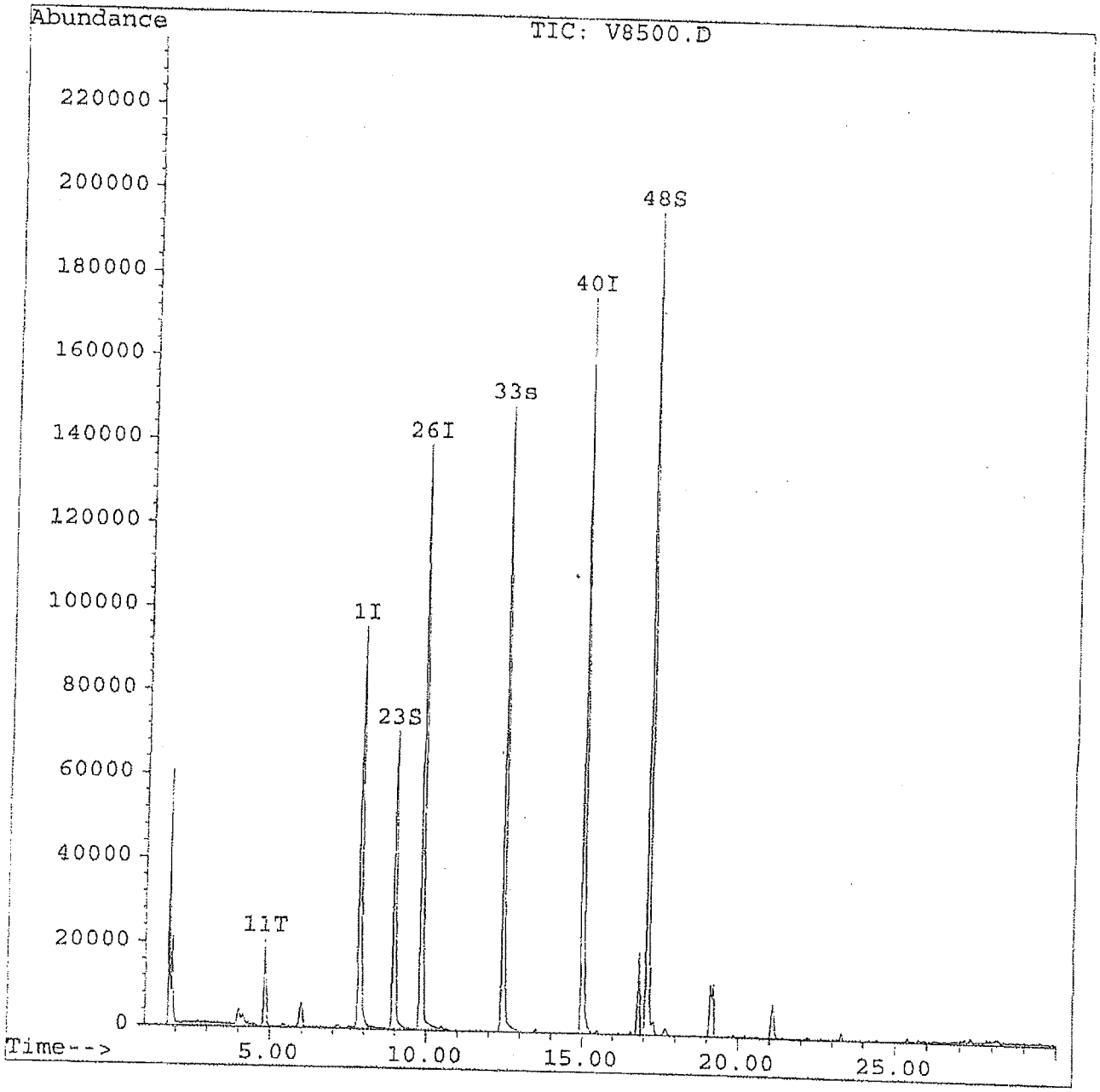
(#) = qualifier out of range (m) = manual integration

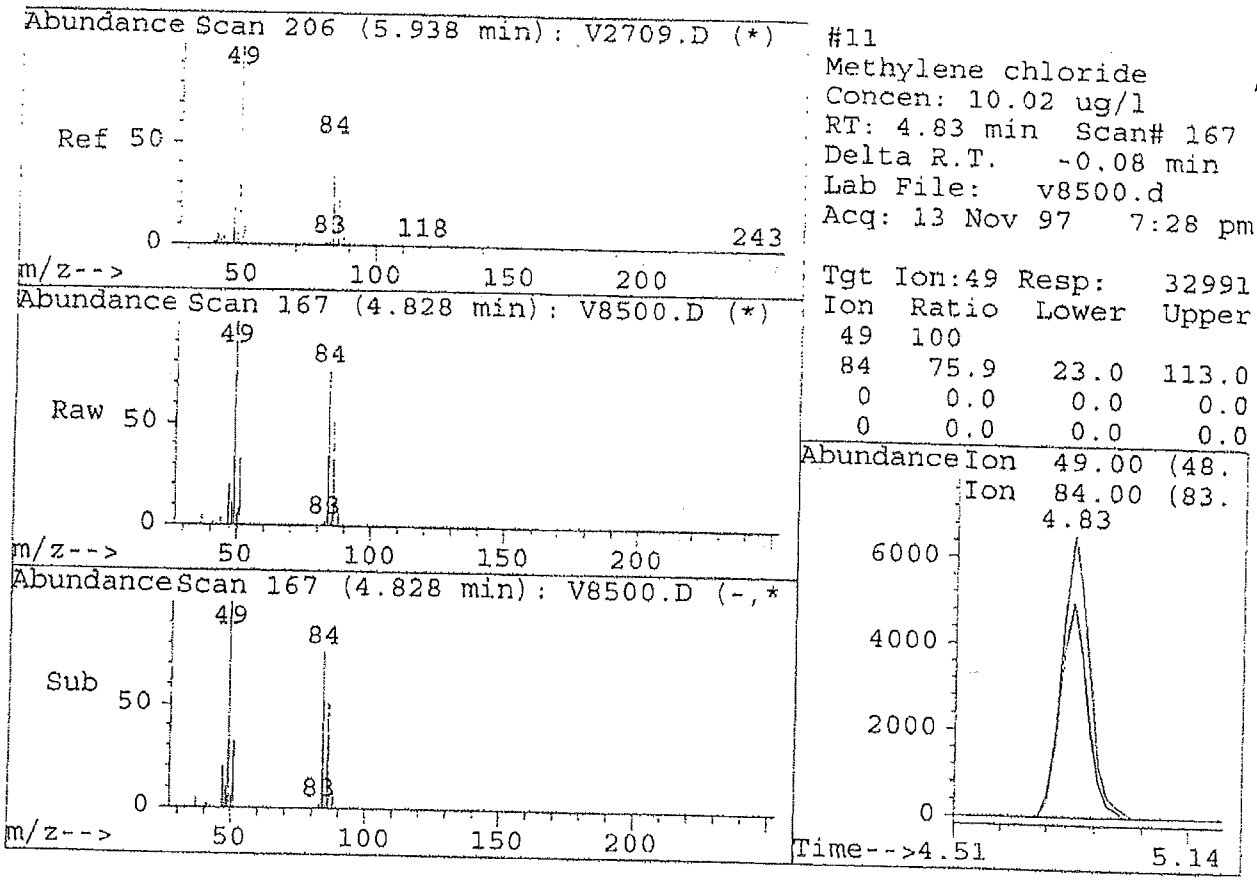
Quantitation Report

Data File : c:\hpchem\1\data2\v8500.d
Acq On : 13 Nov 97 7:28 pm
Sample : 9782201V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 14 9:14 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration




Abundance Scan 206 (5.938 min): V2709.D (*)
Ref
Abundance Scan 167 (4.828 min): V8500.D (*)
Raw
Abundance Scan 167 (4.828 min): V8500.D (-,*
Sub
m/z-->
49
84
83
118
243
50
100
150
200
#11
Methylene chloride
Concen: 10.02 ug/l
RT: 4.83 min Scan# 167
Delta R.T. -0.08 min
Lab File: v8500.d
Acq: 13 Nov 97 7:28 pm
Tgt Ion:49 Resp: 32991
Ion Ratio Lower Upper
49 100
84 75.9 23.0 113.0
0 0.0 0.0 0.0
0 0.0 0.0 0.0
Abundance
Ion 49.00 (48.
Ion 84.00 (83.
4.83
6000
4000
2000
0
Time-->4.51
5.14

Library Search Compound Report

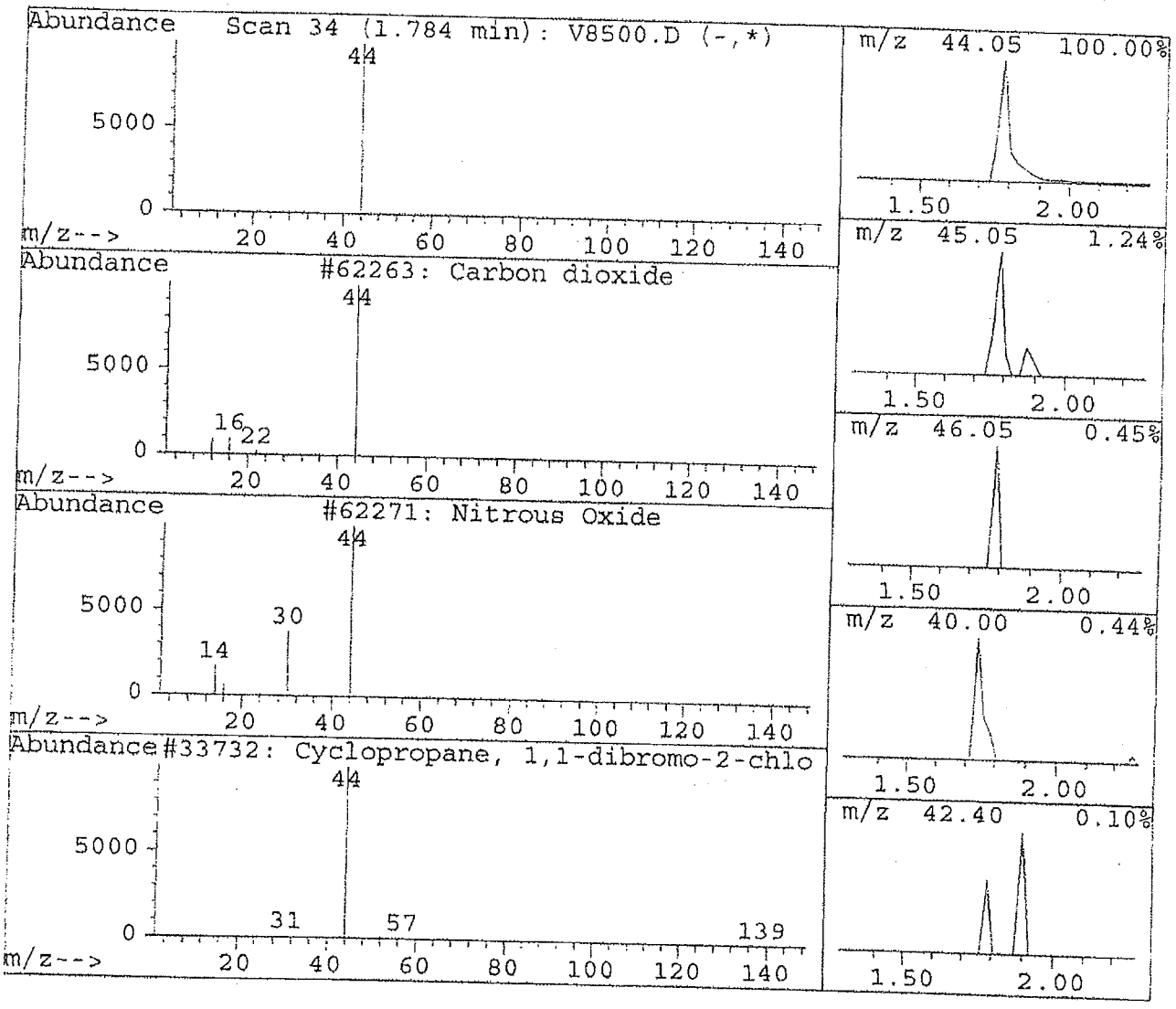
Data File : c:\hpchem\1\data2\v8500.d
Acq On : 13 Nov 97 7:28 pm
Sample : 9782201V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.78	14.93 ug/l	155417	Bromochloromethane	7.85

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Nitrous Oxide	62271	010024-97-2	3
3	Cyclopropane, 1,1-dibromo-2-chloro-	33732	024071-57-6	2
4	Carbamic acid, monoammonium salt	391	001111-78-0	2
5	2,5-Dimethoxy-4-(methylsulfonyl)amp	38244	000000-00-0	1



Library Search Compound Report

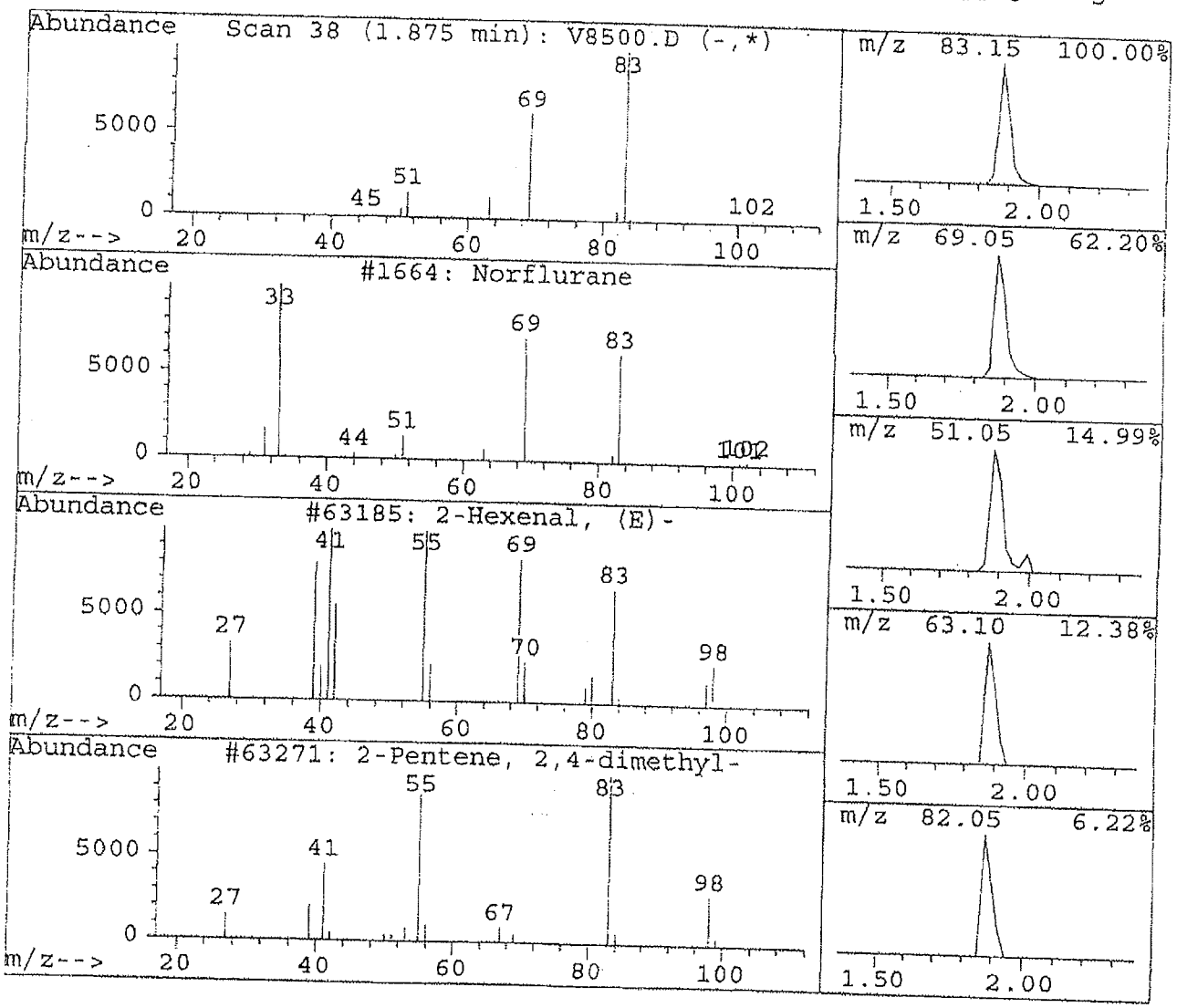
Data File : c:\hpchem\1\data2\v8500.d
Acq On : 13 Nov 97 7:28 pm
Sample : 9782201V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.88	6.48 ug/l	67439	Bromochloromethane	7.85

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Norflurane	1664	000811-97-2	78
2	2-Hexenal, (E)-	63185	006728-26-3	1
3	2-Pentene, 2,4-dimethyl-	63271	000625-65-0	1
4	2,3,3-Trimethyl-1-hexene	4616	000000-00-0	1
5	Isoxazole, 5-methyl-	512	005765-44-6	3



Library Search Compound Report

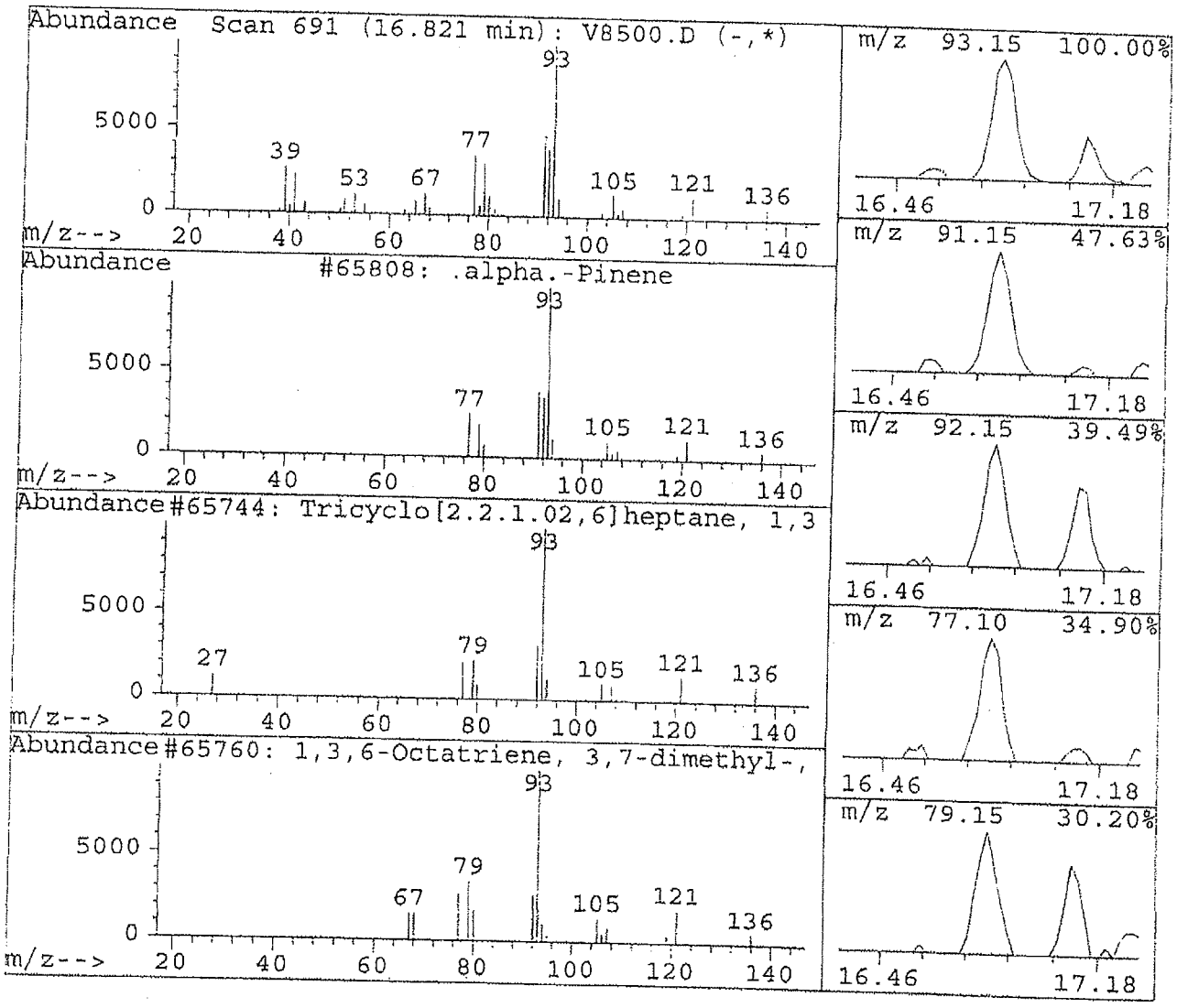
Data File : c:\hpchem\1\data2\v8500.d
Acq On : 13 Nov 97 7:28 pm
Sample : 9782201V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
16.82	6.22 ug/l	100348	Chlorobenzene-d5	14.99

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	.alpha.-Pinene	65808	000080-56-8	91
2	Tricyclo[2.2.1.02,6]heptane, 1,3,3-	65744	000488-97-1	47
3	1,3,6-Octatriene, 3,7-dimethyl-, (E	65760	003779-61-1	46
4	1,3,6-Octatriene, 3,7-dimethyl-, (Z	6632	003338-55-4	43
5	3-Carene	6667	013466-78-9	46



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 9782202V

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782202V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8501.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 20 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl chloride	13	U
75-00-3	Chloroethane	13	U
75-69-4	Trichlorofluoromethane	13	U
75-09-2	Methylene chloride	13	B
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-65	trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
108-38-3	Xylene (para & meta)	6	U
75-01-4	Xylene (ortho)	6	U
75-65-0	Methyl-tert butyl ether	6	U
1634-04-4	tert-Butyl Alcohol	31	U
107-02-8	Acrolein	63	U
107-13-1	Acrylonitrile	63	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782202V

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782202V

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V8501.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: not dec. 20 Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 811-97-2	Norflurane	1.89	7	J
2.				
3.				
4.				
5.				
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30.				

Quantitation Report

Data File : c:\hpchem\1\data2\v8501.d
Acq On : 13 Nov 97 8:06 pm
Sample : 9782202V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 14 9:14 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.84	128	67866	50.00	ug/l	-0.09
26) 1,4-Difluorobenzene	9.83	114	283606	50.00	ug/l	-0.07
40) Chlorobenzene-d5	14.98	117	258331	50.00	ug/l	-0.08
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.96	65	159948	57.43	ug/l	114.87%
33) Toluene-d8	12.44	98	282675	50.57	ug/l	101.13%
48) 4-Bromofluorobenzene	17.11	95	203196	48.13	ug/l	96.26%
Target Compounds						Qvalue
11) Methylene chloride	4.84	49	33204	10.78	ug/l	96

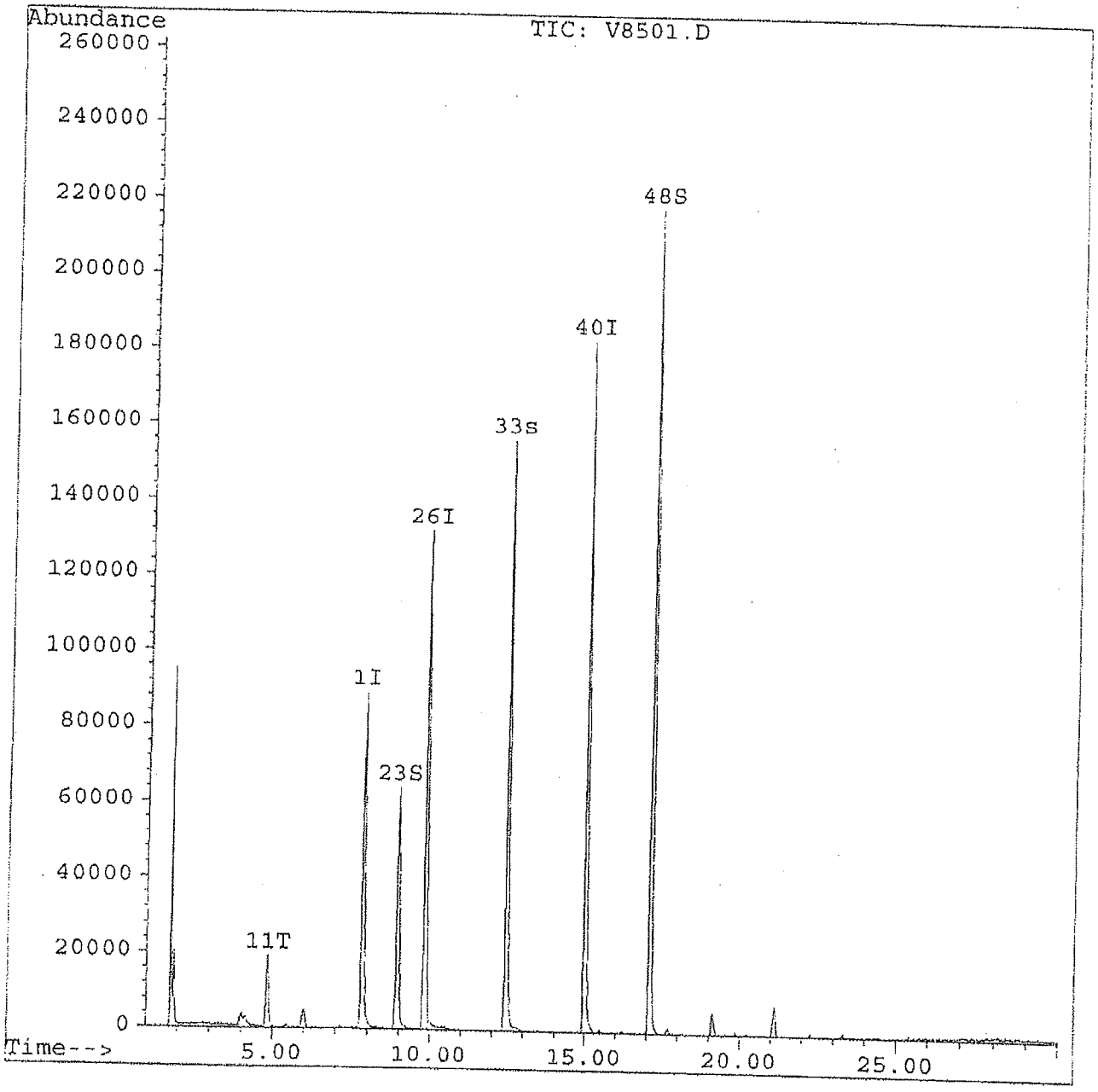
(#) = qualifier out of range (m) = manual integration

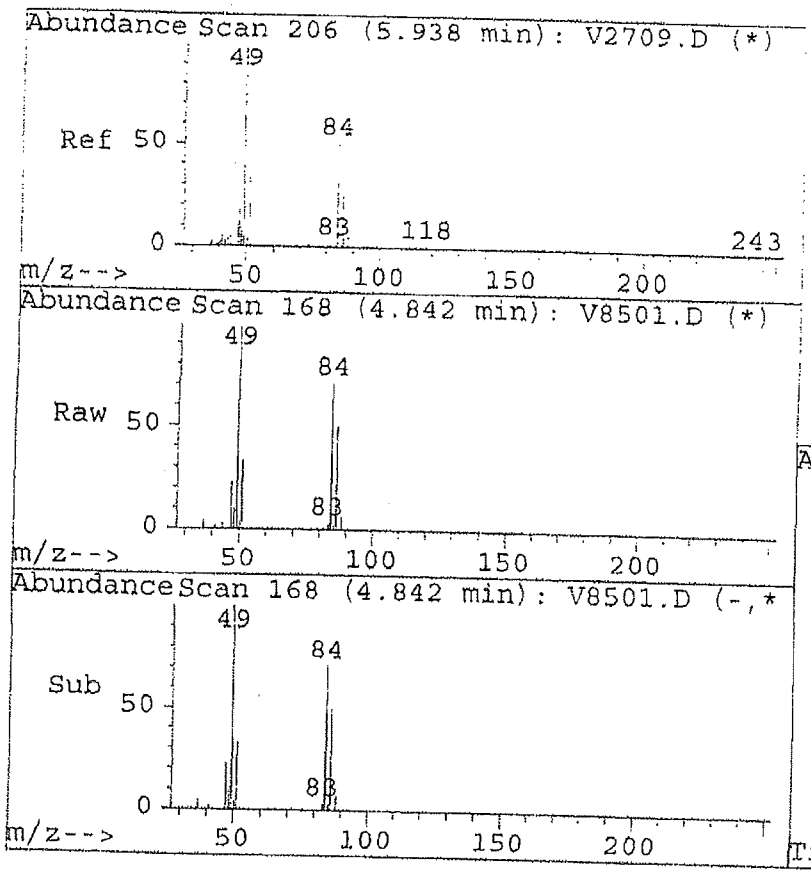
Quantitation Report

Data File : c:\hpchem\1\data2\v8501.d
Acq On : 13 Nov 97 8:06 pm
Sample : 9782202V..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 14 9:14 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

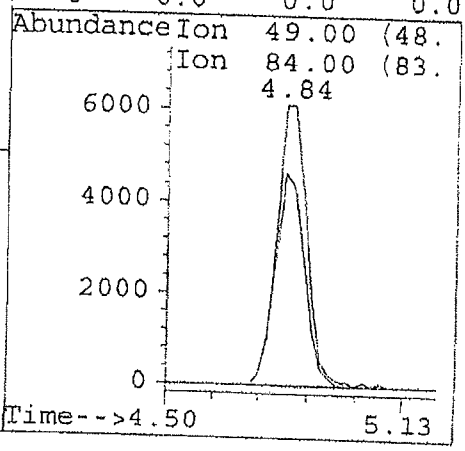




#11
Methylene chloride
Concen: 10.78 ug/l
RT: 4.84 min Scan# 168
Delta R.T. -0.07 min
Lab File: v8501.d
Acq: 13 Nov 97 8:06 pm

Tgt Ion:49 Resp: 33204

Ion	Ratio	Lower	Upper
49	100		
84	71.3	23.0	113.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

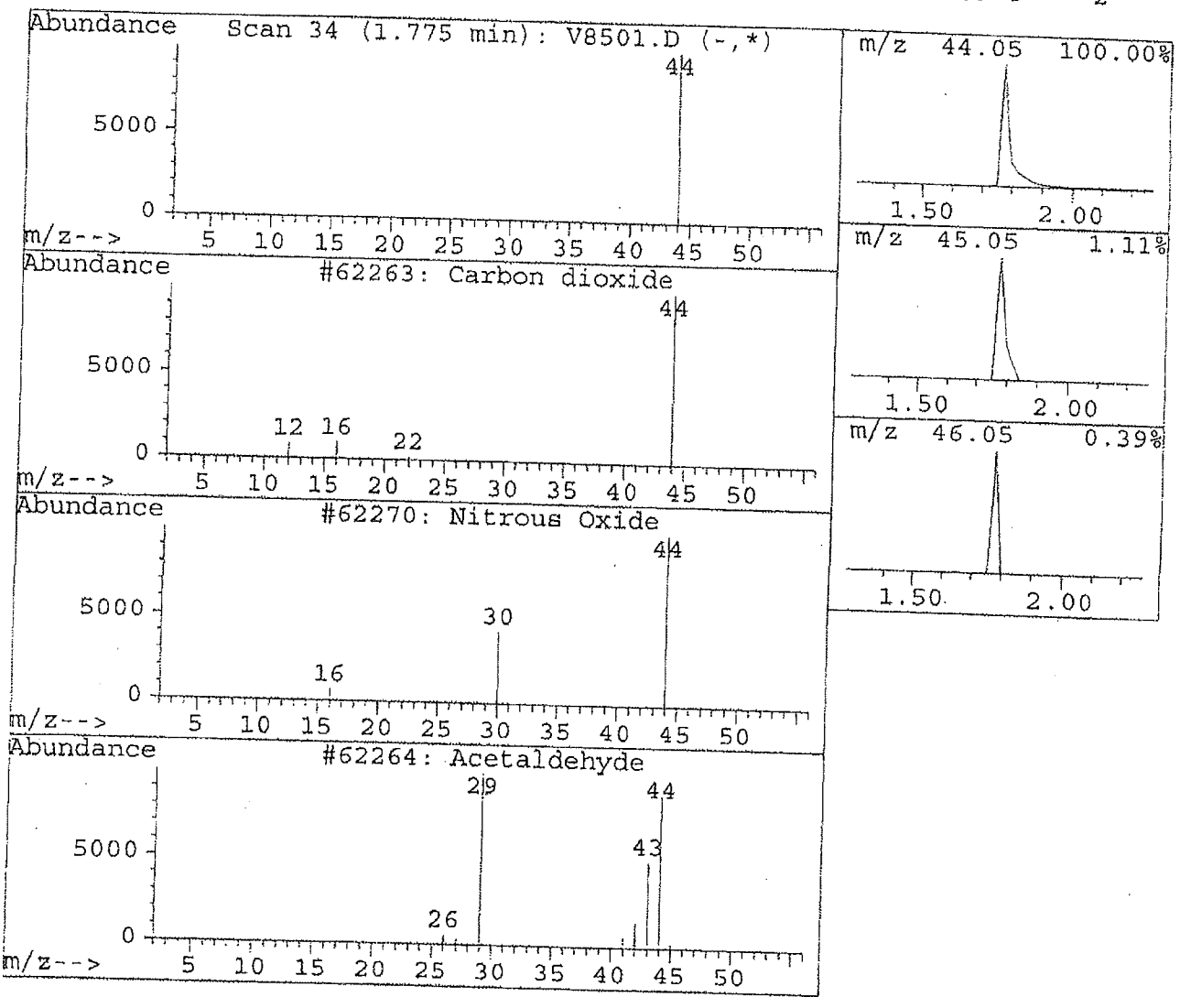
Data File : c:\hpchem\1\data2\v8501.d
Acq On : 13 Nov 97 8:06 pm
Sample : 9782202V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.77	18.21 ug/l	179709	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Nitrous Oxide	62270	010024-97-2	3
3	Acetaldehyde	62264	000075-07-0	2
4	Ethylene oxide	62267	000075-21-8	2
5	Ethyne, fluoro-	35	002713-09-9	2



Library Search Compound Report

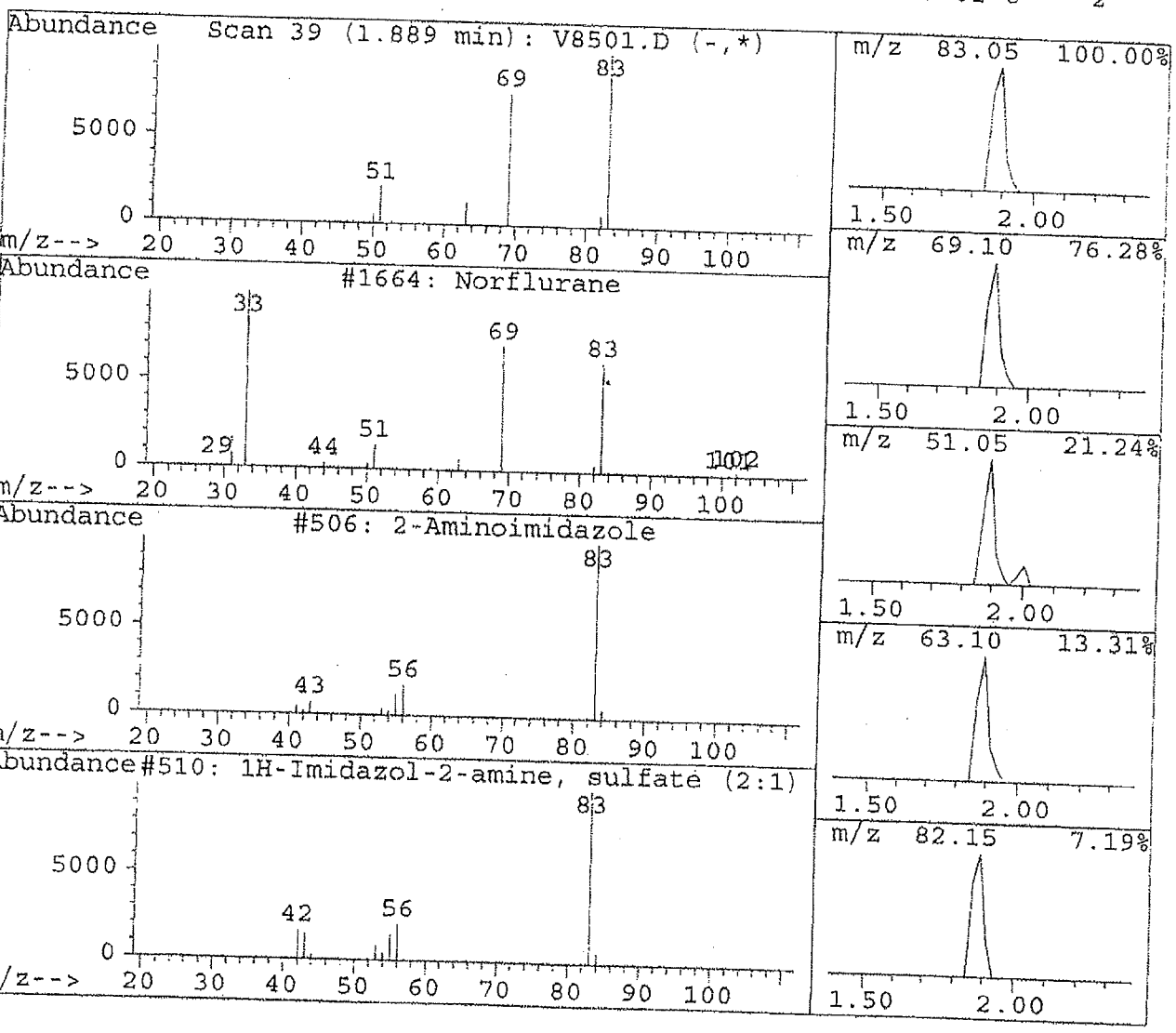
Data File : c:\hpchem\1\data2\v8501.d
Acq On : 13 Nov 97 8:06 pm
Sample : 9782202V..... Converted from RTE d
Misc : 5 G.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.89	5.91 ug/l	58302	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Norflurane	1664	000811-97-2	74
2	2-Aminoimidazole	506	000000-00-0	2
3	1H-Imidazol-2-amine, sulfate (2:1)	510	001450-93-7	2
4	1-Methyl-1H-1,2,4-triazole	507	006086-21-1	2
5	1H-1,2,4-Triazole, 3-methyl-	511	007170-01-6	2



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782203V
FB w/ s

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9782203V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V8496.D

Level: (low/med) _____ Date Received: 11/12/97

% Moisture: not dec. _____ Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-09-2	Methylene chloride	7	B
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-65	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
108-38-3	Xylene (para & meta)	5	U
75-01-4	Xylene (ortho)	5	U
75-65-0	Methyl-tert butyl ether	5	U
1634-04-4	tert-Butyl Alcohol	25	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782203V

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9782203V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V8496.D

Level: (low/med) Date Received: 11/12/97

% Moisture: not dec. Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 3 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	17.71	27	J
2.	Unknown	21.10	9	J
3.	Unknown	21.12	12	J
4.				
5.				
6.				
7.				
8.				
9.				
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30.				

Quantitation Report

Data File : c:\hpchem\1\data2\v8496.d
Acq On : 13 Nov 97 4:59 pm
Sample : 9782203V..... Converted from RTE d
Misc : 5 ML FB.....
Quant Time: Nov 13 17:28 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.84	128	80945	50.00	ug/l	-0.09
26) 1,4-Difluorobenzene	9.83	114	354024	50.00	ug/l	-0.07
40) Chlorobenzene-d5	14.98	117	321072	50.00	ug/l	-0.07
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.96	65	184891	55.66	ug/l	111.32%
33) Toluene-d8	12.44	98	354030	50.73	ug/l	101.47%
48) 4-Bromofluorobenzene	17.11	95	243796	46.46	ug/l	92.93%
Target Compounds						Qvalue
11) Methylene chloride	4.82	49	27046	7.36	ug/l	89

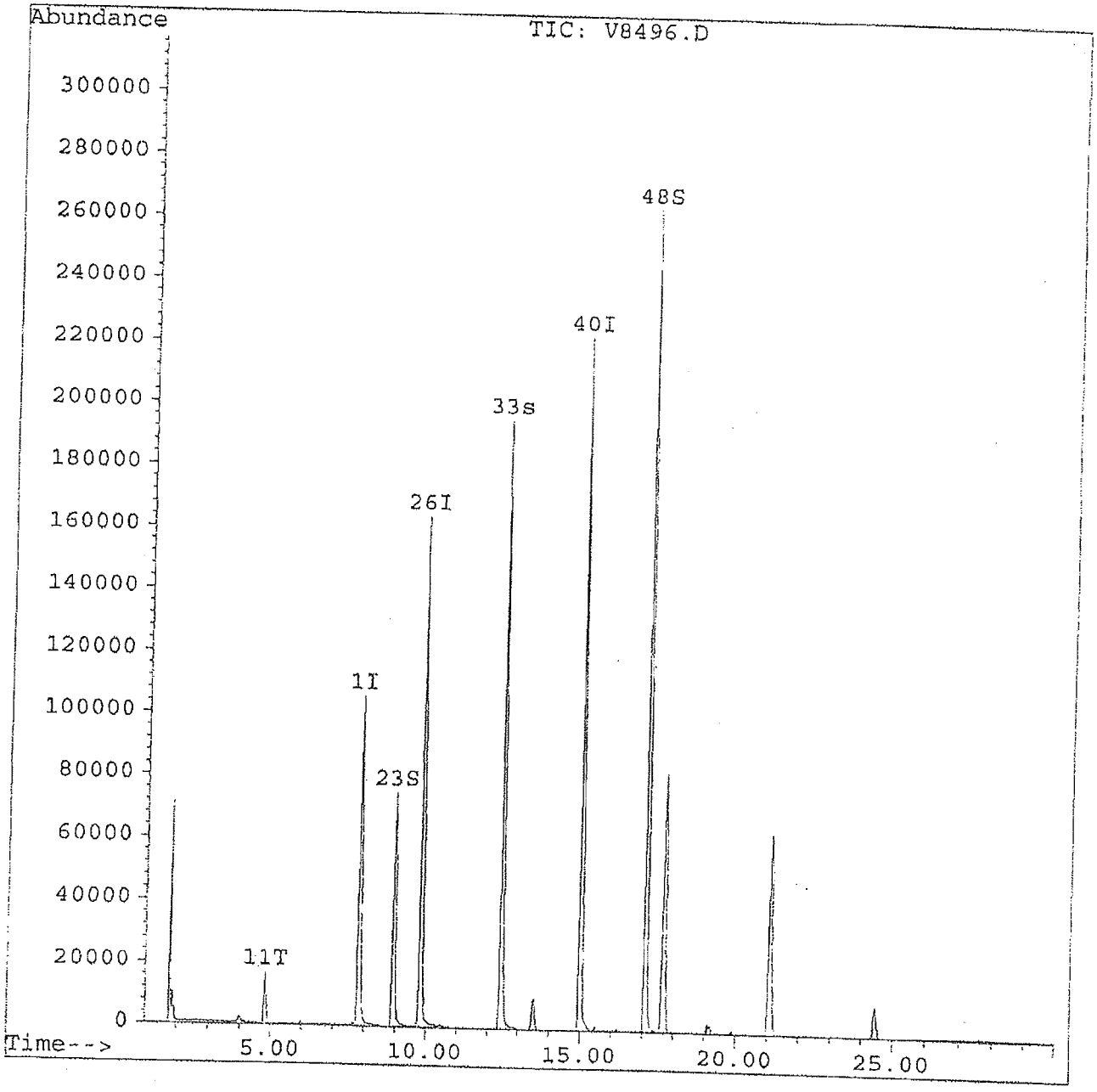
(#) = qualifier out of range (m) = manual integration

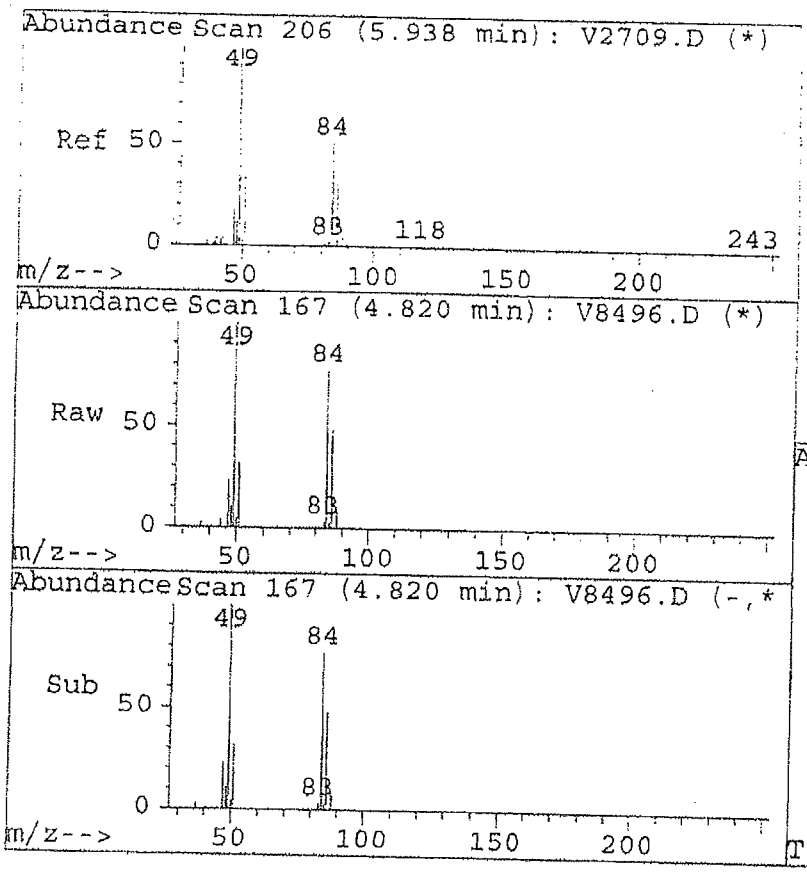
Quantitation Report

Data File : c:\hpchem\1\data2\v8496.d
Acq On : 13 Nov 97 4:59 pm
Sample : 9782203V..... Converted from RTE d
Misc : 5 ML FB.....
Quant Time: Nov 13 17:28 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

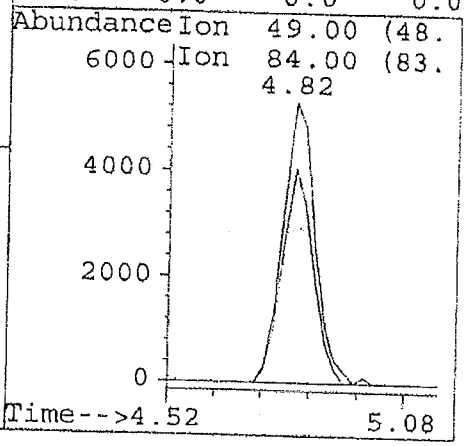




#11
Methylene chloride
Concen: 7.36 ug/l
RT: 4.82 min Scan# 167
Delta R.T. -0.09 min
Lab File: v8496.d
Acq: 13 Nov 97 4:59 pm

Tgt Ion:49 Resp: 27046

Ion	Ratio	Lower	Upper
49	100		
84	76.6	23.0	113.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

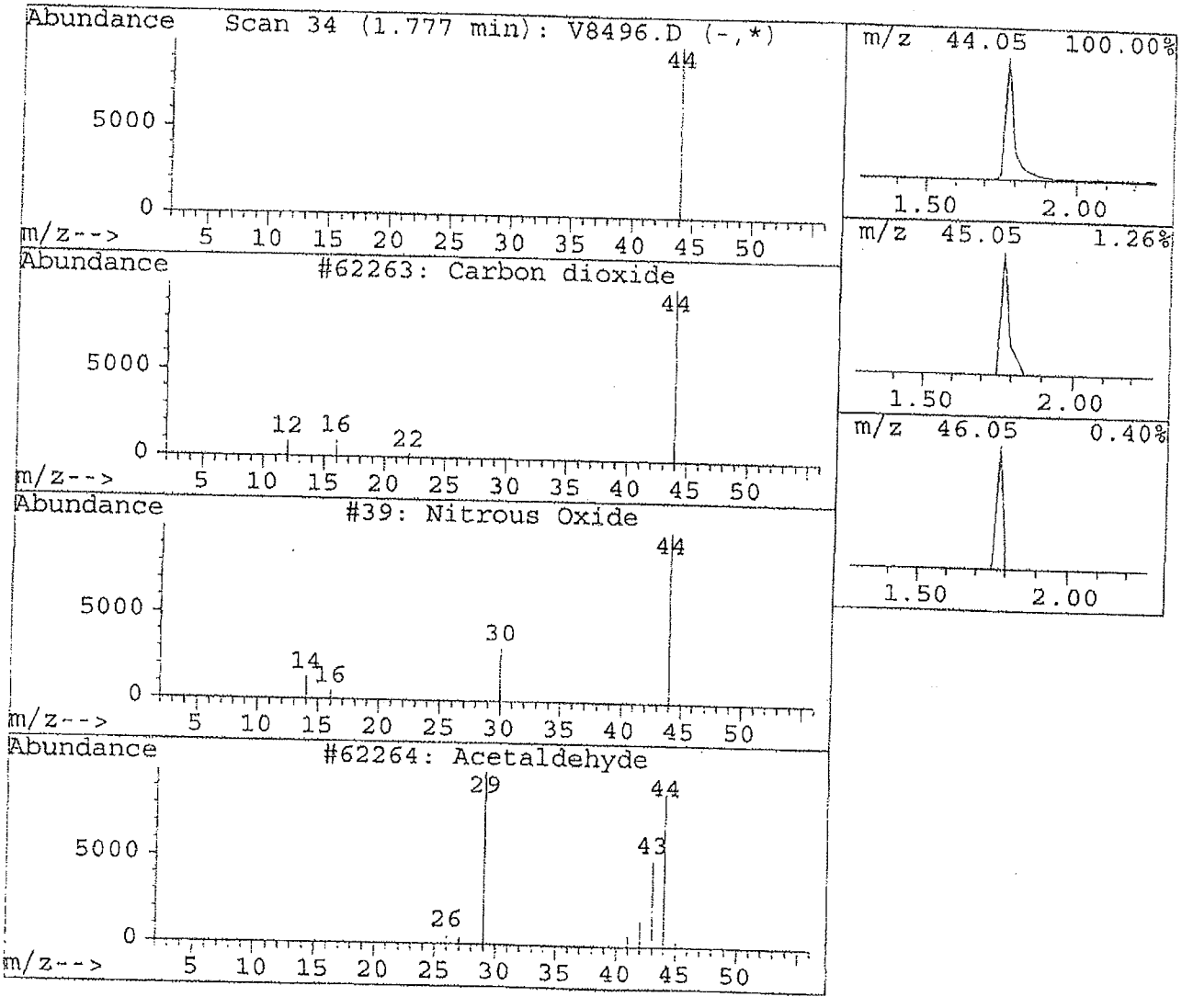
Data File : c:\hpchem\1\data2\v8496.d
Acq On : 13 Nov 97 4:59 pm
Sample : 9782203V..... Converted from RTE d
Misc : 5 ML FB.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.78	11.70 ug/l	132989	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Nitrous Oxide	39	010024-97-2	3
3	Acetaldehyde	62264	000075-07-0	2
4	Ethyne, fluoro-	35	002713-09-9	2
5	Ethylene oxide	62267	000075-21-8	2



Library Search Compound Report

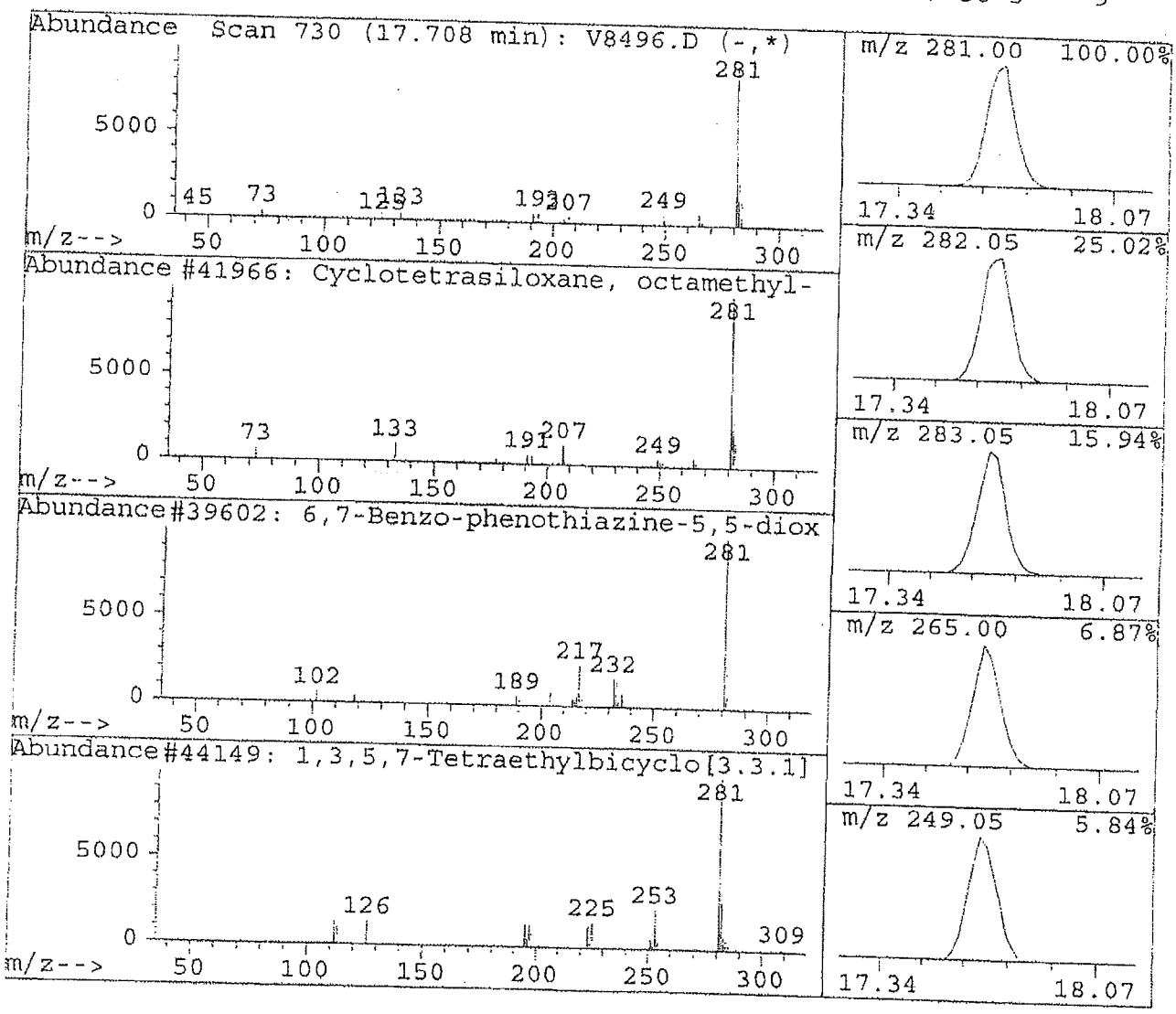
Data File : c:\hpchem\1\data2\v8496.d
Acq On : 13 Nov 97 4:59 pm
Sample : 9782203V..... Converted from RTE d
Misc : 5 ML FB.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
17.71	26.91 ug/l	558407	Chlorobenzene-d5	14.98

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-	41966	000556-67-2	32
2	6,7-Benzo-phenothiazine-5,5-dioxide	39602	000000-00-0	9
3	1,3,5,7-Tetraethylbicyclo[3.3.1]tet	44149	073420-21-0	2
4	Eicosane, 9-octyl-	53460	013475-77-9	1
5	Benzene, 1-phenyl-4-(2-cyano-2-phen	39643	027869-56-3	9



Library Search Compound Report

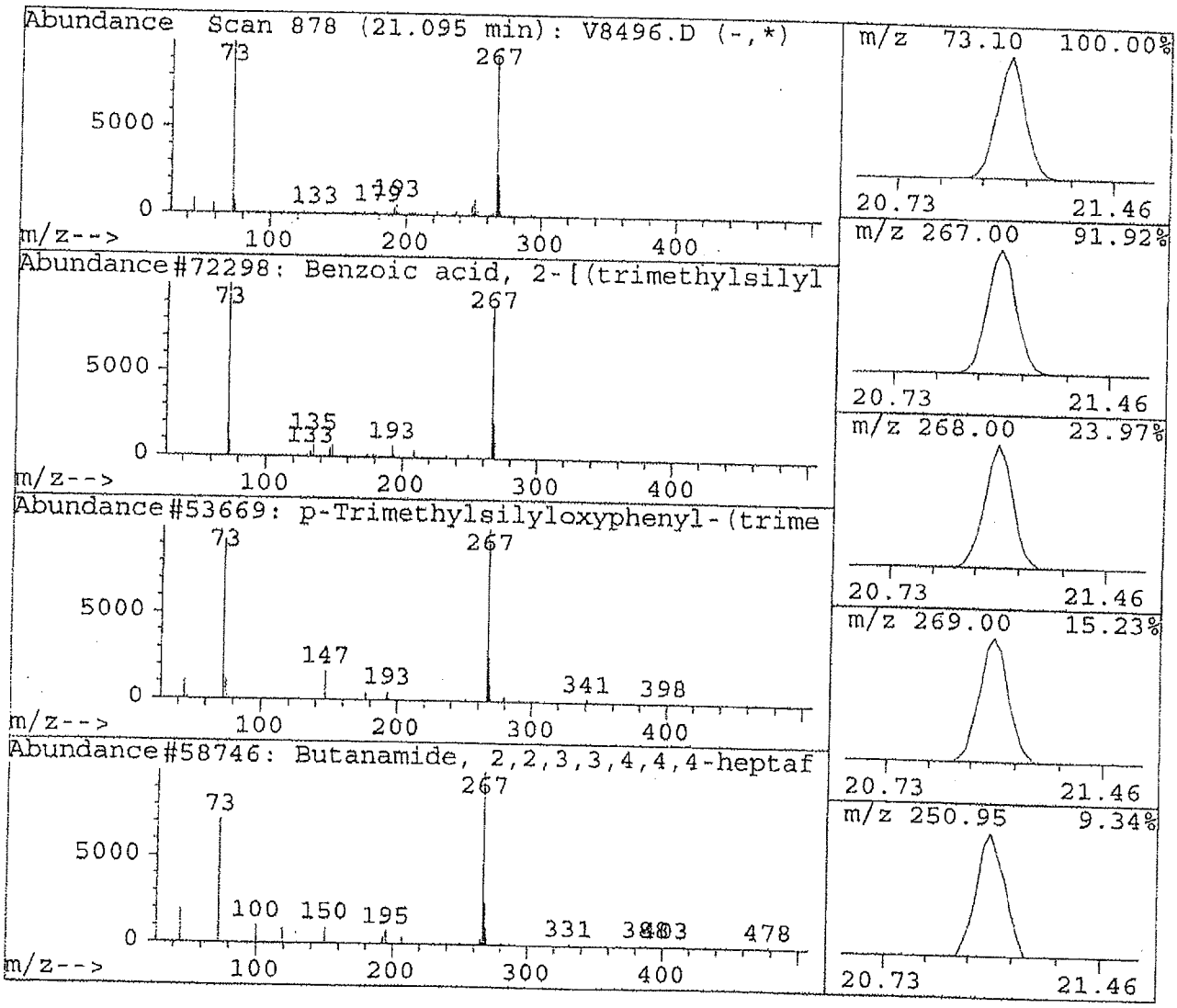
Data File : c:\hpchem\1\data2\v8496.d
Acq On : 13 Nov 97 4:59 pm
Sample : 9782203V..... Converted from RTE d
Misc : 5 ML FB.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
21.10	9.25 ug/l	191961	Chlorobenzene-d5	14.98

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl)ox	72298	003789-85-3	40
2	p-Trimethylsilyloxyphenyl-(trimethy	53669	000000-00-0	56
3	Butanamide, 2,2,3,3,4,4,4-heptafluo	58746	055471-01-7	39
4	Benzaldehyde, 2,5-bis[(trimethylsil	39706	056114-69-3	78
5	Benzaldehyde, 2,4-bis(trimethylsilo	39710	033617-38-8	40



Library Search Compound Report

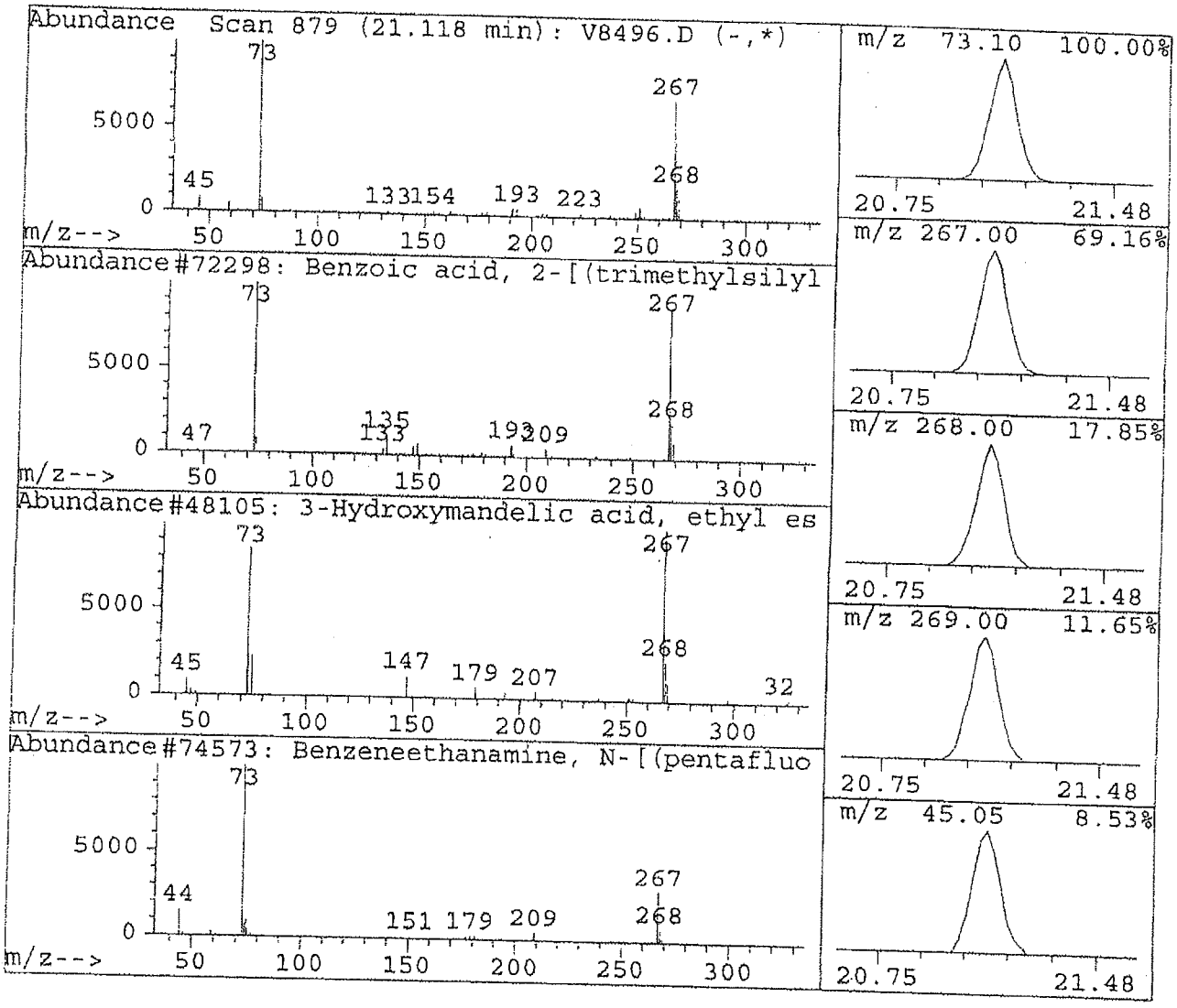
Data File : c:\hpchem\1\data2\v8496.d
Acq On : 13 Nov 97 4:59 pm
Sample : 9782203V..... Converted from RTE d
Misc : 5 ML FB.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
21.12	11.70 ug/l	242835	Chlorobenzene-d5	14.98

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl)ox	72298	003789-85-3	39
2	3-Hydroxymandelic acid, ethyl ester	48105	000000-00-0	36
3	Benzeneethanamine, N-[(pentafluorop	74573	055429-85-1	23
4	Butanamide, 2,2,3,3,4,4,4-heptafluo	58746	055471-01-7	42
5	Benzaldehyde, 2,5-bis[(trimethylsil	39706	056114-69-3	56



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782204V

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9782204V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V8495.D

Level: (low/med) _____ Date Received: 11/12/97

% Moisture: not dec. _____ Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-09-2	Methylene chloride	7	B
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-65	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
108-38-3	Xylene (para & meta)	5	U
75-01-4	Xylene (ortho)	5	U
75-65-0	Methyl-tert butyl ether	5	U
1634-04-4	tert-Butyl Alcohol	25	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO. [illegible]

9782204V

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9782204V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V8495.D

Level: (low/med) Date Received: 11/12/97

% Moisture: not dec. Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
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Quantitation Report

Data File : c:\hpchem\1\data2\v8495.d
Acq On : 13 Nov 97 4:22 pm
Sample : 9782204V..... Converted from RTE d
Misc : 5 ML FB.....
Quant Time: Nov 13 16:51 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.84	128	79231	50.00	ug/l	-0.10
26) 1,4-Difluorobenzene	9.83	114	364724	50.00	ug/l	-0.08
40) Chlorobenzene-d5	14.98	117	315563	50.00	ug/l	-0.08
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.96	65	184409	56.72	ug/l	113.44%
33) Toluene-d8	12.44	98	356077	49.53	ug/l	99.06%
48) 4-Bromofluorobenzene	17.11	95	245464	47.60	ug/l	95.20%
Target Compounds						Qvalue
11) Methylene chloride	4.84	49	25711	7.15	ug/l	95

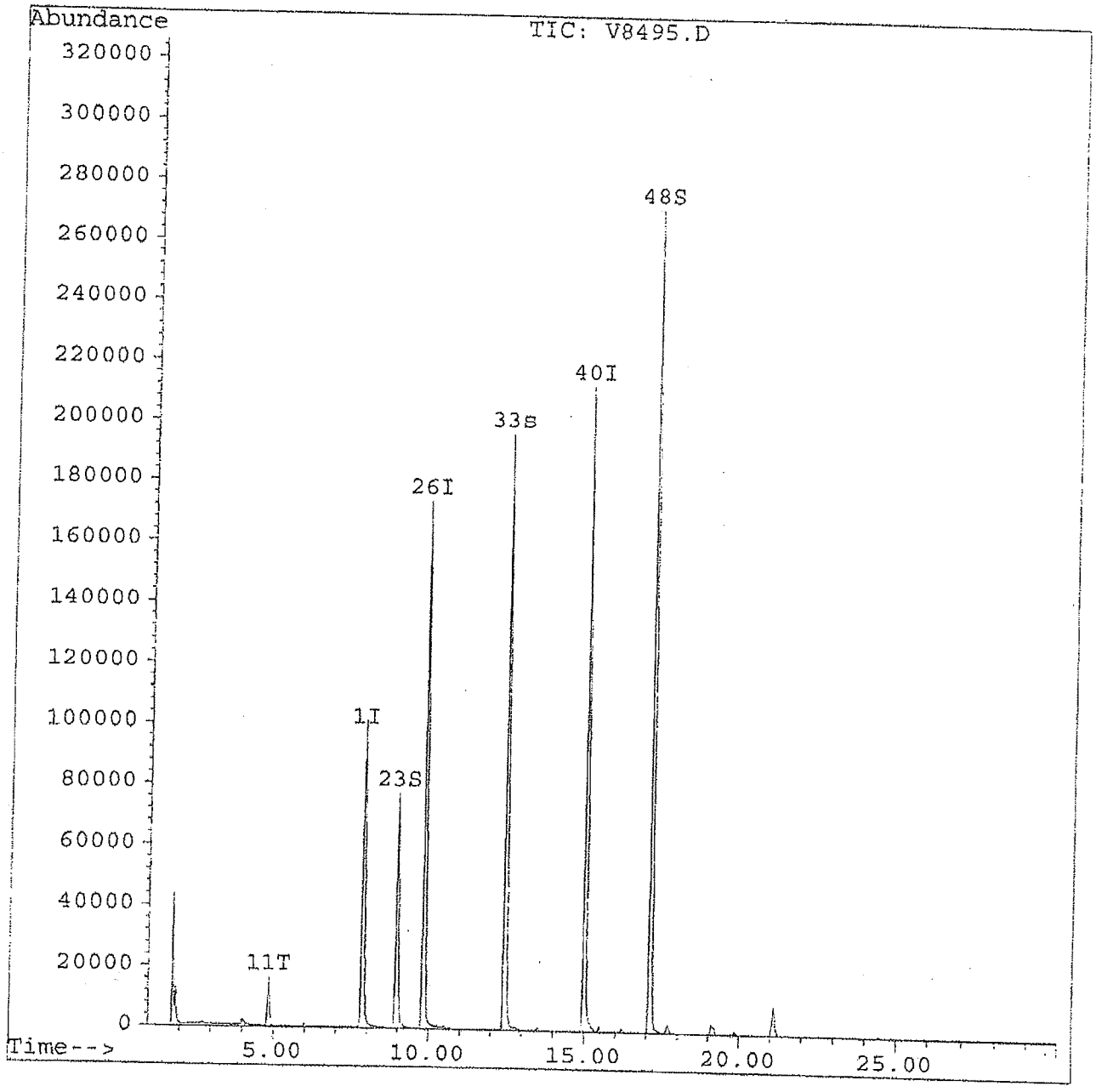
(#) = qualifier out of range (m) = manual integration

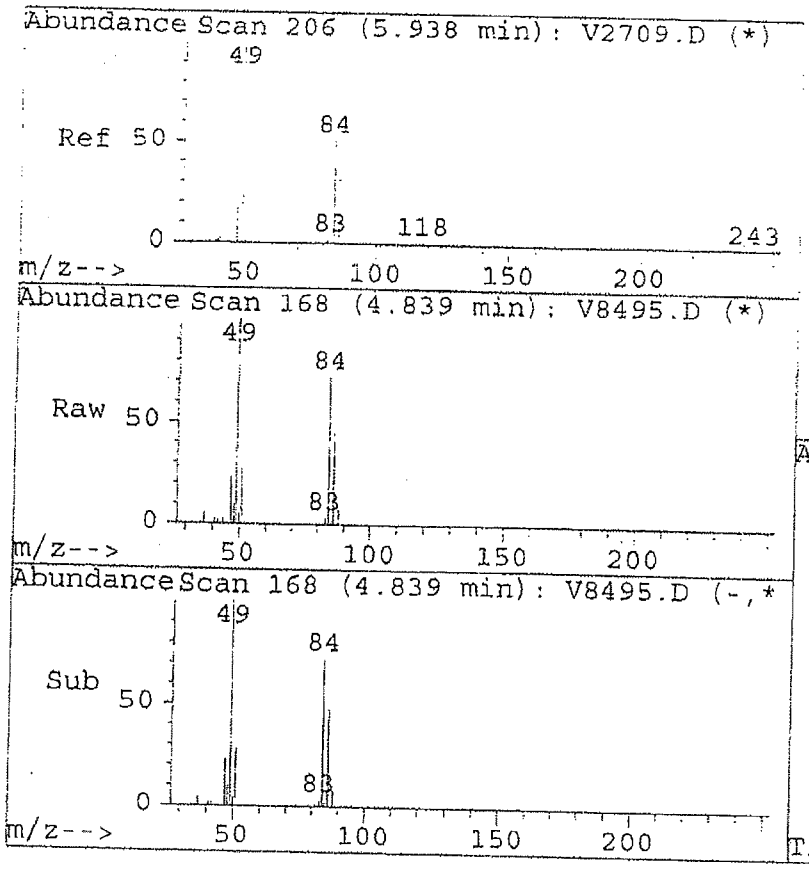
Quantitation Report

Data File : c:\hpchem\1\data2\v8495.d
Acq On : 13 Nov 97 4:22 pm
Sample : 9782204V..... Converted from RTE d
Misc : 5 ML FB.....
Quant Time: Nov 13 16:51 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

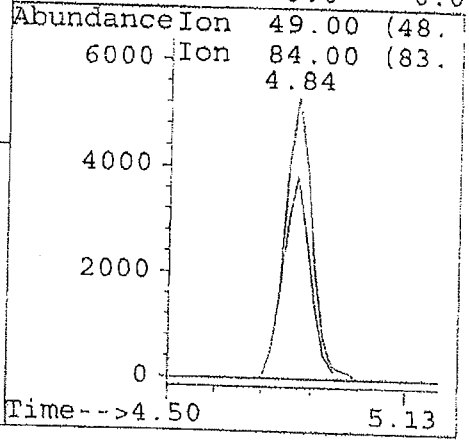




#11
Methylene chloride
Concen: 7.15 ug/l
RT: 4.84 min Scan# 168
Delta R.T. -0.07 min
Lab File: v8495.d
Acq: 13 Nov 97 4:22 pm

Tgt Ion:49 Resp: 25711

Ion	Ratio	Lower	Upper
49	100		
84	72.4	23.0	113.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

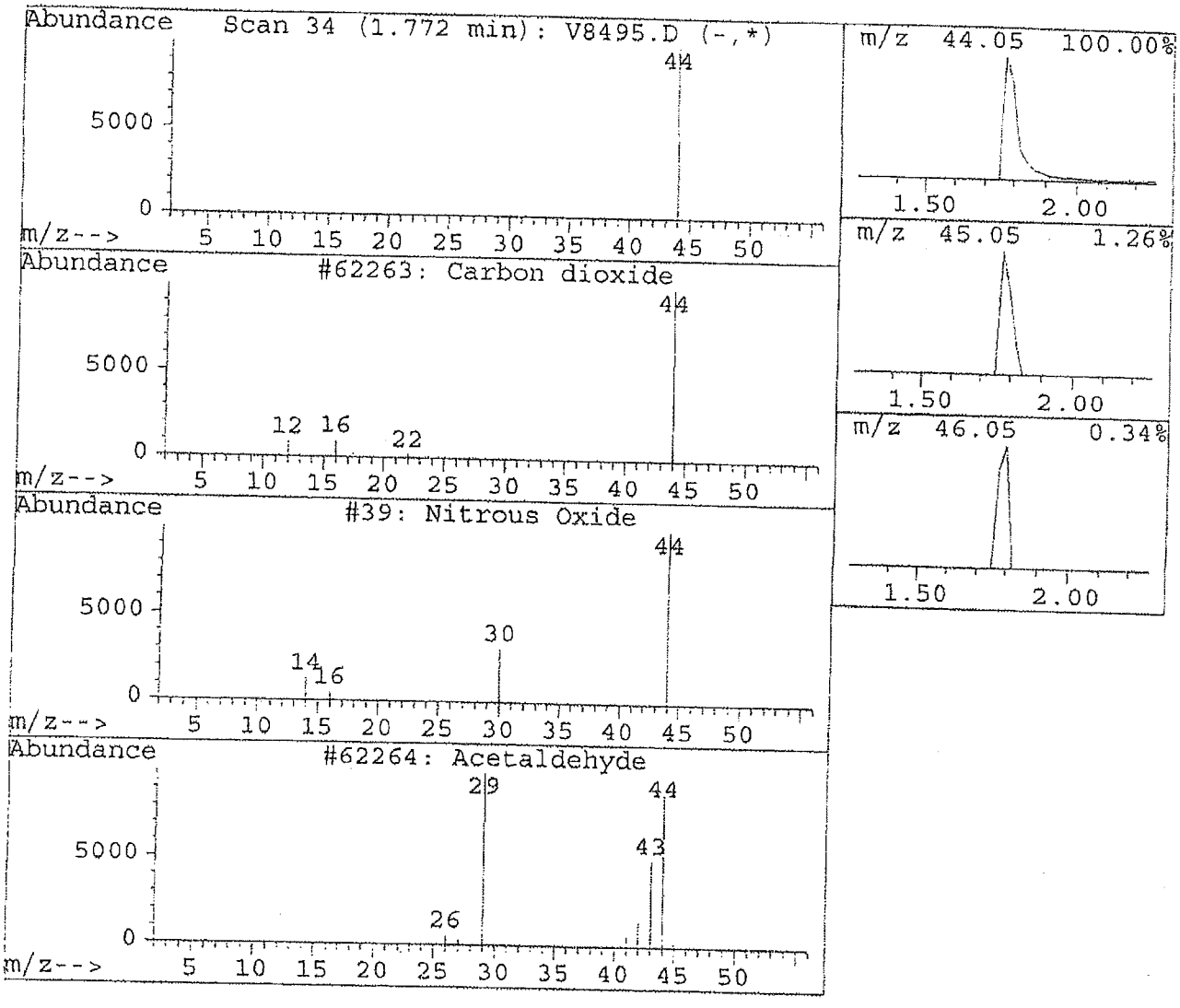
Data File : c:\hpchem\1\data2\v8495.d
Acq On : 13 Nov 97 4:22 pm
Sample : 9782204V..... Converted from RTE d
Misc : 5 ML FB.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.77	11.25 ug/l	128929	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Nitrous Oxide	39	010024-97-2	3
3	Acetaldehyde	62264	000075-07-0	2
4	Ethyne, fluoro-	35	002713-09-9	2
5	Ethylene oxide	62267	000075-21-8	2



2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

	SAMPLE NO.	SMC1 (DCE) #	SMC2 (TLD8) #	SMC3 (BFB) #	OTHER #	TOT OUT
01	VBLK02	107	100	104		
02	9778625V	112	97	88		
03	9778621V	114	98	93		
04						
05						
06						
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SMC1 (DCE) = 1,2-Dichloroethane-d4
SMC2 (TLD8) = Toluene-d8
SMC3 (BFB) = 4-Bromofluorobenzene

QC LIMITS
(76-114)
(88-110)
(86-115)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Level: (low/med) LOW

	SAMPLE NO.	SMC1 (DCE) #	SMC2 (TLD8) #	SMC3 (BFB) #	OTHER #	TOT OUT
01	VBLK02	107	100	104		
02	9778619V	105	98	93		
03	9778620V	116	99	97		
04	9778622V	105	98	94		
05	9778623V	114	87	101		
06	9778624V	107	106	93		
07	9778619MS	106	94	99		
08	9778619MSD	103	99	107		
09	20 LCS	105	98	99		
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SMC1 (DCE) = 1,2-Dichloroethane-d4
SMC2 (TLD8) = Toluene-d8
SMC3 (BFB) = 4-Bromofluorobenzene

QC LIMITS
(70-121)
(81-138)
(59-113)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM II VOA-2

3/90

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

	SAMPLE NO.	SMC1 (DCE) #	SMC2 (TLD8) #	SMC3 (BFB) #	OTHER #	TOT OUT
01	VBLK01	113	103	95		
02	9782204V	113	99	95		
03	9782203V	111	101	93		
04	9781438V	110	97	88		
05	9781433V	112	98	99		
06	9781434V	112	99	92		
07	9781435V	108	103	93		
08	9781436V	105	104	96		
09	9781437V	106	101	95		
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SMC1 (DCE) = 1,2-Dichloroethane-d4
SMC2 (TLD8) = Toluene-d8
SMC3 (BFB) = 4-Bromofluorobenzene

QC LIMITS
(76-114)
(88-110)
(86-115)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Level: (low/med) LOW

	SAMPLE NO.	SMC1 (DCE) #	SMC2 (TLD8) #	SMC3 (BFB) #	OTHER #	TOT OUT
01	VBLK01	113	103	95		
02	9782199V	112	99	85		
03	9782200V	111	96	108		
04	9782201V	114	94	94		
05	9782202V	115	101	96		
06	9782199MS	104	93	93		
07	9782199MSD	103	94	95		
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SMC1 (DCE) = 1,2-Dichloroethane-d4
SMC2 (TLD8) = Toluene-d8
SMC3 (BFB) = 4-Bromofluorobenzene

QC LIMITS
(70-121)
(81-138)
(59-113)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

VBLK02

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Lab File ID: V6472.D Lab Sample ID: M.BLANK

Date Analyzed: 11/12/97 Time Analyzed: 1458

GC Column: HP-624 X 75 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: 5970-AVO

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	9778625V	9778625V	V6474.D	1613
02	9778621V	9778621V	V6475.D	1651
03	9778619V	9778619V	V6476.D	1728
04	9778620V	9778620V	V6477.D	1806
05	9778622V	9778622V	V6478.D	1843
06	9778623V	9778623V	V6479.D	1920
07	9778624V	9778624V	V6480.D	1957
08	9778619MS	78619MS	V6481.D	2035
09	9778619MSD	78619MSD	V6482.D	2112
10	20 LCS	20 LCS	V6483.D	2149
11				
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COMMENTS:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

VBLK02

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: M.BLANK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V6472.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-09-2	Methylene chloride	5	B
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-65	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
108-38-3	Xylene (para & meta)	5	U
95-47-6	Xylene (ortho)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

VBLK02

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: M.BLANK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V6472.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/12/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
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Quantitation Report

Data File : c:\hpchem\1\data2\v6472.d
Acq On : 12 Nov 97 2:58 pm
Sample : METHOD BLANK..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Nov 12 15:48 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.84	128	76618	50.00	ug/l	-0.10
26) 1,4-Difluorobenzene	9.81	114	359021	50.00	ug/l	-0.10
40) Chlorobenzene-d5	14.98	117	306477	50.00	ug/l	-0.08
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.94	65	168227	53.51	ug/l	107.01%
33) Toluene-d8	12.44	98	353755	49.99	ug/l	99.98%
48) 4-Bromofluorobenzene	17.11	95	260782	52.07	ug/l	104.13%
Target Compounds						Qvalue
11) Methylene chloride	4.82	49	18574	5.34	ug/l	97

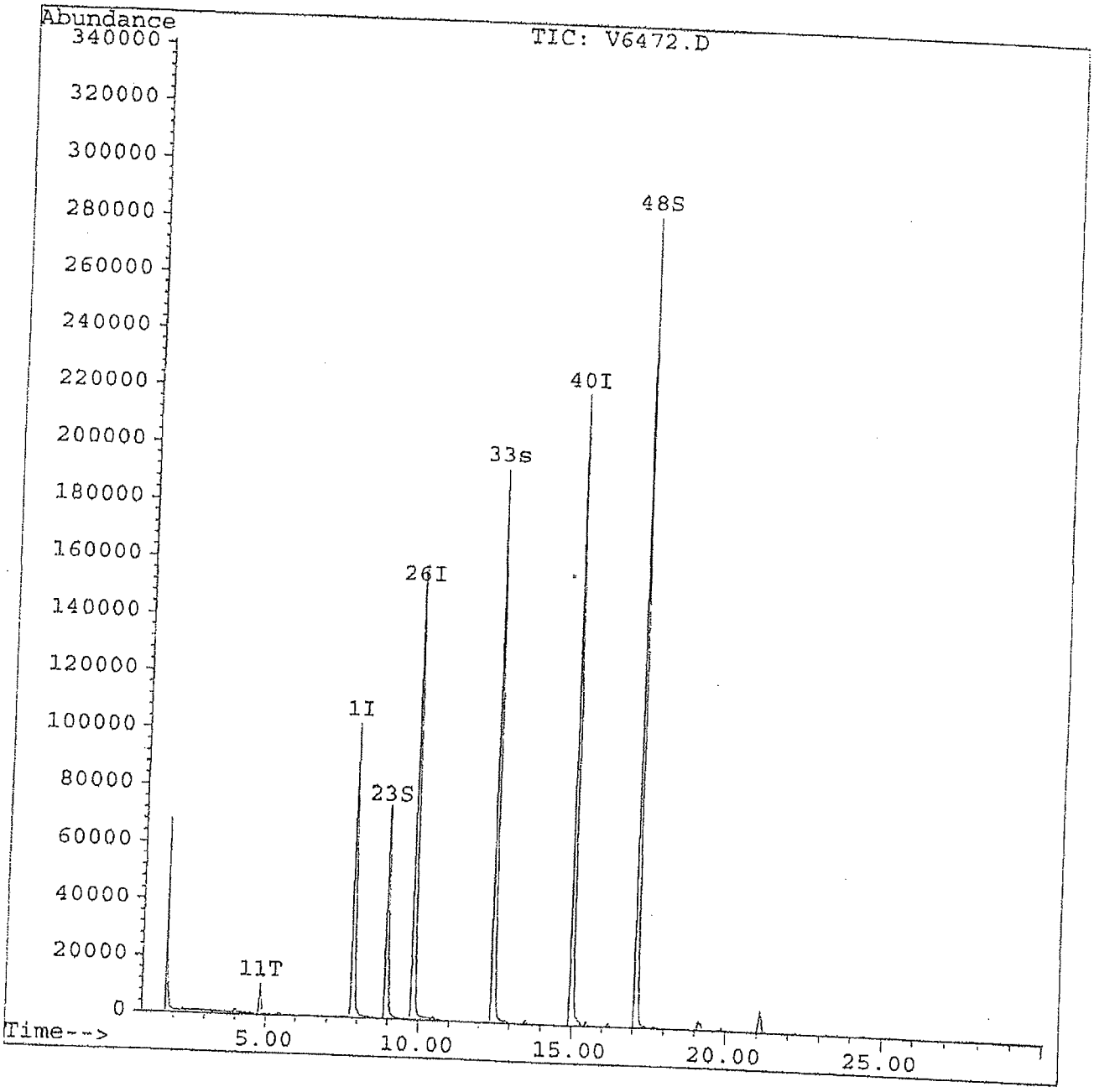
(#) = qualifier out of range (m) = manual integration

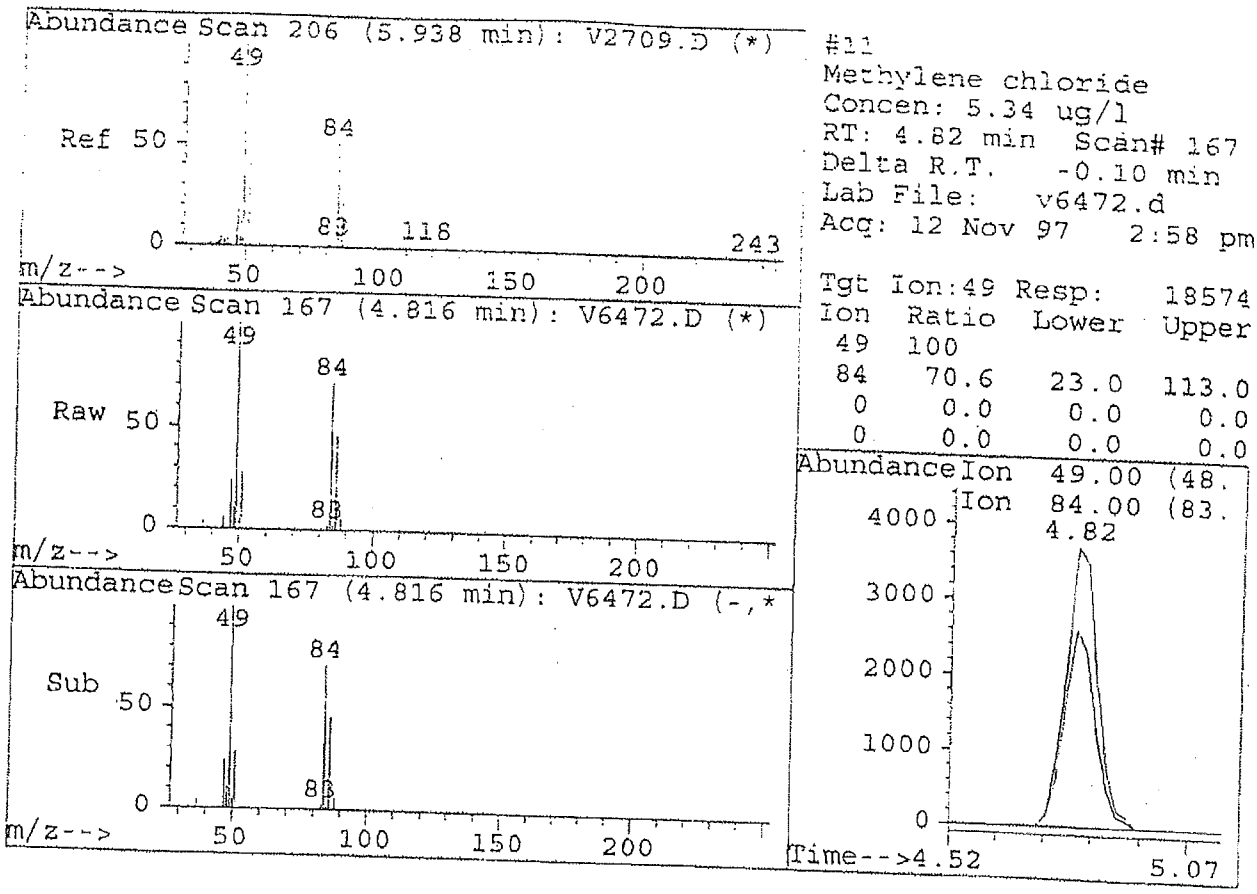
Quantitation Report

Data File : c:\hpchem\1\data2\v6472.d
Acq On : 12 Nov 97 2:58 pm
Sample : METHOD BLANK..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Nov 12 15:48 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration




Abundance Scan 206 (5.938 min): V2709.D (*)
Ref
Abundance Scan 167 (4.816 min): V6472.D (*)
Raw
Abundance Scan 167 (4.816 min): V6472.D (-,*
Sub
m/z-->
49
84
83
118
243
50
100
150
200
0
#11
Methylene chloride
Concen: 5.34 ug/l
RT: 4.82 min Scan# 167
Delta R.T. -0.10 min
Lab File: v6472.d
Acq: 12 Nov 97 2:58 pm
Tgt Ion:49 Resp: 18574
Ion Ratio Lower Upper
49 100
84 70.6 23.0 113.0
0 0.0 0.0 0.0
0 0.0 0.0 0.0
Abundance
Ion 49.00 (48.
Ion 84.00 (83.
4.82
4000
3000
2000
1000
Time-->4.52
5.07

Library Search Compound Report

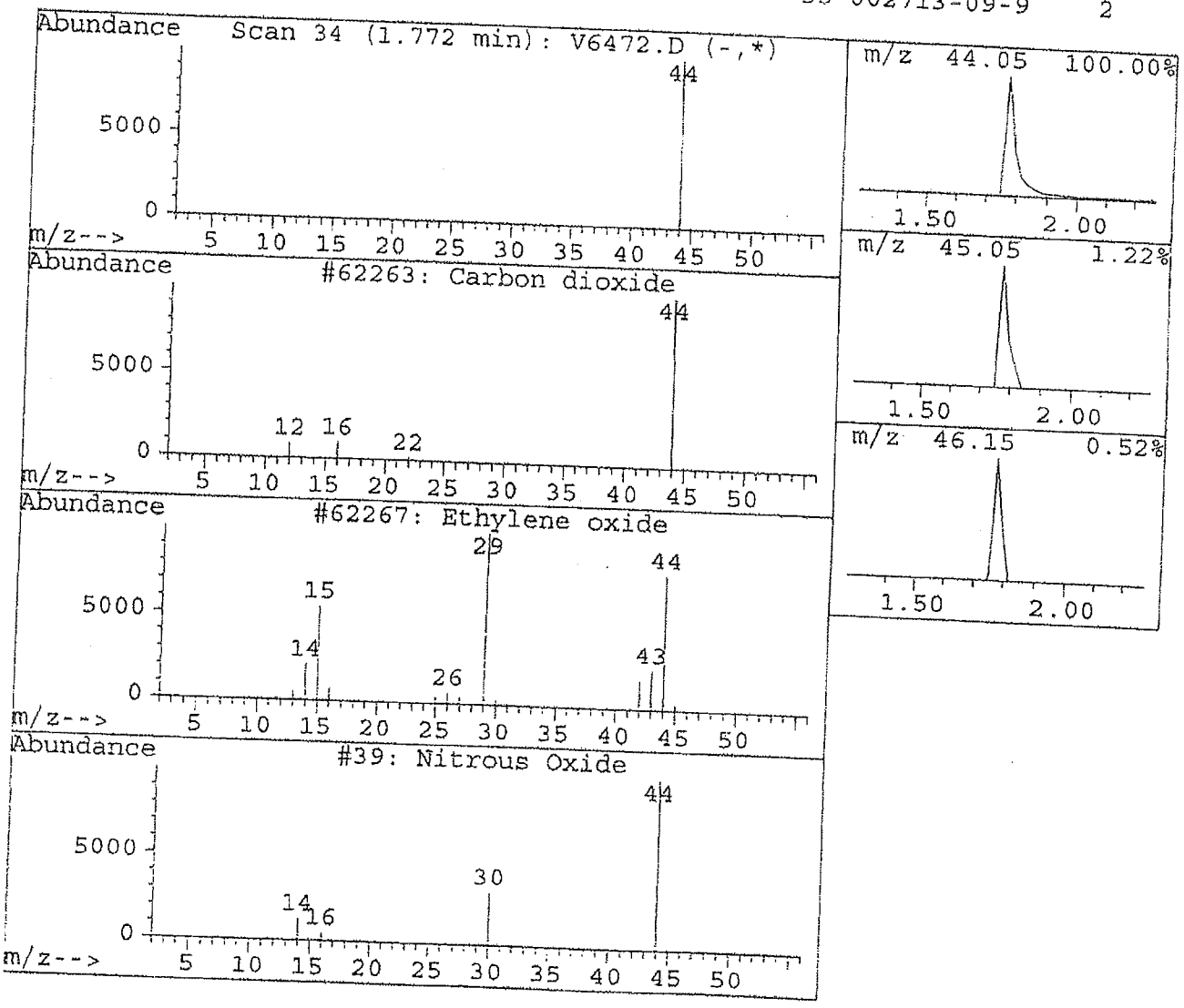
Data File : c:\hpchem\1\data2\v6472.d
Acq On : 12 Nov 97 2:58 pm
Sample : METHOD BLANK..... Converted from RTE d
Misc : 5 ML.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.77	13.97 ug/l	158554	Bromochloromethane	7.84

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Ethylene oxide	62267	000075-21-8	3
3	Nitrous Oxide	39	010024-97-2	3
4	Acetaldehyde	62264	000075-07-0	2
5	Ethyne, fluoro-	35	002713-09-9	2



4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

VBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Lab File ID: V8494.D Lab Sample ID: M.BLANK

Date Analyzed: 11/13/97 Time Analyzed: 1545

GC Column: HP-624 X 75M ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: 5970-AVOA

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	9782204V	9782204V	V8495.D	1622
02	9782203V	9782203V	V8496.D	1659
03	9781438V	9781438V	V8497.D	1736
04	9782199V	9782199V	V8498.D	1814
05	9782200V	9782200V	V8499.D	1851
06	9782201V	9782201V	V8500.D	1928
07	9782202V	9782202V	V8501.D	2006
08	9781433V	9781433V	V8502.D	2043
09	9781434V	9781434V	V8503.D	2120
10	9781435V	9781435V	V8504.D	2157
11	9781436V	9781436V	V8505.D	2235
12	9781437V	9781437V	V8506.D	2312
13	9782199MS	82199MS	V8507.D	2349
14	9782199MSD	82199MSD	V8508.D	0026
15				
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COMMENTS:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

VBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: M.BLANK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V8494.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-09-2	Methylene chloride	7	B
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-65	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
108-38-3	Xylene (para & meta)	5	U
75-01-4	Xylene (ortho)	5	U
75-65-0	Methyl-tert butyl ether	5	U
1634-04-4	tert-Butyl Alcohol	25	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
VBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: M.BLANK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: V8494.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 11/13/97

GC Column: HP-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
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Quantitation Report

Data File : c:\hpchem\1\data2\v8494.d
Acq On : 13 Nov 97 3:45 pm
Sample : METHOD BLANK..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Nov 13 16:32 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.86	128	74877	50.00	ug/l	-0.07
26) 1,4-Difluorobenzene	9.83	114	316507	50.00	ug/l	-0.07
40) Chlorobenzene-d5	14.98	117	286746	50.00	ug/l	-0.08
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	8.96	65	173020	56.31	ug/l	112.62%
33) Toluene-d8	12.44	98	320367	51.35	ug/l	102.70%
48) 4-Bromofluorobenzene	17.11	95	222486	47.48	ug/l	94.96%
Target Compounds						Qvalue
11) Methylene chloride	4.84	49	23595	6.94	ug/l	91

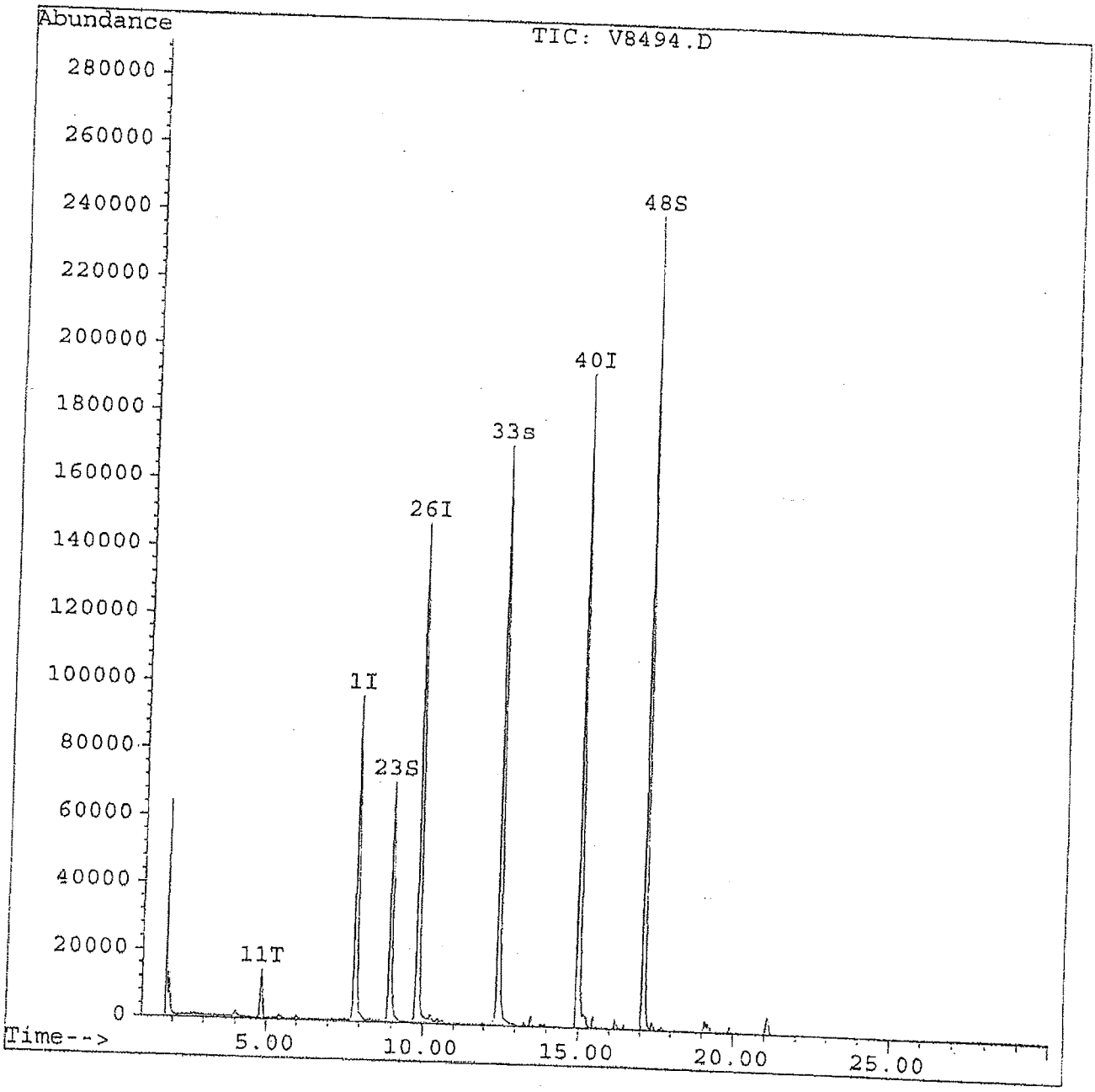
(#) = qualifier out of range (m) = manual integration

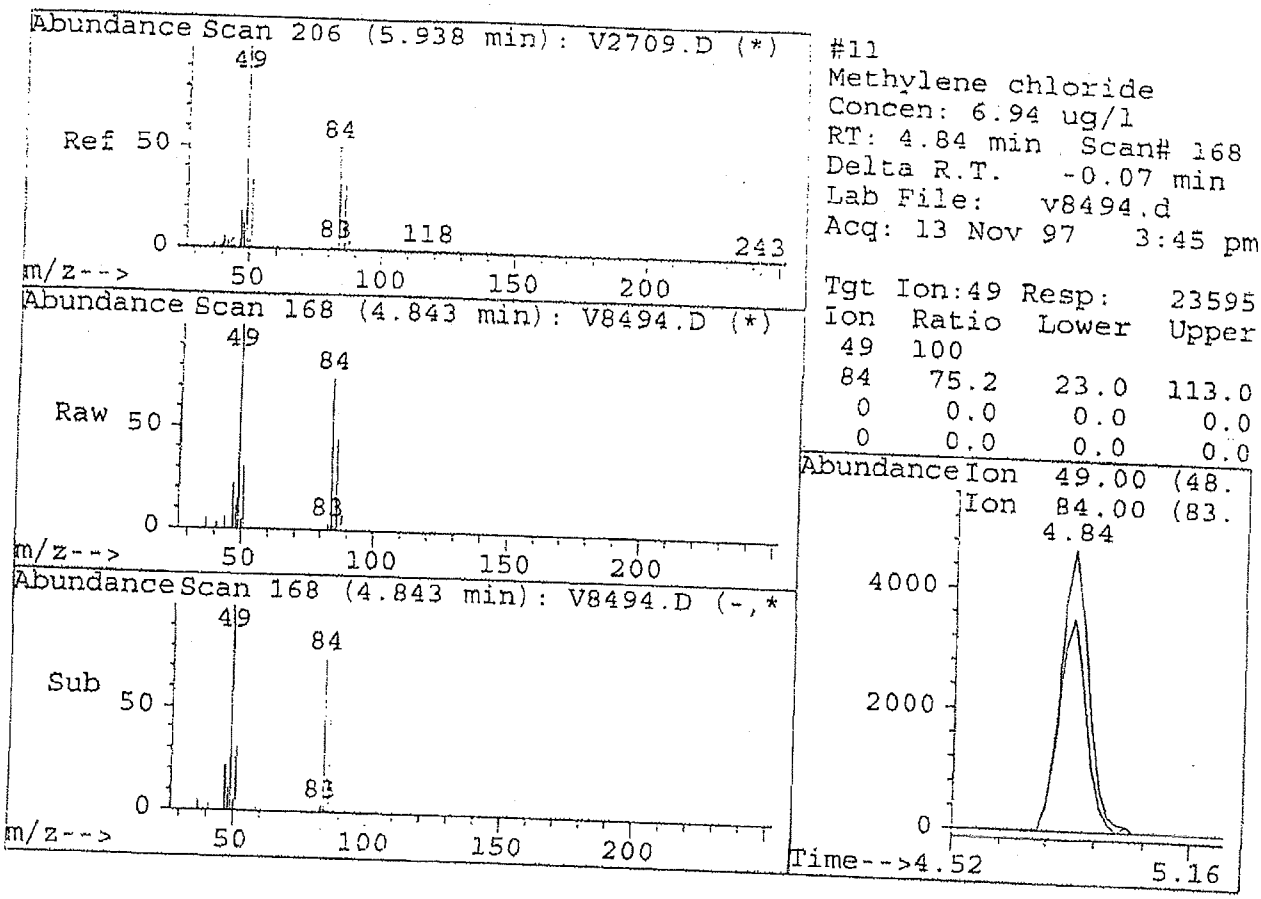
Quantitation Report

Data File : c:\hpchem\1\data2\v8494.d
Acq On : 13 Nov 97 3:45 pm
Sample : METHOD BLANK..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Nov 13 16:32 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration





#11
Methylene chloride
Concen: 6.94 ug/l
RT: 4.84 min Scan# 168
Delta R.T. -0.07 min
Lab File: v8494.d
Acq: 13 Nov 97 3:45 pm

Tgt Ion:49 Resp: 23595

Ion	Ratio	Lower	Upper
49	100		
84	75.2	23.0	113.0
0	0.0	0.0	0.0
0	0.0	0.0	0.0

Library Search Compound Report

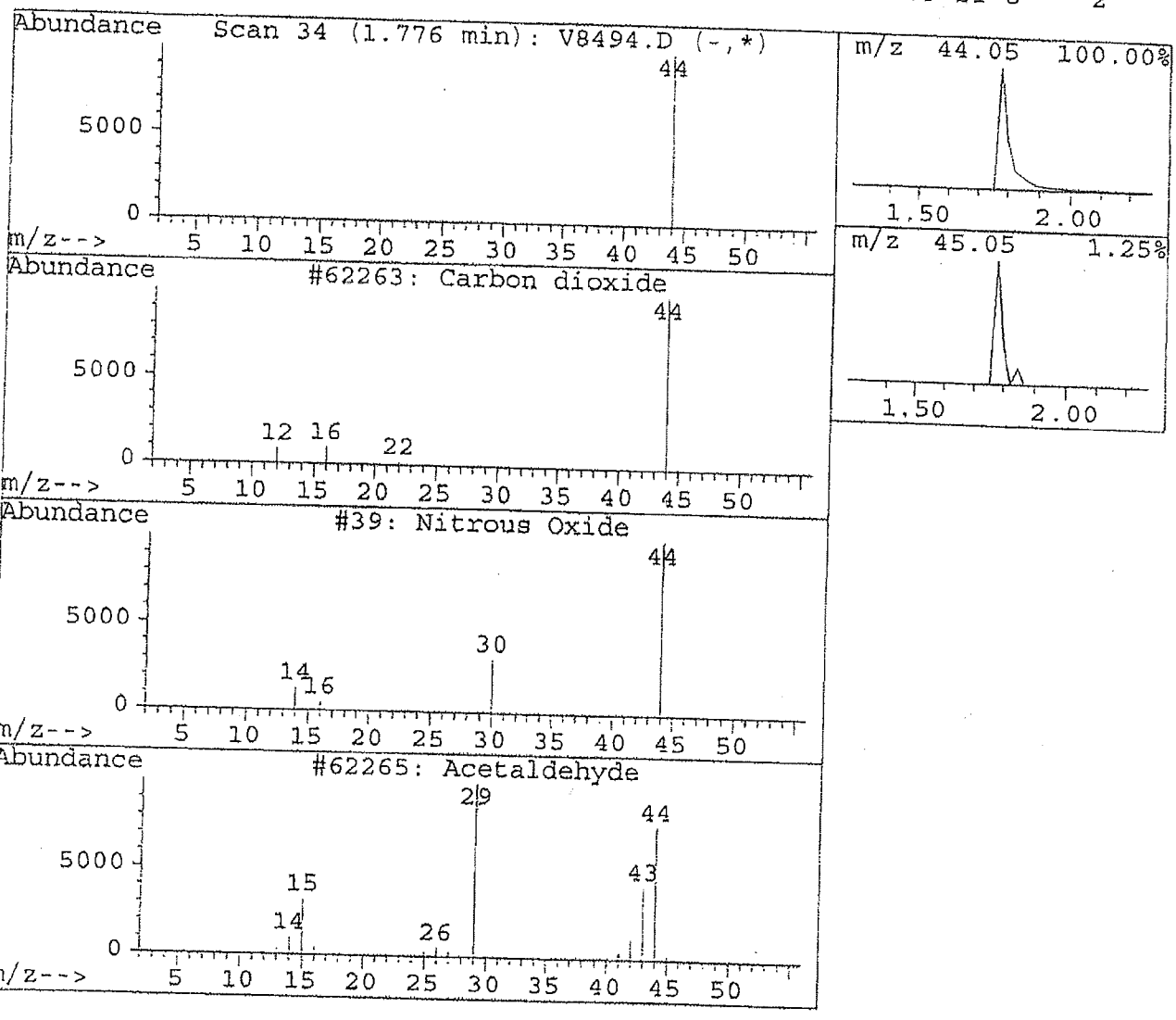
Data File : c:\hpchem\1\data2\v8494.d
Acq On : 13 Nov 97 3:45 pm
Sample : METHOD BLANK..... Converted from RTE d
Misc : 5 ML.....

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
1.78	13.27 ug/l	141403	Bromochloromethane	7.86

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	3
2	Nitrous Oxide	39	010024-97-2	3
3	Acetaldehyde	62265	000075-07-0	2
4	Ethyne, fluoro-	35	002713-09-9	2
5	Ethylene oxide	62267	000075-21-8	2



3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Nam EMSL ANALYTICAL Contract: _____

Date : 11/12/97 Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - Lab Sample 9778619V Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC. LIMITS REC.
1,1-Dichloroethe	50	0	41	81	59-172
Trichloroethene	50	0	44	88	62-137
Benzene	50	0	39	78	66-142
Toluene	50	0	42	84	59-139
Chlorobenzene	50	0	42	85	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD ONCENTRATI (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethe	50	46	91	12	22	59-172
Trichloroethene	50	52	104	17	24	62-137
Benzene	50	44	88	12	21	66-142
Toluene	50	50	99	16	21	59-139
Chlorobenzene	50	52	103	19	21	60-133

\# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

Quantitation Report

Data File : c:\hpchem\1\data2\v6481.d
Acq On : 12 Nov 97 8:35 pm
Sample : 9778619 MS..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:53 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	7.85	128	65196	50.00	ug/l		-0.09
26) 1,4-Difluorobenzene	9.82	114	292527	50.00	ug/l		-0.09
40) Chlorobenzene-d5	14.97	117	248864	50.00	ug/l		-0.09
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	8.95	65	141847	53.02	ug/l		106.04%
33) Toluene-d8	12.43	98	270218	46.86	ug/l		93.73%
48) 4-Bromofluorobenzene	17.10	95	201705	49.60	ug/l		99.19%
Target Compounds							Qvalue
2) Chloromethane	2.19	50	39650	41.65	ug/l	m	97
3) Vinyl chloride	2.33	62	62626	41.82	ug/l	m	97
4) Bromomethane	2.72	94	21199	42.57	ug/l	m	95
5) Chloroethane	2.88	64	31987	43.22	ug/l		97
6) Trichlorofluoromethane	3.22	101	126394	40.68	ug/l		96
8) 1,1-Dichloroethene	3.98	61	137092	40.58	ug/l		98
9) Acetone	4.14	43	67291	52.34	ug/l		98
10) Carbon disulfide	4.30	76	229680	47.38	ug/l	m	100
11) Methylene chloride	4.82	49	138756	46.87	ug/l		97
12) Acrylonitrile	5.37	53	22755	40.67	ug/l		100
13) trans-1,2-Dichloroethene	5.37	61	125010	39.89	ug/l		89
14) Methyl-tert butyl ether	5.44	73	231910	41.84	ug/l		94
15) tert-Butyl Alcohol	5.28	59	65896	177.33	ug/l		100
16) 1,1-Dichloroethane	6.22	63	177174	41.40	ug/l		96
18) cis-1,2-Dichloroethene	7.39	61	136456	40.79	ug/l		97
19) 2-Butanone	7.53	43	66598	40.28	ug/l	m	98
20) Chloroform	8.05	83	169703	42.10	ug/l		99
21) 1,1,1-Trichloroethane	8.35	97	139850	42.40	ug/l		97
22) Carbon tetrachloride	8.65	117	152697	51.25	ug/l		91
24) Benzene	9.04	78	205909	39.00	ug/l		100
25) 1,2-Dichloroethane	9.08	62	165185	43.81	ug/l		99
27) Trichloroethene	10.25	130	106782	44.21	ug/l		96
28) 1,2-Dichloropropane	10.64	63	79742	41.68	ug/l		98
29) Bromodichloromethane	11.17	83	190455	45.40	ug/l		100
30) 2-Chloroethyl vinyl ether	11.79	63	50177	43.44	ug/l		100
31) trans-1,3-Dichloropropene	11.97	75	140075	41.90	ug/l		99
32) 4-Methyl-2-pentanone	12.31	43	104695	40.91	ug/l		97
34) Toluene	12.57	91	244636	41.79	ug/l		93
35) cis-1,3-Dichloropropene	12.98	75	149164	43.06	ug/l		100
36) 1,1,2-Trichloroethane	13.28	97	87221	44.89	ug/l		91
37) 2-Hexanone	13.80	43	79632	40.92	ug/l		91
38) Tetrachloroethene	13.51	166	127872	46.65	ug/l		83
39) Dibromochloromethane	13.96	129	169288	47.96	ug/l		97
41) Chlorobenzene	15.04	112	188255	42.40	ug/l		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\v6481.d
Acq On : 12 Nov 97 8:35 pm
Sample : 9778619 MS..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:53 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
42) 1,1,1,2-Tetrachloroethane	15.18	131	112383	47.42	ug/l	98
43) Ethylbenzene	15.27	91	335683	45.41	ug/l	92
44) Xylene (para & meta)	15.48	91	604893	100.27	ug/l	99
45) Xylene (ortho)	16.19	91	301375	46.81	ug/l	95
46) Styrene	16.21	104	209864	45.06	ug/l	97
47) Bromoform	16.48	173	143502	48.98	ug/l	84
49) 1,1,2,2-Tetrachloroethane	17.40	83	148523	43.65	ug/l	92
50) 1,3-Dichlorobenzene	19.07	146	201274	43.24	ug/l	85
51) 1,4-Dichlorobenzene	19.23	146	228426	45.06	ug/l	96
52) 1,2-Dichlorobenzene	19.90	146	212004	44.70	ug/l	98

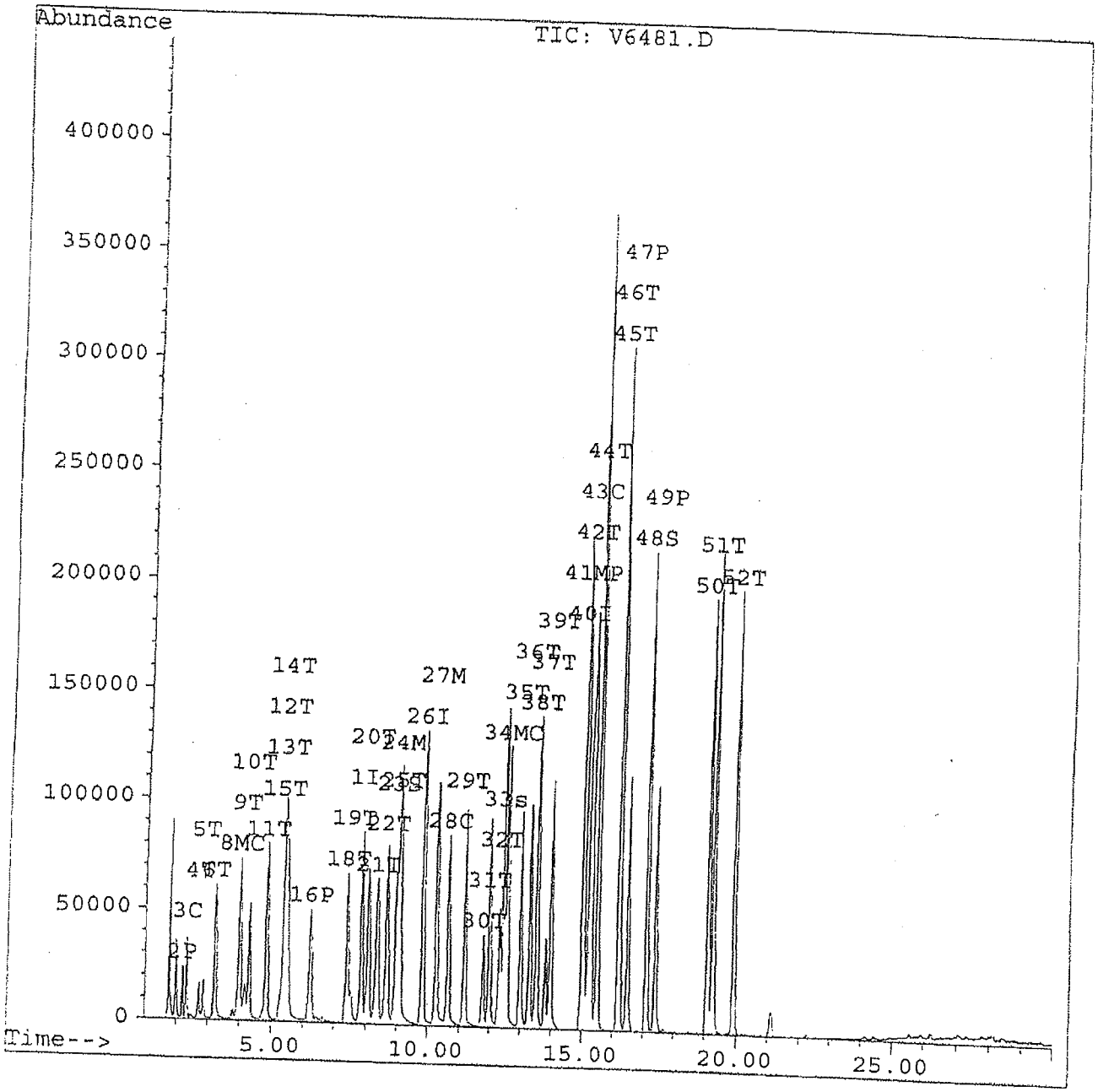
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\v6481.d
Acq On : 12 Nov 97 8:35 pm
Sample : 9778619 MS..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:53 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data2\v6482.d
Acq On : 12 Nov 97 9:12 pm
Sample : 9778619 MSD..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:55 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	7.84	128	67594	50.00	ug/l		-0.09
26) 1,4-Difluorobenzene	9.81	114	295877	50.00	ug/l		-0.09
40) Chlorobenzene-d5	14.97	117	245032	50.00	ug/l		-0.09
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	8.94	65	143331	51.67	ug/l		103.35%
33) Toluene-d8	12.43	98	289442	49.63	ug/l		99.26%
48) 4-Bromofluorobenzene	17.10	95	214109	53.47	ug/l		106.94%
Target Compounds							Qvalue
2) Chloromethane	2.21	50	45483	46.08	ug/l	m	98
3) Vinyl chloride	2.33	62	61696	39.74	ug/l		100
4) Bromomethane	2.71	94	20725	40.14	ug/l		100
5) Chloroethane	2.87	64	31632	41.22	ug/l		92
6) Trichlorofluoromethane	3.22	101	141506	43.93	ug/l		95
8) 1,1-Dichloroethene	3.97	61	159651	45.58	ug/l		93
9) Acetone	4.13	43	74267	55.71	ug/l	m	99
10) Carbon disulfide	4.29	76	209630	41.71	ug/l		100
11) Methylene chloride	4.82	49	159861	52.09	ug/l		99
12) Acrylonitrile	5.37	53	31621	54.51	ug/l		100
13) trans-1,2-Dichloroethene	5.37	61	150511	46.33	ug/l		97
14) Methyl-tert butyl ether	5.44	73	276066	48.03	ug/l		96
15) tert-Butyl Alcohol	5.30	59	95998	249.17	ug/l		100
16) 1,1-Dichloroethane	6.22	63	200709	45.23	ug/l		96
18) cis-1,2-Dichloroethene	7.39	61	153444	44.24	ug/l		91
19) 2-Butanone	7.52	43	77060	44.95	ug/l		99
20) Chloroform	8.05	83	194365	46.51	ug/l		88
21) 1,1,1-Trichloroethane	8.35	97	157654	46.10	ug/l		91
22) Carbon tetrachloride	8.67	117	161191	52.18	ug/l		98
24) Benzene	9.04	78	242181	44.24	ug/l		100
25) 1,2-Dichloroethane	9.10	62	192285	49.19	ug/l		94
27) Trichloroethene	10.25	130	126978	51.98	ug/l		95
28) 1,2-Dichloropropane	10.64	63	95022	49.10	ug/l		99
29) Bromodichloromethane	11.17	83	217000	51.14	ug/l		92
30) 2-Chloroethyl vinyl ether	11.76	63	61310	52.48	ug/l		98
31) trans-1,3-Dichloropropene	11.97	75	161408	47.73	ug/l		100
32) 4-Methyl-2-pentanone	12.31	43	142707	55.13	ug/l	m	43
34) Toluene	12.54	91	293131	49.51	ug/l		96
35) cis-1,3-Dichloropropene	12.98	75	167429	47.79	ug/l		97
36) 1,1,2-Trichloroethane	13.27	97	104105	52.97	ug/l		86
37) 2-Hexanone	13.80	43	106604	54.16	ug/l		93
38) Tetrachloroethene	13.50	166	146123	52.70	ug/l		85
39) Dibromochloromethane	13.96	129	192330	53.87	ug/l		92
41) Chlorobenzene	15.01	112	225910	51.67	ug/l		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\v6482.d
Acq On : 12 Nov 97 9:12 pm
Sample : 9778619 MSD..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:55 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
42) 1,1,1,2-Tetrachloroethane	15.20	131	127930	54.83	ug/l	100
43) Ethylbenzene	15.27	91	387572	53.25	ug/l	98
44) Xylene (para & meta)	15.47	91	675222	113.68	ug/l	99
45) Xylene (ortho)	16.18	91	354397	55.90	ug/l	93
46) Styrene	16.21	104	247270	53.92	ug/l	96
47) Bromoform	16.48	173	171381	59.41	ug/l	94
49) 1,1,2,2-Tetrachloroethane	17.40	83	191609	57.19	ug/l	99
50) 1,3-Dichlorobenzene	19.07	146	254973	55.63	ug/l	98
51) 1,4-Dichlorobenzene	19.23	146	271871	54.47	ug/l	98
52) 1,2-Dichlorobenzene	19.89	146	262301	56.17	ug/l	98

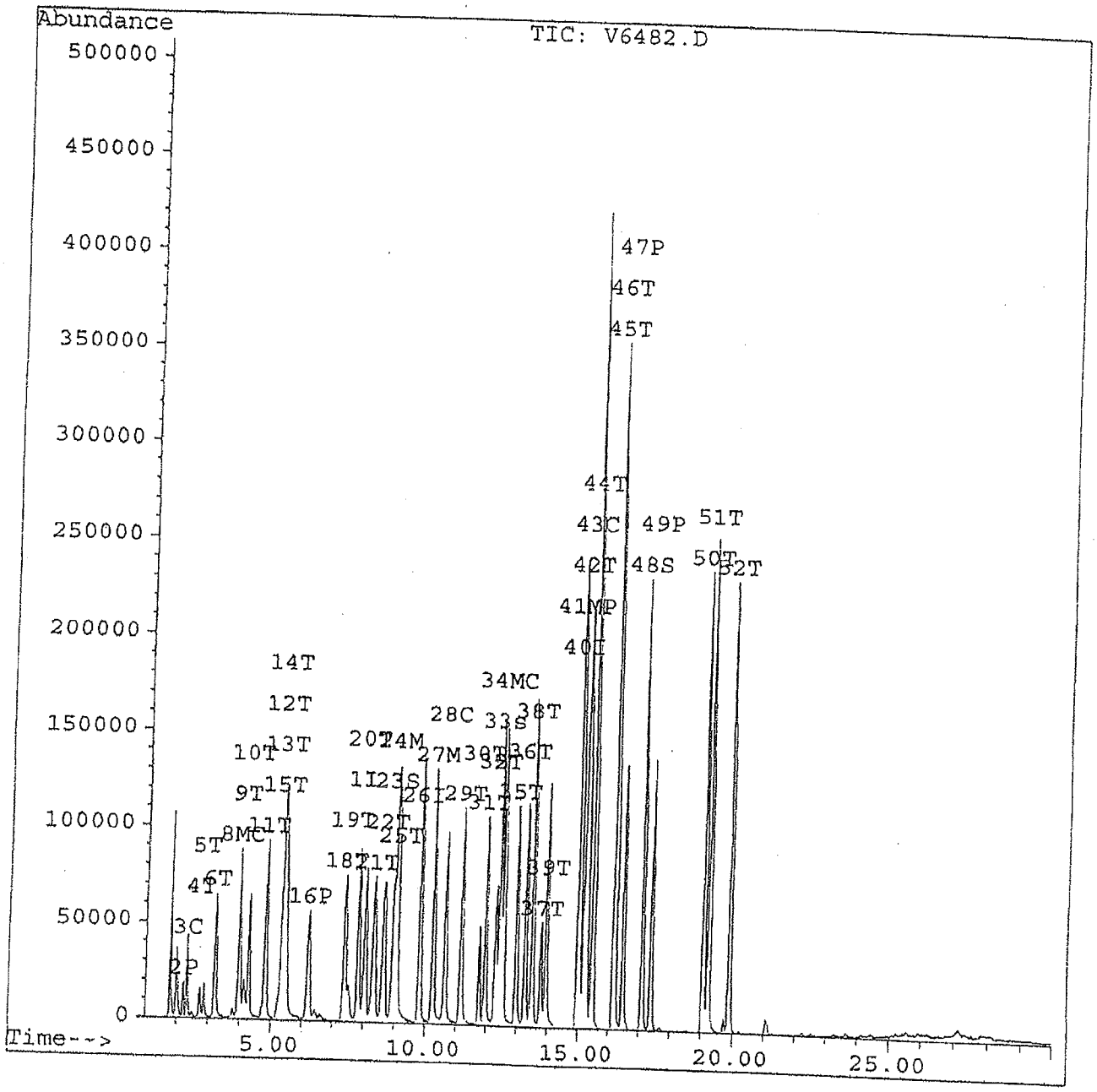
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\v6482.d
Acq On : 12 Nov 97 9:12 pm
Sample : 9778619 MSD..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 13 9:55 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data2\v6483.d
Acq On : 12 Nov 97 9:49 pm
Sample : 20 LCS..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Nov 13 9:56 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	7.84	128	82787	50.00	ug/l		-0.09
26) 1,4-Difluorobenzene	9.81	114	356142	50.00	ug/l		-0.09
40) Chlorobenzene-d5	14.97	117	320523	50.00	ug/l		-0.09
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	8.94	65	177856	52.35	ug/l		104.71%
33) Toluene-d8	12.42	98	344311	49.05	ug/l		98.09%
48) 4-Bromofluorobenzene	17.10	95	259333	49.51	ug/l		99.02%
Target Compounds							Qvalue
2) Chloromethane	2.21	50	18688	15.46	ug/l		95
3) Vinyl chloride	2.33	62	29315	15.42	ug/l		99
4) Bromomethane	2.71	94	12567	19.87	ug/l	m	98
5) Chloroethane	2.87	64	18534	19.72	ug/l	m	96
6) Trichlorofluoromethane	3.22	101	65297	16.55	ug/l		99
8) 1,1-Dichloroethene	3.97	61	80239	18.70	ug/l		91
9) Acetone	4.13	43	32472	19.89	ug/l		95
10) Carbon disulfide	4.29	76	105554	17.15	ug/l		100
11) Methylene chloride	4.84	49	82692	22.00	ug/l		95
12) Acrylonitrile	5.37	53	14582	20.52	ug/l		100
13) trans-1,2-Dichloroethene	5.37	61	72580	18.24	ug/l		96
14) Methyl-tert butyl ether	5.44	73	135711	19.28	ug/l		96
15) tert-Butyl Alcohol	5.30	59	13076	27.71	ug/l		100
16) 1,1-Dichloroethane	6.22	63	99208	18.26	ug/l		97
18) cis-1,2-Dichloroethene	7.38	61	76694	18.06	ug/l		100
19) 2-Butanone	7.52	43	40368	19.23	ug/l		98
20) Chloroform	8.05	83	97976	19.14	ug/l		86
21) 1,1,1-Trichloroethane	8.35	97	74077	17.69	ug/l		95
22) Carbon tetrachloride	8.64	117	70288	18.58	ug/l		99
24) Benzene	9.03	78	119880	17.88	ug/l		100
25) 1,2-Dichloroethane	9.10	62	98160	20.50	ug/l		100
27) Trichloroethene	10.25	130	57965	19.71	ug/l		93
28) 1,2-Dichloropropane	10.64	63	48497	20.82	ug/l		99
29) Bromodichloromethane	11.16	83	107995	21.14	ug/l		94
30) 2-Chloroethyl vinyl ether	11.78	63	30608	21.77	ug/l		97
31) trans-1,3-Dichloropropene	11.96	75	77565	19.06	ug/l		95
32) 4-Methyl-2-pentanone	12.31	43	66780	21.43	ug/l		94
34) Toluene	12.54	91	143355	20.12	ug/l		95
35) cis-1,3-Dichloropropene	12.97	75	79443	18.84	ug/l		97
36) 1,1,2-Trichloroethane	13.29	97	53033	22.42	ug/l		93
37) 2-Hexanone	13.80	43	52476	22.15	ug/l		98
38) Tetrachloroethene	13.50	166	73117	21.91	ug/l		84
39) Dibromochloromethane	13.96	129	97726	22.74	ug/l		98
41) Chlorobenzene	15.03	112	115493	20.19	ug/l		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\v6483.d
Acq On : 12 Nov 97 9:49 pm
Sample : 20 LCS..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Nov 13 9:56 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
42) 1,1,1,2-Tetrachloroethane	15.19	131	65342	21.41	ug/l	92
43) Ethylbenzene	15.26	91	189582	19.91	ug/l	98
44) Xylene (para & meta)	15.47	91	325559	41.90	ug/l	96
45) Xylene (ortho)	16.18	91	174132	21.00	ug/l	95
46) Styrene	16.20	104	108195	18.04	ug/l	98
47) Bromoform	16.48	173	88137	23.36	ug/l	91
49) 1,1,2,2-Tetrachloroethane	17.39	83	93902	21.43	ug/l	95
50) 1,3-Dichlorobenzene	19.06	146	124423	20.75	ug/l	84
51) 1,4-Dichlorobenzene	19.22	146	134669	20.63	ug/l	100
52) 1,2-Dichlorobenzene	19.89	146	128730	21.08	ug/l	100

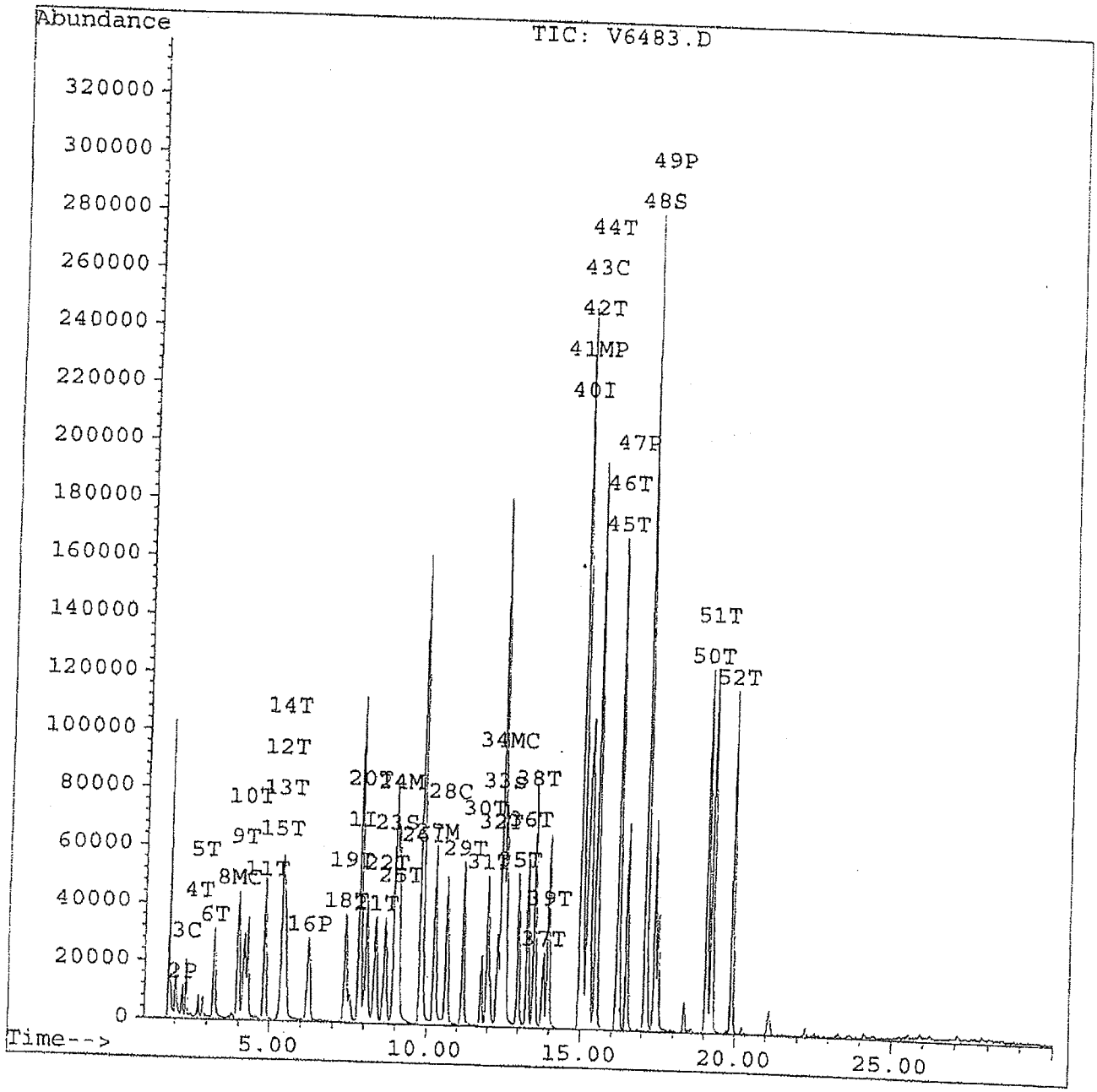
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\v6483.d
Acq On : 12 Nov 97 9:49 pm
Sample : 20 LCS..... Converted from RTE d
Misc : 5 ML.....
Quant Time: Nov 13 9:56 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration



3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Nam EMSL ANALYTICAL Contract: _____

Date : 11/13/97 Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - Lab Sample 9782199V Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC. LIMITS REC.
1,1-Dichloroethe	50	0	41	83	59-172
Trichloroethene	50	0	42	84	62-137
Benzene	50	0	41	83	66-142
Toluene	50	0	45	91	59-139
Chlorobenzene	50	0	43	86	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD ONCENTRATI (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethe	50	43	86	4	22	59-172
Trichloroethene	50	49	97	14	24	62-137
Benzene	50	43	87	5	21	66-142
Toluene	50	49	97	6	21	59-139
Chlorobenzene	50	51	101	16	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

Quantitation Report

Data File : c:\hpchem\1\data2\v8507.d
Acq On : 13 Nov 97 11:49 pm
Sample : 9782199 MS..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 14 9:09 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	7.84	128	65468	50.00	ug/l		-0.09
26) 1,4-Difluorobenzene	9.81	114	282411	50.00	ug/l		-0.09
40) Chlorobenzene-d5	14.99	117	229606	50.00	ug/l		-0.07
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	8.97	65	140054	52.13	ug/l		104.26%
33) Toluene-d8	12.45	98	259437	46.61	ug/l		93.21%
48) 4-Bromofluorobenzene	17.10	95	174955	46.63	ug/l		93.25%
Target Compounds							Qvalue
2) Chloromethane	2.21	50	41858	43.78	ug/l	m	98
3) Vinyl chloride	2.32	62	56504	37.58	ug/l	m	99
4) Bromomethane	2.74	94	18868	37.73	ug/l	m	99
5) Chloroethane	2.87	64	31289	42.10	ug/l		95
6) Trichlorofluoromethane	3.24	101	136332	43.70	ug/l		99
8) 1,1-Dichloroethene	4.00	61	140539	41.42	ug/l		93
9) Acetone	4.16	43	70588	54.67	ug/l		96
10) Carbon disulfide	4.29	76	224696	46.16	ug/l	m	100
11) Methylene chloride	4.84	49	142473	47.93	ug/l		88
12) Acrylonitrile	5.37	53	27931	49.71	ug/l		100
13) trans-1,2-Dichloroethene	5.37	61	122709	39.00	ug/l		92
14) Methyl-tert butyl ether	5.46	73	253223	45.49	ug/l		98
15) tert-Butyl Alcohol	5.30	59	95129	254.93	ug/l		100
16) 1,1-Dichloroethane	6.22	63	186772	43.46	ug/l		97
18) cis-1,2-Dichloroethene	7.41	61	143212	42.63	ug/l		98
19) 2-Butanone	7.55	43	76664	46.17	ug/l		98
20) Chloroform	8.07	83	184385	45.55	ug/l		91
21) 1,1,1-Trichloroethane	8.35	97	152109	45.92	ug/l		98
22) Carbon tetrachloride	8.64	117	170373	56.94	ug/l		98
24) Benzene	9.03	78	218721	41.25	ug/l		100
25) 1,2-Dichloroethane	9.10	62	174993	46.22	ug/l		98
27) Trichloroethene	10.25	130	97359	41.75	ug/l		98
28) 1,2-Dichloropropane	10.66	63	81156	43.94	ug/l		97
29) Bromodichloromethane	11.16	83	195472	48.26	ug/l		94
30) 2-Chloroethyl vinyl ether	11.78	63	57691	51.74	ug/l		99
31) trans-1,3-Dichloropropene	11.99	75	134798	41.76	ug/l		99
32) 4-Methyl-2-pentanone	12.31	43	123254	49.89	ug/l		98
34) Toluene	12.56	91	256627	45.41	ug/l		98
35) cis-1,3-Dichloropropene	13.00	75	137034	40.98	ug/l		100
36) 1,1,2-Trichloroethane	13.29	97	87152	46.46	ug/l		95
37) 2-Hexanone	13.80	43	83856	44.63	ug/l		93
38) Tetrachloroethene	13.52	166	121778	46.02	ug/l		87
39) Dibromochloromethane	13.96	129	173177	50.82	ug/l		98
41) Chlorobenzene	15.04	112	175546	42.85	ug/l		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\v8507.d
Acq On : 13 Nov 97 11:49 pm
Sample : 9782199 MS..... Converted from RTE d
Misc : 5 G,.....
Quant Time: Nov 14 9:09 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
42) 1,1,1,2-Tetrachloroethane	15.20	131	114635	52.43	ug/l	94
43) Ethylbenzene	15.26	91	319149	46.79	ug/l	98
44) Xylene (para & meta)	15.49	91	576519	103.58	ug/l	96
45) Xylene (ortho)	16.18	91	290282	48.87	ug/l	96
46) Styrene	16.20	104	187679	43.68	ug/l	94
47) Bromoform	16.48	173	155218	57.42	ug/l	88
49) 1,1,2,2-Tetrachloroethane	17.39	83	168050	53.53	ug/l	94
50) 1,3-Dichlorobenzene	19.07	146	178463	41.55	ug/l	98
51) 1,4-Dichlorobenzene	19.23	146	193744	41.43	ug/l	96
52) 1,2-Dichlorobenzene	19.89	146	197627	45.17	ug/l	98

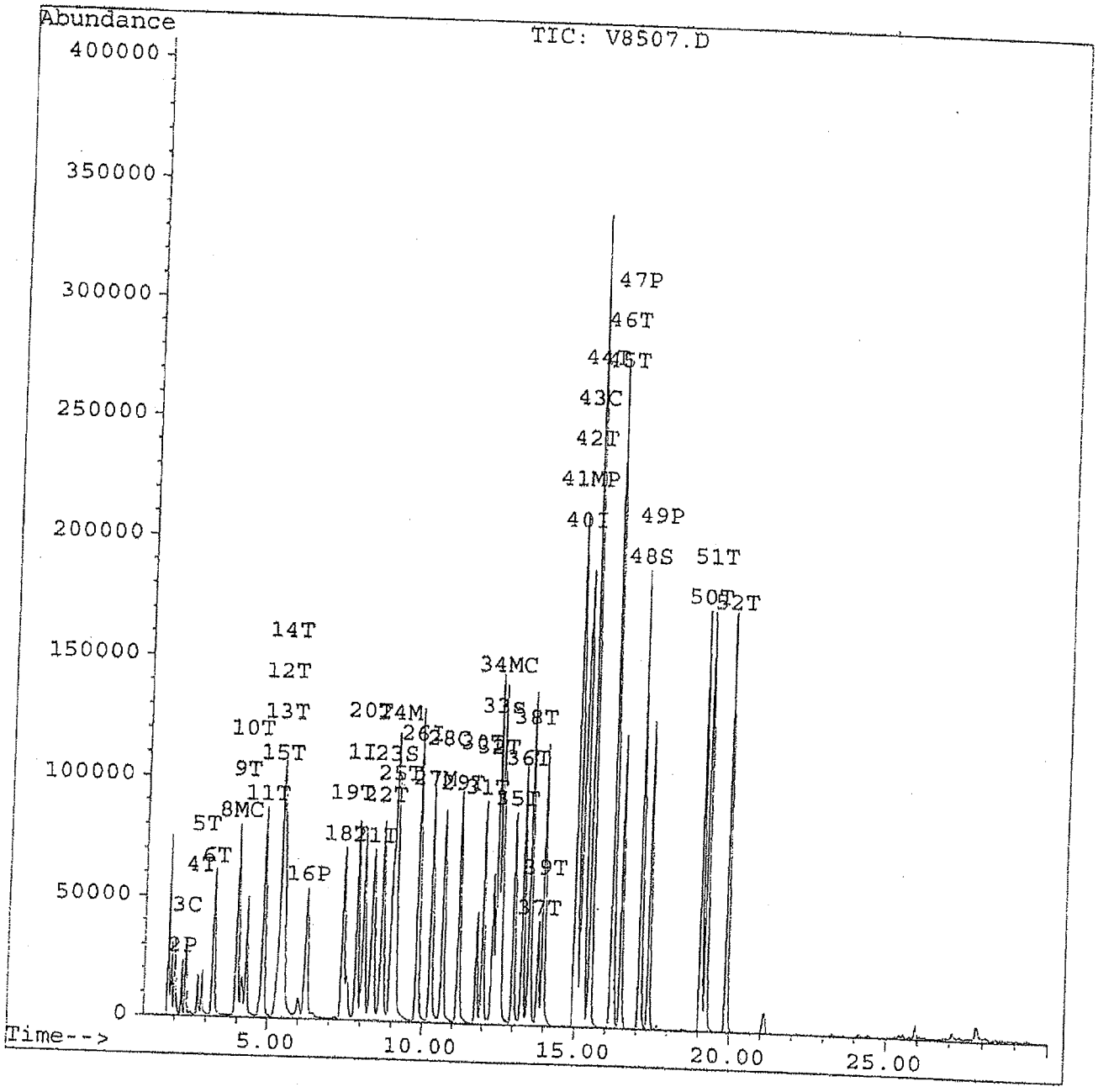
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\v8507.d
Acq On : 13 Nov 97 11:49 pm
Sample : 9782199 MS..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 14 9:09 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data2\v8508.d
Acq On : 14 Nov 97 12:26 am
Sample : 9782199 MSD..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 14 9:10 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	7.84	128	68148	50.00	ug/l		-0.09
26) 1,4-Difluorobenzene	9.84	114	287007	50.00	ug/l		-0.07
40) Chlorobenzene-d5	14.99	117	219201	50.00	ug/l		-0.07
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	8.97	65	143909	51.46	ug/l		102.92%
33) Toluene-d8	12.45	98	266714	47.15	ug/l		94.29%
48) 4-Bromofluorobenzene	17.10	95	169900	47.43	ug/l		94.86%
Target Compounds							Qvalue
2) Chloromethane	2.21	50	46743	46.97	ug/l	m	96
3) Vinyl chloride	2.32	62	61634	39.38	ug/l		99
4) Bromomethane	2.74	94	19827	38.09	ug/l		100
5) Chloroethane	2.87	64	32618	42.16	ug/l		92
6) Trichlorofluoromethane	3.24	101	139580	42.98	ug/l		96
8) 1,1-Dichloroethene	4.00	61	151640	42.94	ug/l		93
9) Acetone	4.16	43	72992	54.31	ug/l		97
10) Carbon disulfide	4.29	76	245811	48.51	ug/l	m	100
11) Methylene chloride	4.84	49	165435	53.46	ug/l		97
12) Acrylonitrile	5.37	53	30574	52.28	ug/l		100
13) trans-1,2-Dichloroethene	5.37	61	136147	41.56	ug/l		94
14) Methyl-tert butyl ether	5.46	73	296185	51.12	ug/l		98
15) tert-Butyl Alcohol	5.32	59	111791	287.80	ug/l		100
16) 1,1-Dichloroethane	6.22	63	208443	46.59	ug/l		96
18) cis-1,2-Dichloroethene	7.41	61	156858	44.86	ug/l		93
19) 2-Butanone	7.54	43	78056	45.16	ug/l		100
20) Chloroform	8.07	83	206040	48.90	ug/l		88
21) 1,1,1-Trichloroethane	8.35	97	155228	45.02	ug/l		97
22) Carbon tetrachloride	8.64	117	183893	59.04	ug/l		96
24) Benzene	9.06	78	238713	43.25	ug/l		100
25) 1,2-Dichloroethane	9.10	62	200042	50.75	ug/l		95
27) Trichloroethene	10.27	130	115092	48.57	ug/l		98
28) 1,2-Dichloropropane	10.66	63	96643	51.48	ug/l		98
29) Bromodichloromethane	11.19	83	218519	53.09	ug/l		98
30) 2-Chloroethyl vinyl ether	11.78	63	61103	53.92	ug/l		99
31) trans-1,3-Dichloropropene	11.99	75	143810	43.84	ug/l		98
32) 4-Methyl-2-pentanone	12.31	43	144602	57.59	ug/l		96
34) Toluene	12.56	91	279844	48.73	ug/l		95
35) cis-1,3-Dichloropropene	13.00	75	149135	43.88	ug/l		97
36) 1,1,2-Trichloroethane	13.29	97	103823	54.46	ug/l		92
37) 2-Hexanone	13.80	43	98799	51.74	ug/l		91
38) Tetrachloroethene	13.52	166	118614	44.10	ug/l		88
39) Dibromochloromethane	13.96	129	190490	55.01	ug/l		95
41) Chlorobenzene	15.04	112	197958	50.61	ug/l		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\v8508.d
Acq On : 14 Nov 97 12:26 am
Sample : 9782199 MSD..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 14 9:10 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
42) 1,1,1,2-Tetrachloroethane	15.20	131	128144	61.39	ug/l		94
43) Ethylbenzene	15.26	91	333918	51.28	ug/l		97
44) Xylene (para & meta)	15.49	91	588767	110.80	ug/l		94
45) Xylene (ortho)	16.18	91	299267	52.77	ug/l		86
46) Styrene	16.20	104	200946	48.98	ug/l		100
47) Bromoform	16.48	173	157161	60.90	ug/l	m	91
49) 1,1,2,2-Tetrachloroethane	17.39	83	180542	60.24	ug/l		94
50) 1,3-Dichlorobenzene	19.07	146	172243	42.01	ug/l		94
51) 1,4-Dichlorobenzene	19.23	146	187455	41.98	ug/l		100
52) 1,2-Dichlorobenzene	19.91	146	190751	45.66	ug/l		96

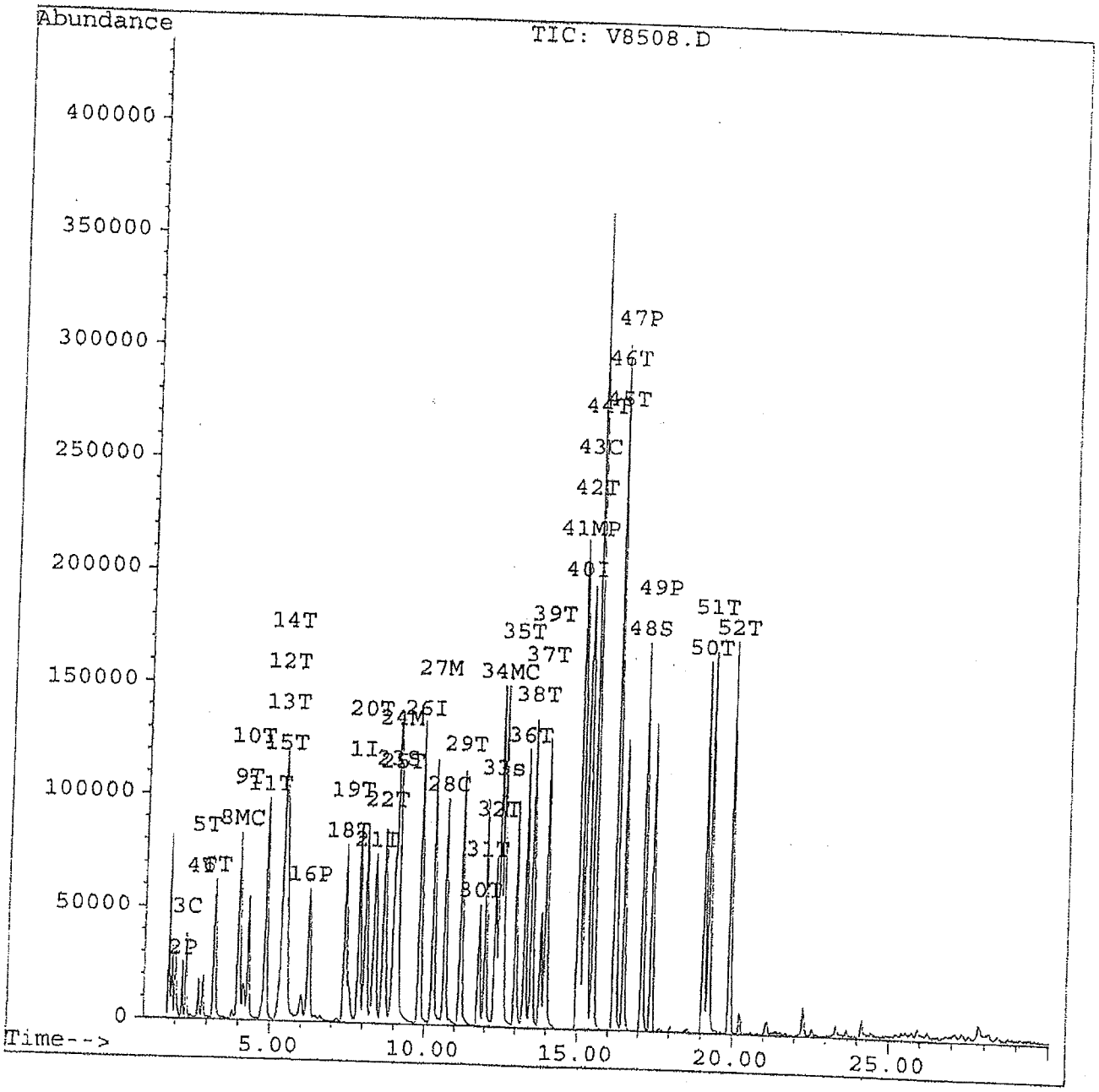
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\v8508.d
Acq On : 14 Nov 97 12:26 am
Sample : 9782199 MSD..... Converted from RTE d
Misc : 5 G.....
Quant Time: Nov 14 9:10 1997

Vial: 0
Operator: SCOTTK
Inst : AVOA
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\8240H.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Oct 24 13:40:20 1997
Response via : Multiple Level Calibration



EMSL

GC/MS SEMIVOLATILE DATA PACKAGE

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

273

Lab Name : EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID: B6562.D DFTPP Injection Date: 9/29/97

Instrument ID: ABNA DFTPP Injection Time: 1114

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	37.1
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	77.9
70	Less than 2.0% of mass 69	0.3 (0.4)1
127	25.0 - 75.0% of mass 198	44.0
197	Less than 1.0% of mass 198	0.8
198	Base Peak, 100 % relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.2
275	10.0 - 30.0% of mass 198	19.6
365	Greater than 0.75% of mass 198	3.5
441	Present, but less than mass 443	11.4
442	40.0 - 110.0% of mass 198	80.6
443	15.0 - 24.0% of mass 442	16.2 (20.2)2

1-Value is % mass 69 2-Value is % mass 442

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD010	10 STD	B6563.D	9/29/97	1133
02	SSTD020	20 STD	B6564.D	9/29/97	1225
03	SSTD050	50 STD	B6565.D	9/29/97	1316
04	SSTD080	80 STD	B6566.D	9/29/97	1408
05	SSTD120	120 STD	B6567.D	9/29/97	1459
06	SSTD160	160 STD	B6568.D	9/29/97	1642
07					
08					
09					
10					
11					
12					
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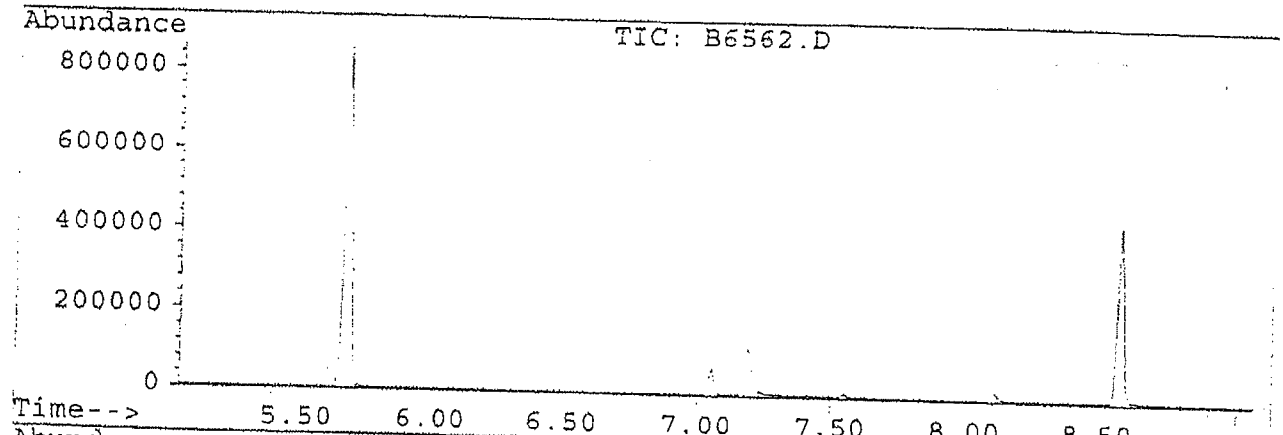
14					
15					
16					
17					
18					
19					
20					
21					
22					

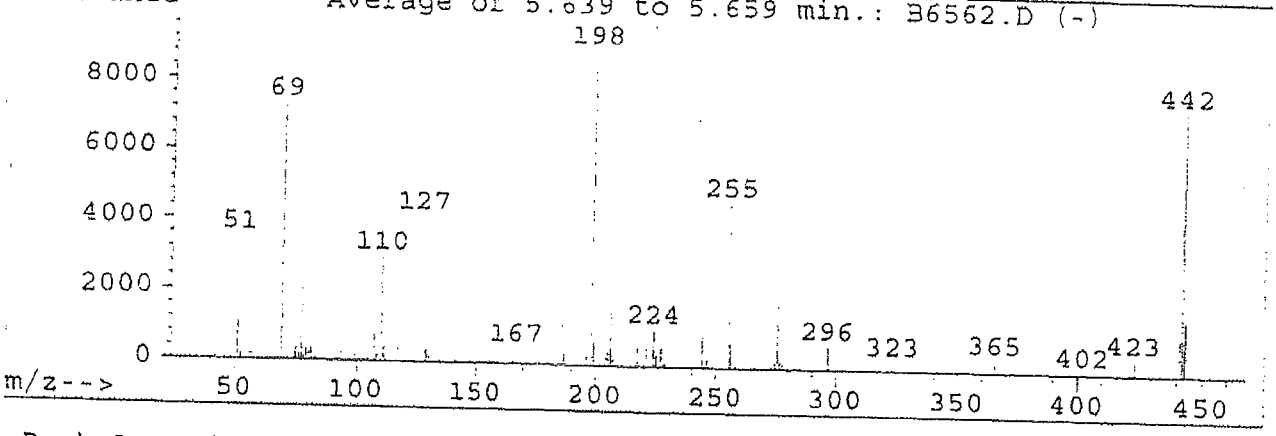
DFTPP

Data File : C:\HPCHEM\1\DATA2\B6562.D
Acq On : 29 Sep 97 11:14 am
Sample : DFTPP.....
Misc : Converted from RTE d

Vial: 1
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration





Peak Apex is scan: 407

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	37.1	3466	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	77.9	7286	PASS
70	69	0	2	0.4	26	PASS
127	198	40	60	44.0	4113	PASS
197	198	0	1	0.8	78	PASS
198	198	100	100	100.0	9354	PASS
199	198	5	9	7.2	670	PASS
275	198	10	30	19.6	1829	PASS
365	198	1	100	3.5	328	PASS
441	443	0	100	70.5	1071	PASS
442	198	40	100	80.6	7538	PASS
443	442	17	23	20.2	1520	PASS

B6562.D BNACLP.M Tue Sep 30 15:43:00 1997 BNA

verage of 5.639 to 5.659 min.: B6562.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.75	8	51.75	5	62.05	22	75.00	705
39.05	254	52.05	173	62.85	7	76.05	159
40.10	48	53.05	25	63.05	249	77.05	2275
41.65	12	54.90	42	66.45	8	78.05	165
42.20	33	56.05	208	67.10	49	79.05	307
46.05	16	56.85	13	69.05	7286	80.05	255
47.75	16	57.05	444	69.75	17	80.55	5
48.55	29	58.10	21	70.05	26	81.05	401
49.75	12	60.15	10	70.55	11	81.95	76
50.05	1084	61.05	94	73.35	20	83.05	82
51.05	3466	61.35	8	74.05	262	85.05	72

verage of 5.639 to 5.659 min.: B6562.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
86.00	95	94.45	4	103.05	97	111.40	10
86.95	59	95.95	14	104.05	101	112.00	29
88.05	19	96.15	16	104.95	5	112.60	5
88.95	15	97.15	3	105.05	58	112.80	6
91.05	45	97.75	4	106.05	13	113.00	19
92.00	61	98.05	180	107.05	1282	114.00	6
92.35	11	98.45	4	108.05	195	115.30	15
93.05	414	99.05	223	108.85	5	116.00	93
93.45	6	99.80	34	110.00	2948	116.40	5
93.85	9	101.05	187	111.00	429	117.00	639
94.10	37	102.15	12	111.20	11	118.00	1

erage of 5.639 to 5.659 min.: B6562.D

-fied:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
119.80	6	129.00	1892	138.10	5	149.10	30
121.00	25	129.95	178	138.50	7	150.00	21
122.00	22	131.10	35	139.80	15	150.85	11
122.10	103	131.90	14	140.10	19	151.10	25
123.00	77	132.70	9	141.00	291	151.40	23
123.70	9	133.00	8	142.10	89	151.80	55
124.10	7	133.70	12	144.00	14	153.00	93
125.00	39	134.10	42	146.00	33	154.10	57
125.80	7	135.00	139	147.10	119	155.10	32
127.00	4113	137.05	14	147.90	48	156.05	140
128.05	342	137.80	11	148.00	104	157.00	57

erage of 5.639 to 5.659 min.: B6562.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
157.50	25	166.00	62	176.05	64	187.95	45
157.80	12	167.10	409	177.10	86	189.00	54
158.10	39	167.80	7	178.10	28	190.05	11
159.10	44	168.10	137	179.00	300	190.45	12
159.95	46	169.00	46	180.10	177	190.95	24
161.05	102	170.70	8	181.10	83	191.35	13
161.70	23	171.10	22	182.10	33	192.00	72
90	21	172.00	38	182.75	7	193.00	39
.20	5	173.05	30	185.15	151	195.15	7
54.90	9	174.00	6	186.05	1163	196.05	288
65.10	81	175.20	129	187.05	321	196.85	78

verage of 5.639 to 5.659 min.: B6562.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
198.05	9354	207.05	206	217.05	558	228.95	105
198.75	5	208.05	92	218.15	84	230.15	12
199.05	670	209.05	25	218.55	9	231.05	43
199.90	7	209.95	12	219.05	17	232.35	4
200.15	37	210.35	11	221.05	562	232.75	3
201.25	6	210.75	4	223.05	114	233.55	8
201.55	48	211.05	74	224.05	1022	234.15	35
203.10	88	213.55	12	225.05	315	234.85	4
204.05	363	214.95	29	226.05	17	235.15	35
205.05	412	215.95	8	227.05	561	235.35	5
206.05	1818	216.05	36	228.05	106	235.55	6

verage of 5.639 to 5.659 min.: B6562.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
236.15	22	245.15	98	256.90	3	270.10	6
237.05	36	246.05	225	257.15	65	270.40	4
238.15	8	246.95	33	258.05	291	273.00	174
238.90	35	247.95	12	259.20	42	274.10	452
240.05	7	249.15	28	263.30	4	275.10	1829
241.05	53	250.05	10	264.00	12	276.05	227
242.10	59	251.55	6	264.75	17	277.10	161
243.10	47	253.15	23	265.00	67	278.10	23
243.95	14	253.55	19	265.95	47	282.30	4
244.15	902	255.05	4681	267.60	5	283.00	31
244.95	33	256.00	697	268.00	18	283.60	9

verage of 5.639 to 5.659 min.: B6562.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
283.90	17	293.05	41	311.00	4	320.60	7
284.10	18	296.10	649	312.20	9	321.10	25
284.50	15	297.10	101	312.60	6	321.80	6
284.90	7	298.10	6	313.30	7	322.25	23
285.10	38	301.10	12	313.70	5	323.15	225
286.10	11	302.00	18	313.90	17	324.10	40
287.00	6	303.10	79	314.20	21	325.20	6
288.70	6	304.10	13	315.15	72	327.10	48
288.90	15	308.10	13	316.10	10	328.00	28
289.70	3	309.10	5	316.20	48	328.95	9
290.00	5	309.90	10	317.80	4	329.15	8

erage of 5.639 to 5.659 min.: B6562.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
332.05	4	350.85	6	366.00	48	382.75	9
333.15	21	351.15	4	369.55	3	383.15	28
334.15	130	352.05	50	369.75	5	384.25	3
334.55	8	352.35	4	370.05	6	385.35	5
335.15	41	353.15	35	370.35	5	390.05	15
337.05	3	354.15	50	370.65	6	390.85	10
340.85	24	358.95	5	371.25	16	391.15	8
.05	42	359.35	6	372.15	110	401.00	6
.15	15	361.85	4	373.25	35	402.10	46
349.75	8	363.05	5	375.15	6	403.00	39
350.05	6	365.05	328	379.25	5	404.10	19

erage of 5.639 to 5.659 min.: B6562.D

dified:subtracted

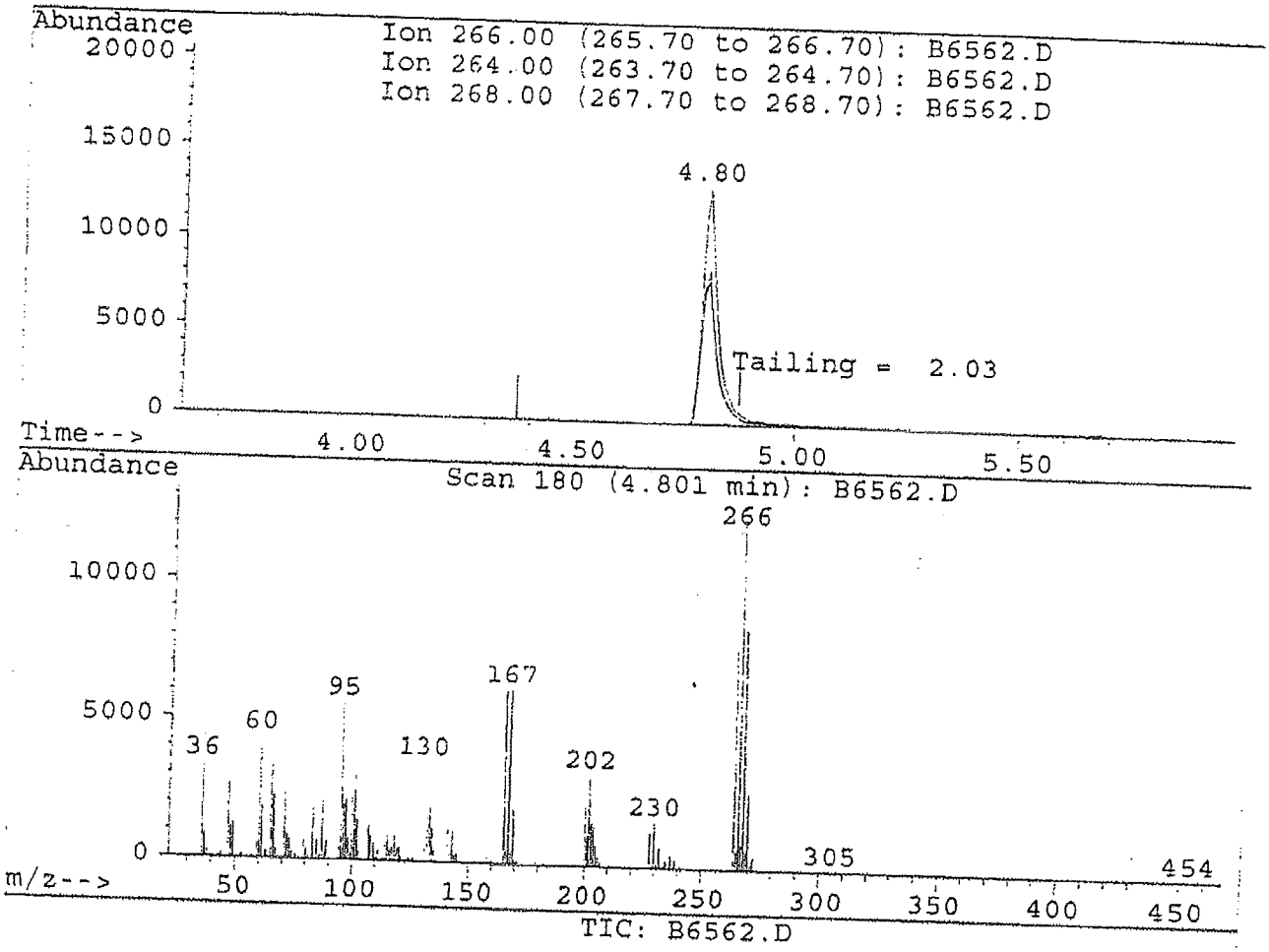
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
.00	4	441.10	1071				
7.60	4	442.10	7538				
18.50	7	443.10	1520				
421.20	65	444.10	138				
422.00	20	445.30	12				
422.20	49	451.50	5				
422.70	10	454.10	4				
423.15	420						
424.10	75						
424.90	11						
436.70	6						

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\B6562.D
Acq On : 29 Sep 97 11:14 am
Sample : DFTPP..... Converted from RTE d
Misc :
Quant Time: Sep 29 11:35 1997

Vial: 1
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Fri Sep 19 14:06:48 1997
Response via : Multiple Level Calibration



(1) Pentachlorophenol (CM)

4.80min 101.01ug/mL
response 33364

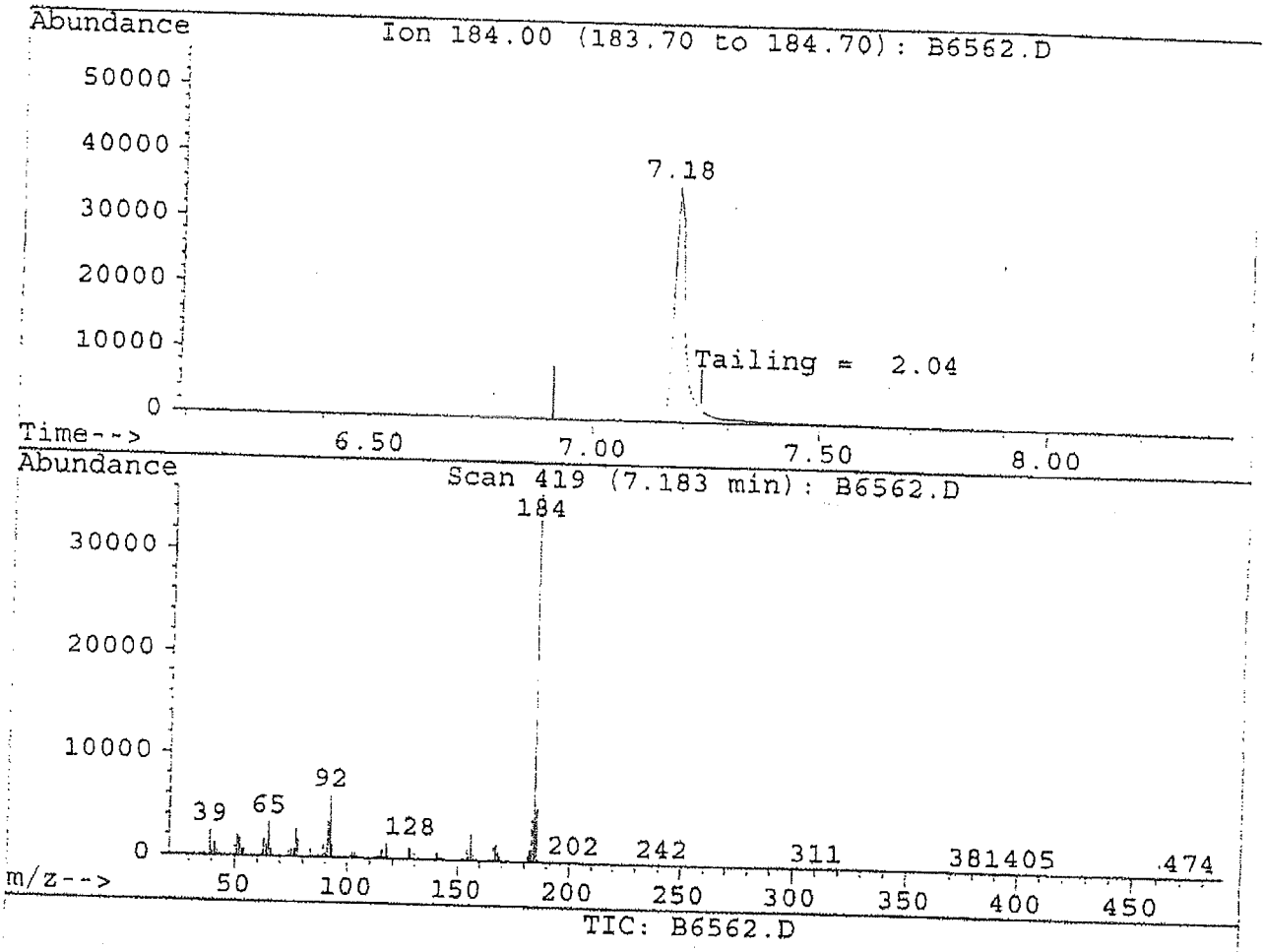
Ion	Exp%	Act%
266.00	100	100
264.00	64.30	60.55
268.00	64.70	65.03
0.00	0.00	0.00

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\B6562.D
Acq On : 29 Sep 97 11:14 am
Sample : DFTPP..... Converted from RTE d
Misc :
Quant Time: Sep 29 11:35 1997

Vial: 1
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Fri Sep 19 14:06:48 1997
Response via : Multiple Level Calibration



(2) Benzidine
7.18min 227.85ug/ml
response 69997

Ion	Exp%	Act%
184.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Response Factor Report ABNA

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 15:59:34 1997
Response via : Initial Calibration

Calibration Files
10 =B6563.D 20 =B6564.D 50 =B6565.D
80 =B6566.D 120 =B6567.D 160 =B6568.D

		Compound	10	20	50	80	120	160	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	ISTD							
2)	S	2-Fluorophenol	1.163	1.190	1.417	1.244	1.289	1.375	1.280	7.90
3)	S	Phenol-d5	2.120	2.149	2.549	2.425	2.174	2.549	2.327	8.73
4)	M	N-nitrosodimethylam	0.604	1.017	0.948	0.939	1.055	0.948	0.918	17.53
5)		Pyridine		0.987	1.511	1.896	1.699	1.686	1.556	22.25
6)	CM	Phenol	2.202	2.432	2.521	2.595	2.532	2.471	2.459	5.58
7)	MT	bis(2-Chloroethyl)e		1.442	1.476	1.530	1.521	1.449	1.484	2.73
8)	M	2-Chlorophenol	1.475	1.601	1.646	1.682	1.665	1.636	1.618	4.63
9)	MT	1,3-Dichlorobenzene	0.837	1.126	1.219	1.262	1.260	1.223	1.154	14.14
10)	CM	1,4-Dichlorobenzene	0.898	1.212	1.345	1.380	1.384	1.348	1.261	14.98
11)	M	1,2-Dichlorobenzene	0.919	1.215	1.350	1.397	1.377	1.343	1.267	14.36
12)	T	2-Methylphenol	1.652	1.514	1.812	1.787	1.753	1.816	1.722	6.88
13)	M	bis(2-chloroisoprop		4.242	3.636	4.948	3.898	4.555	4.256	12.22
14)	T	4-Methylphenol	1.706	1.720	1.953	1.960	1.924	2.013	1.879	7.04
15)	PM	N-Nitroso-Di-n-prop	1.442	1.624	1.800	1.959	1.893	2.029	1.791	12.36
16)	M	Hexachloroethane	0.586	0.839	0.957	0.996	0.978	0.976	0.888	17.85
17)	I	Naphthalene-d8	ISTD							
	S	Nitrobenzene-d5	0.541	0.562	0.574	0.587	0.578	0.579	0.570	2.86
	M	Nitrobenzene	0.405	0.447	0.514	0.528	0.560	0.566	0.503	12.77
20)	M	Isophorone		0.877	1.009	1.055	1.069	1.037	1.009	7.65
21)	MC	2-Nitrophenol	0.215	0.249	0.278	0.284	0.298	0.294	0.270	11.86
22)	M	2,4-Dimethylphenol	0.505	0.552	0.586	0.591	0.584	0.583	0.567	5.92
23)	M	bis(2-Chloroethoxy)	0.436	0.494	0.585	0.596	0.605	0.595	0.552	12.67
24)	MC	2,4-Dichlorophenol	0.258	0.306	0.336	0.330	0.333	0.324	0.315	9.40
25)	M	1,2,4-Trichlorobenz	0.227	0.261	0.279	0.282	0.281	0.269	0.267	7.91
26)	M	Naphthalene	0.924	1.003	1.125	1.139	1.090	1.089	1.062	7.76
27)	T	4-Chloroaniline	0.491	0.499	0.590	0.579	0.571	0.583	0.552	8.12
28)	MC	Hexachlorobutadiene	0.150	0.165	0.182	0.186	0.178	0.174	0.172	7.45
29)	MC	4-Chloro-3-methylph	0.496	0.525	0.546	0.548	0.560	0.578	0.542	5.26
30)	M	2-Chloronaphthalene	0.692	0.686	0.749	0.763	0.759	0.772	0.737	5.15
31)	T	2-Methylnaphthalene	0.780	0.734	0.851	0.836	0.831	0.849	0.813	5.75
32)	I	Acenaphthene-d10	ISTD							
33)	P	Hexachlorocyclopent		0.187	0.276	0.292	0.308	0.294	0.271	17.92
34)	MC	2,4,6-Trichlorophen	0.319	0.367	0.391	0.395	0.408	0.387	0.378	8.46
35)	T	2,4,5-Trichlorophen	0.381	0.376	0.440	0.416	0.416	0.387	0.403	6.27
36)	S	2-Fluorobiphenyl	1.051	1.129	1.107	1.108	1.099	1.072	1.094	2.56
37)	T	2-Nitroaniline	0.926	0.944	1.146	1.106	1.049	1.094	1.044	8.62
38)	M	Dimethylphthalate	1.093	1.123	1.258	1.275	1.264	1.237	1.208	6.56
39)	M	Acenaphthylene	1.476	1.667	1.867	1.875	1.853	1.805	1.757	8.97
40)	M	2,6-Dinitrotoluene	0.250	0.297	0.300	0.288	0.311	0.230	0.280	11.45
41)	T	3-Nitroaniline	0.399	0.404	0.508	0.510	0.490	0.536	0.475	12.28
	4	Acenaphthene	0.990	1.095	1.155	1.174	1.179	1.169	1.127	6.56
	AP	2,4-Dinitrophenol		0.158	0.242	0.222	0.231	0.234	0.217	15.53
	PM	4-Nitrophenol	0.200	0.258	0.310	0.275	0.295	0.331	0.278	16.59
	T	Dibenzofuran	1.763	1.691	1.837	1.792	1.813	1.831	1.788	3.06
47)	M	2 4-Dinitrotoluene	0.366	0.393	0.430	0.456	0.432	0.439	0.419	7.99
48)	M	Diethylphthalate	1.512	1.536	1.565	1.427	1.384	1.297	1.454	7.06
49)	M	Fluorene	1.205	1.337	1.465	1.484	1.486	1.484	1.410	8.23

49)	M	4-Chlorophenyl-phen	0.525	0.555	0.588	0.593	0.600	0.615	0.579	5.72	
50)		Phenanthrene-d10	----------ISTD----------								
51)	T	4-Nitroaniline	0.156	0.197	0.244	0.206	0.189	0.168	0.193	15.97	
52)	MC	4,6-Dinitro-2-methy	0.089	0.131	0.167	0.146	0.141	0.140	0.136	19.10	
	T	n-Nitrosodiphenylam	0.381	0.420	0.416	0.415	0.384	0.374	0.398	5.21	
	S	2,4,6-Tribromopheno	0.105	0.113	0.113	0.103	0.133	0.115	0.113	9.58	
55)		1,2-Diphenylhydrazi	1.447	1.580	1.745	1.795	1.888	1.816	1.712	9.69	
56)	M	4-Bromophenyl-pheny	0.158	0.168	0.196	0.185	0.220	0.221	0.191	13.73	
57)	M	Hexachlorobenzene	0.200	0.210	0.247	0.233	0.280	0.231	0.233	12.20	
58)	CM	Pentachlorophenol		0.107	0.141	0.156	0.153	0.160	0.144	14.88	
59)	M	Phenanthrene	0.941	1.022	1.116	1.245	1.237	1.251	1.136	11.60	
60)	M	Anthracene	0.934	1.016	1.077	1.104	0.991	1.022	1.024	5.94	
61)		Carbazole	0.934	1.021	1.048	1.074	1.080	1.025	1.030	5.15	
62)	M	Di-n-butylphthalate	1.595	1.679	1.807	1.863	1.644	1.566	1.692	7.01	
63)	MC	Fluoranthene	1.110	1.188	1.211	1.189	1.164	1.107	1.162	3.76	
64)	I	Chrysene-d12	----------ISTD----------								
65)		Benzidine		0.247	0.390	0.422	0.507	0.446	0.402	24.05	
66)	M	Pyrene	1.200	1.432	1.795	1.747	1.741	1.786	1.617	15.16	
67)	S	Terphenyl-d14	0.867	0.984	1.049	1.036	1.072	1.096	1.017	8.13	
68)	M	Butylbenzylphthalat	0.699	0.870	0.998	1.010	1.029	1.036	0.940	14.13	
69)	M	Benzo[a]anthracene	0.993	1.121	1.390	1.462	1.426	1.424	1.303	15.03	
70)	M	3,3'-Dichlorobenzid	0.261	0.326	0.280	0.281	0.300	0.317	0.294	8.38	
71)	M	Chrysene	0.917	0.992	1.041	1.044	0.954	1.022	0.995	5.11	
72)	M	bis(2-Ethylhexyl)ph		1.339	1.651	1.715	1.723	1.652	1.616	9.81	
73)	I	Perylene-d12	----------ISTD----------								
74)	MC	Di-n-octylphthalate		3.360	4.904	5.204	5.224	4.567	4.652	16.55	
75)	M	Benzo[b]fluoranthen		1.958	2.108	2.806	2.777	2.645	2.459	16.14	
76)	m	Benzo[k]fluoranthen		1.089	1.214	1.262	0.874	0.733	1.034	21.82	
	mc	Benzo[a]pyrene	1.188	0.981	1.133	1.188	1.175	1.124	1.132	6.96	
	m	Indeno[1,2,3-cd]pyr		0.542	0.700	0.702	0.659	0.631	0.647	10.11	
	m	Dibenz[a,h]anthrace		0.454	0.560	0.593	0.545	0.524	0.535	9.69	
80)	M	Benzo[g,h,i]perylen		0.327	0.577	0.551	0.502	0.490	0.489	19.94	

#) = Out of Range

Quantitation Report

Data File : c:\hpchem\1\data2\b6563.d
Acq On : 29 Sep 97 11:33 am
Sample : 10 STD..... Converted from RTE d
Misc :
Quant Time: Sep 30 15:48 1997

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	8.19	152	24799	40.00	ug/mL	-0.21
17) Naphthalene-d8	11.95	136	117337	40.00	ug/mL	-0.21
32) Acenaphthene-d10	17.26	164	91708	40.00	ug/mL	-0.21
50) Phenanthrene-d10	21.65	188	201275	40.00	ug/ml	-0.22
64) Chrysene-d12	29.72	240	201919	40.00	ug/mL	-0.24
73) Perylene-d12	33.74	264	85076	40.00	ug/mL	-0.25
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	5.05	112	36044	49.47	ug/mL	49.47%
3) Phenol-d5	8.07	99	65708	50.19	ug/mL	50.19%
18) Nitrobenzene-d5	10.00	82	79373	59.70	ug/mL	59.70%
36) 2-Fluorobiphenyl	15.43	172	120497	45.30	ug/mL	45.30%
54) 2,4,6-Tribromophenol	19.72	330	26309	64.39	ug/mL	64.39%
67) Terphenyl-d14	26.77	244	218827	38.73	ug/mL	38.73%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.97	74	3742	7.20	ug/mlm	100
5) Pyridine	1.97	79	3089	3.37	ug/mlm	100
6) Phenol	8.13	94	13654	9.80	ug/mLm	100
7) bis(2-Chloroethyl)ether	7.84	93	6882	8.10	ug/mLm	19
8) 2-Chlorophenol	7.88	128	9147	9.33	ug/mLm	0
9) 1,3-Dichlorobenzene	8.06	146	5188	7.14	ug/mLm	90
10) 1,4-Dichlorobenzene	8.23	146	5565	7.31	ug/mLm	91
11) 1,2-Dichlorobenzene	8.75	146	5699	7.33	ug/mLm	0
12) 2-Methylphenol	9.71	108	10241	10.72	ug/mLm	53
13) bis(2-chloroisopropyl)ethe	9.42	45	13950	8.38	ug/mLm	72
14) 4-Methylphenol	10.19	108	10576	10.09	ug/mLm	94
15) N-Nitroso-Di-n-propylamine	9.85	70	8942	10.59	ug/mLm	81
16) Hexachloroethane	9.60	117	3632	7.18	ug/mLm	0
19) Nitrobenzene	10.06	77	11880	7.16	ug/mL	94
20) Isophorone	10.79	82	24160	9.58	ug/mLm	71
21) 2-Nitrophenol	11.00	139	6315	7.76	ug/mL	98
22) 2,4-Dimethylphenol	11.60	107	14806	10.31	ug/mL	98
23) bis(2-Chloroethoxy)methane	11.69	93	12798	8.43	ug/mL	98
24) 2,4-Dichlorophenol	11.93	162	7571	7.51	ug/mL	92
25) 1,2,4-Trichlorobenzene	11.89	180	6653	8.28	ug/mL	97
26) Naphthalene	11.98	128	27105	9.35	ug/mL	100
27) 4-Chloroaniline	12.50	127	14390	8.88	ug/mL	99
28) Hexachlorobutadiene	12.66	225	4413	11.07	ug/mL	96
29) 4-Chloro-3-methylphenol	14.41	107	14558	11.31	ug/mL	94
30) 2-Chloronaphthalene	15.53	162	20307	10.02	ug/ml	99
31) 2-Methylnaphthalene	14.10	142	22883	9.61	ug/mL	95
33) Hexachlorocyclopentadiene	14.83	237	2670	5.17	ug/mL#	93
34) 2,4,6-Trichlorophenol	15.28	196	7304	7.89	ug/mLm	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b6563.d
Acq On : 29 Sep 97 11:33 am
Sample : 10 STD..... Converted from RTE d
Misc :
Quant Time: Sep 30 15:48 1997

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) 2,4,5-Trichlorophenol	15.53	196	8731	11.18 ug/mL	92
37) 2-Nitroaniline	17.51	65	21240	12.13 ug/mL	80
38) Dimethylphthalate	16.97	163	25062	9.81 ug/mL#	99
39) Acenaphthylene	16.76	152	33848	8.31 ug/mL	97
40) 2,6-Dinitrotoluene	17.12	165	5743	8.22 ug/mLm	24
41) 3-Nitroaniline	17.51	138	9152	8.69 ug/mL	99
42) Acenaphthene	17.34	153	22694	8.86 ug/mL	98
43) 2,4-Dinitrophenol	17.89	184	1092	1.78 ug/mL#	87
44) 4-Nitrophenol	18.74	109	4585	11.69 ug/mL#	80
45) Dibenzofuran	17.84	168	40424	10.31 ug/mL	98
46) 2,4-Dinitrotoluene	18.28	165	8380	9.94 ug/mLm	32
47) Diethylphthalate	19.15	149	34669	12.00 ug/mL	100
48) Fluorene	18.88	166	27619	9.42 ug/mL	99
49) 4-Chlorophenyl-phenylether	19.07	204	12044	11.45 ug/mL#	84
51) 4-Nitroaniline	19.38	138	7870	6.66 ug/mL	92
52) 4,6-Dinitro-2-methylphenol	19.47	198	4476	6.26 ug/mL	100
53) n-Nitrosodiphenylamine	19.53	169	19160	7.87 ug/mL	94
55) 1,2-Diphenylhydrazine (as	19.51	77	72818	9.23 ug/ml	100
56) 4-Bromophenyl-phenylether	20.49	248	7940	10.29 ug/mL#	86
57) Hexachlorobenzene	20.76	284	10056	11.53 ug/mL#	75
58) Pentachlorophenol	21.51	266	3611	6.30 ug/mL	94
59) Phenanthrene	21.71	178	47359	8.54 ug/mL	99
60) Anthracene	21.84	178	46978	9.96 ug/mLm	98
61) Carbazole	22.57	167	46992	9.10 ug/ml	94
62) Di-n-butylphthalate	24.13	149	80248	11.21 ug/mL	99
63) Fluoranthene	25.31	202	55868	11.30 ug/mL	92
65) Benzidine	26.08	184	2980	1.14 ug/ml	100
66) Pyrene	25.92	202	60592	5.72 ug/mL	95
68) Butylbenzylphthalate	28.60	149	35298	5.67 ug/mL	99
69) Benzo[a]anthracene	29.66	228	50130	7.87 ug/mL	99
70) 3,3'-Dichlorobenzidine	29.91	252	13178	9.15 ug/mL	98
71) Chrysene	29.77	228	46302	9.92 ug/mLm	96
72) bis(2-Ethylhexyl)phthalate	32.35	149	42158	5.21 ug/mL#	53
74) Di-n-octylphthalate	32.35	149	42158	3.01 ug/mL	98
75) Benzo[b]fluoranthene	32.76	252	31658	6.22 ug/mL#	93
76) Benzo[k]fluoranthene	32.82	252	35252	16.84 ug/mLm	94
77) Benzo[a]pyrene	33.57	252	25261	10.21 ug/mL	98
78) Indeno[1,2,3-cd]pyrene	36.28	276	8500	6.34 ug/mL#	79
79) Dibenz[a,h]anthracene	36.38	278	6676	5.29 ug/mL	99
80) Benzo[g,h,i]perylene	36.84	276	5509	5.43 ug/mLm	90

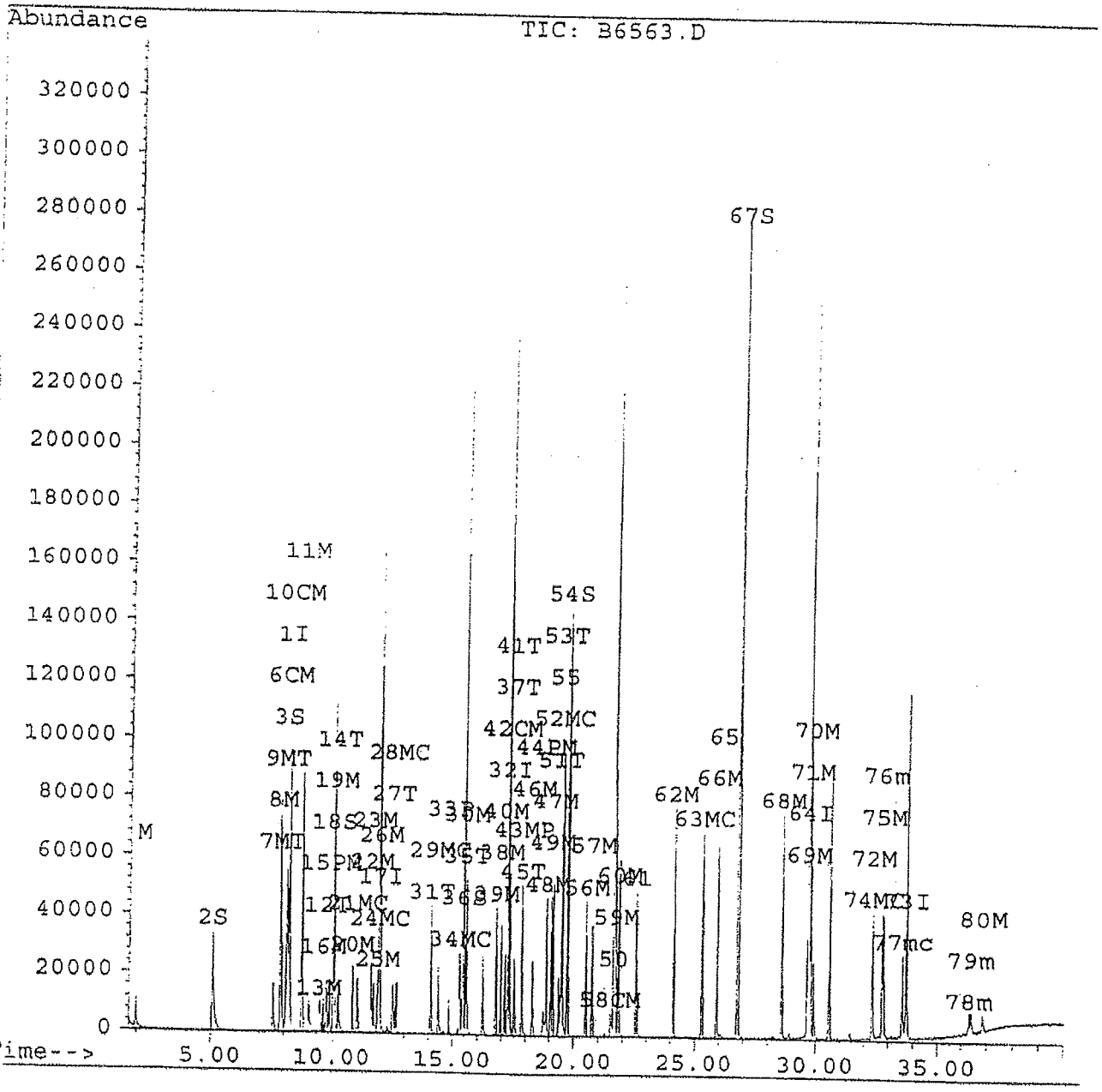
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b6563.d
Acq On : 29 Sep 97 11:33 am
Sample : 10 STD..... Converted from RTE d
Misc :
Quant Time: Sep 30 15:48 1997

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data2\b6564.d
Acq On : 29 Sep 97 12:25 pm
Sample : 20 STD..... Converted from RTE d
Misc :
Quant Time: Sep 30 16:13 1997

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	8.19	152	30894	40.00	ug/mL	-0.20
17) Naphthalene-d8	11.95	136	147812	40.00	ug/mL	-0.21
32) Acenaphthene-d10	17.26	164	109134	40.00	ug/mL	-0.21
50) Phenanthrene-d10	21.65	188	229376	40.00	ug/ml	-0.21
64) Chrysene-d12	29.72	240	206030	40.00	ug/mL	-0.24
73) Perylene-d12	33.73	264	82127	40.00	ug/mL	-0.26
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	5.05	112	45949	50.63	ug/mL	50.63%
3) Phenol-d5	8.08	99	82978	50.88	ug/mL	50.88%
18) Nitrobenzene-d5	10.00	82	103830	62.00	ug/mL	62.00%
36) 2-Fluorobiphenyl	15.43	172	153963	48.64	ug/mL	48.64%
54) 2,4,6-Tribromophenol	19.73	330	32303	69.38	ug/mL	69.38%
67) Terphenyl-d14	26.78	244	253519	43.97	ug/mL	43.97%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.97	74	15704	24.25	ug/ml	100
5) Pyridine	1.94	79	15241	13.36	ug/mlm	100
6) Phenol	8.11	94	37567	21.65	ug/mL	100
7) bis(2-Chloroethyl)ether	7.84	93	22275	21.04	ug/mLm	17
8) 2-Chlorophenol	7.88	128	24734	20.25	ug/mL#	85
9) 1,3-Dichlorobenzene	8.06	146	17389	19.21	ug/mL	98
10) 1,4-Dichlorobenzene	8.25	146	18719	19.74	ug/mL#	97
11) 1,2-Dichlorobenzene	8.75	146	18766	19.37	ug/mL	97
12) 2-Methylphenol	9.71	108	23388	19.64	ug/mL	94
13) bis(2-chloroisopropyl)ethe	9.42	45	65521	31.59	ug/mL#	70
14) 4-Methylphenol	10.17	108	26568	20.36	ug/mL	99
15) N-Nitroso-Di-n-propylamine	9.85	70	25091	23.85	ug/mL#	72
16) Hexachloroethane	9.60	117	12960	20.56	ug/mL	92
19) Nitrobenzene	10.06	77	33033	15.80	ug/mL	92
20) Isophorone	10.81	82	64852	20.42	ug/mLm	71
21) 2-Nitrophenol	11.00	139	18375	17.91	ug/mL	90
22) 2,4-Dimethylphenol	11.60	107	40779	22.53	ug/mL	100
23) bis(2-Chloroethoxy)methane	11.72	93	36474	19.06	ug/mL	98
24) 2,4-Dichlorophenol	11.91	162	22642	17.83	ug/mL	93
25) 1,2,4-Trichlorobenzene	11.89	180	19317	19.08	ug/mL	97
26) Naphthalene	12.00	128	74096	20.30	ug/mL	99
27) 4-Chloroaniline	12.51	127	36907	18.09	ug/mL	98
28) Hexachlorobutadiene	12.66	225	12218	24.34	ug/mL	95
29) 4-Chloro-3-methylphenol	14.37	107	38809	23.94	ug/mL	89
30) 2-Chloronaphthalene	15.53	162	50681	19.85	ug/ml	98
31) 2-Methylnaphthalene	14.10	142	54235	18.09	ug/mL	95
33) Hexachlorocyclopentadiene	14.83	237	10186	16.59	ug/mL	97
34) 2,4,6-Trichlorophenol	15.28	196	20017	18.17	ug/mLm	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b6564.d
Acq On : 29 Sep 97 12:25 pm
Sample : 20 STD..... Converted from RTE d
Misc :
Quant Time: Sep 30 16:13 1997

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) 2,4,5-Trichlorophenol	15.51	196	20517	22.09	ug/mL	99
37) 2-Nitroaniline	17.51	65	51523	24.73	ug/mL	79
38) Dimethylphthalate	16.97	163	61263	20.15	ug/mL	99
39) Acenaphthylene	16.76	152	90985	18.77	ug/mL	98
40) 2,6-Dinitrotoluene	17.15	165	16231	19.52	ug/mL	81
41) 3-Nitroaniline	17.51	138	22072	17.61	ug/mL	96
42) Acenaphthene	17.34	153	59768	19.62	ug/mL	97
43) 2,4-Dinitrophenol	17.86	184	8638	11.84	ug/mL#	1
44) 4-Nitrophenol	18.69	109	14097	30.20	ug/mL#	70
45) Dibenzofuran	17.84	168	92262	19.77	ug/mL	96
46) 2,4-Dinitrotoluene	18.28	165	21450	21.39	ug/mLm	33
47) Diethylphthalate	19.15	149	83827	24.39	ug/mL	99
48) Fluorene	18.88	166	72933	20.91	ug/mL	97
49) 4-Chlorophenyl-phenylether	19.07	204	30262	24.18	ug/mL	87
51) 4-Nitroaniline	19.40	138	22630	16.80	ug/mL	98
52) 4,6-Dinitro-2-methylphenol	19.48	198	15066	18.48	ug/mL	100
53) n-Nitrosodiphenylamine	19.54	169	48212	17.39	ug/mL	94
55) 1,2-Diphenylhydrazine (as	19.52	77	181153	20.15	ug/ml	100
56) 4-Bromophenyl-phenylether	20.50	248	19228	21.86	ug/mL	89
57) Hexachlorobenzene	20.77	284	24052	24.19	ug/mL#	68
58) Pentachlorophenol	21.50	266	12320	18.87	ug/mL	96
59) Phenanthrene	21.71	178	117229	18.54	ug/mL	99
60) Anthracene	21.85	178	116499	21.67	ug/mLm	98
61) Carbazole	22.58	167	117110	19.89	ug/ml	95
62) Di-n-butylphthalate	24.14	149	192610	23.60	ug/mL	100
63) Fluoranthene	25.31	202	136254	24.19	ug/mL#	90
65) Benzidine	26.06	184	25458	9.58	ug/ml	100
66) Pyrene	25.93	202	147499	13.64	ug/mL	94
68) Butylbenzylphthalate	28.61	149	89609	14.12	ug/mL	96
69) Benzo[a]anthracene	29.67	228	115530	17.77	ug/mL	99
70) 3,3'-Dichlorobenzidine	29.90	252	33559	22.84	ug/mL#	94
71) Chrysene	29.78	228	102210	21.46	ug/mLm	97
72) bis(2-Ethylhexyl)phthalate	32.34	149	137972	16.72	ug/mL#	53
74) Di-n-octylphthalate	32.34	149	137972	10.22	ug/mL	99
75) Benzo[b]fluoranthene	32.75	252	80410	16.37	ug/mLm	99
76) Benzo[k]fluoranthene	32.83	252	44700	22.12	ug/mLm	98
77) Benzo[a]pyrene	33.58	252	40279	16.87	ug/mL#	92
78) Indeno[1,2,3-cd]pyrene	36.29	276	22272	17.21	ug/mLm	84
79) Dibenz[a,h]anthracene	36.37	278	18660	15.33	ug/mLm	93
80) Benzo[g,h,i]perylene	36.83	276	13425	13.70	ug/mLm	80

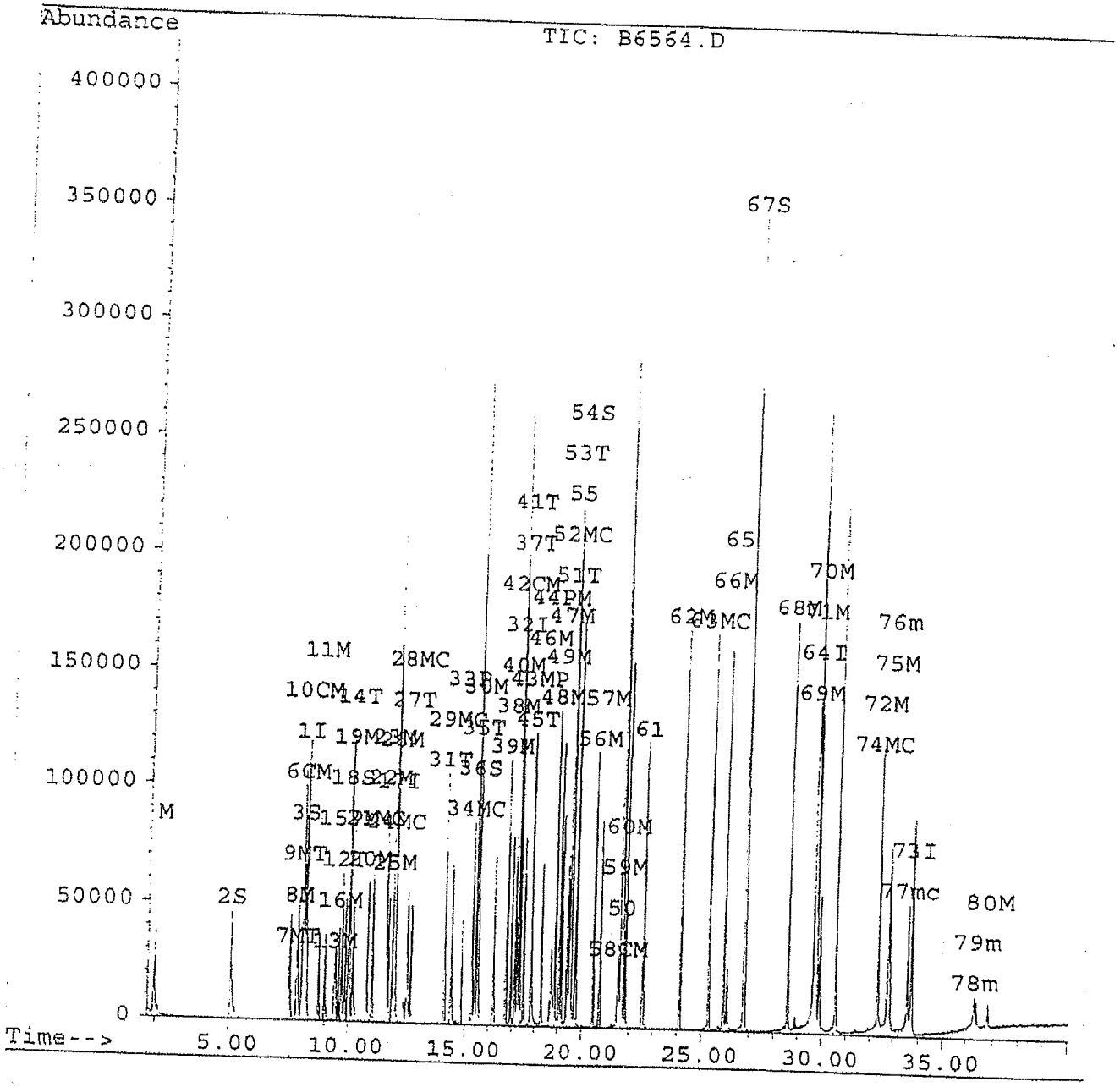
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b6564.d
Acq On : 29 Sep 97 12:25 pm
Sample : 20 STD..... Converted from RTE d
Misc :
Quant Time: Sep 30 16:13 1997

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data2\b6565.d
Acq On : 29 Sep 97 1:16 pm
Sample : 50 STD.....
Misc :
Quant Time: Sep 30 15:53 1997

Converted from RTE d

Vial: 4
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	8.21	152	39639	40.00	ug/mL	-0.18
17) Naphthalene-d8	11.97	136	186912	40.00	ug/mL	-0.18
32) Acenaphthene-d10	17.27	164	141905	40.00	ug/mL	-0.20
50) Phenanthrene-d10	21.67	188	277438	40.00	ug/ml	-0.20
64) Chrysene-d12	29.73	240	205982	40.00	ug/mL	-0.23
73) Perylene-d12	33.74	264	69352	40.00	ug/mL	-0.25
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	5.03	112	70227	60.31	ug/mL	60.31%
3) Phenol-d5	8.06	99	126279	60.34	ug/mL	60.34%
18) Nitrobenzene-d5	10.02	82	134036	63.29	ug/mL	63.29%
36) 2-Fluorobiphenyl	15.44	172	196375	47.71	ug/mL	47.71%
54) 2,4,6-Tribromophenol	19.76	330	39029	69.30	ug/mL	69.30%
67) Terphenyl-d14	26.78	244	270016	46.85	ug/mL	46.85%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.97	74	46966	56.53	ug/ml	100
5) Pyridine	1.92	79	74888	51.17	ug/ml	100
6) Phenol	8.10	94	124904	56.11	ug/mL	100
7) bis(2-Chloroethyl)ether	7.86	93	73139	53.83	ug/mLm	18
8) 2-Chlorophenol	7.86	128	81559	52.04	ug/mL#	85
9) 1,3-Dichlorobenzene	8.06	146	60412	52.01	ug/mLm	99
10) 1,4-Dichlorobenzene	8.25	146	66659	54.79	ug/mL	98
11) 1,2-Dichlorobenzene	8.77	146	66915	53.82	ug/mL	99
12) 2-Methylphenol	9.73	108	89771	58.76	ug/mL	92
13) bis(2-chloroisopropyl)ethe	9.42	45	180171	67.70	ug/mLm	70
14) 4-Methylphenol	10.18	108	96790	57.80	ug/mL	95
15) N-Nitroso-Di-n-propylamine	9.91	70	89168	66.06	ug/mL#	73
16) Hexachloroethane	9.60	117	47396	58.61	ug/mL#	85
19) Nitrobenzene	10.08	77	120200	45.47	ug/mL	94
20) Isophorone	10.85	82	235633	58.68	ug/mL	98
21) 2-Nitrophenol	11.02	139	64942	50.07	ug/mL#	86
22) 2,4-Dimethylphenol	11.60	107	136867	59.81	ug/mL	98
23) bis(2-Chloroethoxy)methane	11.74	93	136603	56.46	ug/mL	99
24) 2,4-Dichlorophenol	11.89	162	78485	48.87	ug/mL#	90
25) 1,2,4-Trichlorobenzene	11.91	180	65136	50.88	ug/mL	98
26) Naphthalene	12.03	128	262910	56.95	ug/mL	98
27) 4-Chloroaniline	12.53	127	137799	53.41	ug/mL	99
28) Hexachlorobutadiene	12.68	225	42414	66.82	ug/mL	98
29) 4-Chloro-3-methylphenol	14.36	107	127669	62.27	ug/mL#	87
30) 2-Chloronaphthalene	15.55	162	175016	54.21	ug/ml	100
31) 2-Methylnaphthalene	14.13	142	198884	52.46	ug/mL	96
33) Hexachlorocyclopentadiene	14.84	237	48870	61.20	ug/mL	98
34) 2,4,6-Trichlorophenol	15.28	196	69329	48.39	ug/mLm	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b6565.d
Acq On : 29 Sep 97 1:16 pm
Sample : 50 STD.....
Misc :
Quant Time: Sep 30 15:53 1997

Converted from RTE d

Vial: 4
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) 2,4,5-Trichlorophenol	15.48	196	78123	64.68	ug/mL	98
37) 2-Nitroaniline	17.56	65	203206	75.02	ug/mL	74
38) Dimethylphthalate	17.00	163	223107	56.44	ug/mL	99
39) Acenaphthylene	16.79	152	331208	52.56	ug/mL	98
40) 2,6-Dinitrotoluene	17.17	165	53233	49.24	ug/mL	94
41) 3-Nitroaniline	17.54	138	90078	55.28	ug/mL	94
42) Acenaphthene	17.37	153	204886	51.72	ug/mL	96
43) 2,4-Dinitrophenol	17.87	184	42852	45.17	ug/mL#	54
44) 4-Nitrophenol	18.64	109	55063	90.72	ug/mL#	81
45) Dibenzofuran	17.87	168	325790	53.70	ug/mL	98
46) 2,4-Dinitrotoluene	18.31	165	76265	58.48	ug/mLm	30
47) Diethylphthalate	19.20	149	277616	62.11	ug/mL	100
48) Fluorene	18.89	166	259800	57.29	ug/mL	99
49) 4-Chlorophenyl-phenylether	19.08	204	104253	64.05	ug/mL#	80
51) 4-Nitroaniline	19.47	138	84638	51.94	ug/mL	98
52) 4,6-Dinitro-2-methylphenol	19.53	198	58068	58.88	ug/mL	100
53) n-Nitrosodiphenylamine	19.57	169	144164	42.98	ug/mL	95
55) 1,2-Diphenylhydrazine (as	19.55	77	605047	55.64	ug/ml	100
56) 4-Bromophenyl-phenylether	20.51	248	67896	63.83	ug/mL#	85
57) Hexachlorobenzene	20.80	284	85573	71.17	ug/mL#	82
58) Pentachlorophenol	21.53	266	49063	62.14	ug/mL	96
59) Phenanthrene	21.75	178	387084	50.61	ug/mL	99
60) Anthracene	21.88	178	373344	57.40	ug/mLm	98
61) Carbazole	22.60	167	363383	51.03	ug/ml	96
62) Di-n-butylphthalate	24.16	149	626618	63.48	ug/mL	100
63) Fluoranthene	25.33	202	420144	61.66	ug/mL	100
65) Benzidine	26.06	184	100438	37.82	ug/ml	100
66) Pyrene	25.97	202	462224	42.74	ug/mL#	81
68) Butylbenzylphthalate	28.61	149	257040	40.51	ug/mL	97
69) Benzo[a]anthracene	29.69	228	357817	55.06	ug/mL	98
70) 3,3'-Dichlorobenzidine	29.90	252	72047	49.06	ug/mL	96
71) Chrysene	29.81	228	268126	56.31	ug/mLm	97
72) bis(2-Ethylhexyl)phthalate	32.35	149	425111	51.51	ug/mL#	53
74) Di-n-octylphthalate	32.35	149	425111	37.29	ug/mL	99
75) Benzo[b]fluoranthene	32.76	252	182773	44.07	ug/mL	99
76) Benzo[k]fluoranthene	32.84	252	105232	61.65	ug/mLm	99
77) Benzo[a]pyrene	33.57	252	98244	48.73	ug/mL	99
78) Indeno[1,2,3-cd]pyrene	36.29	276	60649	55.51	ug/mL	98
79) Dibenz[a,h]anthracene	36.38	278	48509	47.19	ug/mL#	88
80) Benzo[g,h,i]perylene	36.83	276	50051	60.49	ug/mLm	91

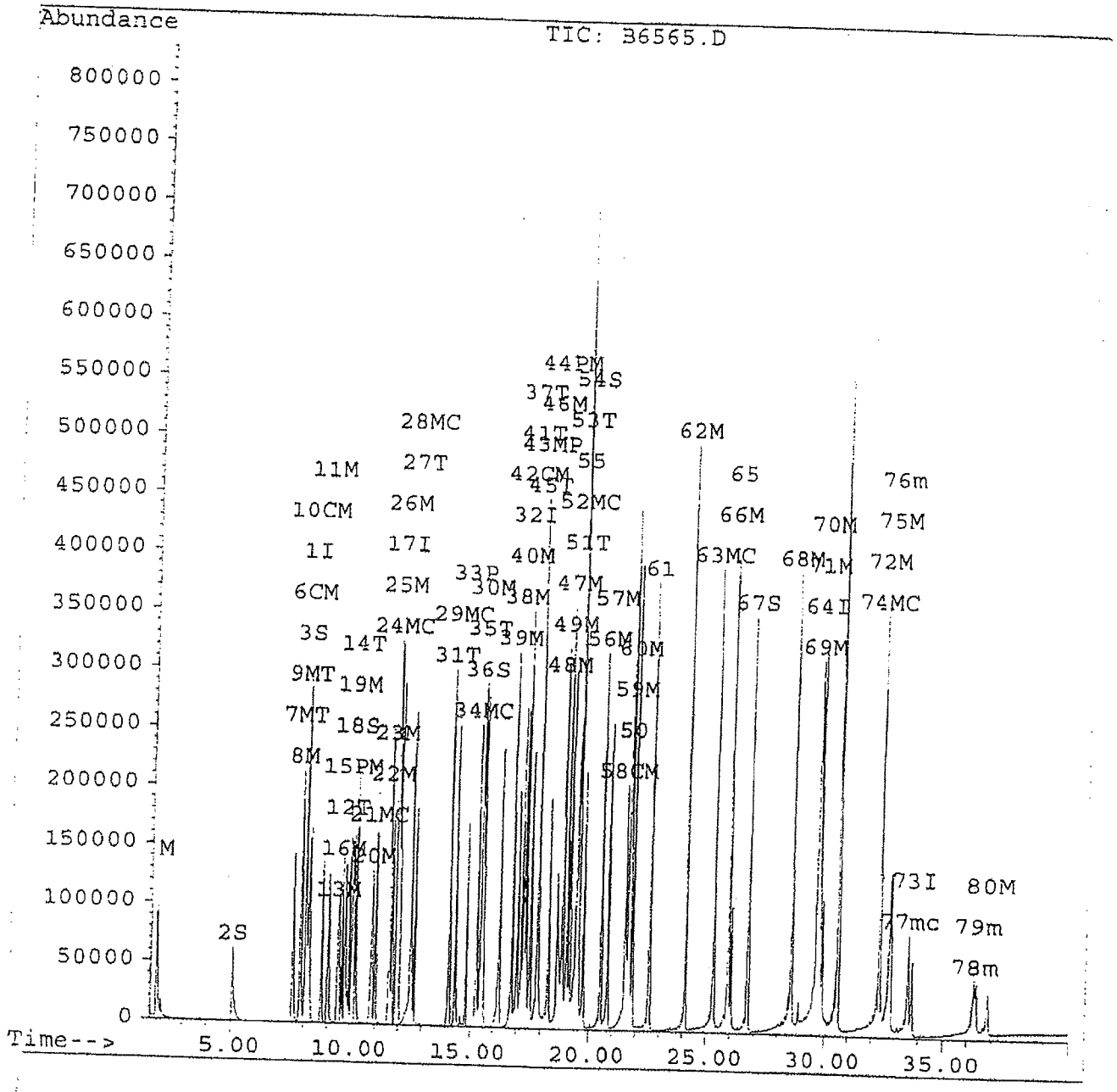
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b6565.d
Acq On : 29 Sep 97 1:16 pm
Sample : 50 STD..... Converted from RTE d
Misc :
Quant Time: Sep 30 15:53 1997

Vial: 4
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data2\b6566.d
Acq On : 29 Sep 97 2:08 pm
Sample : 80 STD..... Converted from RTE d
Misc :
Quant Time: Sep 30 16:13 1997

Vial: 5
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	8.19	152	30679	40.00	ug/mL	-0.20
17) Naphthalene-d8	11.97	136	144787	40.00	ug/mL	-0.18
32) Acenaphthene-d10	17.27	164	112259	40.00	ug/mL	-0.20
50) Phenanthrene-d10	21.66	188	209619	40.00	ug/ml	-0.21
64) Chrysene-d12	29.72	240	157773	40.00	ug/mL	-0.24
73) Perylene-d12	33.74	264	52004	40.00	ug/mL	-0.26
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	5.06	112	47691	52.91	ug/mL	52.91%
3) Phenol-d5	8.06	99	92990	57.42	ug/mL	57.42%
18) Nitrobenzene-d5	10.03	82	106170	64.72	ug/mL	64.72%
36) 2-Fluorobiphenyl	15.44	172	155485	47.75	ug/mL	47.75%
54) 2,4,6-Tribromophenol	19.75	330	26865	63.14	ug/mL	63.14%
67) Terphenyl-d14	26.77	244	204395	46.30	ug/mL	46.30%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.98	74	57619	89.60	ug/ml	100
5) Pyridine	1.90	79	116346	102.72	ug/ml	100
6) Phenol	8.10	94	159204	92.41	ug/mL	100
7) bis(2-Chloroethyl)ether	7.87	93	93877	89.28	ug/mLm	18
8) 2-Chlorophenol	7.87	128	103201	85.09	ug/mL#	84
9) 1,3-Dichlorobenzene	8.06	146	77445	86.15	ug/mL	98
10) 1,4-Dichlorobenzene	8.25	146	84666	89.92	ug/mL	99
11) 1,2-Dichlorobenzene	8.77	146	85709	89.06	ug/mL	98
12) 2-Methylphenol	9.70	108	109629	92.72	ug/mL	96
13) bis(2-chloroisopropyl)ethe	9.43	45	303627	147.42	ug/mL#	69
14) 4-Methylphenol	10.18	108	120271	92.79	ug/mL	97
15) N-Nitroso-Di-n-propylamine	9.93	70	120215	115.07	ug/mL#	57
16) Hexachloroethane	9.60	117	61119	97.65	ug/mL	88
19) Nitrobenzene	10.08	77	152893	74.66	ug/mL	95
20) Isophorone	10.87	82	305571	98.23	ug/mL	96
21) 2-Nitrophenol	11.03	139	82350	81.97	ug/mL#	86
22) 2,4-Dimethylphenol	11.62	107	171277	96.62	ug/mL	99
23) bis(2-Chloroethoxy)methane	11.74	93	172489	92.03	ug/mL	99
24) 2,4-Dichlorophenol	11.89	162	95499	76.77	ug/mL	93
25) 1,2,4-Trichlorobenzene	11.91	180	81779	82.47	ug/mL	98
26) Naphthalene	12.03	128	329704	92.20	ug/mL	98
27) 4-Chloroaniline	12.53	127	167547	83.84	ug/mL	99
28) Hexachlorobutadiene	12.69	225	53722	109.26	ug/mL	98
29) 4-Chloro-3-methylphenol	14.36	107	158650	99.89	ug/mL	91
30) 2-Chloronaphthalene	15.56	162	221000	88.37	ug/ml	99
31) 2-Methylnaphthalene	14.13	142	242155	82.45	ug/mL	96
33) Hexachlorocyclopentadiene	14.84	237	65515	103.70	ug/mL	97
34) 2,4,6-Trichlorophenol	15.29	196	88587	78.15	ug/mLm	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b6566.d
Acq On : 29 Sep 97 2:08 pm Vial: 5
Sample : 80 STD..... Converted from RTE d Operator: SCOTTV
Misc : Inst : ABNA
Quant Time: Sep 30 16:13 1997 BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) 2,4,5-Trichlorophenol	15.46	196	93332	97.68 ug/mL	99
37) 2-Nitroaniline	17.56	65	248427	115.93 ug/mL	77
38) Dimethylphthalate	17.02	163	286214	91.52 ug/mL#	99
39) Acenaphthylene	16.79	152	420911	84.44 ug/mL	98
40) 2,6-Dinitrotoluene	17.18	165	64733	75.68 ug/mL	97
41) 3-Nitroaniline	17.56	138	114555	88.87 ug/mL	89
42) Acenaphthene	17.37	153	263655	84.13 ug/mL	98
43) 2,4-Dinitrophenol	17.87	184	49879	66.46 ug/mL#	65
44) 4-Nitrophenol	18.63	109	61842	128.79 ug/mL#	80
45) Dibenzofuran	17.87	168	402411	83.85 ug/mL	98
46) 2,4-Dinitrotoluene	18.32	165	102437	99.29 ug/mL	95
47) Diethylphthalate	19.21	149	320482	90.64 ug/mL	99
48) Fluorene	18.92	166	333209	92.88 ug/mL	97
49) 4-Chlorophenyl-phenylether	19.09	204	133107	103.37 ug/mL#	80
51) 4-Nitroaniline	19.48	138	86527	70.28 ug/mL	97
52) 4,6-Dinitro-2-methylphenol	19.53	198	61137	82.05 ug/mL	100
53) n-Nitrosodiphenylamine	19.57	169	173801	68.58 ug/mL	95
55) 1,2-Diphenylhydrazine (as	19.55	77	752615	91.60 ug/ml	100
56) 4-Bromophenyl-phenylether	20.52	248	77502	96.43 ug/mL#	87
57) Hexachlorobenzene	20.81	284	97650	107.48 ug/mL	83
58) Pentachlorophenol	21.52	266	65461	109.73 ug/mL	96
59) Phenanthrene	21.75	178	522059	90.34 ug/mL	99
60) Anthracene	21.87	178	462802	94.18 ug/mLm	98
61) Carbazole	22.60	167	450166	83.66 ug/ml	96
62) Di-n-butylphthalate	24.14	149	781108	104.74 ug/mL	98
63) Fluoranthene	25.34	202	498639	96.86 ug/mL	99
65) Benzidine	26.07	184	133044	65.40 ug/ml	100
66) Pyrene	25.96	202	551237	66.55 ug/mL	96
68) Butylbenzylphthalate	28.62	149	318659	65.56 ug/mL	99
69) Benzo[a]anthracene	29.68	228	461412	92.70 ug/mL	100
70) 3,3'-Dichlorobenzidine	29.92	252	88702	78.85 ug/mL	100
71) Chrysene	29.80	228	329327	90.29 ug/mLm	97
72) bis(2-Ethylhexyl)phthalate	32.37	149	541290	85.64 ug/mL#	53
74) Di-n-octylphthalate	32.37	149	541290	63.33 ug/mL	99
75) Benzo[b]fluoranthene	32.77	252	291874	93.85 ug/mLm	96
76) Benzo[k]fluoranthene	32.83	252	131259	102.56 ug/mLm	98
77) Benzo[a]pyrene	33.58	252	123575	81.75 ug/mL	94
78) Indeno[1,2,3-cd]pyrene	36.30	276	73013	89.12 ug/mL	85
79) Dibenz[a,h]anthracene	36.38	278	61725	80.08 ug/mL	92
80) Benzo[g,h,i]perylene	36.84	276	57333	92.41 ug/mLm	82

(#) = qualifier out of range (m) = manual integration

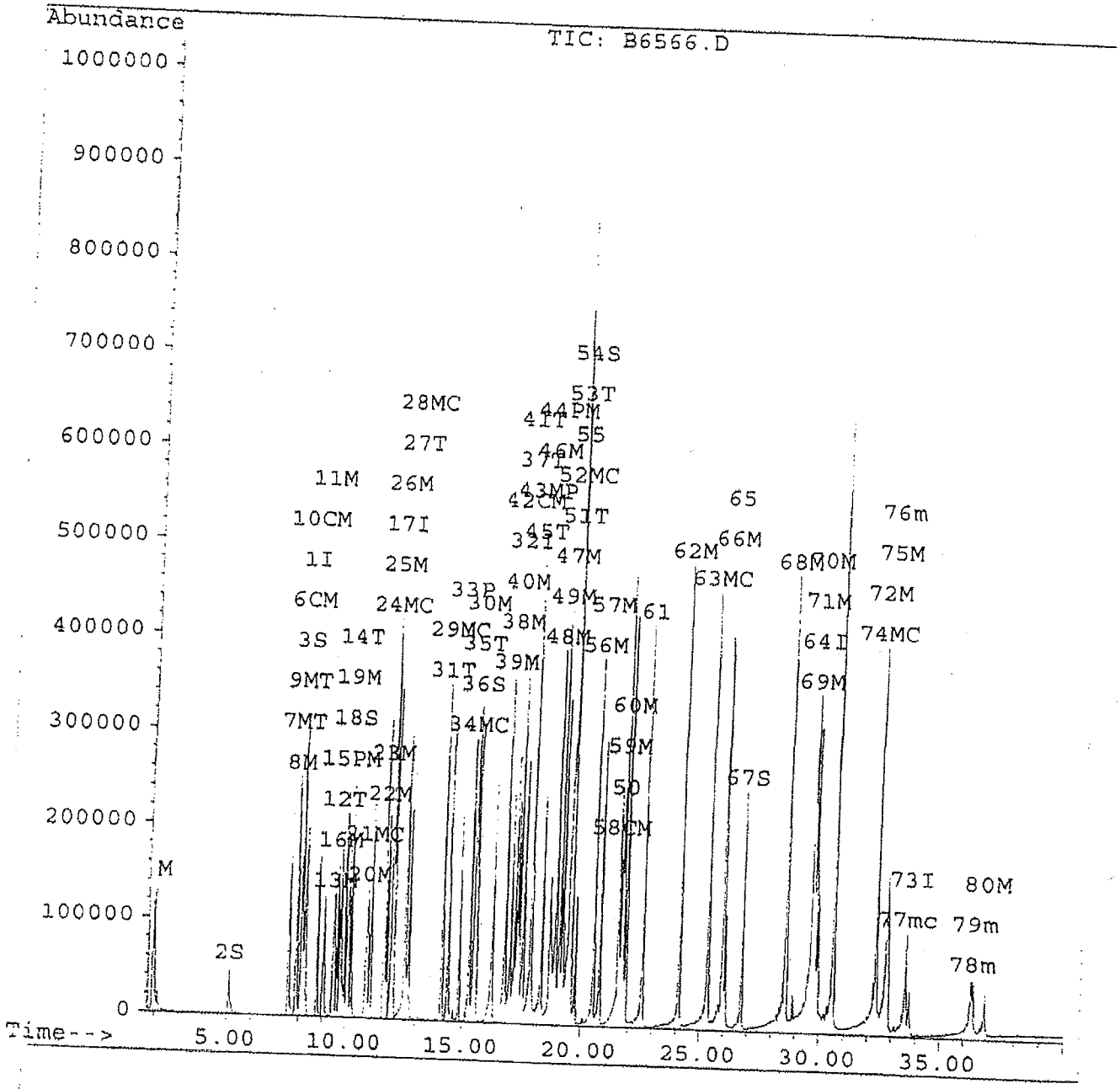
Quantitation Report

Data File : c:\hpchem\1\data2\b6566.d
Acq On : 29 Sep 97 2:08 pm
Sample : 80 STD.....
Misc :
Quant Time: Sep 30 16:13 1997

Converted from RTE d

Vial: 5
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data2\b6567.d
Acq On : 29 Sep 97 2:59 pm
Sample : 120 STD..... Converted from RTE d
Misc :
Quant Time: Sep 30 15:56 1997

Vial: 6
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	8.20	152	29843	40.00	ug/mL	-0.19
17) Naphthalene-d8	11.98	136	139901	40.00	ug/mL	-0.17
32) Acenaphthene-d10	17.28	164	107924	40.00	ug/mL	-0.19
50) Phenanthrene-d10	21.67	188	190362	40.00	ug/ml	-0.20
64) Chrysene-d12	29.74	240	131910	40.00	ug/mL	-0.22
73) Perylene-d12	33.74	264	43522	40.00	ug/mL	-0.25
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	5.07	112	48083	54.84	ug/mL	54.84%
3) Phenol-d5	8.07	99	81086	51.47	ug/mL	51.47%
18) Nitrobenzene-d5	10.03	82	101083	63.77	ug/mL	63.77%
36) 2-Fluorobiphenyl	15.45	172	148225	47.35	ug/mL	47.35%
54) 2,4,6-Tribromophenol	19.75	330	31688	82.00	ug/mL	82.00%
67) Terphenyl-d14	26.77	244	176755	47.89	ug/mL	47.89%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.99	74	94449	150.99	ug/ml	100
5) Pyridine	1.91	79	152153	138.10	ug/ml	100
6) Phenol	8.09	94	226671	135.26	ug/mL	100
7) bis(2-Chloroethyl)ether	7.88	93	136179	133.13	ug/mLm	18
8) 2-Chlorophenol	7.88	128	149104	126.38	ug/mL#	82
9) 1,3-Dichlorobenzene	8.07	146	112788	128.98	ug/mL	98
10) 1,4-Dichlorobenzene	8.26	146	123929	135.31	ug/mL	99
11) 1,2-Dichlorobenzene	8.76	146	123323	131.74	ug/mL	99
12) 2-Methylphenol	9.71	108	156976	136.49	ug/mL	95
13) bis(2-chloroisopropyl)ethe	9.44	45	349007	174.20	ug/mLm	71
14) 4-Methylphenol	10.19	108	172278	136.64	ug/mL	96
15) N-Nitroso-Di-n-propylamine	9.94	70	169496	166.79	ug/mL#	68
16) Hexachloroethane	9.61	117	87520	143.76	ug/mL	91
19) Nitrobenzene	10.09	77	234878	118.70	ug/mL	98
20) Isophorone	10.92	82	448682	149.27	ug/mLm	98
21) 2-Nitrophenol	11.04	139	125192	128.96	ug/mL#	86
22) 2,4-Dimethylphenol	11.63	107	245235	143.18	ug/mL	100
23) bis(2-Chloroethoxy)methane	11.75	93	253905	140.20	ug/mL	99
24) 2,4-Dichlorophenol	11.90	162	139616	116.16	ug/mL	93
25) 1,2,4-Trichlorobenzene	11.92	180	117902	123.05	ug/mL	97
26) Naphthalene	12.04	128	457486	132.40	ug/mL	98
27) 4-Chloroaniline	12.54	127	239855	124.21	ug/mL	99
28) Hexachlorobutadiene	12.68	225	74823	157.49	ug/mL	98
29) 4-Chloro-3-methylphenol	14.37	107	234976	153.12	ug/mL	94
30) 2-Chloronaphthalene	15.57	162	318679	131.89	ug/ml	99
31) 2-Methylnaphthalene	14.14	142	348689	122.88	ug/mL	97
33) Hexachlorocyclopentadiene	14.85	237	99582	163.96	ug/mL	97
34) 2,4,6-Trichlorophenol	15.30	196	132187	121.30	ug/mLm	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b6567.d
Acq On : 29 Sep 97 2:59 pm
Sample : 120 STD..... Converted from RTE d
Misc :
Quant Time: Sep 30 15:56 1997

Vial: 6
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) 2,4,5-Trichlorophenol	15.47	196	134669	146.60 ug/mL	98
37) 2-Nitroaniline	17.57	65	339682	164.88 ug/mL	77
38) Dimethylphthalate	17.03	163	409251	136.12 ug/mL	99
39) Acenaphthylene	16.80	152	599895	125.18 ug/mL	99
40) 2,6-Dinitrotoluene	17.19	165	100738	122.51 ug/mL	97
41) 3-Nitroaniline	17.57	138	158532	127.93 ug/mL	92
42) Acenaphthene	17.38	153	381710	126.69 ug/mL	98
43) 2,4-Dinitrophenol	17.90	184	74837	103.72 ug/mL	84
44) 4-Nitrophenol	18.64	109	95602	207.10 ug/mL#	77
45) Dibenzofuran	17.88	168	586999	127.22 ug/mL	98
46) 2,4-Dinitrotoluene	18.35	165	139886	141.03 ug/mL	86
47) Diethylphthalate	19.24	149	448198	131.85 ug/mL	97
48) Fluorene	18.93	166	481251	139.54 ug/mL	97
49) 4-Chlorophenyl-phenylether	19.10	204	194422	157.06 ug/mL#	83
51) 4-Nitroaniline	19.51	138	107672	96.30 ug/mL	94
52) 4,6-Dinitro-2-methylphenol	19.57	198	80555	119.05 ug/mL	100
53) n-Nitrosodiphenylamine	19.58	169	219173	95.23 ug/mL	96
55) 1,2-Diphenylhydrazine (as	19.55	77	1078352	144.52 ug/ml	100
56) 4-Bromophenyl-phenylether	20.53	248	125787	172.34 ug/mL	93
57) Hexachlorobenzene	20.82	284	159985	193.91 ug/mL	85
58) Pentachlorophenol	21.54	266	87251	161.05 ug/mL	97
59) Phenanthrene	21.75	178	706485	134.63 ug/mL	99
60) Anthracene	21.88	178	566089	126.85 ug/mLm	98
61) Carbazole	22.62	167	616697	126.21 ug/ml	97
62) Di-n-butylphthalate	24.16	149	938697	138.60 ug/mL#	94
63) Fluoranthene	25.36	202	664867	142.22 ug/mL	94
65) Benzidine	26.07	184	200584	117.94 ug/ml	100
66) Pyrene	25.97	202	689007	99.50 ug/mL	95
68) Butylbenzylphthalate	28.62	149	407064	100.17 ug/mL	99
69) Benzo[a]anthracene	29.70	228	564399	135.62 ug/mL	99
70) 3,3'-Dichlorobenzidine	29.92	252	118818	126.33 ug/mL	99
71) Chrysene	29.82	228	377673	123.85 ug/mLm	97
72) bis(2-Ethylhexyl)phthalate	32.35	149	682021	129.06 ug/mL#	53
74) Di-n-octylphthalate	32.35	149	682021	95.34 ug/mL	100
75) Benzo[b]fluoranthene	32.77	252	362611	139.32 ug/mLm	96
76) Benzo[k]fluoranthene	32.83	252	114064	106.49 ug/mLm	97
77) Benzo[a]pyrene	33.59	252	153462	121.31 ug/mL#	93
78) Indeno[1,2,3-cd]pyrene	36.30	276	85984	125.40 ug/mL#	83
79) Dibenz[a,h]anthracene	36.38	278	71215	110.39 ug/mL	94
80) Benzo[g,h,i]perylene	36.84	276	65593	126.32 ug/mLm	80

(#) = qualifier out of range (m) = manual integration

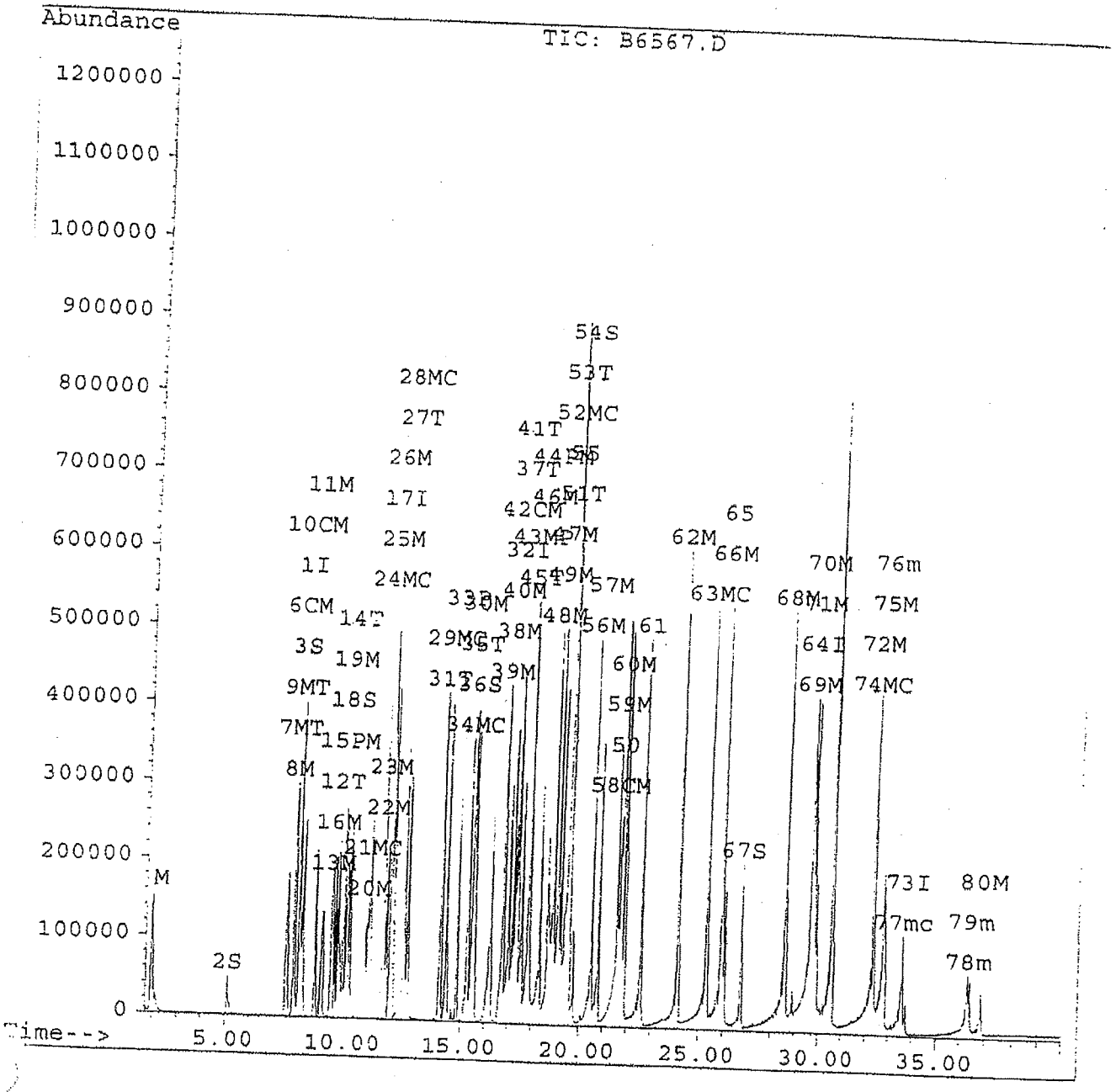
Quantitation Report

Data File : c:\hpchem\1\data2\b6567.d
Acq On : 29 Sep 97 2:59 pm
Sample : 120 STD.....
Misc :
Quant Time: Sep 30 15:56 1997

Converted from RTE d

Vial: 6
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data2\b6568.d
Acq On : 29 Sep 97 4:42 pm Vial: 7
Sample : 160 STD..... Converted from RTE d Operator: SCOTTV
Misc : Inst : ABNA
Quant Time: Sep 30 16:13 1997 BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	8.22	152	24260	40.00	ug/mL	-0.18
17) Naphthalene-d8	11.99	136	117492	40.00	ug/mL	-0.16
32) Acenaphthene-d10	17.30	164	96549	40.00	ug/mL	-0.17
50) Phenanthrene-d10	21.69	188	173825	40.00	ug/ml	-0.18
64) Chrysene-d12	29.74	240	118420	40.00	ug/mL	-0.22
73) Perylene-d12	33.72	264	42823	40.00	ug/mL	-0.27
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	5.08	112	41690	58.49	ug/mL	58.49%
3) Phenol-d5	8.06	99	77299	60.36	ug/mL	60.36%
18) Nitrobenzene-d5	10.05	82	85035	63.88	ug/mL	63.88%
36) 2-Fluorobiphenyl	15.47	172	129369	46.20	ug/mL	46.20%
54) 2,4,6-Tribromophenol	19.77	330	24957	70.73	ug/mL	70.73%
67) Terphenyl-d14	26.77	244	162209	48.95	ug/mL	48.95%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.98	74	92037	181.00	ug/ml	100
5) Pyridine	1.90	79	163654	182.72	ug/ml	100
6) Phenol	8.10	94	239804	176.02	ug/mL	100
7) bis(2-Chloroethyl)ether	7.91	93	140597	169.08	ug/mLm	18
8) 2-Chlorophenol	7.89	128	158786	165.56	ug/mL#	87
9) 1,3-Dichlorobenzene	8.08	146	118634	166.88	ug/mL	99
10) 1,4-Dichlorobenzene	8.27	146	130787	175.65	ug/mL	99
11) 1,2-Dichlorobenzene	8.78	146	130371	171.32	ug/mL	100
12) 2-Methylphenol	9.72	108	176198	188.46	ug/mL	93
13) bis(2-chloroisopropyl)ethe	9.45	45	442064	271.43	ug/mLm	73
14) 4-Methylphenol	10.22	108	195358	190.60	ug/mL	95
15) N-Nitroso-Di-n-propylamine	9.97	70	196936	238.39	ug/mL#	67
16) Hexachloroethane	9.60	117	94690	191.33	ug/mL#	80
19) Nitrobenzene	10.11	77	265907	160.01	ug/mL	97
20) Isophorone	10.97	82	487415	193.09	ug/mLm	97
21) 2-Nitrophenol	11.05	139	138395	169.75	ug/mL#	82
22) 2,4-Dimethylphenol	11.65	107	274160	190.60	ug/mL	98
23) bis(2-Chloroethoxy)methane	11.78	93	279511	183.77	ug/mL	99
24) 2,4-Dichlorophenol	11.92	162	152403	150.98	ug/mL	93
25) 1,2,4-Trichlorobenzene	11.94	180	126533	157.25	ug/mL	97
26) Naphthalene	12.05	128	511878	176.39	ug/mL	99
27) 4-Chloroaniline	12.55	127	274212	169.08	ug/mL	99
28) Hexachlorobutadiene	12.69	225	81699	204.76	ug/mL	99
29) 4-Chloro-3-methylphenol	14.38	107	271835	210.92	ug/mL	95
30) 2-Chloronaphthalene	15.58	162	362899	178.83	ug/ml	99
31) 2-Methylnaphthalene	14.15	142	398883	167.37	ug/mL	96
33) Hexachlorocyclopentadiene	14.85	237	113647	209.16	ug/mL#	98
34) 2,4,6-Trichlorophenol	15.47	196	149645	153.50	ug/mL	100

(# = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b6568.d
Acq On : 29 Sep 97 4:42 pm Vial: 7
Sample : 160 STD..... Converted from RTE d Operator: SCOTTV
Misc : Inst : ABNA
Quant Time: Sep 30 16:13 1997 BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:15:27 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) 2,4,5-Trichlorophenol	15.47	196	149645	182.09	ug/mL	99
37) 2-Nitroaniline	17.61	65	422501	229.24	ug/mL	75
38) Dimethylphthalate	17.05	163	477623	177.58	ug/mL	98
39) Acenaphthylene	16.82	152	697219	162.62	ug/mL	99
40) 2,6-Dinitrotoluene	17.22	165	88796	120.71	ug/mL	96
41) 3-Nitroaniline	17.61	138	207010	186.73	ug/mL	83
42) Acenaphthene	17.40	153	451393	167.47	ug/mL	98
43) 2,4-Dinitrophenol	17.92	184	90289	139.88	ug/mL	96
44) 4-Nitrophenol	18.63	109	127940	309.80	ug/mL	85
45) Dibenzofuran	17.90	168	707278	171.35	ug/mL	99
46) 2,4-Dinitrotoluene	18.38	165	169536	191.06	ug/mL#	59
47) Diethylphthalate	19.25	149	500879	164.71	ug/mL	99
48) Fluorene	18.94	166	573199	185.78	ug/mL	97
49) 4-Chlorophenyl-phenylether	19.12	204	237438	214.40	ug/mL#	84
51) 4-Nitroaniline	19.54	138	116967	114.57	ug/mL	98
52) 4,6-Dinitro-2-methylphenol	19.58	198	97489	157.79	ug/mL	100
53) n-Nitrosodiphenylamine	19.60	169	260236	123.83	ug/mL	89
55) 1,2-Diphenylhydrazine (as	19.56	77	1262472	185.30	ug/ml	100
56) 4-Bromophenyl-phenylether	20.53	248	153433	230.22	ug/mL#	83
57) Hexachlorobenzene	20.82	284	160522	213.07	ug/mL#	69
58) Pentachlorophenol	21.55	266	111292	224.97	ug/mL	95
59) Phenanthrene	21.77	178	870138	181.59	ug/mL	99
60) Anthracene	21.90	178	710476	174.35	ug/mLm	99
61) Carbazole	22.62	167	712363	159.65	ug/ml	97
62) Di-n-butylphthalate	24.16	149	1088748	176.05	ug/mL#	95
63) Fluoranthene	25.36	202	769956	180.36	ug/mL	98
65) Benzidine	26.07	184	211361	138.44	ug/ml	100
66) Pyrene	25.97	202	845797	136.05	ug/mL	97
68) Butylbenzylphthalate	28.62	149	490906	134.56	ug/mL	96
69) Benzo[a]anthracene	29.71	228	674729	180.60	ug/mL	99
70) 3,3'-Dichlorobenzidine	29.92	252	150217	177.91	ug/mL	98
71) Chrysene	29.82	228	484092	176.82	ug/mLm	97
72) bis(2-Ethylhexyl)phthalate	32.35	149	782305	164.90	ug/mL#	53
74) Di-n-octylphthalate	32.35	149	782305	111.15	ug/mL	99
75) Benzo[b]fluoranthene	32.78	252	453090	176.92	ug/mLm	98
76) Benzo[k]fluoranthene	32.84	252	125524	119.10	ug/mLm	98
77) Benzo[a]pyrene	33.59	252	192612	154.74	ug/mL#	92
78) Indeno[1,2,3-cd]pyrene	36.31	276	108145	160.30	ug/mL	92
79) Dibenz[a,h]anthracene	36.38	278	89685	141.29	ug/mL	98
80) Benzo[g,h,i]perylene	36.85	276	83853	164.12	ug/mLm	87

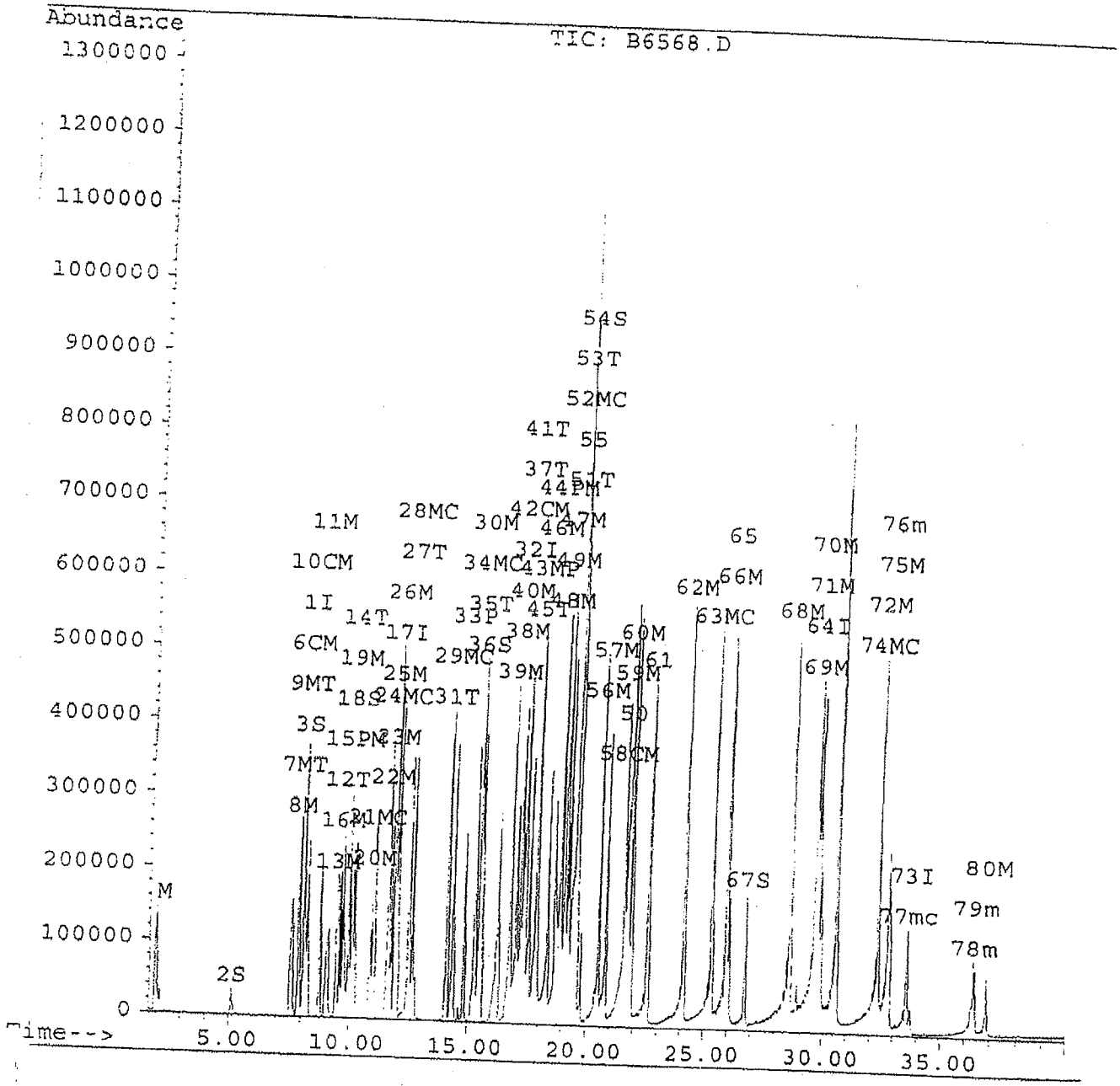
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b6568.d
Acq On : 29 Sep 97 4:42 pm
Sample : 160 STD..... Converted from RTE d
Misc :
Quant Time: Sep 30 16:13 1997

Vial: 7
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Tue Sep 30 16:16:27 1997
Response via : Multiple Level Calibration



5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name : EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID: B7063.D DFTPP Injection Date: 11/4/97

Instrument ID: ABNA DFTPP Injection Time: 1525

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	59.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	72.2
70	Less than 2.0% of mass 69	(0.7)1
127	25.0 - 75.0% of mass 198	43.2
197	Less than 1.0% of mass 198	0.1
198	Base Peak, 100 % relative abundance	100.0
199	5.0 - 9.0% of mass 198	5.9
275	10.0 - 30.0% of mass 198	23.0
365	Greater than 0.75% of mass 198	3.4
441	Present, but less than mass 443	1.8
442	40.0 - 110.0% of mass 198	59.8
443	15.0 - 24.0% of mass 442	(18.7)2

1-Value is % mass 69 2-Value is % mass 442

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

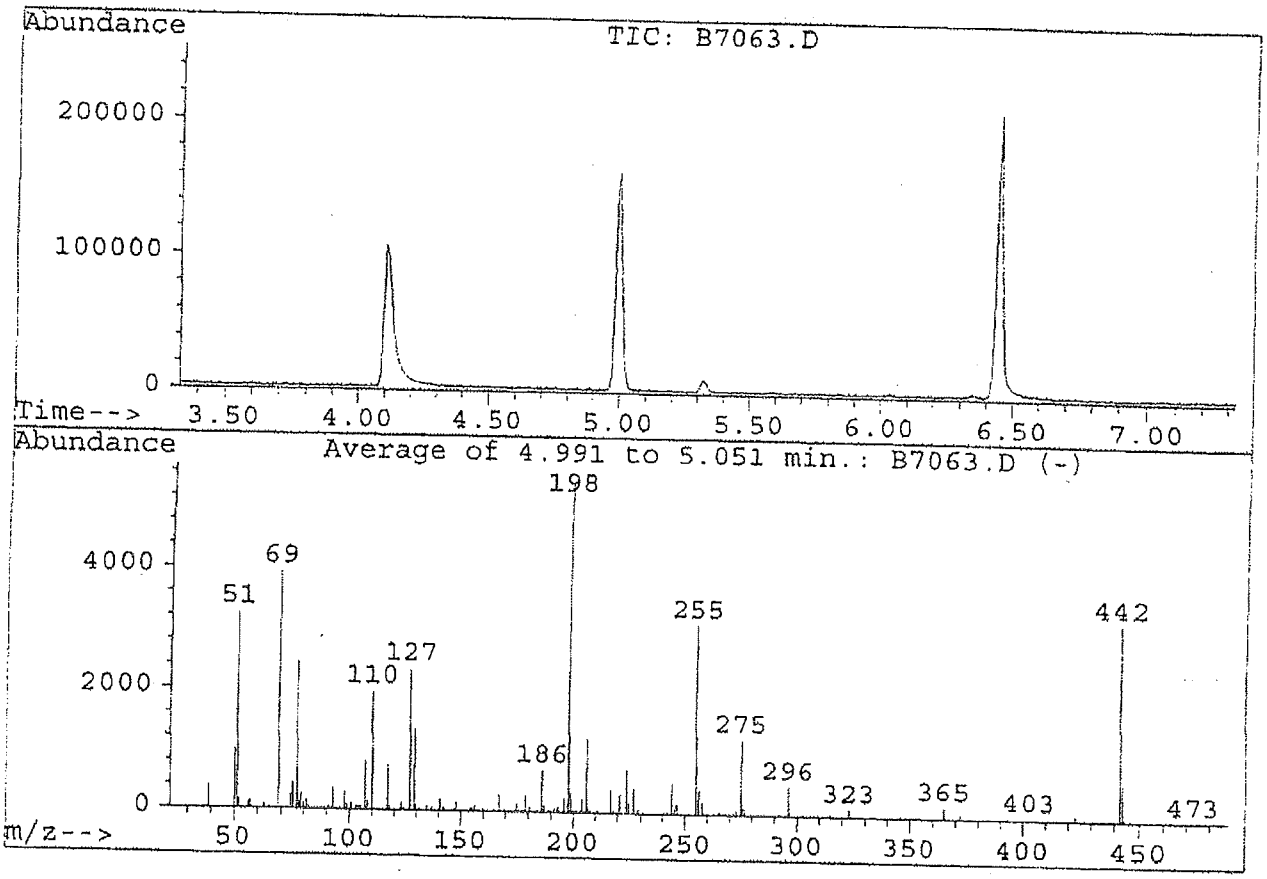
	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD010	10 STD	B7065.D	11/4/97	1622
02	SSTD020	20 STD	B7066.D	11/4/97	1709
03	SSTD050	50 STD	B7067.D	11/4/97	1756
04	SSTD080	80 STD	B7068.D	11/4/97	1843
05	SSTD120	120 STD	B7069.D	11/4/97	1930
06	SSTD160	160 STD	B7070.D	11/4/97	2017
07	SBLK01	BLANK1	B7071.D	11/4/97	2103
08	9774468B	9774468B	B7072.D	11/4/97	2150
09	9774469B	9774469B	B7073.D	11/4/97	2236
10	9774470B	9774470B	B7074.D	11/4/97	2323
11	9774471B	9774471B	B7075.D	11/5/97	0009
12	9774472B	9774472B	B7076.D	11/5/97	0055
13	9774473B	9774473B	B7077.D	11/5/97	0142
14					
15					
16					
17					
18					
19					
20					
21					
22					

DFTPP

Data File : C:\HPCHEM\1\DATA3\B7063.D
Acq On : 4 Nov 97 3:25 pm
Sample : DFTPP..... Converted from RTE d
Misc :

Vial: 1
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration



Peak Apex is scan: 235

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	59.7	3251	PASS
68	69	0	2	0.2	7	PASS
69	198	0	100	72.2	3934	PASS
70	69	0	2	0.7	27	PASS
127	198	40	60	43.2	2352	PASS
197	198	0	1	0.1	4	PASS
198	198	100	100	100.0	5447	PASS
199	198	5	9	5.9	323	PASS
275	198	10	30	23.0	1253	PASS
365	198	1	100	3.4	185	PASS
441	443	0	100	1.8	11	PASS
442	198	40	100	59.8	3258	PASS
443	442	17	23	18.7	610	PASS

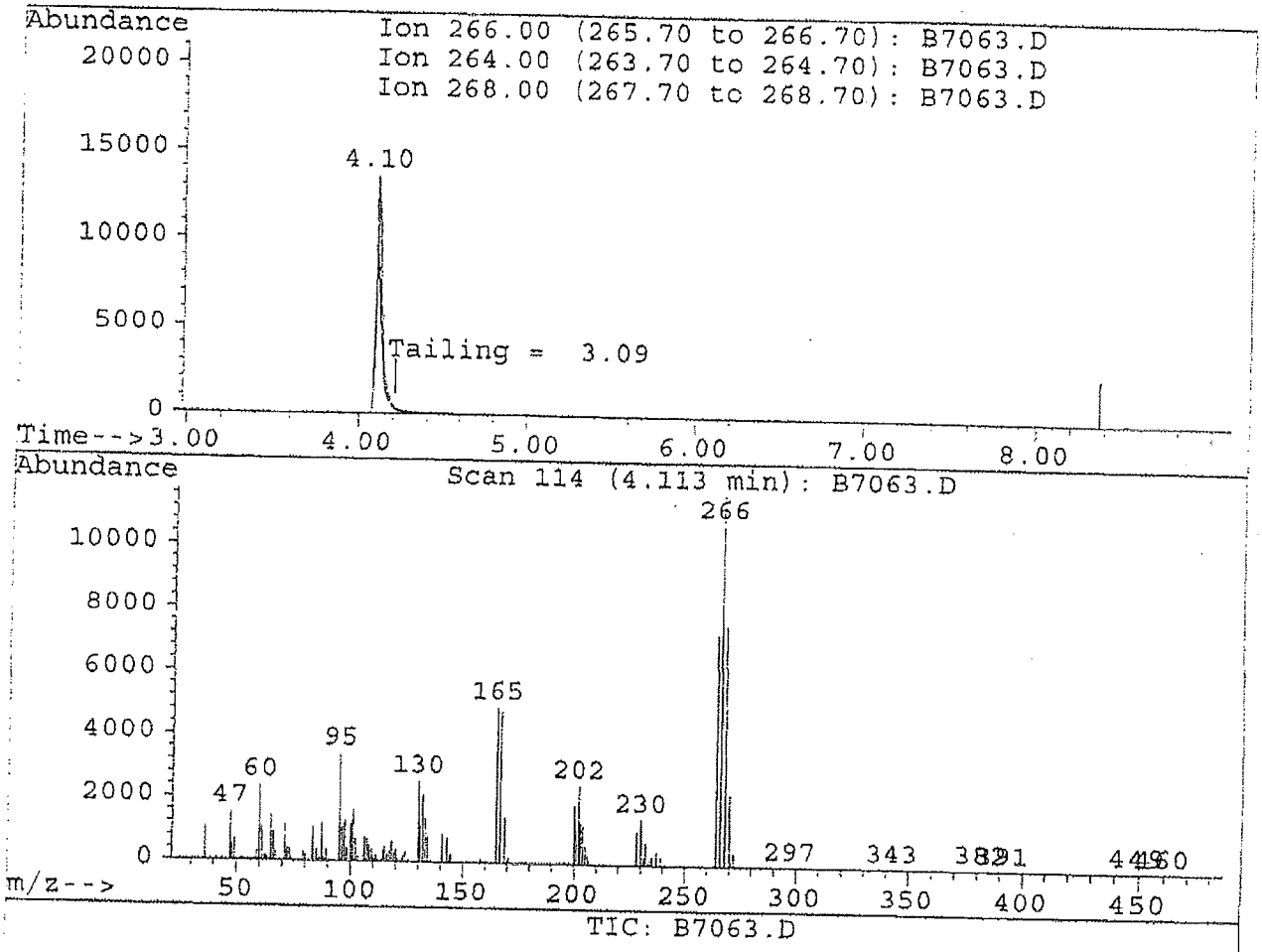
Quantitation Report

Data File : C:\HPCHEM\1\DATA2\B7063.D
Acq On : 4 Nov 97 3:25 pm
Sample : DFTPP.....
Misc :
Quant Time: Nov 4 15:54 1997

Converted from RTE d

Vial: 1
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 30 14:02:52 1997
Response via : Multiple Level Calibration



(1) Pentachlorophenol (CM)
5.37min 0.00ug/mL d
response 0

Ion	Exp%	Act%
266.00	100	0.00
264.00	64.30	0.00#
268.00	64.70	0.00#
0.00	0.00	0.00

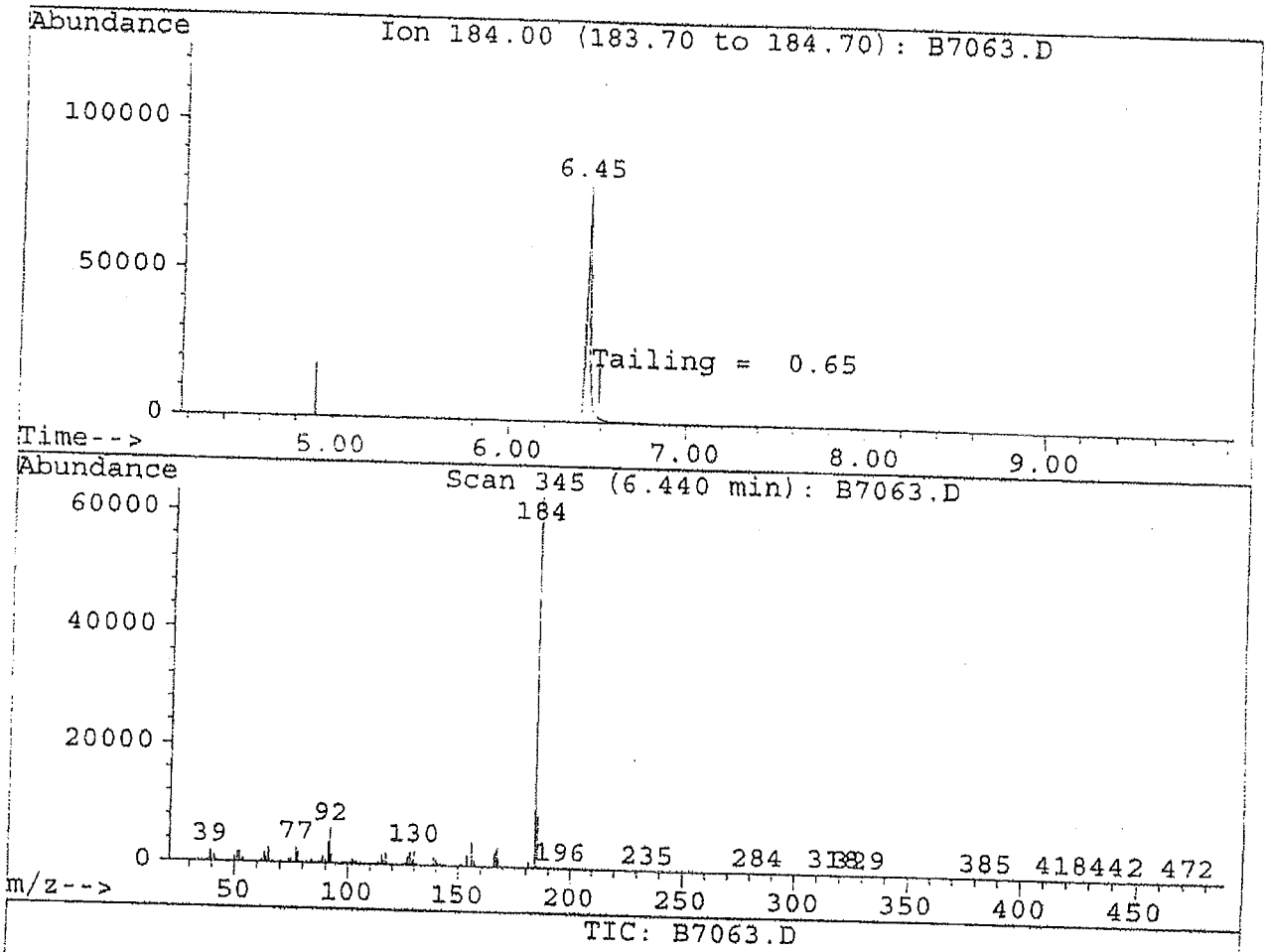
Quantitation Report

Data File : C:\HPCHEM\1\DATA2\B7063.D
Acq On : 4 Nov 97 3:25 pm
Sample : DFTPP.....
Misc :
Quant Time: Nov 4 15:54 1997

Converted from RTE d

Vial: 1
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 30 14:02:52 1997
Response via : Multiple Level Calibration



(2) Benzidine
7.91min 0.00ug/ml d
response 0

Ion	Exp%	Act%
184.00	100	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Response Factor Report ABNA

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Initial Calibration

Calibration Files
10 =B7065.D 20 =B7066.D 50 =B7067.D
80 =B7068.D 120 =B7069.D 160 =B7070.D

		Compound	10	20	50	80	120	160	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	ISTD							
2)	S	2-Fluorophenol	0.237	0.235	0.244	0.252	0.286	0.251	0.251	7.38
3)	S	Phenol-d5	1.675	1.521	1.514	1.465	1.442	1.381	1.500	6.66
4)	M	N-nitrosodimethylam	0.308	0.559	0.569	0.606	0.643	0.598	0.547	22.08
5)		Pyridine	0.669	1.152	1.020	0.998	1.146	1.145	1.022	18.20
6)	CM	Phenol	1.392	1.657	1.728	1.717	1.745	1.718	1.659	8.11
7)		Benzyl alcohol	0.809	1.079	1.167	1.230	1.237	1.200	1.120	14.57
8)	MT	bis(2-Chloroethyl)e	0.796	0.880	0.906	0.873	0.820	0.790	0.844	5.74
9)	M	2-Chlorophenol	1.150	1.392	1.427	1.351	1.359	1.374	1.342	7.31
10)	MT	1,3-Dichlorobenzene	1.009	1.173	1.187	1.211	1.198	1.172	1.158	6.43
11)	CM	1,4-Dichlorobenzene	1.104	1.287	1.265	1.282	1.291	1.258	1.248	5.76
12)	M	1,2-Dichlorobenzene	1.071	1.273	1.261	1.280	1.282	1.256	1.237	6.65
13)	T	2-Methylphenol	0.948	1.250	1.315	1.306	1.313	1.314	1.241	11.74
14)	M	bis(2-chloroisoprop	2.026	2.423	2.398	2.366	2.348	2.275	2.306	6.33
15)	T	4-Methylphenol	1.094	1.366	1.349	1.448	1.441	1.428	1.354	9.89
16)	PM	N-Nitroso-Di-n-prop	0.891	1.038	1.100	1.200	1.035	0.940	1.034	10.71
17)	M	Hexachloroethane	0.613	0.719	0.733	0.746	0.735	0.713	0.710	6.88
18)	I	Naphthalene-d8	ISTD							
19)	S	Nitrobenzene-d5	0.361	0.351	0.367	0.371	0.376	0.385	0.369	3.17
20)	M	Nitrobenzene	0.282	0.342	0.340	0.343	0.347	0.357	0.335	8.00
21)	M	Isophorone	0.550	0.668	0.666	0.640	0.685	0.690	0.650	7.96
22)	MC	2-Nitrophenol	0.198	0.254	0.268	0.285	0.288	0.288	0.264	13.25
23)	M	2,4-Dimethylphenol	0.371	0.452	0.489	0.482	0.489	0.499	0.463	10.36
24)	M	bis(2-Chloroethoxy)	0.328	0.380	0.412	0.412	0.412	0.411	0.393	8.71
25)	MC	2,4-Dichlorophenol	0.278	0.355	0.386	0.374	0.366	0.378	0.356	11.19
26)	M	1,2,4-Trichlorobenz	0.287	0.336	0.335	0.336	0.334	0.334	0.327	5.97
27)	M	Naphthalene	0.887	0.993	1.032	1.029	1.031	1.014	0.997	5.64
28)	T	4-Chloroaniline	0.398	0.502	0.521	0.528	0.532	0.533	0.502	10.43
29)	MC	Hexachlorobutadiene	0.210	0.251	0.244	0.244	0.248	0.250	0.241	6.35
30)	MC	4-Chloro-3-methylph	0.348	0.428	0.446	0.446	0.458	0.477	0.434	10.43
31)	M	2-Chloronaphthalene	0.724	0.833	0.817	0.828	0.832	0.877	0.819	6.18
32)	T	2-Methylnaphthalene	0.633	0.799	0.792	0.802	0.799	0.824	0.775	9.07
33)	I	Acenaphthene-d10	ISTD							
34)	P	Hexachlorocyclopent		0.258	0.315	0.362	0.392	0.417	0.349	18.14
35)	MC	2,4,6-Trichlorophen	0.327	0.405	0.428	0.430	0.396	0.404	0.398	9.47
36)	T	2,4,5-Trichlorophen	0.323	0.460	0.448	0.486	0.463	0.436	0.436	13.31
37)	S	2-Fluorobiphenyl	1.046	1.058	1.044	1.087	1.117	1.173	1.088	4.63
38)	T	2-Nitroaniline	0.323	0.455	0.474	0.518	0.530	0.585	0.481	18.65
39)	M	Dimethylphthalate	0.843	0.967	0.662	0.562	0.932	0.972	0.823	20.99
40)	M	Acenaphthylene	1.438	1.647	1.694	1.771	1.854	1.894	1.716	9.63
41)	M	2,6-Dinitrotoluene	0.235	0.302	0.190	0.270	0.287	0.314	0.266	17.46
42)	T	3-Nitroaniline	0.269	0.371	0.403	0.434	0.339	0.330	0.358	16.32
43)	CM	Acenaphthene	0.989	1.149	1.124	1.186	1.202	1.275	1.154	8.32
44)	P	2,4-Dinitrophenol		0.158	0.228	0.241	0.273	0.295	0.239	21.96
45)	M	4-Nitrophenol		0.204	0.243	0.233	0.214	0.261	0.231	9.76
46)		Dibenzofuran	1.507	1.888	1.821	1.957	1.999	2.050	1.870	10.45
47)		2,4-Dinitrotoluene	0.255	0.313	0.221	0.291	0.283	0.298	0.277	12.12

48)	M	Diethylphthalate	1.280	1.459	1.143	1.165	1.192	1.185	1.238	9.56
49)	M	Fluorene	1.178	1.372	1.387	1.469	1.162	1.188	1.293	10.24
50)	M	4-Chlorophenyl-phen	0.556	0.677	0.653	0.685	0.728	0.748	0.675	10.04
1)		Phenanthrene-d10	ISTD							
	T	4-Nitroaniline	0.128	0.158	0.171	0.151	0.128	0.115	0.142	15.04
,)	MC	4,6-Dinitro-2-methy		0.121	0.150	0.147	0.168	0.179	0.153	14.46
54)	T	n-Nitrosodiphenylam	0.352	0.414	0.416	0.381	0.382	0.333	0.380	8.67
55)	S	2,4,6-Tribromopheno	0.167	0.169	0.222	0.183	0.186	0.178	0.184	10.75
56)		1,2-Diphenylhydrazi	0.777	0.885	1.016	0.870	0.811	0.786	0.857	10.41
57)	M	4-Bromophenyl-pheny	0.176	0.215	0.232	0.224	0.222	0.214	0.214	9.25
58)	M	Hexachlorobenzene	0.265	0.312	0.395	0.323	0.325	0.312	0.322	13.05
59)	CM	Pentachlorophenol		0.118	0.185	0.204	0.209	0.211	0.185	21.15
60)	M	Phenanthrene	0.903	0.938	1.006	1.027	1.018	1.230	1.020	11.14
61)	M	Anthracene	0.750	0.787	0.831	0.882	0.878	0.868	0.833	6.53
62)		Carbazole	0.792	0.887	0.913	0.883	0.887	0.912	0.879	5.06
63)	M	Di-n-butylphthalate	1.247	1.357	1.450	1.384	1.256	1.249	1.324	6.49
64)	MC	Fluoranthene	1.120	1.126	1.224	1.193	1.118	1.168	1.158	3.80
65)	I	Chrysene-d12	ISTD							
66)		Benzidine	0.310	0.330	0.278	0.256	0.290	0.276	0.290	9.20
67)	M	Pyrene	1.224	1.537	1.663	1.534	1.344	1.351	1.442	11.25
68)	S	Terphenyl-d14	0.976	1.042	1.135	1.055	0.974	1.000	1.031	5.95
69)	M	Butylbenzylphthalat	0.515	0.632	0.606	0.592	0.580	0.593	0.586	6.72
70)	M	Benzo[a]anthracene	0.998	1.099	1.188	1.257	1.368	1.202	1.185	10.76
71)	M	3,3'-Dichlorobenzid	0.359	0.313	0.261	0.260	0.325	0.349	0.311	13.68
72)	M	Chrysene	0.646	0.710	0.673	0.789	0.732	0.518	0.678	13.68
73)	M	bis(2-Ethylhexyl)ph	0.662	0.869	0.819	0.829	0.794	0.809	0.797	8.89
74)	I	Perylene-d12	ISTD							
75)	MC	Di-n-octylphthalate	1.476	1.944	2.380	2.294	2.015	1.853	1.994	16.35
)	M	Benzo[b]fluoranthen	1.424	1.372	1.718	2.300	2.264	1.821	1.816	21.97
)	m	Benzo[k]fluoranthen	1.505	1.480	1.141	1.010	0.774	0.748	1.110	29.83
78)	mc	Benzo[a]pyrene	1.116	0.972	1.027	1.015	0.979	0.945	1.009	5.98
79)	m	Indeno[1,2,3-cd]pyr	0.603	0.611	0.691	0.777	0.806	0.805	0.715	13.16
80)	m	Dibenz[a,h]anthrace	0.443	0.532	0.572	0.650	0.689	0.693	0.597	16.64
81)	M	Benzo[g,h,i]perylen	0.377	0.444	0.653	0.689	0.656	0.645	0.577	22.80

(#) = Out of Range

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.95	27	44.60	2	51.90	162	58.10	9
37.10	3	44.75	4	52.85	16	58.70	3
37.30	4	45.70	2	53.10	3	59.60	2
37.90	24	46.65	6	53.60	2	59.80	2
39.00	399	47.05	16	54.00	5	59.95	6
41.60	1	47.50	4	54.60	4	60.30	5
42.10	5	48.40	10	55.05	1	61.55	5
42.40	5	49.60	4	55.60	1	62.00	10
42.60	5	50.00	995	56.00	110	62.30	4
42.80	5	50.20	3	57.00	139	62.90	79
43.70	23	51.00	3251	57.20	9	63.30	6

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
63.80	7	70.00	27	75.00	441	83.50	2
64.90	27	70.30	4	75.20	4	83.75	10
65.40	6	70.65	11	77.00	2463	83.80	2
65.95	6	71.25	8	78.00	129	84.55	4
66.30	3	71.60	2	78.90	256	84.85	11
66.90	12	72.70	5	79.90	113	85.15	7
67.50	2	73.00	15	80.50	2	85.65	4
68.30	7	73.60	8	81.00	157	85.85	12
68.50	4	74.00	238	81.20	4	86.15	6
68.95	3934	74.30	5	82.05	70	86.90	27
69.75	8	74.60	5	83.30	5	88.15	3

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
88.45	1	95.50	4	103.25	2	109.35	7
88.90	6	95.90	25	103.65	5	109.95	1971
89.25	5	97.45	3	103.85	61	110.65	3
89.55	4	97.65	3	104.65	3	110.95	33
90.85	59	97.95	312	104.85	66	111.95	2
91.55	1	98.15	6	105.25	6	112.15	2
92.25	5	98.95	84	105.95	3	113.85	4
92.45	2	100.95	106	106.25	2	114.20	7
92.85	362	102.15	4	106.95	820	114.40	7
93.95	36	102.65	1	107.95	132	114.75	3
94.35	3	103.00	48	108.85	6	115.20	7

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
116.95	758	124.65	2	130.05	86	137.00	56
117.75	2	124.95	4	130.95	4	137.25	2
117.85	3	125.25	18	131.50	4	137.45	3
118.00	66	125.40	23	131.85	17	138.35	9
119.30	3	125.65	2	132.45	1	138.60	7
120.55	3	125.95	3	132.80	4	139.15	11
120.75	2	126.15	3	133.15	5	139.35	2
1.95	24	126.95	2352	134.55	3	139.50	2
2.25	1	128.25	2	134.95	90	139.80	3
2.95	123	128.95	1372	135.35	2	140.90	202
.95	61	129.15	4	136.00	9	141.95	68

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
142.30	2	149.95	15	155.00	76	161.95	17
142.85	45	150.20	3	155.60	4	162.20	8
143.80	5	150.50	2	156.00	93	163.90	3
144.10	7	150.70	1	156.20	2	164.10	2
144.50	1	151.00	26	156.90	9	164.60	3
145.00	15	151.65	6	157.50	19	164.90	29
145.95	33	151.90	1	157.95	39	165.10	5
146.55	3	152.80	3	159.95	64	165.70	2
146.80	16	153.10	4	160.85	21	166.30	1
147.30	40	153.95	46	161.20	1	166.65	9
147.90	153	154.40	15	161.70	2	166.80	6

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
166.95	284	171.95	19	181.00	82	191.10	11
167.30	2	172.90	19	181.90	14	191.35	31
167.90	27	173.05	21	182.80	3	192.05	74
169.05	29	173.80	4	183.15	9	192.60	4
169.30	2	174.05	23	184.00	26	193.05	98
169.50	2	174.45	3	184.40	3	193.80	5
169.80	8	175.00	126	186.00	701	194.10	23
170.55	12	176.05	43	187.00	119	194.55	9
170.80	3	176.95	35	188.90	40	195.15	2
171.10	11	178.00	1	190.05	14	195.95	222
171.30	6	179.00	274	190.40	10	196.15	2

Average of 4.991 to 5.051 min.: B7063.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
196.95	4	202.95	25	211.35	2	216.85	392
197.25	2	203.90	212	212.45	1	217.95	53
197.85	5447	204.30	4	212.75	4	218.85	2
198.95	323	205.10	26	213.35	2	220.50	11
199.95	26	205.95	1251	213.65	2	220.95	317
200.25	8	206.25	3	214.95	25	221.35	1
200.85	2	206.85	114	215.25	1	221.75	2
201.15	2	207.65	2	215.65	3	222.75	2
201.40	37	207.90	58	216.05	2	223.35	1
202.30	3	210.20	24	216.30	3	223.95	739
202.55	4	210.95	60	216.55	1	224.55	1

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
224.95	170	232.00	12	239.05	21	245.65	2
225.60	5	232.25	4	239.45	2	245.95	161
226.15	2	232.55	1	240.50	3	246.95	29
226.45	2	232.90	5	240.90	29	247.15	4
226.65	1	233.50	7	241.35	8	247.65	1
226.95	420	233.90	10	241.65	1	248.30	8
227.45	1	234.95	25	242.00	37	248.55	1
27.90	12	235.65	1	242.55	6	249.00	21
28.95	82	236.00	22	243.25	1	249.50	3
29.40	4	237.75	1	243.95	526	250.05	3
1.00	33	238.75	4	245.10	99	250.70	3

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
250.95	4	255.95	396	265.55	9	272.20	4
251.20	3	257.30	12	265.90	44	272.90	77
251.50	7	257.90	197	267.15	5	273.20	22
251.80	10	258.40	3	267.50	8	273.90	5
252.00	10	258.95	37	268.50	1	275.00	1253
252.30	3	259.90	3	269.95	7	275.50	1
252.85	1	261.00	6	270.40	2	275.90	121
254.10	2	262.20	3	270.60	2	276.30	5
254.90	3141	262.55	5	271.00	13	277.00	136
255.10	2	263.15	6	271.30	1	277.40	2
255.30	3	264.95	86	271.95	9	278.50	1

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
281.30	3	288.20	1	292.15	7	300.20	2
281.80	2	288.50	1	292.90	34	300.80	2
282.40	7	288.90	3	293.10	1	301.05	5
283.05	20	289.40	2	293.40	2	301.30	3
283.95	6	289.65	3	294.00	5	301.80	7
284.25	8	289.90	5	294.30	8	302.00	2
284.50	2	290.25	4	296.00	481	302.30	4
284.90	25	290.50	1	296.95	66	302.60	1
285.50	1	290.90	1	297.50	1	303.00	48
285.70	1	291.20	1	299.10	1	303.70	2
286.20	1	291.90	4	299.70	1	303.95	15

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
304.30	2	314.00	32	321.05	9	328.00	13
306.75	1	314.60	2	321.45	1	328.75	6
307.70	4	314.90	47	322.65	2	330.90	2
308.05	3	316.00	26	322.95	127	331.30	5
308.75	3	317.05	3	324.00	28	331.55	3
309.75	2	317.95	1	325.05	1	331.75	6
309.85	2	318.15	2	325.40	2	332.20	9
310.00	8	318.55	3	326.25	8	332.55	4
311.55	3	320.10	3	326.95	23	332.80	4
312.20	6	320.45	1	327.25	1	333.35	16
313.00	8	320.85	12	327.75	4	333.75	10

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
334.00	34	344.95	2	353.75	4	359.55	1
334.25	4	345.60	7	354.05	37	360.05	4
337.20	3	346.00	26	355.35	2	360.95	1
338.20	2	346.85	3	355.65	3	362.05	2
338.85	1	347.35	3	356.85	1	362.35	3
340.55	8	349.85	2	357.25	3	363.55	4
341.35	1	350.45	5	357.95	2	364.65	7
343.05	1	351.55	6	358.40	4	364.95	185
343.35	1	351.90	24	358.75	3	365.95	29
343.75	1	352.35	1	359.05	2	366.90	2
344.50	3	353.05	5	359.35	3	367.20	1

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
367.50	1	372.80	3	382.80	12	390.00	3
368.40	1	373.05	14	383.00	11	390.30	3
368.60	1	374.10	2	383.50	2	390.60	2
369.00	3	375.30	2	383.85	5	390.80	1
370.00	2	376.30	3	384.10	2	391.10	9
370.20	3	377.10	1	384.80	4	391.90	9
370.40	5	377.70	2	385.65	5	392.60	1
370.90	13	377.90	4	386.10	1	392.90	5
371.40	3	378.70	1	386.60	2	393.30	2
371.70	1	381.90	2	387.60	1	394.55	3
372.05	77	382.20	3	389.65	8	395.00	1

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
395.30	4	401.70	1	406.80	2	416.70	1
396.30	3	402.10	28	407.30	1	416.95	2
396.80	1	402.80	5	407.60	2	417.35	2
398.10	1	403.05	33	407.95	5	417.75	1
398.70	2	403.40	2	408.70	3	418.25	1
398.95	2	403.95	12	409.00	1	418.55	1
399.55	4	405.25	3	410.60	2	418.95	3
399.80	1	405.50	2	410.90	1	419.25	1
400.50	2	405.70	2	412.80	4	419.50	3
400.75	4	406.25	3	414.05	4	420.75	3
401.00	2	406.50	1	415.00	1	421.00	24

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
421.30	3	429.95	1	438.00	7	444.00	55
421.75	5	430.40	3	438.30	4	444.95	2
422.95	97	430.80	6	438.95	12	445.45	2
424.65	4	433.25	1	439.45	6	445.75	1
425.55	1	434.40	5	441.10	11	446.05	3
427.45	3	434.75	2	441.55	2	446.65	2
428.05	1	434.90	2	441.75	3	446.85	2
428.35	3	436.60	3	442.05	3258	447.15	2
428.55	3	436.95	2	442.75	2	447.85	1
428.90	2	437.35	2	442.95	610	448.05	2
429.15	1	437.65	10	443.35	2	448.55	2

Average of 4.991 to 5.051 min.: B7063.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
450.95	4	462.25	2	470.15	4		
451.55	1	462.45	2	471.10	4		
453.60	5	462.95	1	471.35	1		
454.85	2	463.70	3	472.50	1		
456.35	2	464.15	2	473.00	4		
457.25	1	465.85	1	473.60	3		
457.65	1	467.45	3	473.90	1		
457.95	1	468.45	2				
459.15	1	468.75	1				
459.75	1	469.25	2				
460.15	4	469.55	3				

Quantitation Report

Data File : c:\hpchem\1\data3\b7066.d
Acq On : 4 Nov 97 5:09 pm
Sample : 20 STD.....
Misc :
Quant Time: Nov 5 12:08 1997

Converted from RTE d

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.13	152	12269	40.00	ug/mL	0.00
18) Naphthalene-d8	10.91	136	52621	40.00	ug/mL	0.00
33) Acenaphthene-d10	16.16	164	41636	40.00	ug/mL	0.00
51) Phenanthrene-d10	20.49	188	98645	40.00	ug/ml	0.00
65) Chrysene-d12	28.44	240	78584	40.00	ug/mL	0.01
74) Perylene-d12	32.41	264	37898	40.00	ug/mL	0.00
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.83	112	3610	10.04	ug/mL	10.04%
3) Phenol-d5	7.06	99	23331	38.72	ug/mL	38.72%
19) Nitrobenzene-d5	8.98	82	23112	36.61	ug/mL	36.61%
37) 2-Fluorobiphenyl	14.39	172	55089	45.24	ug/mL	45.24%
55) 2,4,6-Tribromophenol	18.62	330	20898	34.39	ug/mL	34.39%
68) Terphenyl-d14	25.57	244	102390	50.20	ug/mL	50.20%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.45	74	3428	14.03	ug/ml	100
5) Pyridine	1.41	79	7069	17.23	ug/ml	100
6) Phenol	7.11	94	10163	15.85	ug/mL	100
7) Benzyl alcohol	8.00	79	6621	21.58	ug/ml	95
8) bis(2-Chloroethyl)ether	6.82	93	5400	13.99	ug/mL	89
9) 2-Chlorophenol	6.82	128	8540	18.49	ug/mL	96
10) 1,3-Dichlorobenzene	6.98	146	7193	20.66	ug/mL	98
11) 1,4-Dichlorobenzene	7.19	146	7894	20.44	ug/mL	97
12) 1,2-Dichlorobenzene	7.69	146	7812	20.99	ug/mL	97
13) 2-Methylphenol	8.75	108	7670	17.33	ug/mL	93
14) bis(2-chloroisopropyl)ethe	8.43	45	14862	27.70	ug/mL	99
15) 4-Methylphenol	9.22	108	8382	17.70	ug/mL	97
16) N-Nitroso-Di-n-propylamine	8.87	70	6365	16.53	ug/mL	98
17) Hexachloroethane	8.55	117	4411	15.33	ug/mL#	76
20) Nitrobenzene	9.04	77	8989	16.28	ug/mL	94
21) Isophorone	9.79	82	17569	21.77	ug/mL	100
22) 2-Nitrophenol	9.99	139	6695	19.07	ug/mL	98
23) 2,4-Dimethylphenol	10.62	107	11886	17.58	ug/mL	98
24) bis(2-Chloroethoxy)methane	10.75	93	10006	16.53	ug/mL	99
25) 2,4-Dichlorophenol	10.89	162	9353	20.68	ug/mL	96
26) 1,2,4-Trichlorobenzene	10.87	180	8834	20.87	ug/mL	98
27) Naphthalene	10.95	128	26119	18.89	ug/mL	98
28) 4-Chloroaniline	11.50	127	13217	20.11	ug/mL	98
29) Hexachlorobutadiene	11.64	225	6603	19.40	ug/mL	97
30) 4-Chloro-3-methylphenol	13.39	107	11263	18.70	ug/mL	98
31) 2-Chloronaphthalene	14.47	162	21928	21.11	ug/ml	97
32) 2-Methylnaphthalene	13.06	142	21017	20.98	ug/mL	98
34) Hexachlorocyclopentadiene	13.80	237	5380	11.61	ug/mL	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data3\b7066.d
Acq On : 4 Nov 97 5:09 pm
Sample : 20 STD.....
Misc :
Quant Time: Nov 5 12:08 1997

Converted from RTE d

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) 2,4,6-Trichlorophenol	14.22	196	8426	18.21 ug/mL	97
36) 2,4,5-Trichlorophenol	14.47	196	9582	20.44 ug/mL	99
38) 2-Nitroaniline	15.16	65	9462	15.11 ug/mL	87
39) Dimethylphthalate	15.95	163	20136	17.38 ug/mL	100
40) Acenaphthylene	15.67	152	34279	19.62 ug/mL#	99
41) 2,6-Dinitrotoluene	16.10	165	6295	18.24 ug/mL	98
42) 3-Nitroaniline	16.46	138	7722	19.69 ug/mL	93
43) Acenaphthene	16.24	153	23910	20.42 ug/mL	98
44) 2,4-Dinitrophenol	16.81	184	3283	10.85 ug/mL	86
45) 4-Nitrophenol	17.66	109	4255	14.70 ug/mL	94
46) Dibenzofuran	16.75	168	39295	20.79 ug/mL	98
47) 2,4-Dinitrotoluene	17.23	165	6519	13.71 ug/mL	91
48) Diethylphthalate	18.13	149	30381	19.34 ug/mL	96
49) Fluorene	17.76	166	28565	20.66 ug/mL	99
50) 4-Chlorophenyl-phenylether	17.99	204	14099	20.58 ug/mL	99
52) 4-Nitroaniline	18.31	138	7804	18.28 ug/mL	96
53) 4,6-Dinitro-2-methylphenol	18.41	198	5976	13.98 ug/mL	100
54) n-Nitrosodiphenylamine	18.46	169	20428	21.66 ug/mL	100
56) 1,2-Diphenylhydrazine (as	18.41	77	43634	17.90 ug/ml	100
57) 4-Bromophenyl-phenylether	19.39	248	10589	18.62 ug/mL	98
58) Hexachlorobenzene	19.62	284	15405	17.20 ug/mL#	88
59) Pentachlorophenol	20.37	266	5811	10.83 ug/mL	98
60) Phenanthrene	20.55	178	46271	18.24 ug/mL	99
61) Anthracene	20.67	178	38833	16.53 ug/mL	99
62) Carbazole	21.43	167	43726	19.95 ug/ml	99
63) Di-n-butylphthalate	23.03	149	66939	19.08 ug/mL	99
64) Fluoranthene	24.09	202	55545	18.39 ug/mL	94
66) Benzidine	24.88	184	12981	28.06 ug/ml	100
67) Pyrene	24.70	202	60401	23.73 ug/mL	95
69) Butylbenzylphthalate	27.45	149	24851	20.10 ug/mL#	85
70) Benzo[a]anthracene	28.38	228	43188	20.44 ug/mL	100
71) 3,3'-Dichlorobenzidine	28.67	252	12290	16.07 ug/mL#	93
72) Chrysene	28.50	228	27904	15.15 ug/mL	99
73) bis(2-Ethylhexyl)phthalate	29.42	149	34159	16.27 ug/mL#	36
75) Di-n-octylphthalate	31.19	149	36835	21.37 ug/mL	99
76) Benzo[b]fluoranthene	31.43	252	25999	13.89 ug/mL	96
77) Benzo[k]fluoranthene	31.51	252	28039	34.76 ug/mLm	98
78) Benzo[a]pyrene	32.25	252	18418	20.35 ug/mL#	97
79) Indeno[1,2,3-cd]pyrene	34.93	276	11570	16.29 ug/mLm	96
80) Dibenz[a,h]anthracene	35.03	278	10087	16.11 ug/mLm	96
81) Benzo[g,h,i]perylene	35.46	276	8411	16.38 ug/mLm	98

(#) = qualifier out of range (m) = manual integration

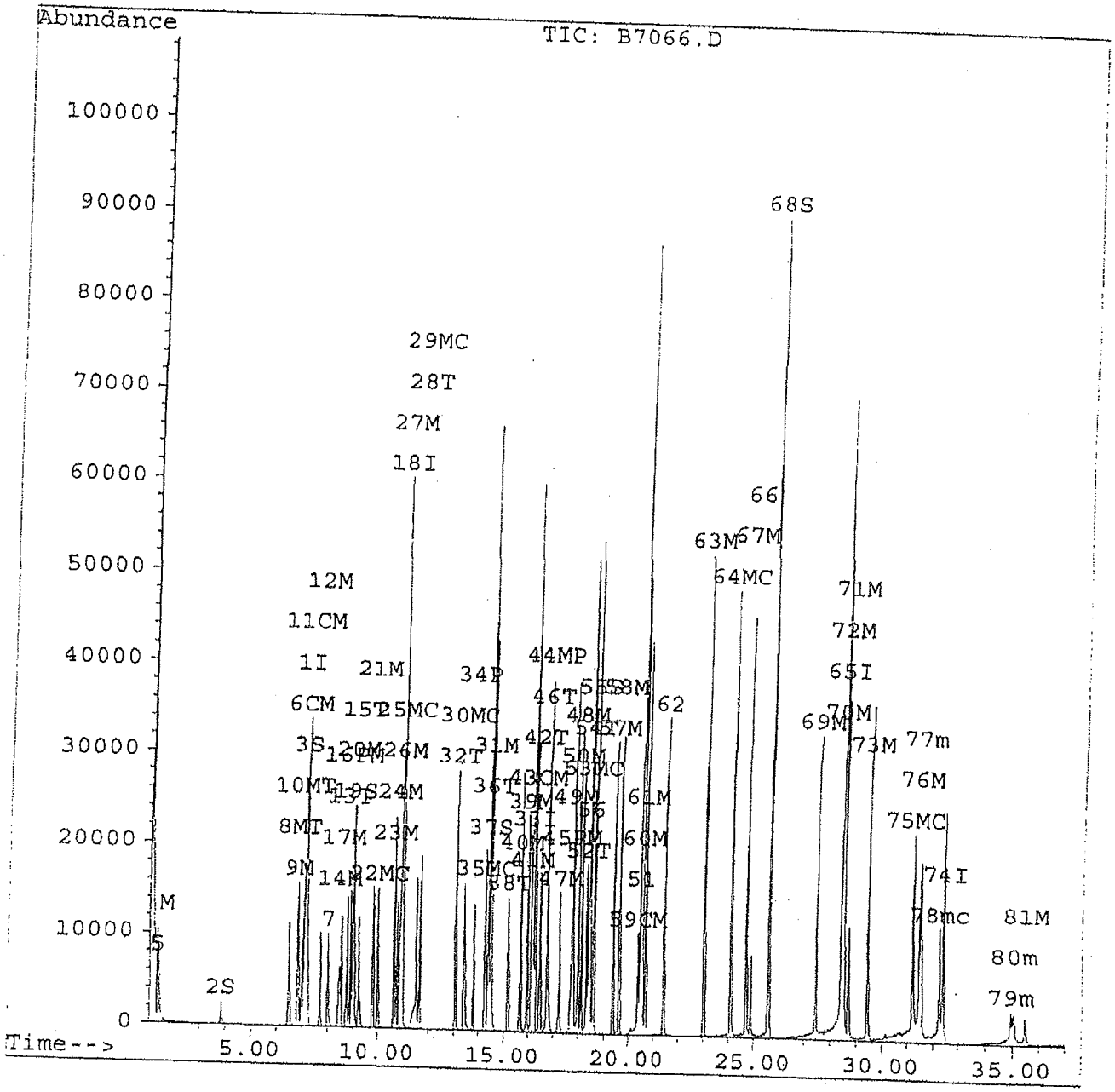
Quantitation Report

Data File : c:\hpchem\1\data3\b7066.d
Acq On : 4 Nov 97 5:09 pm
Sample : 20 STD.....
Misc :
Quant Time: Nov 5 12:08 1997

Converted from RTE d

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data3\b7067.d
Acq On : 4 Nov 97 5:56 pm
Sample : 50 STD.....
Misc :
Quant Time: Nov 5 11:52 1997

Converted from RTE d

Vial: 4
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.13	152	12591	40.00	ug/mL	0.00
18) Naphthalene-d8	10.91	136	53219	40.00	ug/mL	0.00
33) Acenaphthene-d10	16.16	164	44781	40.00	ug/mL	0.00
51) Phenanthrene-d10	20.50	188	83157	40.00	ug/ml	0.00
65) Chrysene-d12	28.43	240	64621	40.00	ug/mL	0.00
74) Perylene-d12	32.40	264	27266	40.00	ug/mL	0.00
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.83	112	3846	10.43	ug/mL	10.43%
3) Phenol-d5	7.04	99	23829	38.53	ug/mL	38.53%
19) Nitrobenzene-d5	9.00	82	24384	38.19	ug/mL	38.19%
37) 2-Fluorobiphenyl	14.39	172	58444	44.62	ug/mL	44.62%
55) 2,4,6-Tribromophenol	18.62	330	23077	45.05	ug/mL	45.05%
68) Terphenyl-d14	25.58	244	91716	54.68	ug/mL	54.68%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.45	74	8960	35.73	ug/ml	100
5) Pyridine	1.41	79	16046	38.11	ug/ml	100
6) Phenol	7.08	94	27204	41.34	ug/mL	100
7) Benzyl alcohol	8.02	79	18367	58.34	ug/ml	100
8) bis(2-Chloroethyl)ether	6.82	93	14260	36.00	ug/mL	100
9) 2-Chlorophenol	6.80	128	22452	47.36	ug/mL	100
10) 1,3-Dichlorobenzene	6.98	146	18685	52.30	ug/mL	100
11) 1,4-Dichlorobenzene	7.19	146	19914	50.25	ug/mL	100
12) 1,2-Dichlorobenzene	7.69	146	19841	51.95	ug/mL	100
13) 2-Methylphenol	8.71	108	20695	45.55	ug/mL	100
14) bis(2-chloroisopropyl)ethe	8.43	45	37734	68.52	ug/mL	100
15) 4-Methylphenol	9.20	108	21225	43.66	ug/mL	100
16) N-Nitroso-Di-n-propylamine	8.89	70	17310	43.79	ug/mL	100
17) Hexachloroethane	8.53	117	11540	39.09	ug/mL	100
20) Nitrobenzene	9.04	77	22594	40.47	ug/mL	100
21) Isophorone	9.83	82	44324	54.31	ug/mL	100
22) 2-Nitrophenol	9.99	139	17850	50.29	ug/mL	100
23) 2,4-Dimethylphenol	10.62	107	32521	47.56	ug/mL	100
24) bis(2-Chloroethoxy)methane	10.77	93	27379	44.73	ug/mL	100
25) 2,4-Dichlorophenol	10.87	162	25686	56.15	ug/mL	100
26) 1,2,4-Trichlorobenzene	10.87	180	22318	52.14	ug/mL	100
27) Naphthalene	10.97	128	68625	49.08	ug/mL	100
28) 4-Chloroaniline	11.50	127	34647	52.13	ug/mL	100
29) Hexachlorobutadiene	11.66	225	16217	47.11	ug/mL	100
30) 4-Chloro-3-methylphenol	13.37	107	29641	48.66	ug/mL	100
31) 2-Chloronaphthalene	14.47	162	54376	51.76	ug/ml	100
32) 2-Methylnaphthalene	13.07	142	52666	51.99	ug/mL	100
34) Hexachlorocyclopentadiene	13.80	237	17634	35.39	ug/mL	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data3\b7067.d
Acq On : 4 Nov 97 5:56 pm
Sample : 50 STD.....
Misc :
Quant Time: Nov 5 11:52 1997

Converted from RTE d

Vial: 4
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) 2,4,6-Trichlorophenol	14.22	196	23973	48.18	ug/mL	100
36) 2,4,5-Trichlorophenol	14.43	196	25067	49.72	ug/mL	100
38) 2-Nitroaniline	15.18	65	26511	39.37	ug/mL	100
39) Dimethylphthalate	15.98	163	37038	29.73	ug/mL	99
40) Acenaphthylene	15.67	152	94812	50.46	ug/mL#	100
41) 2,6-Dinitrotoluene	16.12	165	10617	28.60	ug/mL	100
42) 3-Nitroaniline	16.46	138	22549	53.46	ug/mL	98
43) Acenaphthene	16.26	153	62915	49.96	ug/mL	100
44) 2,4-Dinitrophenol	16.79	184	12777	39.27	ug/mL	91
45) 4-Nitrophenol	17.62	109	13583	43.62	ug/mL	90
46) Dibenzofuran	16.75	168	101953	50.15	ug/mL	100
47) 2,4-Dinitrotoluene	17.24	165	12363	24.17	ug/mL	97
48) Diethylphthalate	18.13	149	63976	37.87	ug/mL	100
49) Fluorene	17.77	166	77628	52.20	ug/mL	100
50) 4-Chlorophenyl-phenylether	17.99	204	36576	49.64	ug/mL	100
52) 4-Nitroaniline	18.34	138	17743	49.29	ug/mL	100
53) 4,6-Dinitro-2-methylphenol	18.44	198	15547	43.15	ug/mL	100
54) n-Nitrosodiphenylamine	18.46	169	43254	54.39	ug/mL	100
56) 1,2-Diphenylhydrazine (as	18.42	77	105640	51.40	ug/ml	100
57) 4-Bromophenyl-phenylether	19.40	248	24164	50.41	ug/mL	100
58) Hexachlorobenzene	19.64	284	41054	54.36	ug/mL	100
59) Pentachlorophenol	20.37	266	19202	42.46	ug/mL	100
60) Phenanthrene	20.56	178	104592	48.90	ug/mL	100
61) Anthracene	20.68	178	86372	43.60	ug/mL	100
62) Carbazole	21.43	167	94913	51.38	ug/ml	100
63) Di-n-butylphthalate	23.04	149	150770	50.97	ug/mL	100
64) Fluoranthene	24.10	202	127219	49.97	ug/mL	100
66) Benzidine	24.87	184	22464	59.04	ug/ml	100
67) Pyrene	24.71	202	134292	64.17	ug/mL	100
69) Butylbenzylphthalate	27.43	149	48943	48.15	ug/mL	100
70) Benzo[a]anthracene	28.39	228	95939	55.22	ug/mL	100
71) 3,3'-Dichlorobenzidine	28.68	252	21097	33.54	ug/mL	96
72) Chrysene	28.51	228	54401	35.93	ug/mL	100
73) bis(2-Ethylhexyl)phthalate	29.43	149	66174	38.32	ug/mL#	34
75) Di-n-octylphthalate	31.18	149	81128	65.41	ug/mL	100
76) Benzo[b]fluoranthene	31.44	252	58547	43.48	ug/mL	100
77) Benzo[k]fluoranthene	31.51	252	38876	66.99	ug/mLm	99
78) Benzo[a]pyrene	32.24	252	35012	53.76	ug/mL	99
79) Indeno[1,2,3-cd]pyrene	34.92	276	23545	46.08	ug/mL	97
80) Dibenz[a,h]anthracene	35.02	278	19484	43.25	ug/mL	98
81) Benzo[g,h,i]perylene	35.45	276	22245	60.20	ug/mLm	98

(#) = qualifier out of range (m) = manual integration

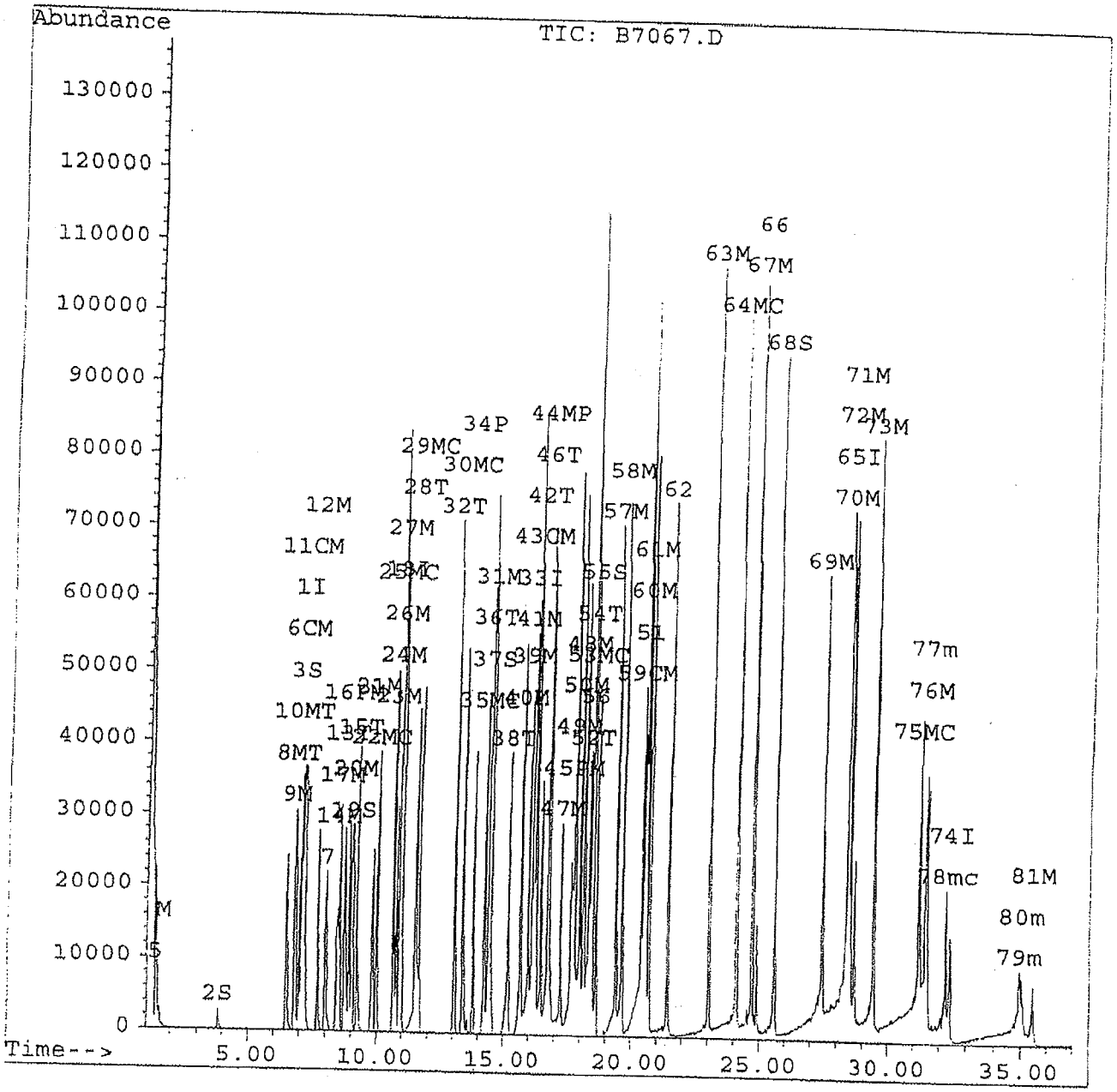
Quantitation Report

Data File : c:\hpchem\1\data3\b7067.d
Acq On : 4 Nov 97 5:56 pm
Sample : 50 STD.....
Misc :
Quant Time: Nov 5 11:52 1997

Converted from RTE d

Vial: 4
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data3\b7068.d
Acq On : 4 Nov 97 6:43 pm
Sample : 80 STD.....
Misc :
Quant Time: Nov 5 12:09 1997

Converted from RTE d

Vial: 5
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.13	152	12515	40.00	ug/mL	0.00
18) Naphthalene-d8	10.93	136	53129	40.00	ug/mL	0.02
33) Acenaphthene-d10	16.18	164	42933	40.00	ug/mL	0.02
51) Phenanthrene-d10	20.50	188	80359	40.00	ug/ml	0.00
65) Chrysene-d12	28.44	240	64139	40.00	ug/mL	0.01
74) Perylene-d12	32.39	264	27867	40.00	ug/mL	0.00
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.83	112	3943	10.76	ug/mL	10.76%
3) Phenol-d5	7.04	99	22922	37.29	ug/mL	37.29%
19) Nitrobenzene-d5	9.00	82	24667	38.70	ug/mL	38.70%
37) 2-Fluorobiphenyl	14.41	172	58335	46.45	ug/mL	46.45%
55) 2,4,6-Tribromophenol	18.63	330	18409	37.19	ug/mL	37.19%
68) Terphenyl-d14	25.57	244	84584	50.81	ug/mL	50.81%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.45	74	15164	60.84	ug/ml	100
5) Pyridine	1.41	79	24971	59.67	ug/ml	100
6) Phenol	7.06	94	42973	65.70	ug/mL	100
7) Benzyl alcohol	8.02	79	30799	98.41	ug/ml	93
8) bis(2-Chloroethyl)ether	6.82	93	21839	55.47	ug/mL	99
9) 2-Chlorophenol	6.78	128	33820	71.77	ug/mL	94
10) 1,3-Dichlorobenzene	6.98	146	30305	85.35	ug/mL	97
11) 1,4-Dichlorobenzene	7.19	146	32089	81.47	ug/mL	99
12) 1,2-Dichlorobenzene	7.70	146	32050	84.43	ug/mL	99
13) 2-Methylphenol	8.71	108	32699	72.41	ug/mL	97
14) bis(2-chloroisopropyl)ethe	8.43	45	59215	108.19	ug/mL	98
15) 4-Methylphenol	9.20	108	36254	75.03	ug/mL	98
16) N-Nitroso-Di-n-propylamine	8.92	70	30048	76.48	ug/mL	98
17) Hexachloroethane	8.53	117	18676	63.64	ug/mL	98
20) Nitrobenzene	9.06	77	36400	65.31	ug/mL	94
21) Isophorone	9.87	82	67961	83.41	ug/mL	100
22) 2-Nitrophenol	10.02	139	30305	85.52	ug/mL	92
23) 2,4-Dimethylphenol	10.65	107	51165	74.96	ug/mL	100
24) bis(2-Chloroethoxy)methane	10.77	93	43765	71.63	ug/mL	99
25) 2,4-Dichlorophenol	10.87	162	39776	87.10	ug/mL	98
26) 1,2,4-Trichlorobenzene	10.89	180	35717	83.58	ug/mL	99
27) Naphthalene	10.97	128	109370	78.35	ug/mL	98
28) 4-Chloroaniline	11.52	127	56087	84.53	ug/mL	99
29) Hexachlorobutadiene	11.66	225	25915	75.42	ug/mL	99
30) 4-Chloro-3-methylphenol	13.37	107	47370	77.89	ug/mL	98
31) 2-Chloronaphthalene	14.49	162	87993	83.90	ug/ml	94
32) 2-Methylnaphthalene	13.07	142	85204	84.25	ug/mL	100
34) Hexachlorocyclopentadiene	13.80	237	31109	65.12	ug/mL	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data3\b7068.d
Acq On : 4 Nov 97 6:43 pm
Sample : 80 STD.....
Misc :
Quant Time: Nov 5 12:09 1997

Converted from RTE d

Vial: 5
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) 2,4,6-Trichlorophenol	14.25	196	36922	77.39	ug/mL	98
36) 2,4,5-Trichlorophenol	14.41	196	41772	86.42	ug/mL	98
38) 2-Nitroaniline	15.20	65	44514	68.95	ug/mL	92
39) Dimethylphthalate	15.98	163	48284	40.42	ug/mL	99
40) Acenaphthylene	15.69	152	152107	84.44	ug/mL#	99
41) 2,6-Dinitrotoluene	16.14	165	23178	65.12	ug/mLm	0
42) 3-Nitroaniline	16.49	138	37308	92.26	ug/mL	97
43) Acenaphthene	16.26	153	101837	84.35	ug/mL	100
44) 2,4-Dinitrophenol	16.81	184	20716	66.40	ug/mL	96
45) 4-Nitrophenol	17.61	109	20023	67.07	ug/mL	89
46) Dibenzofuran	16.77	168	168024	86.20	ug/mL	96
47) 2,4-Dinitrotoluene	17.26	165	25026	51.02	ug/mLm	0
48) Diethylphthalate	18.16	149	100070	61.78	ug/mL	99
49) Fluorene	17.79	166	126152	88.48	ug/mL	99
50) 4-Chlorophenyl-phenylether	18.00	204	58807	83.25	ug/mL	99
52) 4-Nitroaniline	18.38	138	24208	69.60	ug/mL	95
53) 4,6-Dinitro-2-methylphenol	18.44	198	23688	68.04	ug/mL	100
54) n-Nitrosodiphenylamine	18.49	169	61306	79.78	ug/mL	99
56) 1,2-Diphenylhydrazine (as	18.44	77	139779	70.38	ug/ml	100
57) 4-Bromophenyl-phenylether	19.40	248	36071	77.87	ug/mL	96
58) Hexachlorobenzene	19.65	284	51918	71.14	ug/mL	97
59) Pentachlorophenol	20.38	266	32803	75.05	ug/mL	98
60) Phenanthrene	20.56	178	164982	79.82	ug/mL	100
61) Anthracene	20.71	178	141795	74.07	ug/mLm	0
62) Carbazole	21.44	167	141950	79.52	ug/ml	99
63) Di-n-butylphthalate	23.05	149	222482	77.84	ug/mL	99
64) Fluoranthene	24.10	202	191798	77.96	ug/mL	98
66) Benzidine	24.88	184	32788	86.82	ug/ml	100
67) Pyrene	24.72	202	196824	94.76	ug/mL	98
69) Butylbenzylphthalate	27.44	149	75898	75.22	ug/mL	96
70) Benzo[a]anthracene	28.40	228	161209	93.49	ug/mL	99
71) 3,3'-Dichlorobenzidine	28.67	252	33293	53.33	ug/mL#	96
72) Chrysene	28.50	228	101248	67.36	ug/mLm	99
73) bis(2-Ethylhexyl)phthalate	29.42	149	106379	62.07	ug/mL#	33
75) Di-n-octylphthalate	31.19	149	127876	100.88	ug/mL	99
76) Benzo[b]fluoranthene	31.44	252	128205	93.15	ug/mLm	97
77) Benzo[k]fluoranthene	31.52	252	56264	94.86	ug/mLm	98
78) Benzo[a]pyrene	32.23	252	56555	84.97	ug/mL	99
79) Indeno[1,2,3-cd]pyrene	34.94	276	43278	82.88	ug/mL	94
80) Dibenz[a,h]anthracene	35.02	278	36241	78.71	ug/mL	99
81) Benzo[g,h,i]perylene	35.44	276	38394	101.66	ug/mLm	98

(#) = qualifier out of range (m) = manual integration

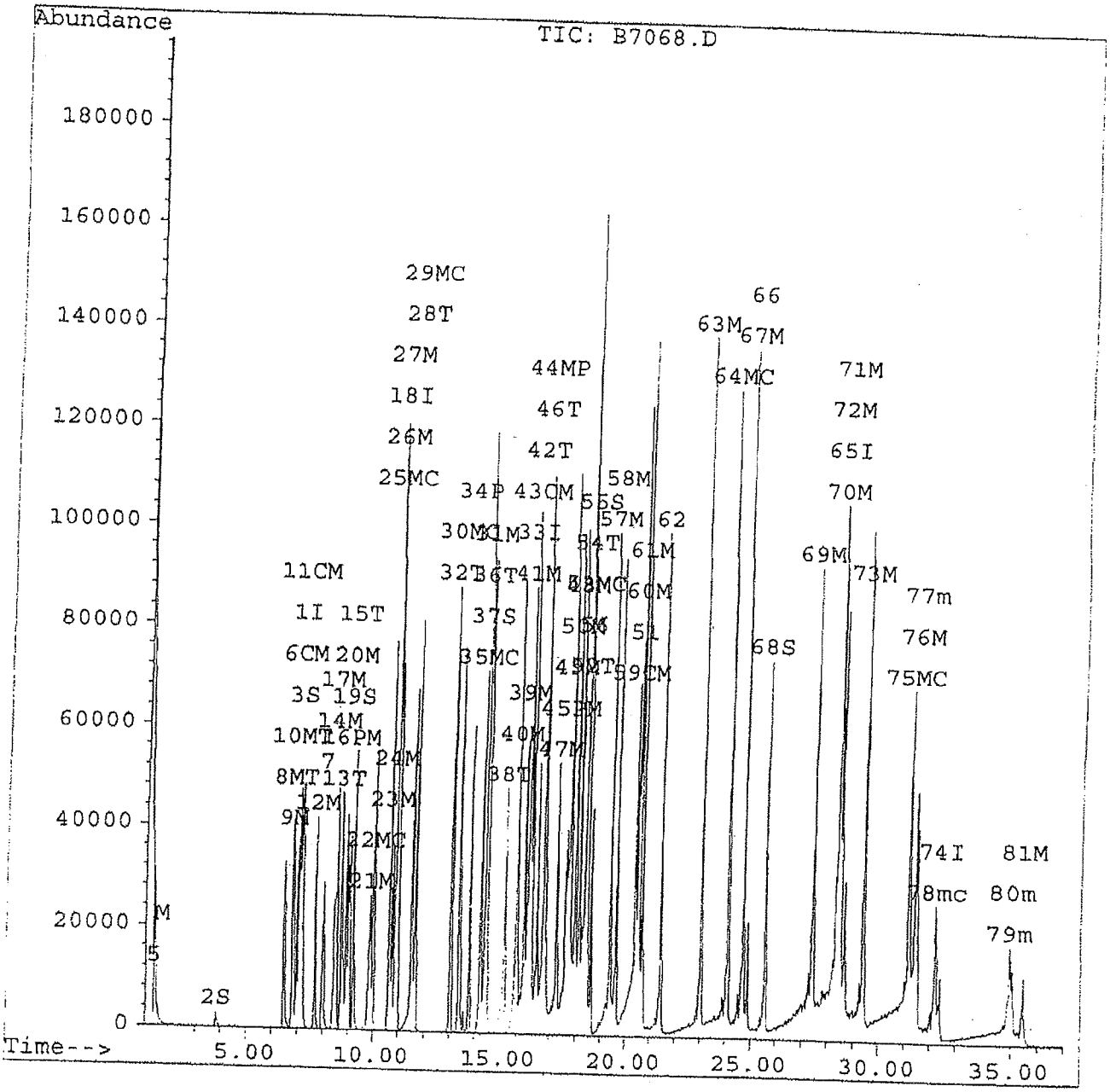
Quantitation Report

Data File : c:\hpchem\1\data3\b7068.d
Acq On : 4 Nov 97 6:43 pm
Sample : 80 STD.....
Misc :
Quant Time: Nov 5 12:09 1997

Converted from RTE d

Vial: 5
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data3\b7069.d
Acq On : 4 Nov 97 7:30 pm
Sample : 120 STD.....
Misc :
Quant Time: Nov 5 12:11 1997

Converted from RTE d

Vial: 6
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.14	152	14123	40.00	ug/mL	0.02
18) Naphthalene-d8	10.95	136	59497	40.00	ug/mL	0.04
33) Acenaphthene-d10	16.18	164	47603	40.00	ug/mL	0.02
51) Phenanthrene-d10	20.51	188	91651	40.00	ug/ml	0.01
65) Chrysene-d12	28.45	240	76941	40.00	ug/mL	0.02
74) Perylene-d12	32.39	264	39927	40.00	ug/mL	-0.02
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.85	112	5051	12.21	ug/mL	12.21%
3) Phenol-d5	7.04	99	25456	36.70	ug/mL	36.70%
19) Nitrobenzene-d5	9.02	82	27985	39.21	ug/mL	39.21%
37) 2-Fluorobiphenyl	14.41	172	66487	47.75	ug/mL	47.75%
55) 2,4,6-Tribromophenol	18.63	330	21252	37.64	ug/mL	37.64%
68) Terphenyl-d14	25.58	244	93719	46.93	ug/mL	46.93%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.47	74	27223	96.79	ug/ml	100
5) Pyridine	1.41	79	48554	102.82	ug/ml	100
6) Phenol	7.06	94	73934	100.17	ug/mL	100
7) Benzyl alcohol	8.08	79	52423	148.44	ug/ml	98
8) bis(2-Chloroethyl)ether	6.86	93	34730	78.17	ug/mL	95
9) 2-Chlorophenol	6.80	128	57584	108.28	ug/mL	96
10) 1,3-Dichlorobenzene	7.00	146	50776	126.72	ug/mL	97
11) 1,4-Dichlorobenzene	7.19	146	54708	123.08	ug/mL	99
12) 1,2-Dichlorobenzene	7.71	146	54316	126.80	ug/mL	99
13) 2-Methylphenol	8.73	108	55637	109.18	ug/mL	96
14) bis(2-chloroisopropyl)ethe	8.45	45	99481	161.06	ug/mL#	94
15) 4-Methylphenol	9.22	108	61074	112.01	ug/mL	97
16) N-Nitroso-Di-n-propylamine	8.96	70	43847	98.90	ug/mL	94
17) Hexachloroethane	8.55	117	31159	94.09	ug/mL	90
20) Nitrobenzene	9.08	77	61962	99.28	ug/mL	95
21) Isophorone	9.95	82	122291	134.02	ug/mLm	99
22) 2-Nitrophenol	10.03	139	51357	129.41	ug/mL	95
23) 2,4-Dimethylphenol	10.67	107	87302	114.21	ug/mL	99
24) bis(2-Chloroethoxy)methane	10.79	93	73610	107.58	ug/mL	99
25) 2,4-Dichlorophenol	10.89	162	65377	127.84	ug/mL#	94
26) 1,2,4-Trichlorobenzene	10.89	180	59683	124.71	ug/mL	99
27) Naphthalene	10.99	128	183957	117.68	ug/mL	99
28) 4-Chloroaniline	11.54	127	94913	127.74	ug/mL	97
29) Hexachlorobutadiene	11.66	225	44206	114.88	ug/mL	98
30) 4-Chloro-3-methylphenol	13.37	107	81762	120.05	ug/mL	99
31) 2-Chloronaphthalene	14.49	162	148585	126.51	ug/ml	100
32) 2-Methylnaphthalene	13.09	142	142547	125.86	ug/mL	100
34) Hexachlorocyclopentadiene	13.80	237	56010	105.75	ug/mL	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data3\b7069.d
Acq On : 4 Nov 97 7:30 pm
Sample : 120 STD.....
Misc :
Quant Time: Nov 5 12:11 1997

Converted from RTE d

Vial: 6
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) 2,4,6-Trichlorophenol	14.25	196	56543	106.89	ug/mL	98
36) 2,4,5-Trichlorophenol	14.41	196	66127	123.39	ug/mL	99
38) 2-Nitroaniline	15.23	65	75618	105.64	ug/mL	96
39) Dimethylphthalate	16.02	163	133049	100.46	ug/mLm	0
40) Acenaphthylene	15.71	152	264705	132.53	ug/mL#	97
41) 2,6-Dinitrotoluene	16.16	165	41027	103.96	ug/mLm	0
42) 3-Nitroaniline	16.51	138	48477	108.11	ug/mL	94
43) Acenaphthene	16.29	153	171601	128.19	ug/mL	99
44) 2,4-Dinitrophenol	16.84	184	39004	112.76	ug/mL#	83
45) 4-Nitrophenol	17.59	109	30518	92.20	ug/mL	92
46) Dibenzofuran	16.80	168	285506	132.10	ug/mL	93
47) 2,4-Dinitrotoluene	17.30	165	40367	74.23	ug/mLm	0
48) Diethylphthalate	18.18	149	170268	94.81	ug/mL	100
49) Fluorene	17.79	166	165984	105.00	ug/mL	99
50) 4-Chlorophenyl-phenylether	18.02	204	104023	132.81	ug/mL	96
52) 4-Nitroaniline	18.43	138	35234	88.81	ug/mL	94
53) 4,6-Dinitro-2-methylphenol	18.49	198	46252	116.48	ug/mL	100
54) n-Nitrosodiphenylamine	18.51	169	104957	119.75	ug/mL	99
56) 1,2-Diphenylhydrazine (as	18.47	77	223095	98.50	ug/ml	100
57) 4-Bromophenyl-phenylether	19.41	248	60960	115.39	ug/mL	94
58) Hexachlorobenzene	19.67	284	89267	107.25	ug/mL	99
59) Pentachlorophenol	20.41	266	57529	115.41	ug/mL	96
60) Phenanthrene	20.59	178	279773	118.68	ug/mL	99
61) Anthracene	20.71	178	241503	110.61	ug/mLm	0
62) Carbazole	21.44	167	243789	119.75	ug/ml	99
63) Di-n-butylphthalate	23.05	149	345368	105.95	ug/mL	99
64) Fluoranthene	24.11	202	307479	109.58	ug/mL	99
66) Benzidine	24.89	184	66833	147.53	ug/ml	100
67) Pyrene	24.72	202	310170	124.49	ug/mL	97
69) Butylbenzylphthalate	27.45	149	133840	110.58	ug/mL	94
70) Benzo[a]anthracene	28.41	228	315726	152.63	ug/mL	99
71) 3,3'-Dichlorobenzidine	28.68	252	75023	100.18	ug/mL	96
72) Chrysene	28.51	228	169059	93.77	ug/mLm	99
73) bis(2-Ethylhexyl)phthalate	29.43	149	183213	89.11	ug/mL#	36
75) Di-n-octylphthalate	31.18	149	241325	132.88	ug/mL	100
76) Benzo[b]fluoranthene	31.45	252	271161	137.52	ug/mLm	98
77) Benzo[k]fluoranthene	31.51	252	92736	109.13	ug/mLm	99
78) Benzo[a]pyrene	32.24	252	117256	122.95	ug/mL	98
79) Indeno[1,2,3-cd]pyrene	34.93	276	96546	129.04	ug/mL	98
80) Dibenz[a,h]anthracene	35.03	278	82578	125.18	ug/mL	98
81) Benzo[g,h,i]perylene	35.46	276	78556	145.18	ug/mLm	0

(#) = qualifier out of range (m) = manual integration

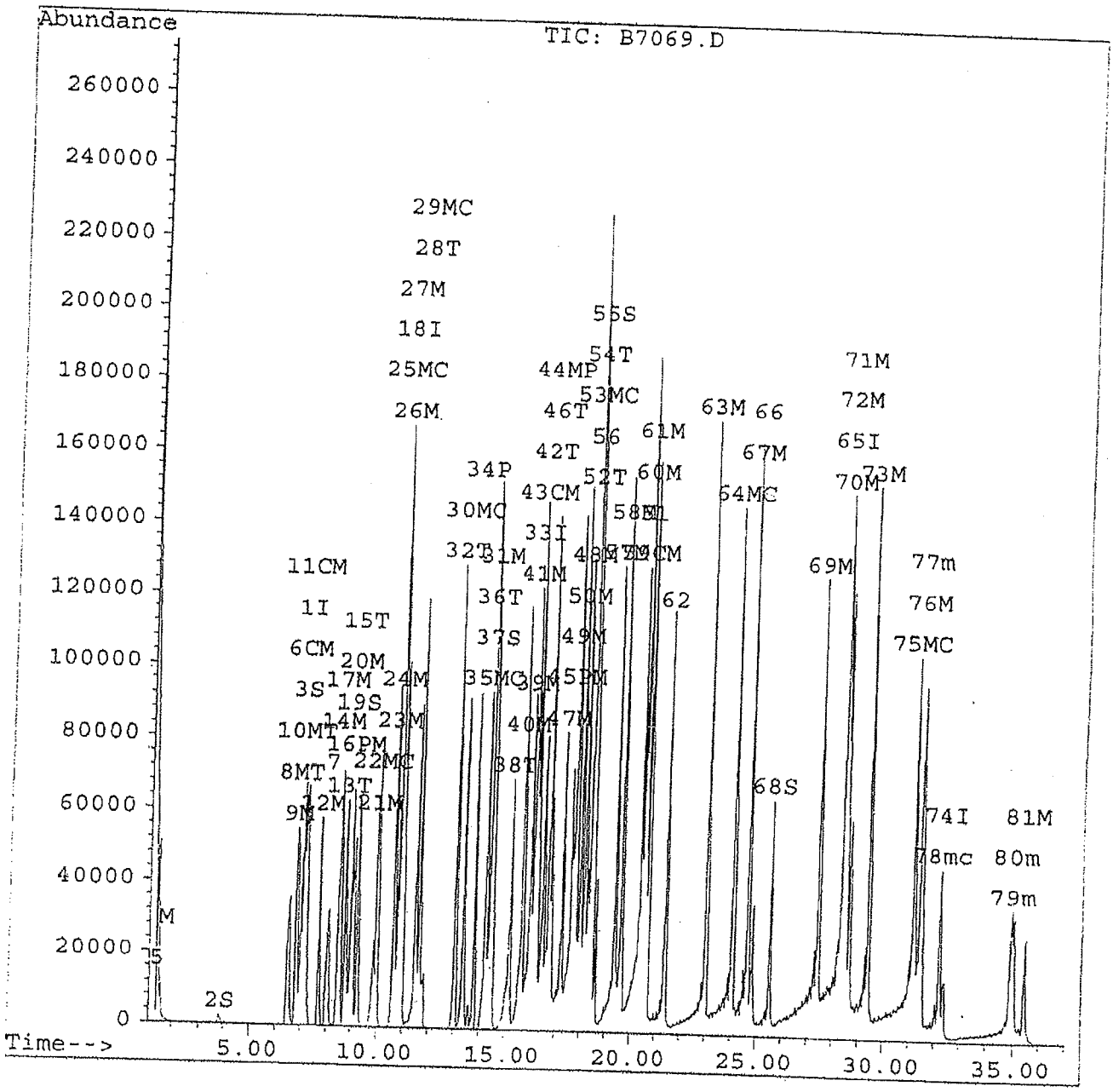
Quantitation Report

Data File : c:\hpchem\1\data3\b7069.d
Acq On : 4 Nov 97 7:30 pm
Sample : 120 STD.....
Misc :
Quant Time: Nov 5 12:11 1997

Converted from RTE d

Vial: 6
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data3\b7070.d
Acq On : 4 Nov 97 8:17 pm
Sample : 160 STD.....
Misc :
Quant Time: Nov 5 12:14 1997

Converted from RTE d

Vial: 7
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.15	152	13448	40.00	ug/mL	0.02
18) Naphthalene-d8	10.95	136	54814	40.00	ug/mL	0.04
33) Acenaphthene-d10	16.21	164	42984	40.00	ug/mL	0.05
51) Phenanthrene-d10	20.51	188	86796	40.00	ug/ml	0.02
65) Chrysene-d12	28.44	240	77058	40.00	ug/mL	0.01
74) Perylene-d12	32.36	264	43988	40.00	ug/mL	-0.05
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.85	112	4215	10.70	ug/mL	10.70%
3) Phenol-d5	7.04	99	23220	35.16	ug/mL	35.16%
19) Nitrobenzene-d5	9.04	82	26370	40.10	ug/mL	40.10%
37) 2-Fluorobiphenyl	14.44	172	63032	50.13	ug/mL	50.13%
55) 2,4,6-Tribromophenol	18.64	330	19337	36.17	ug/mL	36.17%
68) Terphenyl-d14	25.57	244	96367	48.18	ug/mL	48.18%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.47	74	32166	120.10	ug/ml	100
5) Pyridine	1.41	79	61598	136.98	ug/ml	100
6) Phenol	7.09	94	92417	131.50	ug/mL	100
7) Benzyl alcohol	8.10	79	64548	191.94	ug/ml	93
8) bis(2-Chloroethyl)ether	6.86	93	42519	100.50	ug/mL	93
9) 2-Chlorophenol	6.80	128	73917	145.97	ug/mL	96
10) 1,3-Dichlorobenzene	7.00	146	63048	165.24	ug/mL	97
11) 1,4-Dichlorobenzene	7.21	146	67678	159.90	ug/mL	100
12) 1,2-Dichlorobenzene	7.72	146	67555	165.62	ug/mL	99
13) 2-Methylphenol	8.75	108	70665	145.63	ug/mL	97
14) bis(2-chloroisopropyl)ethe	8.47	45	122364	208.05	ug/mL#	91
15) 4-Methylphenol	9.24	108	76813	147.94	ug/mL	98
16) N-Nitroso-Di-n-propylamine	8.96	70	50563	119.77	ug/mL	96
17) Hexachloroethane	8.55	117	38339	121.58	ug/mL	91
20) Nitrobenzene	9.08	77	78384	136.32	ug/mL	97
21) Isophorone	10.00	82	151189	179.85	ug/mLm	97
22) 2-Nitrophenol	10.04	139	63114	172.63	ug/mL	99
23) 2,4-Dimethylphenol	10.69	107	109315	155.22	ug/mL	99
24) bis(2-Chloroethoxy)methane	10.81	93	90222	143.12	ug/mL	100
25) 2,4-Dichlorophenol	10.91	162	82823	175.80	ug/mL#	93
26) 1,2,4-Trichlorobenzene	10.91	180	73310	166.27	ug/mL	99
27) Naphthalene	11.02	128	222329	154.38	ug/mL	99
28) 4-Chloroaniline	11.54	127	116770	170.59	ug/mL	98
29) Hexachlorobutadiene	11.67	225	54752	154.44	ug/mL	99
30) 4-Chloro-3-methylphenol	13.40	107	104682	166.84	ug/mL	91
31) 2-Chloronaphthalene	14.52	162	192300	177.72	ug/ml	97
32) 2-Methylnaphthalene	13.09	142	180714	173.20	ug/mL	100
34) Hexachlorocyclopentadiene	13.80	237	71714	149.94	ug/mL	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data3\b7070.d
Acq On : 4 Nov 97 8:17 pm
Sample : 160 STD.....
Misc :
Quant Time: Nov 5 12:14 1997

Converted from RTE d

Vial: 7
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) 2,4,6-Trichlorophenol	14.27	196	69468	145.44	ug/mL	99
36) 2,4,5-Trichlorophenol	14.42	196	74941	154.86	ug/mL	99
38) 2-Nitroaniline	15.25	65	100530	155.53	ug/mL	91
39) Dimethylphthalate	16.05	163	167169	139.79	ug/mLm	0
40) Acenaphthylene	15.72	152	325699	180.59	ug/mL#	98
41) 2,6-Dinitrotoluene	16.19	165	53931	151.34	ug/mLm	0
42) 3-Nitroaniline	16.53	138	56794	140.27	ug/mL	96
43) Acenaphthene	16.31	153	219300	181.43	ug/mL	100
44) 2,4-Dinitrophenol	16.86	184	50708	162.35	ug/mL#	82
45) 4-Nitrophenol	17.60	109	44835	150.00	ug/mL	96
46) Dibenzofuran	16.80	168	352500	180.63	ug/mL	97
47) 2,4-Dinitrotoluene	17.31	165	51280	104.43	ug/mLm	0
48) Diethylphthalate	18.21	149	203755	125.65	ug/mL	99
49) Fluorene	17.82	166	204200	143.06	ug/mL	99
50) 4-Chlorophenyl-phenylether	18.02	204	128659	181.92	ug/mL	98
52) 4-Nitroaniline	18.45	138	40026	106.54	ug/mL	94
53) 4,6-Dinitro-2-methylphenol	18.51	198	62119	165.18	ug/mL	100
54) n-Nitrosodiphenylamine	18.49	169	115782	139.49	ug/mL	92
56) 1,2-Diphenylhydrazine (as	18.47	77	272905	127.23	ug/ml	100
57) 4-Bromophenyl-phenylether	19.41	248	74348	148.60	ug/mL	94
58) Hexachlorobenzene	19.68	284	108365	137.48	ug/mL	96
59) Pentachlorophenol	20.41	266	73326	155.33	ug/mL	98
60) Phenanthrene	20.60	178	426945	191.24	ug/mL	99
61) Anthracene	20.74	178	301514	145.82	ug/mLm	0
62) Carbazole	21.47	167	316501	164.16	ug/ml	99
63) Di-n-butylphthalate	23.06	149	433500	140.42	ug/mL	99
64) Fluoranthene	24.12	202	405341	152.53	ug/mL	99
66) Benzidine	24.87	184	85114	187.60	ug/ml	100
67) Pyrene	24.73	202	416516	166.91	ug/mL	97
69) Butylbenzylphthalate	27.44	149	182685	150.71	ug/mL	97
70) Benzo[a]anthracene	28.42	228	370480	178.83	ug/mL	99
71) 3,3'-Dichlorobenzidine	28.67	252	107457	143.27	ug/mL	96
72) Chrysene	28.52	228	159666	88.42	ug/mLm	0
73) bis(2-Ethylhexyl)phthalate	29.42	149	249255	121.04	ug/mL#	35
75) Di-n-octylphthalate	31.17	149	325996	162.93	ug/mL	99
76) Benzo[b]fluoranthene	31.46	252	320354	147.46	ug/mLm	99
77) Benzo[k]fluoranthene	31.48	252	131605	140.57	ug/mLm	100
78) Benzo[a]pyrene	32.23	252	166216	158.20	ug/mL	98
79) Indeno[1,2,3-cd]pyrene	34.94	276	141725	171.94	ug/mL	99
80) Dibenz[a,h]anthracene	35.02	278	122005	167.87	ug/mL	98
81) Benzo[g,h,i]perylene	35.45	276	113480	190.36	ug/mLm	0

(#) = qualifier out of range (m) = manual integration

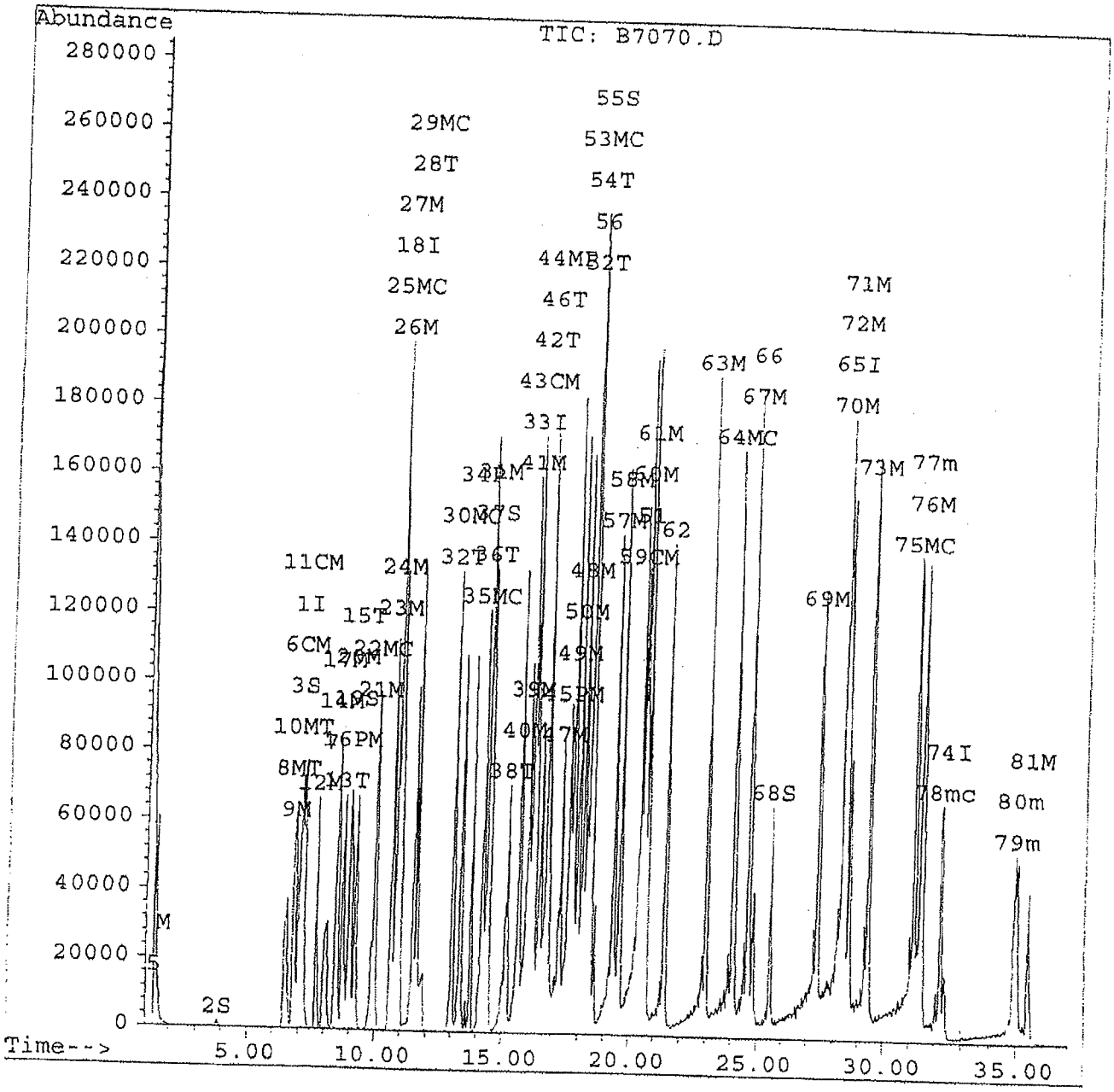
Quantitation Report

Data File : c:\hpchem\1\data3\b7070.d
Acq On : 4 Nov 97 8:17 pm
Sample : 160 STD.....
Misc :
Quant Time: Nov 5 12:14 1997

Converted from RTE d

Vial: 7
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name : EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID: B6889.D DFTPP Injection Date: 10/21/97

Instrument ID: ABNA DFTPP Injection Time: 1846

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	36.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	97.7
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	25.0 - 75.0% of mass 198	51.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100 % relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.4
275	10.0 - 30.0% of mass 198	13.0
365	Greater than 0.75% of mass 198	3.0
441	Present, but less than mass 443	13.3
442	40.0 - 110.0% of mass 198	85.9
443	15.0 - 24.0% of mass 442	17.0 (19.8)2

1-Value is % mass 69 2-Value is % mass 442

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

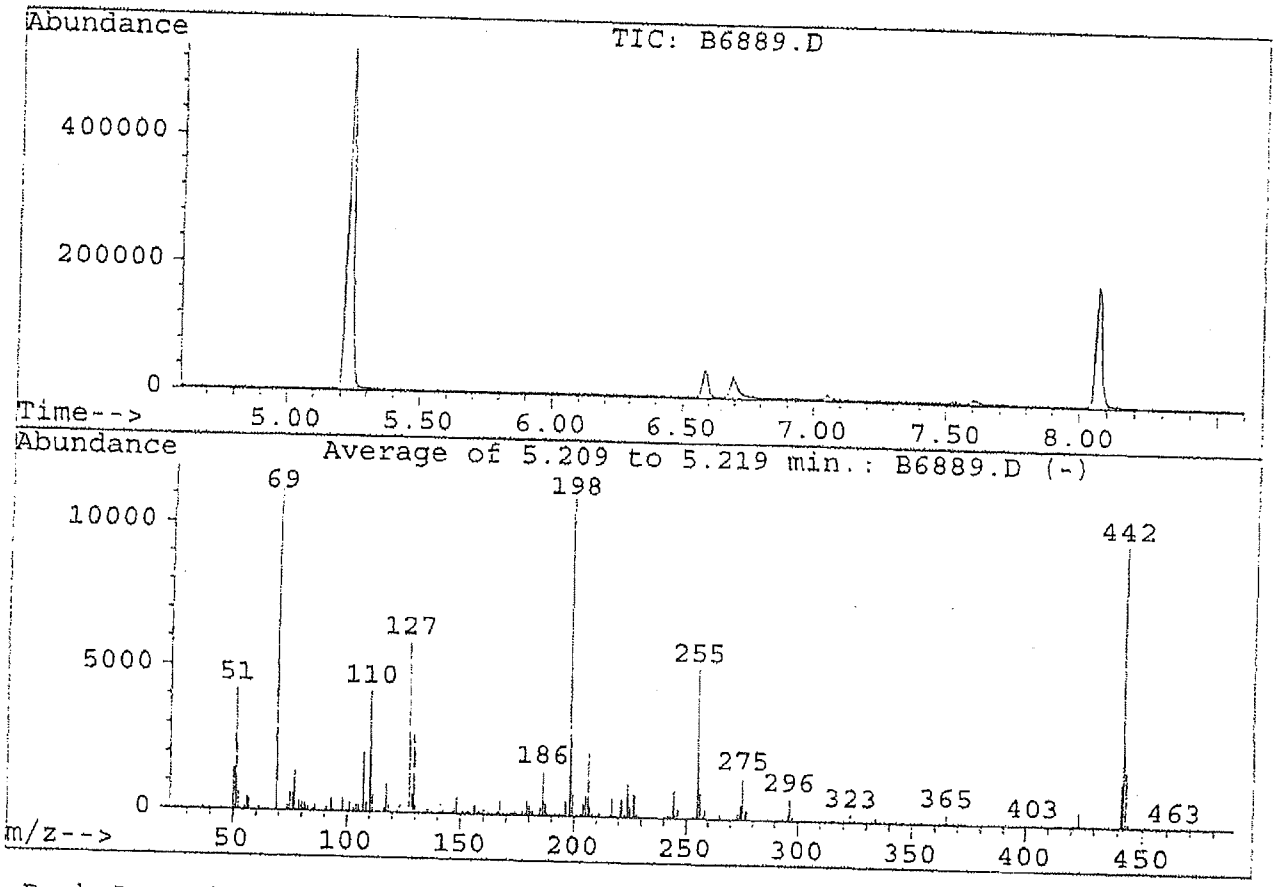
	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	50 STD	B6890.D	10/21/97	1906
02	SBLK01	BLANK1	B6891.D	10/21/97	1957
03	9765050B	9765050B	B6896.D	10/22/97	0011
04	63065MS	63065MS	B6899.D	10/22/97	0244
05	63065MSD	63065MSD	B6900.D	10/22/97	0334
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

DFTPP

Data File : C:\HPCHEM\1\DATA2\B6889.D
Acq On : 21 Oct 97 6:46 pm
Sample : DFTPP..... Converted from RTE d
Misc :

Vial: 1
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration



Peak Apex is scan: 366

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	36.8	4204	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	97.7	11155	PASS
70	69	0	2	0.0	0	PASS
127	198	40	60	51.7	5904	PASS
197	198	0	1	0.0	0	PASS
198	198	100	100	100.0	11420	PASS
199	198	5	9	7.4	841	PASS
275	198	10	30	13.0	1480	PASS
365	198	1	100	3.0	338	PASS
441	443	0	100	78.1	1517	PASS
442	198	40	100	85.9	9809	PASS
443	442	17	23	19.8	1943	PASS

B6889.D BNACLP.M Thu Oct 23 10:48:37 1997 BNA

Average of 5.209 to 5.219 min.: B6889.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.10	87	55.05	116	75.05	643	86.05	226
39.05	13	56.05	451	76.10	625	89.35	19
39.95	84	56.95	398	77.05	1379	90.35	15
42.85	22	57.85	13	78.05	56	91.05	142
43.05	29	58.05	50	79.05	350	92.95	515
46.25	5	60.05	23	79.95	284	94.00	68
50.05	1479	61.05	152	80.95	295	95.15	20
51.05	4204	69.05	11155	82.05	201	96.05	35
52.05	638	71.55	18	83.05	173	97.95	461
52.95	41	71.85	23	84.65	28	100.05	58
54.05	23	74.05	205	85.00	111	101.05	331

Average of 5.209 to 5.219 min.: B6889.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
103.05	122	115.00	9	129.00	2700	137.80	19
104.05	259	115.50	14	130.00	256	139.10	11
105.05	249	116.10	172	130.80	15	140.05	72
105.75	54	117.00	1007	131.00	41	140.40	23
107.05	2030	118.05	232	131.70	15	141.00	348
108.15	338	119.00	38	133.95	102	142.00	132
110.00	4185	119.90	17	135.10	254	142.20	27
111.00	563	122.00	155	136.50	29	142.60	18
112.90	18	123.05	324	136.70	25	145.10	56
114.40	16	127.00	5904	137.10	127	146.15	64
114.70	11	128.10	661	137.50	12	146.40	58

verage of 5.209 to 5.219 min.: B6889.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
147.00	216	160.05	171	171.00	22	180.10	305
148.10	568	160.90	24	172.10	56	181.10	162
151.05	60	162.10	61	173.05	80	182.10	23
151.90	14	162.80	14	173.50	27	182.95	11
152.15	25	165.00	43	174.05	153	183.25	10
153.05	134	166.00	111	175.10	49	184.05	41
154.05	92	166.30	77	176.10	45	185.05	287
156.05	302	167.00	494	177.10	131	185.95	1535
157.15	88	169.05	55	177.90	22	187.05	419
158.10	104	170.10	17	178.10	35	188.05	78
159.05	45	170.80	23	179.00	505	188.95	82

erage of 5.209 to 5.219 min.: B6889.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
190.05	25	203.00	124	218.05	79	230.20	16
191.10	52	204.05	448	219.05	30	231.05	62
192.10	36	205.05	705	221.05	623	231.95	10
193.85	38	206.05	2192	223.05	124	234.70	31
195.05	36	207.05	355	224.05	1152	234.95	17
196.05	497	208.05	127	225.10	380	235.15	25
198.05	11420	210.20	68	225.85	16	236.00	57
3.95	841	210.95	158	226.05	40	236.90	51
00.15	46	214.65	9	227.05	837	237.95	11
01.00	42	215.95	89	228.05	119	239.95	27
201.65	58	216.85	683	229.05	138	240.25	7

Average of 5.209 to 5.219 min.: B6889.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
241.05	45	253.10	100	273.05	216	285.15	56
242.15	109	255.05	5193	274.10	483	286.20	9
243.10	93	256.00	904	275.00	1480	288.00	6
244.15	982	256.90	26	276.10	327	290.10	12
245.20	157	257.10	76	277.05	316	291.60	9
246.10	305	257.90	308	278.00	32	291.90	16
248.45	28	258.95	68	278.90	23	292.10	16
249.00	37	260.30	12	283.00	36	293.05	80
250.65	7	261.00	11	283.90	7	294.00	23
252.10	33	265.00	181	284.20	8	294.70	10
252.55	26	268.30	8	285.00	12	296.00	758

Average of 5.209 to 5.219 min.: B6889.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
297.10	142	310.00	19	327.00	51	346.15	44
297.90	14	312.00	7	328.05	32	346.85	12
299.80	15	313.60	13	331.05	8	347.55	5
300.50	10	315.05	90	332.15	24	350.25	10
300.80	11	316.05	69	334.15	199	350.65	8
302.20	13	317.10	15	335.15	47	350.95	14
303.10	100	319.70	6	341.05	9	351.95	29
304.15	37	321.20	18	341.25	32	353.10	58
307.50	11	323.20	272	342.75	9	354.15	84
308.10	20	324.15	70	343.95	7	355.15	19
309.20	14	325.20	14	345.90	55	361.85	6

Average of 5.209 to 5.219 min.: B6889.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
363.55	7	377.25	10	401.80	11	425.20	17
365.05	338	381.55	8	403.15	76	426.60	9
366.05	77	383.00	39	404.20	46	436.85	24
366.55	11	383.55	14	405.00	10	437.50	9
369.95	8	384.05	8	411.30	24	441.20	1517
371.05	14	384.45	8	415.00	14	442.15	9809
372.15	144	387.65	8	421.10	75	443.10	1943
372.85	12	390.15	19	422.20	27	444.10	184
373.10	54	391.05	8	423.10	524	444.60	12
374.85	7	391.25	26	424.10	105	445.00	10
376.85	7	401.00	12	425.00	18	446.90	12

Average of 5.209 to 5.219 min.: B6889.D

Modified:subtracted

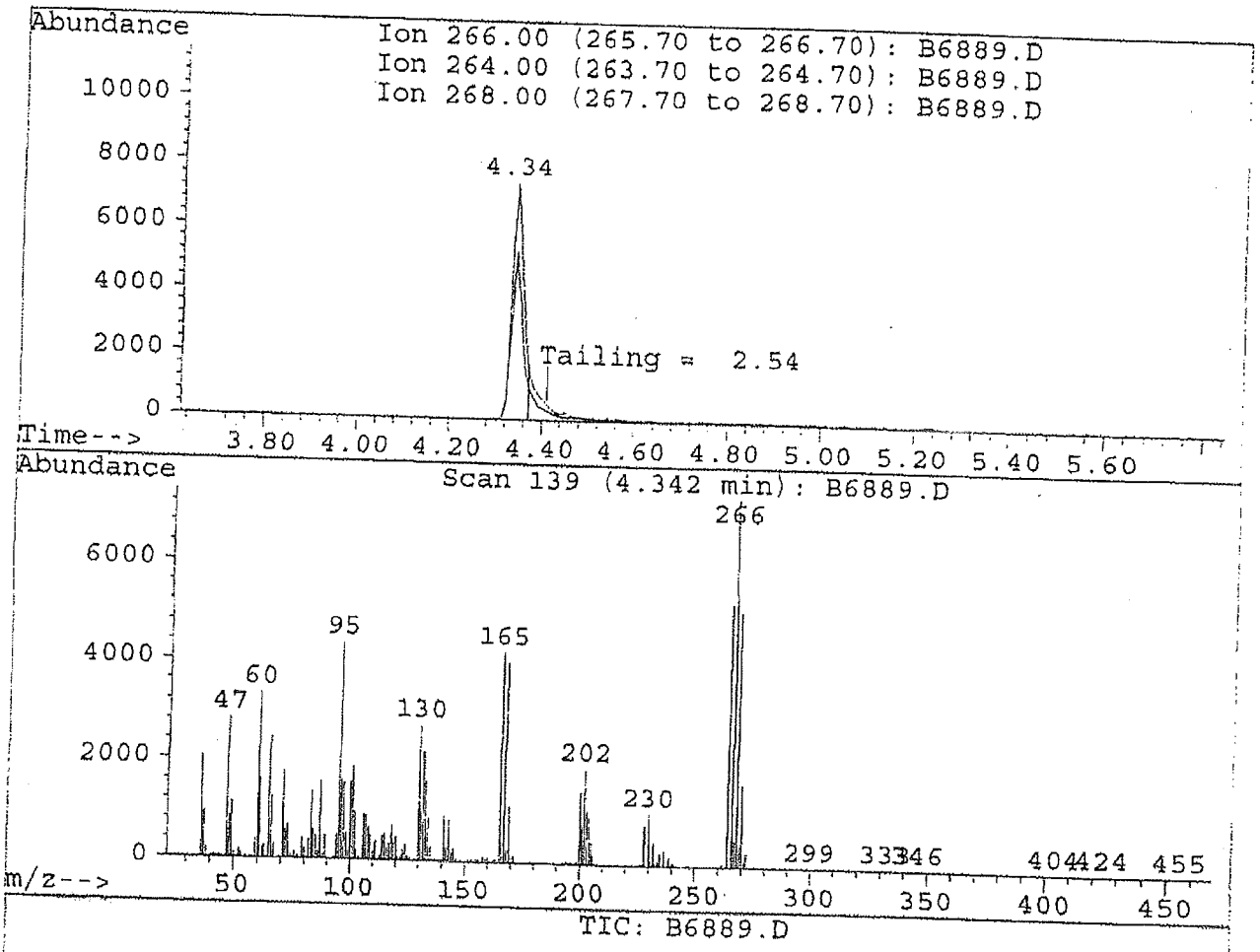
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
453.90	7						
454.10	7						
456.50	9						
457.20	7						
457.70	8						
461.40	14						
463.50	15						
474.30	5						
474.45	9						

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\B6889.D
Acq On : 21 Oct 97 6:46 pm
Sample : DFTPP..... Converted from RTE d
Misc :
Quant Time: Oct 21 19:07 1997

Vial: 1
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Oct 08 17:57:09 1997
Response via : Multiple Level Calibration



(1) Pentachlorophenol (CM)
4.76min 0.72ug/mL
response 239

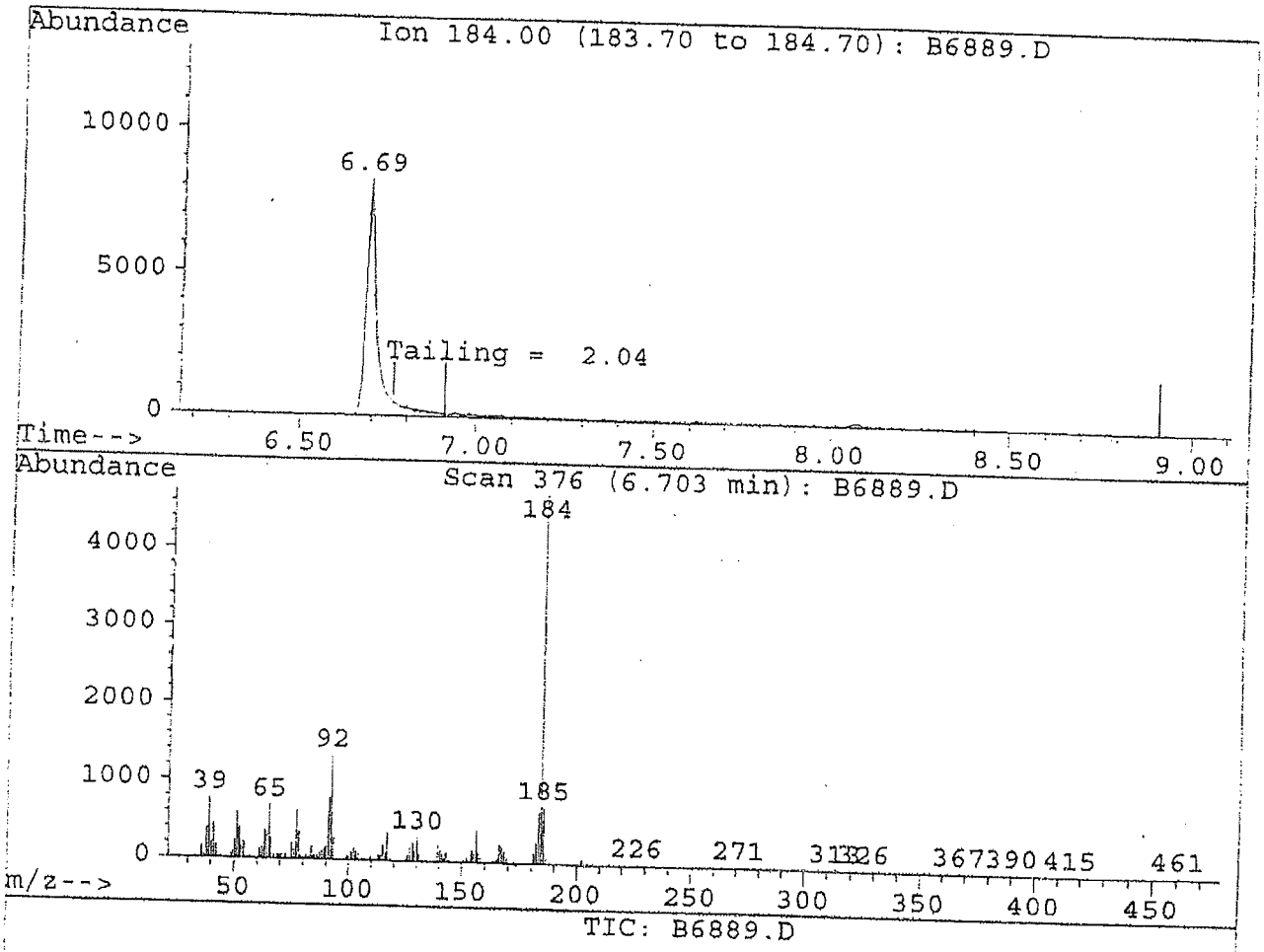
Ion	Exp%	Act%
266.00	100	100
264.00	64.30	23.94#
268.00	64.70	39.44#
0.00	0.00	0.00

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\B6889.D
Acq On : 21 Oct 97 6:46 pm
Sample : DFTPP..... Converted from RTE d
Misc :
Quant Time: Oct 21 19:07 1997

Vial: 1
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Oct 08 17:57:09 1997
Response via : Multiple Level Calibration



(2) Benzidine
8.08min 0.87ug/ml
response 266

Ion	Exp%	Act%
184.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Instrument ID: ABNA Calibration Date: #### Time: 1906

Lab File ID: B6890.D Init. Calib. Date(s): #### 1/0/00

Init. Calib. Times: 1906 0000

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
N-nitrosodimethylamine	0.918	0.944		-2.8	
Phenol	2.459	2.514		-2.2	30.0
bis(2-Chloroethyl)ether	1.484	1.371		7.6	
2-Chlorophenol	1.618	1.695		-4.8	
1,3-Dichlorobenzene	1.154	1.254		-8.7	
1,4-Dichlorobenzene	1.261	1.378		-9.3	30.0
1,2-Dichlorobenzene	1.267	1.320		-4.2	
bis(2-chloroisopropyl)ether	4.256	4.629		-8.8	
N-Nitroso-Di-n-propylamine	1.791	1.739	0.050	2.9	
Hexachloroethane	0.888	1.003		-13.0	
Nitrobenzene	0.503	0.509		-1.2	
Isophorone	1.009	0.959		5.0	
2-Nitrophenol	0.270	0.271		-0.4	30.0
2,4-Dimethylphenol	0.567	0.578		-1.9	
bis(2-Chloroethoxy)methane	0.552	0.552		0.0	
2,4-Dichlorophenol	0.315	0.339		-7.6	30.0
1,2,4-Trichlorobenzene	0.267	0.268		-0.4	
Naphthalene	1.062	1.104		-4.0	
Hexachlorobutadiene	0.172	0.159		7.6	30.0
4-Chloro-3-methylphenol	0.542	0.554		-2.2	30.0
Hexachlorocyclopentadiene	0.271	0.223	0.050	17.7	
2,4,6-Trichlorophenol	0.378	0.358		5.3	30.0
2-Chloronaphthalene	.0.737	0.714		3.1	
Dimethylphthalate	1.208	1.201		0.6	
Acenaphthylene	1.757	1.857		-5.7	
2,6-Dinitrotoluene	0.280	0.270		3.6	
Acenaphthene	1.127	1.237		-9.8	30.0
2,4-Dinitrophenol	0.217	0.196	0.050	9.7	
4-Nitrophenol	0.278	0.273	0.050	1.8	
2,4-Dinitrotoluene	0.419	0.428		-2.1	
Diethylphthalate	1.454	1.615		-11.1	
Fluorene	1.410	1.446		-2.6	
4-Chlorophenyl-phenylether	0.579	0.566		2.2	
4,6-Dinitro-2-methylphenol	0.136	0.137		-0.7	30.0
n-Nitrosodiphenylamine	0.398	0.395		0.8	
1,2-Diphenylhydrazine(as azo)	0.000	0.000			
4-Bromophenyl-phenylether	0.191	0.177		7.3	

All other compounds must meet a minimum RRF of 0.010.

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMSL ANALYTICAL Contract: _____

Project No. _____ Site: _____ Location: _____ Group: _____

Instrument ID: ABNA Calibration Date: #### Time: 1906

Lab File ID: B6890.D Init. Calib. Date(s): #### 1/0/00

Init. Calib. Times: 1906 0000

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Hexachlorobenzene	0.233	0.236		-1.3	
Pentachlorophenol	0.144	0.124		13.9	30.0
Phenanthrene	1.136	1.166		-2.6	
Anthracene	1.024	1.024		0.0	
Di-n-butylphthalate	1.692	1.843		-8.9	
Fluoranthene	1.162	1.144		1.5	30.0
Benzidine	0.402	0.333		17.2	
Pyrene	1.617	1.419		12.2	
Butylbenzylphthalate	0.940	0.953		-1.4	
Benzo[a]anthracene	1.303	1.536		-17.9	
3,3'-Dichlorobenzidine	0.294	0.328		-11.6	
Chrysene	0.995	0.918		7.7	
bis(2-Ethylhexyl)phthalate	1.616	1.800		-11.4	
Di-n-octylphthalate	4.652	4.134		11.1	30.0
Benzo[b]fluoranthene	2.459	2.434		1.0	
Benzo[k]fluoranthene	1.034	1.074		-3.9	
Benzo[a]pyrene	1.132	1.063		6.1	30.0
Indeno[1,2,3-cd]pyrene	0.647	0.582		10.0	
Dibenz[a,h]anthracene	0.535	0.446		16.6	
Benzo[g,h,i]perylene	0.489	0.409		16.4	
2-Fluorophenol	1.280	1.313		-2.6	
Phenol-d5	2.327	2.648		-13.8	
Nitrobenzene-d5	0.570	0.566		0.7	
2-Fluorobiphenyl	1.094	1.094		0.0	
2,4,6-Tribromophenol	0.113	0.129		-14.2	
Terphenyl-d14	1.017	0.947		6.9	

All other compounds must meet a minimum RRF of 0.010.

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\B6890.D
Acq On : 21 Oct 97 7:06 pm
Sample : 50 STD..... Converted from RTE d
Misc :

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 23 13:55:29 1997
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	45#	-0.46
2	S	2-Fluorophenol	1.280	1.313	-2.6	42#	-0.48
3	S	Phenol-d5	2.327	2.648	-13.8	47#	-0.40
4	M	N-nitrosodimethylamine	0.918	0.944	-2.7	45#	-0.25
5		Pyridine	1.556	1.392	10.5	42#	-0.21
6	CM	Phenol	2.459	2.514	-2.2	45#	-0.38
7	MT	bis(2-Chloroethyl)ether	1.484	1.371	7.6	42#	-0.42
8	M	2-Chlorophenol	1.618	1.695	-4.7	47#	-0.42
9	MT	1,3-Dichlorobenzene	1.154	1.254	-8.6	47#	-0.46
10	CM	1,4-Dichlorobenzene	1.261	1.378	-9.2	46#	-0.46
11	M	1,2-Dichlorobenzene	1.267	1.320	-4.2	44#	-0.46
12	T	2-Methylphenol	1.722	1.736	-0.8	43#	-0.36
13	M	bis(2-chloroisopropyl)ether	4.256	4.629	-8.8	58	-0.42
14	T	4-Methylphenol	1.879	1.982	-5.5	46#	-0.36
	PM	N-Nitroso-Di-n-propylamine	1.791	1.739	2.9	44#	-0.42
[illegible]	M	Hexachloroethane	0.888	1.003	-12.9	47#	-0.44
17	I	Naphthalene-d8	1.000	1.000	0.0	46#	-0.44
18	S	Nitrobenzene-d5	0.570	0.566	0.7	45#	-0.44
19	M	Nitrobenzene	0.503	0.509	-1.2	46#	-0.44
20	M	Isophorone	1.009	0.959	5.0	44#	-0.40
21	MC	2-Nitrophenol	0.270	0.271	-0.3	45#	-0.44
22	M	2,4-Dimethylphenol	0.567	0.578	-1.9	45#	-0.38
23	M	bis(2-Chloroethoxy)methane	0.552	0.552	-0.0	43#	-0.40
24	MC	2,4-Dichlorophenol	0.315	0.339	-7.8	46#	-0.40
25	M	1,2,4-Trichlorobenzene	0.267	0.268	-0.5	44#	-0.42
26	M	Naphthalene	1.062	1.104	-4.0	45#	-0.44
27	T	4-Chloroaniline	0.552	0.583	-5.5	45#	-0.42
28	MC	Hexachlorobutadiene	0.172	0.159	8.0	40#	-0.42
29	MC	4-Chloro-3-methylphenol	0.542	0.554	-2.1	47#	-0.36
30	M	2-Chloronaphthalene	0.737	0.714	3.1	44#	-0.46
31	T	2-Methylnaphthalene	0.813	0.820	-0.8	44#	-0.44
32	I	Acenaphthene-d10	1.000	1.000	0.0	43#	-0.46
33	P	Hexachlorocyclopentadiene	0.271	0.223	17.7	35#	-0.44
34	MC	2,4,6-Trichlorophenol	0.378	0.358	5.3	40#	-0.60#
35	T	2,4,5-Trichlorophenol	0.403	0.404	-0.2	40#	-0.38
36	S	2-Fluorobiphenyl	1.094	1.094	-0.0	43#	-0.44
37	T	2-Nitroaniline	1.044	1.182	-13.2	45#	-0.46
[illegible]	I	Dimethylphthalate	1.208	1.201	0.6	41#	-0.44
[illegible]	M	Acenaphthylene	1.757	1.857	-5.7	43#	-0.46
[illegible]	M	2,6-Dinitrotoluene	0.280	0.270	3.5	39#	-0.44

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\B6890.D
Acq On : 21 Oct 97 7:06 pm
Sample : 50 STD.....
Misc : Converted from RTE d

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 23 13:55:29 1997
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
41	T	3-Nitroaniline	0.475	0.484	-2.0	41#	-0.46
42	CM	Acenaphthene	1.127	1.237	-9.8	46#	-0.48
43	MP	2,4-Dinitrophenol	0.217	0.196	9.8	35#	-0.44
44	PM	4-Nitrophenol	0.278	0.273	2.0	38#	-0.32
45	T	Dibenzofuran	1.788	1.857	-3.8	44#	-0.48
46	M	2,4-Dinitrotoluene	0.419	0.428	-2.0	43#	-0.46
47	M	Diethylphthalate	1.454	1.615	-11.1	45#	-0.46
48	M	Fluorene	1.410	1.446	-2.5	43#	-0.48
49	M	4-Chlorophenyl-phenylether	0.579	0.566	2.3	42#	-0.46
50		Phenanthrene-d10	1.000	1.000	0.0	45#	-0.50
51	T	4-Nitroaniline	0.193	0.198	-2.3	36#	-0.48
52	MC	4,6-Dinitro-2-methylphenol	0.136	0.137	-1.0	36#	-0.48
53	T	n-Nitrosodiphenylamine	0.398	0.395	0.9	42#	-0.46
	S	2,4,6-Tribromophenol	0.113	0.129	-14.0	51	-0.48
		1,2-Diphenylhydrazine (as a	1.712	1.996	-16.6	51	-0.46
56	M	4-Bromophenyl-phenylether	0.191	0.177	7.5	40#	-0.48
57	M	Hexachlorobenzene	0.233	0.236	-1.3	43#	-0.50
58	CM	Pentachlorophenol	0.144	0.124	13.3	39#	-0.48
59	M	Phenanthrene	1.156	1.166	-2.7	46#	-0.50
60	M	Anthracene	1.024	1.024	0.0	42#	-0.52#
61		Carbazole	1.030	1.031	-0.1	44#	-0.50
62	M	Di-n-butylphthalate	1.692	1.843	-8.9	45#	-0.48
63	MC	Fluoranthene	1.162	1.144	1.5	42#	-0.54#
64	I	Chrysene-d12	1.000	1.000	0.0	52	-0.55#
65		Benzidine	0.402	0.333	17.3	44#	-4.87#
66	M	Pyrene	1.617	1.419	12.2	41#	-0.53#
67	S	Terphenyl-d14	1.017	0.947	6.9	47#	-0.52#
68	M	Butylbenzylphthalate	0.940	0.953	-1.4	49#	-0.52#
69	M	Benzo[a]anthracene	1.303	1.536	-17.9	57	-0.55#
70	M	3,3'-Dichlorobenzidine	0.294	0.328	-11.5	60	-0.53#
71	M	Chrysene	0.995	0.918	7.8	45#	-0.55#
72	M	bis(2-Ethylhexyl)phthalate	1.616	1.800	-11.4	56	-0.51#
73	I	Perylene-d12	1.000	1.000	0.0	67	-0.57#
74	MC	Di-n-octylphthalate	4.652	4.134	11.1	56	-0.51#
75	M	Benzo[b]fluoranthene	2.459	2.434	1.0	77	-0.55#
76	m	Benzo[k]fluoranthene	1.034	1.074	-3.8	59	-0.57#
	ıc	Benzo[a]pyrene	1.132	1.063	6.1	62	-0.57#
	m	Indeno[1,2,3-cd]pyrene	0.647	0.582	10.0	55	-0.57#
	m	Dibenz[a,h]anthracene	0.535	0.446	16.7	53	-0.57#

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\B6890.D
Acq On : 21 Oct 97 7:06 pm
Sample : 50 STD..... Converted from RTE d
Misc :

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 23 13:55:29 1997
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
80 M	Benzo[g,h,i]perylene	0.489	0.409	16.4	47#	-0.57#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report

Data File : c:\hpchem\1\data2\b6890.d
Acq On : 21 Oct 97 7:06 pm
Sample : 50 STD.....
Misc :
Quant Time: Oct 23 14:13 1997

Converted from RTE d

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 23 13:55:29 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.51	152	17951	40.00	ug/mL	-0.46
17) Naphthalene-d8	11.28	136	85911	40.00	ug/mL	-0.44
32) Acenaphthene-d10	16.56	164	61247	40.00	ug/mL	-0.46
50) Phenanthrene-d10	20.90	188	123510	40.00	ug/ml	-0.50
64) Chrysene-d12	28.88	240	106179	40.00	ug/mL	-0.55
73) Perylene-d12	32.85	264	46220	40.00	ug/mL	-0.57
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	4.25	112	29469	51.32	ug/mL	51.32%
3) Phenol-d5	7.41	99	59427	56.90	ug/mL	56.90%
18) Nitrobenzene-d5	9.36	82	60764	49.63	ug/mL	49.63%
36) 2-Fluorobiphenyl	14.77	172	83780	50.00	ug/mL	50.00%
54) 2,4,6-Tribromophenol	19.01	330	19955	57.00	ug/mL	57.00%
67) Terphenyl-d14	25.99	244	125736	46.56	ug/mL	46.56%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.60	74	21175	51.37	ug/mlm	100
5) Pyridine	1.56	79	31233	44.73	ug/ml	100
6) Phenol	7.45	94	56408	51.12	ug/mL	100
7) bis(2-Chloroethyl)ether	7.20	93	30763	46.20	ug/mLm	18
8) 2-Chlorophenol	7.18	128	38023	52.37	ug/mL	92
9) 1,3-Dichlorobenzene	7.35	146	28139	54.32	ug/mL	99
10) 1,4-Dichlorobenzene	7.54	146	30913	54.62	ug/mL	99
11) 1,2-Dichlorobenzene	8.06	146	29614	52.08	ug/mL	99
12) 2-Methylphenol	9.09	108	38951	50.40	ug/mL	94
13) bis(2-chloroisopropyl)ethe	8.78	45	103858	54.38	ug/mL#	70
14) 4-Methylphenol	9.57	108	44484	52.74	ug/mL	97
15) N-Nitroso-Di-n-propylamine	9.26	70	39027	48.55	ug/mL#	62
16) Hexachloroethane	8.91	117	22499	56.43	ug/mL	97
19) Nitrobenzene	9.41	77	54707	50.61	ug/mL	95
20) Isophorone	10.20	82	103036	47.52	ug/mL	95
21) 2-Nitrophenol	10.36	139	29058	50.14	ug/mL#	82
22) 2,4-Dimethylphenol	10.99	107	62062	50.97	ug/mL	99
23) bis(2-Chloroethoxy)methane	11.11	93	59252	50.01	ug/mL	98
24) 2,4-Dichlorophenol	11.24	162	36413	53.90	ug/mL#	86
25) 1,2,4-Trichlorobenzene	11.24	180	28770	50.25	ug/mL	98
26) Naphthalene	11.34	128	118560	52.00	ug/mL	100
27) 4-Chloroaniline	11.86	127	62561	52.75	ug/mL	99
28) Hexachlorobutadiene	12.01	225	17037	45.99	ug/mL	97
29) 4-Chloro-3-methylphenol	13.75	107	59489	51.07	ug/mL	95
30) 2-Chloronaphthalene	14.85	162	76694	48.45	ug/ml	96
31) 2-Methylnaphthalene	13.44	142	88043	50.39	ug/mL	94
33) Hexachlorocyclopentadiene	14.15	237	17079	41.13	ug/mL	100
34) 2,4,6-Trichlorophenol	14.61	196	27400	47.37	ug/mLm	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b6890.d
Acq On : 21 Oct 97 7:06 pm
Sample : 50 STD.....
Misc :
Quant Time: Oct 23 14:13 1997

Converted from RTE d

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 23 13:55:29 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) 2,4,5-Trichlorophenol	14.83	196	30895	50.10	ug/mL	97
37) 2-Nitroaniline	16.85	65	90479	56.58	ug/mL	77
38) Dimethylphthalate	16.33	163	91985	49.72	ug/mL#	97
39) Acenaphthylene	16.06	152	142141	52.83	ug/mL	95
40) 2,6-Dinitrotoluene	16.48	165	20656	48.25	ug/mL	93
41) 3-Nitroaniline	16.85	138	37056	51.00	ug/mL	91
42) Acenaphthene	16.64	153	94720	54.89	ug/mL	95
43) 2,4-Dinitrophenol	17.18	184	15013	45.10	ug/mL	94
44) 4-Nitrophenol	18.05	109	20888	48.99	ug/mLm	80
45) Dibenzofuran	17.14	168	142145	51.92	ug/mL	98
46) 2,4-Dinitrotoluene	17.62	165	32757	51.02	ug/mLm	35
47) Diethylphthalate	18.51	149	123644	55.55	ug/mL	97
48) Fluorene	18.16	166	110705	51.27	ug/mL	96
49) 4-Chlorophenyl-phenylether	18.37	204	43319	48.84	ug/mL	94
51) 4-Nitroaniline	18.74	138	30566	51.16	ug/mL	92
52) 4,6-Dinitro-2-methylphenol	18.82	198	21177	50.50	ug/mL	100
53) n-Nitrosodiphenylamine	18.86	169	60934	49.55	ug/mLm	93
55) 1,2-Diphenylhydrazine (as	18.82	77	308215	58.31	ug/ml	100
56) 4-Bromophenyl-phenylether	19.78	248	27314	46.27	ug/mL	97
57) Hexachlorobenzene	20.03	284	36505	50.66	ug/mL#	75
58) Pentachlorophenol	20.78	266	19211	43.33	ug/mL	98
59) Phenanthrene	20.98	178	179968	51.33	ug/mL	98
60) Anthracene	21.09	178	158051	50.00	ug/mLm	97
61) Carbazole	21.83	167	159199	50.05	ug/ml	99
62) Di-n-butylphthalate	23.42	149	284530	54.45	ug/mL	99
63) Fluoranthene	24.52	202	176633	49.24	ug/mL	91
65) Benzidine	20.90	184	44157	41.34	ug/mlm	100
66) Pyrene	25.14	202	188329	43.88	ug/mL#	80
68) Butylbenzylphthalate	27.83	149	126529	50.69	ug/mL	93
69) Benzo[a]anthracene	28.84	228	203868	58.95	ug/mL	98
70) 3,3'-Dichlorobenzidine	29.09	252	43545	55.76	ug/mL	98
71) Chrysene	28.95	228	121796	46.11	ug/mLm	98
72) bis(2-Ethylhexyl)phthalate	31.58	149	238860	55.68	ug/mL#	53
74) Di-n-octylphthalate	31.58	149	238860	44.44	ug/mL	99
75) Benzo[b]fluoranthene	31.90	252	140611	49.49	ug/mLm	96
76) Benzo[k]fluoranthene	31.96	252	62047	51.92	ug/mLm	97
77) Benzo[a]pyrene	32.69	252	61390	46.95	ug/mL	99
78) Indeno[1,2,3-cd]pyrene	35.39	276	33633	45.00	ug/mL#	83
79) Dibenz[a,h]anthracene	35.49	278	25755	41.64	ug/mL	92
80) Benzo[g,h,i]perylene	35.93	276	23630	41.78	ug/mLm	94

(#) = qualifier out of range (m) = manual integration

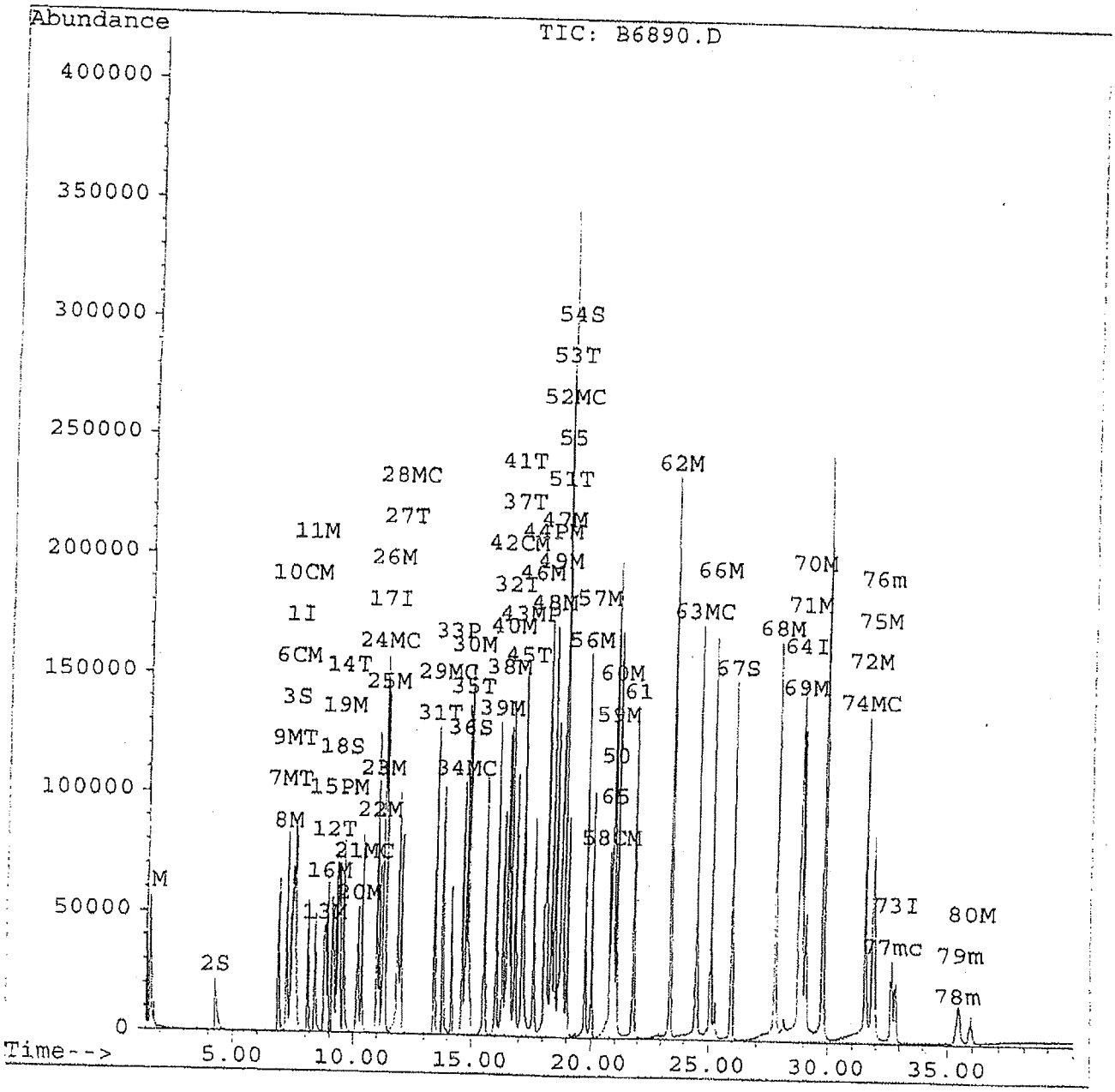
Quantitation Report

Data File : c:\hpchem\1\data2\b6890.d
Acq On : 21 Oct 97 7:06 pm
Sample : 50 STD.....
Misc :
Quant Time: Oct 23 14:13 1997

Converted from RTE d

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 23 13:55:29 1997
Response via : Multiple Level Calibration



5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name : EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID: B7187.D DFTPP Injection Date: 11/17/97

Instrument ID: ABNA DFTPP Injection Time: 1702

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	59.2
68	Less than 2.0% of mass 69	0.1 (0.2)1
69	Mass 69 relative abundance	74.5
70	Less than 2.0% of mass 69	0.1 (0.1)1
127	25.0 - 75.0% of mass 198	48.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100 % relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.2
275	10.0 - 30.0% of mass 198	24.3
365	Greater than 0.75% of mass 198	5.0
441	Present, but less than mass 443	0.2
442	40.0 - 110.0% of mass 198	95.4
443	15.0 - 24.0% of mass 442	18.0 (18.8)2

1-Value is % mass 69 2-Value is % mass 442

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

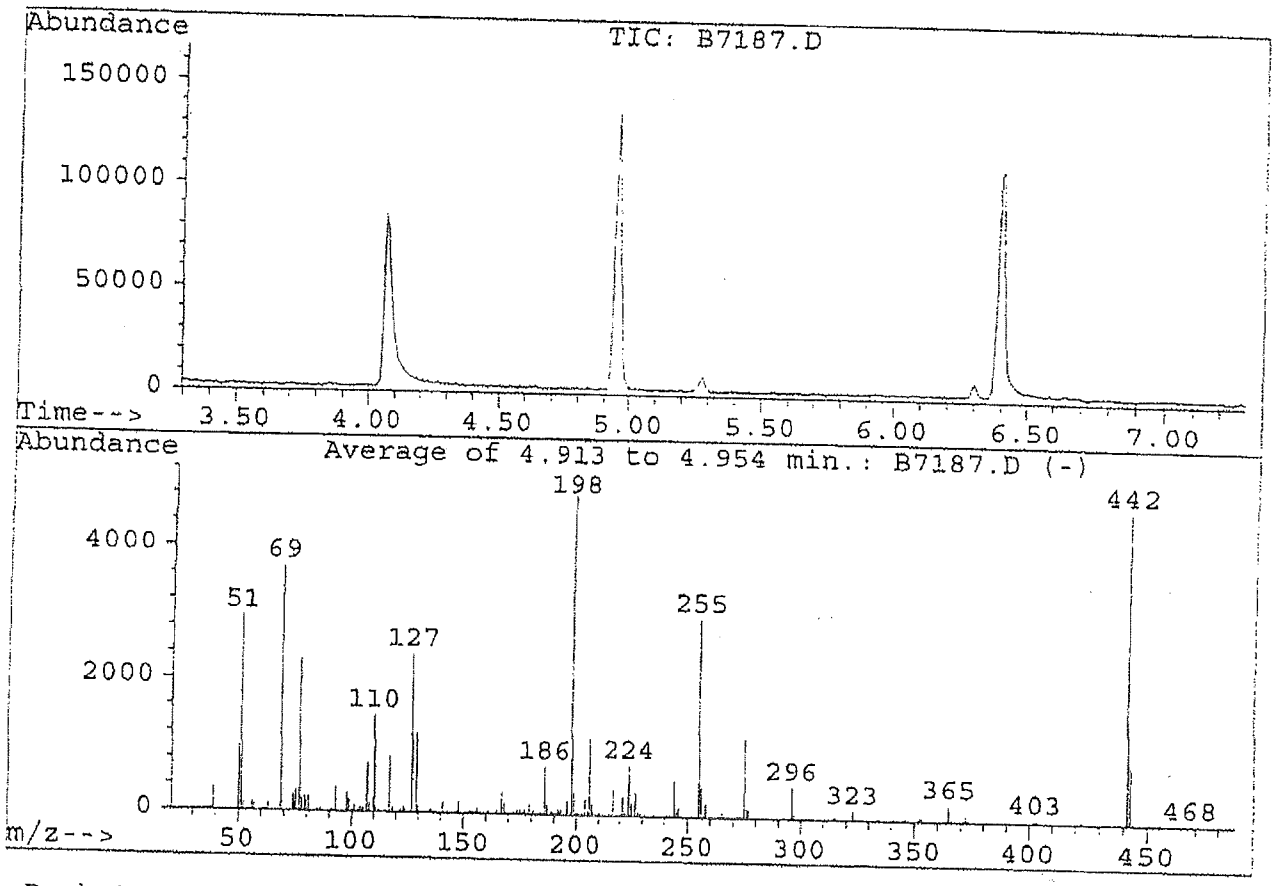
	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	50 STD	B7188.D	11/17/97	1721
02	SBLK01	BLANK1	B7189.D	11/17/97	1809
03	9778619B	9778619B	B7190.D	11/17/97	1857
04	9778620B	9778620B	B7191.D	11/17/97	1944
05	9778622B	9778622B	B7192.D	11/17/97	2032
06	9778623B	9778623B	B7193.D	11/17/97	2120
07	9778624B	9778624B	B7194.D	11/17/97	2208
08	9782199B	9782199B	B7198.D	11/18/97	0116
09	9782200B	9782200B	B7199.D	11/18/97	0204
10	9782201B	9782201B	B7200.D	11/18/97	0251
11	9782202B	9782202B	B7201.D	11/18/97	0339
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

DFTPP

Data File : C:\HPCHEM\1\DATA2\B7187.D
Acq On : 17 Nov 97 5:02 pm
Sample : DFTPP..... Converted from RTE d
Misc :

Vial: 1
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration



Peak Apex is scan: 231

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	59.2	2941	PASS
68	69	0	2	0.2	6	PASS
69	198	0	100	74.5	3700	PASS
70	69	0	2	0.1	4	PASS
127	198	40	60	48.2	2395	PASS
197	198	0	1	0.0	0	PASS
198	198	100	100	100.0	4966	PASS
199	198	5	9	7.2	357	PASS
275	198	10	30	24.3	1209	PASS
365	198	1	100	5.0	250	PASS
441	443	0	100	1.0	9	PASS
442	198	40	100	95.4	4736	PASS
443	442	17	23	18.8	892	PASS

B7187.D BNACLP.M Tue Nov 18 10:35:07 1997 BNA

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.60	2	40.00	14	48.15	6	57.15	15
35.90	16	40.35	4	48.40	2	59.10	4
36.10	9	42.05	10	50.00	990	59.90	8
36.70	10	43.30	6	50.90	5	60.80	19
37.00	29	43.75	13	51.00	2941	61.00	30
38.00	54	45.40	3	51.80	9	61.30	3
38.15	29	45.90	1	52.00	127	61.45	7
38.75	14	46.10	5	54.35	9	62.00	50
39.00	356	46.95	14	54.55	17	63.00	120
39.35	10	47.30	2	55.90	134	63.40	6
39.60	3	47.85	14	56.90	118	64.20	3

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
64.60	4	74.00	262	79.00	240	86.85	25
65.00	2	74.30	3	79.95	165	87.05	15
65.55	14	74.75	140	80.90	232	87.45	4
66.60	5	75.00	321	81.20	6	87.75	2
67.05	13	75.80	14	83.85	17	87.95	9
67.80	6	76.40	5	84.65	6	88.85	2
68.60	1	76.90	2306	84.90	65	89.10	5
68.90	3700	77.40	5	85.35	3	89.55	1
70.30	4	77.80	15	85.95	47	89.75	2
71.90	3	78.00	214	86.35	3	90.45	4
73.00	22	78.30	4	86.55	2	90.85	24

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
90.95	41	102.10	5	107.95	132	114.70	6
91.95	36	102.85	32	108.75	2	115.05	6
92.95	384	103.10	23	109.85	1465	115.55	6
93.90	23	103.45	4	110.65	4	115.90	11
94.25	5	103.90	80	110.95	74	116.95	859
97.00	5	104.25	6	111.35	4	118.00	69
97.90	299	104.60	9	112.00	37	119.45	4
98.95	201	104.95	76	112.90	5	119.70	7
99.65	4	105.95	4	113.05	7	120.00	10
99.85	26	106.85	748	113.25	1	120.80	11
100.95	104	107.60	6	114.05	4	121.90	33

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
122.05	35	128.95	1207	134.45	1	140.20	3
123.00	96	129.90	108	134.65	6	140.40	3
123.25	5	130.25	1	135.05	83	140.90	162
123.60	9	130.85	27	135.95	53	141.75	8
123.95	53	131.35	3	136.75	5	142.95	30
124.55	2	132.00	21	136.95	42	143.70	1
124.95	6	132.25	8	137.55	8	144.00	5
125.95	3	132.40	8	137.85	15	144.50	4
126.15	3	132.85	8	138.55	3	144.85	15
126.95	2395	133.15	2	139.00	8	145.35	7
128.75	10	134.15	15	139.95	20	146.10	4

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
147.10	34	154.00	48	159.20	6	166.70	7
147.90	195	154.60	2	159.70	5	166.90	336
148.95	20	155.10	50	159.90	18	167.95	155
150.80	3	156.00	100	161.00	60	168.85	28
151.05	24	156.30	3	162.90	3	169.10	14
151.60	6	157.20	31	163.50	4	169.50	3
151.90	3	157.85	31	163.75	11	170.10	14
152.40	10	158.20	3	164.00	7	170.60	7
152.70	6	158.40	3	164.60	7	171.00	6
153.00	48	158.85	10	164.90	60	171.30	6
153.40	4	159.00	13	165.20	7	171.50	9

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
171.95	35	179.90	41	186.90	162	192.40	14
172.20	5	180.70	5	188.05	30	192.80	6
172.50	5	180.95	61	188.40	2	193.00	73
172.80	28	181.80	4	188.80	11	193.50	3
173.30	11	181.90	9	189.00	55	193.80	4
173.95	66	182.20	5	189.90	10	194.00	8
175.00	62	182.95	18	190.05	8	194.80	3
176.00	19	183.90	4	190.90	31	195.95	220
176.25	40	184.15	25	191.40	5	197.85	4966
176.90	64	185.60	6	191.80	85	198.85	357
178.90	187	185.90	729	192.15	11	199.65	4

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
199.80	28	205.05	56	211.95	12	220.45	25
200.05	19	205.45	12	212.70	7	221.00	301
200.85	31	205.85	1172	213.70	7	221.75	43
201.35	16	207.00	186	214.85	4	222.05	45
201.55	27	207.95	56	215.10	28	222.35	36
202.35	2	208.85	6	215.35	11	223.35	2
202.65	8	209.05	9	215.85	6	223.65	8
202.85	29	209.80	9	216.25	3	223.85	8
203.55	2	210.05	2	216.90	404	223.95	760
204.05	242	210.30	38	218.95	16	224.90	195
204.35	4	210.85	43	219.45	7	226.75	7

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
226.95	378	235.25	12	243.05	2	249.85	3
227.95	60	235.90	18	243.85	9	250.30	9
228.80	57	238.25	10	244.00	567	251.05	13
229.75	3	238.65	2	244.35	8	251.90	17
230.05	7	239.10	8	244.85	17	252.10	8
231.00	24	240.10	19	245.05	71	252.60	7
231.35	3	240.55	3	245.95	137	254.90	2997
231.75	2	240.90	24	247.00	29	255.90	460
234.00	31	241.15	11	248.65	3	256.80	3
234.85	9	241.75	6	248.95	10	257.10	29
235.05	10	242.00	51	249.15	11	257.90	226

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
258.60	5	264.80	14	271.80	14	282.85	16
258.80	11	264.95	80	273.20	26	283.90	2
260.00	6	265.40	4	274.30	9	284.05	10
260.80	7	267.20	3	274.90	1209	284.40	1
261.00	2	267.50	3	275.90	27	285.05	25
261.60	2	267.80	11	276.00	152	285.45	4
262.75	3	268.85	7	276.80	22	285.85	6
263.30	12	269.20	3	276.90	132	286.50	2
263.60	9	269.90	16	278.80	3	286.70	2
263.85	14	270.40	1	280.80	2	287.50	2
264.60	2	270.95	13	281.40	4	288.10	1

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
289.00	2	293.80	7	303.00	56	308.75	2
289.50	2	294.00	7	303.70	2	309.05	5
289.85	6	294.30	4	304.05	19	309.80	13
291.00	3	295.95	482	304.50	2	310.55	2
291.70	5	296.95	78	304.80	1	311.15	2
291.85	8	298.00	2	305.00	2	311.35	2
292.10	4	299.70	2	305.85	4	311.75	1
292.45	12	300.30	2	307.35	2	312.60	7
292.95	31	300.70	4	307.75	3	313.35	11
293.20	5	301.65	7	307.95	5	314.25	18
293.50	9	302.40	4	308.45	11	314.85	58

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
315.90	25	323.00	145	330.30	5	335.05	22
316.65	3	324.00	31	330.65	6	336.00	6
317.95	3	325.20	4	330.95	4	336.25	3
318.75	4	325.60	6	331.55	4	337.05	1
319.05	1	325.95	1	332.30	1	338.20	6
319.50	2	326.15	4	332.65	7	338.70	7
320.95	9	326.85	40	332.80	4	339.05	2
321.25	5	327.75	20	333.05	2	339.40	7
321.65	5	328.85	2	333.35	2	340.30	15
322.05	2	329.25	2	334.00	98	340.85	8
322.45	1	329.95	2	334.80	13	341.05	19

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
342.05	21	351.65	8	360.30	4	368.40	1
342.50	6	352.00	53	361.50	2	369.30	1
344.40	7	353.10	64	361.80	3	369.90	9
345.05	3	353.95	18	362.10	2	370.60	7
345.95	42	354.95	6	362.90	6	371.30	20
346.85	3	357.15	2	364.40	8	371.60	3
348.10	4	358.15	2	364.90	250	372.00	82
349.40	6	358.65	2	365.70	2	372.70	4
350.10	4	358.85	2	365.90	32	373.00	26
350.55	2	359.05	2	366.80	4	373.90	3
351.35	2	359.55	3	367.60	1	374.60	2

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
376.70	1	383.95	11	391.10	16	402.70	1
377.10	3	384.60	1	391.95	10	402.95	50
377.80	4	384.80	4	393.50	4	403.70	4
378.20	1	386.90	3	393.70	3	403.90	8
379.10	2	388.20	3	394.10	1	404.10	8
379.60	4	388.70	2	399.10	3	404.50	5
382.15	3	389.15	6	400.35	6	404.75	3
382.40	3	389.75	12	400.80	3	405.55	3
382.65	15	390.05	10	401.50	12	406.55	4
383.10	8	390.50	3	401.90	44	407.70	2
383.50	1	390.70	4	402.40	3	409.20	1

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
409.80	3	416.85	2	427.95	2	436.55	17
410.50	2	417.20	3	428.35	2	437.60	4
410.90	3	418.75	4	428.65	3	438.10	11
413.10	2	419.55	1	432.15	4	438.40	19
413.70	2	420.35	12	432.55	2	438.75	9
413.85	6	420.75	2	432.85	6	439.45	23
414.20	3	420.95	51	433.25	3	441.55	9
414.90	5	422.85	141	434.15	6	441.95	4736
415.50	5	424.60	8	435.05	3	442.25	7
416.10	2	425.65	3	435.55	1	442.95	892
416.60	3	426.15	3	435.95	5	443.25	4

Average of 4.913 to 4.954 min.: B7187.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
443.95	92	454.95	3	465.45	1	472.70	2
444.75	1	455.85	2	465.65	1	473.20	4
445.15	12	456.25	3	467.05	2		
445.70	4	457.25	3	468.10	10		
446.05	3	457.55	1	468.75	3		
446.35	3	458.90	9	470.35	4		
448.70	5	459.30	5	470.85	1		
450.40	7	459.65	2	471.15	1		
451.85	2	460.85	4	471.40	3		
453.85	3	464.05	2	471.95	1		
454.35	2	465.25	2	472.50	2		

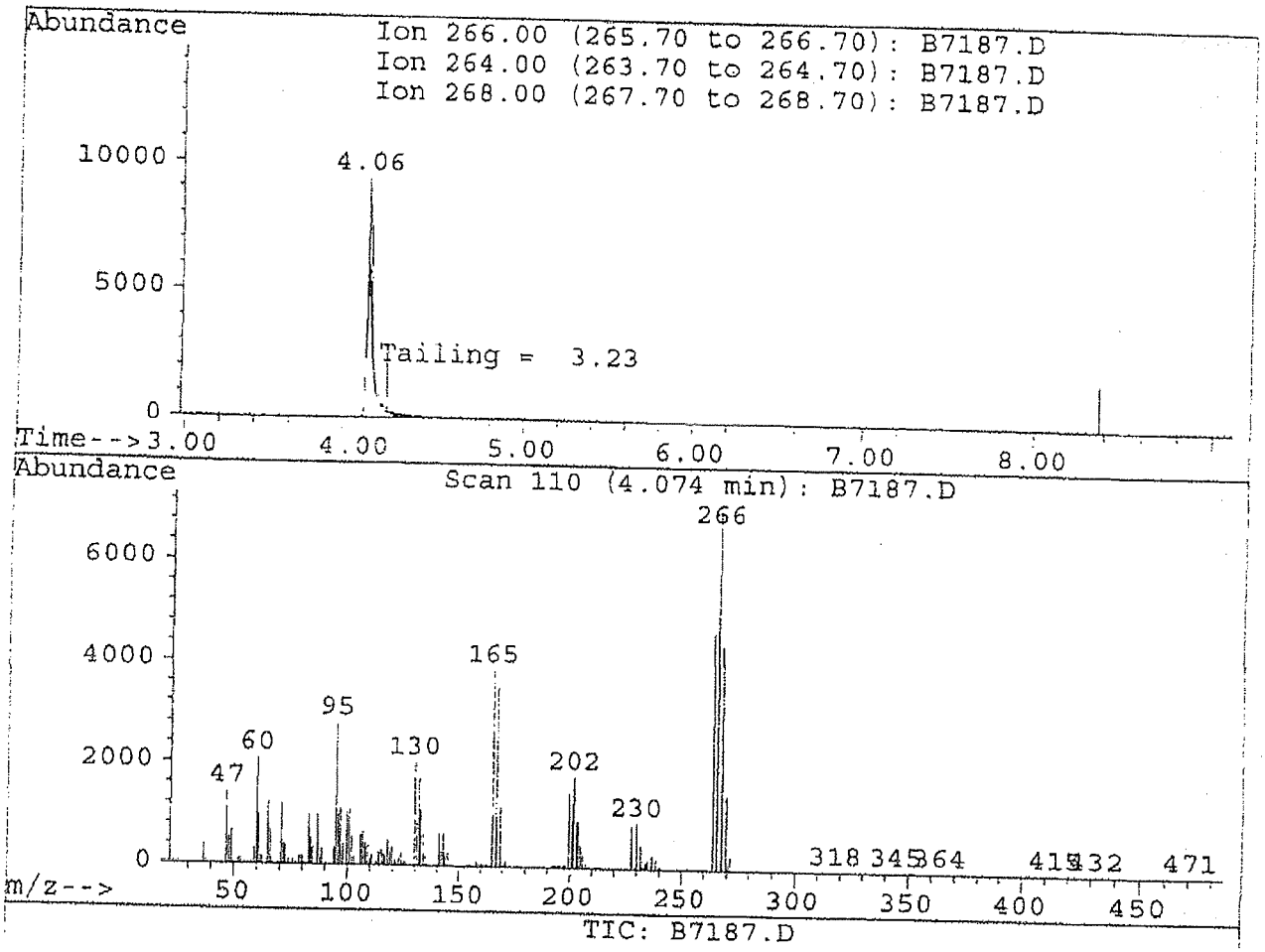
Quantitation Report

Data File : C:\HPCHEM\1\DATA2\B7187.D
Acq On : 17 Nov 97 5:02 pm
Sample : DFTPP.....
Misc :
Quant Time: Nov 17 17:32 1997

Converted from RTE d

Vial: 1
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



(1) Pentachlorophenol (CM)

5.37min 0.00ug/mL d

response 0

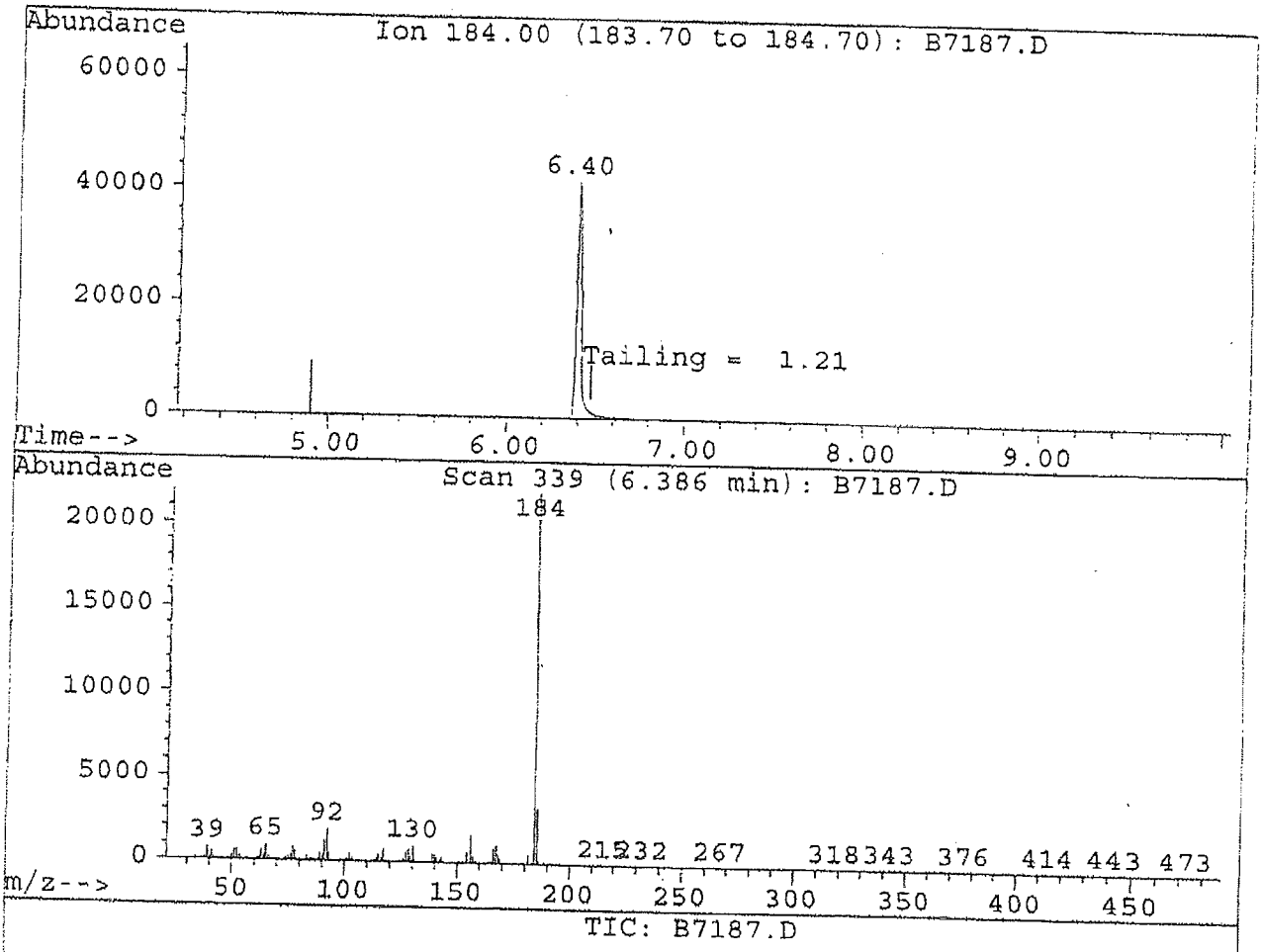
Ion	Exp%	Act%
266.00	100	0.00
264.00	64.30	0.00#
268.00	64.70	0.00#
0.00	0.00	0.00

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\B7187.D
Acq On : 17 Nov 97 5:02 pm
Sample : DFTPP..... Converted from RTE d
Misc :
Quant Time: Nov 17 17:32 1997

Vial: 1
Operator: SCOTTV
Inst : ARNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



(2) Benzidine
7.91min 0.00ug/ml d
response 0

Ion	Exp%	Act%
184.00	100	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMSL ANALYTICAL Contract: _____

Project No. _____ Site: _____ Location: _____ Group: _____

Instrument ID: ABNA Calibration Date: #### Time: 1721

Lab File ID: B7188.D Init. Calib. Date(s): #### 1/0/00

Init. Calib. Times: 1721 0000

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
N-nitrosodimethylamine	0.547	0.590		-7.9	
Phenol	1.659	1.837		-10.7	30.0
bis(2-Chloroethyl)ether	0.844	0.979		-16.0	
2-Chlorophenol	1.342	1.450		-8.0	
1,3-Dichlorobenzene	1.158	1.241		-7.2	
1,4-Dichlorobenzene	1.248	1.281		-2.6	30.0
1,2-Dichlorobenzene	1.237	1.276		-3.2	
bis(2-chloroisopropyl)ether	2.306	2.427		-5.2	
N-Nitroso-Di-n-propylamine	1.034	1.142	0.050	-10.4	
Hexachloroethane	0.710	0.767		-8.0	
Nitrobenzene	0.335	0.353		-5.4	
Isophorone	0.650	0.692		-6.5	
2-Nitrophenol	0.264	0.267		-1.1	30.0
2,4-Dimethylphenol	0.463	0.488		-5.4	
bis(2-Chloroethoxy)methane	0.393	0.414		-5.3	
2,4-Dichlorophenol	0.356	0.372		-4.5	30.0
1,2,4-Trichlorobenzene	0.327	0.331		-1.2	
Naphthalene	0.997	1.042		-4.5	
Hexachlorobutadiene	0.241	0.224		7.1	30.0
4-Chloro-3-methylphenol	0.434	0.446		-2.8	30.0
Hexachlorocyclopentadiene	0.349	0.294	0.050	15.8	
2,4,6-Trichlorophenol	0.398	0.380		4.5	30.0
2-Chloronaphthalene	0.819	0.809		1.2	
Dimethylphthalate	0.823	0.839		-1.9	
Acenaphthylene	1.716	1.645		4.1	
2,6-Dinitrotoluene	0.266	0.308		-15.8	
Acenaphthene	1.154	1.109		3.9	30.0
2,4-Dinitrophenol	0.239	0.252	0.050	-5.4	
4-Nitrophenol	0.231	0.243	0.050	-5.2	
2,4-Dinitrotoluene	0.277	0.241		13.0	
Diethylphthalate	1.238	1.378		-11.3	
Fluorene	1.293	1.334		-3.2	
4-Chlorophenyl-phenylether	0.675	0.614		9.0	
4,6-Dinitro-2-methylphenol	0.153	0.149		2.6	30.0
n-Nitrosodiphenylamine	0.380	0.388		-2.1	
1,2-Diphenylhydrazine(as azo)	0.000	0.000			
4-Bromophenyl-phenylether	0.214	0.196		8.4	

All other compounds must meet a minimum RRF of 0.010.

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Instrument ID: ABNA Calibration Date: #### Time: 1721

Lab File ID: B7188.D Init. Calib. Date(s): #### 1/0/00

Init. Calib. Times: 1721 0000

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Hexachlorobenzene	0.322	0.276		14.3	
Pentachlorophenol	0.185	0.153		17.3	30.0
Phenanthrene	1.020	0.941		7.7	
Anthracene	0.833	0.963		-15.6	
Di-n-butylphthalate	1.324	1.310		1.1	
Fluoranthene	1.158	1.057		8.7	30.0
Benzidine	0.290	0.244		15.9	
Pyrene	1.442	1.165		19.2	
Butylbenzylphthalate	0.586	0.614		-4.8	
Benzo[a]anthracene	1.185	1.083		8.6	
3,3'-Dichlorobenzidine	0.311	0.340		-9.3	
Chrysene	0.678	0.729		-7.5	
bis(2-Ethylhexyl)phthalate	0.797	0.926		-16.2	
Di-n-octylphthalate	1.994	2.009		-0.8	30.0
Benzo[b]fluoranthene	1.816	1.479		18.6	
Benzo[k]fluoranthene	1.110	1.066		4.0	
Benzo[a]pyrene	1.009	1.006		0.3	30.0
Indeno[1,2,3-cd]pyrene	0.715	0.728		-1.8	
Dibenz[a,h]anthracene	0.597	0.611		-2.3	
Benzo[g,h,i]perylene	0.577	0.529		8.3	
2-Fluorophenol	0.251	0.237		5.6	
Phenol-d5	1.500	1.377		8.2	
Nitrobenzene-d5	0.369	0.386		-4.6	
2-Fluorobiphenyl	1.088	0.992		8.8	
2,4,6-Tribromophenol	0.184	0.153		16.8	
Terphenyl-d14	1.031	0.851		17.5	

All other compounds must meet a minimum RRF of 0.010.

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\B7188.D
Acq On : 17 Nov 97 5:21 pm
Sample : 50 STD.....
Misc : Converted from RTE d

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	74	-0.08
2	S	2-Fluorophenol	0.251	0.237	5.6	72	-0.12
3	S	Phenol-d5	1.500	1.377	8.2	68	-0.10
4	M	N-nitrosodimethylamine	0.547	0.590	-7.9	77	-0.04
5		Pyridine	1.022	1.039	-1.7	76	-0.04
6	CM	Phenol	1.659	1.837	-10.7	79	-0.10
7		Benzyl alcohol	1.120	1.188	-6.1	76	-0.08
8	MT	bis(2-Chloroethyl)ether	0.844	0.979	-16.0	80	-0.08
9	M	2-Chlorophenol	1.342	1.450	-8.0	75	-0.10
10	MT	1,3-Dichlorobenzene	1.158	1.241	-7.1	78	-0.10
11	CM	1,4-Dichlorobenzene	1.248	1.281	-2.7	75	-0.10
12	M	1,2-Dichlorobenzene	1.237	1.276	-3.1	75	-0.08
13	T	2-Methylphenol	1.241	1.331	-7.3	75	-0.08
14	M	bis(2-chloroisopropyl)ether	2.306	2.427	-5.2	75	-0.08
	T	4-Methylphenol	1.354	1.441	-6.4	79	-0.08
	PM	N-Nitroso-Di-n-propylamine	1.034	1.142	-10.4	77	-0.08
17	M	Hexachloroethane	0.710	0.767	-8.0	78	-0.08
18	I	Naphthalene-d8	1.000	1.000	0.0	78	-0.08
19	S	Nitrobenzene-d5	0.369	0.386	-4.8	82	-0.08
20	M	Nitrobenzene	0.335	0.353	-5.2	80	-0.08
21	M	Isophorone	0.650	0.692	-6.4	80	-0.08
22	MC	2-Nitrophenol	0.264	0.267	-1.2	77	-0.08
23	M	2,4-Dimethylphenol	0.463	0.488	-5.2	77	-0.06
24	M	bis(2-Chloroethoxy)methane	0.393	0.414	-5.4	78	-0.08
25	MC	2,4-Dichlorophenol	0.356	0.372	-4.4	75	-0.08
26	M	1,2,4-Trichlorobenzene	0.327	0.331	-1.1	76	-0.08
27	M	Naphthalene	0.997	1.042	-4.4	78	-0.08
28	T	4-Chloroaniline	0.502	0.509	-1.3	76	-0.08
29	MC	Hexachlorobutadiene	0.241	0.224	6.9	71	-0.10
30	MC	4-Chloro-3-methylphenol	0.434	0.446	-2.9	78	-0.08
31	M	2-Chloronaphthalene	0.819	0.809	1.2	77	-0.08
32	T	2-Methylnaphthalene	0.775	0.800	-3.2	78	-0.08
33	I	Acenaphthene-d10	1.000	1.000	0.0	79	-0.08
34	P	Hexachlorocyclopentadiene	0.349	0.294	15.9	73	-0.10
35	MC	2,4,6-Trichlorophenol	0.398	0.380	4.6	70	-0.08
36	T	2,4,5-Trichlorophenol	0.436	0.435	0.3	77	-0.08
37	S	2-Fluorobiphenyl	1.088	0.992	8.8	75	-0.08
		2-Nitroaniline	0.481	0.482	-0.3	80	-0.08
	M	Dimethylphthalate	0.823	0.839	-1.9	100	-0.08
	M	Acenaphthylene	1.716	1.645	4.2	77	-0.08

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\B7188.D
Acq On : 17 Nov 97 5:21 pm
Sample : 50 STD..... Converted from RTE d
Misc :

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
41	M	2,6-Dinitrotoluene	0.266	0.308	-15.7	128	-0.08
42	T	3-Nitroaniline	0.358	0.398	-11.3	78	-0.06
43	CM	Acenaphthene	1.154	1.109	3.9	78	-0.08
44	MP	2,4-Dinitrophenol	0.239	0.252	-5.2	87	-0.06
45	PM	4-Nitrophenol	0.231	0.243	-5.3	79	-0.10
46	T	Dibenzofuran	1.870	1.758	6.0	76	-0.08
47	M	2,4-Dinitrotoluene	0.277	0.241	12.9	86	-0.06
48	M	Diethylphthalate	1.238	1.378	-11.4	95	-0.08
49	M	Fluorene	1.293	1.334	-3.2	76	-0.08
50	M	4-Chlorophenyl-phenylether	0.675	0.614	9.0	74	-0.08
51		Phenanthrene-d10	1.000	1.000	0.0	93	-0.08
52	T	4-Nitroaniline	0.142	0.167	-18.1	91	-0.06
53	MC	4,6-Dinitro-2-methylphenol	0.153	0.149	2.7	93	-0.06
	T	n-Nitrosodiphenylamine	0.380	0.388	-2.1	87	-0.06
	S	2,4,6-Tribromophenol	0.184	0.153	17.0	64	-0.08
56		1,2-Diphenylhydrazine (as a	0.857	0.967	-12.8	89	-0.08
57	M	4-Bromophenyl-phenylether	0.214	0.196	8.2	79	-0.08
58	M	Hexachlorobenzene	0.322	0.276	14.3	65	-0.08
59	CM	Pentachlorophenol	0.185	0.153	17.5	77	-0.08
60	M	Phenanthrene	1.020	0.941	7.8	87	-0.08
61	M	Anthracene	0.833	0.963	-15.7	108	-0.06
62		Carbazole	0.879	0.847	3.6	86	-0.08
63	M	Di-n-butylphthalate	1.324	1.310	1.1	84	-0.08
64	MC	Fluoranthene	1.158	1.057	8.7	81	-0.08
65	I	Chrysene-d12	1.000	1.000	0.0	124	-0.06
66		Benzidine	0.290	0.244	15.7	109	-0.08
67	M	Pyrene	1.442	1.165	19.2	87	-0.08
68	S	Terphenyl-d14	1.031	0.851	17.5	93	-0.08
69	M	Butylbenzylphthalate	0.586	0.614	-4.7	126	-0.08
70	M	Benzo[a]anthracene	1.185	1.083	8.6	113	-0.06
71	M	3,3'-Dichlorobenzidine	0.311	0.340	-9.2	162#	-0.08
72	M	Chrysene	0.678	0.729	-7.5	134	-0.08
73	M	bis(2-Ethylhexyl)phthalate	0.797	0.926	-16.2	140	-0.01
74	I	Perylene-d12	1.000	1.000	0.0	205#	-0.08
75	MC	Di-n-octylphthalate	1.994	2.009	-0.8	173#	-0.06
76	M	Benzo[b]fluoranthene	1.816	1.479	18.6	176#	-0.06
	1	Benzo[k]fluoranthene	1.110	1.066	3.9	191#	-0.06
	mc	Benzo[a]pyrene	1.009	1.006	0.3	200#	-0.06
	m	Indeno[1,2,3-cd]pyrene	0.715	0.728	-1.8	216#	-0.08

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\B7188.D
Acq On : 17 Nov 97 5:21 pm
Sample : 50 STD..... Converted from RTE d
Misc :

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
80 m	Dibenz[a,h]anthracene	0.597	0.611	-2.4	219#	-0.08
81 M	Benzo[g,h,i]perylene	0.577	0.529	8.4	166#	-0.08

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report

Data File : c:\hpchem\1\data2\b7188.d
Acq On : 17 Nov 97 5:21 pm
Sample : 50 STD.....
Misc :
Quant Time: Nov 20 13:32 1997

Converted from RTE d

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	9353	40.00	ug/mL	-0.08
18) Naphthalene-d8	10.83	136	41268	40.00	ug/mL	-0.08
33) Acenaphthene-d10	16.08	164	35301	40.00	ug/mL	-0.08
51) Phenanthrene-d10	20.42	188	77529	40.00	ug/ml	-0.08
65) Chrysene-d12	28.37	240	80244	40.00	ug/mL	-0.06
74) Perylene-d12	32.32	264	55790	40.00	ug/mL	-0.08
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.71	112	2769	47.19	ug/mL	47.19%
3) Phenol-d5	6.95	99	16097	45.90	ug/mL	45.90%
19) Nitrobenzene-d5	8.92	82	19923	52.38	ug/mL	52.38%
37) 2-Fluorobiphenyl	14.31	172	43767	45.60	ug/mL	45.60%
55) 2,4,6-Tribromophenol	18.54	330	14818	41.48	ug/mL	41.48%
68) Terphenyl-d14	25.50	244	85313	41.26	ug/mL	41.26%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.41	74	6900	53.94	ug/ml	100
5) Pyridine	1.37	79	12147	50.85	ug/mlm	100
6) Phenol	6.99	94	21480	55.36	ug/mL	100
7) Benzyl alcohol	7.94	79	13893	53.03	ug/ml	95
8) bis(2-Chloroethyl)ether	6.74	93	11448	58.00	ug/mL	93
9) 2-Chlorophenol	6.70	128	16947	54.00	ug/mL	99
10) 1,3-Dichlorobenzene	6.88	146	14508	53.56	ug/mL	94
11) 1,4-Dichlorobenzene	7.09	146	14981	51.34	ug/mL	96
12) 1,2-Dichlorobenzene	7.62	146	14913	51.55	ug/mL#	98
13) 2-Methylphenol	8.63	108	15563	53.63	ug/mL	94
14) bis(2-chloroisopropyl)ethe	8.35	45	28369	52.62	ug/mL	99
15) 4-Methylphenol	9.12	108	16848	53.20	ug/mL	96
16) N-Nitroso-Di-n-propylamine	8.82	70	13348	55.21	ug/mL	97
17) Hexachloroethane	8.45	117	8962	53.98	ug/mL#	79
20) Nitrobenzene	8.96	77	18187	52.61	ug/mL	95
21) Isophorone	9.75	82	35679	53.22	ug/mL	96
22) 2-Nitrophenol	9.92	139	13755	50.59	ug/mL	95
23) 2,4-Dimethylphenol	10.57	107	25148	52.59	ug/mL	94
24) bis(2-Chloroethoxy)methane	10.69	93	21334	52.68	ug/mL	98
25) 2,4-Dichlorophenol	10.79	162	19185	52.19	ug/mL#	94
26) 1,2,4-Trichlorobenzene	10.79	180	17073	50.57	ug/mL	99
27) Naphthalene	10.89	128	53737	52.22	ug/mL	98
28) 4-Chloroaniline	11.42	127	26250	50.67	ug/mL	99
29) Hexachlorobutadiene	11.56	225	11579	46.56	ug/mL	96
30) 4-Chloro-3-methylphenol	13.29	107	23019	51.44	ug/mL	94
31) 2-Chloronaphthalene	14.39	162	41744	49.42	ug/ml	98
32) 2-Methylnaphthalene	12.99	142	41252	51.61	ug/mL	100
34) Hexachlorocyclopentadiene	13.70	237	12954	42.06	ug/mLm	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b7188.d
Acq On : 17 Nov 97 5:21 pm
Sample : 50 STD.....
Misc :
Quant Time: Nov 20 13:32 1997

Converted from RTE d

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) 2,4,6-Trichlorophenol	14.15	196	16759	47.68	ug/mL	97
36) 2,4,5-Trichlorophenol	14.35	196	19177	49.83	ug/mL	99
38) 2-Nitroaniline	15.10	65	21281	50.17	ug/mL	98
39) Dimethylphthalate	15.90	163	37009	50.96	ug/mLm	0
40) Acenaphthylene	15.59	152	72587	47.92	ug/mL#	99
41) 2,6-Dinitrotoluene	16.04	165	13606	57.87	ug/mLm	0
42) 3-Nitroaniline	16.41	138	17582	55.67	ug/mL	96
43) Acenaphthene	16.18	153	48924	48.03	ug/mL	99
44) 2,4-Dinitrophenol	16.73	184	11101	52.62	ug/mL	97
45) 4-Nitrophenol	17.53	109	10727	52.63	ug/mL	93
46) Dibenzofuran	16.67	168	77558	46.99	ug/mL	96
47) 2,4-Dinitrotoluene	17.18	165	10647	43.57	ug/mLm	0
48) Diethylphthalate	18.06	149	60808	55.68	ug/mL	98
49) Fluorene	17.69	166	58861	51.60	ug/mL	100
50) 4-Chlorophenyl-phenylether	17.91	204	27083	45.48	ug/mL	93
52) 4-Nitroaniline	18.28	138	16231	59.07	ug/mL	90
53) 4,6-Dinitro-2-methylphenol	18.38	198	14427	48.63	ug/mL	100
54) n-Nitrosodiphenylamine	18.40	169	37593	51.07	ug/mL	97
56) 1,2-Diphenylhydrazine (as	18.34	77	93698	56.38	ug/ml	100
57) 4-Bromophenyl-phenylether	19.32	248	19031	45.90	ug/mL#	91
58) Hexachlorobenzene	19.56	284	26750	42.87	ug/mL	91
59) Pentachlorophenol	20.29	266	14818	41.23	ug/mL	97
60) Phenanthrene	20.48	178	91196	46.12	ug/mL	100
61) Anthracene	20.62	178	93346	57.83	ug/mLm	0
62) Carbazole	21.35	167	82098	48.19	ug/ml	98
63) Di-n-butylphthalate	22.96	149	126944	49.47	ug/mL	99
64) Fluoranthene	24.02	202	102444	45.63	ug/mL	97
66) Benzidine	24.79	184	24521	42.15	ug/ml	100
67) Pyrene	24.63	202	116896	40.40	ug/mLm	97
69) Butylbenzylphthalate	27.35	149	61544	52.33	ug/mL	93
70) Benzo[a]anthracene	28.33	228	108599	45.68	ug/mL	99
71) 3,3'-Dichlorobenzidine	28.59	252	34073	54.61	ug/mLm	97
72) Chrysene	28.43	228	73102	53.73	ug/mLm	98
73) bis(2-Ethylhexyl)phthalate	29.35	149	92900	58.10	ug/mL#	40
75) Di-n-octylphthalate	31.12	149	140100	50.39	ug/mL	99
76) Benzo[b]fluoranthene	31.38	252	103153	40.72	ug/mLm	98
77) Benzo[k]fluoranthene	31.44	252	74329	48.03	ug/mLm	98
78) Benzo[a]pyrene	32.18	252	70139	49.84	ug/mL#	95
79) Indeno[1,2,3-cd]pyrene	34.84	276	50769	50.88	ug/mL	100
80) Dibenz[a,h]anthracene	34.94	278	42614	51.21	ug/mL	98
81) Benzo[g,h,i]perylene	35.37	276	36860	45.78	ug/mLm	0

(#) = qualifier out of range (m) = manual integration

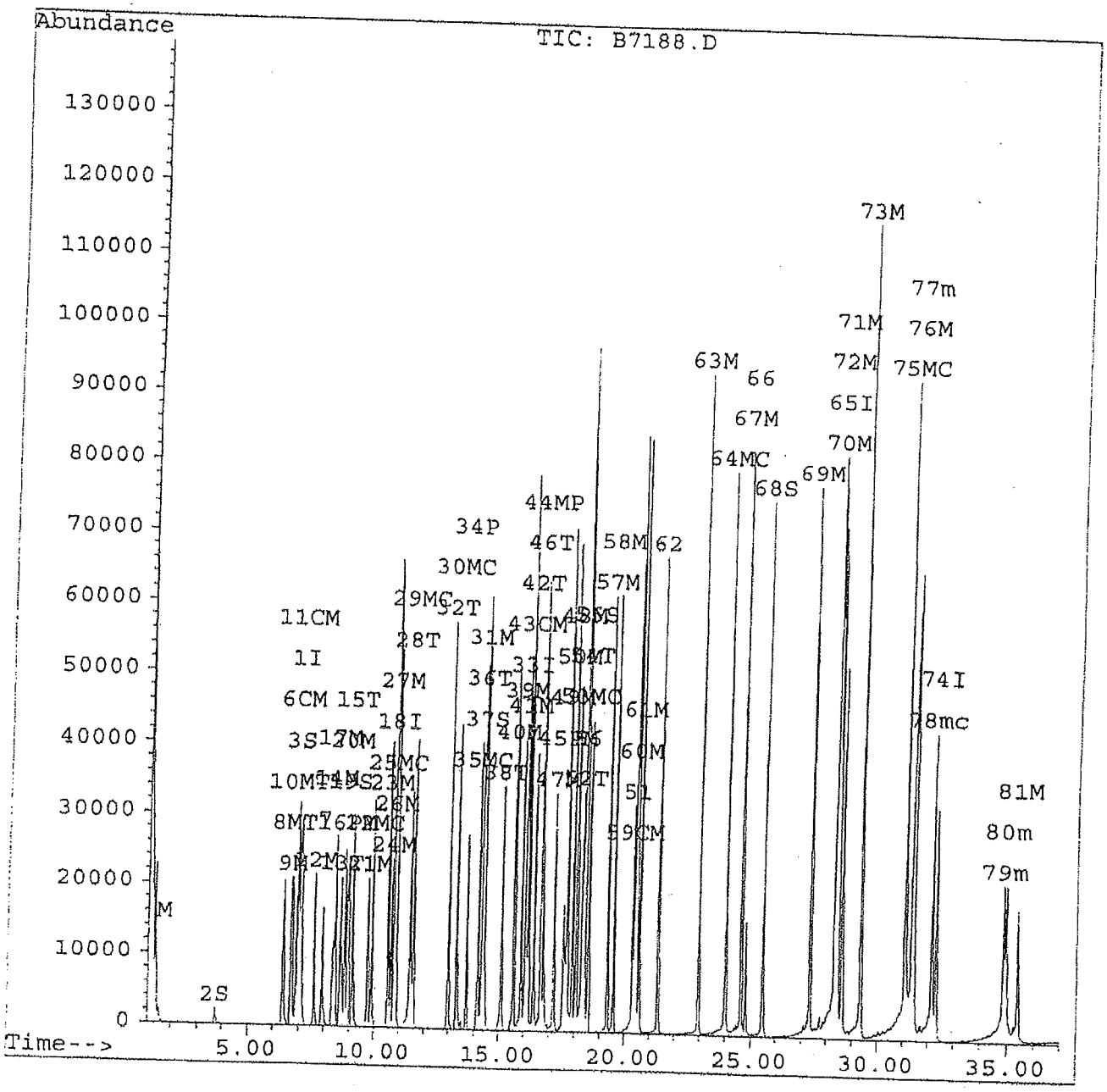
Quantitation Report

Data File : c:\hpchem\1\data2\b7188.d
Acq On : 17 Nov 97 5:21 pm
Sample : 50 STD.....
Misc :
Quant Time: Nov 20 13:32 1997

Converted from RTE d

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

355

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID (Standard): B6890.D Date Analyzed: 10/21/97

Instrument ID: ABNA Time Analyzed: 1906

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	17951	7.51	85911	11.28	61247	16.56
	UPPER LIMIT	35902	8.01	171822	11.78	122494	17.06
	LOWER LIMIT	8976	7.01	42956	10.78	30624	16.06
	SAMPLE NO.						
01	SBLK01	15702	7.50	71087	11.26	53275	16.53
02	9765050B	20558	7.53	103685	11.33	72383	16.65
03	63065MS	16889	7.52	83679	11.29	59367	16.55
04	63065MSD	15376	7.52	72039	11.29	50416	16.55
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID (Standard): B6890.D Date Analyzed: 10/21/97

Instrument ID: ABNA Time Analyzed: 1906

		IS4 (PHN) AREA	#	RT	#	IS5 (CRY) AREA	#	RT	#	IS6 (PRY) AREA	#	RT	#
	12 HOUR STD	123510		20.90		106179		28.88		46220		32.85	
	UPPER LIMIT	247020		21.40		212358		29.38		92440		33.35	
	LOWER LIMIT	61755		20.40		53090		28.38		23110		32.35	
	SAMPLE NO.												
01	SBLK01	107103		20.88		101709		28.87		42958		32.85	
02	9765050B	105391		21.10		61087		28.97		39854		32.93	
03	63065MS	117316		20.91		71936		28.89		23812		32.86	
04	63065MSD	102762		20.91		60147		28.90		19439	*	32.88	
05													
06													
07													
08													
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18													
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21													
22													

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID (Standard): B7188.D Date Analyzed: 11/17/97

Instrument ID: ABNA Time Analyzed: 1721

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	9353	7.05	41268	10.83	35301	16.08
	UPPER LIMIT	18706	7.55	82536	11.33	70602	16.58
	LOWER LIMIT	4677	6.55	20634	10.33	17651	15.58
	SAMPLE NO.						
01	SBLK01	8222	7.04	35582	10.81	28410	16.07
02	9778619B	7924	7.04	35586	10.80	27632	16.07
03	9778620B	6952	7.04	30895	10.82	24557	16.06
04	9778622B	7386	7.02	32472	10.81	26676	16.07
05	9778623B	8007	7.02	33980	10.81	27827	16.07
06	9778624B	7531	7.02	32740	10.80	26803	16.07
07	9782199B	10225	7.04	44367	10.80	36325	16.07
08	9782200B	9479	7.04	42502	10.82	34163	16.07
09	9782201B	8819	7.04	39906	10.82	31783	16.07
10	9782202B	9093	7.04	40421	10.82	31961	16.07
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID (Standard): B7188.D Date Analyzed: 11/17/97

Instrument ID: ABNA Time Analyzed: 1721

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	77529	20.42	80244	28.37	55790	32.32
	UPPER LIMIT	155058	20.92	160488	28.87	111580	32.82
	LOWER LIMIT	38765	19.92	40122	27.87	27895	31.82
	SAMPLE NO.						
01	SBLK01	66696	20.38	85950	28.36	74800	32.32
02	9778619B	64858	20.38	83548	28.35	72717	32.32
03	9778620B	55918	20.40	62189	28.35	38505	32.31
04	9778622B	60630	20.38	69203	28.33	47562	32.32
05	9778623B	62443	20.38	78132	28.34	56598	32.32
06	9778624B	60992	20.38	80161	28.33	57702	32.32
07	9782199B	86030	20.40	108562	28.35	78411	32.34
08	9782200B	78949	20.40	103743	28.35	76831	32.34
09	9782201B	72501	20.40	97193	28.35	70549	32.34
10	9782202B	74832	20.40	102059	28.37	73651	32.33
11							
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16							
17							
18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778619B
MW2, 5-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778619B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7190.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 16 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	400	U
108-95-2	Phenol	400	U
111-44-4	bis(2-Chloroethyl)ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
95-50-1	1,2-Dichlorobenzene	400	U
108-60-1	bis(2-chloroisopropyl)ether	400	U
621-64-7	N-Nitroso-Di-n-propylamine	400	U
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol	400	U
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
91-58-7	2-Chloronaphthalene	400	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	400	U
606-20-2	2,6-Dinitrotoluene	400	U
83-32-9	Acenaphthene	400	U
51-28-5	2,4-Dinitrophenol	990	U
100-02-7	4-Nitrophenol	990	U
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	400	U
86-73-7	Fluorene	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778619B
MW3, 5-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778619B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7190.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 16 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	990	U
86-30-6	n-Nitrosodiphenylamine	400	U
122-66-7	1,2-Diphenylhydrazine(as azo)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	990	U
85-01-08	Phenanthrene	400	U
120-12-7	Anthracene	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	400	U
92-87-5	Benzidine	2000	U
129-00-0	Pyrene	400	U
85-68-7	Butylbenzylphthalate	400	U
56-55-3	Benzo[a]anthracene	400	U
91-94-1	3,3'-Dichlorobenzidine	790	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	400	U
117-84-0	Di-n-octylphthalate	400	U
205-99-2	Benzo[b]fluoranthene	400	U
207-08-9	Benzo[k]fluoranthene	400	U
50-32-8	Benzo[a]pyrene	400	U
193-39-5	Indeno[1,2,3-cd]pyrene	400	U
53-70-3	Dibenz[a,h]anthracene	400	U
191-24-2	Benzo[g,h,i]perylene	400	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778619B MW2, 5-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778619B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7190.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 16 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
2.				
3.				
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Quantitation Report

Data File : c:\hpchem\1\data2\b7190.d
Acq On : 17 Nov 97 6:57 pm
Sample : 78619.....
Misc :
Quant Time: Nov 20 14:06 1997

Converted from RTE d

Vial: 4
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.04	152	7924	40.00	ug/mL	-0.08
18) Naphthalene-d8	10.80	136	35586	40.00	ug/mL	-0.10
33) Acenaphthene-d10	16.07	164	27632	40.00	ug/mL	-0.09
51) Phenanthrene-d10	20.38	188	64858	40.00	ug/ml	-0.11
65) Chrysene-d12	28.35	240	83548	40.00	ug/mL	-0.08
74) Perylene-d12	32.32	264	72717	40.00	ug/mL	-0.08
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.69	112	4410	88.70	ug/mL	88.70%
3) Phenol-d5	6.96	99	29875	100.55	ug/mL	100.55%
19) Nitrobenzene-d5	8.89	82	15219	46.40	ug/mL	46.40%
37) 2-Fluorobiphenyl	14.30	172	39060	51.99	ug/mL	51.99%
55) 2,4,6-Tribromophenol	18.53	330	37255	124.65	ug/mL	124.65%
68) Terphenyl-d14	25.51	244	131046	60.88	ug/mL	60.88%
Target Compounds						Qvalue

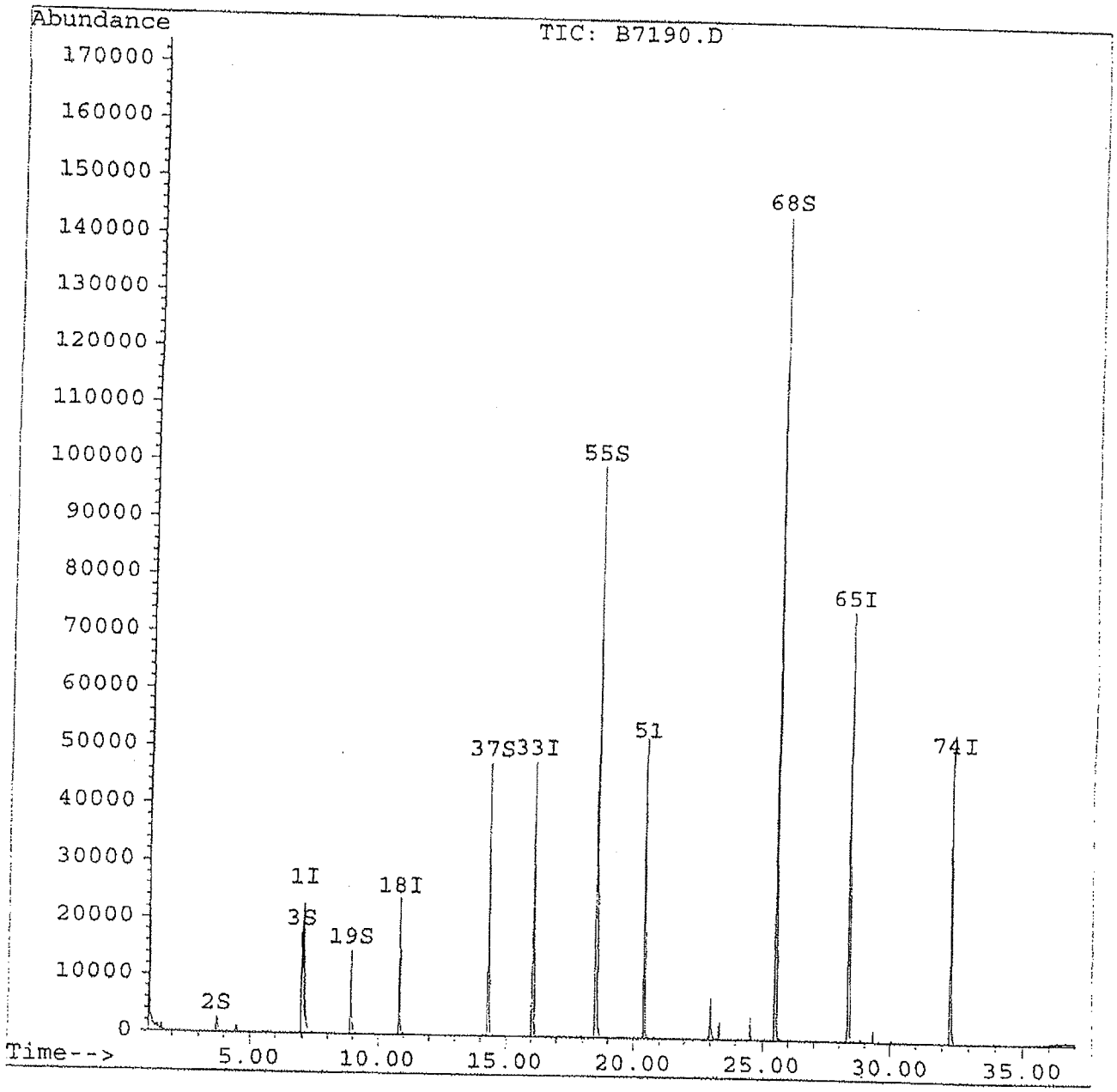
Quantitation Report

Data File : c:\hpchem\1\data2\b7190.d
Acq On : 17 Nov 97 6:57 pm
Sample : 78619.....
Misc :
Quant Time: Nov 20 14:06 1997

Converted from RTE d

Vial: 4
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Library Search Compound Report

Data File : c:\hpchem\1\data2\b7190.d
Acq On : 17 Nov 97 6:57 pm
Sample : 78619..... Converted from RTE d
Misc :

Vial: 4
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : NBS75K.L

No Library Search Compounds Detected

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778620B

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778620B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7191.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 20 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	420	U
108-95-2	Phenol	420	U
111-44-4	bis(2-Chloroethyl)ether	420	U
95-57-8	2-Chlorophenol	420	U
541-73-1	1,3-Dichlorobenzene	420	U
106-46-7	1,4-Dichlorobenzene	420	U
95-50-1	1,2-Dichlorobenzene	420	U
108-60-1	bis(2-chloroisopropyl)ether	420	U
621-64-7	N-Nitroso-Di-n-propylamine	420	U
67-72-1	Hexachloroethane	420	U
98-95-3	Nitrobenzene	420	U
78-59-1	Isophorone	420	U
88-75-5	2-Nitrophenol	420	U
105-67-9	2,4-Dimethylphenol	420	U
111-91-1	bis(2-Chloroethoxy)methane	420	U
120-83-2	2,4-Dichlorophenol	420	U
120-82-1	1,2,4-Trichlorobenzene	420	U
91-20-3	Naphthalene	420	U
87-68-3	Hexachlorobutadiene	420	U
59-50-7	4-Chloro-3-methylphenol	420	U
77-47-4	Hexachlorocyclopentadiene	420	U
88-06-2	2,4,6-Trichlorophenol	420	U
91-58-7	2-Chloronaphthalene	420	U
131-11-3	Dimethylphthalate	420	U
208-96-8	Acenaphthylene	420	U
606-20-2	2,6-Dinitrotoluene	420	U
83-32-9	Acenaphthene	420	U
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	420	U
84-66-2	Diethylphthalate	420	U
86-73-7	Fluorene	420	U
7005-72-3	4-Chlorophenyl-phenylether	420	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778620B

mw-10 S-S

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778620B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7191.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 20 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	420	U
122-66-7	1,2-Diphenylhydrazine(as azo)	420	U
101-55-3	4-Bromophenyl-phenylether	420	U
118-74-1	Hexachlorobenzene	420	U
87-86-5	Pentachlorophenol	1000	U
85-01-08	Phenanthrene	420	U
120-12-7	Anthracene	420	U
84-74-2	Di-n-butylphthalate	420	U
206-44-0	Fluoranthene	420	U
92-87-5	Benzidine	2100	U
129-00-0	Pyrene	420	U
85-68-7	Butylbenzylphthalate	420	U
56-55-3	Benzo[a]anthracene	420	U
91-94-1	3,3'-Dichlorobenzidine	830	U
218-01-9	Chrysene	420	U
117-81-7	bis(2-Ethylhexyl)phthalate	420	U
117-84-0	Di-n-octylphthalate	420	U
205-99-2	Benzo[b]fluoranthene	420	U
207-08-9	Benzo[k]fluoranthene	420	U
50-32-8	Benzo[a]pyrene	420	U
193-39-5	Indeno[1,2,3-cd]pyrene	420	U
53-70-3	Dibenz[a,h]anthracene	420	U
191-24-2	Benzo[g,h,i]perylene	420	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778620B

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778620B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7191.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 20 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
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Quantitation Report

Data File : c:\hpchem\1\data2\b7191.d
Acq On : 17 Nov 97 7:44 pm
Sample : 78620..... Converted from RTE d
Misc :
Quant Time: Nov 20 14:07 1997

Vial: 5
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.04	152	6952	40.00	ug/mL	-0.09
18) Naphthalene-d8	10.82	136	30895	40.00	ug/mL	-0.09
33) Acenaphthene-d10	16.06	164	24557	40.00	ug/mL	-0.09
51) Phenanthrene-d10	20.40	188	55918	40.00	ug/ml	-0.10
65) Chrysene-d12	28.35	240	62189	40.00	ug/mL	-0.09
74) Perylene-d12	32.31	264	38505	40.00	ug/mL	-0.09
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.68	112	3587	82.24	ug/mL	82.24%
3) Phenol-d5	6.97	99	25849	99.17	ug/mL	99.17%
19) Nitrobenzene-d5	8.89	82	11452	40.22	ug/mL	40.22%
37) 2-Fluorobiphenyl	14.30	172	30969	46.38	ug/mL	46.38%
55) 2,4,6-Tribromophenol	18.53	330	31022	120.39	ug/mL	120.39%
68) Terphenyl-d14	25.50	244	103089	64.34	ug/mL	64.34%
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration

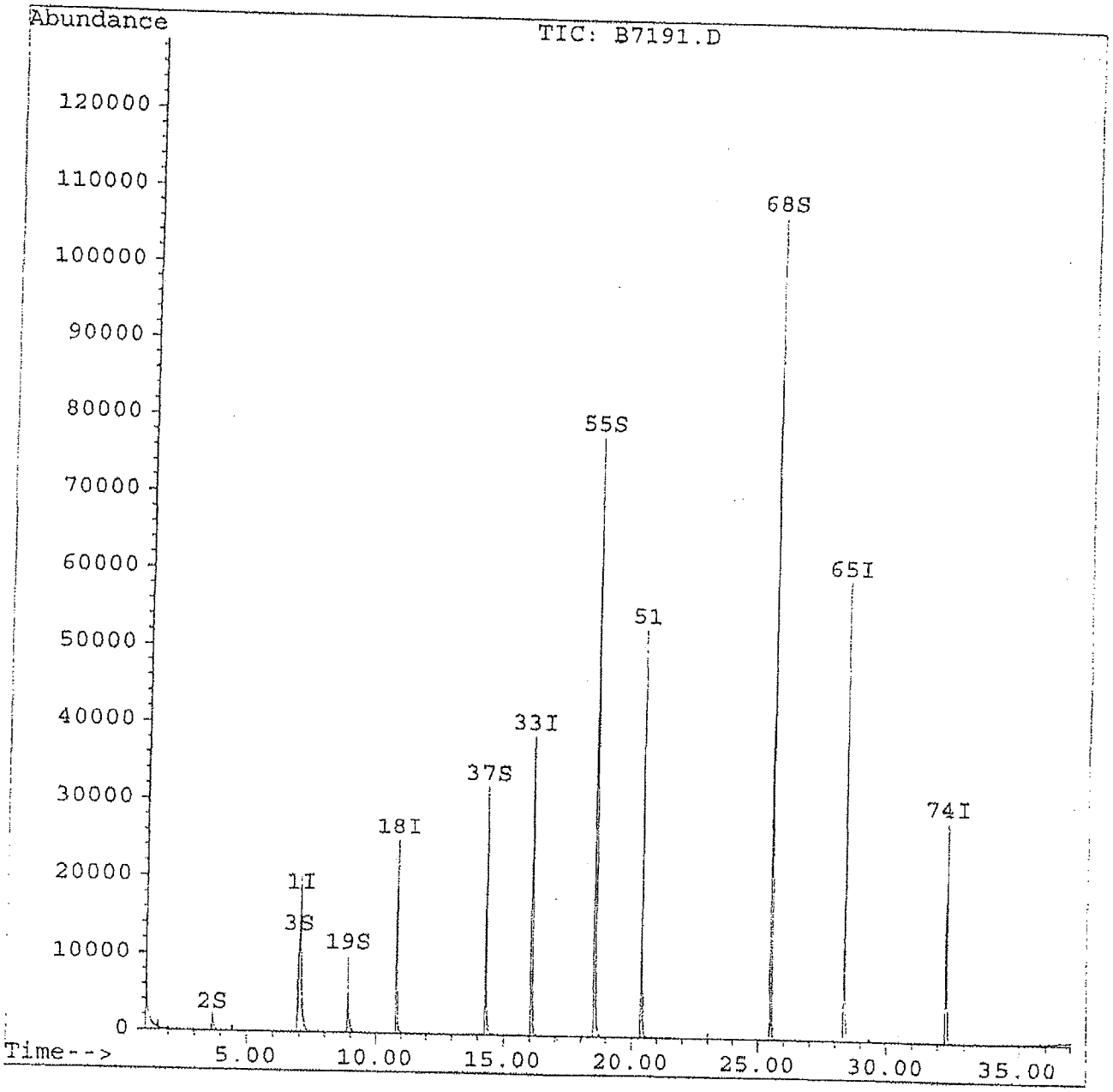
Quantitation Report

Data File : c:\hpchem\1\data2\b7191.d
Acq On : 17 Nov 97 7:44 pm
Sample : 78620.....
Misc :
Quant Time: Nov 20 14:07 1997

Vial: 5
Operator: SCOTTV
Inst : ABN2
BT Multiplr: 1.00

Converted from RTE d

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Library Search Compound Report

Data File : c:\hpchem\1\data2\b7191.d
Acq On : 17 Nov 97 7:44 pm
Sample : 78620.....
Misc : Converted from RTE d

Vial: 5
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : NBS75K.L

No Library Search Compounds Detected

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778622B

MW-5, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778622B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7192.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 12 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	380	U
108-95-2	Phenol	380	U
111-44-4	bis(2-Chloroethyl)ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
95-50-1	1,2-Dichlorobenzene	380	U
108-60-1	bis(2-chloroisopropyl)ether	380	U
621-64-7	N-Nitroso-Di-n-propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	380	U
111-91-1	bis(2-Chloroethoxy)methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
91-20-3	Naphthalene	380	U
87-68-3	Hexachlorobutadiene	380	U
59-50-7	4-Chloro-3-methylphenol	380	U
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	380	U
91-58-7	2-Chloronaphthalene	380	U
131-11-3	Dimethylphthalate	380	U
208-96-8	Acenaphthylene	380	U
606-20-2	2,6-Dinitrotoluene	380	U
83-32-9	Acenaphthene	380	U
51-28-5	2,4-Dinitrophenol	950	U
100-02-7	4-Nitrophenol	950	U
121-14-2	2,4-Dinitrotoluene	380	U
84-66-2	Diethylphthalate	380	U
86-73-7	Fluorene	380	U
7005-72-3	4-Chlorophenyl-phenylether	380	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778622B

MW-5, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778622B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7192.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 12 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	950	U
86-30-6	n-Nitrosodiphenylamine	380	U
122-66-7	1,2-Diphenylhydrazine(as azo)	380	U
101-55-3	4-Bromophenyl-phenylether	380	U
118-74-1	Hexachlorobenzene	380	U
87-86-5	Pentachlorophenol	950	U
85-01-08	Phenanthrene	380	U
120-12-7	Anthracene	380	U
84-74-2	Di-n-butylphthalate	380	U
206-44-0	Fluoranthene	380	U
92-87-5	Benzidine	1900	U
129-00-0	Pyrene	380	U
85-68-7	Butylbenzylphthalate	380	U
56-55-3	Benzo[a]anthracene	380	U
91-94-1	3,3'-Dichlorobenzidine	760	U
218-01-9	Chrysene	380	U
117-81-7	bis(2-Ethylhexyl)phthalate	380	U
117-84-0	Di-n-octylphthalate	380	U
205-99-2	Benzo[b]fluoranthene	380	U
207-08-9	Benzo[k]fluoranthene	380	U
50-32-8	Benzo[a]pyrene	380	U
193-39-5	Indeno[1,2,3-cd]pyrene	380	U
53-70-3	Dibenz[a,h]anthracene	380	U
191-24-2	Benzo[g,h,i]perylene	380	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9778622B
MW-5, 5-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778622B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7192.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 12 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
2.				
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Quantitation Report

Data File : c:\hpchem\1\data2\b7192.d
Acq On : 17 Nov 97 8:32 pm
Sample : 78622.....
Misc :
Quant Time: Nov 20 14:10 1997

Converted from RTE d

Vial: 6
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.02	152	7386	40.00	ug/mL	-0.10
18) Naphthalene-d8	10.81	136	32472	40.00	ug/mL	-0.10
33) Acenaphthene-d10	16.07	164	26676	40.00	ug/mL	-0.09
51) Phenanthrene-d10	20.38	188	60630	40.00	ug/ml	-0.11
65) Chrysene-d12	28.33	240	69203	40.00	ug/mL	-0.10
74) Perylene-d12	32.32	264	47562	40.00	ug/mL	-0.08
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.67	112	5505	118.79	ug/mL	118.79%
3) Phenol-d5	6.92	99	39385	142.22	ug/mL	142.22%
19) Nitrobenzene-d5	8.89	82	18456	61.67	ug/mL	61.67%
37) 2-Fluorobiphenyl	14.30	172	46772	64.48	ug/mL	64.48%
55) 2,4,6-Tribromophenol	18.53	330	40949	146.56	ug/mL	146.56%
68) Terphenyl-d14	25.51	244	125378	70.32	ug/mL	70.32%

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration

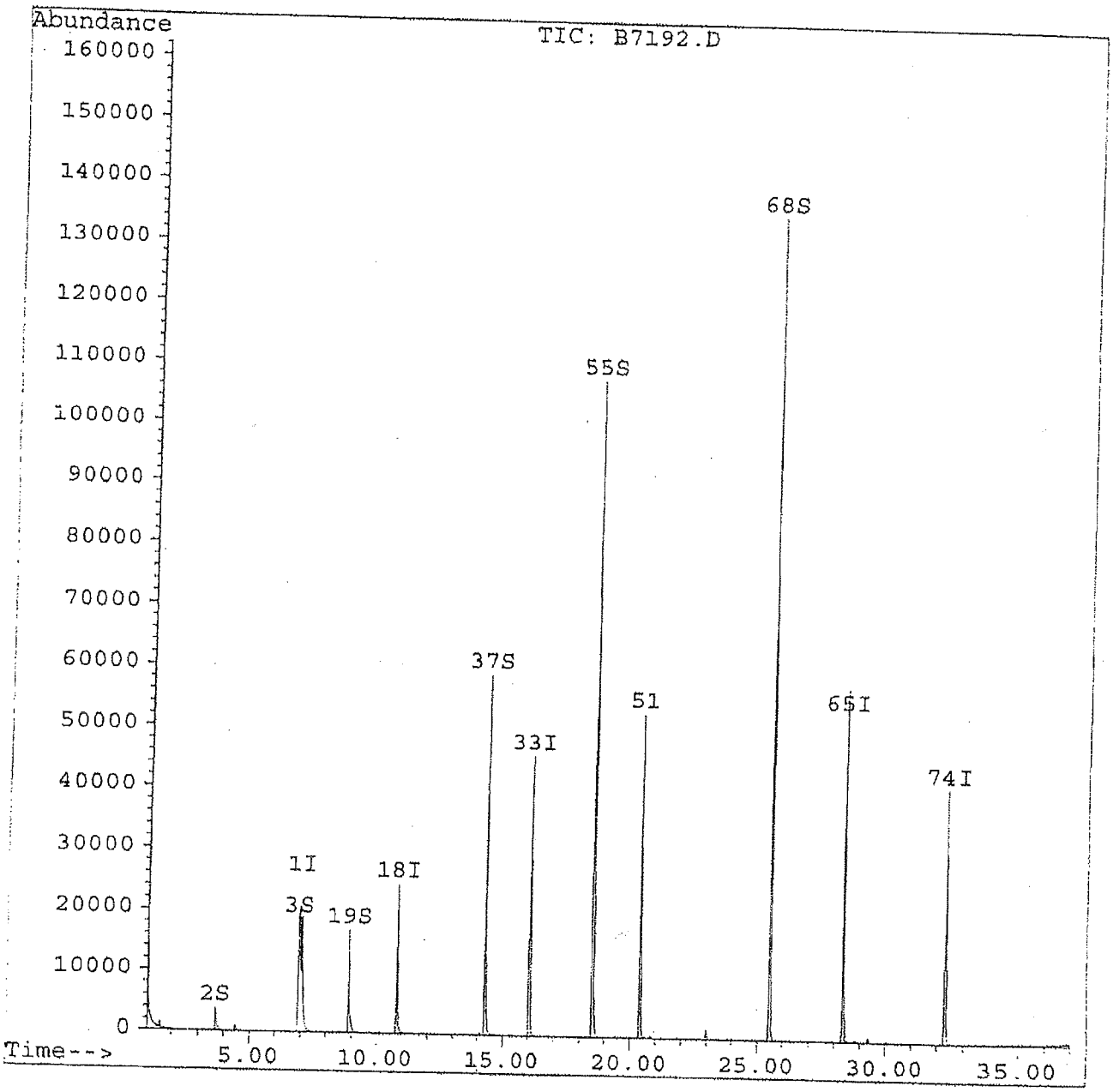
Quantitation Report

Data File : c:\hpchem\1\data2\b7192.d
Acq On : 17 Nov 97 8:32 pm
Sample : 78622.....
Misc :
Quant Time: Nov 20 14:10 1997

Converted from RTE d

Vial: 6
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Library Search Compound Report

Data File : c:\hpchem\1\data2\b7192.d
Acq On : 17 Nov 97 8:32 pm
Sample : 78622..... Converted from RTE d
Misc :

Vial: 6
Operator: SCOTTV
Inst : AENA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : NBS75K.L

No Library Search Compounds Detected

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778623B
MW-7, S-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778623B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7193.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 19 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	410	U
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl)ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
108-60-1	bis(2-chloroisopropyl)ether	410	U
621-64-7	N-Nitroso-Di-n-propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy)methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-methylphenol	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
91-58-7	2-Chloronaphthalene	410	U
131-11-3	Dimethylphthalate	410	U
208-96-8	Acenaphthylene	410	U
606-20-2	2,6-Dinitrotoluene	410	U
83-32-9	Acenaphthene	410	U
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	410	U
86-73-7	Fluorene	410	U
7005-72-3	4-Chlorophenyl-phenylether	410	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778623B

MW-7, 5-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778623B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7193.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 19 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	410	U
122-66-7	1,2-Diphenylhydrazine(as azo)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol	1000	U
85-01-08	Phenanthrene	410	U
120-12-7	Anthracene	410	U
84-74-2	Di-n-butylphthalate	410	U
206-44-0	Fluoranthene	410	U
92-87-5	Benzidine	2100	U
129-00-0	Pyrene	410	U
85-68-7	Butylbenzylphthalate	410	U
56-55-3	Benzo[a]anthracene	410	U
91-94-1	3,3'-Dichlorobenzidine	820	U
218-01-9	Chrysene	410	U
117-81-7	bis(2-Ethylhexyl)phthalate	410	U
117-84-0	Di-n-octylphthalate	410	U
205-99-2	Benzo[b]fluoranthene	410	U
207-08-9	Benzo[k]fluoranthene	410	U
50-32-8	Benzo[a]pyrene	410	U
193-39-5	Indeno[1,2,3-cd]pyrene	410	U
53-70-3	Dibenz[a,h]anthracene	410	U
191-24-2	Benzo[g,h,i]perylene	410	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO. 9778623B

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9778623B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7193.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 19 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.99	210	J
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Quantitation Report

Data File : c:\hpchem\1\data2\b7193.d
Acq On : 17 Nov 97 9:20 pm
Sample : 78623..... Converted from RTE d
Misc :
Quant Time: Nov 20 14:11 1997

Vial: 7
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.02	152	8007	40.00	ug/mL	-0.10
18) Naphthalene-d8	10.81	136	33980	40.00	ug/mL	-0.10
33) Acenaphthene-d10	16.07	164	27827	40.00	ug/mL	-0.09
51) Phenanthrene-d10	20.38	188	62443	40.00	ug/ml	-0.11
65) Chrysene-d12	28.34	240	78132	40.00	ug/mL	-0.10
74) Perylene-d12	32.32	264	56598	40.00	ug/mL	-0.08
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.67	112	5854	116.53	ug/mL	116.53%
3) Phenol-d5	6.92	99	42521	141.63	ug/mL	141.63%
19) Nitrobenzene-d5	8.90	82	19188	61.27	ug/mL	61.27%
37) 2-Fluorobiphenyl	14.30	172	48781	64.47	ug/mL	64.47%
55) 2,4,6-Tribromophenol	18.53	330	39580	137.55	ug/mL	137.55%
68) Terphenyl-d14	25.51	244	133028	66.08	ug/mL	66.08%
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration

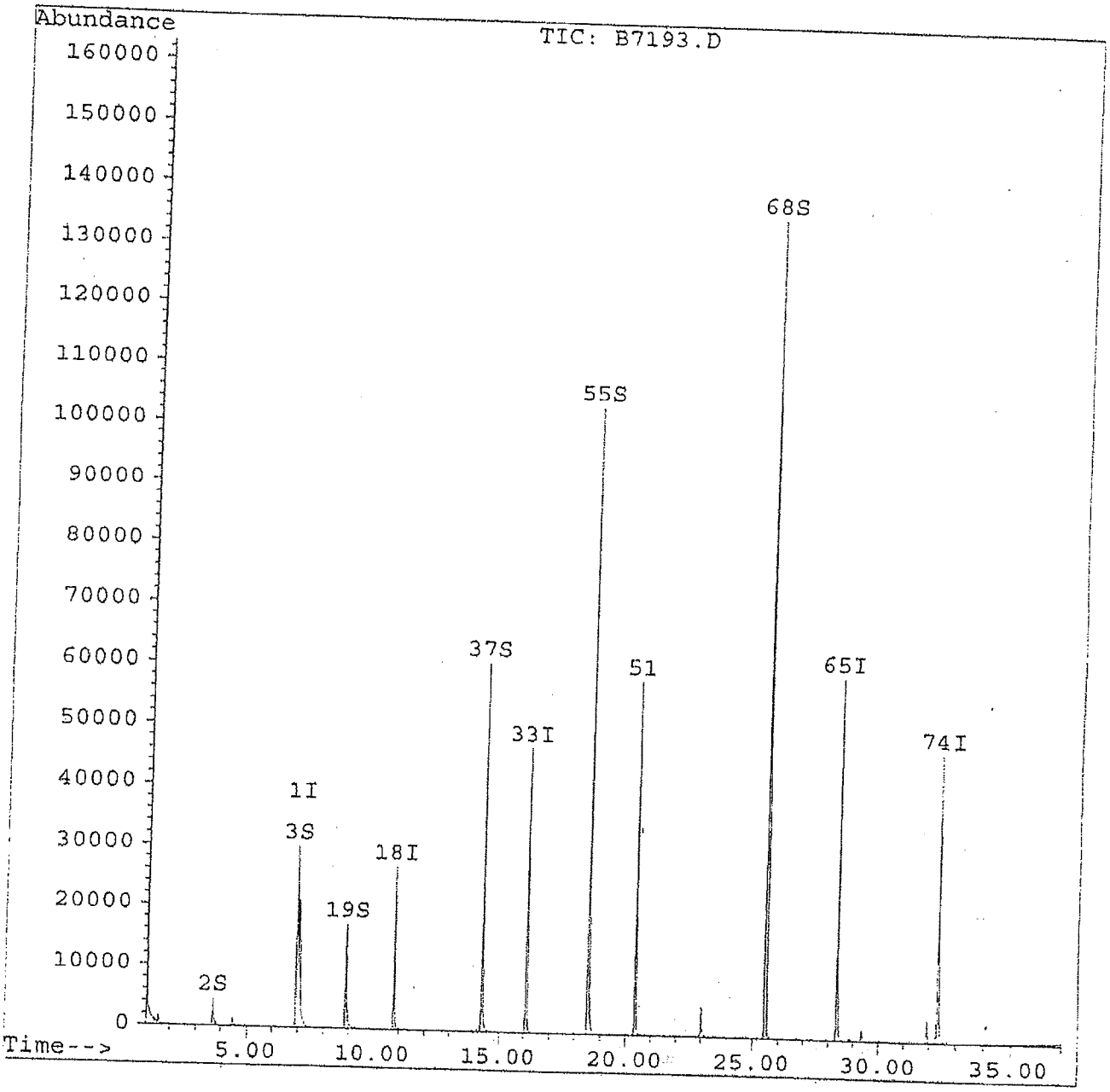
Quantitation Report

Data File : c:\hpchem\1\data2\b7193.d
Acq On : 17 Nov 97 9:20 pm
Sample : 78623.....
Misc :
Quant Time: Nov 20 14:11 1997

Converted from RTE d

Vial: 7
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Library Search Compound Report

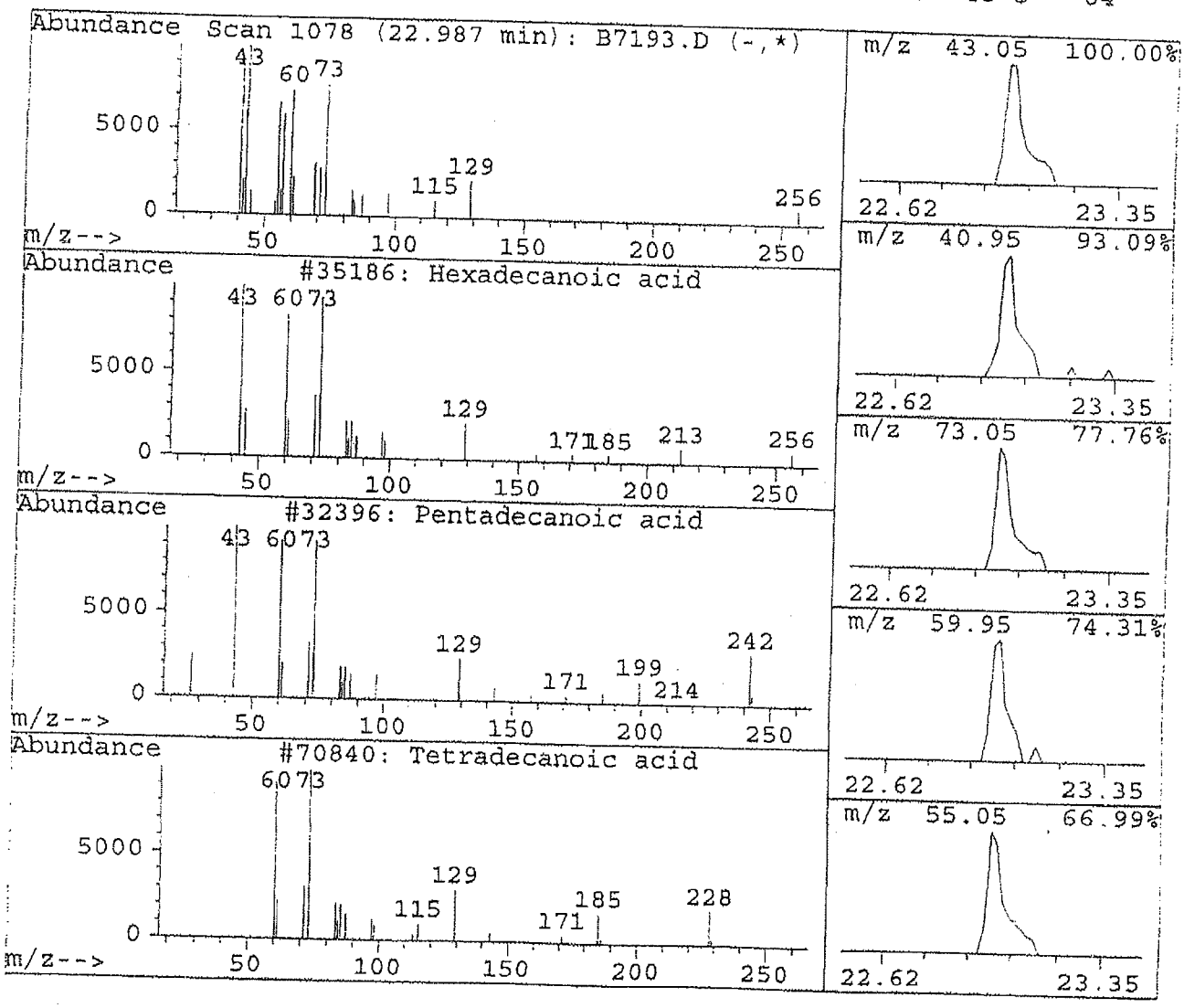
Data File : c:\hpchem\1\data2\b7193.d
Acq On : 17 Nov 97 9:20 pm
Sample : 78623.....
Misc :

Vial: 7
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
22.99	5.15 ug/mL	20182	Phenanthrene-d10	20.38

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexadecanoic acid	35186	000057-10-3	93
2	Pentadecanoic acid	32396	001002-84-2	80
3	Tetradecanoic acid	70840	000544-63-8	80
4	Tridecanoic acid	70343	000638-53-9	64
5	Decanoic acid	68357	000334-48-5	64



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778624B
MW-9, 5-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778624B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7194.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 16 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	400	U
108-95-2	Phenol	400	U
111-44-4	bis(2-Chloroethyl)ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
95-50-1	1,2-Dichlorobenzene	400	U
108-60-1	bis(2-chloroisopropyl)ether	400	U
621-64-7	N-Nitroso-Di-n-propylamine	400	U
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol	400	U
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
91-58-7	2-Chloronaphthalene	400	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	400	U
606-20-2	2,6-Dinitrotoluene	400	U
83-32-9	Acenaphthene	400	U
51-28-5	2,4-Dinitrophenol	990	U
100-02-7	4-Nitrophenol	990	U
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	400	U
86-73-7	Fluorene	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9778624B

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778624B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7194.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 16 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	990	U
86-30-6	n-Nitrosodiphenylamine	400	U
122-66-7	1,2-Diphenylhydrazine(as azo)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	990	U
85-01-08	Phenanthrene	400	U
120-12-7	Anthracene	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	400	U
92-87-5	Benzidine	2000	U
129-00-0	Pyrene	400	U
85-68-7	Butylbenzylphthalate	400	U
56-55-3	Benzo[a]anthracene	400	U
91-94-1	3,3'-Dichlorobenzidine	790	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	400	U
117-84-0	Di-n-octylphthalate	400	U
205-99-2	Benzo[b]fluoranthene	400	U
207-08-9	Benzo[k]fluoranthene	400	U
50-32-8	Benzo[a]pyrene	400	U
193-39-5	Indeno[1,2,3-cd]pyrene	400	U
53-70-3	Dibenz[a,h]anthracene	400	U
191-24-2	Benzo[g,h,i]perylene	400	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9778624B
MW2-S1.5-S

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9778624B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7194.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 16 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
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7.				
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Quantitation Report

Data File : c:\hpchem\1\data2\b7194.d
Acq On : 17 Nov 97 10:08 pm
Sample : 78624.....
Misc :
Quant Time: Nov 20 14:11 1997

Converted from RTE d

Vial: 8
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.02	152	7531	40.00	ug/mL	-0.10
18) Naphthalene-d8	10.80	136	32740	40.00	ug/mL	-0.10
33) Acenaphthene-d10	16.07	164	26803	40.00	ug/mL	-0.09
51) Phenanthrene-d10	20.38	188	60992	40.00	ug/ml	-0.11
65) Chrysene-d12	28.33	240	80161	40.00	ug/mL	-0.10
74) Perylene-d12	32.32	264	57702	40.00	ug/mL	-0.08
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.69	112	4324	91.51	ug/mL	91.51%
3) Phenol-d5	6.94	99	29343	103.92	ug/mL	103.92%
19) Nitrobenzene-d5	8.89	82	15959	52.89	ug/mL	52.89%
37) 2-Fluorobiphenyl	14.30	172	42858	58.80	ug/mL	58.80%
55) 2,4,6-Tribromophenol	18.53	330	36610	130.26	ug/mL	130.26%
68) Terphenyl-d14	25.51	244	133478	64.63	ug/mL	64.63%

Target Compounds

Qvalue

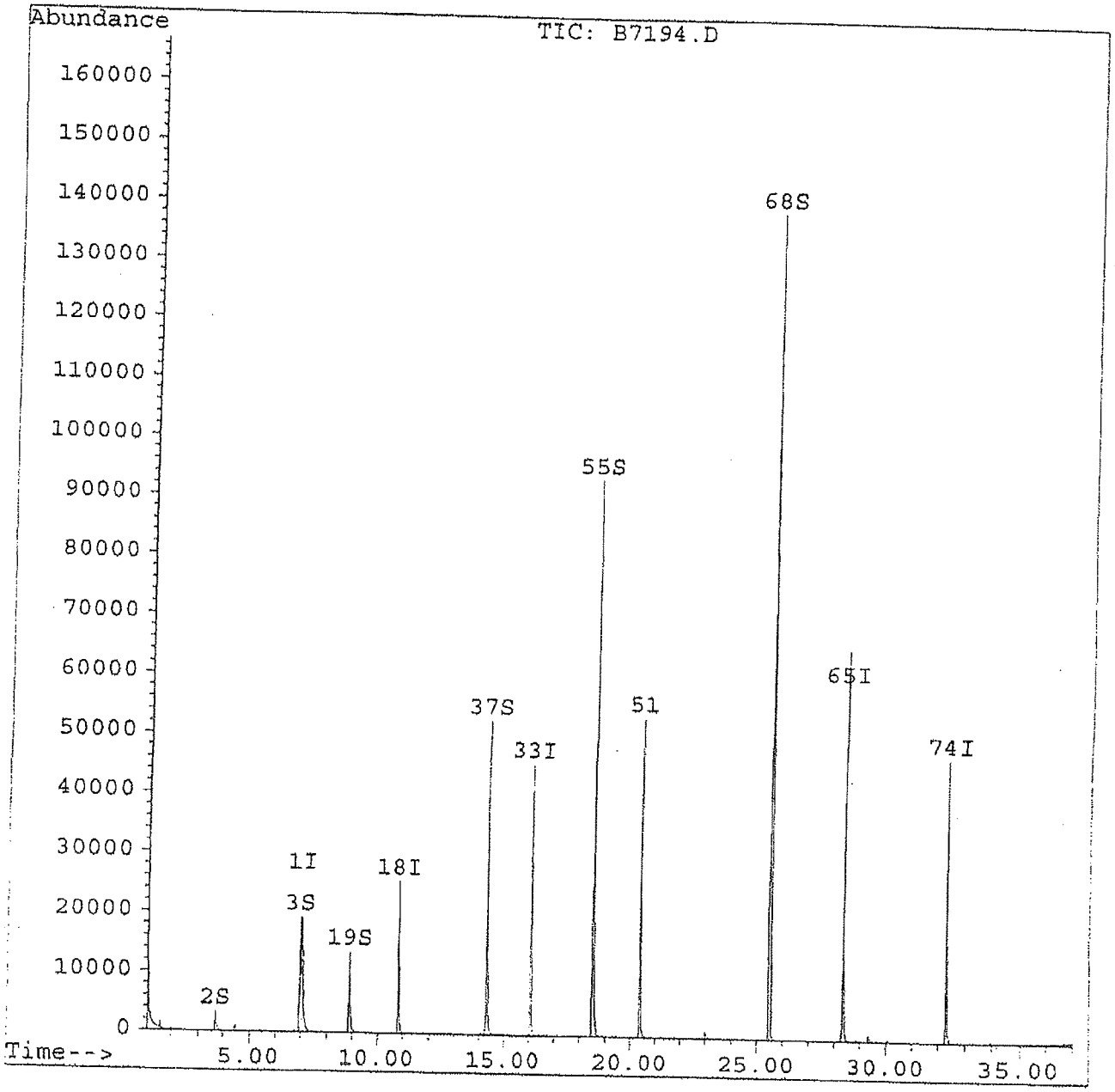
Quantitation Report

Data File : c:\hpchem\1\data2\b7194.d
Acq On : 17 Nov 97 10:08 pm
Sample : 78624.....
Misc :
Quant Time: Nov 20 14:11 1997

Converted from RTE d

Vial: 8
Operator: SCOTTV
Inst : AENA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Library Search Compound Report

Data File : c:\hpchem\1\data2\b7194.d
Acq On : 17 Nov 97 10:08 pm
Sample : 78624..... Converted from RTE d
Misc :

Vial: 8
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : NBS75K.L

No Library Search Compounds Detected

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782199B

MW-3 S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782199B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7198.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 14 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column = DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	390	U
108-95-2	Phenol	390	U
111-44-4	bis(2-Chloroethyl)ether	390	U
95-57-8	2-Chlorophenol	390	U
541-73-1	1,3-Dichlorobenzene	390	U
106-46-7	1,4-Dichlorobenzene	390	U
95-50-1	1,2-Dichlorobenzene	390	U
108-60-1	bis(2-chloroisopropyl)ether	390	U
621-64-7	N-Nitroso-Di-n-propylamine	390	U
67-72-1	Hexachloroethane	390	U
98-95-3	Nitrobenzene	390	U
78-59-1	Isophorone	390	U
88-75-5	2-Nitrophenol	390	U
105-67-9	2,4-Dimethylphenol	390	U
111-91-1	bis(2-Chloroethoxy)methane	390	U
120-83-2	2,4-Dichlorophenol	390	U
120-82-1	1,2,4-Trichlorobenzene	390	U
91-20-3	Naphthalene	390	U
87-68-3	Hexachlorobutadiene	390	U
59-50-7	4-Chloro-3-methylphenol	390	U
77-47-4	Hexachlorocyclopentadiene	390	U
88-06-2	2,4,6-Trichlorophenol	390	U
91-58-7	2-Chloronaphthalene	390	U
131-11-3	Dimethylphthalate	390	U
208-96-8	Acenaphthylene	390	U
606-20-2	2,6-Dinitrotoluene	390	U
83-32-9	Acenaphthene	390	U
51-28-5	2,4-Dinitrophenol	970	U
100-02-7	4-Nitrophenol	970	U
121-14-2	2,4-Dinitrotoluene	390	U
84-66-2	Diethylphthalate	390	U
86-73-7	Fluorene	390	U
7005-72-3	4-Chlorophenyl-phenylether	390	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782199B

Mix -3,5-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782199B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7198.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 14 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	970	U
86-30-6	n-Nitrosodiphenylamine	390	U
122-66-7	1,2-Diphenylhydrazine(as azo)	390	U
101-55-3	4-Bromophenyl-phenylether	390	U
118-74-1	Hexachlorobenzene	390	U
87-86-5	Pentachlorophenol	970	U
85-01-08	Phenanthrene	390	U
120-12-7	Anthracene	390	U
84-74-2	Di-n-butylphthalate	390	U
206-44-0	Fluoranthene	390	U
92-87-5	Benzidine	1900	U
129-00-0	Pyrene	390	U
85-68-7	Butylbenzylphthalate	390	U
56-55-3	Benzo[a]anthracene	390	U
91-94-1	3,3'-Dichlorobenzidine	780	U
218-01-9	Chrysene	390	U
117-81-7	bis(2-Ethylhexyl)phthalate	390	U
117-84-0	Di-n-octylphthalate	390	U
205-99-2	Benzo[b]fluoranthene	390	U
207-08-9	Benzo[k]fluoranthene	390	U
50-32-8	Benzo[a]pyrene,	390	U
193-39-5	Indeno[1,2,3-cd]pyrene	390	U
53-70-3	Dibenz[a,h]anthracene	390	U
191-24-2	Benzo[g,h,i]perylene	390	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782199B
MB-3, 5-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782199B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7198.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 14 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 1002-84-2	Pentadecanoic acid	23.01	170	J
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Quantitation Report

Data File : c:\hpchem\1\data2\b7198.d
Acq On : 18 Nov 97 1:16 am
Sample : 82199.....
Misc :
Quant Time: Nov 20 14:12 1997

Converted from RTE d

Vial: 12
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.04	152	10225	40.00	ug/mL	-0.08
18) Naphthalene-d8	10.80	136	44367	40.00	ug/mL	-0.10
33) Acenaphthene-d10	16.07	164	36325	40.00	ug/mL	-0.09
51) Phenanthrene-d10	20.40	188	86030	40.00	ug/ml	-0.09
65) Chrysene-d12	28.35	240	108562	40.00	ug/mL	-0.08
74) Perylene-d12	32.34	264	78411	40.00	ug/mL	-0.06
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.69	112	5004	78.00	ug/mL	78.00%
3) Phenol-d5	6.94	99	35187	91.78	ug/mL	91.78%
19) Nitrobenzene-d5	8.89	82	18534	45.33	ug/mL	45.33%
37) 2-Fluorobiphenyl	14.30	172	54203	54.88	ug/mL	54.88%
55) 2,4,6-Tribromophenol	18.53	330	51236	129.24	ug/mL	129.24%
68) Terphenyl-d14	25.51	244	159055	56.86	ug/mL	56.86%

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

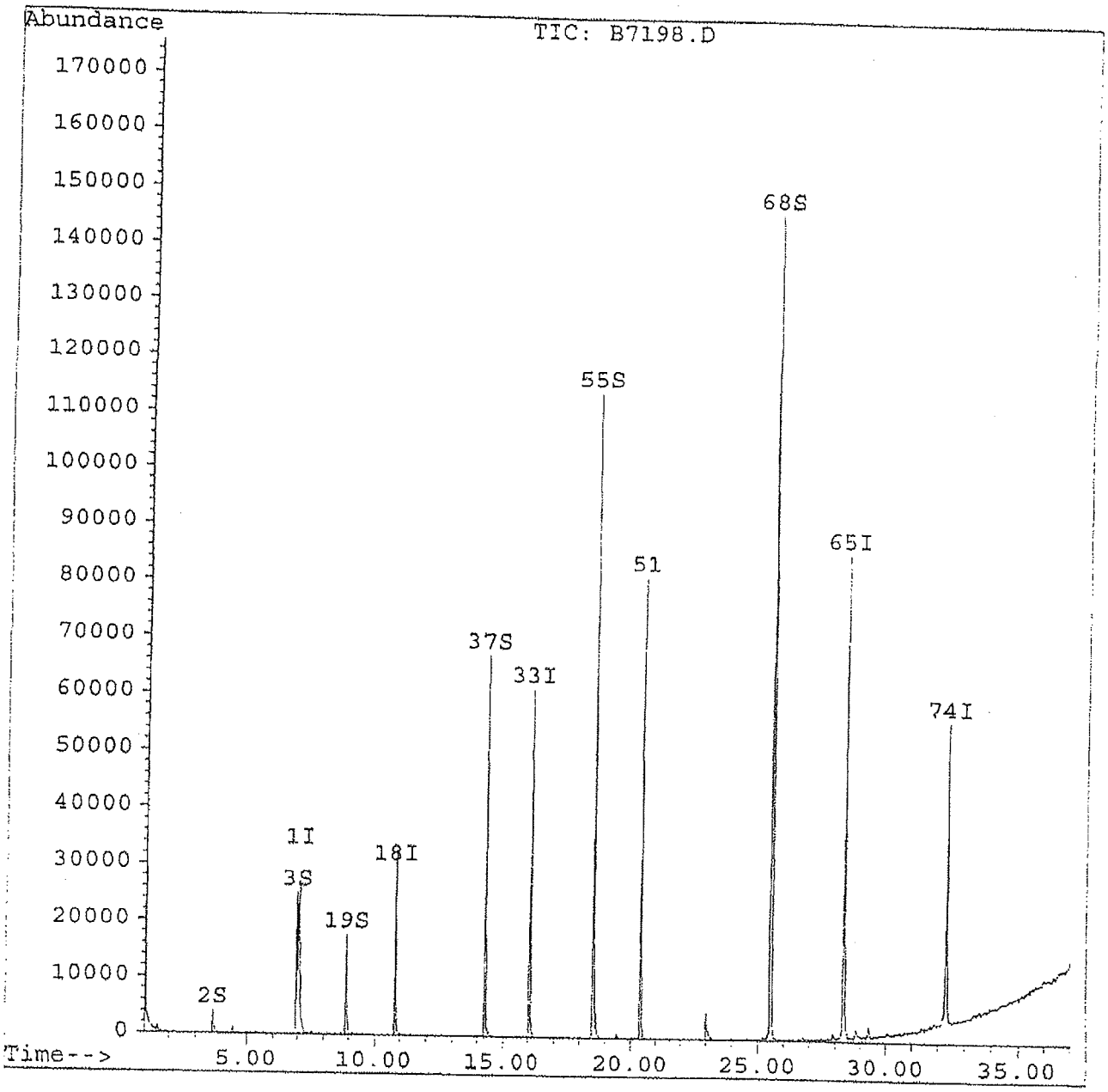
Quantitation Report

Data File : c:\hpchem\1\data2\b7198.d
Acq On : 18 Nov 97 1:16 am
Sample : 82199.....
Misc :
Quant Time: Nov 20 14:12 1997

Converted from RTE d

Vial: 12
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

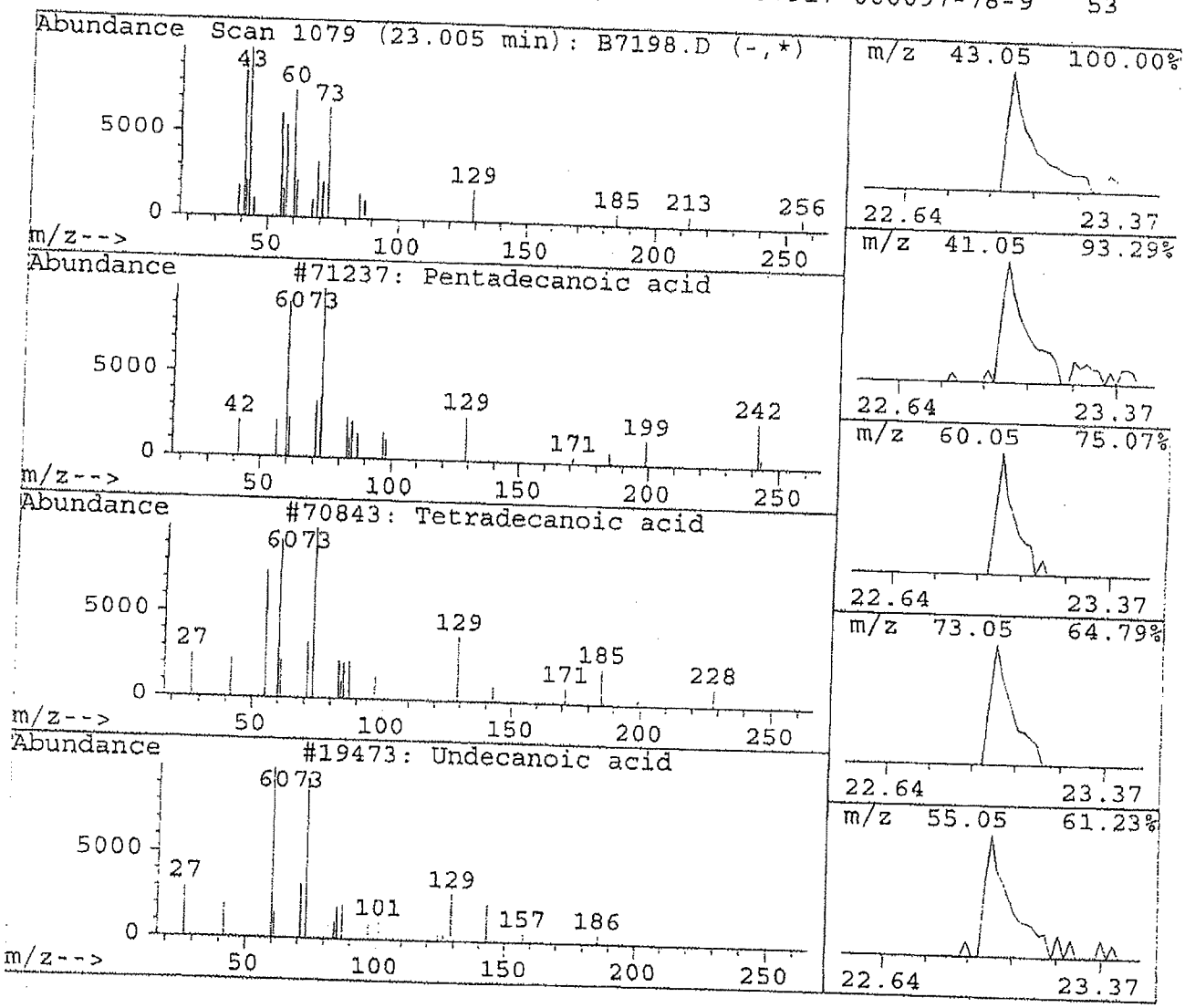
Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
23.01	4.37 ug/mL	23049	Phenanthrene-d10	20.40

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Pentadecanoic acid	71237	001002-84-2	86
2	Tetradecanoic acid	70843	000544-63-8	72
3	Undecanoic acid	19473	000112-37-8	59
4	Hexadecanoic acid	71609	000057-10-3	59
5	Glycine, N-methyl-N-(1-oxododecyl)-	37917	000097-78-9	53



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782200B
MW-6, S-4

397

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782200B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7199.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 17 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	400	U
108-95-2	Phenol	400	U
111-44-4	bis(2-Chloroethyl)ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
95-50-1	1,2-Dichlorobenzene	400	U
108-60-1	bis(2-chloroisopropyl)ether	400	U
621-64-7	N-Nitroso-Di-n-propylamine	400	U
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol	400	U
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
91-58-7	2-Chloronaphthalene	400	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	400	U
606-20-2	2,6-Dinitrotoluene	400	U
83-32-9	Acenaphthene	400	U
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	400	U
86-73-7	Fluorene	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782200B

MW-6, S-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782200B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7199.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 17 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column = DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	400	U
122-66-7	1,2-Diphenylhydrazine(as azo)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	1000	U
85-01-08	Phenanthrene	400	U
120-12-7	Anthracene	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	400	U
92-87-5	Benzidine	2000	U
129-00-0	Pyrene	400	U
85-68-7	Butylbenzylphthalate	400	U
56-55-3	Benzo[a]anthracene	400	U
91-94-1	3,3'-Dichlorobenzidine	800	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	400	U
117-84-0	Di-n-octylphthalate	400	U
205-99-2	Benzo[b]fluoranthene	400	U
207-08-9	Benzo[k]fluoranthene	400	U
50-32-8	Benzo[a]pyrene	400	U
193-39-5	Indeno[1,2,3-cd]pyrene	400	U
53-70-3	Dibenz[a,h]anthracene	400	U
191-24-2	Benzo[g,h,i]perylene	400	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782200B
MB-16,5-V

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782200B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7199.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 17 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
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Quantitation Report

Data File : c:\hpchem\1\data2\b7199.d
Acq On : 18 Nov 97 2:04 am
Sample : 82200.....
Misc :
Quant Time: Nov 20 14:12 1997

Converted from RTE d

Vial: 13
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.04	152	9479	40.00	ug/mL	-0.09
18) Naphthalene-d8	10.82	136	42502	40.00	ug/mL	-0.09
33) Acenaphthene-d10	16.07	164	34163	40.00	ug/mL	-0.09
51) Phenanthrene-d10	20.40	188	78949	40.00	ug/ml	-0.10
65) Chrysene-d12	28.35	240	103743	40.00	ug/mL	-0.08
74) Perylene-d12	32.34	264	76831	40.00	ug/mL	-0.07
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.70	112	4604	77.41	ug/mL	77.41%
3) Phenol-d5	6.94	99	33545	94.38	ug/mL	94.38%
19) Nitrobenzene-d5	8.89	82	16027	40.92	ug/mL	40.92%
37) 2-Fluorobiphenyl	14.30	172	43490	46.82	ug/mL	46.82%
55) 2,4,6-Tribromophenol	18.53	330	41984	115.40	ug/mL	115.40%
68) Terphenyl-d14	25.50	244	159688	59.74	ug/mL	59.74%

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration

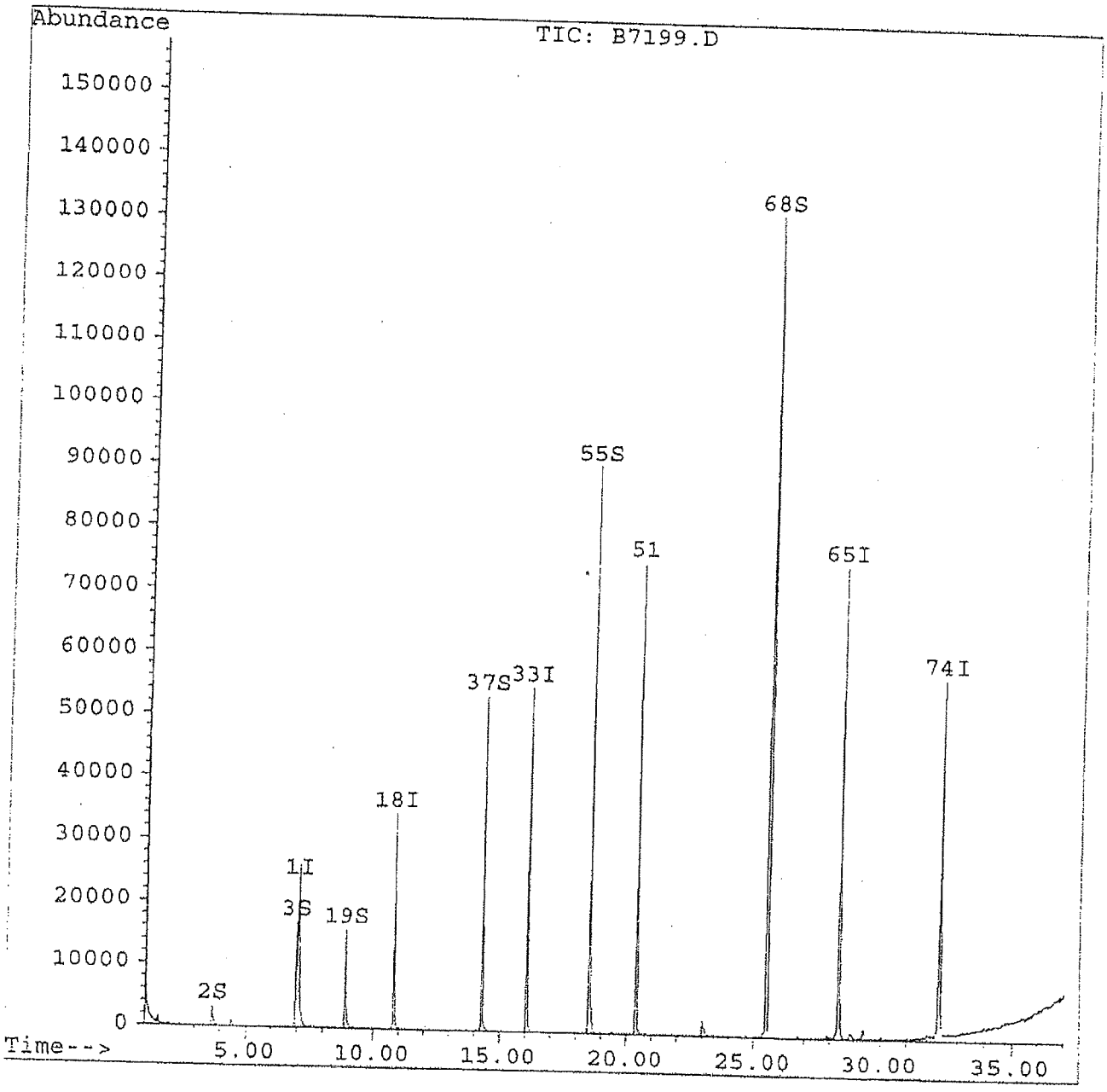
Quantitation Report

Data File : c:\hpchem\1\data2\b7199.d
Acq On : 18 Nov 97 2:04 am
Sample : 82200.....
Misc :
Quant Time: Nov 20 14:12 1997

Converted from RTE d

Vial: 13
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Library Search Compound Report

Data File : c:\hpchem\1\data2\b7199.d
Acq On : 18 Nov 97 2:04 am
Sample : 82200.....
Misc : Converted from RTE d

Vial: 15
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : NBS75K.L

No Library Search Compounds Detected

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782201B

MW-5 S-4

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9782201B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7200.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 15 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	390	U
108-95-2	Phenol	390	U
111-44-4	bis(2-Chloroethyl)ether	390	U
95-57-8	2-Chlorophenol	390	U
541-73-1	1,3-Dichlorobenzene	390	U
106-46-7	1,4-Dichlorobenzene	390	U
95-50-1	1,2-Dichlorobenzene	390	U
108-60-1	bis(2-chloroisopropyl)ether	390	U
621-64-7	N-Nitroso-Di-n-propylamine	390	U
67-72-1	Hexachloroethane	390	U
98-95-3	Nitrobenzene	390	U
78-59-1	Isophorone	390	U
88-75-5	2-Nitrophenol	390	U
105-67-9	2,4-Dimethylphenol	390	U
111-91-1	bis(2-Chloroethoxy)methane	390	U
120-83-2	2,4-Dichlorophenol	390	U
120-82-1	1,2,4-Trichlorobenzene	390	U
91-20-3	Naphthalene	390	U
87-68-3	Hexachlorobutadiene	390	U
59-50-7	4-Chloro-3-methylphenol	390	U
77-47-4	Hexachlorocyclopentadiene	390	U
88-06-2	2,4,6-Trichlorophenol	390	U
91-58-7	2-Chloronaphthalene	390	U
131-11-3	Dimethylphthalate	390	U
208-96-8	Acenaphthylene	390	U
606-20-2	2,6-Dinitrotoluene	390	U
83-32-9	Acenaphthene	390	U
51-28-5	2,4-Dinitrophenol	980	U
100-02-7	4-Nitrophenol	980	U
121-14-2	2,4-Dinitrotoluene	390	U
84-66-2	Diethylphthalate	390	U
86-73-7	Fluorene	390	U
7005-72-3	4-Chlorophenyl-phenylether	390	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782201B 4
MW-8, S-1

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782201B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7200.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 15 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	980	U
86-30-6	n-Nitrosodiphenylamine	390	U
122-66-7	1,2-Diphenylhydrazine(as azo)	390	U
101-55-3	4-Bromophenyl-phenylether	390	U
118-74-1	Hexachlorobenzene	390	U
87-86-5	Pentachlorophenol	980	U
85-01-08	Phenanthrene	390	U
120-12-7	Anthracene	390	U
84-74-2	Di-n-butylphthalate	390	U
206-44-0	Fluoranthene	390	U
92-87-5	Benzidine	2000	U
129-00-0	Pyrene	390	U
85-68-7	Butylbenzylphthalate	390	U
56-55-3	Benzo[a]anthracene	390	U
91-94-1	3,3'-Dichlorobenzidine	780	U
218-01-9	Chrysene	390	U
117-81-7	bis(2-Ethylhexyl)phthalate	390	U
117-84-0	Di-n-octylphthalate	390	U
205-99-2	Benzo[b]fluoranthene	390	U
207-08-9	Benzo[k]fluoranthene	390	U
50-32-8	Benzo[a]pyrene	390	U
193-39-5	Indeno[1,2,3-cd]pyrene	390	U
53-70-3	Dibenz[a,h]anthracene	390	U
191-24-2	Benzo[g,h,i]perylene	390	U

IF

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9782201B

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9782201B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7200.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 15 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
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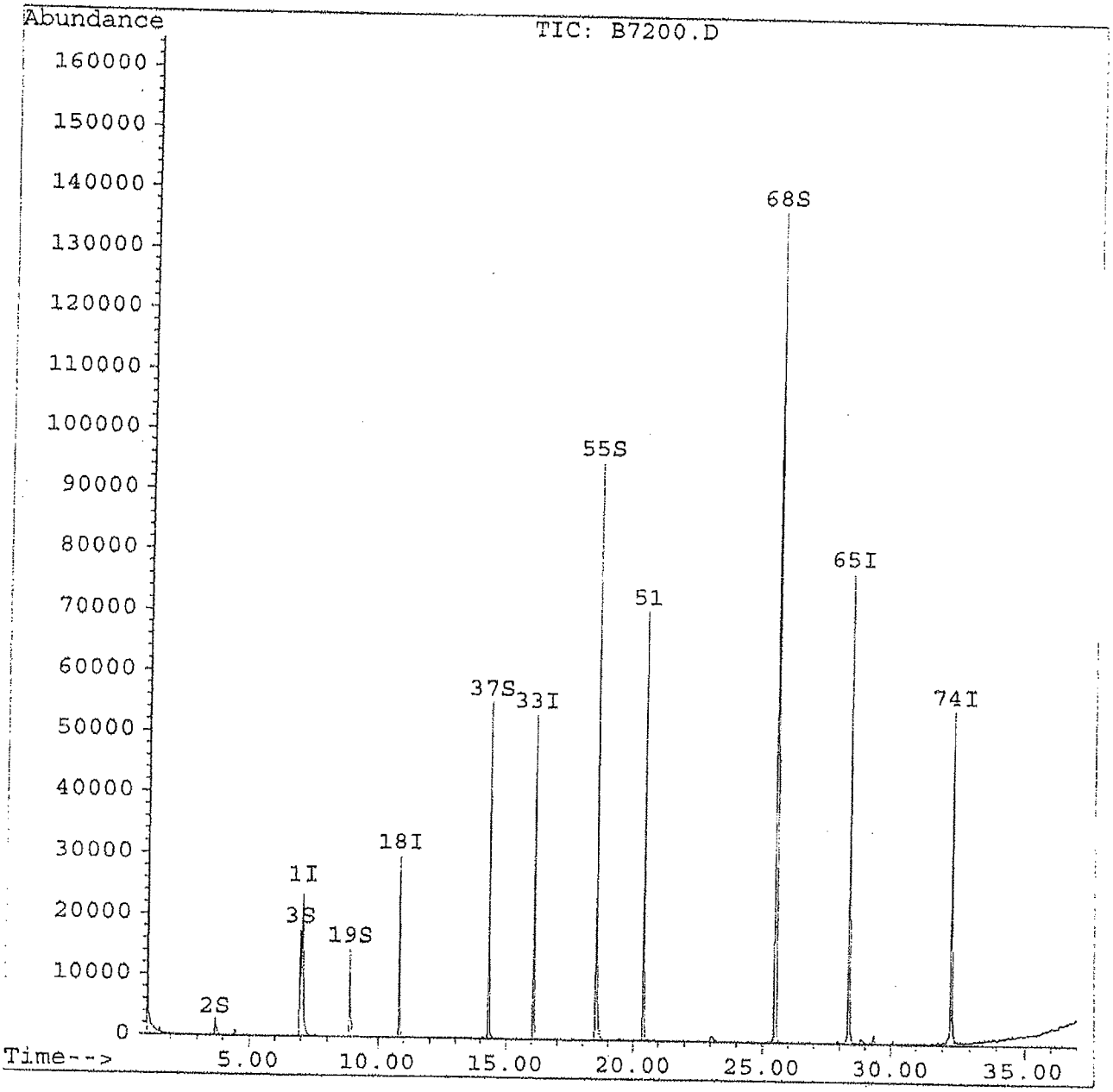
Quantitation Report

Data File : c:\hpchem\1\data2\b7200.d
Acq On : 18 Nov 97 2:51 am
Sample : 82201.....
Misc :
Quant Time: Nov 20 14:13 1997

Converted from RTE d

Vial: 14
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Library Search Compound Report

Data File : c:\hpchem\1\data2\b7200.d
Acq On : 18 Nov 97 2:51 am
Sample : 82201..... Converted from RTE d
Misc :

Vial: 14
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : NBS75K.L

No Library Search Compounds Detected

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9782202B
MW-4, 5-4

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782202B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7201.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 20 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column = DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	420	U
108-95-2	Phenol	420	U
111-44-4	bis(2-Chloroethyl)ether	420	U
95-57-8	2-Chlorophenol	420	U
541-73-1	1,3-Dichlorobenzene	420	U
106-46-7	1,4-Dichlorobenzene	420	U
95-50-1	1,2-Dichlorobenzene	420	U
108-60-1	bis(2-chloroisopropyl)ether	420	U
621-64-7	N-Nitroso-Di-n-propylamine	420	U
67-72-1	Hexachloroethane	420	U
98-95-3	Nitrobenzene	420	U
78-59-1	Isophorone	420	U
88-75-5	2-Nitrophenol	420	U
105-67-9	2,4-Dimethylphenol	420	U
111-91-1	bis(2-Chloroethoxy)methane	420	U
120-83-2	2,4-Dichlorophenol	420	U
120-82-1	1,2,4-Trichlorobenzene	420	U
91-20-3	Naphthalene	420	U
87-68-3	Hexachlorobutadiene	420	U
59-50-7	4-Chloro-3-methylphenol	420	U
77-47-4	Hexachlorocyclopentadiene	420	U
88-06-2	2,4,6-Trichlorophenol	420	U
91-58-7	2-Chloronaphthalene	420	U
131-11-3	Dimethylphthalate	420	U
208-96-8	Acenaphthylene	420	U
606-20-2	2,6-Dinitrotoluene	420	U
83-32-9	Acenaphthene	420	U
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	420	U
84-66-2	Diethylphthalate	420	U
86-73-7	Fluorene	420	U
7005-72-3	4-Chlorophenyl-phenylether	420	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 9782202B mw-4, 5-4

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9782202B

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7201.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 20 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	420	U
122-66-7	1,2-Diphenylhydrazine(as azo)	420	U
101-55-3	4-Bromophenyl-phenylether	420	U
118-74-1	Hexachlorobenzene	420	U
87-86-5	Pentachlorophenol	1000	U
85-01-08	Phenanthrene	420	U
120-12-7	Anthracene	420	U
84-74-2	Di-n-butylphthalate	420	U
206-44-0	Fluoranthene	420	U
92-87-5	Benzidine	2100	U
129-00-0	Pyrene	420	U
85-68-7	Butylbenzylphthalate	420	U
56-55-3	Benzo[a]anthracene	420	U
91-94-1	3,3'-Dichlorobenzidine	830	U
218-01-9	Chrysene	420	U
117-81-7	bis(2-Ethylhexyl)phthalate	420	U
117-84-0	Di-n-octylphthalate	420	U
205-99-2	Benzo[b]fluoranthene	420	U
207-08-9	Benzo[k]fluoranthene	420	U
50-32-8	Benzo[a]pyrene	420	U
193-39-5	Indeno[1,2,3-cd]pyrene	420	U
53-70-3	Dibenz[a,h]anthracene	420	U
191-24-2	Benzo[g,h,i]perylene	420	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9782202B

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 9782202B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7201.D

Level: (low/med) LOW Date Received: 11/12/97

% Moisture: 20 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
2.				
3.				
4.				
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Quantitation Report

Data File : c:\hpchem\1\data2\b7201.d
Acq On : 18 Nov 97 3:39 am
Sample : 82202..... Converted from RTE d
Misc :
Quant Time: Nov 20 14:15 1997

Vial: 15
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.04	152	9093	40.00	ug/mL	-0.09
18) Naphthalene-d8	10.82	136	40421	40.00	ug/mL	-0.09
33) Acenaphthene-d10	16.07	164	31961	40.00	ug/mL	-0.09
51) Phenanthrene-d10	20.40	188	74832	40.00	ug/ml	-0.10
65) Chrysene-d12	28.37	240	102059	40.00	ug/mL	-0.06
74) Perylene-d12	32.33	264	73651	40.00	ug/mL	-0.07
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.68	112	5371	94.14	ug/mL	94.14%
3) Phenol-d5	6.94	99	37486	109.95	ug/mL	109.95%
19) Nitrobenzene-d5	8.89	82	17958	48.21	ug/mL	48.21%
37) 2-Fluorobiphenyl	14.30	172	48687	56.02	ug/mL	56.02%
55) 2,4,6-Tribromophenol	18.53	330	46755	135.58	ug/mL	135.58%
68) Terphenyl-d14	25.50	244	167515	63.71	ug/mL	63.71%

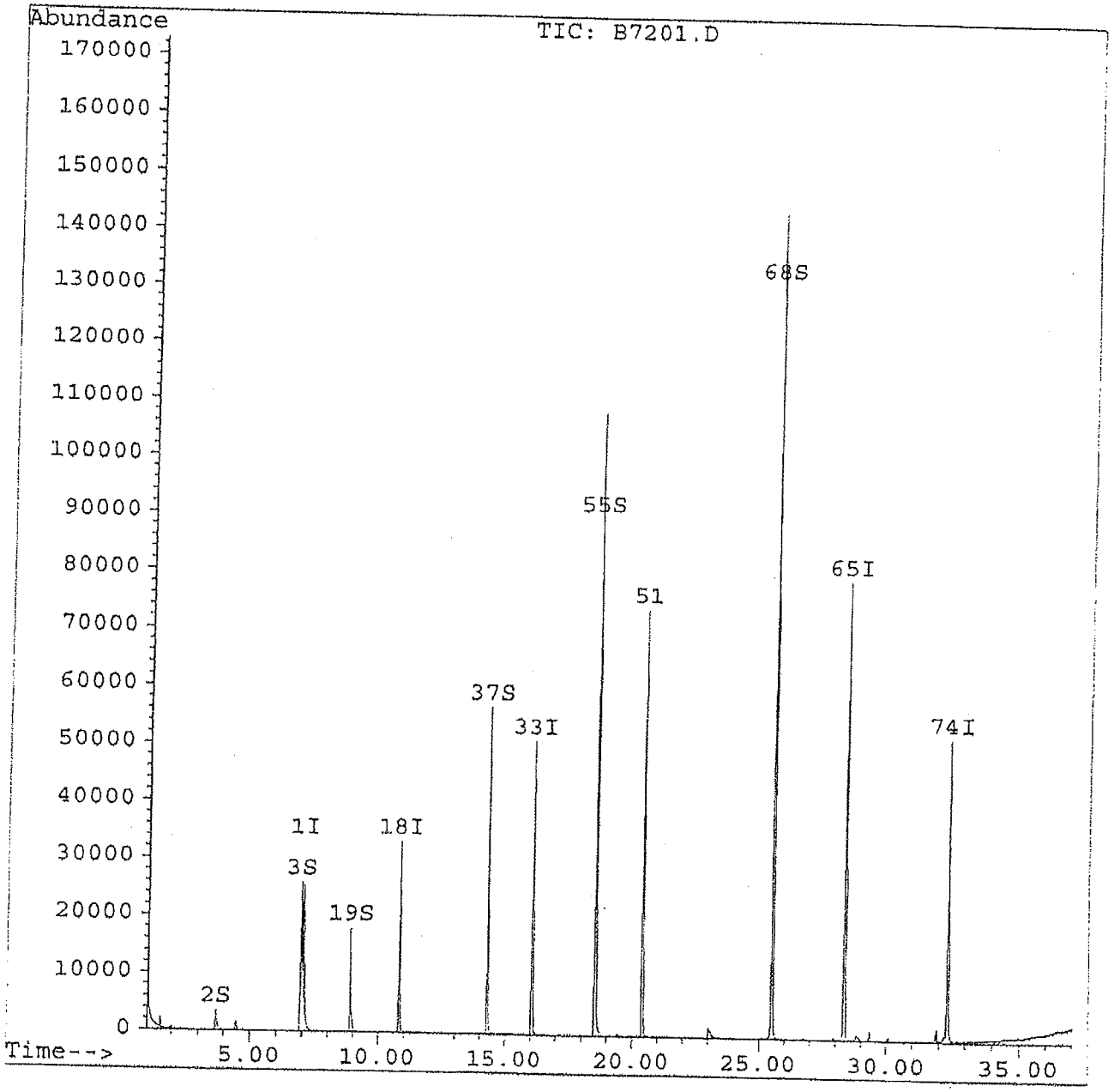
Target Compounds Qvalue

Quantitation Report

Data File : c:\hpchem\1\data2\b7201.d
Acq On : 18 Nov 97 3:39 am
Sample : 82202..... Converted from RTE d
Misc :
Quant Time: Nov 20 14:15 1997

Vial: 15
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Library Search Compound Report

Data File : c:\hpchem\1\data2\b7201.d
Acq On : 18 Nov 97 3:39 am
Sample : 82202..... Converted from RTE d
Misc :

Vial: 15
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : NBS75K.L

No Library Search Compounds Detected

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Level: (low/med) LOW

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	SBLK01	37	35	45	47	58	66			
02	9765050B			42	44		34			
03	63065MS	31	40	43	38	61	90			
04	63065MSD	45	45	58	42	63	100			
05										
06										
07										
08										
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	QC LIMITS
S1 (2FP) = 2-Fluorophenol	(25-121)
S2 (PHL) = Phenol-d5	(24-113)
S3 (NBZ) = Nitrobenzene-d5	(23-120)
S4 (FBP) = 2-Fluorobiphenyl	(30-115)
S5 (TBP) = 2,4,6-Tribromophenol	(19-122)
S6 (TPH) = Terphenyl-d14	(18-137)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Level: (low/med) LOW

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	SBLK01	51	56	59	66	71	66			
02	9778619B	44	50	46	52	62	61			
03	9778620B	41	50	40	46	60	64			
04	9778622B	59	71	62	64	73	70			
05	9778623B	58	71	61	64	69	66			
06	9778624B	46	52	53	59	65	65			
07	9782199B	39	46	45	55	65	57			
08	9782200B	39	47	41	47	58	60			
09	9782201B	41	49	42	50	65	60			
10	9782202B	47	55	48	56	68	64			
11										
12										
13										
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29										
30										

	QC LIMITS
S1 (2FP) = 2-Fluorophenol	(25-121)
S2 (PHL) = Phenol-d5	(24-113)
S3 (NBZ) = Nitrobenzene-d5	(23-120)
S4 (FBP) = 2-Fluorobiphenyl	(30-115)
S5 (TBP) = 2,4,6-Tribromophenol	(19-122)
S6 (TPH) = Terphenyl-d14	(18-137)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

4B

SEMIVOLATILE METHOD BLANK SUMMARY

SAMPLE NO. SBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Lab File ID: B6891.D Lab Sample ID: BLANK1

Instrument ID: ABNA Date Extracted: 10/17/97

Matrix: (soil/water) SOIL Date Analyzed: 10/21/97

Level: (low/med) LOW Time Analyzed: 1957

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	9765050B	9765050B	B6896.D	10/22/97
02	63065MS	63065MS	B6899.D	10/22/97
03	63065MSD	63065MSD	B6900.D	10/22/97
04				
05				
06				
07				
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COMMENTS:

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

SBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: BLANK1

Sample wt/vol: 30.0 (g/mL G Lab File ID: B6891.D

Level: (low/med) LOW Date Received: 10/16/97

% Moisture: 0 decanted: (Y/N): N Date Extracted: 10/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/21/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	330	U
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
108-60-1	bis(2-chloroisopropyl)ether	330	U
621-64-7	N-Nitroso-Di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
91-58-7	2-Chloronaphthalene	330	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	830	U
100-02-7	4-Nitrophenol	830	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
86-73-7	Fluorene	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

SBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: BLANK1

Sample wt/vol: 30.0 (g/mL G Lab File ID: B6891.D

Level: (low/med) LOW Date Received: 10/16/97

% Moisture: 0 decanted: (Y/N): N Date Extracted: 10/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/21/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	n-Nitrosodiphenylamine	330	U
122-66-7	1,2-Diphenylhydrazine(as azo)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	830	U
85-01-08	Phenanthrene	330	U
120-12-7	Anthracene	330	U
84-74-2	Di-n-butylphthalate	330	U
206-44-0	Fluoranthene	330	U
92-87-5	Benzidine	1700	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
56-55-3	Benzo[a]anthracene	330	U
91-94-1	3,3'-Dichlorobenzidine	670	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	330	U
117-84-0	Di-n-octylphthalate	330	U
205-99-2	Benzo[b]fluoranthene	330	U
207-08-9	Benzo[k]fluoranthene	330	U
50-32-8	Benzo[a]pyrene	330	U
193-39-5	Indeno[1,2,3-cd]pyrene	330	U
53-70-3	Dibenz[a,h]anthracene	330	U
191-24-2	Benzo[g,h,i]perylene	330	U

Quantitation Report

Data File : c:\hpchem\1\data2\b6891.d
Acq On : 21 Oct 97 7:57 pm
Sample : BLANK..... Converted from RTE d
Misc :
Quant Time: Oct 23 14:16 1997

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 23 13:55:29 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.50	152	15702	40.00	ug/mL	-0.46
17) Naphthalene-d8	11.26	136	71087	40.00	ug/mL	-0.47
32) Acenaphthene-d10	16.53	164	53275	40.00	ug/mL	-0.49
50) Phenanthrene-d10	20.88	188	107103	40.00	ug/ml	-0.52
64) Chrysene-d12	28.87	240	101709	40.00	ug/mL	-0.56
73) Perylene-d12	32.85	264	42958	40.00	ug/mL	-0.57
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	4.23	112	37266	74.19	ug/mL	74.19%
3) Phenol-d5	7.45	99	64546	70.65	ug/mL	70.65%
18) Nitrobenzene-d5	9.33	82	45331	44.74	ug/mL	44.74%
36) 2-Fluorobiphenyl	14.74	172	68713	47.15	ug/mL	47.15%
54) 2,4,6-Tribromophenol	18.99	330	35091	115.58	ug/mL	115.58%
67) Terphenyl-d14	26.00	244	169552	65.54	ug/mL	65.54%
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration

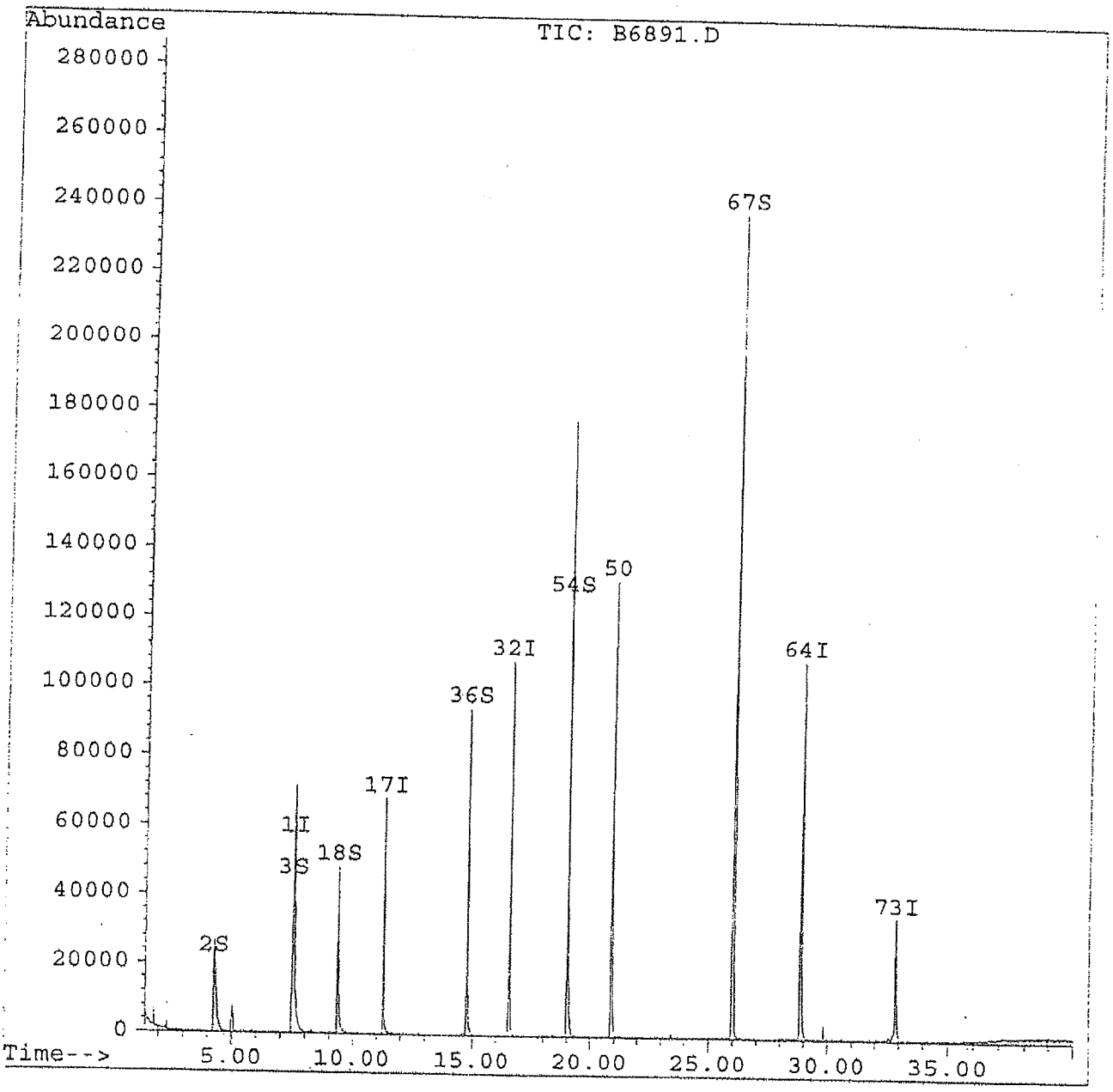
Quantitation Report

Data File : c:\hpchem\1\data2\b6891.d
Acq On : 21 Oct 97 7:57 pm
Sample : BLANK.....
Misc :
Quant Time: Oct 23 14:16 1997

Converted from RTE d

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 23 13:55:29 1997
Response via : Multiple Level Calibration



4B

SEMIVOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

SBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Lab File ID: B7189.D Lab Sample ID: BLANK1

Instrument ID: ABNA Date Extracted: 11/17/97

Matrix: (soil/water) SOIL Date Analyzed: 11/17/97

Level: (low/med) LOW Time Analyzed: 1809

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	9778619B	9778619B	B7190.D	11/17/97
02	9778620B	9778620B	B7191.D	11/17/97
03	9778622B	9778622B	B7192.D	11/17/97
04	9778623B	9778623B	B7193.D	11/17/97
05	9778624B	9778624B	B7194.D	11/17/97
06	9782199B	9782199B	B7198.D	11/18/97
07	9782200B	9782200B	B7199.D	11/18/97
08	9782201B	9782201B	B7200.D	11/18/97
09	9782202B	9782202B	B7201.D	11/18/97
10				
11				
12				
13				
14				
15				
16				
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COMMENTS:

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

SBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: BLANK1

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7189.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 0 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column=DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-nitrosodimethylamine	330	U
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
108-60-1	bis(2-chloroisopropyl)ether	330	U
621-64-7	N-Nitroso-Di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
91-58-7	2-Chloronaphthalene	330	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	830	U
100-02-7	4-Nitrophenol	830	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
86-73-7	Fluorene	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. SBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: BLANK1

Sample wt/vol: 30.0 (g/mL G Lab File ID: B7189.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 0 decanted: (Y/N): N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Column = DB-5 30m

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	n-Nitrosodiphenylamine	330	U
122-66-7	1,2-Diphenylhydrazine(as azo)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	830	U
85-01-08	Phenanthrene	330	U
120-12-7	Anthracene	330	U
84-74-2	Di-n-butylphthalate	330	U
206-44-0	Fluoranthene	330	U
92-87-5	Benzidine	1700	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
56-55-3	Benzo[a]anthracene	330	U
91-94-1	3,3'-Dichlorobenzidine	670	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	330	U
117-84-0	Di-n-octylphthalate	330	U
205-99-2	Benzo[b]fluoranthene	330	U
207-08-9	Benzo[k]fluoranthene	330	U
50-32-8	Benzo[a]pyrene	330	U
193-39-5	Indeno[1,2,3-cd]pyrene	330	U
53-70-3	Dibenz[a,h]anthracene	330	U
191-24-2	Benzo[g,h,i]perylene	330	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
SBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: BLANK1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B7189.D

Level: (low/med) LOW Date Received: 11/7/97

% Moisture: 0 decanted: (Y/N) N Date Extracted: 11/17/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/17/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.				
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Quantitation Report

Data File : c:\hpchem\1\data2\b7189.d
Acq On : 17 Nov 97 6:09 pm
Sample : BLANK.....
Misc :
Quant Time: Nov 20 14:06 1997

Converted from RTE d

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.04	152	8222	40.00	ug/mL	-0.08
18) Naphthalene-d8	10.81	136	35582	40.00	ug/mL	-0.10
33) Acenaphthene-d10	16.07	164	28410	40.00	ug/mL	-0.09
51) Phenanthrene-d10	20.38	188	66696	40.00	ug/ml	-0.11
65) Chrysene-d12	28.36	240	85950	40.00	ug/mL	-0.08
74) Perylene-d12	32.32	264	74800	40.00	ug/mL	-0.08
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.69	112	5238	101.54	ug/mL	101.54%
3) Phenol-d5	6.94	99	34469	111.81	ug/mL	111.81%
19) Nitrobenzene-d5	8.89	82	19489	59.43	ug/mL	59.43%
37) 2-Fluorobiphenyl	14.30	172	50862	65.84	ug/mL	65.84%
55) 2,4,6-Tribromophenol	18.53	330	43631	141.96	ug/mL	141.96%
68) Terphenyl-d14	25.51	244	145540	65.72	ug/mL	65.72%

Target Compounds

Qvalue

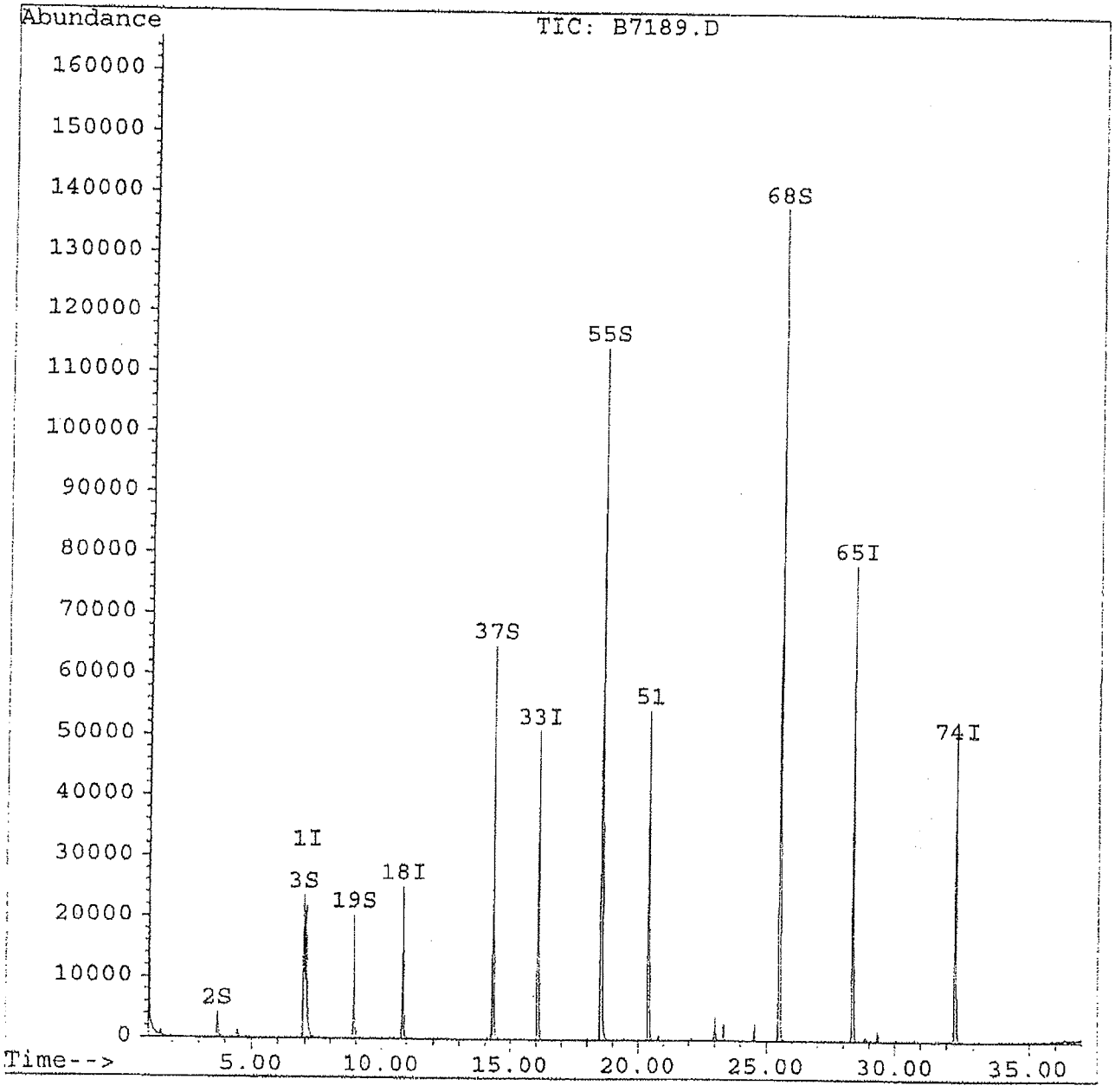
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b7189.d
Acq On : 17 Nov 97 6:09 pm
Sample : BLANK..... Converted from RTE d
Misc :
Quant Time: Nov 20 14:06 1997

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Library Search Compound Report

Data File : c:\hpchem\1\data2\b7189.d
Acq On : 17 Nov 97 6:09 pm
Sample : BLANK..... Converted from RTE d
Misc :

Vial: 3 4
Operator: SCOTTV
Inst : AENA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : NBS75K.L

No Library Search Compounds Detected

Spike Recovery and RPD Summary Report - SOIL 10/23/97

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
st Update : Thu Oct 23 13:55:29 1997
sponse via : Initial Calibration

Non-Spiked Sample: B6803.D

	Spike Sample	Spike Duplicate Sample
File ID :	B6899.D	B6900.D
Sample :	63065MS.....	Converted from RTE data file >B6899::D5

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
N-nitrosodimethylami	0.0	100	59	67	59	67	13	100	1-300
Phenol	0.0	100	40	41	40	41	1	23	5-112
bis(2-Chloroethyl)et	0.0	100	42	58	42	58	32	55	12-158
2-Chlorophenol	0.0	100	37	48	37	48	27	29	23-134
1,3-Dichlorobenzene	0.0	100	47	65	47	65	32	42	1-172
1,4-Dichlorobenzene	0.0	100	46	59	46	59	25	32	20-124
1,2-Dichlorobenzene	0.0	100	44	60	44	60	31	31	32-129
bis(2-chloroisopropy	0.0	100	54	74	54	74	32	46	36-166
N-Nitroso-Di-n-propy	0.0	100	52	64	52	64	21	55	1-230
Hexachloroethane	0.0	100	41	48	41	48	16	25	40-113
Nitrobenzene	0.2	100	47	64	47	64	31	39	35-180
sophorone	0.0	100	50	62	50	62	20	63	21-196
-Nitrophenol	0.0	100	31	41	31	41	29	35	29-182
2,4-Dimethylphenol	1.0	100	39	40	38	39	3	26	32-119
bis(2-Chloroethoxy)m	0.0	100	52	66	52	66	23	35	33-184
2,4-Dichlorophenol	0.0	100	48	52	48	52	9	26	39-135
1,2,4-Trichlorobenze	0.0	100	47	58	47	58	22	28	44-142
Naphthalene	0.3	100	43	55	43	55	24	30	21-133
Hexachlorobutadiene	0.0	100	40	51	40	51	24	26	24-116
4-Chloro-3-methylphe	0.0	100	57	60	57	60	4	37	22-147
2-Chloronaphthalene	0.0	100	66	68	66	68	3	13	60-118
2,4,6-Trichloropheno	0.0	100	53	55	53	55	3	32	37-144
Dimethylphthalate	0.0	100	76	82	76	82	9	23	1-112
Acenaphthylene	0.0	100	66	68	66	68	3	40	33-145
2,6-Dinitrotoluene	0.0	100	77	84	77	84	9	30	50-158
Acenaphthene	0.1	100	68	71	68	71	4	28	47-145
2,4-Dinitrophenol	0.0	100	1	2	1	2	16	50	1-191
4-Nitrophenol	0.0	100	27	36	27	36	27	47	1-132
2,4-Dinitrotoluene	0.5	100	81	88	80	87	8	22	39-139
Diethylphthalate	0.0	100	85	94	85	94	10	27	1-114
Fluorene	0.3	100	64	67	64	67	5	21	59-121
4-Chlorophenyl-pheny	0.0	100	70	73	70	73	4	33	25-158
4,6-Dinitro-2-methyl	0.0	100	7	12	7	12	44	93	1-181
4-Bromophenyl-phenyl	0.0	100	69	70	69	70	1	23	53-127
Hexachlorobenzene	0.0	100	69	73	69	73	5	25	1-152
Pentachlorophenol	0.0	100	9	10	9#	10#	12	49	14-176
henanthrene	3.0	100	73	74	70	71	2	21	54-120
hracene	0.8	100	72	76	71	75	5	32	52-115
-n-butylphthalate	0.7	100	89	94	89	93	5	17	1-118
Fluoranthene	5.4	100	75	76	69	71	2	33	26-137
Pyrene	3.7	100	88	94	85	91	7	25	52-115
Butylbenzylphthalate	0.0	100	104	129	104	129	21	23	1-152
Benzo[a]anthracene	2.5	100	82	90	80	88	10	28	33-143
3,3'-Dichlorobenzidi	0.0	100	92	98	92	98	6	71	1-262

Chrysene	2.8	100	76	72	73	70	4	48	17-168
bis(2-Ethylhexyl)pht	0.3	100	107	103	106	103	3	41	8-158
Di-n-octylphthalate	0.2	100	99	111	99	111	11	31	4-146
Benzo[b]fluoranthene	1.4	100	56	60	54	58	7	39	24-159
nzo[k]fluoranthene	1.9	100	85	71	83	69	18	32	11-162
nzo[a]pyrene	2.1	100	68	63	65	61	7	39	17-163
Indeno[1,2,3-cd]pyre	0.5	100	80	77	79	76	4	45	1-171
Dibenz[a,h]anthracen	0.0	100	74	70	74	70	5	70	1-227
Benzo[g,h,i]perylene	0.7	100	85	84	84	83	1	59	1-219

Quantitation Report

Data File : c:\hpchem\1\data2\b6899.d
Acq On : 22 Oct 97 2:44 am
Sample : 63065MS..... Converted from RTE d
Misc :
Quant Time: Oct 23 14:30 1997

Vial: 11
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 23 13:55:29 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.52	152	16889	40.00	ug/mL	-0.45
17) Naphthalene-d8	11.29	136	83679	40.00	ug/mL	-0.43
32) Acenaphthene-d10	16.55	164	59367	40.00	ug/mL	-0.47
50) Phenanthrene-d10	20.91	188	117316	40.00	ug/ml	-0.48
64) Chrysene-d12	28.89	240	71936	40.00	ug/mL	-0.54
73) Perylene-d12	32.86	264	23812	40.00	ug/mL	-0.56
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	4.27	112	33739	62.45	ug/mL	62.45%
3) Phenol-d5	7.42	99	79060	80.45	ug/mL	80.45%
18) Nitrobenzene-d5	9.35	82	51042	42.80	ug/mL	42.80%
36) 2-Fluorobiphenyl	14.76	172	61751	38.02	ug/mL	38.02%
54) 2,4,6-Tribromophenol	19.04	330	40333	121.28	ug/mL	121.28%
67) Terphenyl-d14	26.01	244	164438	89.87	ug/mL	89.87%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.61	74	22913	59.09	ug/ml	100
6) Phenol	7.48	94	41630	40.10	ug/mL	100
7) bis(2-Chloroethyl)ether	7.19	93	26498	42.30	ug/mL#	50
8) 2-Chlorophenol	7.21	128	25246	36.96	ug/mL#	82
9) 1,3-Dichlorobenzene	7.36	146	23004	47.20	ug/mL	98
10) 1,4-Dichlorobenzene	7.56	146	24396	45.82	ug/mL	98
11) 1,2-Dichlorobenzene	8.08	146	23503	43.93	ug/mL	100
12) 2-Methylphenol	9.12	108	30357	41.75	ug/mL	93
13) bis(2-chloroisopropyl)ethe	8.77	45	96166	53.51	ug/mL#	70
14) 4-Methylphenol	9.58	108	36725	46.28	ug/mL	95
15) N-Nitroso-Di-n-propylamine	9.25	70	39106	51.70	ug/mL#	58
16) Hexachloroethane	8.91	117	15331	40.87	ug/mL#	83
19) Nitrobenzene	9.41	77	49296	46.82	ug/mL	93
20) Isophorone	10.18	82	106452	50.41	ug/mL#	94
21) 2-Nitrophenol	10.37	139	17315	30.67	ug/mL#	70
22) 2,4-Dimethylphenol	10.99	107	46022	38.81	ug/mL	97
23) bis(2-Chloroethoxy)methane	11.10	93	60195	52.16	ug/mL	100
24) 2,4-Dichlorophenol	11.28	162	31393	47.71	ug/mL#	90
25) 1,2,4-Trichlorobenzene	11.24	180	26082	46.77	ug/mL	99
26) Naphthalene	11.33	128	96188	43.31	ug/mL	100
27) 4-Chloroaniline	11.87	127	48292	41.80	ug/mL	98
28) Hexachlorobutadiene	12.01	225	14436	40.01	ug/mL	98
29) 4-Chloro-3-methylphenol	13.76	107	65137	57.41	ug/mL	99
30) 2-Chloronaphthalene	14.86	162	101439	65.80	ug/mlm	95
31) 2-Methylnaphthalene	13.43	142	74443	43.74	ug/mL	93
33) Hexachlorocyclopentadiene	14.16	237	3074	7.64	ug/mL	99
34) 2,4,6-Trichlorophenol	14.63	196	29713	53.00	ug/mLm	98
35) 2,4,5-Trichlorophenol	14.86	196	32779	54.84	ug/mL	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b6899.d
Acq On : 22 Oct 97 2:44 am
Sample : 63065MS..... Converted from RTE d
Misc :
Quant Time: Oct 23 14:30 1997

Vial: 11
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 23 13:55:29 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
37) 2-Nitroaniline	16.86	65	113417	73.18	ug/mL	76
38) Dimethylphthalate	16.34	163	135601	75.62	ug/mL#	98
39) Acenaphthylene	16.07	152	171324	65.69	ug/mL	97
40) 2,6-Dinitrotoluene	16.50	165	31759	76.54	ug/mL	93
41) 3-Nitroaniline	16.86	138	42018	59.66	ug/mL	87
42) Acenaphthene	16.65	153	114074	68.20	ug/mL	96
43) 2,4-Dinitrophenol	20.53	184	445	1.38	ug/mLm	0
44) 4-Nitrophenol	18.14	109	11342	27.44	ug/mL#	72
45) Dibenzofuran	17.15	168	157624	59.40	ug/mL	95
46) 2,4-Dinitrotoluene	17.63	165	50311	80.84	ug/mLm	36
47) Diethylphthalate	18.50	149	182675	84.67	ug/mL	98
48) Fluorene	18.17	166	134413	64.23	ug/mL	96
49) 4-Chlorophenyl-phenylether	18.39	204	60242	70.07	ug/mL	96
51) 4-Nitroaniline	18.75	138	50616	89.19	ug/mL	83
52) 4,6-Dinitro-2-methylphenol	18.83	198	2940	7.38	ug/mL	100
53) n-Nitrosodiphenylamine	18.87	169	89428	76.56	ug/mL	92
55) 1,2-Diphenylhydrazine (as	18.39	77	67261	13.40	ug/ml	100
56) 4-Bromophenyl-phenylether	19.80	248	38845	69.28	ug/mL	97
57) Hexachlorobenzene	20.07	284	47356	69.19	ug/mL	97
58) Pentachlorophenol	20.82	266	3623	8.60	ug/mL	93
59) Phenanthrene	20.99	178	241532	72.52	ug/mL	98
60) Anthracene	21.11	178	215262	71.69	ug/mLm	98
61) Carbazole	21.86	167	232117	76.82	ug/ml	99
62) Di-n-butylphthalate	23.44	149	443735	89.40	ug/mL	98
63) Fluoranthene	24.54	202	254203	74.60	ug/mL#	90
65) Benzidine	25.31	184	4445	6.14	ug/ml	100
66) Pyrene	25.16	202	257203	88.46	ug/mL#	83
68) Butylbenzylphthalate	27.86	149	176677	104.47	ug/mLm	82
69) Benzo[a]anthracene	28.87	228	192991	82.37	ug/mL	97
70) 3,3'-Dichlorobenzidine	29.12	252	48631	91.92	ug/mL	94
71) Chrysene	28.96	228	135189	75.54	ug/mLm	98
72) bis(2-Ethylhexyl)phthalate	31.59	149	309927	106.63	ug/mL#	53
74) Di-n-octylphthalate	31.59	149	274576	99.15	ug/mLm	99
75) Benzo[b]fluoranthene	31.92	252	81701	55.81	ug/mLm	94
76) Benzo[k]fluoranthene	31.97	252	52116	84.65	ug/mLm	95
77) Benzo[a]pyrene	32.71	252	45535	67.59	ug/mLm	95
78) Indeno[1,2,3-cd]pyrene	35.43	276	30774	79.93	ug/mLm	100
79) Dibenz[a,h]anthracene	35.50	278	23498	73.74	ug/mLm	94
80) Benzo[g,h,i]perylene	35.95	276	24742	84.91	ug/mLm	92

(#) = qualifier out of range (m) = manual integration

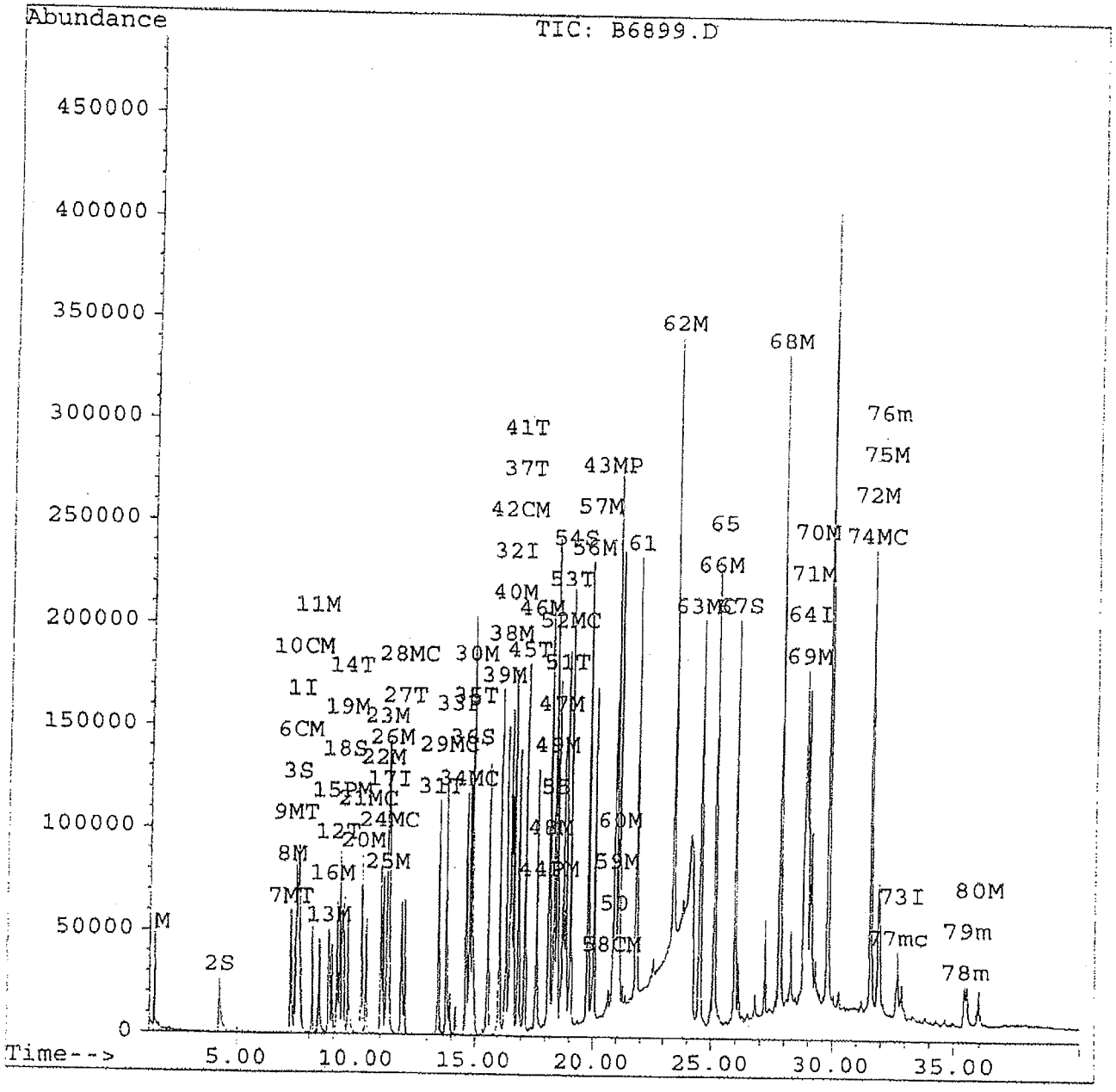
Quantitation Report

Data File : c:\hpchem\1\data2\b6899.d
Acq On : 22 Oct 97 2:44 am
Sample : 63065MS.....
Misc :
Quant Time: Oct 23 14:30 1997

Converted from RTE d

Vial: 11
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 23 13:55:29 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data2\b6900.d
Acq On : 22 Oct 97 3:34 am
Sample : 63065MSD.....
Misc :
Quant Time: Oct 23 14:31 1997

Converted from RTE d

Vial: 12
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 23 13:55:29 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
37) 2-Nitroaniline	16.86	65	107301	81.52	ug/mL	75
38) Dimethylphthalate	16.34	163	125543	82.44	ug/mL#	98
39) Acenaphthylene	16.07	152	150641	68.01	ug/mL	97
40) 2,6-Dinitrotoluene	16.50	165	29430	83.52	ug/mL	94
41) 3-Nitroaniline	16.86	138	39711	66.39	ug/mL	82
42) Acenaphthene	16.65	153	101042	71.13	ug/mL	94
43) 2,4-Dinitrophenol	20.55	184	445	1.62	ug/mLm	27
44) 4-Nitrophenol	18.12	109	12642	36.02	ug/mL#	71
45) Dibenzofuran	17.15	168	138542	61.48	ug/mL	93
46) 2,4-Dinitrotoluene	17.63	165	46285	87.58	ug/mLm	35
47) Diethylphthalate	18.50	149	171853	93.79	ug/mL	98
48) Fluorene	18.17	166	119521	67.25	ug/mL	96
49) 4-Chlorophenyl-phenylether	18.39	204	53283	72.98	ug/mL	94
51) 4-Nitroaniline	18.75	138	44802	90.13	ug/mL	84
52) 4,6-Dinitro-2-methylphenol	18.85	198	4022	11.53	ug/mL	100
53) n-Nitrosodiphenylamine	18.87	169	81842	79.99	ug/mL	90
55) 1,2-Diphenylhydrazine (as	18.39	77	63767	14.50	ug/ml	100
56) 4-Bromophenyl-phenylether	19.79	248	34335	69.91	ug/mL	96
57) Hexachlorobenzene	20.06	284	43643	72.79	ug/mL	94
58) Pentachlorophenol	20.82	266	3583	9.71	ug/mLm	95
59) Phenanthrene	20.99	178	215306	73.80	ug/mL	97
60) Anthracene	21.13	178	198903	75.62	ug/mLm	97
61) Carbazole	21.86	167	208052	78.61	ug/ml	98
62) Di-n-butylphthalate	23.44	149	407858	93.81	ug/mL	98
63) Fluoranthene	24.56	202	226806	75.99	ug/mL#	82
65) Benzidine	25.31	184	3774	6.24	ug/ml	100
66) Pyrene	25.16	202	229570	94.43	ug/mL#	85
68) Butylbenzylphthalate	27.86	149	182707	129.21	ug/mL#	79
69) Benzo[a]anthracene	28.86	228	177166	90.43	ug/mL	96
70) 3,3'-Dichlorobenzidine	29.11	252	43207	97.67	ug/mL	98
71) Chrysene	28.98	228	108394	72.44	ug/mLm	98
72) bis(2-Ethylhexyl)phthalate	31.58	149	250371	103.03	ug/mL#	53
74) Di-n-octylphthalate	31.58	149	250371	110.75	ug/mLm	99
75) Benzo[b]fluoranthene	31.91	252	71401	59.75	ug/mLm	95
76) Benzo[k]fluoranthene	31.97	252	35590	70.81	ug/mLm	96
77) Benzo[a]pyrene	32.72	252	34772	63.23	ug/mLm	92
78) Indeno[1,2,3-cd]pyrene	35.42	276	24150	76.83	ug/mLm	97
79) Dibenz[a,h]anthracene	35.52	278	18254	70.17	ug/mLm	98
80) Benzo[g,h,i]perylene	35.96	276	19965	83.93	ug/mLm	95

(#) = qualifier out of range (m) = manual integration

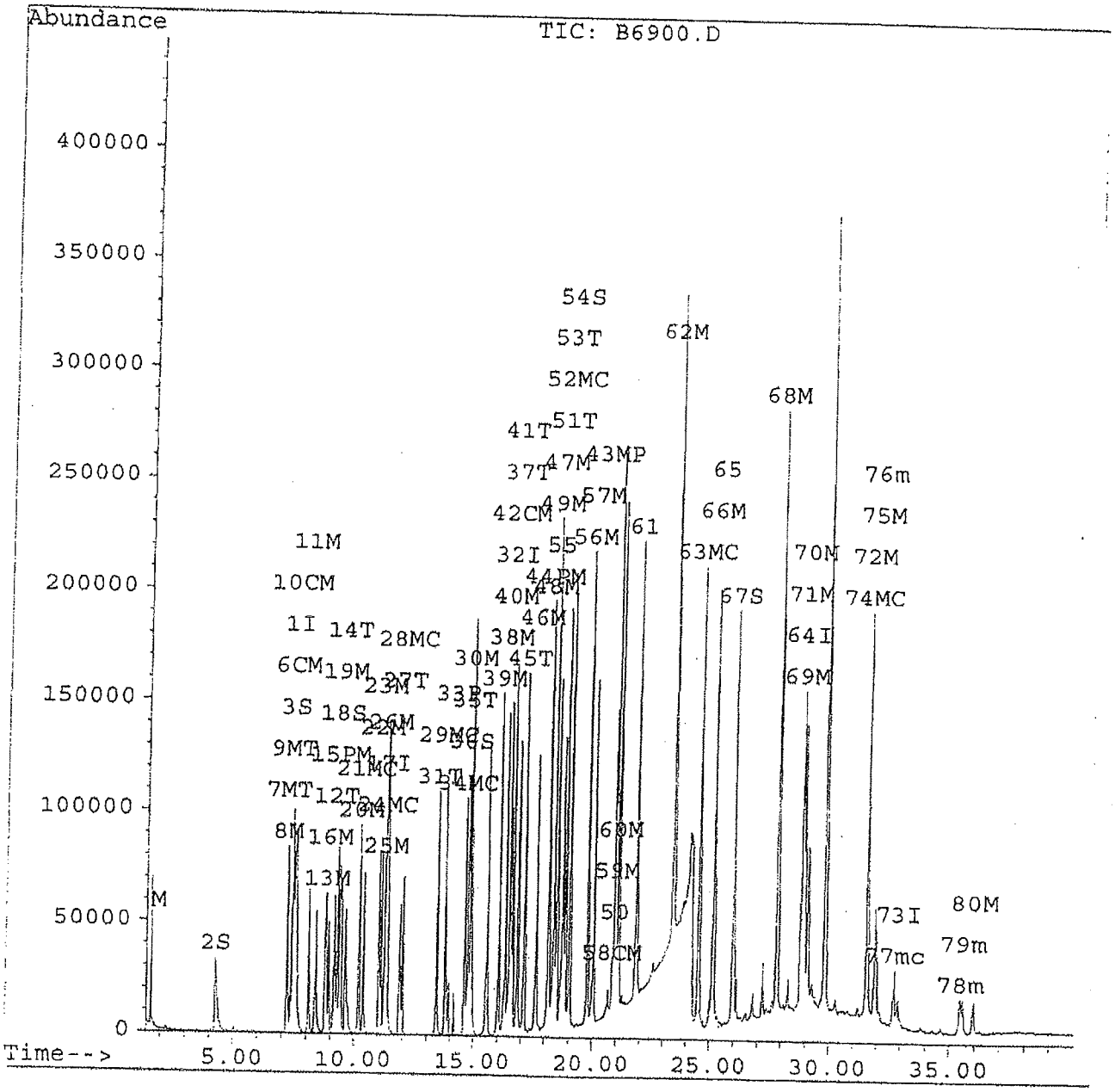
Quantitation Report

Data File : c:\hpchem\1\data2\b6900.d
Acq On : 22 Oct 97 3:34 am
Sample : 63065MSD.....
Misc :
Quant Time: Oct 23 14:31 1997

Converted from RTE d

Vial: 12
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 23 13:55:29 1997
Response via : Multiple Level Calibration



PESTICIDE/PCB ORGANIC DATA PACKAGE

6E

PESTICIDE INITIAL CALIBRATION OF SINGLE COMPONENT ANALYTES

Lab Name: EMSL
Instrument ID: HP 5890
GC Column:DB-5 ID: 0.32 Date(s) Analyzed:11/18/97-11/19/97

CALIBRATION FACTORS

COMPOUND	1	2	3	4	5	MEAN	%RSD
alpha-BHC	2789.6	2716	2905	3254.275	3575.417	3048	12
beta-BHC	2495.2	2518.6	2532.5	2625.25	2728.2	2580	4
delta-BHC	2167.4	2212.8	2215.8	2405.35	2709.267	2342	10
gamma-BHC (Lindane)	2924.8	2857.6	3067.4	3447.825	3868.533	3233	13
Heptachlor	3844.8	3755.4	3792.6	3937.525	4000.15	3866	3
Aldrin	3855	3898.5	4162.25	4960.025	5602.367	4496	17
Heptachlor epoxide	3829	3780.2	3842.3	4280.25	4636.533	4074	9
Endosulfan I	3439.8	3313.8	3518.45	3888.95	4116.783	3656	9
Dieldrin	3413.8	3433.05	4053.05	4909.05	5231.117	4208	20
4,4'-DDE	4304.5	4504.4	4990.7	5798.275	6162.667	5152	16
Endrin	2774.9	2683.8	2816.35	3135.025	3235.333	2929	8
Endosulfan II	3029.3	2995.55	2996.425	3218.2	3363.1	3121	5
4,4'-DDD	2717.6	2732.6	2931.025	3175.088	3252.25	2962	8
Endosulfan sulfate	2502.8	2588.55	2627.775	2830.2	3088.4	2728	9
4,4'-DDT	2818.7	2759.95	3045.95	3463.65	3720.925	3162	13
Methoxychlor	1625.74	1566.28	1572.42	1532.318	1486.895	1557	3
Endrin ketone	2772	2875.65	2840.175	2897.013	2937.35	2864	2
Endrin aldehyde	2985.6	2967.45	2926.775	2968.263	3150.117	3000	3
alpha-Chlordane	4625.8	4622.2	4894.05	5571.825	6022.717	5147	12
gamma-Chlordane	4621.2	4606.4	4769.55	5337.275	5763	5019	10
Tetrachloro-m-xylene	4131.2	3970.1	4365.35	4753.475	4897.667	4424	9
Decachlorobiphenyl	5004	4880.75	4997.875	5384.925	5568.875	5167	6

6E

PESTICIDE INITIAL CALIBRATION OF SINGLE COMPONENT ANALYTES

Lab Name: EMSL
Instrument ID: HP 5890
GC Column:DB-1701 ID: 0.32 Date(s) Analyzed:11/18/97-11/19/97

CALIBRATION FACTORS

COMPOUND	1	2	3	4	5	MEAN	%RSD
alpha-BHC	25326.8	19152.7	20956.25	21802.3	22189.48	21886	10
beta-BHC	11683.2	11531.3	11424.3	11241.7	11222.37	11421	2
delta-BHC	14177.6	14814.1	15605.35	16619.08	18069.3	15857	10
gamma-BHC (Lindane)	22779.2	18567	20309.8	21112.38	21401.38	20834	7
Heptachlor	28037.2	22873.3	23865.3	23580.65	22921.48	24256	9
Aldrin	22949.6	21944.4	21751.3	21762.55	22233.67	22128	2
Heptachlor epoxide	22370.8	21475.3	21010.55	20661.13	20331.68	21170	4
Endosulfan I	22208.6	19305.2	19926.15	19662.65	19142.13	20049	6
Dieldrin	19068.2	16693.55	17638.78	17614.9	17160.67	17635	5
4,4'-DDE	18164.8	17622.8	17709.85	17859.3	17708	17813	1
Endrin	16290.7	14221.35	14262.98	14101.36	13585	14492	7
Endosulfan II	16182.1	16403.4	16094.6	15845.13	15641.13	16033	2
4,4'-DDD	12165.2	11405.45	11729.75	12006.34	11905.73	11842	2
Endosulfan sulfate	10382.7	11604.1	11115.6	11494.38	11638.84	11247	5
4,4'-DDT	11109	10176.9	10875.33	11469.83	11748.71	11076	5
Methoxychlor	6183.1	5527.82	5458.215	5149.038	4915.78	5447	9
Endrin ketone	11161.8	12004.5	12176.53	12265.54	12334.85	11989	4
Endrin aldehyde	9692.4	9791.4	9780.375	10004.61	10945.62	10043	5
alpha-Chlordane	23249.4	22220.8	22505.45	21971.53	22216.13	22433	2
gamma-Chlordane	22271.8	21621.5	21564.85	21389.88	21458.02	21661	2
Tetrachloro-m-xylene	18334.4	14333.2	15666.55	15346.43	14889.28	15714	10
Decachlorobiphenyl	22615.8	20939.85	20391.43	19674.45	18666.88	20458	7

EXTERNAL STANDARD TABLE

11-21-1997 21:42:25 Version 5.1.5

* Sample Name: INDA 5-50 UG/L
* Date: 11-18-1997 21:50:33 Method: M:APES-E 11-21-1997 21:15:10 # 396
* Interface: 2 Cycle#: 68 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Data File: D:NV14E68

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

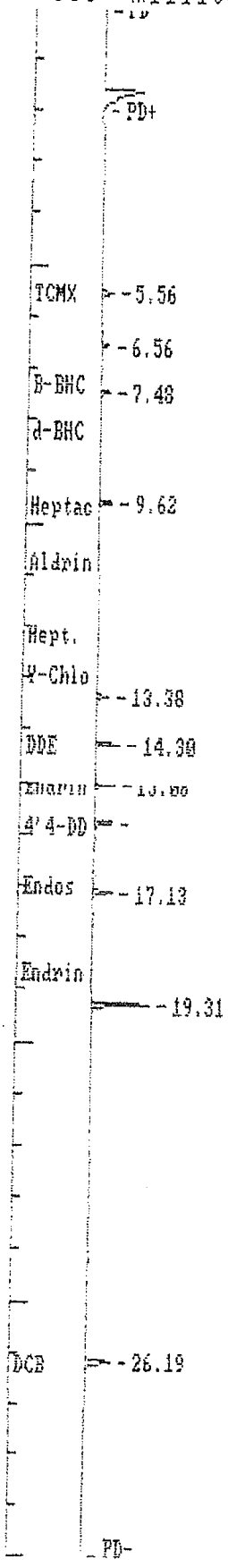
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.561	TCMX	4.6691	4.0618%	20656	4442	4.7	1	0	0	2.2594E-04
2	6.563	α-BHC	0.0000	0.0000%	13948	3339	4.2	1			1.0000E-09
3	7.482	Y-BHC	4.5834	3.9351%	14624	3710	3.9	1	0	-.3187	3.0931E-04
4	9.619	Heptachlor	4.9727	4.3259%	19224	5127	3.7	1	0	-.1743	2.5867E-04
5	13.377	Endosulfan I	4.7045	4.0924%	17199	4907	3.5	1	0	-.1217	2.7352E-04
6	14.295	~~DDE~~ Dieldrin	6.6251	5.7643%	34138	9444	3.6	1	0	-.1173	1.9410E-04
7	15.080	Endrin	9.4736	8.2416%	27749	7655	3.6	1	0	-.1119	3.4141E-04
8	15.798	4'4-DDD	9.1750	7.9816%	27176	6957	3.9	1	0	-.2134	3.3761E-04
9	17.134	DDT	8.9144	7.7549%	28187	7393	3.8	1	0	-.1968	3.1626E-04
10	19.305	Methoxychlor	52.2075	45.4173%	81287	22507	3.6	1	0	0	6.4226E-04
11	26.186	DCB	9.6846	8.4250%	50040	9659	5.2	1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 114.9510

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:NV14E68.PTS Printed on 11-21-1997 at 21:42:29
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 21:43:08 Version 5.1.5

* Sample Name: INDB 5-10 UG/L
* Date: 11-18-1997 22:23:16 Method: M:APES-E 11-21-1997 21:15:10 # 396
* Interface: 2 Cycle#: 69 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Data File: D:NV14E69

* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

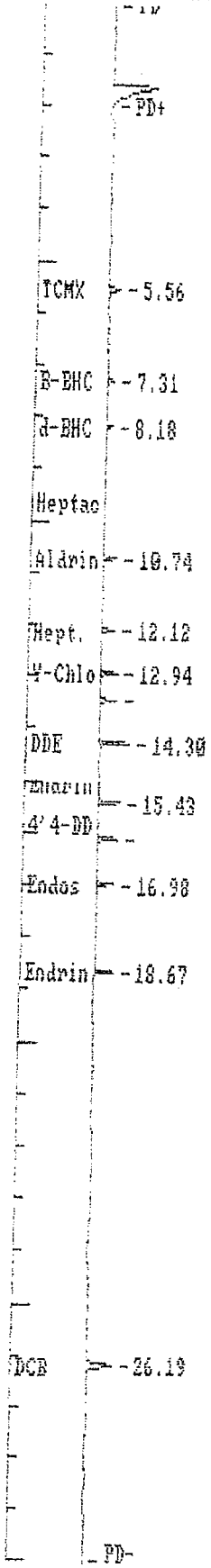
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.561	TCMX	4.8604	5.4505%	21502	4585	4.7	1	0	0	2.2604E-04
2	7.315	B-BHC	4.8356	5.4227%	12476	2984	4.2	1	0	-.2237	3.8760E-04
3	8.183	d-BHC	4.6271	5.1889%	10837	2683	4.0	1	0	-.2073	4.2699E-04
4	10.738	Aldrin	4.2871	4.8077%	19275	5369	3.6	1	0	-.1571	2.2242E-04
5	12.124	Hept. epox.	4.6992	5.2698%	19145	5336	3.6	1	0	-.1383	2.4546E-04
6	12.943	Y-Chlordane	4.6037	5.1627%	23106	6403	3.6	1	0	-.1273	1.9924E-04
7	13.477	a-Chlordane	4.4937	5.0393%	23129	6480	3.6	1	0	-.2450	1.9429E-04
8	14.295	DDE	8.3550	9.3694%	43045	11781	3.7	1	0	-.1173	1.9410E-04
9	15.431	Endosif II	9.7063	10.8848%	30293	8547	3.5	1	0	-.1048	3.2041E-04
10	16.132	Endrin ald	9.9519	11.1602%	29856	8031	3.7	1	0	-.1040	3.3333E-04
11	16.984	Endos sulf	9.1745	10.2884%	25028	6924	3.6	1	0	-.1005	3.6657E-04
12	18.671	Endrin ket.	9.6787	10.8539%	27720	7473	3.7	1	0	0	3.4916E-04
13	26.186	DCB	9.8997	11.1016%	51152	9729	5.3	1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 89.1730

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:NV14E69.PTS Printed on 11-21-1997 at 21:43:20
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 21:44:11 Version 5.1.5

* Sample Name: INDA 10-100 UG/L
* Date: 11-18-1997 22:55:56 Method: M:APES-E 11-21-1997 21:15:10 # 396
* Interface: 2 Cycle#: 70 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Data File: D:NV14E70

* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

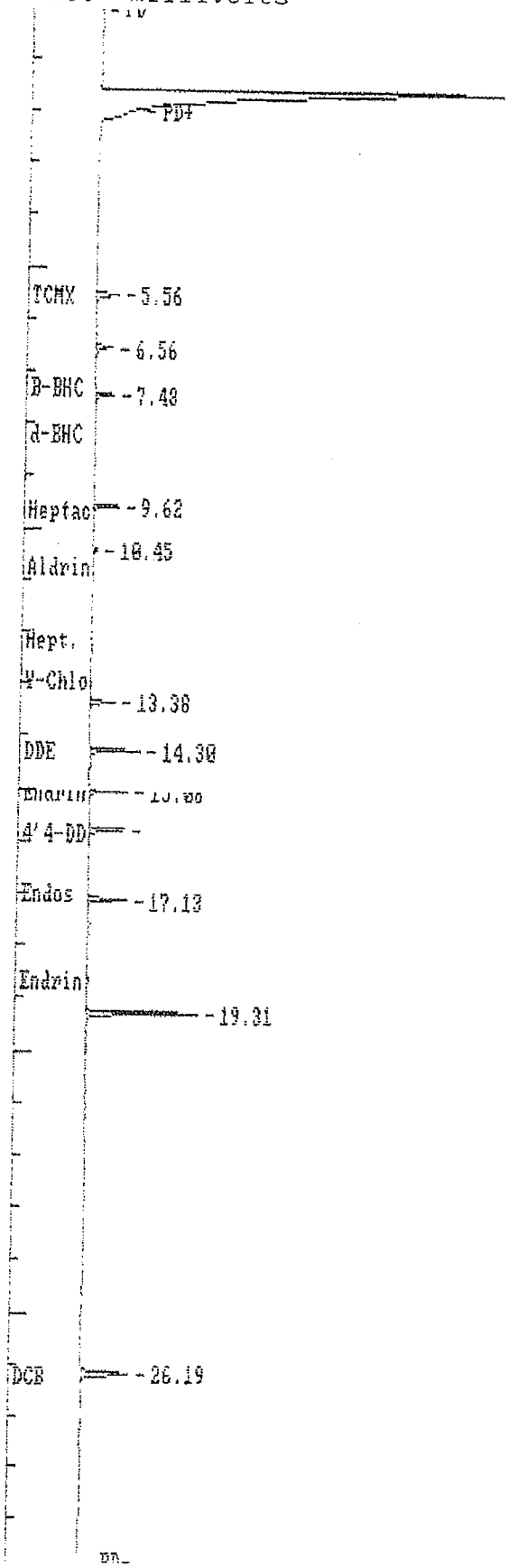
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.561	TCMX	8.9741	4.0127%	39701	8584	4.6	1	0	0	2.2604E-04
2	6.563	A-BHC	0.0000	0.0000%	27160	6576	4.1	1			1.0000E-09
3	7.482	Y-BHC	8.8387	3.9522%	28576	7357	3.9	1	0	-.2187	3.0931E-04
4	9.619	Heptachlor	9.7139	4.3436%	37554	9871	3.8	1	0	-.1743	2.5867E-04
5	10.454		0.0000	0.0000%	7116	1562	4.6	1			1.0000E-09
6	13.377	Endosulfan I	9.0640	4.0530%	33138	9352	3.5	1	0	-.1217	2.7352E-04
7	14.295	~~DDE~~ Dieldrin	13.3270	5.9591%	68661	19113	3.6	1	0	-.1173	1.9410E-04
8	15.080	Endrin	18.3258	8.1943%	53676	14782	3.6	1	0	-.1119	3.4141E-04
9	15.798	4'4-DDD	18.4511	8.2504%	54652	13774	4.0	1	0	-.2134	3.3761E-04
10	17.134	DDT	17.4570	7.8059%	55199	14896	3.7	1	0	-.1968	3.1626E-04
11	19.305	Methoxychlor	100.5958	44.9813%	156628	42616	3.7	1	0	0	6.4226E-04
12	26.186	DCB	18.8920	8.4475%	97615	18262	5.3	1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 223.6393

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E70.PTS Printed on 11-21-1997 at 21:44:23
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
ull Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 21:45:17 Version 5.1.5

Sample Name: INDB 10-20 UG/L

Date: 11-18-1997 23:28:38 Method: M:APES-E 11-21-1997 21:15:10 # 396

Data File: D:NV14E71

Interface: 2 Cycle#: 71 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT RL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.561 TCMX		9.7156	5.3847%	42982	9257	4.6 1	0	0	2.2604E-04
2	7.315 B-BHC		9.7619	5.4104%	25186	6039	4.2 1	0	-.2237	3.8760E-04
3	8.183 d-BHC		9.4484	5.2366%	22128	5469	4.0 1	0	-.2073	4.2699E-04
4	10.738 Aldrin		8.6710	4.8057%	38985	10946	3.6 1	0	-.1571	2.2242E-04
5	12.124 Hept. epox.		9.2790	5.1427%	37802	10501	3.6 1	0	-.1383	2.4546E-04
6	12.943 Y-Chlordane		9.1779	5.0867%	46064	12921	3.6 1	0	-.1273	1.9924E-04
7	13.477 a-Chlordane		9.0580	5.0202%	46622	13235	3.5 1	0	-.2450	1.9429E-04
8	14.295 DDE		17.4860	9.6913%	90088	24783	3.6 1	0	-.1173	1.9410E-04
9	15.431 Endosif II		19.1960	10.6390%	59911	17188	3.5 1	0	-.1048	3.2041E-04
10	16.132 Endrin ald		19.7832	10.9644%	59349	16086	3.7 1	0	-.1040	3.3333E-04
11	16.984 Endos sulf		18.9778	10.5181%	51771	14080	3.7 1	0	-.1005	3.6657E-04
12	18.671 Endrin ket.		20.0813	11.1297%	57513	15373	3.7 1	0	0	3.4916E-04
13	26.186 DCB		19.7943	10.9706%	102277	19027	5.4 1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 180.4303

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:NV14E71.PTS Printed on 11-21-1997 at 21:45:28
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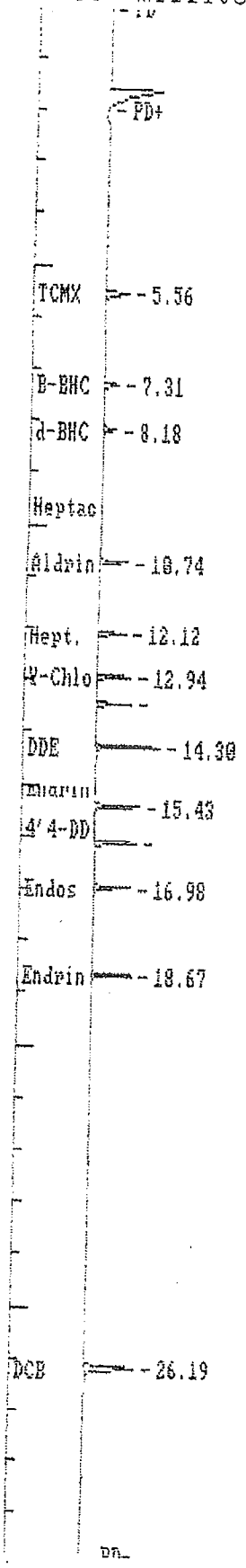
ull Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 21:46:20 Version 5.1.5

* Sample Name: INDA 20-200 UG/L
* Date: 11-19-1997 00:01:18 Method: M:APES-E 11-21-1997 21:15:10 # 396
* Interface: 2 Cycle#: 72 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Data File: D:NV14E7C

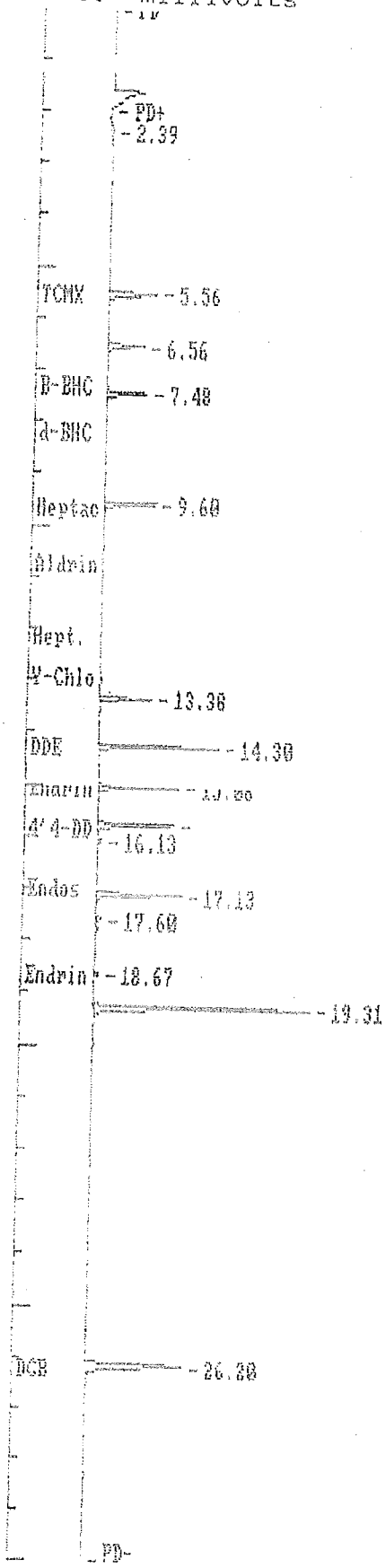
Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.388		0.0000	0.0000%	22283	1077	20.7 1			1.0000E-09
2	5.561 TCMX		19.7348	4.1855%	87307	18797	4.6 1	0	0	2.2604E-04
3	6.563 α-BHC		0.0001	0.0000%	58100	14223	4.1 1			1.0000E-09
4	7.482 Y-BHC		18.9757	4.0245%	61348	15557	3.9 1	0	-.2187	3.0931E-04
5	9.602 Heptachlor		19.6204	4.1612%	75852	19783	3.8 1	0	-.3476	2.5867E-04
6	13.377 Endosulfan I		19.2477	4.0822%	70369	19933	3.5 1	0	-.1217	2.7352E-04
7	14.295 DDE- Dieldrin		31.4677	6.6739%	162122	46498	3.5 1	0	-.1173	1.9410E-04
8	15.080 Endrin		38.4617	8.1572%	112654	31079	3.6 1	0	-.1119	3.4141E-04
9	15.798 4'4-DDD		39.5817	8.3947%	117241	29583	4.0 2	0	-.2134	3.3761E-04
10	16.132 Endrin ald		2.4486	0.5194%	7346	1848	4.0 2	0	-.1040	3.3333E-04
11	17.134 DDT		38.5320	8.1721%	121838	32847	3.7 1	0	-.1968	3.1626E-04
12	17.602		0.0000	0.0000%	8859	2136	4.1 1			1.0000E-09
13	18.671 Endrin ket.		2.7639	0.5862%	7916	2065	3.8 1	0	0	3.4916E-04
14	19.305 Methoxychlor		201.9806	42.8374%	314484	83786	3.8 1	0	0	6.4226E-04
15	26.202 DCB		38.6906	8.2058%	199915	36946	5.4 1	0	-.1436	1.9354E-04

TOTAL AMOUNT = 471.5057

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:NV14E72.PTS Printed on 11-21-1997 at 21:46:32
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
ull Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 21:47:30 Version 5.1.5

* Sample Name: INDB 20-40 UG/L
* Date: 11-19-1997 00:34:02 Method: M:APES-E 11-21-1997 21:15:10 # 396
* Interface: 2 Cycle#: 73 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Data File: O:NV14E73

* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

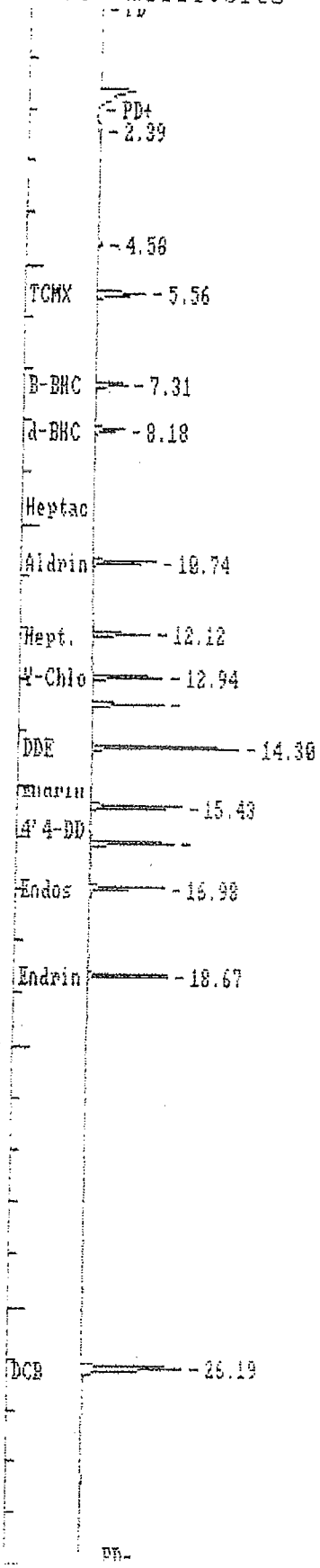
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.388		0.0000	0.0000%	25495	1133	22.5	1			1.0000E-09
2	4.576		0.0000	0.0000%	9105	1659	5.5	1			1.0000E-09
3	5.561 TCMX		19.9343	5.4172%	88190	18809	4.7	1	0	0	2.2604E-04
4	7.315 B-BHC		19.6316	5.3350%	50650	12109	4.2	1	0	-.2237	3.8760E-04
5	8.183 d-BHC		18.9225	5.1422%	44316	11190	4.0	1	0	-.2073	4.2699E-04
6	10.738 Aldrin		18.5154	5.0316%	83245	23949	3.5	1	0	-.1571	2.2242E-04
7	12.124 Hept. epox.		18.8626	5.1260%	76846	21968	3.5	1	0	-.1383	2.4546E-04
8	12.943 Y-Chlordane		19.0061	5.1650%	95391	27224	3.5	1	0	-.1273	1.9924E-04
9	13.477 a-Chlordane		19.0172	5.1680%	97881	27708	3.5	1	0	-.2450	1.9429E-04
10	14.295 DDE		38.7478	10.5298%	199628	56766	3.5	1	0	-.1173	1.9410E-04
11	15.431 Endosif II		38.4033	10.4362%	119857	35159	3.4	1	0	-.1048	3.2041E-04
12	16.132 Endrin ald		39.0236	10.6048%	117071	31922	3.7	1	0	-.1040	3.3332E-04
13	16.984 Endos sulf		38.5303	10.4707%	105111	28667	3.7	1	0	-.1005	3.6657E-04
14	18.671 Endrin ket.		39.6672	10.7797%	113607	30620	3.7	1	0	0	3.4916E-04
15	26.186 DCB		39.7195	10.7939%	205231	38411	5.3	1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 367.9813

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:NV14E73.PTS Printed on 11-21-1997 at 21:47:45
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
ull Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 21:48:40 Version 5.1.5

* Sample Name: INDA 40-400 UG/L Data File: D:NV14E74
* Date: 11-19-1997 01:06:41 Method: M:APES-E 11-21-1997 21:15:10 # 396
* Interface: 2 Cycle#: 74 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

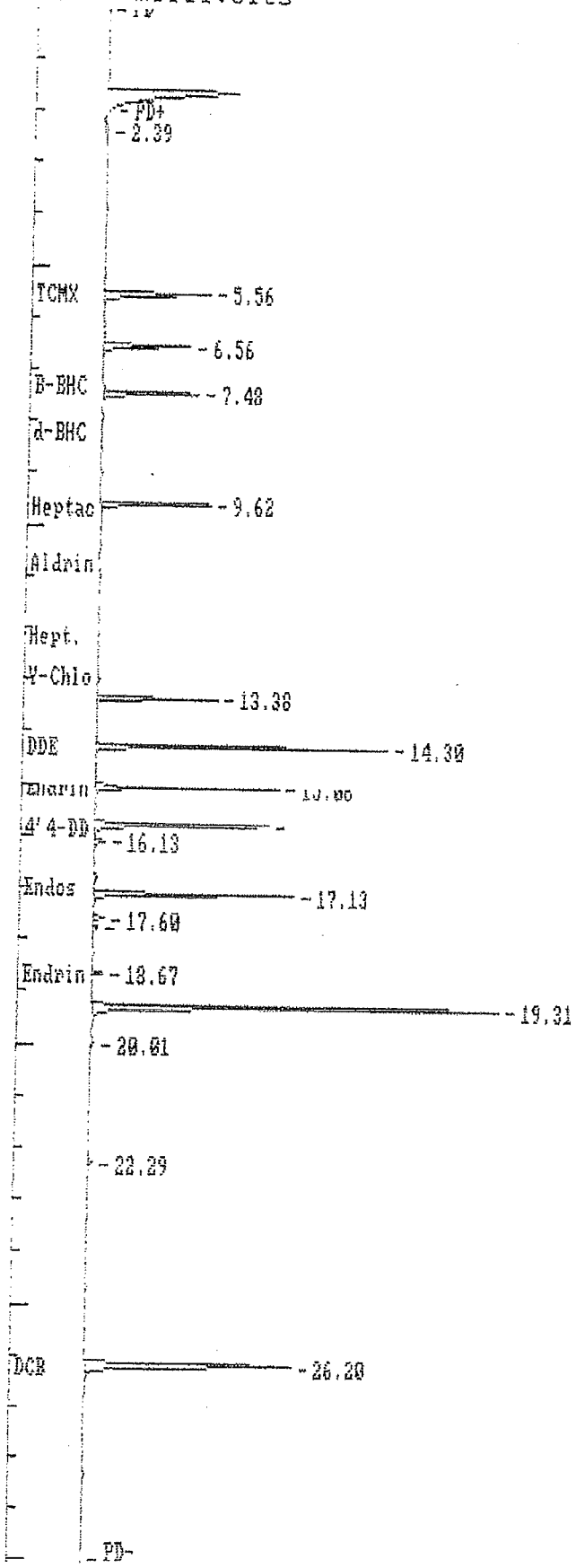
Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.000 sec.
Dilution Factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.388		0.0000	0.0000%	24390	1138	21.4	1			1.0000E-09
2	5.561	TCMX	42.9789	4.3325%	190139	40949	4.6	1	0	0	2.2610E-04
3	6.563	α-BHC	0.0001	0.0000%	130171	33401	3.9	1			1.0000E-09
4	7.482	Y-BHC	42.6578	4.3001%	137913	36853	3.7	1	0	-.2187	3.0931E-04
5	9.619	Heptachlor	40.7400	4.1068%	157501	42296	3.7	1	0	-.1743	2.5867E-04
6	13.377	Endosulfan I	42.5487	4.2891%	155558	46277	3.4	1	0	-.1217	2.7352E-04
7	14.295	~~DDE~~ Dieldrin	76.2275	7.6841%	392724	113033	3.5	1	0	-.1173	1.9411E-04
8	15.080	Endrin	85.6271	8.6316%	250802	70865	3.5	1	0	-.1119	3.4141E-04
9	15.798	4'4-DDD	85.7554	8.6445%	254007	67182	3.8	2	0	-.2134	3.3761E-04
10	16.132	Endrin ald	5.3471	0.5390%	16041	3937	4.1	2	0	-.1040	3.3333E-04
11	17.134	DDT	87.6319	8.8337%	277092	77309	3.6	1	0	-.1968	3.1626E-04
12	17.602		0.0000	0.0000%	17697	4269	4.1	2			1.0000E-09
13	17.765		0.0000	0.0000%	9173	2122	4.3	2			1.0000E-09
14	18.671	Endrin ket.	5.4722	0.5516%	15672	4137	3.8	1	0	0	3.4916E-04
15	19.305	Methoxychlor	393.6589	39.6826%	612927	157281	3.9	1	0	0	6.4226E-04
16	20.007		0.0000	0.0000%	4984	1487	3.4	1			1.0000E-09
17	22.294		0.0000	0.0000%	6973	1775	3.9	1			1.0000E-09
18	26.202	DCB	83.3741	8.4045%	430794	79394	5.4	1	0	-.1436	1.9354E-04

TOTAL AMOUNT = 992.0196

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E74.PTS Printed on 11-21-1997 at 21:48:57
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 21:49:54 Version 5.1.5

Data File: O:NV14E75

Sample Name: IND8 40-80 UG/L

Date: 11-19-1997 01:39:22 Method: M:APES-E 11-21-1997 21:15:10 # 396

Interface: 2 Cycle#: 75 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

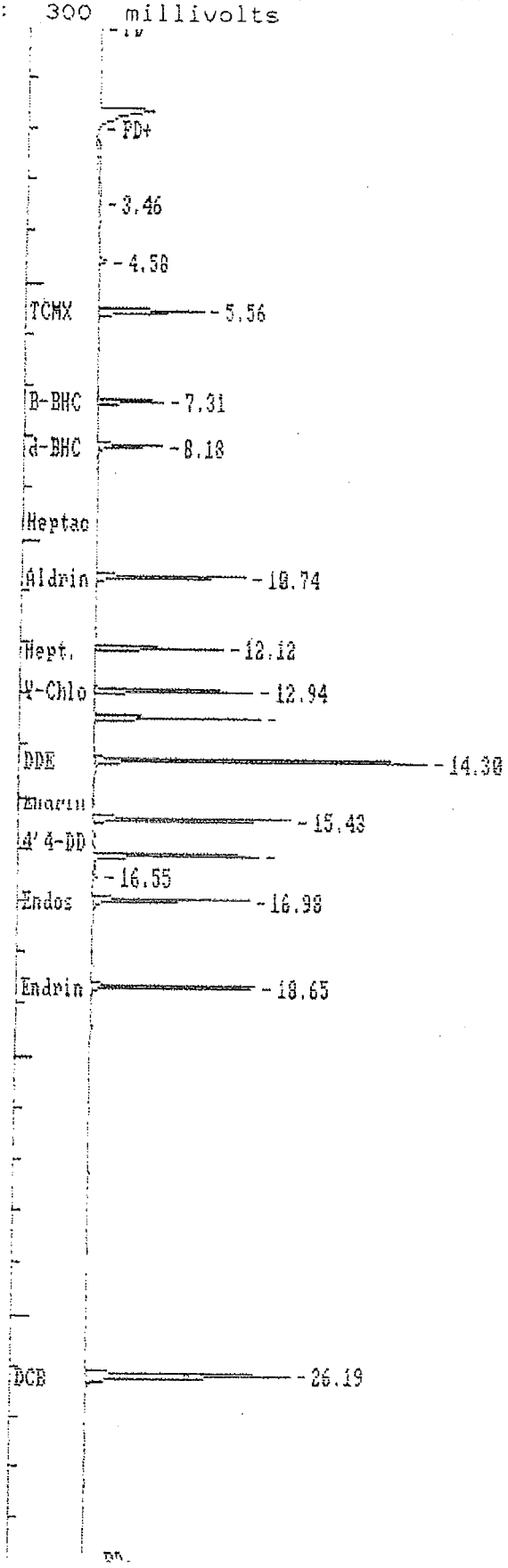
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
											1.0000E-09
1	3.457		0.0001	0.0000%	69470	375	185.4	1			1.0000E-09
2	4.576		0.0000	0.0000%	16386	3012	5.4	1			
3	5.561 TCMX		42.7921	5.3673%	189308	41574	4.6	1	0	0	2.2604E-04
4	7.315 B-BHC		40.7014	5.1052%	105010	26010	4.0	1	0	-.2237	3.8760E-04
5	8.183 d-BHC		41.0620	5.1529%	96214	25555	3.8	1	0	-.2073	4.2699E-04
6	10.738 Aldrin		44.1283	5.5350%	198401	59213	3.4	1	0	-.1571	2.2242E-04
7	12.124 Hept. epox.		42.0250	5.2712%	171210	50497	3.4	1	0	-.1383	2.4546E-04
8	12.943 Y-Chlordane		42.5366	5.3354%	213491	62439	3.4	1	0	-.1273	1.9924E-04
9	13.477 a-Chlordane		43.3016	5.4313%	222873	65013	3.4	1	0	-.2480	1.9429E-04
10	14.295 DDE		90.0002	11.2868%	463682	130800	3.5	1	0	-.1173	1.9410E-04
11	15.421 Endosulf II		82.4915	10.3470%	257456	77753	3.3	1	0	-.1048	3.2041E-04
12	16.132 Endrin ald		79.1538	9.9283%	237461	65189	3.6	1	0	-.1040	3.3333E-04
13	16.550		0.0000	0.0000%	7597	1992	3.8	1			1.0000E-09
14	16.984 Endos sulf		82.9981	10.4105%	226419	61346	3.7	1	0	-.1008	3.6657E-04
15	18.654 Endrin ket.		80.9220	10.1501%	231761	64424	3.6	1	0	-.1771	3.4916E-04
16	26.186 DCB		85.1215	10.6768%	439823	80127	5.5	1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 797.2533

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:NV14E75.PTS Printed on 11-21-1997 at 21:50:20
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 21:51:08 version 5.1.5

Sample Name: INDA 60-600 UG/L Data File: D:NV14E76

Date: 11-19-1997 02:12:01 Method: M:APES-E 11-21-1997 21:15:10 # 396

Interface: 2 Cycle#: 76 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

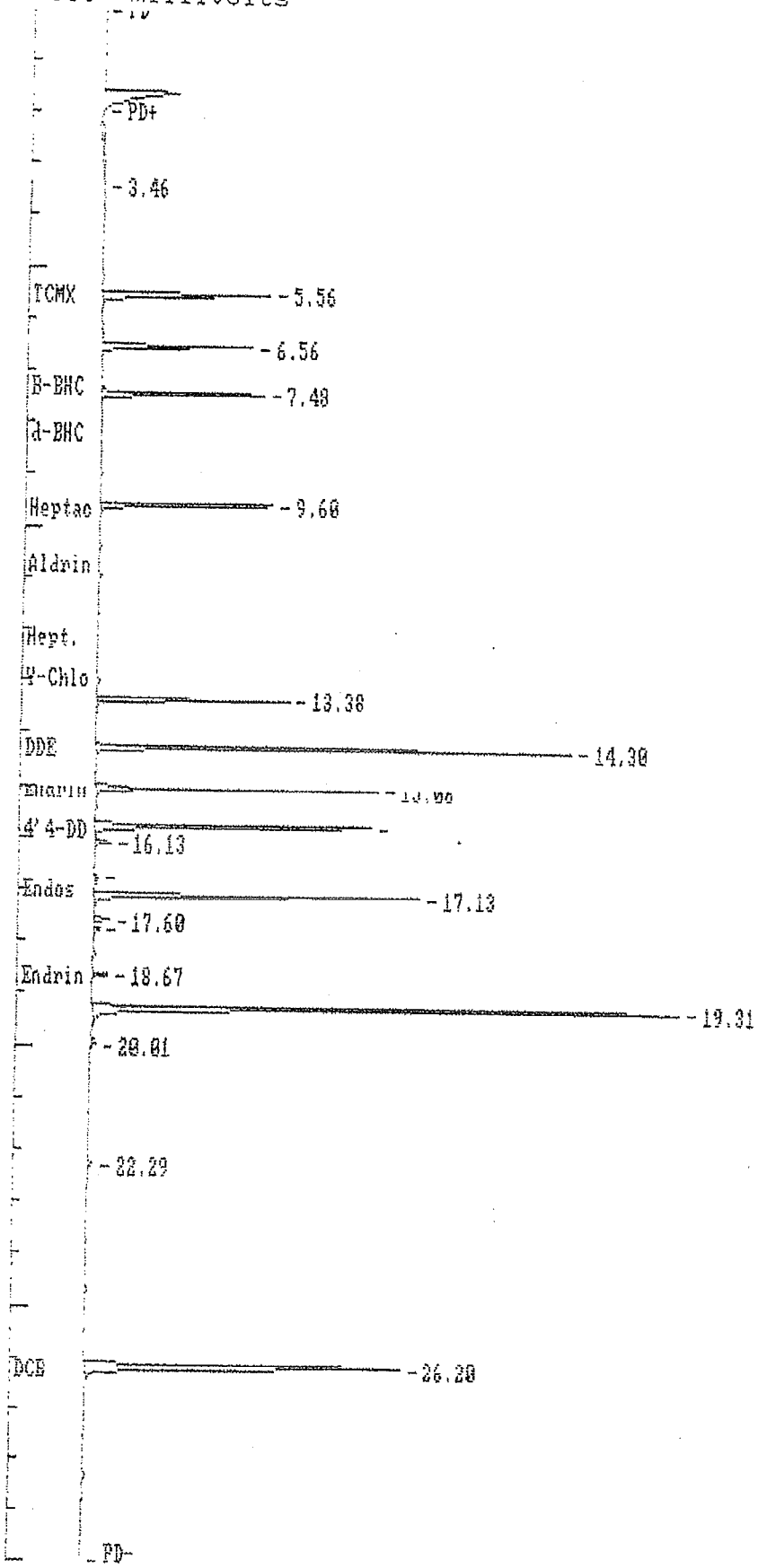
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.457		0.0001	0.0000%	71704	436	164.6	1			1.0000E-09
2	5.561	TCMX	66.4241	4.3857%	293860	64831	4.5	1	0	0	2.2604E-04
3	6.563	α-BHC	0.0002	0.0000%	214525	58673	3.7	1			1.0000E-09
4	7.482	Y-BHC	71.7947	4.7402%	232112	62935	3.7	1	0	-.2187	3.0931E-04
5	9.602	Heptachlor	62.0820	4.0990%	240009	66490	3.6	1	0	-.3476	2.5867E-04
6	13.377	Endosulfan I	67.5621	4.4608%	247007	73803	3.3	1	0	-.1217	2.7352E-04
7	14.295	~~DDE~~ Dieldrin	121.8429	8.0447%	627734	182226	3.4	1	0	-.1173	1.9410E-04
8	15.080	Endrin	132.5504	8.7516%	388240	108560	3.6	1	0	-.1119	3.4141E-04
9	15.798	4'4-DDD	131.7588	8.6994%	390270	106104	3.7	2	0	-.2134	3.3761E-04
10	16.132	Endrin ald	8.6020	0.5679%	25806	6303	4.1	2	0	-.1040	3.3333E-04
11	16.800		0.0000	0.0000%	4739	1498	3.2	1			1.0000E-09
12	17.134	DDT	141.2116	9.3235%	446511	124981	3.6	1	0	-.1963	3.1628E-04
13	17.602		0.0000	0.0000%	26132	6311	4.1	2			1.0000E-09
14	17.785		0.0000	0.0000%	11070	2519	4.4	2			1.0000E-09
15	18.671	Endrin ket.	8.4299	0.5566%	24143	6285	3.8	1	0	0	3.4916E-04
16	19.305	Methoxychlor	572.9844	37.8313%	892137	225582	4.0	1	0	0	6.4226E-04
17	20.007		0.0000	0.0000%	7422	2245	3.3	1			1.0000E-09
18	22.294		0.0000	0.0000%	9890	2479	4.0	1			1.0000E-09
19	26.202	OCB	129.3233	8.5392%	668265	121089	5.5	1	0	-.1436	1.9354E-04

TOTAL AMOUNT = 1514.5763

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E76.PTS Printed on 11-21-1997 at 21:51:40
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 21:52:32 Version 5.1.5

Sample Name: INDB 60-120 UG/L Data File: D:NV14E77

Date: 11-19-1997 02:44:44 Method: M:APES-E 11-21-1997 21:15:10 # 396

Interface: 2 Cycle#: 77 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

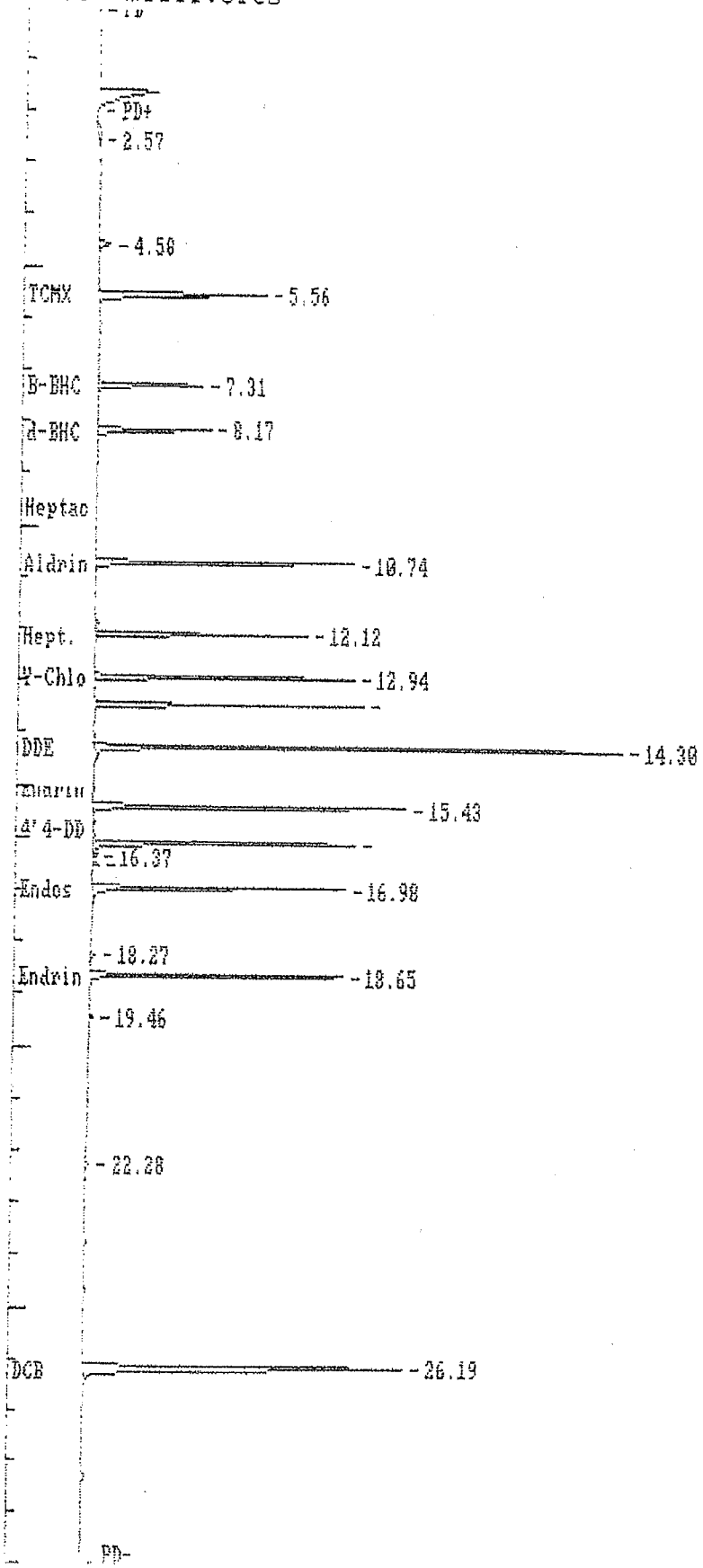
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.572		0.0000	0.0000%	28411	802	35.4	1			1.0000E-09
2	4.576		0.0000	0.0000%	24931	4561	5.5	1			1.0000E-09
3	5.561 TCMX		67.5944	5.2943%	299037	65528	4.6	1	0	0	2.2604E-04
4	7.315 B-BHC		63.4464	4.9694%	163692	40620	4.0	1	0	-.2237	3.8760E-04
5	8.166 d-BHC		69.4090	5.4364%	162556	44186	3.7	1	0	-.4109	4.2699E-04
6	10.738 Aldrin		74.7648	5.8559%	336142	100417	3.3	1	0	-.1571	2.2242E-04
7	12.124 Hept. epox.		68.2848	5.3483%	278192	82621	3.4	1	0	-.1383	2.4546E-04
8	12.943 Y-Chlordane		68.8942	5.3961%	345780	101293	3.4	1	0	-.1273	1.9924E-04
9	13.477 a-Chlordane		70.2084	5.4990%	361363	104575	3.5	1	0	-.2450	1.9429E-04
10	14.295 DDE		143.5404	11.2427%	739520	204549	3.6	1	0	-.1173	1.9410E-04
11	15.491 Endoslf II		129.3084	10.1280%	403572	121998	3.3	1	0	-.1048	3.2041E-04
12	16.132 Endrin ald		126.0048	9.8692%	378014	102173	3.7	2	0	-.1040	3.3333E-04
13	16.366		0.0000	0.0000%	7190	1972	3.6	2			1.0000E-09
14	16.550		0.0000	0.0000%	11328	2947	3.8	2			1.0000E-09
15	16.984 Endos sulf		135.8534	10.6406%	370608	98451	3.8	1	0	-.1005	3.6657E-04
16	18.270		0.0000	0.0000%	8745	1819	4.8	1			1.0000E-09
17	18.654 Endrin ket.		123.0732	9.6396%	352482	98304	3.6	1	0	-.1771	3.4916E-04
18	19.455 Methoxychlor		3.6341	0.2846%	5658	1571	3.6	1	0	.6909	6.4226E-04
19	22.278		0.0000	0.0000%	5583	1458	3.8	1			1.0000E-09
20	26.186 DCB		132.7306	10.3960%	685819	124003	5.5	1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 1276.7471

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:NV14E77.PTS Printed on 11-21-1997 at 21:53:06
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 22:00:51 Version 5.1.5

Sample Name: INDA 5-50 UG/L Data File: D:0V14E68

Date: 11-18-1997 21:50:33 Method: M:BPES-E 11-21-1997 21:24:54 # 390

Interface: 2 Cycle#: 68 Operator JJK Channel#: 1 Vial#: N.A.

Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

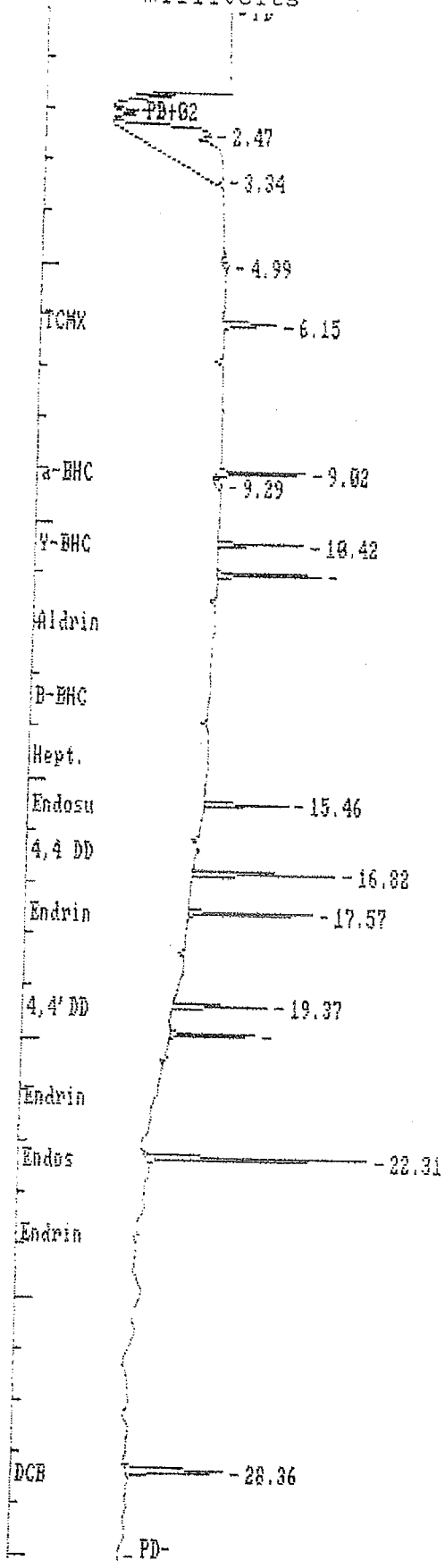
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	14968	4016	3.7	1			1.0000E-09
2	2.472		0.0005	0.0004%	459910	29474	15.6	3			1.0000E-09
3	3.340		0.0008	0.0007%	779760	4204	185.5	4			1.0000E-09
4	4.993		0.0000	0.0000%	13323	1872	7.1	1			1.0000E-09
5	6.146	TCMX	5.8338	5.3372%	91672	20901	4.4	1	0	.2544	6.3638E-05
6	9.018	a-BHC	5.7861	5.2935%	126634	34582	3.7	1	0	-.1881	4.5691E-05
7	9.285		0.0000	0.0000%	20190	1702	11.9	1			1.0000E-09
8	10.421	Y-BHC	5.4669	5.0015%	113896	33585	3.4	1	0	0	4.7998E-05
9	11.022	Heptachlor	5.7794	5.2874%	140186	40693	3.4	1	0	0	4.1227E-05
10	15.464	Endosulf I	5.5386	5.0671%	111043	32940	3.4	1	0	-.1085	4.9878E-05
11	16.817	Dieldrin	10.8127	9.8922%	190688	55685	3.4	1	0	0	5.6705E-05
12	17.568	Endrin	11.2411	10.2842%	162907	48600	3.4	1	0	0	6.9004E-05
13	19.372	4,4'DDD	10.2729	9.3984%	121652	37355	3.3	1	0	0	8.4445E-05
14	19.906	4,4 DDT	10.0298	9.1759%	111090	33150	3.4	1	0	0	9.0285E-05
15	22.311	~~Endos sulf~~ Methoxy	27.4678	25.1478%	309155	85358	3.6	1	0	0	8.8913E-05
16	28.357	DCB	11.0548	10.1137%	226158	38089	5.9	1	0	-.1176	4.8881E-05

TOTAL AMOUNT = 109.3051

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E68.PTS Printed on 11-21-1997 at 22:01:01
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 22:01:49 Version 5.1.5

Sample Name: INDS 5-10 UG/L Data File: D:OV14E69

Date: 11-18-1997 22:23:16 Method: M:BPES-E 11-21-1997 21:24:54 # 390

Interface: 2 Cycle#: 69 Operator JJK Channel#: 1 Vial#: N.A.

Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

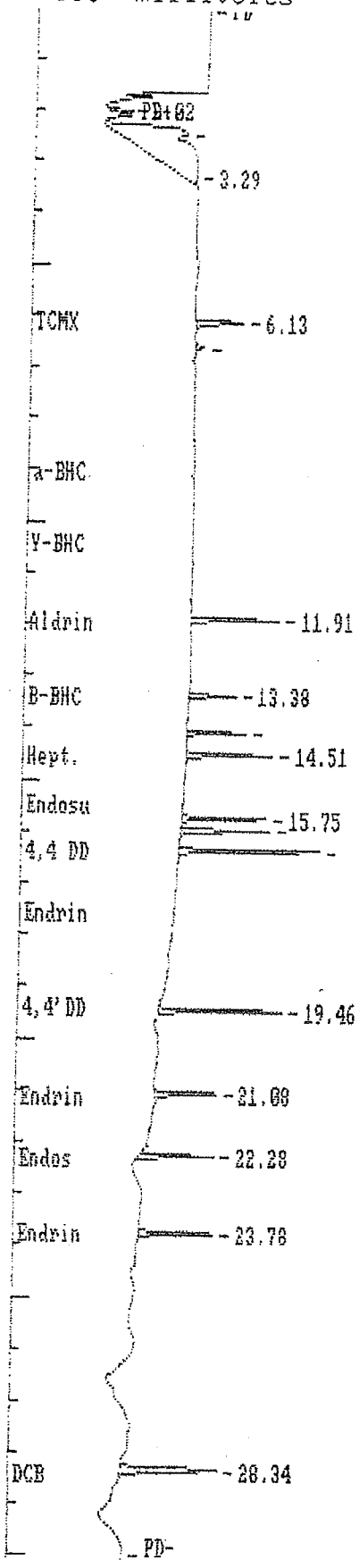
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	16571	4288	3.9	1			1.0000E-09
2	2.472		0.0004	0.0004%	389114	24941	15.6	3			1.0000E-09
3	3.290		0.0006	0.0007%	633829	4160	152.4	4			1.0000E-09
4	6.129	TCMX	5.4953	5.7358%	86353	19011	4.5	1	C	0	6.3638E-05
5	6.613		0.0000	0.0000%	14651	3701	4.0	1			1.0000E-09
6	11.307	Aldrin	5.1856	5.4126%	114748	34063	3.4	1	0	-.1417	4.5192E-05
7	13.377	B-BHC	5.1148	5.3386%	58416	18334	3.2	1	C	-.1217	8.7558E-05
8	14.095	d-BHC	4.4705	4.6661%	70888	23158	3.1	1	0	-.1148	6.3064E-05
9	14.512	Hept. epox.	5.2836	5.5148%	111854	33587	3.3	1	0	-.1149	4.7237E-05
10	15.748	Y-Chlordane	5.1410	5.3660%	111359	32730	3.4	2	0	-.1072	4.6166E-05
11	15.982	a-Chlordane	5.1820	5.4087%	116247	34324	3.4	2	0	-.1068	4.4577E-05
12	16.366	4,4 DDE	10.1975	10.6437%	181648	54581	3.3	1	0	-.1037	5.6139E-05
13	19.455	EndosulfII	10.0930	10.5346%	161821	47836	3.4	1	0	0	6.2371E-05
14	21.075	Endrin ald	9.6509	10.0732%	96924	23936	4.0	1	0	0	9.9572E-05
15	22.278	Endos sulf	9.2315	9.6355%	103827	28986	3.6	1	0	-.1488	8.8913E-05
16	23.781	Endrin ket	9.8939	10.3269%	118618	28786	4.1	1	0	0	8.3410E-05
17	28.340	DCB	10.8670	11.3425%	222317	37359	6.0	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 95.8077

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:OV14E69.PTS Printed on 11-21-1997 at 22:02:15
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 22:02:57 Version 5.1.5

* Sample Name: INDA 10-100 UG/L Data File: D:QV14E70
* Date: 11-18-1997 22:55:56 Method: M:BPES-S 11-21-1997 21:24:54 # 390
* Interface: 2 Cycle#: 70 Operator JJK Channel#: 1 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

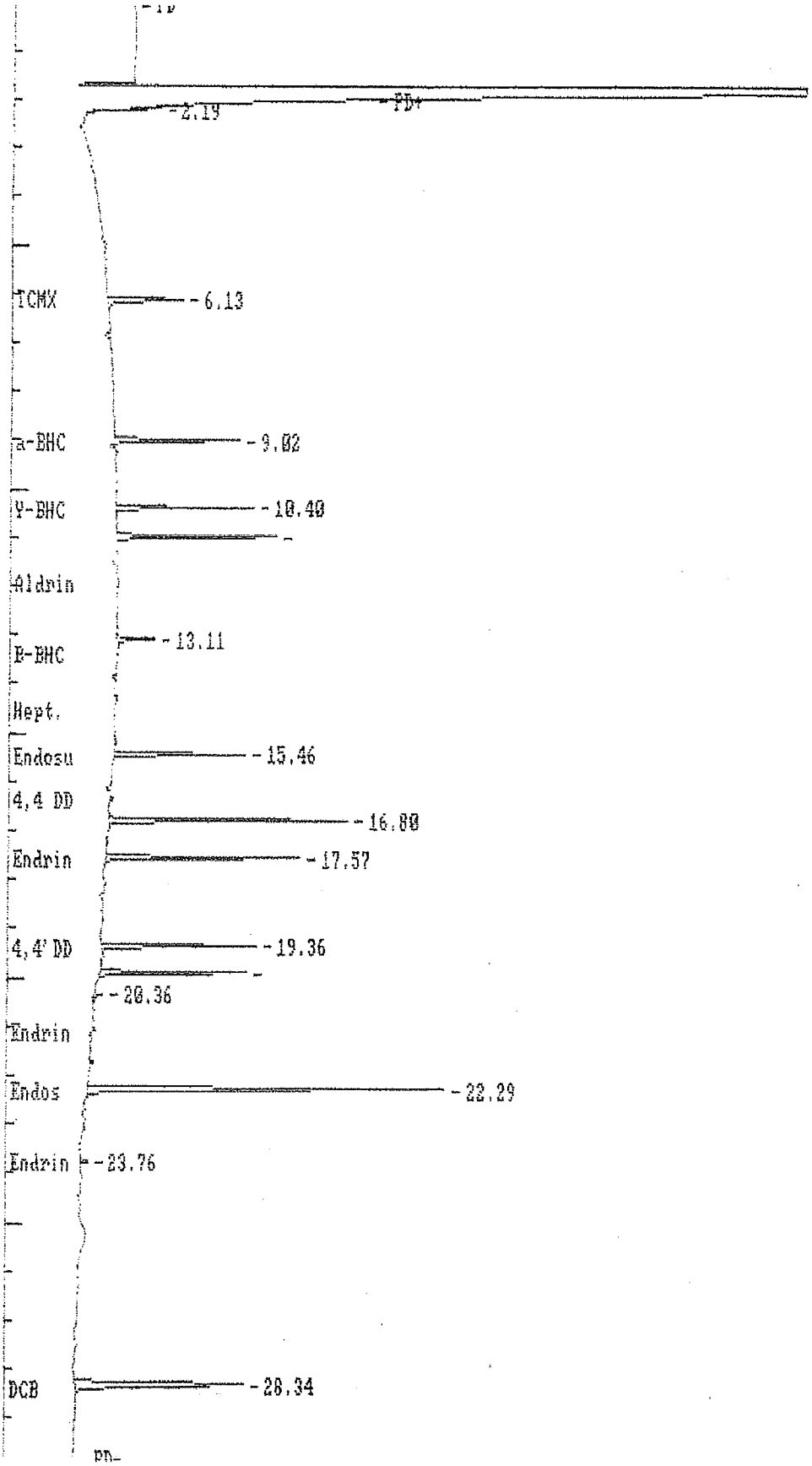
Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.188		0.0000	0.0000%	35515	10677	3.3	1			1.0000E-09
2	6.129	TCMX	9.1213	4.7330%	143332	31849	4.5	1	0	0	6.3638E-05
3	9.018	a-BHC	8.7511	4.5409%	191527	53125	3.6	1	0	-.1881	4.5691E-05
4	10.404	Y-BHC	8.9119	4.6243%	185670	57056	3.3	1	0	-.1621	4.7998E-05
5	11.005	Heptachlor	9.4299	4.8932%	228733	66306	3.4	1	0	-.1515	4.1227E-05
6	13.109		0.0001	0.0000%	62071	15664	4.0	1			1.0000E-09
7	15.464	Endosulf I	9.6290	4.9965%	193052	54537	3.5	1	0	-.1085	4.9879E-05
8	16.800	Dieldrin	18.9323	9.8239%	333871	98458	3.4	1	0	0	5.6705E-05
9	17.568	Endrin	19.6265	10.1841%	284427	80379	3.5	1	0	0	6.9004E-05
10	19.355	4,4'DDD	19.2627	9.9954%	228109	64222	3.6	1	0	-.1738	8.4445E-05
11	19.906	4,4 DDT	18.3765	9.5355%	203538	60825	3.3	1	0	0	9.0285E-05
12	20.357		0.0000	0.0000%	10967	3846	2.9	1			1.0000E-09
13	22.294	~~Endos sulf~~ Methoxy	49.1493	25.5034%	552782	147668	3.7	1	0	0	8.8913E-05
14	23.764	~~Endrin ket~~	1.0546	0.5472%	12644	3104	4.1	1	0	-.1382	8.3410E-05
15	28.340	DCB	20.4711	10.6224%	418797	69624	6.0	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 192.7164

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E70.PTS Printed on 11-21-1997 at 22:03:28
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 22:04:12 Version 5.1.5

Sample Name: INDB 10-20 UG/L Data File: D:OV14E71

Date: 11-18-1997 23:28:38 Method: M:BPES-E 11-21-1997 21:24:54 # 390

Interface: 2 Cycle#: 71 Operator JJK Channel#: 1 Vial#: N.A.

Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

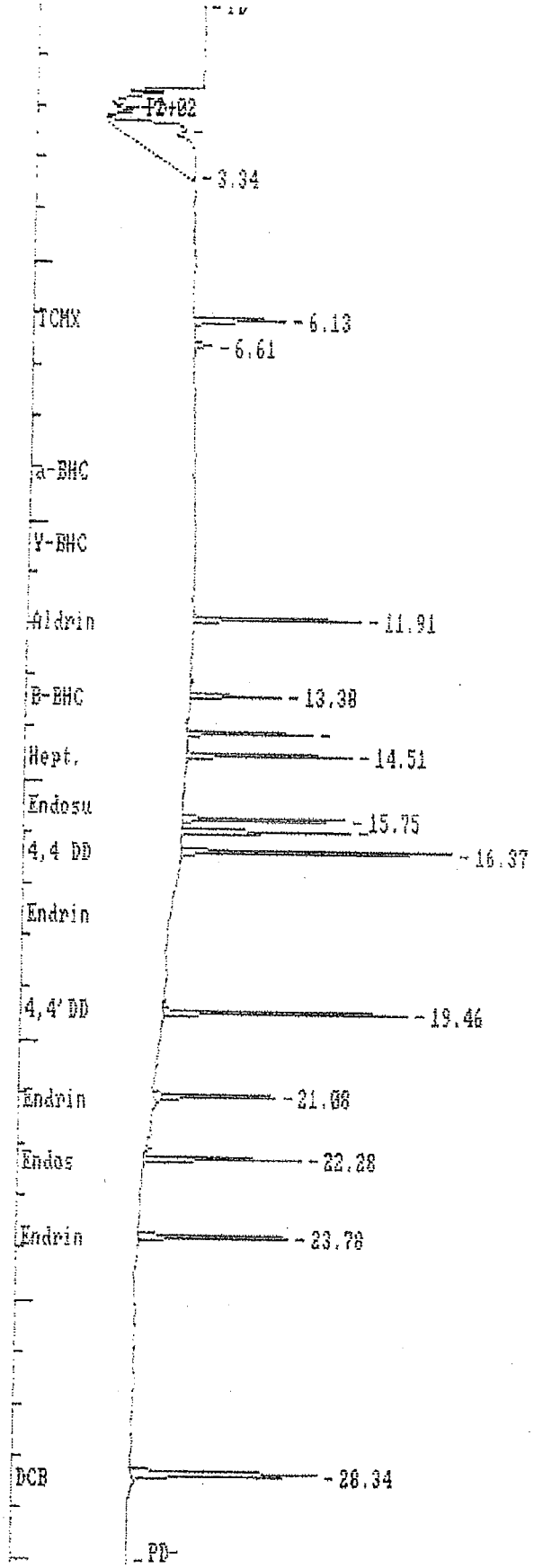
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	16303	4372	3.7	1			1.0000E-09
2	2.472		0.0004	0.0002%	379224	24201	15.7	3			1.0000E-09
3	3.340		0.0006	0.0003%	611446	2461	248.5	4			1.0000E-09
4	6.129	TCMX	10.2510	5.3578%	161084	36021	4.5	1	0	0	6.3638E-05
5	6.613		0.0000	0.0000%	28560	7191	4.0	1			1.0000E-09
6	11.907	Aldrin	9.9170	5.1833%	219444	65279	3.4	1	0	-.1417	4.5192E-05
7	13.377	B-BHC	10.0966	5.2771%	115313	35784	3.2	1	0	-.1217	8.7558E-05
8	14.095	d-BHC	9.3423	4.8829%	148141	48670	3.0	1	0	-.1148	6.3064E-05
9	14.512	Hept. epox.	10.1442	5.3020%	214753	63959	3.4	1	0	-.1149	4.7237E-05
10	15.748	Y-Chlordane	9.9617	5.2171%	216215	63256	3.4	2	0	-.1072	4.6166E-05
11	15.982	a-Chlordane	9.9054	5.1772%	222208	65512	3.4	2	0	-.1068	4.4577E-05
12	16.366	4,4 ODE	19.7864	10.3416%	352456	105025	3.4	1	0	-.1037	5.6139E-05
13	19.455	Endosulfil	20.4620	10.6948%	328068	94812	3.5	1	0	0	6.2371E-05
14	21.075	Endrin ald	19.4989	10.1914%	195828	47364	4.1	1	0	0	9.9572E-05
15	22.278	Endos sulf	20.6350	10.7852%	232082	61171	3.8	1	0	-.1488	8.8913E-05
16	23.781	Endrin ket	20.0258	10.4668%	240090	58267	4.1	1	0	0	8.3410E-05
17	28.340	DCB	21.2802	11.1224%	435351	71994	6.0	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 191.3277

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E71.PTS Printed on 11-21-1997 at 22:04:40
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 22:05:36 Version 5.1.5

Sample Name: INDA 20-200 UG/L Data File: D:0V14E72

Date: 11-19-1997 00:01:18 Method: M:BPES-E 11-21-1997 21:24:54 # 390

Interface: 2 Cycle#: 72 Operator JJK Channel#: 1 Vial#: N.A.

Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

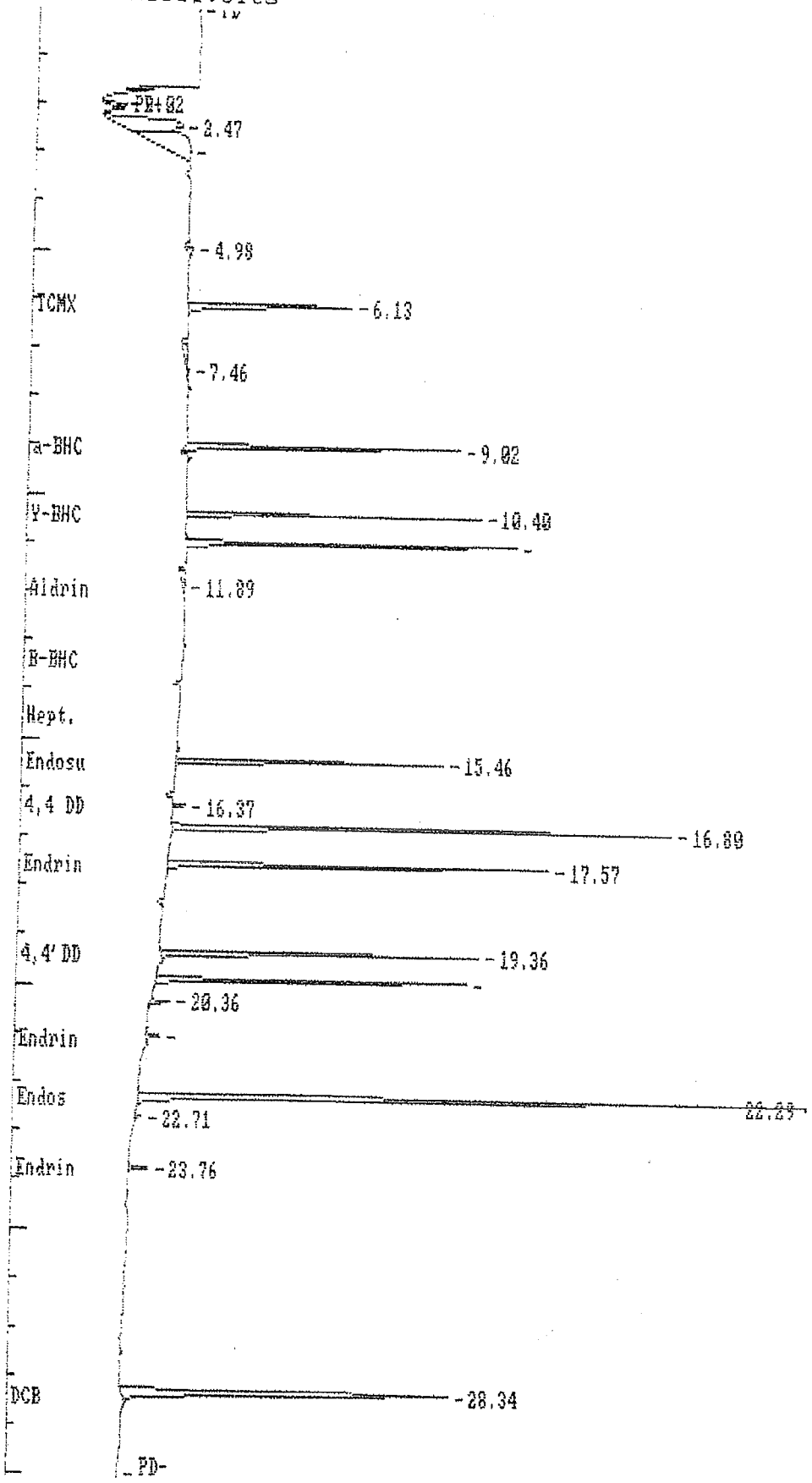
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	16893	4445	3.8	1			1.0000E-09
2	2.472		0.0004	0.0001%	361936	22940	15.8	2			1.0000E-09
3	2.989		0.0004	0.0001%	350561	5692	61.6	2			1.0000E-09
4	4.977		0.0000	0.0000%	13891	2437	5.7	1			1.0000E-09
5	6.129	TCMX	19.9396	4.9683%	313331	68119	4.6	1	0	0	6.3638E-05
6	7.465		0.0001	0.0000%	58008	1318	44.0	1			1.0000E-09
7	9.018	a-BHC	19.1504	4.7716%	419125	114106	3.7	1	0	-.1881	4.5691E-05
8	10.404	Y-BHC	19.4968	4.8579%	406196	121997	3.3	1	0	-.1621	4.7998E-05
9	11.005	Heptachlor	19.5778	4.9030%	477306	136682	3.5	1	0	-.1515	4.1227E-05
10	11.890	Aldrin	2.0438	0.5093%	45226	1177	38.4	1	0	-.2817	4.5192E-05
11	15.464	Endosulf I	19.8775	4.9528%	398523	110427	3.6	1	0	-.1085	4.9878E-05
12	16.366	4,4 DDE	1.0097	0.2516%	17986	5480	3.3	1	0	-.1037	5.6139E-05
13	16.800	Dieldrin	40.0086	9.9688%	705551	206131	3.4	1	0	0	5.6705E-05
14	17.568	Endrin	39.3678	9.8091%	570519	157254	3.6	1	0	0	6.9004E-05
15	19.355	4,4'DDD	39.6208	9.8722%	469190	131395	3.6	1	0	-.1738	8.4445E-05
16	19.906	4,4 DDT	39.2753	9.7861%	435013	127987	3.4	1	0	0	9.0285E-05
17	20.357		0.0000	0.0000%	26211	8321	3.2	1			1.0000E-09
18	21.075	Endrin ald	2.2441	0.5592%	22538	5707	3.9	1	0	0	9.9572E-05
19	22.294	~~Endos sulf~~ Mirex	97.0608	24.1842%	1091643	279632	3.9	1	0	0	8.8913E-05
20	22.712		0.0000	0.0000%	10073	2791	3.6	1			1.0000E-09
21	23.764	Endrin ket	2.6951	0.6715%	32311	7765	4.2	1	0	-.1382	8.3416E-05
22	28.340	DCB	39.8698	9.9342%	815657	134114	6.1	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 401.3389

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:0V14E72.PTS Printed on 11-21-1997 at 22:06:04
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 22:07:23 Version 5.1.5

* Sample Name: INDB 20-40 UG/L Data File: D:0V14F73
* Date: 11-19-1997 00:34:02 Method: M:8PES-E 11-21-1997 21:24:54 # 390
* Interface: 2 Cycle#: 73 Operator JJK Channel#: 1 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

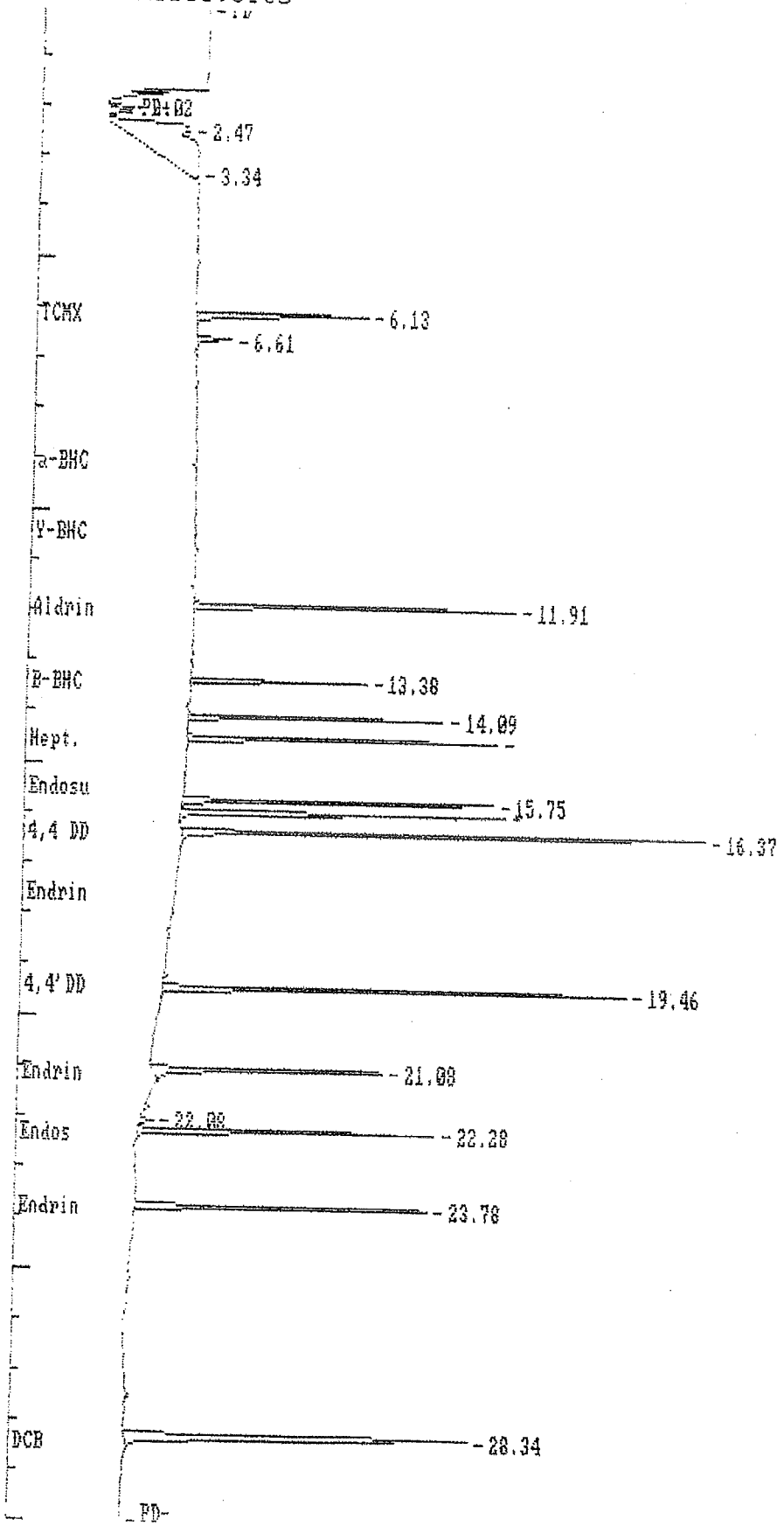
Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	17042	4531	3.8	1			1.0000E-09
2	2.472		0.0004	0.0001%	399472	25534	15.6	3			1.0000E-09
3	3.340		0.0007	0.0002%	653635	3041	214.9	4			1.0000E-09
4	6.129 TCMX		20.1100	5.3081%	316009	68264	4.6	1	0	0	6.3638E-05
5	6.613		0.0001	0.0000%	56265	13856	4.1	1			1.0000E-09
6	11.907	Aldrin	19.6595	5.1892%	435026	127607	3.4	1	0	-.1417	4.5192E-05
7	13.377	B-BHC	20.0057	5.2806%	228486	69944	3.3	1	0	-.1217	8.7558E-05
8	14.095	d-BHC	19.6826	5.1953%	312107	101164	3.1	1	0	-.1148	6.3064E-05
9	14.512	Hept. epox.	19.8494	5.2393%	420211	122907	3.4	1	0	-.1149	4.7237E-05
10	15.748	Y-Chlordane	19.9112	5.2557%	431297	123248	3.5	2	0	-.1072	4.6166E-05
11	15.962	a-Chlordane	20.0646	5.2962%	450109	128444	3.5	2	0	-.1068	4.4577E-05
12	16.366	4,4 DDE	39.7684	10.4971%	708394	206541	3.4	1	0	-.1037	5.6139E-05
13	19.455	Endosulfi	40.1537	10.5988%	643784	183313	3.5	1	0	0	6.2371E-05
14	21.075	Endrin ald	38.9540	10.2821%	391215	91180	4.3	1	0	0	9.9572E-05
15	22.077		0.0000	0.0000%	21361	5483	3.9	1			1.0000E-09
16	22.278	Endos sulf	39.5327	10.4349%	444624	117795	3.8	1	0	-.1486	8.8913E-05
17	23.781	Endrin ket	40.6256	10.7234%	487061	115878	4.2	1	0	0	8.3410E-05
18	29.340	DCB	40.5333	10.6990%	829230	135649	6.1	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 378.8519

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:0V14E73.PTS Printed on 11-21-1997 at 22:07:33
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
ull Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 22:08:43 Version 5.1.5

* Sample Name: INDA 40-400 UG/L Data File: D:0V14E74
* Date: 11-19-1997 01:06:41 Method: M:BPES-E 11-21-1997 21:24:54 # 390
* Interface: 2 Cycle#: 74 Operator JJK Channel#: 1 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	39557	5444	7.3	1			1.0000E-09
2	2.472		0.0004	0.0000%	384359	25118	15.3	3			1.0000E-09
3	3.340		0.0007	0.0001%	679057	4245	160.0	4			1.0000E-09
4	4.977		0.0000	0.0000%	21551	4011	5.4	1			1.0000E-09
5	6.129	TCMX	39.0643	4.9011%	613857	129881	4.7	1	0	0	6.3638E-05
6	7.465		0.0001	0.0000%	66849	2332	28.7	1			1.0000E-09
7	7.849		0.0000	0.0000%	14305	3647	3.9	1			1.0000E-09
8	9.018	a-BHC	39.8470	4.9993%	872092	242437	3.6	1	0	-.1881	4.5691E-05
9	9.268		0.0000	0.0000%	13864	3823	3.6	1			1.0000E-09
10	10.404	Y-BHC	40.5345	5.0856%	844495	251012	3.4	1	0	-.1621	4.7998E-05
11	11.905	Heptachlor	38.8863	4.8788%	943226	264593	3.6	1	0	-.1515	4.1227E-05
12	11.907	Aldrin	1.8744	0.2352%	41476	1072	38.7	1	0	-.1417	4.5192E-05
13	14.095	d-BHC	1.7213	0.2160%	27294	1435	19.0	1	0	-.1148	6.3064E-05
14	15.214		0.0000	0.0000%	10302	2986	3.4	1			1.0000E-09
15	15.464	Endosulf I	39.2292	4.9218%	786506	216660	3.6	1	0	-.1085	4.9878E-05
16	16.366	4,4 DDE	3.4857	0.4373%	62091	12433	5.0	1	0	-.1037	5.6139E-05
17	16.800	Dieldrin	79.9088	10.0256%	1409192	403194	3.5	1	0	0	5.6705E-05
18	17.568	Endrin	77.8436	9.7665%	1128109	310555	3.6	1	0	0	6.9004E-05
19	18.437		0.0000	0.0000%	22057	1885	11.7	1			1.0000E-09
20	19.355	4,4'DDD	81.1102	10.1764%	960507	263551	3.6	1	0	-.1738	8.4445E-05
21	19.906	4,4 DDT	82.8445	10.3940%	917586	268202	3.4	1	0	0	9.0285E-05
22	20.357		0.0001	0.0000%	55291	16880	3.3	1			1.0000E-09
23	21.075	Endrin ald	4.8736	0.6117%	48966	12454	3.9	1	0	0	9.9572E-05
24	22.294	~~Endos sul~~ Mxchlor	183.1257	22.9756%	2059615	516273	4.0	2	0	0	8.8913E-05
25	22.712		0.0000	0.0000%	20662	5948	3.5	2			1.0000E-09
26	23.781	Endrin ket	5.7356	0.7221%	69007	16392	4.2	1	0	0	8.3110E-05
27	28.340	DCB	76.9359	9.6527%	1573956	249638	6.3	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 797.0442

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:0V14E74.PTS Printed on 11-21-1997 at 22:08:57
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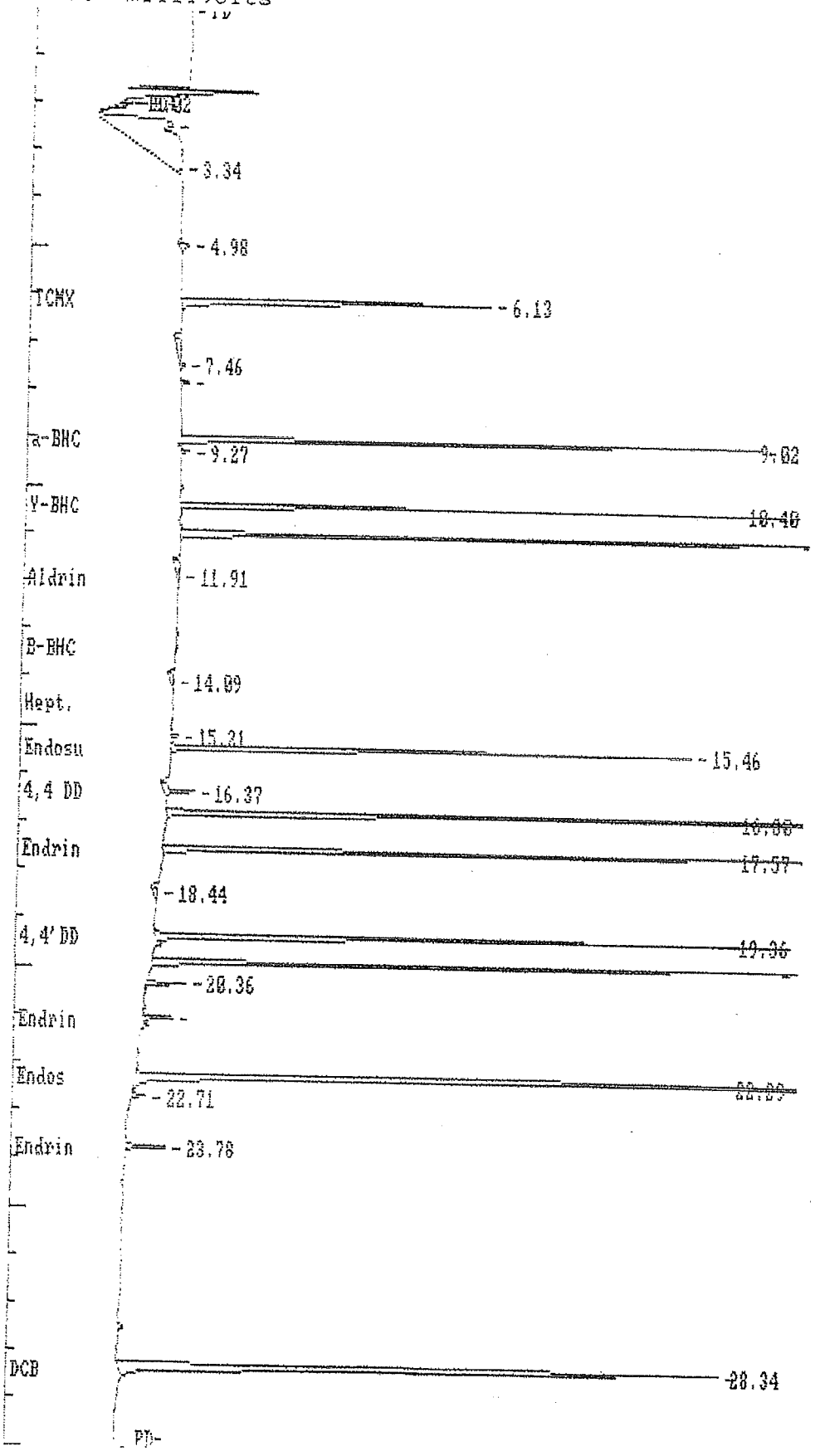


EXTERNAL STANDARD TABLE

11-21-1997 22:10:25 Version 5.1.5

* Sample Name: IND8 40-80 UG/L Data File: D:0V14E75
* Date: 11-19-1997 01:39:23 Method: M:BPE8-E 11-21-1997 21:24:54 # 390
* Interface: 2 Cycle#: 75 Operator JJK Channel#: 1 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

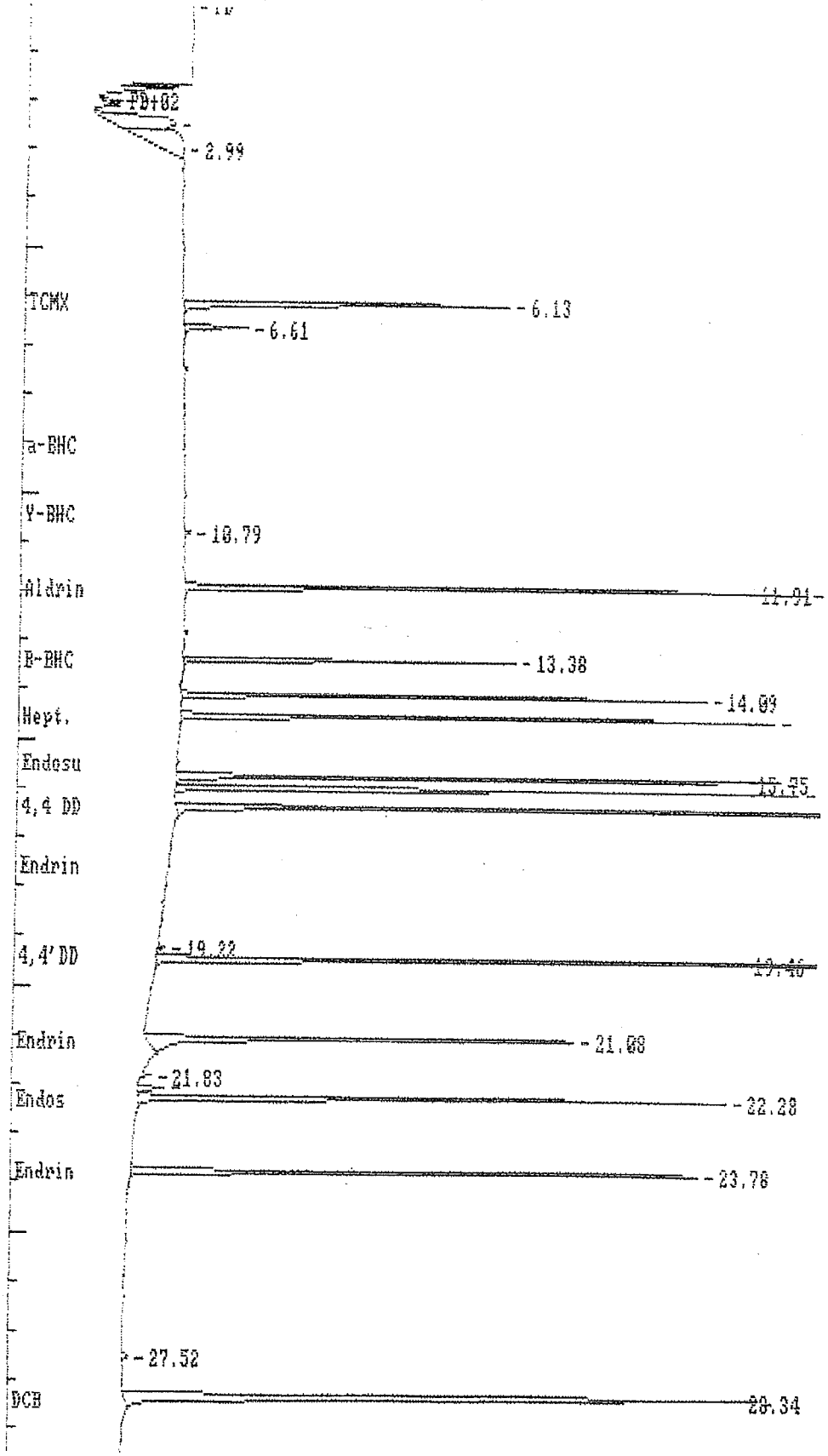
Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	17111	4822	3.5	1			1.0000E-09
2	2.472		0.0004	0.0000%	376786	23850	15.8	2			1.0000E-09
3	2.989		0.0004	0.0001%	393205	6806	57.8	2			1.0000E-09
4	6.129	TCMX	39.0731	5.1562%	613995	133600	4.6	1	0	0	6.3638E-05
5	6.613		0.0001	0.0000%	107002	26456	4.0	1			1.0000E-09
6	10.788		0.0000	0.0000%	12065	2549	4.7	1			1.0000E-09
7	11.907	Aldrin	39.3394	5.1913%	870502	252084	3.5	1	0	-.1417	4.5192E-05
8	13.377	B-BHC	39.3720	5.1956%	449668	135571	3.3	1	0	-.1217	8.7558E-05
9	14.095	d-BHC	41.9224	5.5322%	664763	213637	3.1	1	0	-.1148	6.3064E-05
10	14.512	Hept. epox.	39.0385	5.1516%	826445	241613	3.4	1	0	-.1149	4.7237E-05
11	15.748	Y-Chlordane	39.4993	5.2124%	855595	245568	3.5	2	0	-.1072	4.6166E-05
12	15.982	a-Chlordane	39.1771	5.1699%	878861	252679	3.5	2	0	-.1068	4.4577E-05
13	16.366	4,4 DDE	80.2079	10.5844%	1428744	408099	3.5	1	0	-.1037	5.6139E-05
14	19.222		0.0000	0.0000%	10689	3015	3.5	1			1.0000E-09
15	19.455	EndoslfII	79.0626	10.4333%	1267610	352293	3.6	1	0	0	6.2371E-05
16	21.075	Endrin ald	79.6942	10.5166%	800369	173145	4.6	1	0	0	9.9572E-05
17	21.827		0.0000	0.0000%	13324	4105	3.2	1			1.0000E-09
18	22.077		0.0000	0.0000%	46450	10781	4.3	2			1.0000E-09
19	22.278	Endos sulf	81.7596	10.7892%	919550	238824	3.9	2	0	-.1488	8.8913E-05
20	23.781	Endrin ket	81.8452	10.8005%	981243	230142	4.3	1	0	0	8.3410E-05
21	27.522		0.0000	0.0000%	11964	2270	5.3	1			1.0000E-09
22	28.340	DCB	77.8004	10.2667%	1591641	256780	6.2	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 757.7926

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:0V14E75.PTS Printed on 11-21-1997 at 22:10:35
tart time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
ull Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 22:11:57 Version 5.1.5

Sample Name: INDA 60-600 UG/L
Data File: D:OV14E75
Date: 11-19-1997 02:12:01 Method: M:8PES-E 11-21-1997 21:24:54 # 390
Interface: 2 Cycle#: 76 Operator JJK Channel#: 1 Vial#: N.A.
Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000
Instrument Type: PE 8500 Column Type: RTX 5/1701
Solvent Description:
Conditions:
Detector 0: Detector 1: ECD
Misc. Information:

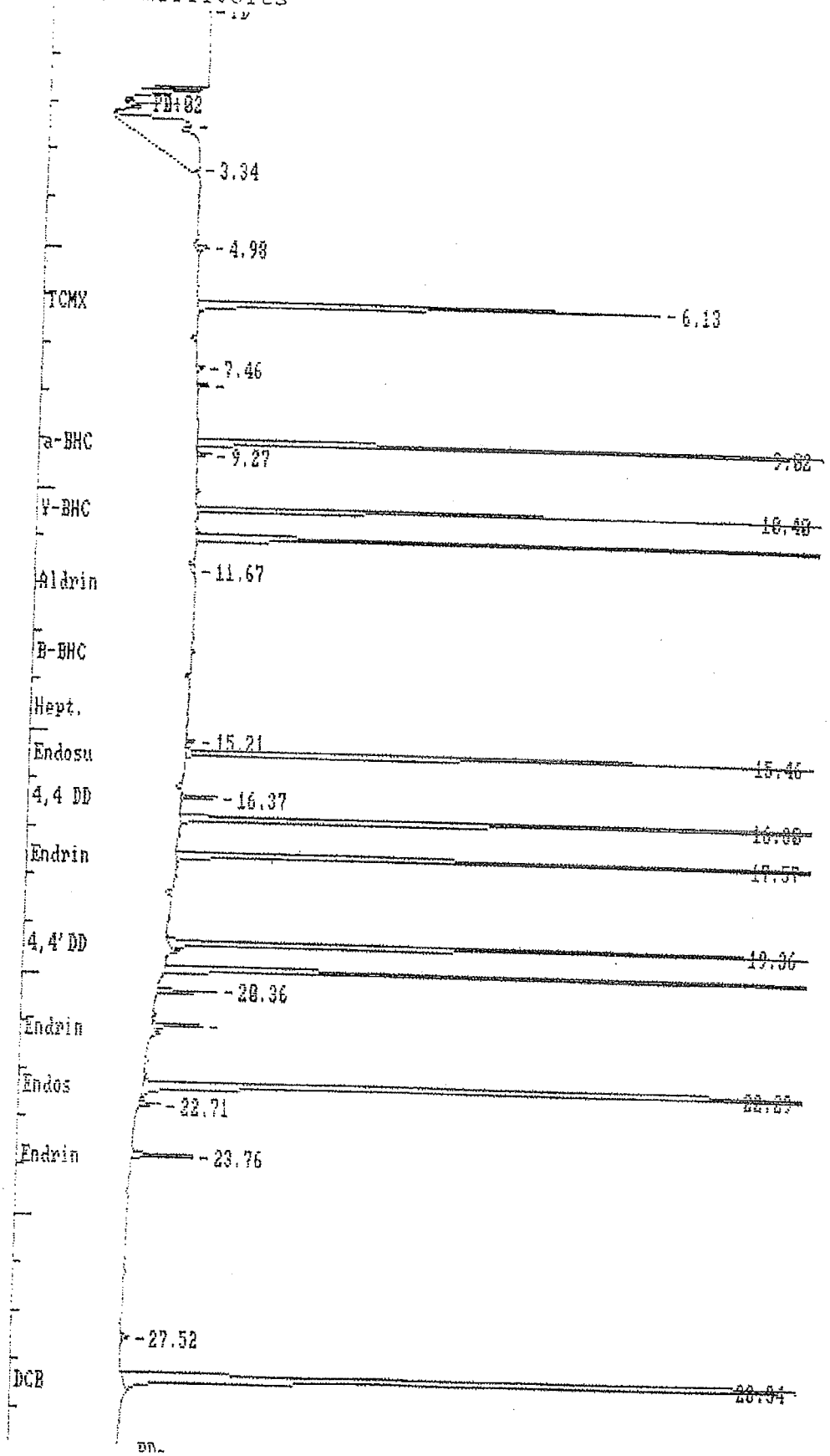
Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	16370	4893	3.3	1			1.0000E-09
2	2.455		0.0004	0.0000%	394568	26550	14.9	3			1.0000E-09
3	3.340		0.0007	0.0001%	701033	4219	166.1	4			1.0000E-09
4	4.977		0.0000	0.0000%	27047	5102	5.3	1			1.0000E-09
5	6.129 TCMX		56.8510	4.8918%	893357	192169	4.6	1	0	0	6.3638E-05
6	7.465		0.0000	0.0000%	12192	3076	4.0	1			1.0000E-09
7	7.849		0.0000	0.0000%	19798	5131	3.9	1			1.0000E-09
8	9.018 a-BHC		60.8320	5.2344%	1331369	372577	3.6	1	0	-.1881	4.5691E-05
9	9.268		0.0000	0.0000%	20689	5915	3.5	1			1.0000E-09
10	10.404 Y-BHC		61.6340	5.3034%	1284083	381877	3.4	1	0	-.1621	4.7998E-05
11	11.005 Heptachlor		56.6989	4.8787%	1375289	385385	3.6	1	0	-.1515	4.1227E-05
12	11.673		0.0000	0.0000%	19986	1371	14.6	1			1.0000E-09
13	15.214		0.0000	0.0000%	14089	4050	3.5	1			1.0000E-09
14	15.464 Endosulf I		57.2860	4.9293%	1148528	313244	3.7	1	0	-.1085	4.9878E-05
15	16.366 4,4 DDE		2.8902	0.2487%	51484	15215	3.4	1	0	-.1037	5.6139E-05
16	16.800 Dieldrin		116.7723	10.0478%	2059280	578570	3.6	1	0	0	5.6705E-05
17	17.568 Endrin		112.4896	9.6793%	1630200	438063	3.7	1	0	0	6.9004E-05
18	19.355 4,4'DDD		120.6458	10.3811%	1428688	391761	3.6	1	0	-.1738	8.4445E-05
19	19.906 4,4 DDT		127.2882	10.9527%	1409845	401919	3.5	1	0	0	9.0285E-05
20	20.357		0.0001	0.0000%	84747	25348	3.3	1			1.0000E-09
21	21.075 Endrin ald		8.1212	0.6988%	81561	20484	4.0	1	0	0	9.9572E-05
22	22.294 ~~Endos sulf~~ Methoxy		262.2449	22.5652%	2949468	724375	4.1	2	0	0	8.8913E-05
23	22.712		0.0000	0.0000%	33029	9296	3.6	2			1.0000E-09
24	23.764 Endrin ket		8.9145	0.7671%	106876	25478	4.2	1	0	-.1382	8.3410E-05
25	27.522		0.0000	0.0000%	17611	3369	5.2	1			1.0000E-09
26	28.340 DCB		109.4938	9.4215%	2240025	359907	6.2	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 1162.1639

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:OV14E76.PTS Printed on 11-21-1997 at 22:12:06 474
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 22:13:32 Version 5.1.5

* Sample Name: INDR 60-120 UG/L Data File: D:0V14E77
* Date: 11-19-1997 02:44:44 Method: M:BPES-E 11-21-1997 21:24:54 # 390
* Interface: 2 Cycle#: 77 Operator JJK Channel#: 1 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

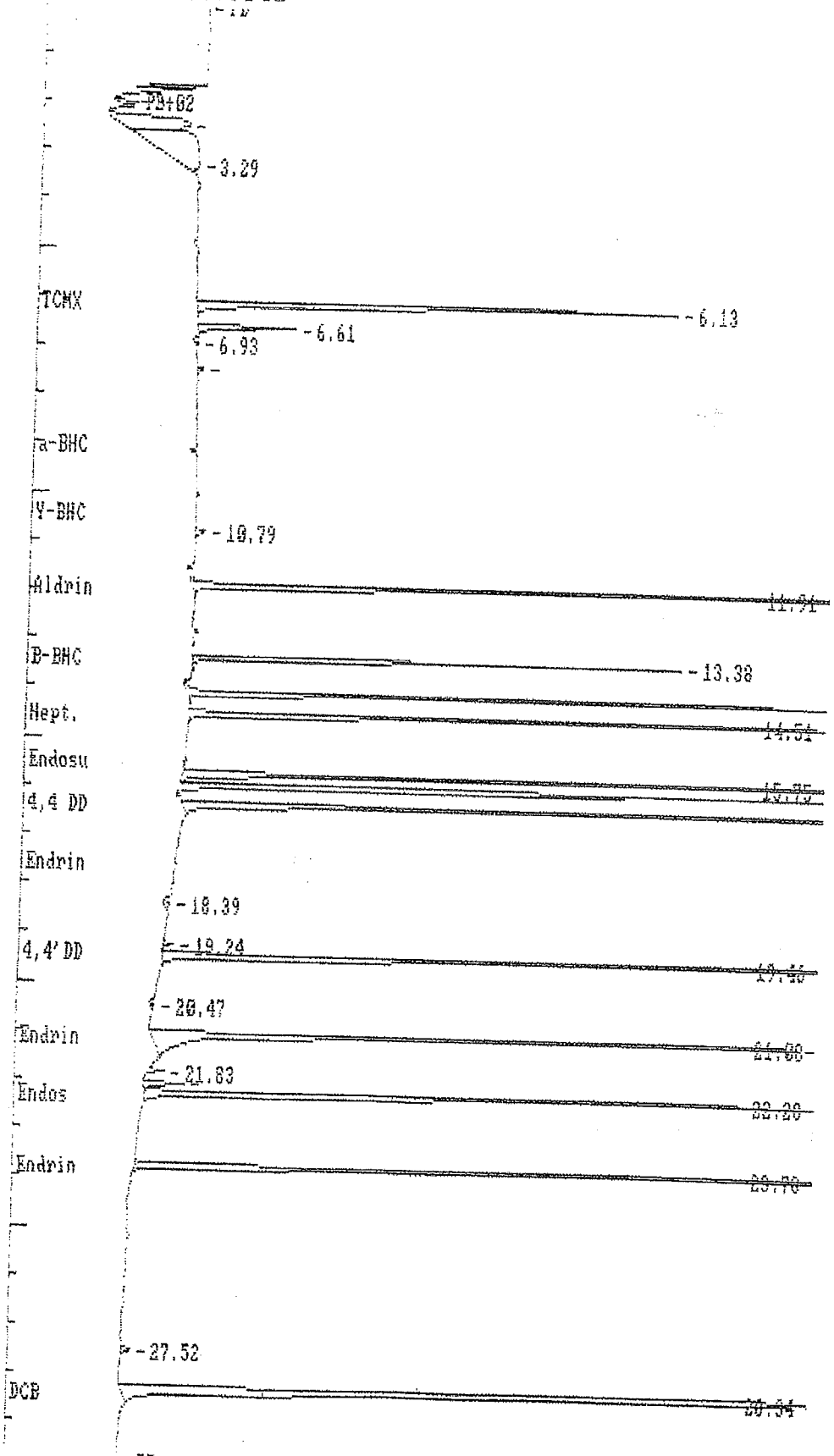
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	16961	4797	3.5	1			1.0000E-09
2	2.455		0.0004	0.0000%	406431	26978	15.1	2			1.0000E-09
3	3.290		0.0007	0.0001%	704060	5717	123.1	2			1.0000E-09
4	6.129	TCMX	57.8924	5.0348%	909722	196226	4.6	1	0	0	6.3638E-05
5	6.613		0.0002	0.0000%	164060	40369	4.1	1			1.0000E-09
6	6.930		0.0000	0.0000%	10449	1814	5.8	1			1.0000E-09
7	7.465		0.0000	0.0000%	11209	2885	3.9	1			1.0000E-09
8	10.788		0.0000	0.0000%	19586	3989	4.9	1			1.0000E-09
9	11.907	Aldrin	60.2865	5.2430%	1334020	372741	3.6	1	0	-.1417	4.5192E-05
10	13.377	B-BHC	58.9565	5.1273%	673342	199399	3.4	1	0	-.1217	8.7558E-05
11	14.095	d-BHC	68.3709	5.9461%	1084158	337751	3.2	1	0	-.1148	6.3064E-05
12	14.512	Hept. epox.	57.6240	5.0115%	1219901	346593	3.5	1	0	-.1149	4.7237E-05
13	15.748	Y-Chlordane	59.4377	5.1692%	1287481	365639	3.5	2	0	-.1072	4.6166E-05
14	15.982	a-Chlordane	59.4200	5.1677%	1332968	374745	3.6	2	0	-.1068	4.4577E-05
15	16.366	4,4 DDE	119.2926	10.3747%	2124960	599317	3.5	1	0	-.1037	5.6139E-05
16	18.387		0.0000	0.0000%	10938	2040	5.4	1			1.0000E-09
17	19.238		0.0000	0.0000%	15897	4414	3.6	1			1.0000E-09
18	19.455	EndoslfII	117.0671	10.1811%	1876936	513730	3.7	1	0	0	6.2371E-05
19	20.474		0.0000	0.0000%	10491	1780	5.9	1			1.0000E-09
20	21.075	Endrin ald	130.7850	11.3741%	1313474	263703	5.0	1	0	0	9.9572E-05
21	21.927		0.0000	0.0000%	21848	6750	3.2	1			1.0000E-09
22	22.077		0.0001	0.0000%	72123	16656	4.3	2			1.0000E-09
23	22.279	Endos sulf	124.1808	10.7998%	1396661	358399	3.9	2	0	-.1488	8.8913E-05
24	23.781	Endrin ket	123.4617	10.7373%	1460182	340382	4.3	1	0	0	8.3410E-05
25	27.522		0.0000	0.0000%	18750	3583	5.2	1			1.0000E-09
26	28.349	DCB	113.0677	9.8333%	2313138	365739	6.3	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 1149.8442

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E77.PTS Printed on 11-21-1997 at 22:13:43
tart time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
ull Range: 300 millivolts



10B

PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

Lab Name: EMSL Analytical Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Lab Sample ID : _____ Date(s) Analyzed: 11/19/97

Instrument ID (1): HP5890 SII Instrument ID (2): _____

GC Column(1): DB-5 ID: 0.32 (mm) GC Column(2): DB-1701 ID: 0.32 (mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	Calib. Factor	Cont. Calib Factor	%D
Aroclor 1016	1	7.70	7.65	7.75	1167600		
	2	8.27	8.22	8.32			
COLUMN 1	3	9.12	9.07	9.17			
	4	9.44	9.39	9.49			
Initial curve	5	11.36	11.31	11.41			
10/21/97	1				11/25/97		
	2						
	3						
COLUMN 2	4						
	5						
Aroclor 1260	1	15.40	15.35	15.45	1790700		
	2	16.27	16.22	16.32			
COLUMN 1	3	18.72	18.67	18.77			
	4	19.71	19.66	19.86			
Initial	5	20.76	20.71	20.81			
10/21/97	1						
	2						
COLUMN 2	3						
	4						
	5						
Aroclor 1221 (2 ppm)	1	4.22	4.17	4.27	303950	~~361000~~ 355963 11/25/97	17
	2	6.10	6.05	6.15			
COLUMN 1	3	6.36	6.31	6.41			
	4	6.51	6.46	6.56			
Initial curve	5	7.80	7.75	7.85			
10/22/97	1	7.18	7.13	7.23	632150		
	2	7.68	7.63	7.73			
COLUMN 2	3	7.87	7.82	7.92			
	4	9.18	9.13	9.23			
	5	10.72	10.67	10.77			

E79

At least 3 peaks for each column are required for identification of multicomponent analytes

page ___ of ___

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PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

Lab Name: EMSL Analytical Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Lab Sample ID : _____ Date(s) Analyzed: 11/19/97 _____

Instrument ID (1): HP5890SII Instrument ID (2): _____

GC Column(1): DB-5 ID: 0.32 (mm) GC Column(2): DB-1701 ID: 0.32 (mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	Calib. Factor	Cont. Calib Factor	%D
Aroclor 1232	1	6.51	6.46	6.56	595200	677100	14
	2	7.70	7.65	7.75			
	3	8.27	8.22	8.32			
COLUMN 1	4	9.12	9.07	9.17			
	5	9.44	9.39	9.49			
Initial curve 10/22/97	1						
	2						
	3						
COLUMN 2	4						
	5						
Aroclor 1242	1	7.70	7.65	7.75	834500	901000	8
	2	8.27	8.22	8.32			
	3	9.12	9.07	9.17			
COLUMN 1	4	9.44	9.39	9.49			
	5	11.36	11.31	11.41			
Initial 10/23/97	1						
	2						
	3						
COLUMN 2	4						
	5						
Aroclor 1248	1	7.70	7.65	7.75	778500	882000	13
	2	9.10	9.05	9.15			
	3	9.44	9.39	9.49			
COLUMN 1	4	10.94	10.89	10.99			
	5	11.36	11.31	11.41			
Initial 10/22/97		11.06	11.01	11.11			
	1						
	2						
	3						
COLUMN 2	4						
	5						

E80

E81

E82

At least 3 peaks for each column are required for identification of multicomponent analytes

page __ of __

1C8
PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

Lab Name: Final Analytical Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Lab Sample ID : _____ Date(s) Analyzed: 11/19/97 11/21/97

Instrument ID (1): HP5890SII Instrument ID (2): _____

GC Column(1): DB-5 ID: 0.32 (mm) GC Column(2): DB-1701 ID: 0.32 (mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	Calib. Factor	Cont. Calib Factor	%D
Aroclor 1254	1	12.27-12.42	12.22	12.47	1731600	2131000	23
	2	13.23	13.18	13.28			
	3	14.53	14.48	14.58			
COLUMN 1	4	15.4-15.46	15.35	15.51			
	5	16.27-16.38	16.22	16.43			
Initial 10/22/97	1	14.34	14.29	14.39	2611200		E83
	2	16.27	16.22	16.32			
	3	16.68	16.63	16.73			
COLUMN 2	4	17.25	17.20	17.30			
	5	18.09	18.04	18.14			
Aroclor 1016	1	7.72	7.67	7.77	1408100	1363619	3
	2	8.30	8.25	8.35			
	3	9.14	9.09	9.19			
COLUMN 1	4	9.45	9.40	9.50			
	5	11.37	11.32	11.42			
Initial 11/19/97	1						E123
	2						
	3						
COLUMN 2	4						
	5						
Aroclor 1260	1	15.43	15.38	15.50	2311900	2217000	
	2	16.30	16.23	16.37			
	3	18.14	18.07	18.21			
COLUMN 1	4	19.74	19.67	19.81			
	5	20.79	20.72	20.86			
Initial 11/19/97	1						
	2						
	3						
COLUMN 2	4						
	5						

At least 3 peaks for each column are required for identification of multicomponent analytes

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: EMSL
Instrument ID: HP 5890 Series II
GC Column:DB-5 ID: 0.32

Init. Calibration Date:11/19/97-11/20/97
Date Analyzed:11/20/97
Time Analyzed:1949

Lab File ID: D:NV14E111

INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
alpha-BHC	6.56	6.51	6.61	2905	2906	6.58	0
gamma-BHC (Lindane)	7.48	7.43	7.53	3067	3080	7.50	0
Heptachlor	9.60	9.55	9.65	3793	4145	9.64	9
Endosulfan I	13.38	13.31	13.45	3518	3573	13.39	2
Dieldrin	14.30	14.23	14.37	4053	4005	14.33	1
Endrin	15.08	15.01	15.15	2816	2961	15.10	5
4,4'-DDD	15.80	15.73	15.87	2931	2779	15.83	5
4,4'-DDT	17.13	17.06	17.20	3046	3139	17.17	3
Methoxychlor	19.30	19.23	19.37	1572	1696	19.32	8
Tetrachloro-m-xylene	5.56	5.51	5.61	4365	3981	5.58	9
Decachlorobiphenyl	26.20	26.10	26.30	4998	4604	26.24	8

Lab File ID: D:NV14E110

Date Analyzed:11/20/97
Time Analyzed:1917

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
beta-BHC	7.32	7.27	7.37	2533	2470	7.33	2
delta-BHC	8.18	8.13	8.23	2216	2351	8.20	6
Aldrin	10.74	10.69	10.79	4162	4217	10.76	1
Heptachlor epoxide	12.12	12.05	12.19	3842	4005	12.14	4
4,4'-DDE	14.30	14.23	14.37	4991	4888	14.32	2
Endosulfan II	15.43	15.36	15.50	2996	3216	15.45	7
Endosulfan sulfate	16.98	16.91	17.05	2628	2736	17.00	4
Endrin ketone	18.67	18.60	18.74	2840	3030	18.69	7
Endrin aldehyde	16.13	16.06	16.20	2927	3013	16.15	3
alpha-Chlordane	13.48	13.41	13.55	4894	4925	13.51	1
gamma-Chlordane	12.94	12.87	13.01	4770	4812	12.96	1
Tetrachloro-m-xylene	5.56	5.51	5.61	4410	4089	5.58	7
Decachlorobiphenyl	26.19	26.09	26.29	5131	4532	26.24	12

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%.

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: EMSL
Instrument ID: HP 5890 Series II
GC Column:DB-1701 ID: 0.32

Init. Calibration Date:11/19/97-11/20/97
Date Analyzed:11/20/97
Time Analyzed:1949

Lab File ID:OV14E111

INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
alpha-BHC	9.02	8.97	9.07	20956	19790	9.04	6
gamma-BHC (Lindane)	10.40	10.35	10.45	20310	18741	10.42	8
Heptachlor	11.00	10.95	11.05	23865	22434	11.02	6
Endosulfan I	15.46	15.39	15.53	19926	18610	15.48	7
Dieldrin	16.80	16.73	16.87	17639	16530	16.82	6
Endrin	17.57	17.50	17.64	14263	13794	17.58	3
4,4'-DDD	19.36	19.29	19.43	11730	10659	19.39	9
4,4'-DDT	19.91	19.84	19.98	10875	10450	19.92	4
Methoxychlor	22.29	22.22	22.36	5458	5228	22.33	4
Tetrachloro-m-xylene	6.13	6.08	6.18	15667	14501	6.15	7
Decachlorobiphenyl	28.34	28.24	28.44	20391	18759	28.39	8

Lab File ID:OV14E110

Date Analyzed:11/20/97
Time Analyzed:1917

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
beta-BHC	13.38	13.33	13.43	11424	10187	13.39	11
delta-BHC	14.10	14.05	14.15	15605	16101	14.11	3
Aldrin	11.91	11.86	11.96	21751	22863	11.92	5
Heptachlor epoxide	14.51	14.44	14.58	21011	19279	14.53	8
4,4'-DDE	16.37	16.30	16.44	17710	17355	16.38	2
Endosulfan II	19.46	19.39	19.53	16095	14947	19.47	7
Endosulfan sulfate	22.28	22.21	22.35	11116	10695	22.31	4
Endrin ketone	23.78	23.71	23.85	12177	11232	23.80	8
Endrin aldehyde	21.08	21.01	21.15	9780	8441	21.09	14
alpha-Chlordane	15.98	15.91	16.05	22505	22160	16.00	2
gamma-Chlordane	15.75	15.68	15.82	21565	20386	15.76	5
Tetrachloro-m-xylene	6.13	6.08	6.18	15800	14106	6.16	11
Decachlorobiphenyl	28.34	28.24	28.44	20731	18686	28.39	10

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: EMSL
Instrument ID: HP 5890 Series II
GC Column:DB-5 ID: 0.32

Init. Calibration Date:11/19/97-11/20/97
Date Analyzed:11/21/97
Time Analyzed:1949

Lab File ID: D:NV14E134

INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
alpha-BHC	6.56	6.51	6.61	2905	3083	6.58	6
gamma-BHC (Lindane)	7.48	7.43	7.53	3067	3276	7.48	7
Heptachlor	9.60	9.55	9.65	3793	4463	9.62	18
Endosulfan I	13.38	13.31	13.45	3518	3644	13.39	4
Dieldrin	14.30	14.23	14.37	4053	4128	14.31	2
Endrin	15.08	15.01	15.15	2816	3200	15.08	14
4,4'-DDD	15.80	15.73	15.87	2931	2808	15.82	4
4,4'-DDT	17.13	17.06	17.20	3046	3219	17.15	6
Methoxychlor	19.30	19.23	19.37	1572	1980	19.32	26
Tetrachloro-m-xylene	5.56	5.51	5.61	4365	3913	5.58	10
Decachlorobiphenyl	26.20	26.10	26.30	4998	4718	26.22	6

Lab File ID: D:NV14E133

Date Analyzed:11/21/97
Time Analyzed:1916

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
beta-BHC	7.32	7.27	7.37	2533	2550	7.33	1
delta-BHC	8.18	8.13	8.23	2216	1981	8.18	11
Aldrin	10.74	10.69	10.79	4162	4039	10.76	3
Heptachlor epoxide	12.12	12.05	12.19	3842	3928	12.12	2
4,4'-DDE	14.30	14.23	14.37	4991	4455	14.30	11
Endosulfan II	15.43	15.36	15.50	2996	3197	15.45	7
Endosulfan sulfate	16.98	16.91	17.05	2628	2469	17.00	6
Endrin ketone	18.67	18.60	18.74	2840	2805	18.67	1
Endrin aldehyde	16.13	16.06	16.20	2927	2899	16.15	1
alpha-Chlordane	13.48	13.41	13.55	4894	4663	13.49	5
gamma-Chlordane	12.94	12.87	13.01	4770	4625	12.96	3
Tetrachloro-m-xylene	5.56	5.51	5.61	4410	3903	5.58	11
Decachlorobiphenyl	26.19	26.09	26.29	5131	4656	26.22	9

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: EMSL
Instrument ID: HP 5890 Series II
GC Column:DB-1701 ID: 0.32

Init. Calibration Date:11/19/97-11/20/97
Date Analyzed:11/21/97
Time Analyzed:1949

Lab File ID:OV14E134

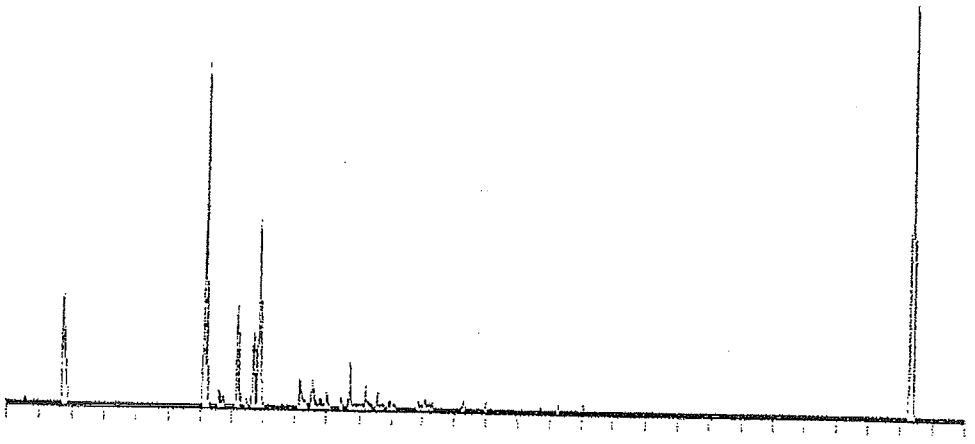
INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
alpha-BHC	9.02	8.97	9.07	20956	18884	9.02	10
gamma-BHC (Lindane)	10.40	10.35	10.45	20310	17891	10.42	12
Heptachlor	11.00	10.95	11.05	23865	21457	11.02	10
Endosulfan I	15.46	15.39	15.53	19926	16847	15.46	15
Dieldrin	16.80	16.73	16.87	17639	14850	16.82	16
Endrin	17.57	17.50	17.64	14263	12895	17.57	10
4,4'-DDD	19.36	19.29	19.43	11730	9466	19.37	19
4,4'-DDT	19.91	19.84	19.98	10875	8859	19.92	19
Methoxychlor	22.29	22.22	22.36	5458	5087	22.31	7
Tetrachloro-m-xylene	6.13	6.08	6.18	15667	14113	6.15	10
Decachlorobiphenyl	28.34	28.24	28.44	20391	17280	28.38	15

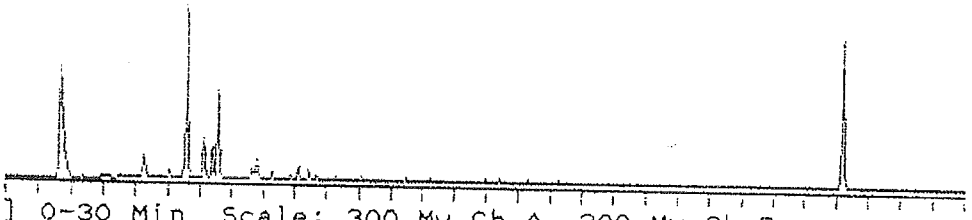
Lab File ID:OV14E135

Date Analyzed:11/21/97
Time Analyzed:1916

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
beta-BHC	13.38	13.33	13.43	11424	9221	13.39	19
delta-BHC	14.10	14.05	14.15	15605	11709	14.11	25
Aldrin	11.91	11.86	11.96	21751	17938	11.92	18
Heptachlor epoxide	14.51	14.44	14.58	21011	17028	14.53	19
4,4'-DDE	16.37	16.30	16.44	17710	12543	16.38	29
Endosulfan II	19.46	19.39	19.53	16095	12543	19.47	22
Endosulfan sulfate	22.28	22.21	22.35	11116	8315	22.29	25
Endrin ketone	23.78	23.71	23.85	12177	8953	23.78	26
Endrin aldehyde	21.08	21.01	21.15	9780	6820	21.08	30
alpha-Chlordane	15.98	15.91	16.05	22505	18989	16.00	16
gamma-Chlordane	15.75	15.68	15.82	21565	17630	15.76	18
Tetrachloro-m-xylene	6.13	6.08	6.18	15800	13121	6.15	17
Decachlorobiphenyl	28.34	28.24	28.44	20731	16523	28.37	20

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%.





[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1221 2PPM Processed: 11-19-1997 04:20:40, segment 14, cycle 79
RAW DATA SAVED IN FILE D:NV14E79.PTS Second Channel Stored in D:0V14E79.PTS

EXTERNAL STANDARD TABLE

********** 11-19-1997 04:21:42 Version 5.1.5 **********
* Sample Name: A1221 2PPM
* Date: 11-19-1997 03:50:07 Method: M:APES-E 10-29-1997 19:24:01 # 395 *
* Interface: 2 Cycle#: 79 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *
****
* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: *
* Misc. Information: Detector 1: ECD *
****

Data File: D:NV14E79

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.355		0.0000	0.0000%	19969	1166	17.1	1			1.0000E-09
2	4.242		0.0001	0.0000%	88608	15089	5.9	1			1.0000E-09
3	5.043		0.0000	0.0000%	25254	4599	5.5	1			1.0000E-09
4	5.561	TCMX	94.5831	47.8562%	567499	114219	5.0	1			1.6667E-04

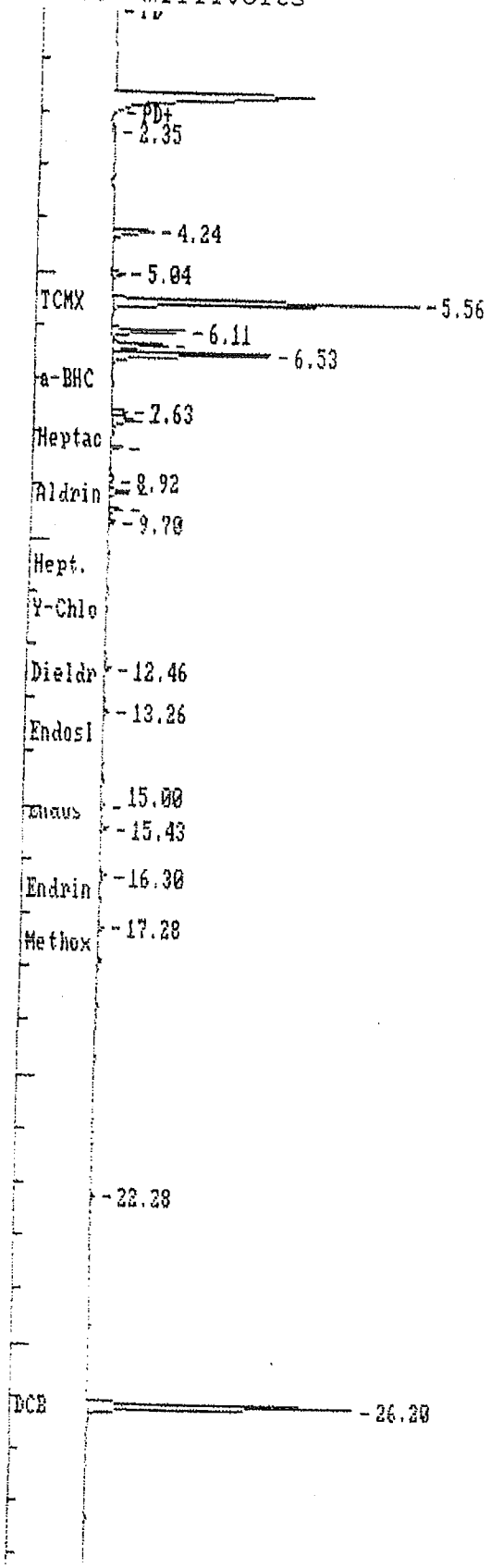
711000

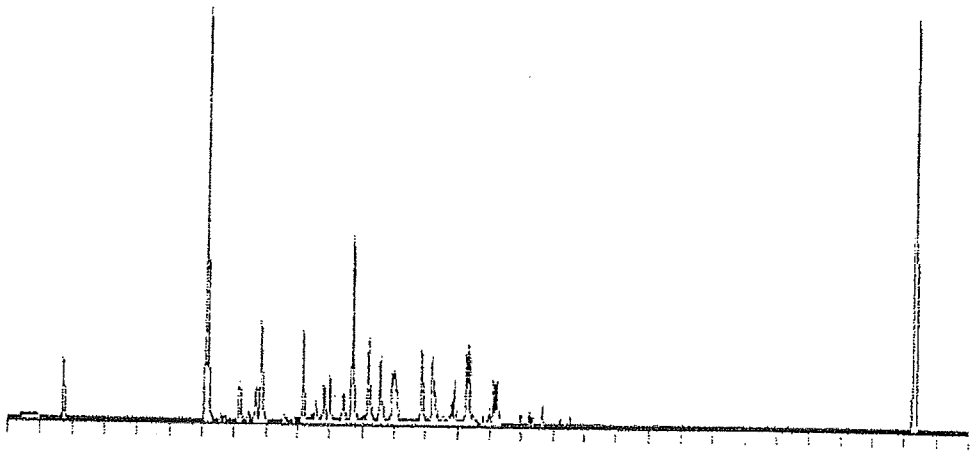
7	6.530									
8	7.632	0.0003	0.0002%	317639	59568	5.3	2			1.0000E-09
9	7.799	0.0000	0.0000%	24898	5821	4.3	2			1.0000E-09
10	8.300	0.0001	0.0000%	74470	11280	6.6	2			1.0000E-09
11	8.918	0.0000	0.0000%	18798	4442	4.2	1			1.0000E-09
	9.135 Aldrin	0.0000	0.0000%	11376	1512	7.5	1			1.0000E-09
	9.452	15.1425	7.6617%	43141	7891	5.5	1	0	-.1868	3.5100E-04
14	9.703	0.0000	0.0000%	22206	5200	4.3	2			1.0000E-09
15	12.458 Dieldrin	0.0000	0.0000%	10542	2722	3.9	2			1.0000E-09
16	13.260 Endrin	3.4265	1.7337%	9594	2300	4.2	1	0	-.6681	3.5714E-04
17	14.997 Endos sulf	3.2539	1.6464%	8431	2189	3.9	1	0	.2555	3.8595E-04
18	15.431 DDT	2.5522	1.2913%	5528	1468	3.8	1	0	-.6650	4.6168E-04
19	16.299 Endrin ket.	8.9499	4.5284%	13362	3014	4.4	1	0	0	6.6979E-04
20	17.284 Methoxychlor	2.9923	1.5140%	8334	2462	3.4	1	0	-1.515	3.5907E-04
21	22.278	7.0375	3.5608%	8987	2099	4.3	1	0	-1.428	7.8309E-04
22	26.202 DCB	0.0000	0.0000%	5819	1516	3.8	1			1.0000E-09
		59.7014	30.2071%	537313	98453	5.5	1	0	.1234	1.1111E-04

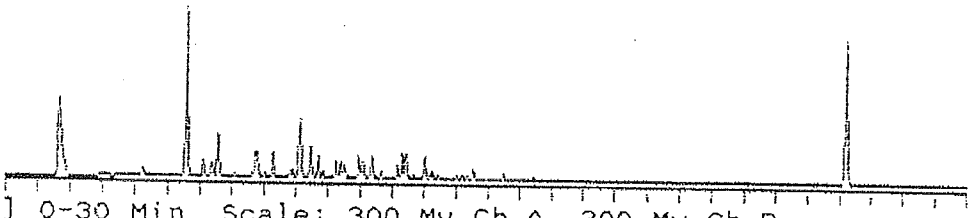
TOTAL AMOUNT = 197.6403

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E79.ATB
Data File = D:NV14E79.PTS Printed on 11-19-1997 at 04:22:07
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts







[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1232 1PPM Processed: 11-19-1997 04:53:17, segment 15, cycle 80
RAW DATA SAVED IN FILE D:NV14E80.PTS Second Channel Stored in D:OV14E80.PTS

EXTERNAL STANDARD TABLE

********** 11-19-1997 04:54:19 Version 5.1.5 **********
* Sample Name: A1232 1PPM
* Date: 11-19-1997 04:22:44 Method: M:APES-E 10-29-1997 19:24:01 # 395
* Interface: 2 Cycle#: 80 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
Data File: D:NV14E80

****
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:
****

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.223		0.0001	0.0000%	70003	620	112.8	1			1.0000E-09
2	4.242		0.0000	0.0000%	28018	4839	5.8	1			1.0000E-09
3	5.043		0.0000	0.0000%	6403	1242	5.2	1			1.0000E-09
4	5.561	TCMX	90.0775	24.9972%	540465	112734	4.8	1	0	0	1.6667E-04

7	6.530	0.0002	0.0000%	150236	28699	5.2	2			1.0000E-09
8	7.097 B-BHC	5.9239	1.6439%	7885	1765	4.5	1	0	-.0352	7.5131E-04
9	7.732	0.0001	0.0000%	144596	16824	8.6	2			1.0000E-09
10	8.033 Heptachlor	3.1244	0.8670%	11023	2529	4.4	2	0	-.6223	2.8345E-04
11	8.300	0.0001	0.0000%	72406	16685	4.3	2			1.0000E-09
	8.834	0.0000	0.0000%	33702	5052	6.7	2			1.0000E-09
13	9.135 Aldrin	75.6210	20.9854%	215444	37388	5.8	2	0	.1868	3.5100E-04
14	9.452	0.0001	0.0000%	94525	20983	4.5	2			1.0000E-09
15	9.703	0.0001	0.0000%	57279	13300	4.3	2			1.0000E-09
16	9.870	0.0000	0.0000%	14913	3651	4.1	2			1.0000E-09
17	10.270	0.0000	0.0000%	43974	10828	4.1	2			1.0000E-09
18	10.404	0.0000	0.0000%	44382	10242	4.3	2			1.0000E-09
19	10.521 Hept. epox.	10.9191	3.0301%	35291	7235	4.9	2	0	.1618	3.0941E-04
20	10.955	0.0001	0.0000%	59398	14209	4.2	2			1.0000E-09
21	11.072	0.0000	0.0000%	47307	10059	4.7	2			1.0000E-09
22	11.373 Y-Chlordane	20.2756	5.6266%	68309	14012	4.9	2	0	.5899	2.9682E-04
23	11.657 Endosulfan I	5.3809	1.4932%	15868	4198	3.8	1	0	-.1404	3.3910E-04
24	12.174	0.0000	0.0000%	33633	8754	3.8	2			1.0000E-09
25	12.308	0.0001	0.0000%	64842	15702	4.1	2			1.0000E-09
26	12.425 Dieldrin	26.2080	7.2729%	73382	16078	4.6	2	0	-.9344	3.5714E-04
27	13.026 4,4-DDE	28.8267	7.9996%	61804	14397	4.3	2	0	1.964	4.6642E-04
28	13.260 Endrin	9.2512	2.5673%	23970	4099	5.8	2	0	.2555	3.8595E-04
29	13.443 Endosif II	3.2514	0.9023%	9188	2406	3.8	2	0	-1.107	3.5386E-04
30	14.028	0.0000	0.0000%	7948	2013	3.9	2			1.0000E-09
31	14.212 4'4-DDD	8.2130	2.2792%	11950	2948	4.1	2	0	-.3526	6.8729E-04
32	14.362	0.0000	0.0000%	6772	1859	3.6	2			1.0000E-09
33	14.562	0.0000	0.0000%	20534	5157	4.0	1			1.0000E-09
34	14.963 Endos sulf	3.0458	0.8452%	6597	1600	4.1	1	0	-.8862	4.6168E-04
35	15.498 DDT	8.4110	2.3341%	12558	2951	4.3	1	0	.4315	6.6978E-04
36	16.449 Endrin ket.	3.4579	0.9596%	9630	2204	4.4	1	0	-.6072	3.5907E-04
37	22.278	0.0000	0.0000%	5497	1465	3.8	1			1.0000E-09
38	26.186 DCB	58.3626	16.1960%	525263	95441	5.5	1	0	0	1.1111E-04

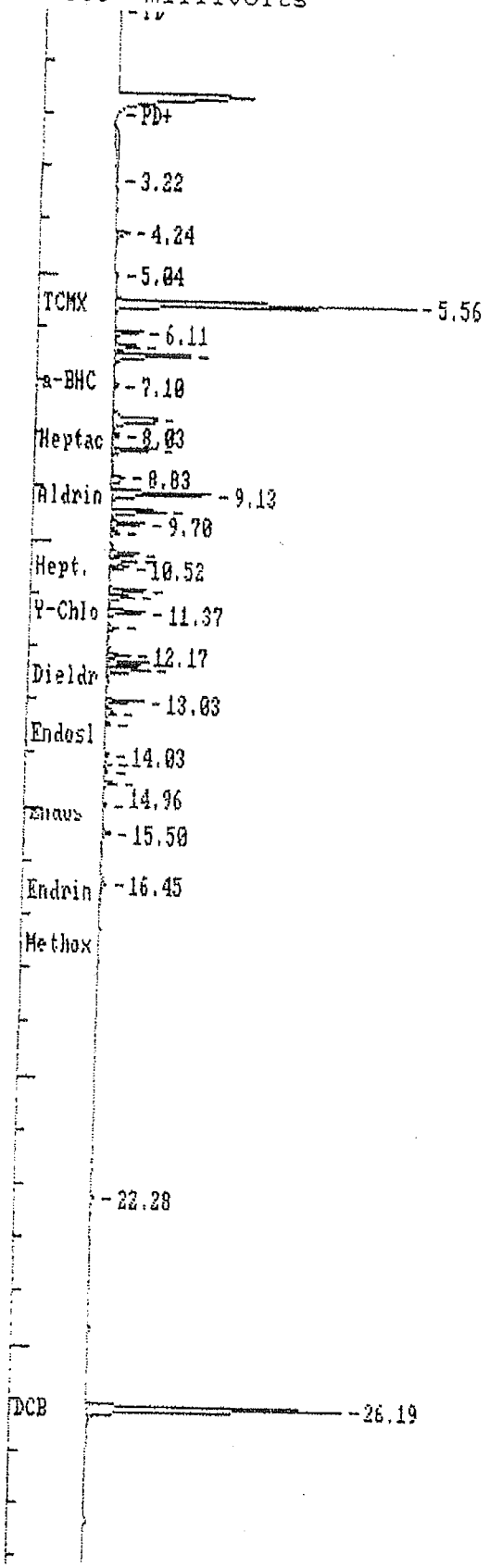
677100

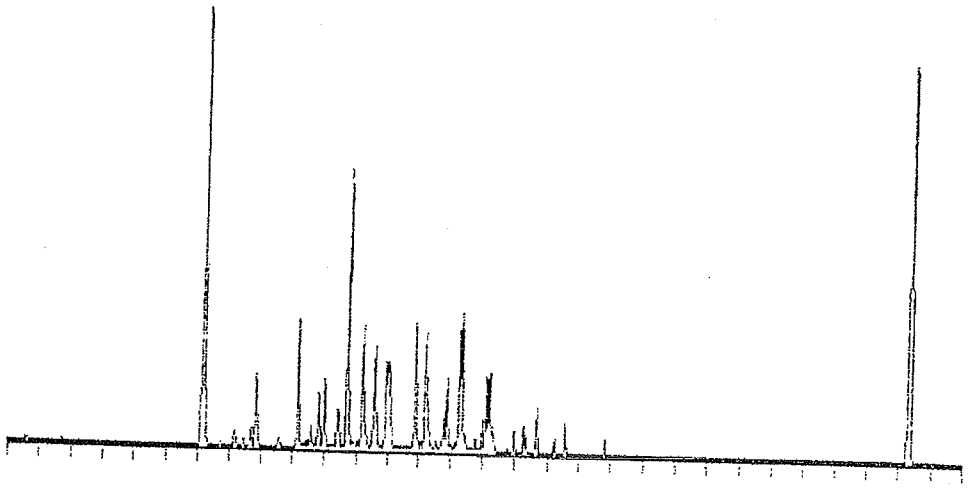
1099%

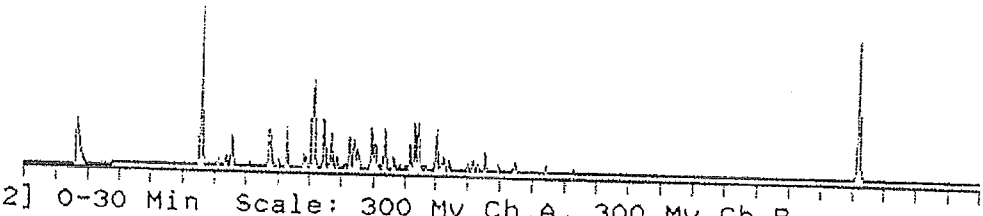
TOTAL AMOUNT = 360.3509

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Areas, times, and heights stored in: D:NV14E80.ATB
Data File = D:NV14E80.PTS Printed on 11-19-1997 at 04:54:45
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts







[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1242 1PPM Processed: 11-19-1997 05:25:58, segment 16, cycle 81
RAW DATA SAVED IN FILE D:NV14E81.PTS Second Channel Stored in D:OV14E81.PTS

EXTERNAL STANDARD TABLE

********** 11-19-1997 05:27:00 Version 5.1.5 **********
* Sample Name: A1242 1PPM
* Date: 11-19-1997 04:55:24 Method: M:APES-E 10-29-1997 19:24:01 # 395 *
Data File: D:NV14E81
* Interface: 2 Cycle#: 81 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *
* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

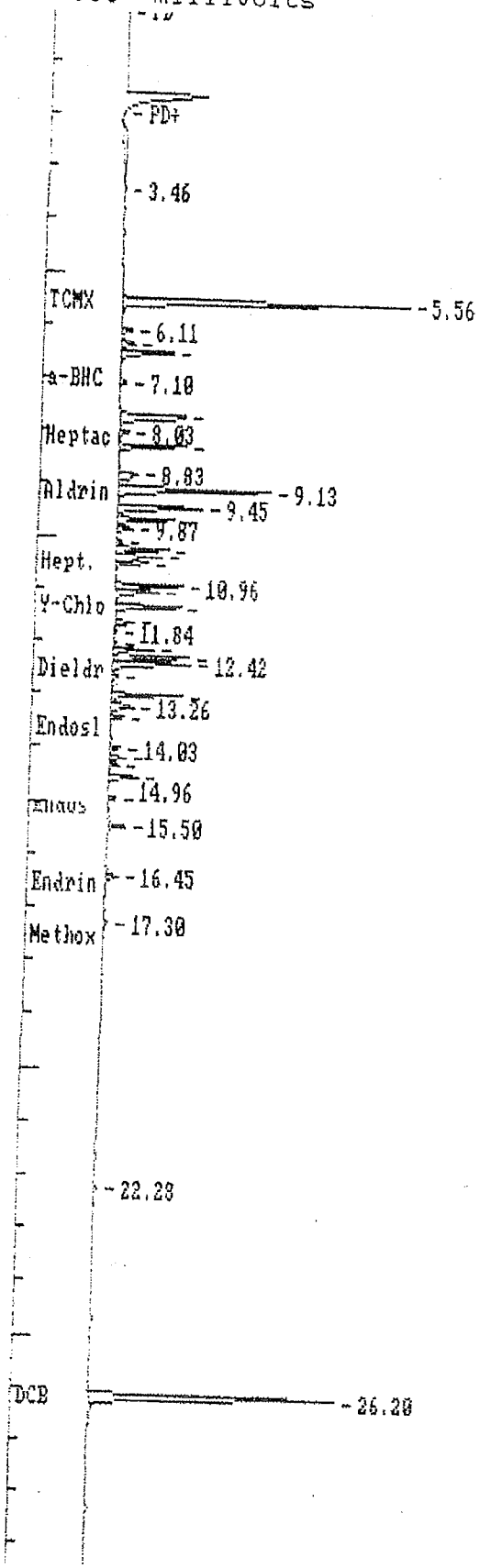
	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.457		0.0001	0.0000%	74374	532	139.8	1			1.0000E-09
2	5.561	TCMX	86.0292	18.0107%	516175	108305	4.8	1	0	0	1.6667E-04
3	6.112		0.0000	0.0000%	22377	4380	5.1	2			1.0000E-09
4	6.379		0.0000	0.0000%	27716	5421	5.1	2			1.0000E-09

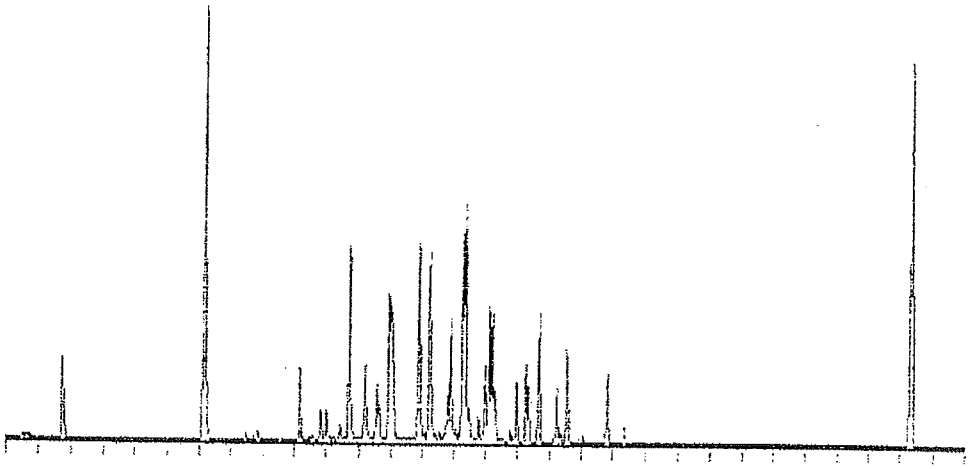
7	7.732	0.0002	0.0000%	182458	24767	7.4	2			1.0000E-09
8	8.033 Heptachlor	4.1927	0.8778%	14792	3572	4.1	2	0	-.6223	2.8345E-04
9	8.300	0.0001	0.0000%	112031	25601	4.4	1			1.0000E-09
10	8.834	0.0001	0.0000%	50338	7581	6.6	2			1.0000E-09
11	9.135 Aldrin	118.4754	24.8035%	337537	57944	5.8	2	0	-.1868	3.5100E-04
	9.452	0.0001	0.0000%	146795	32275	4.5	2	901000		1.0000E-09
13	9.703	0.0001	0.0000%	93001	21484	4.3	2			1.0000E-09
14	9.870	0.0000	0.0000%	25058	6070	4.1	2			1.0000E-09
15	10.137	0.0000	0.0000%	9368	2451	3.8	2			1.0000E-09
16	10.270	0.0001	0.0000%	85765	19848	4.3	2			1.0000E-09
17	10.404	0.0001	0.0000%	75913	17677	4.3	2			1.0000E-09
18	10.521 Hept. epox.	18.8569	3.9478%	60945	12246	5.0	2	0	.1618	3.0941E-04
19	10.955	0.0001	0.0000%	107833	25606	4.2	2			1.0000E-09
20	11.072	0.0001	0.0000%	79326	16640	4.8	2			1.0000E-09
21	11.373 Y-Chlordane	36.2707	7.5935%	122196	24791	4.9	2	0	.5899	2.9682E-04
22	11.657 Endosulfan I	9.9471	2.0825%	29334	7648	3.8	1	0	-.1404	3.3910E-04
23	11.840 a-Chlordane	1.4443	0.3024%	4922	1362	3.6	2	0	.1378	2.9343E-04
24	12.041	0.0000	0.0000%	5309	1527	3.6	2			1.0000E-09
25	12.174	0.0001	0.0000%	61702	15548	4.0	2			1.0000E-09
26	12.308	0.0001	0.0000%	122020	28993	4.2	2			1.0000E-09
27	12.425 Dieldrin	51.0015	10.6774%	142804	29416	4.9	2	0	-.9344	3.5714E-04
28	12.675 4,4-DDE	5.8813	1.2313%	12609	2328	5.4	2	0	-.7804	4.6642E-04
29	13.026	0.0001	0.0000%	115430	26809	4.3	2			1.0000E-09
30	13.260 Endrin	19.4015	4.0618%	50269	8470	5.9	2	0	.2555	3.8595E-04
31	13.443 Endosif II	6.9161	1.4479%	19545	5011	3.9	2	0	-1.107	3.5386E-04
32	14.028	0.0000	0.0000%	17173	4256	4.0	2			1.0000E-09
33	14.212 4'4-DDD	17.8769	3.7426%	26011	6347	4.1	2	0	-.3526	6.8729E-04
34	14.362	0.0000	0.0000%	14903	3902	3.8	2			1.0000E-09
35	14.562	0.0000	0.0000%	44950	11175	4.0	1			1.0000E-09
36	14.963 Endos sulf	5.8561	1.2260%	12684	3204	4.0	1	0	-.8862	4.6168E-04
37	15.498 DDT	17.9964	3.7676%	26869	6392	4.2	1	0	.4315	6.6979E-04
38	16.449 Endrin ket.	7.3616	1.5412%	20502	4623	4.4	1	0	-.6072	3.5907E-04
39	17.301 Methoxychlor	4.7048	0.9850%	6008	1418	4.2	1	0	-1.333	7.8309E-04
40	22.278	0.0000	0.0000%	5385	1437	3.7	1			1.0000E-09
41	26.202 DCB	56.2980	11.7863%	506682	92565	5.5	1	0	.1234	1.1111E-04

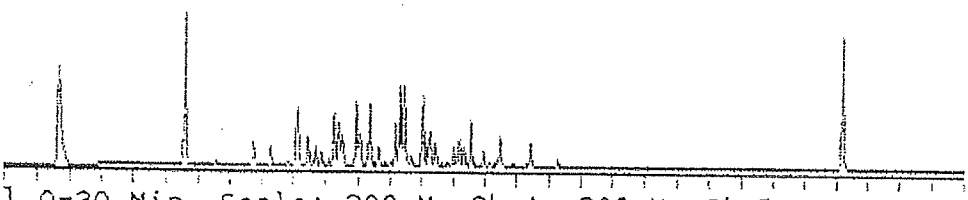
TOTAL AMOUNT = 477.6570

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E81.ATB
Data File = D:NV14E81.PTS Printed on 11-19-1997 at 05:27:26
art time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
ull Range: 300 millivolts







[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1248 1PPM Processed: 11-19-1997 05:58:36, segment 17, cycle 82
RAW DATA SAVED IN FILE D:NV14E82.PTS Second Channel Stored in D:OV14E82.PTS

EXTERNAL STANDARD TABLE

********** 11-19-1997 05:59:39 Version 5.1.5 **********
* Sample Name: A1248 1PPM Data File: D:NV14E82 *
* Date: 11-19-1997 05:28:03 Method: M:APES-E 10-29-1997 19:24:01 # 395 *
* Interface: 2 Cycle#: 82 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *
* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

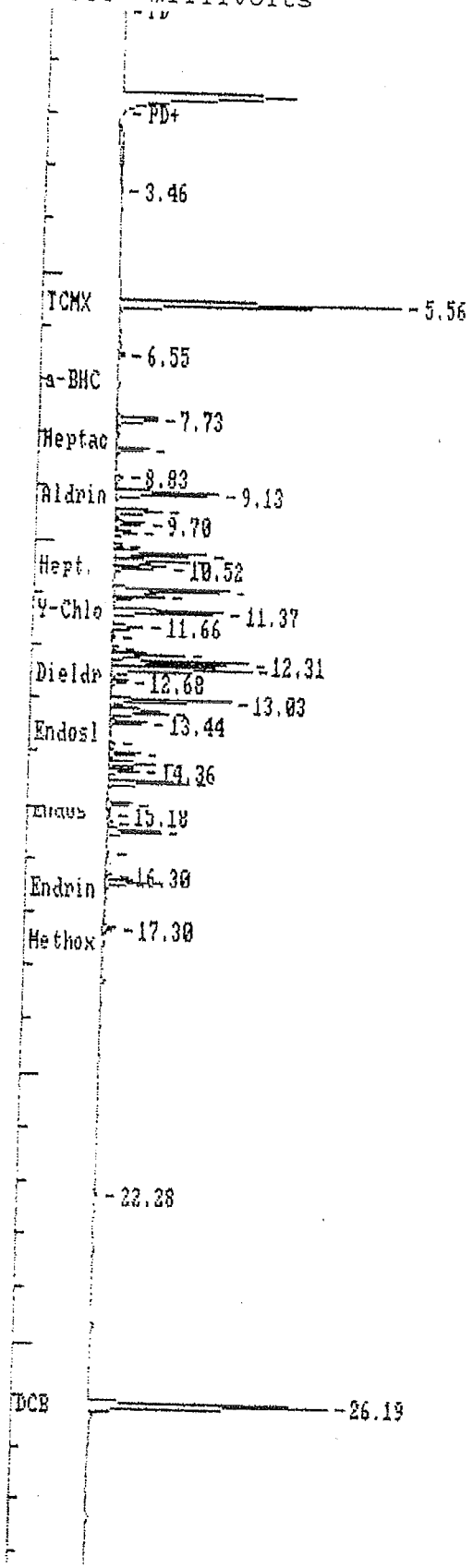
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.457		0.0001	0.0000%	72845	525	138.8	1			1.0000E-09
2	5.561	TCMX	83.3307	12.4228%	499984	105988	4.7	1	0	0	1.6667E-04
3	6.546		0.0000	0.0000%	11233	2375	4.7	1			1.0000E-09

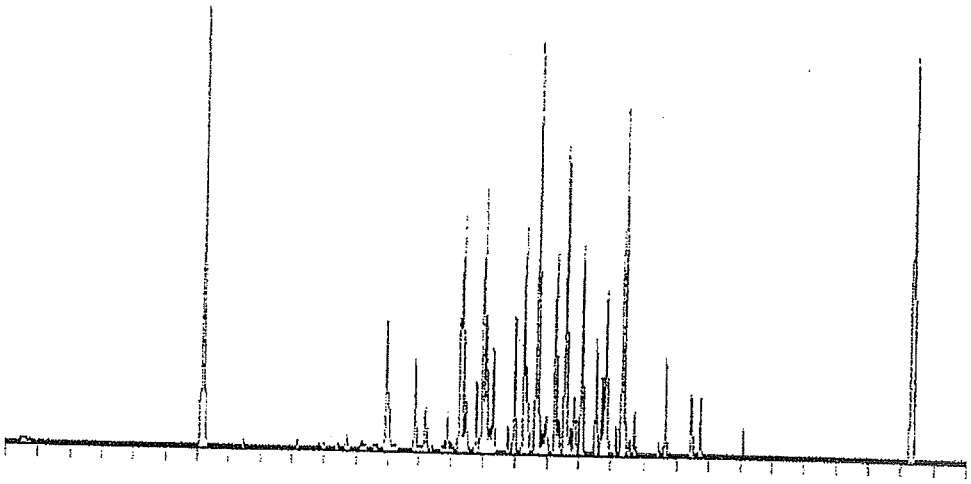
7	9.135 Aldrin	81.1968	12.1046%	231330	38595	6.0 2	0	-.1868		3.5100E-04
8	9.469	0.0001	0.0000%	88589	17967	4.9 2				1.0000E-09
9	9.703	0.0001	0.0000%	54968	11463	4.8 2				1.0000E-09
10	9.870	0.0000	0.0000%	35505	8581	4.1 2				1.0000E-09
11	10.137	0.0000	0.0000%	13612	3495	3.9 2				1.0000E-09
	10.270	0.0002	0.0000%	152662	34549	4.4 2				1.0000E-09
	10.404	0.0001	0.0000%	123018	28389	4.3 2				1.0000E-09
14	10.521 Hept. epox.	30.2626	4.5115%	97809	19515	5.0 2	0	.1616		3.0941E-04
15	10.955	0.0002	0.0000%	190338	43044	4.4 2				1.0000E-09
16	11.072	0.0001	0.0000%	75221	19482	3.9 2				1.0000E-09
17	11.373 Y-Chlordane	59.4556	8.8635%	200306	40805	4.9 1	0	.5899		2.9682E-04
18	11.657 Endosulfan I	15.3083	2.2821%	45144	11698	3.9 1	0	-.1404		3.3910E-04
19	11.840 a-Chlordane	1.2809	0.1909%	4365	1293	3.4 1	0	.1378		2.9343E-04
20	12.041	0.0000	0.0000%	8971	2532	3.5 2				1.0000E-09
21	12.174	0.0001	0.0000%	109336	27342	4.0 2				1.0000E-09
22	12.308	0.0002	0.0000%	219318	51397	4.3 2				1.0000E-09
23	12.441 Dieldrin	94.2585	14.0519%	263924	52473	5.0 2	0	-.8013		3.5714E-04
24	12.675 4,4-DDE	13.4912	2.0112%	28925	6291	4.6 2	0	-.7804		4.6642E-04
25	13.026	0.0002	0.0000%	199663	44888	4.4 2				1.0000E-09
26	13.260 Endrin	50.7551	7.5665%	131507	21846	6.0 2	0	.2555		3.8595E-04
27	13.443 Endosif II	19.9658	2.9765%	56423	13943	4.0 2	0	-1.107		3.5386E-04
28	13.844	0.0000	0.0000%	9452	2544	3.7 1				1.0000E-09
29	14.028	0.0001	0.0000%	50336	11931	4.2 2				1.0000E-09
30	14.212 4'4-DDD	51.8056	7.7231%	75377	17784	4.2 2	0	-.3526		6.8729E-04
31	14.362	0.0000	0.0000%	46200	11473	4.0 2				1.0000E-09
32	14.562	0.0001	0.0000%	123233	29976	4.1 2				1.0000E-09
33	14.963	0.0000	0.0000%	37345	9244	4.0 2				1.0000E-09
34	15.180 Endos sulf	3.4816	0.5190%	7541	1492	5.1 2	0	.5517		4.6168E-04
35	15.314	0.0000	0.0000%	7629	2136	3.6 2				1.0000E-09
36	15.498 DDT	66.7548	9.9517%	99665	20158	4.9 2	0	.4315		6.6979E-04
37	15.882	0.0000	0.0000%	6994	1288	5.4 1				1.0000E-09
38	16.299	0.0000	0.0000%	11065	2870	3.9 2				1.0000E-09
39	16.449 Endrin ket.	26.3257	3.9246%	73317	15392	4.8 2	0	-.6072		3.5907E-04
40	17.301 Methoxychlor	18.9380	2.8232%	24184	4840	5.0 1	0	-1.333		7.8309E-04
41	22.278	0.0000	0.0000%	5376	1421	3.8 1				1.0000E-09
42	26.186 DCB	54.1772	8.0766%	487595	89222	5.5 1	0	0		1.1111E-04

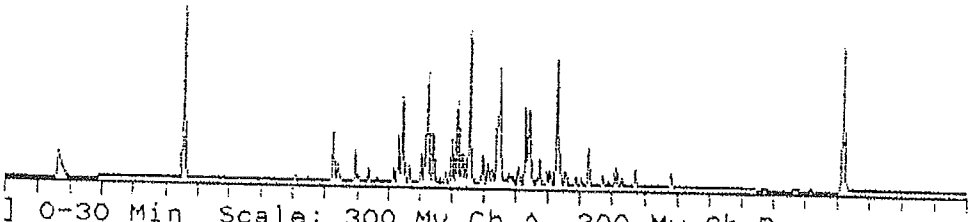
TOTAL AMOUNT = 670.7900

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Areas, times, and heights stored in: D:NV14E82.ATB
Data File = D:NV14E82.PTS Printed on 11-19-1997 at 06:00:04
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts







[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1254 1PPM Processed: 11-19-1997 06:31:19, segment 18, cycle 83
End of sequence file reached at cycle 83
RAW DATA SAVED IN FILE D:NV14E83.PTS Second Channel Stored in D:OV14E83.PTS

EXTERNAL STANDARD TABLE

********** 11-19-1997 06:32:22 Version 5.1.5 **********
* Sample Name: A1254 1PPM
* Date: 11-19-1997 06:00:46 Method: M:APES-E 10-29-1997 19:24:01 # 395
Data File: D:NV14E83
* Interface: 2 Cycle#: 83 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
ple Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.457		0.0001	0.0000%	72245	536	134.8	1			1.0000E-09
2	5.561	TCMX	86.9069	7.8307%	521441	112335	4.6	1	0	0	1.6667E-04

6	10.404 Hept. epox.	15.7520	1.4193%	50911	9895	5.1	2	0	-.9510	3.0941E-04
7	10.955	0.0001	0.0000%	91989	20607	4.5	1			1.0000E-09
8	11.373 Y-Chlordane	9.9117	0.8931%	33393	7592	4.4	1	0	.5899	2.9682E-04
9	11.657 Endosulfan I	2.2758	0.2051%	6711	1840	3.6	1	0	-.1404	3.3910E-04
10	12.174	0.0000	0.0000%	32860	8237	4.0	2			1.0000E-09
	12.308	0.0001	0.0000%	131278	31320	4.2	2			1.0000E-09
12	12.458 Dieldrin	93.1258	8.3910%	260752	56428	4.6	2	0	-.6681	3.5714E-04
13	12.675 4,4-DDE	20.3260	1.8315%	43579	10612	4.1	2	0	-.7804	4.6642E-04
14	13.059	0.0001	0.0000%	88485	18613	4.8	2			1.0000E-09
15	13.260 Endrin	148.7590	13.4038%	385435	72135	5.3	2	0	.2555	3.8595E-04
16	13.443 Endosif II	46.3504	4.1764%	130986	31802	4.1	2	0	-1.107	3.5386E-04
17	13.844	0.0000	0.0000%	21199	5596	3.8	1			1.0000E-09
18	14.028	0.0001	0.0000%	109063	27188	4.0	1			1.0000E-09
19	14.212 4'4-DDD	141.0789	12.7118%	205270	51774	4.0	2	0	-.3526	6.8729E-04
20	14.362	0.0000	0.0000%	43869	13893	3.2	2			1.0000E-09
21	14.562	0.0004	0.0000%	381864	97309	3.9	1			1.0000E-09
22	14.980	0.0001	0.0000%	90433	18950	4.8	2			1.0000E-09
23	15.164 Endos sulf	27.5719	2.4843%	59721	12544	4.8	2	0		4.6168E-04
24	15.314	0.0000	0.0000%	28864	6805	4.2	2			1.0000E-09
25	15.481 DDT	320.0975	28.8421%	477906	76542	6.2	2	0	.3233	6.6979E-04
26	15.798	0.0000	0.0000%	21909	4656	4.7	1			1.0000E-09
27	16.082	0.0000	0.0000%	36024	9935	3.6	1			1.0000E-09
28	16.299	0.0002	0.0000%	195133	50339	3.9	2			1.0000E-09
29	16.433 Endrin ket.	107.5384	9.6897%	299494	49220	6.1	2	0	-.7081	3.5907E-04
30	16.750	0.0001	0.0000%	77422	16464	4.7	2			1.0000E-09
31	17.001	0.0000	0.0000%	28612	7435	3.8	2			1.0000E-09
32	17.101	0.0000	0.0000%	30072	7789	3.9	2			1.0000E-09
33	17.301	0.0004	0.0000%	442355	82791	5.3	2			1.0000E-09
34	17.585 Methoxychlor	28.8571	2.6001%	36850	8824	4.2	2	0	.2857	7.8309E-04
35	17.902	0.0000	0.0000%	12970	3821	3.4	1			1.0000E-09
36	18.086	0.0000	0.0000%	14967	3866	3.9	1			1.0000E-09
37	18.286	0.0001	0.0000%	105638	23979	4.4	1			1.0000E-09
38	18.737	0.0000	0.0000%	23725	5596	4.2	2			1.0000E-09
39	18.938	0.0000	0.0000%	12842	3437	3.7	2			1.0000E-09
40	19.138	0.0001	0.0000%	60985	12627	4.8	2			1.0000E-09
41	19.339	0.0000	0.0000%	15411	3329	4.6	2			1.0000E-09
42	19.739	0.0000	0.0000%	43884	10696	4.1	1			1.0000E-09
43	20.792	0.0000	0.0000%	38513	8682	4.4	1			1.0000E-09
44	22.278	0.0000	0.0000%	6112	1521	4.0	1			1.0000E-09
45	26.186 DCB	57.2465	5.1581%	515218	94968	5.4	1	0	0	1.1111E-04

TOTAL AMOUNT = 1109.8267

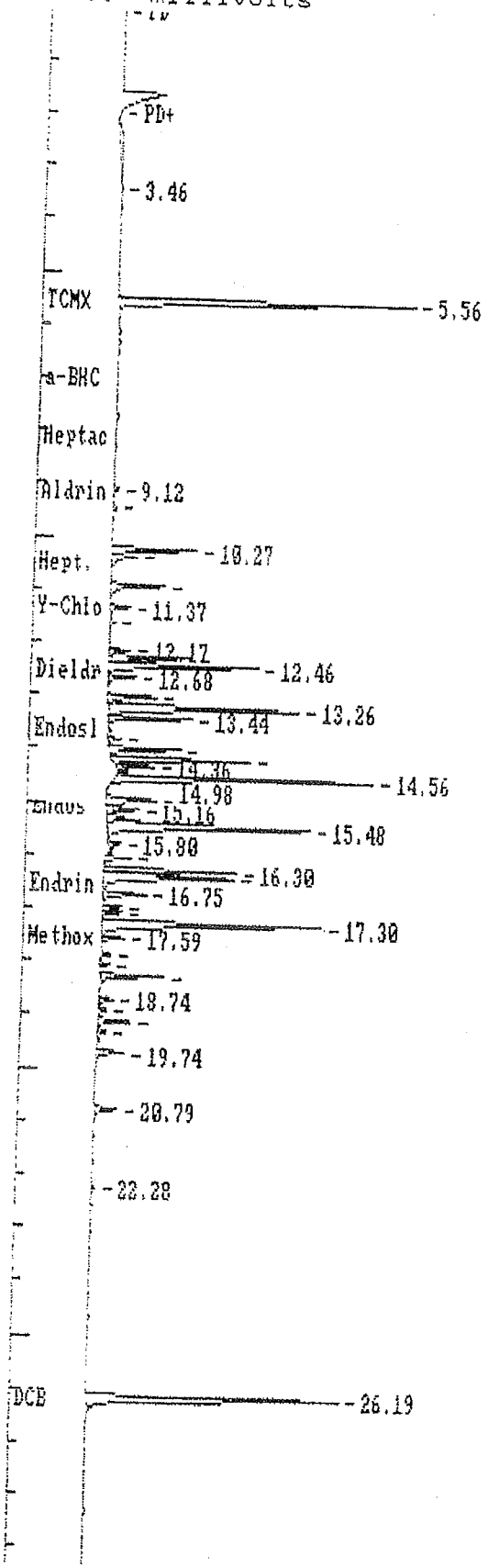
GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

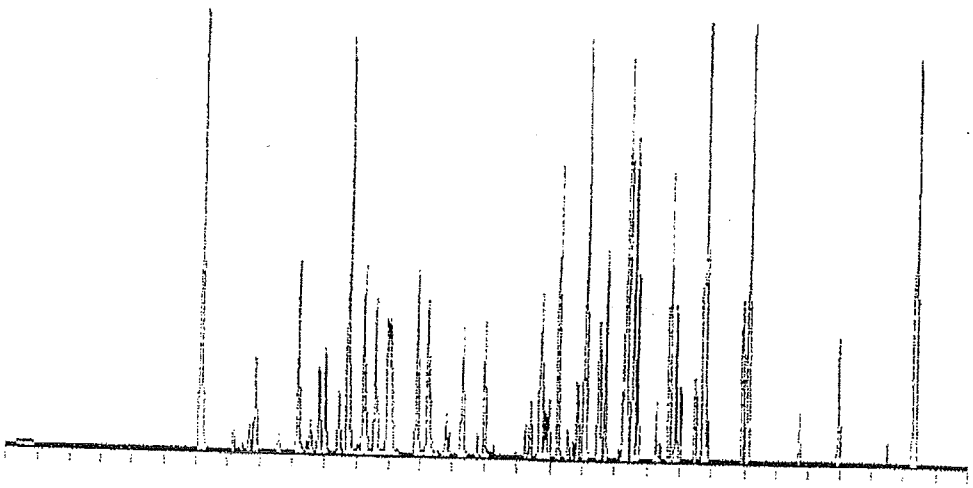
2131000

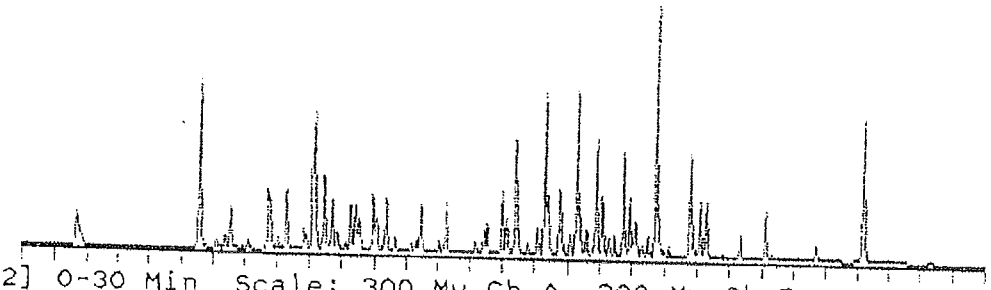
1047.4411

497

Areas, times, and heights stored in: D:NV14E83.ATB
Data File = D:NV14E83.PTS Printed on 11-19-1997 at 06:32:47
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts







[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1660 1.0 Processed: 11-19-1997 20:52:47, segment 3, cycle 89
RAW DATA SAVED IN FILE D:NV14E89.PTS Second Channel Stored in D:OV14E89.PTS

EXTERNAL STANDARD TABLE

********** 11-19-1997 20:53:49 Version 5.1.5 **********
* Sample Name: A1660 1.0 PPM
* Date: 11-19-1997 20:22:09 Method: M:APES-E 10-29-1997 19:24:01 # 395 *
Data File: D:NV14E89
* Interface: 2 Cycle#: 89 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *
* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *
Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

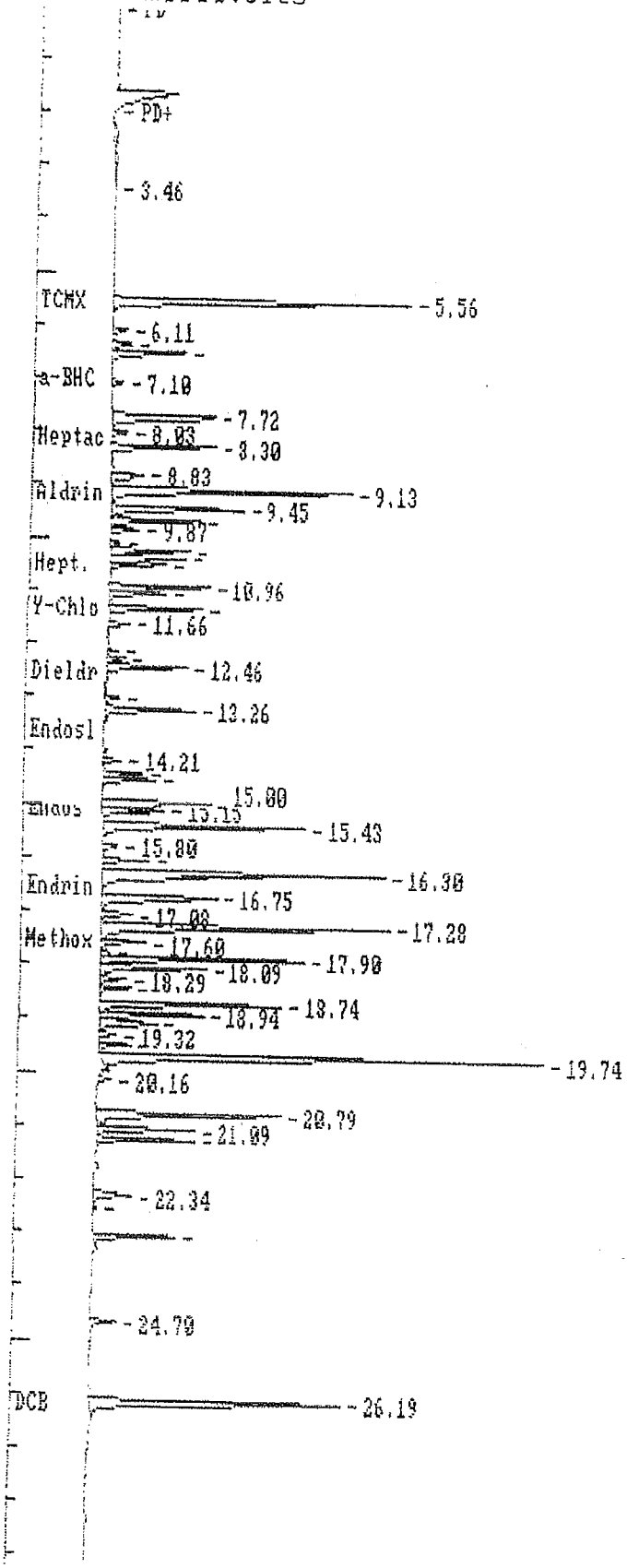
#	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.457		0.0001	0.0000%	72014	532	135.3	1			
2	5.561	TCMX	91.3600	8.9183%	548160	111983	4.9	1	0	0	1.0000E-09
3	6.112		0.0000	0.0000%	29062	5579	5.2	2			1.6667E-04
4	6.379		0.0000	0.0000%	36353	7049	5.2	2			1.0000E-09

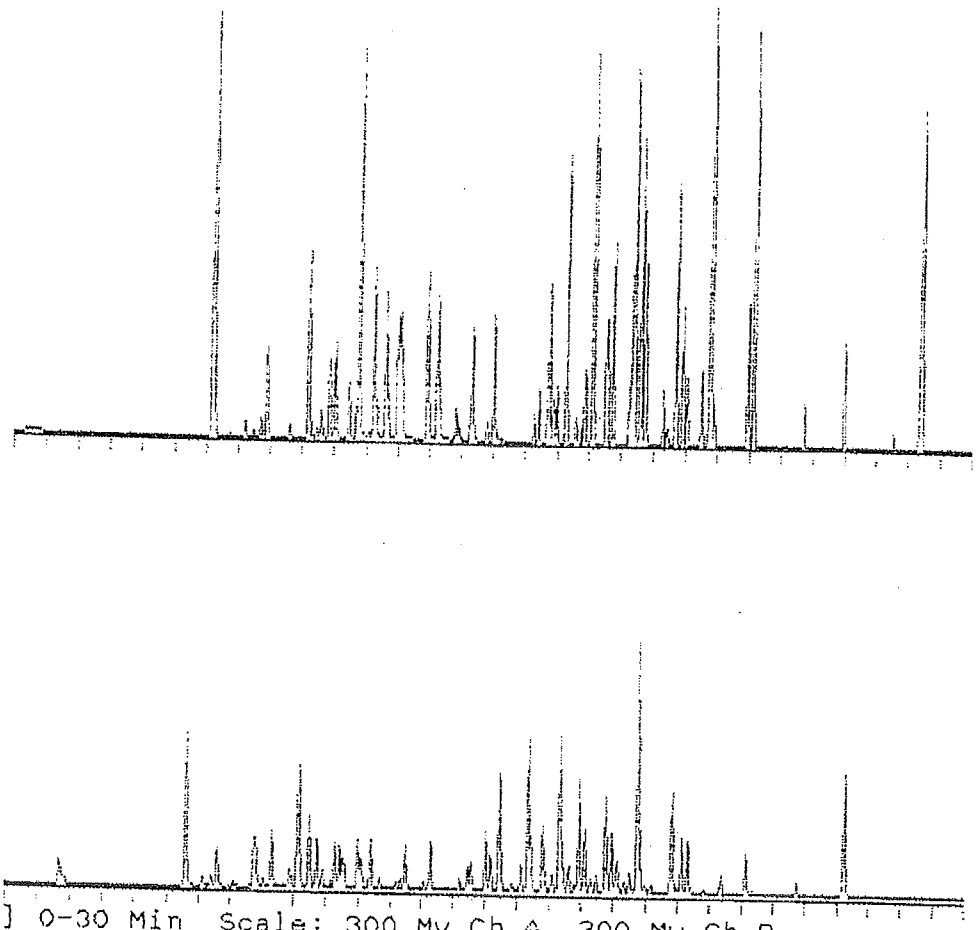
7	7.715	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		0	.0352	[illegible]
8	8.033 Heptachlor	0.0003	0.0000%	287135	37967	7.6 2				1.0000E-09
9	8.300	7.3020	0.7128%	25761	5967	4.3 2		0	-.6223	2.8345E-04
10	8.834	0.0002	0.0000%	178084	38759	4.6 1				1.0000E-09
11	9.135 Aldrin	0.0001	0.0000%	81248	12012	6.8 2				1.0000E-09
	9.452	189.4701	18.4956%	539800	90673	6.0 2		0	-.1868	3.5100E-04
..	9.703	0.0002	0.0000%	233171	49837	4.7 2				1.0000E-09
14	9.870	0.0002	0.0000%	150645	33464	4.5 2				1.0000E-09
15	10.137	0.0000	0.0000%	45295	10656	4.3 2	140800			1.0000E-09
16	10.270	0.0000	0.0000%	15708	4018	3.9 2				1.0000E-09
17	10.404	0.0001	0.0000%	132604	29429	4.5 2				1.0000E-09
18	10.521 Hept. epox.	0.0001	0.0000%	121248	27770	4.4 2				1.0000E-09
19	10.955	32.0702	3.1306%	103651	20627	5.0 2		0	.1618	3.0941E-04
20	11.072	0.0002	0.0000%	160259	37236	4.3 2				1.0000E-09
21	11.373 Y-Chlordane	0.0001	0.0000%	100433	21343	4.7 2				1.0000E-09
22	11.657 Endosulfan I	50.4378	4.9236%	169925	34300	5.0 2		0	.5899	2.9682E-04
23	12.174	10.5703	1.0318%	31172	8153	3.8 1		0	-.1404	3.3910E-04
24	12.308	0.0000	0.0000%	16282	4352	3.7 2				1.0000E-09
25	12.458 Dieldrin	0.0000	0.0000%	29851	7179	4.2 2				1.0000E-09
26	13.059	47.7553	4.6618%	133715	29882	4.5 2		0	-.6681	3.5714E-04
27	13.260 Endrin	0.0000	0.0000%	25143	5680	4.4 2				1.0000E-09
28	14.212 4'4-DDD	55.5678	5.4244%	143976	32971	4.4 2		0	.2555	3.8595E-04
29	14.462	18.2939	1.7858%	26618	6857	3.9 1		0	-.3526	6.8729E-04
30	14.562	0.0001	0.0000%	62226	14768	4.2 2				1.0000E-09
31	14.997	0.0001	0.0000%	76779	19255	4.0 2				1.0000E-09
32	15.147 Endos sulf	0.0002	0.0000%	162674	39886	4.1 2				1.0000E-09
33	15.431 DDT	47.9087	4.6767%	103770	22595	4.6 2		0	.3305	4.6168E-04
34	15.798	244.8270	23.8994%	365527	75571	4.8 2		0	0	6.6979E-04
35	16.082	0.0000	0.0000%	24690	5349	4.6 1				1.0000E-09
36	16.299	0.0001	0.0000%	57091	17183	3.9 2				1.0000E-09
37	16.750 Endrin ket.	0.0006	0.0001%	605748	106169	5.7 2				1.0000E-09
38	17.084	98.1002	9.5763%	273209	42673	6.4 2		0	1.209	3.5907E-04
39	17.284	0.0001	0.0000%	53673	11382	4.7 2				1.0000E-09
40	17.602 Methoxychlor	0.0006	0.0001%	571158	108378	5.3 2				1.0000E-09
41	17.785	57.1237	5.5763%	72947	16829	4.3 2		0	.3809	7.8309E-04
42	17.902	0.0000	0.0000%	17169	3824	4.5 2				1.0000E-09
43	18.086	0.0003	0.0000%	311627	76280	4.1 2	231900			1.0000E-09
44	18.286	0.0002	0.0000%	169686	39225	4.3 2				1.0000E-09
45	18.453	0.0000	0.0000%	48293	9900	4.9 2				1.0000E-09
46	18.737	0.0000	0.0000%	45763	11333	4.0 2				1.0000E-09
47	18.938	0.0003	0.0000%	262730	68334	4.1 2				1.0000E-09
48	19.105	0.0002	0.0000%	158346	38372	4.1 2				1.0000E-09
49	19.322	0.0001	0.0000%	131962	21264	6.2 2				1.0000E-09
50	19.506	0.0000	0.0000%	29799	6462	4.6 2				1.0000E-09
51	19.739	0.0000	0.0000%	49609	11742	4.2 2				1.0000E-09
52	20.157	0.0007	0.0001%	717922	165866	4.3 1				1.0000E-09
53	20.792	0.0000	0.0000%	17170	4862	3.5 1				1.0000E-09
54	21.092	0.0003	0.0000%	340101	68884	4.9 2				1.0000E-09
55	21.276	0.0001	0.0000%	141361	36105	3.9 2				1.0000E-09
56	22.345	0.0002	0.0000%	155586	35988	4.3 2				1.0000E-09
57	22.578	0.0001	0.0000%	72629	14365	5.1 2				1.0000E-09
58	23.113	0.0000	0.0000%	6754	1691	4.0 2				1.0000E-09
59	24.699	0.0001	0.0000%	130505	30130	4.3 1				1.0000E-09
60	26.186 DCB	0.0000	0.0000%	44023	9339	4.7 1				1.0000E-09
		57.9607	5.6580%	521646	94054	5.5 1		0	0	1.1112E-04

TOTAL AMOUNT = 1024.4065

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E89.ATB
Data File = D:NV14E89.PTS Printed on 11-19-1997 at 20:54:16
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts





[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1660 1PPM Processed: 11-21-1997 03:52:22, segment 12, cycle 123
RAW DATA SAVED IN FILE D:NV14E123.PTS Second Channel Stored in D:NV14E123.PTS

EXTERNAL STANDARD TABLE

11-21-1997 03:53:26 Version 5.1.5

Sample Name: A1660 1PPM
Data File: D:NV14E123
Date: 11-21-1997 03:19:43 Method: M:APES-E 10-29-1997 19:24:01 # 395
Interface: 2 Cycle#: 123 Operator JJK Channel#: 0 Vial#: N.A.
Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701
Solvent Description:
Conditions:
Detector 0: Detector 1: ECD
Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.578	TCMX	87.6899	8.9483%	526139	102105	5.2	1	0	.3201	1.6667E-04
2	6.129		0.0000	0.0000%	27144	5140	5.3	2			1.0000E-09
3	6.396		0.0000	0.0000%	33997	6513	5.2	2			1.0000E-09
4	6.563		0.0001	0.0000%	136900	25943	5.3	2			1.0000E-09

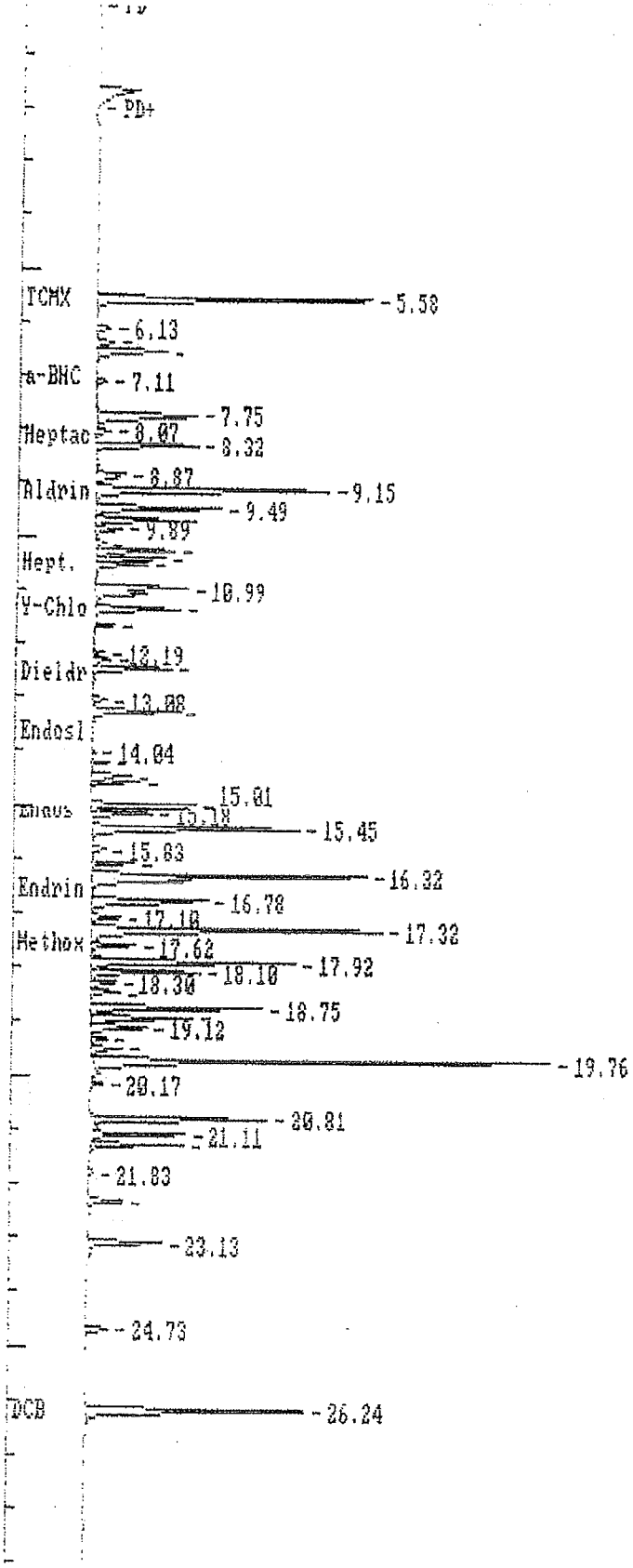
7	8.066 Heptachlor	0.0003	0.0000%	2000664	37026	7.6 2				
8	8.317	7.0060	0.7149%	24717	5535	4.5 2	0	-.2090	2.8345E-04	
9	8.868	0.0002	0.0000%	171934	37717	4.6 1			1.0000E-09	
10	9.152 Aldrin	0.0001	0.0000%	76733	11084	6.9 2			1.0000E-09	
11	9.486	183.5304	18.7283%	522878	86611	6.0 2	0	0	3.5100E-04	
12	9.719	0.0002	0.0000%	225612	46439	4.9 2			1.0000E-09	
13	9.886	0.0001	0.0000%	142889	30974	4.6 2			1.0000E-09	
14	10.154	0.0000	0.0000%	41494	9661	4.3 2			1.0000E-09	
15	10.287	0.0000	0.0000%	15592	3612	4.1 2			1.0000E-09	
16	10.438	0.0001	0.0000%	126419	29125	4.3 2			1.0000E-09	
17	10.554 Hept. epox.	0.0001	0.0000%	115147	25803	4.5 2			1.0000E-09	
18	10.989	31.6805	3.2328%	102391	19418	5.3 2	0	.4798	3.0941E-04	
19	11.389 Y-Chlordane	0.0002	0.0000%	248930	34263	7.3 2			1.0000E-09	
20	11.673 Endosulfan I	48.2432	4.9230%	162531	31655	5.1 2	0	.7376	2.9682E-04	
21	12.191	9.9536	1.0157%	29353	7406	4.0 1	0	.0025	3.3910E-04	
22	12.325	0.0000	0.0000%	15345	4081	3.8 2			1.0000E-09	
23	12.475 Dieldrin	0.0000	0.0000%	27838	6762	4.1 2			1.0000E-09	
24	13.076	46.0473	4.6989%	128932	29012	4.4 2	0	-.5350	3.5714E-04	
25	13.276 Endrin	0.0000	0.0000%	23802	5366	4.4 2			1.0000E-09	
26	14.045	53.8847	5.4986%	139615	31163	4.5 2	0	.3818	3.8595E-04	
27	14.228 4'4-DDD	0.0000	0.0000%	5558	1484	3.7 1			1.0000E-09	
28	14.479	17.1976	1.7549%	25022	6591	3.8 1	0	-.2355	6.8729E-04	
29	14.579	0.0001	0.0000%	57583	14632	3.9 2			1.0000E-09	
30	15.013	0.0001	0.0000%	74205	18038	4.1 2			1.0000E-09	
31	15.180 Endos sulf	0.0002	0.0000%	157911	38392	4.1 2			1.0000E-09	
32	15.447 DDT	44.7092	4.5623%	96840	22334	4.3 2	0	.5517	4.6168E-04	
33	15.832	238.5403	24.3418%	356141	76735	4.6 2	0	.1069	6.6979E-04	
34	16.115	0.0000	0.0000%	23297	4958	4.7 1			1.0000E-09	
35	16.316	0.0001	0.0000%	64303	15855	4.1 2			1.0000E-09	
36	16.783 Endrin ket.	0.0006	0.0001%	588446	101741	5.8 2			1.0000E-09	
37	17.101	94.0378	9.5961%	251895	42676	6.1 2	0	1.410	3.5907E-04	
38	17.318	0.0001	0.0000%	51266	10802	4.7 2			1.0000E-09	
39	17.618 Methoxychlor	0.0006	0.0001%	554146	107638	5.1 2			1.0000E-09	
40	17.819	53.6916	5.4789%	68564	16486	4.2 2	0	.4761	7.8309E-04	
41	17.919	0.0000	0.0000%	14369	3716	3.9 2			1.0000E-09	
42	18.103	0.0003	0.0000%	304488	75536	4.0 2			1.0000E-09	
43	18.303	0.0002	0.0000%	159151	40087	4.0 2			1.0000E-09	
44	18.487	0.0000	0.0000%	46221	9186	5.0 2			1.0000E-09	
45	18.754	0.0000	0.0000%	43136	10876	4.0 2			1.0000E-09	
46	18.955	0.0003	0.0000%	274845	63475	4.3 2			1.0000E-09	
47	19.121	0.0002	0.0000%	153666	37411	4.1 2			1.0000E-09	
48	19.355	0.0001	0.0000%	121258	20731	5.8 2			1.0000E-09	
49	19.522	0.0000	0.0000%	28461	6173	4.6 2			1.0000E-09	
50	19.756	0.0000	0.0000%	48873	11676	4.2 2			1.0000E-09	
51	20.174	0.0007	0.0001%	703598	169011	4.2 1			1.0000E-09	
52	20.808	0.0000	0.0000%	16540	4435	3.7 1			1.0000E-09	
53	21.109	0.0003	0.0000%	294257	64636	4.6 1			1.0000E-09	
54	21.309	0.0001	0.0000%	124008	34084	3.6 2			1.0000E-09	
55	21.827	0.0001	0.0000%	141726	33857	4.2 2			1.0000E-09	
56	22.361	0.0000	0.0000%	11703	1806	6.5 1			1.0000E-09	
57	23.129	0.0001	0.0000%	65541	13142	5.0 1			1.0000E-09	
58	24.733	0.0001	0.0000%	118402	27282	4.3 1			1.0000E-09	
59	26.236 DCB	0.0000	0.0000%	38501	8165	4.7 1			1.0000E-09	
		49.0695	5.0073%	441625	90707	5.5 1	0	.2510	1.1111E-04	

22 17200

TOTAL AMOUNT = 979.9636

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E123.ATB
Data File = D:NV14E123.PTS Printed on 11-21-1997 at 03:53:53
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 03:54:33 Version 5.1.5

* Sample Name: A1660 1PPM
* Date: 11-21-1997 03:19:48 Method: M:BPES-E 11-03-1997 18:46:51 # 380
* Interface: 2 Cycle#: 123 Operator JJK Channel#: 1 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Data File: D:DV14E123

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

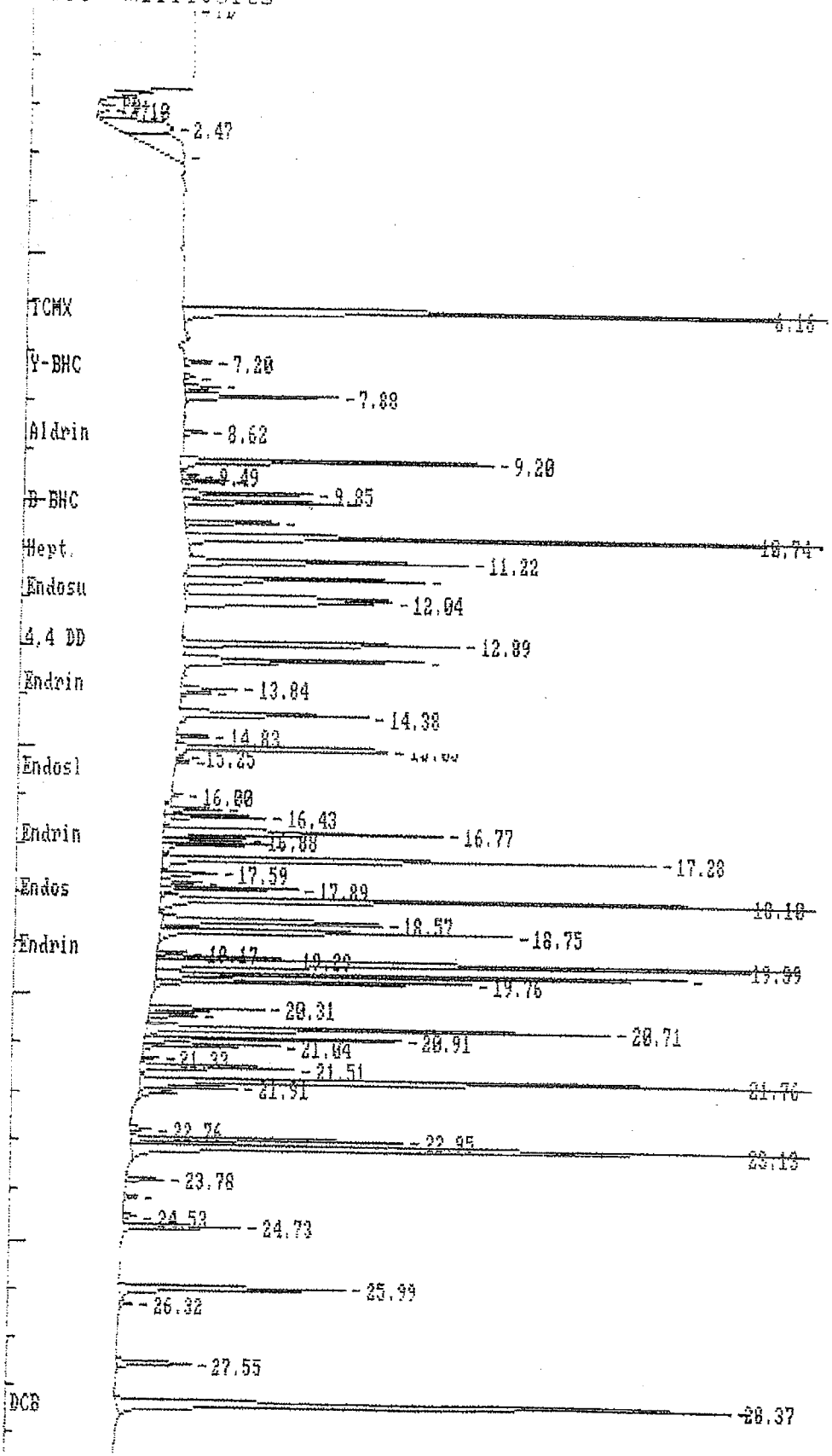
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.104		0.0000	0.0000%	44266	4781	9.3	1			1.0000E-09
2	2.472		0.0003	0.0000%	344588	22133	15.6	2			1.0000E-09
3	3.023		0.0004	0.0000%	354958	4950	71.7	2			1.0000E-09
4	6.162	TCMX	469.7032	15.2088%	1463125	290102	5.0	1	0	.5269	3.2103E-04
5	7.198	Y-BHC	20.8622	0.6755%	54868	11787	4.7	1	0	-.6939	3.8023E-04
6	7.498		0.0000	0.0000%	19020	4673	4.1	1			1.0000E-09
7	7.699		0.0001	0.0000%	63609	15101	4.2	2			1.0000E-09
8	7.882	Heptachlor	71.0656	2.3011%	289806	62676	4.6	2	0	.8495	2.4522E-04
9	8.617	Aldrin	12.5795	0.4073%	38053	9583	4.0	1	0	.1999	3.3052E-04
10	9.202		0.0006	0.0000%	570915	128149	4.5	2			1.0000E-09
11	9.486		0.0000	0.0000%	31208	7268	4.3	2			1.0000E-09
12	9.602		0.0001	0.0000%	96167	19462	4.4	2			1.0000E-09
13	9.853		0.0002	0.0000%	207054	53150	3.9	2			1.0000E-09
14	10.037	B-BHC	146.0488	4.7290%	271359	64727	4.2	2	0	0	5.3821E-04
15	10.454		0.0002	0.0000%	203192	38759	5.2	1			1.0000E-09
16	10.736	d-BHC	688.4315	22.2911%	1186856	263200	4.5	1	0	.6288	5.8005E-04
17	11.222		0.0006	0.0000%	568315	114146	5.0	1			1.0000E-09
18	11.590	Endosulf I	152.3756	4.9339%	477089	98665	4.8	2	0	-1.839	3.1939E-04
19	12.041	Y-Chlordane	229.0844	7.4177%	863419	84455	10.2	2	0	-.5476	2.6532E-04
20	12.892	4,4 DDE	238.9318	7.7365%	580365	113027	5.1	1	0	.2597	4.1169E-04
21	13.243		0.0005	0.0000%	498279	97751	5.1	1			1.0000E-09
22	13.944	Endrin	32.4417	1.0505%	88177	23483	3.8	2	0	1.097	3.6792E-04
23	13.945		0.0000	0.0000%	39835	12627	3.2	2			1.0000E-09
24	14.379		0.0004	0.0000%	370089	76123	4.9	1			1.0000E-09
25	14.830		0.0001	0.0000%	50561	13648	3.7	2			1.0000E-09
26	15.030		0.0004	0.0000%	355462	86696	4.1	3			1.0000E-09
27	15.247		0.0000	0.0000%	13193	3636	3.6	4			1.0000E-09
28	15.331	EndosIfII	6.9178	0.2240%	21051	6011	3.5	2	0	-.7535	3.2862E-04
29	15.999	4,4 DDT	8.8524	0.2866%	16067	4557	3.5	1	0	-.4133	5.5096E-04
30	16.282		0.0001	0.0000%	102768	24002	4.3	2			1.0000E-09
	16.433		0.0002	0.0000%	172178	41794	4.1	2			1.0000E-09
32	16.767	Endrin ald	239.1082	7.7422%	628615	113976	5.5	2	0	-.1976	3.8037E-04
33	16.884		0.0001	0.0000%	133526	34356	3.9	2			1.0000E-09
34	17.001		0.0002	0.0000%	191839	43793	4.4	2			1.0000E-09
35	17.284		0.0008	0.0000%	817606	201297	4.1	2			1.0000E-09
36	17.585		0.0001	0.0000%	120016	23130	5.2	2			1.0000E-09
37	17.769		0.0001	0.0000%	66715	17050	3.9	2			1.0000E-09
38	17.886	Endos sulf	101.8264	3.2974%	221808	51071	4.3	2			

41	18.754	0.0006	0.0000%	571004	143691	4.0 2	0	.9974	6.5833E-04
42	19.172 Endrin ket	15.5353	0.5030%	44773	12423	3.6 2	0	.7017	1.0000E-09
43	19.288	0.0002	0.0000%	172305	50897	3.4 2			3.4698E-04
44	19.389	0.0014	0.0000%	1431992	262184	5.5 2			1.0000E-09
45	19.606	0.0008	0.0000%	846156	216578	3.9 2			1.0000E-09
46	19.756	0.0005	0.0000%	503403	129314	3.9 2			1.0000E-09
47	20.307	0.0002	0.0000%	166872	47174	3.5 2			1.0000E-09
48	20.441	0.0001	0.0000%	117065	20680	5.7 2			1.0000E-09
49	20.708	0.0008	0.0000%	795490	189498	4.2 2			1.0000E-09
50	20.908	0.0004	0.0000%	430198	104748	4.1 2			1.0000E-09
51	21.042	0.0002	0.0000%	225273	56002	4.0 2			1.0000E-09
52	21.326	0.0000	0.0000%	26202	7554	3.5 2			1.0000E-09
53	21.510	0.0003	0.0000%	283377	63134	4.5 2			1.0000E-09
54	21.760	0.0019	0.0001%	1884327	457448	4.1 3			1.0000E-09
55	21.910	0.0002	0.0000%	204061	36958	5.5 4			1.0000E-09
56	22.762	0.0000	0.0000%	34039	9140	3.7 1			1.0000E-09
57	22.946	0.0005	0.0000%	466562	111552	4.2 2			1.0000E-09
58	23.129	0.0014	0.0000%	1397185	297481	4.7 2			1.0000E-09
59	23.781	0.0001	0.0000%	63272	15567	4.1 1			1.0000E-09
60	24.132	0.0000	0.0000%	23105	5605	4.1 1			1.0000E-09
61	24.532	0.0000	0.0000%	26740	5787	4.6 2			1.0000E-09
62	24.733	0.0002	0.0000%	222538	48192	4.6 2			1.0000E-09
63	25.985	0.0005	0.0000%	509094	92389	5.5 2			1.0000E-09
64	26.319	0.0000	0.0000%	29914	5455	5.5 2			1.0000E-09
65	27.555	0.0002	0.0000%	172903	30794	5.6 1			1.0000E-09
66	28.373 DCB	296.2156	9.5913%	1590381	250481	6.3 1	0	0	1.8625E-04

TOTAL AMOUNT = 3088.3625

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:OV14E123.ATB
Data File = D:OV14E123.PTS Printed on 11-21-1997 at 03:55:38
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 23:45:23 Version 5.1.5

Sample Name: INDB 20-40
Data File: D:NV14E110
Date: 11-20-1997 19:17:17 Method: M:APES-E 11-21-1997 22:31:52 # 393
Interface: 2 Cycle#: 110 Operator JJK Channel#: 0 Vial#: N.A.
Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
Instrument Type: PE 8500 Column Type: RTX 5/1701
Solvent Description:
Conditions:
Detector 0:
Detector 1: ECD
Misc. Information:

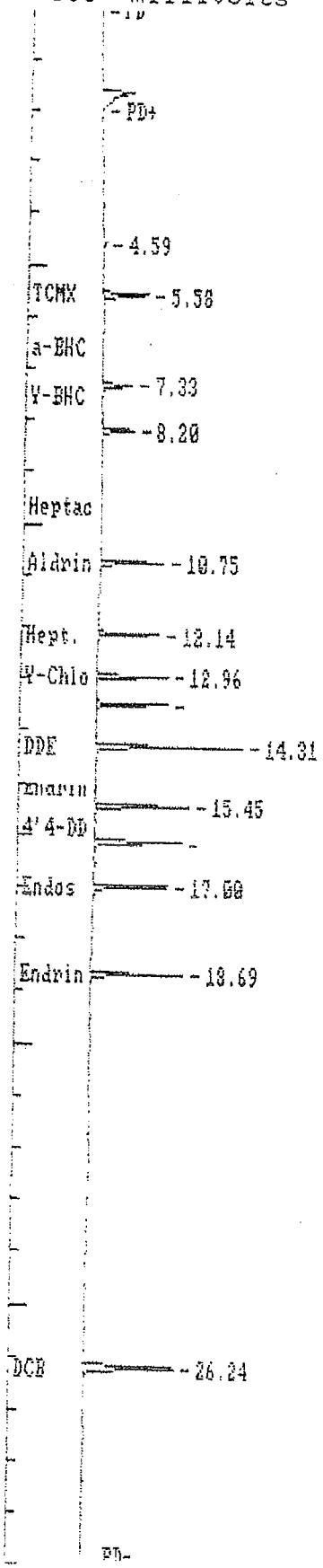
Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	4.592		0.0000	0.0000%	7661	1441	5.3	1			1.0000E-09
2	5.678	TCMX	18.4874	4.9792%	31788	17469	1.7	1	0	.3201	2.2604E-04
3	7.331	B-BHC	19.1462	5.1566%	49397	11727	4.2	1	0	0	3.8760E-04
4	8.200	d-BHC	20.0798	5.4080%	47037	12515	3.8	1	0	0	4.2699E-04
5	10.755	Aldrin	18.7596	5.0525%	84343	24566	3.4	1	0	0	2.2242E-04
6	12.141	Hept. epox.	19.6588	5.2946%	80090	23626	3.4	1	0	0	2.4546E-04
7	12.959	Y-Chlordane	19.1733	5.1639%	96231	27054	3.6	1	0	0	1.9924E-04
8	13.510	a-Chlordane	19.1361	5.1539%	98494	27288	3.6	1	0	0	1.9429E-04
9	14.312	DDE	37.9485	10.2206%	195511	56629	3.5	1	0	0	1.9413E-04
10	15.447	Endoslf II	41.2226	11.1024%	128656	36129	3.6	1	0	0	3.2041E-04
11	16.149	Endrin ald	40.1752	10.8197%	126520	33144	3.8	1	0	0	3.1753E-04
12	17.001	Endos sulf	40.1154	10.8044%	109437	28479	3.8	1	0	0	3.6653E-04
13	18.687	Endrin ket.	42.3183	11.3961%	121185	35437	3.4	1	0	0	3.4915E-04
14	26.236	DDB	35.0809	9.4482%	181263	34495	5.3	1	0	0	1.9354E-04

TOTAL AMOUNT = 371.2960

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:NV14E110.PTS Printed on 11-21-1997 at 23:45:28
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
ll Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 23:46:14 Version 5.1.5

Sample Name: IND& 20-200 Data File: D:NV14F111

Date: 11-20-1997 19:49:59 Method: M:APES-E 11-21-1997 22:31:52 # 398

Interface: 2 Cycle#: 111 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

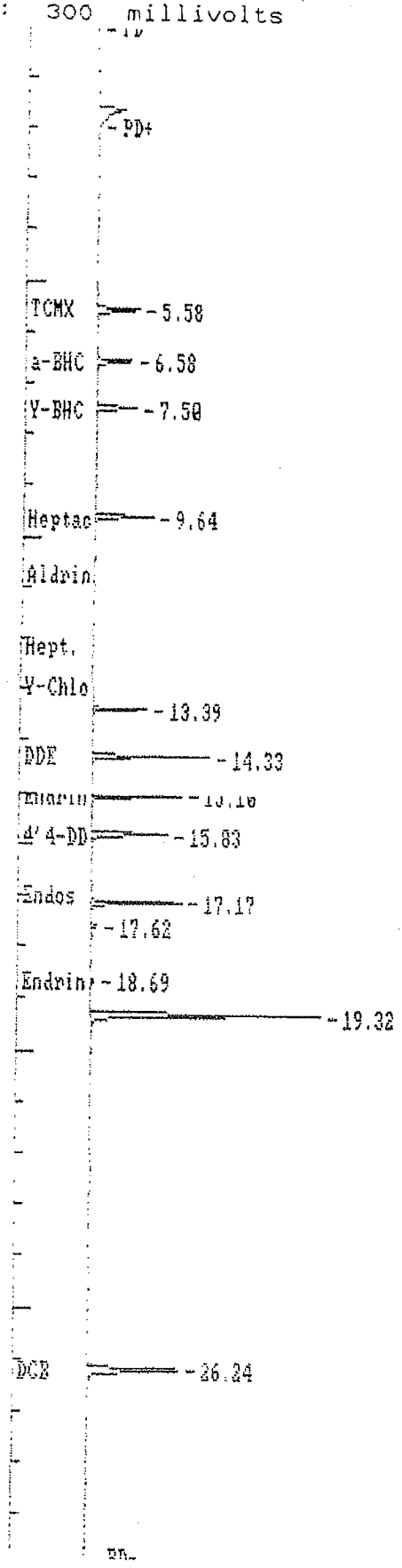
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.578	TCMX	17.9967	3.5397%	79617	16490	4.8	1	0	.3201	2.2604E-04
2	6.580	a-BHC	19.0651	3.7498%	58110	13563	4.3	1	0	.2559	3.2803E-04
3	7.498	Y-BHC	19.0509	3.7470%	61591	15673	3.9	1	0	0	3.0931E-04
4	9.636	Heptachlor	21.4414	4.2178%	62892	22353	2.8	1	0	0	3.4087E-04
5	13.393	Endosulfan I	19.5456	3.8443%	71459	20858	3.4	1	0	0	2.7352E-04
6	14.329	Dieldrin	38.0730	7.4884%	160211	45556	3.5	1	0	0	2.3764E-04
7	15.097	Endrin	40.4380	7.9536%	118443	34687	3.4	1	0	0	3.4141E-04
8	15.832	4'4-DDD	37.5317	7.3820%	111169	29220	3.8	1	0	0	3.3761E-04
9	17.168	DDT	39.7102	7.8105%	125564	34824	3.6	1	0	0	3.1636E-04
10	17.613		0.0000	0.0000%	8751	2026	4.3	1			1.0000E-29
11	19.537	Endrin Ket.	2.1109	0.4152%	5046	1668	3.6	1	0	0	3.4915E-04
12	13.322	Methoxychlor	217.3156	42.7414%	339139	89299	3.8	1	0	0	3.4216E-04
13	26.236	DDE	35.6445	7.0108%	184175	34881	5.3	1	0	0	1.9354E-04

TOTAL AMOUNT = 508.4236

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:NV14E111.PTS Printed on 11-21-1997 at 23:46:24
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
ll Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 23:52:50 Version 5.1.5

Sample Name: INDB 20-40
Data File: D:0V14E110
Date: 11-20-1997 19:17:17 Method: M:8PES-E 11-21-1997 22:32:03 # 391
Interface: 2 Cycle#: 110 Operator JJK Channel#: 1 Vial#: N.A.
Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701
Solvent Description:
Conditions:
Detector 0: Detector 1: ECD
Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.121		0.0000	0.0000%	34487	3653	9.4	1			1.0000E-09
2	2.472		0.0003	0.0001%	311695	19800	15.7	2			1.0000E-09
3	3.006		0.0003	0.0001%	311232	4962	62.7	2			1.0000E-09
4	5.010		0.0000	0.0000%	12021	1581	7.6	1			1.0000E-09
5	6.162 TCMX		17.9529	5.0503%	282111	59532	4.7	1	0	.5269	6.3638E-05
6	6.630		0.0000	0.0000%	44884	11059	4.1	1			1.0000E-09
7	7.498		0.0001	0.0000%	85347	1391	61.4	1			1.0000E-09
8	10.070		0.0001	0.0000%	146739	881	166.6	1			1.0000E-09
9	11.924 Aldrin		20.6647	5.8131%	457268	114896	4.0	1	0	0	4.5192E-05
10	13.393 B-BHC		17.8393	5.0183%	203743	62697	3.2	1	0	0	8.7553E-05
11	14.111 d-BHC		20.3071	5.7125%	329010.	92254	3.5	1	0	0	6.3064E-05
12	14.529 Hept. epox.		18.2139	5.1237%	385598	111029	3.5	1	0	0	4.7237E-05
13	15.765 Y-Chlordane		18.8827	5.2950%	407719	108849	3.7	2	0	0	4.6166E-05
14	15.999 a-Chlordane		19.7561	5.5576%	443190	117359	3.8	2	0	0	4.4577E-05
15	16.383 4,4 DDE		38.9710	10.9628%	694191	197037	3.7	1	0	0	5.6139E-05
16	18.437		0.0000	0.0000%	27664	2835	9.8	1			1.0000E-09
17	19.472 EndosIfII		37.2905	10.4901%	597878	169625	3.5	1	0	0	6.2371E-05
18	21.092 Endrin ald		33.6189	9.4573%	337635	83903	4.0	1	0	0	9.9572E-05
19	22.094		0.0000	0.0000%	25180	5349	4.7	2			1.0000E-09
20	23.311 Endos sulf		38.0350	10.6996%	427780	120415	3.6	2	0	0	8.8913E-05
21	23.797 Endrin ket		37.4748	10.5419%	449295	109122	4.1	1	0	0	8.3410E-05
22	28.390 DDD		36.5344	10.2778%	747425	120965	6.2	1	0	0	4.8881E-05

TOTAL AMOUNT = 355.4825

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E110.PTS Printed on 11-21-1997 at 23:53:01
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
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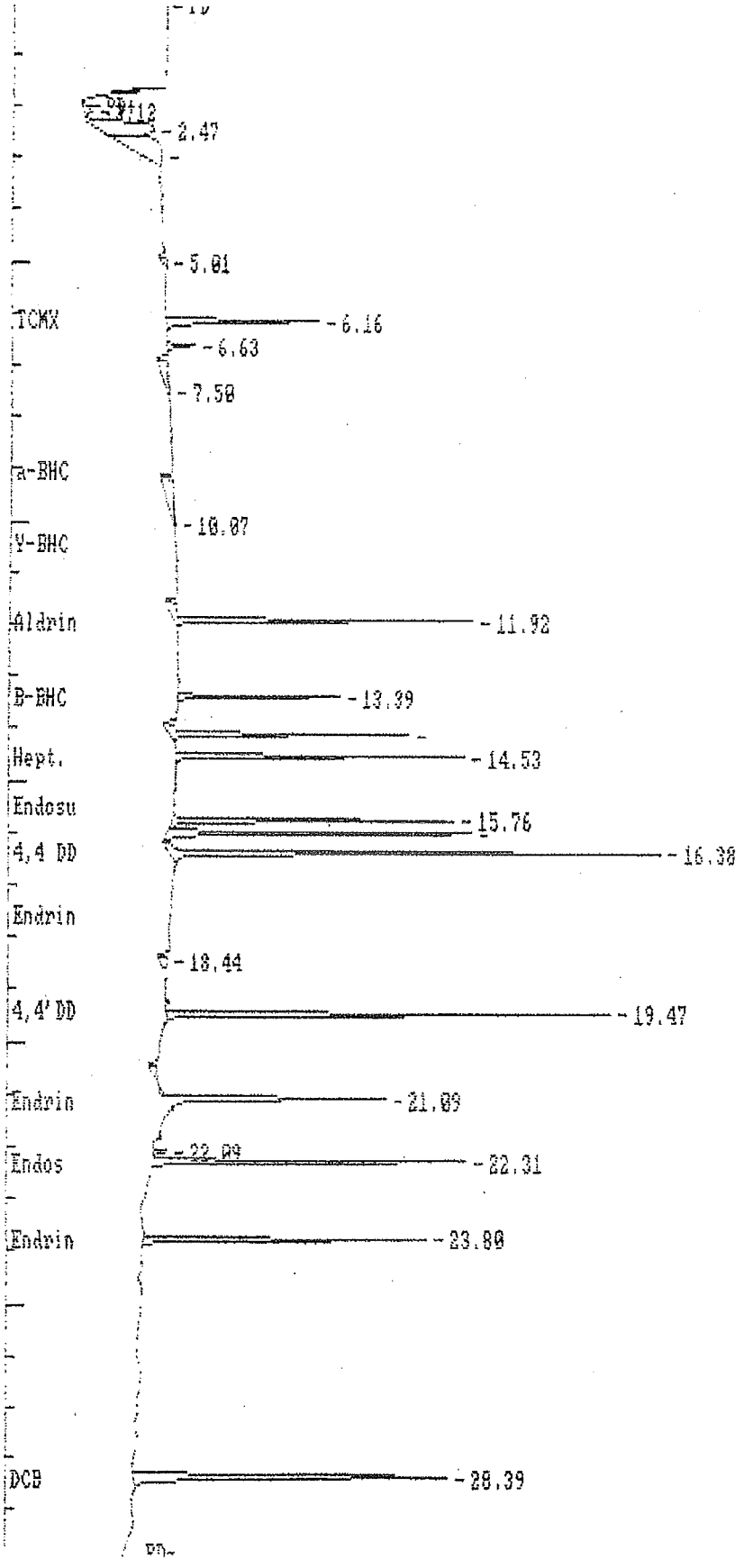


EXTERNAL STANDARD TABLE

11-21-1997 23:54:17 Version 5.1.5

Sample Name: INDA 20-200
Data File: D:0V14E111
Date: 11-20-1997 19:49:59 Method: M:SPES-E 11-21-1997 22:32:03 # 391
Interface: 2 Cycle#: 111 Operator JJK Channel#: 1 Vial#: N.A.
Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701
Solvent Description:
Conditions:
Detector 0: Detector 1: ECD
Misc. Information:

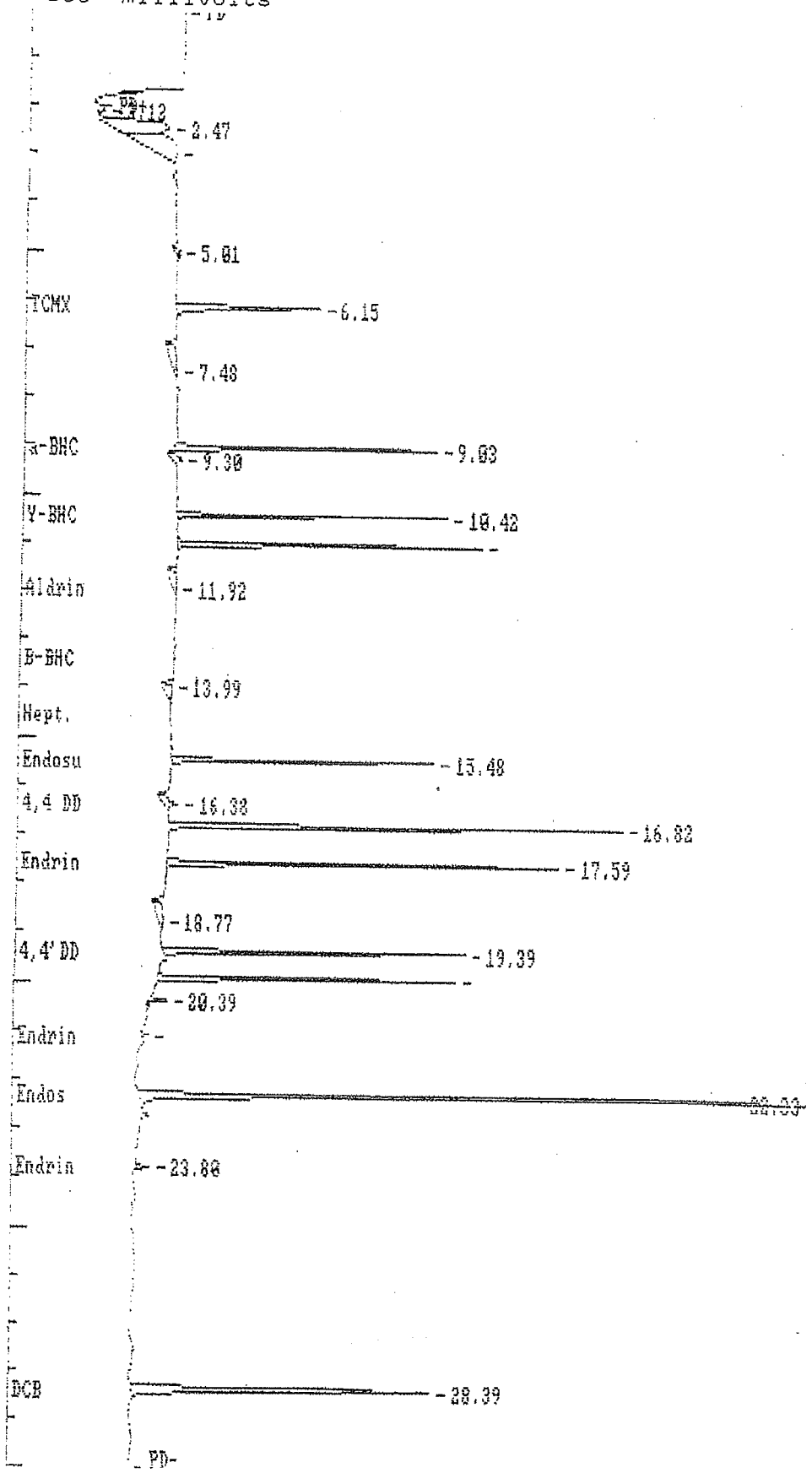
Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.121		0.0000	0.0000%	25035	3596	9.7	1			1.0000E-09
2	2.472		0.0003	0.0001%	333193	21289	15.7	2			1.0000E-09
3	2.989		0.0003	0.0001%	344917	6288	54.9	2			1.0000E-09
4	5.010		0.0000	0.0000%	10627	1810	5.9	1			1.0000E-09
5	6.146	TCMX	18.4557	3.8384%	290013	59385	4.9	1	0	.2544	6.3638E-05
6	7.482		0.0001	0.0000%	80934	1435	56.4	1			1.0000E-09
7	9.035	a-BHC	18.0846	3.7612%	395799	108280	3.7	1	0	0	4.5691E-05
8	9.302		0.0000	0.0000%	29712	3216	9.2	1			1.0000E-09
9	10.421	Y-BHC	17.9912	3.7418%	374829	110569	3.4	1	0	0	4.7998E-05
10	11.022	Heptachlor	18.4973	3.8470%	448672	124656	3.6	1	0	0	4.1227E-05
11	11.924	Aldrin	3.2103	0.6677%	71037	1721	41.3	1	0	0	4.5192E-05
12	13.995	d-BHC	2.3639	0.4919%	37579	3196	11.8	1	0	-.8248	6.3064E-05
13	15.481	Endosulf I	18.5647	3.8610%	372203	107596	3.5	1	0	0	4.9878E-05
14	16.383	4,4 DDE	2.5996	0.5406%	46304	5016	9.2	1	0	0	5.6139E-05
15	16.817	Dieldrin	37.4945	7.7980%	661215	184950	3.6	1	0	0	5.6705E-05
16	17.585	Endrin	38.0738	7.9185%	551765	159823	3.5	1	0	0	6.9004E-05
17	18.771		0.0001	0.0000%	75244	1917	39.2	1			1.0000E-09
18	19.389	4,4'DDD	36.0052	7.4882%	426373	123514	3.5	1	0	0	8.4443E-05
19	19.923	4,4 DDT	37.7410	7.8493%	418019	121704	3.4	1	0	0	9.0285E-05
20	20.391		0.0000	0.0000%	22952	7634	3.0	1			1.0000E-09
21	21.390	Endrin ald	1.1329	0.2356%	11377	3106	3.7	1	0	0	9.9572E-05
22	22.328	Methoxychl	191.9701	39.9254%	1045661	264627	4.0	1	0	0	1.8353E-04
23	23.737	Endrin ket	1.9534	0.4063%	22420	6023	3.9	1	0	0	8.7110E-05
24	29.390	DCS	36.6777	7.6291%	758353	121910	6.2	1	0	0	4.8361E-05

TOTAL AMOUNT = 480.8225

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E111.PTS Printed on 11-21-1997 at 23:54:28
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
11 Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-22-1997 00:23:36 Version 5.1.5

* Sample Name: IND9 20-40 Data File: D:NV14E133
* Date: 11-21-1997 19:16:10 Method: M:APES-E 11-21-1997 22:31:52 # 396
* Interface: 2 Cycle#: 133 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

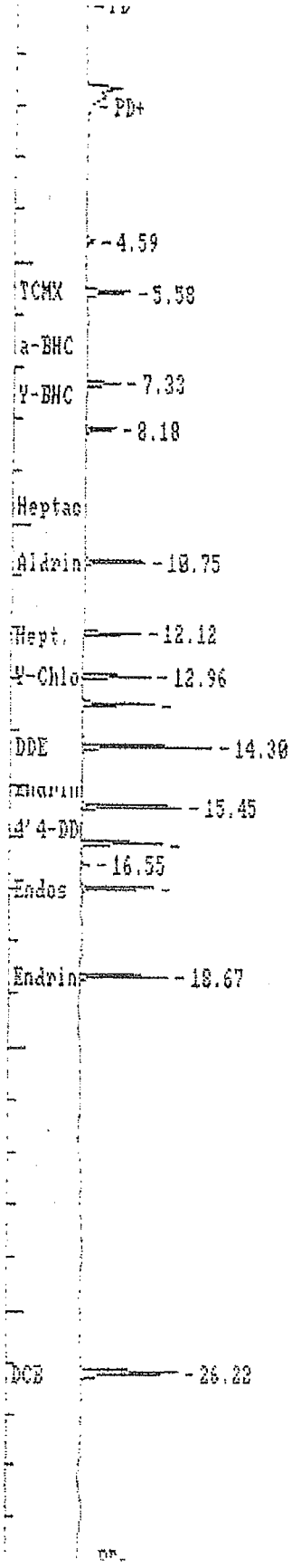
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	4.592		0.0000	0.0000%	15005	2393	5.2 1			1.0000E-09
2	5.578	TCMX	17.6442	4.9875%	78058	16695	4.7 1	0	.3201	2.2604E-04
3	7.331	B-BHC	19.7699	5.5884%	51006	12764	4.0 1	0	0	3.8760E-04
4	8.183	d-BHC	16.9155	4.7816%	39616	11213	3.5 1	0	-.2073	4.2693E-04
5	10.755	Aldrin	17.9671	5.0788%	80760	22741	3.6 1	0	0	2.2242E-04
6	12.124	Hept. epox.	19.2927	5.4507%	78558	21924	3.6 1	0	-.1393	2.4546E-04
7	12.959	Y-Chlordane	18.4309	5.2099%	92505	25966	3.6 1	0	0	1.9924E-04
8	13.494	a-Chlordane	18.1174	5.1213%	93250	27319	3.4 1	0	-.1213	1.9429E-04
9	14.295	DDE	34.5888	9.7774%	178202	49001	3.6 1	0	-.1173	1.9410E-04
10	15.447	Endosulf II	40.9735	11.5821%	127878	37824	3.4 1	0	0	3.2041E-04
11	16.149	Endrin ald	38.6515	10.9258%	115954	31006	3.7 1	0	0	3.3331E-04
12	16.550		0.0000	0.0000%	12001	3274	3.7 1			1.0000E-09
13	17.301	Endos sulf	36.2020	10.2334%	98759	27437	3.6 1	0	0	3.6637E-04
14	18.671	Endrin ket.	39.1767	11.0742%	112202	33103	3.4 1	0	0	3.4916E-04
15	26.219	DDD	36.0443	10.1868%	186241	36143	5.2 1	0	-.0300	1.9354E-04

TOTAL AMOUNT = 353.7644

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:NV14E133.PTS Printed on 11-22-1997 at 00:23:41
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
.1 Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-22-1997 00:23:51 Version 5.1.5

* Sample Name: INDA 20-200 Data File: D:NV14E134
* Date: 11-21-1997 19:49:10 Method: M:APES-E 11-21-1997 22:31:52 # 398
* Interface: 2 Cycle#: 134 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

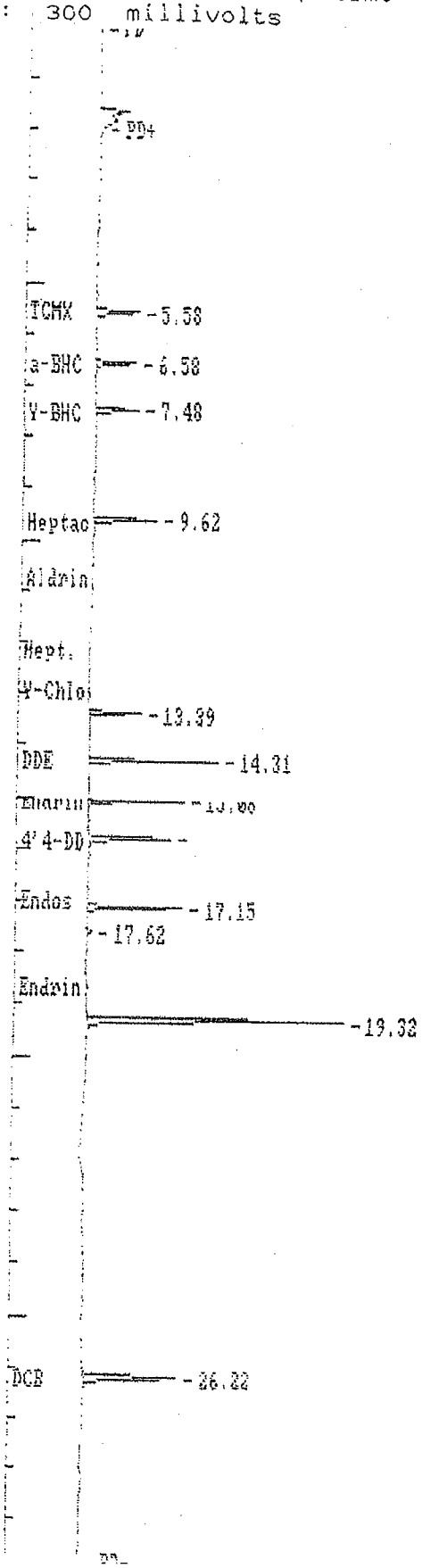
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.578	TCMX	17.6911	3.2374%	78365	16733	4.7	1	0	.0201	2.2604E-04
2	6.580	a-BHC	20.2333	3.7026%	81668	15801	5.1	1	0	.2559	2.4780E-04
3	7.462	Y-BHC	20.2629	3.7081%	65510	16996	3.9	1	0	-.2167	3.0931E-04
4	9.619	Heptachlor	23.0871	4.2249%	99255	24571	3.6	1	0	-.1743	2.5967E-04
5	13.393	Endosulfan 1	19.9364	3.6483%	72887	20306	3.6	1	0	0	2.7352E-04
6	14.312	4,4-Dieldrin	32.0499	5.8651%	165121	50376	3.3	1	0	0	1.9410E-04
7	15.080	Endrin	43.6953	7.9962%	127983	37064	3.5	1	0	-.1119	3.4141E-04
8	15.815	4'4-DDD	37.9155	6.9385%	112306	31882	3.5	1	0	-.1080	3.3761E-04
9	17.151	DDT	40.7182	7.4514%	128751	36879	3.5	1	0	0	3.1625E-04
10	17.618		0.0000	0.0000%	3586	2143	1.7	1			1.0000E-09
11	19.322	Methoxychlor	254.3334	46.5438%	396006	100003	4.0	1	0	0	6.4226E-04
12	26.219	DCB	36.5233	6.6838%	138719	36119	3.8	1	0	-.0300	1.9354E-04

TOTAL AMOUNT = 546.4617

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E134.PTS Printed on 11-22-1997 at 00:23:55
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
11 Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-22-1997 00:22:00 Version 5.1.5 **********

* Sample Name: INDB 20-40 Data File: D:0V14E133 *
* Date: 11-21-1997 19:16:10 Method: M:BPES-E 11-21-1997 22:32:03 # 391 *
* Interface: 2 Cycle#: 133 Operator JJK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

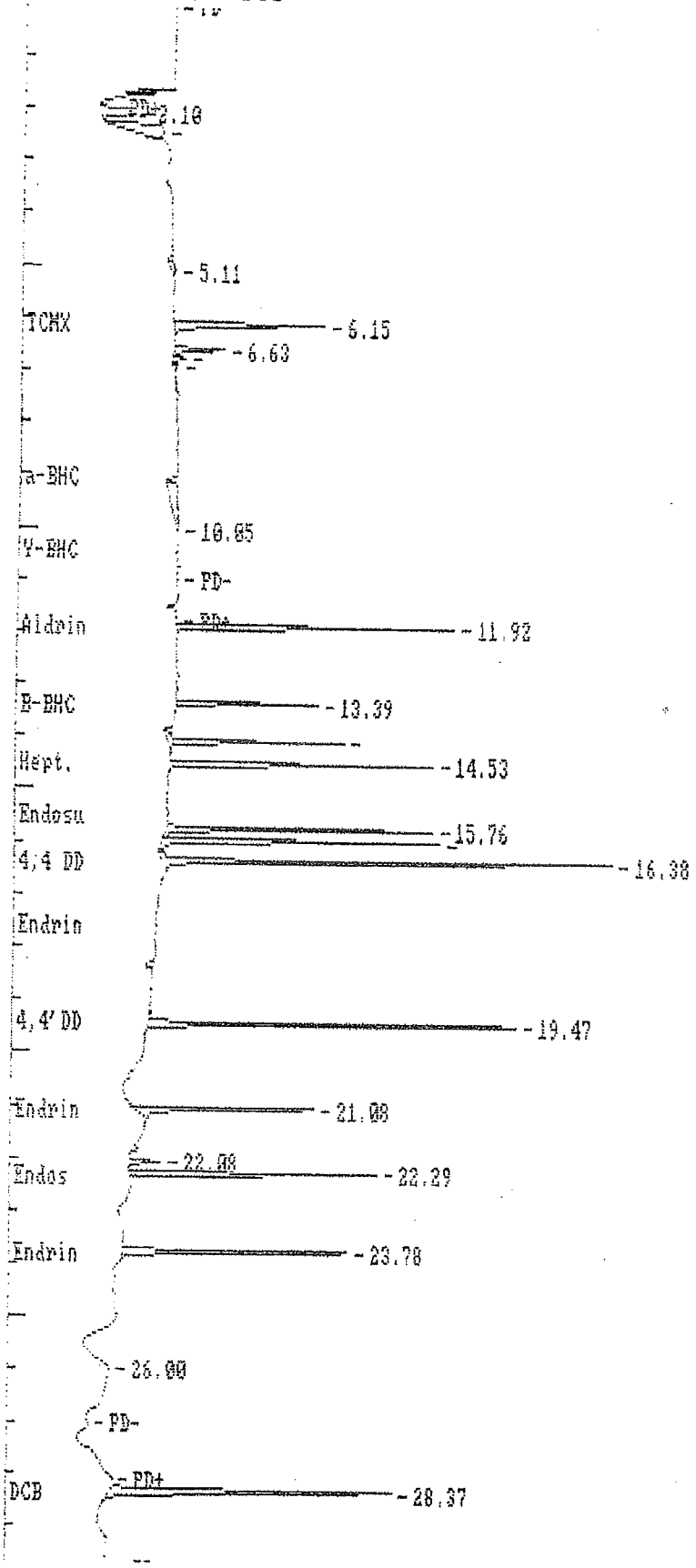
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.104		0.0001	0.0000%	125954	13474	9.3	1			1.0000E-09
2	2.472		0.0002	0.0001%	154298	7425	20.8	1			1.0000E-09
3	5.110		0.0000	0.0000%	25405	1911	13.3	1			1.0000E-09
4	6.146	TCMX	16.6999	5.6159%	262421	57753	4.5	1	0	.2544	6.3638E-05
5	6.630		0.0001	0.0000%	82820	19479	4.3	2			1.0000E-09
6	6.797		0.0000	0.0000%	22979	4982	4.6	2			1.0000E-09
7	6.947		0.0000	0.0000%	9633	1912	5.0	1			1.0000E-09
8	10.053		0.0001	0.0000%	132803	1011	131.3	1			1.0000E-09
9	11.924	Aldrin	16.2125	5.4521%	358753	106058	3.4	1	0	0	4.5192E-05
10	13.392	B-BHC	16.1472	5.4301%	184417	54089	3.4	1	0	0	8.7558E-05
11	14.111	d-BHC	14.7673	4.9662%	234172	67009	3.5	1	0	0	6.3064E-05
12	14.529	Hept. epox.	16.0870	5.4098%	340562	100628	3.4	1	0	0	4.7237E-05
13	15.765	Y-Chlordane	16.2791	5.4741%	352597	101791	3.5	2	0	0	4.6166E-05
14	15.999	a-Chlordane	16.9294	5.6931%	379777	106262	3.6	2	0	0	4.4577E-05
15	16.383	4,4 DDE	34.0377	11.4464%	606314	170623	3.6	1	0	0	5.6139E-05
16	19.472	EndoslfII	31.2925	10.5232%	501712	140022	3.6	1	0	0	6.2371E-05
17	21.075	Endrin ald	27.1648	9.1352%	272817	67372	4.0	1	0	0	9.9572E-05
18	22.077		0.0000	0.0000%	44442	11581	3.8	1			1.0000E-09
19	22.294	Endos sulf	29.5719	9.9446%	332595	93803	3.5	1	0	0	8.8913E-05
20	23.781	Endrin ket	29.8714	10.0453%	358128	85354	4.2	1	0	0	8.3413E-05
21	26.002		0.0001	0.0000%	38335	2457	15.6	1			1.0000E-09
22	28.373	DCB	32.3054	10.8638%	660904	107218	6.2	1	0	0	4.8881E-05

TOTAL AMOUNT = 297.3661

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:OV14E133.PTS Printed on 11-22-1997 at 00:22:16
Start time: 0.00 min. Stop time: 30.03 min. Offset: 1 mv.
.1 Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-22-1997 00:18:07 Version 5.1.5

Sample Name: INDA 20-200 Data File: D:\DV14E134

Date: 11-21-1997 19:49:10 Method: M:SPES-E 11-21-1997 22:32:03 # 391

Interface: 2 Cycle#: 134 Operator JJK Channel#: 1 Vial#: N.A.

Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

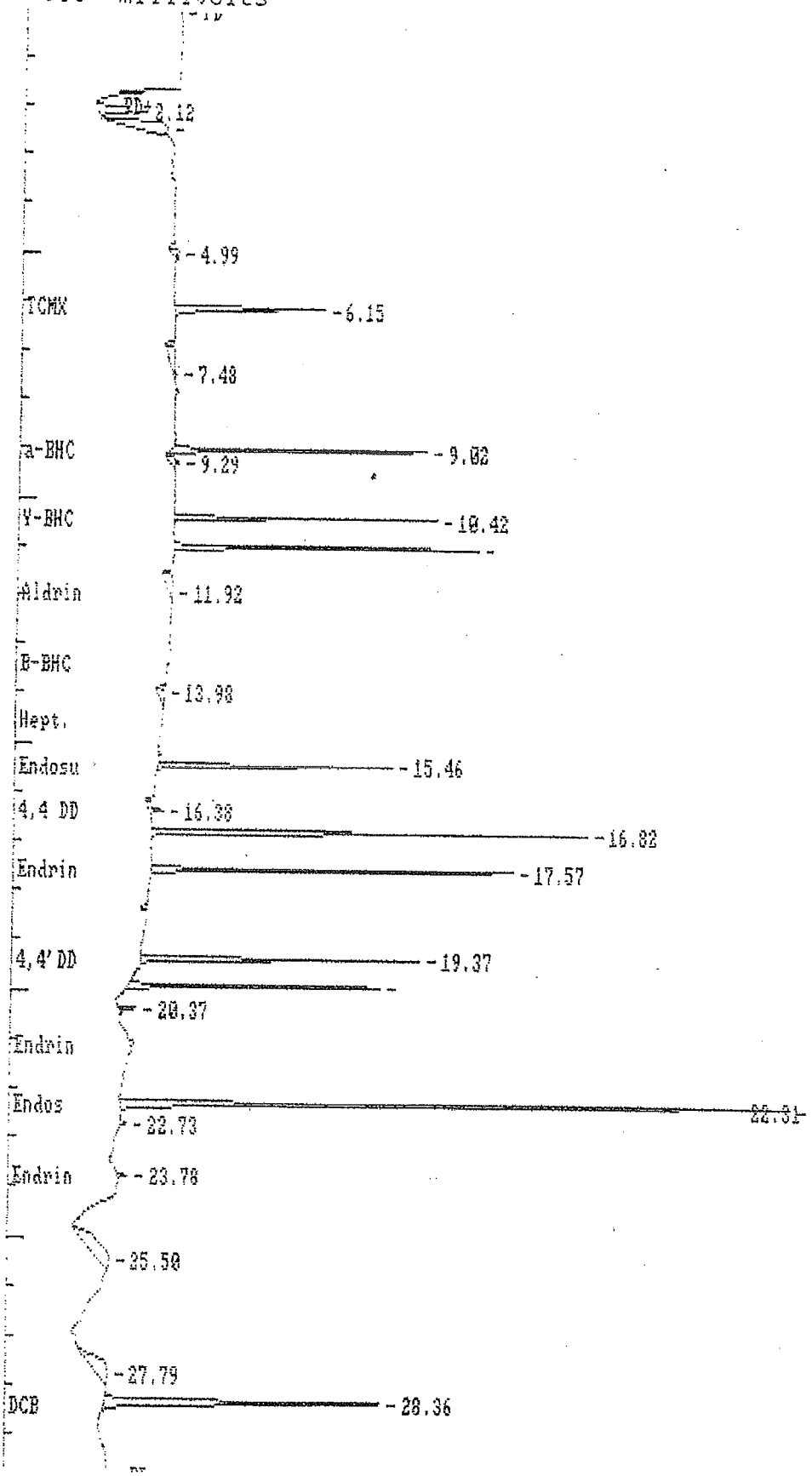
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.121		0.0001	0.0000%	131922	14002	9.4	1			1.0000E-09
2	2.472		0.0001	0.0000%	173406	8352	20.8	1			1.0000E-09
3	4.993		0.0000	0.0000%	13420	2658	5.8	1			1.0000E-09
4	6.146	TCMX	17.9619	5.0904%	282253	61693	4.6	1	0	.2544	6.3638E-05
5	7.482		0.0001	0.0000%	81646	1350	60.5	1			1.0000E-09
6	9.018	a-BHC	17.2571	4.8907%	377688	104835	3.6	1	0	-.1881	4.5691E-05
7	9.285		0.0000	0.0000%	31662	3430	9.2	1			1.0000E-09
8	10.421	Y-BHC	17.1745	4.8673%	357814	107266	3.3	1	0	0	4.7998E-05
9	11.022	Heptachlor	17.6919	5.0139%	429136	124240	3.5	1	0	0	4.1227E-05
10	11.924	Aldrin	3.0149	0.8542%	66693	1567	42.6	1	0	0	4.5192E-05
11	13.978	d-BHC	1.7044	0.4830%	27027	2522	10.7	1	0	-.9432	6.3061E-05
12	15.464	Endosulf I	16.8054	4.7627%	336932	96085	3.5	1	0	-.1083	4.9878E-05
13	16.383	4,4 DDE	2.0862	0.5918%	37197	5558	6.7	1	0	0	5.6133E-05
14	16.817	Dieldrin	33.6833	9.5459%	594006	176725	3.4	1	0	0	5.6705E-05
15	17.568	Endrin	35.5910	10.0865%	515786	146840	3.5	1	0	0	6.9004E-05
16	19.372	4,4'DDD	31.9747	9.0617%	378645	113517	3.3	1	0	0	8.4445E-05
17	19.923	4,4 DDT	31.9951	9.0674%	354378	103137	3.4	1	0	0	9.0285E-05
18	20.374		0.0000	0.0000%	21897	7038	3.1	1			1.0000E-09
19	22.311	~~Endos-sulf~~ Methoxy	90.4579	25.6358%	1017380	271955	3.7	1	0	0	8.8913E-05
20	22.729		0.0000	0.0000%	8853	2539	3.5	1			1.0000E-09
21	23.791	Endrin ket	1.6702	0.4733%	20324	4423	4.5	1	0	0	8.2213E-05
22	26.301		0.0001	0.0001%	103776	3739	54.5	1			1.0000E-09
23	27.769		0.0001	0.0000%	144982	3394	42.7	1			1.0000E-09
24	28.357	DDB	33.7863	9.5752%	671211	112470	6.1	1	0	-.1176	4.3881E-05

TOTAL AMOUNT = 352.8571

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:OV14E134.PTS Printed on 11-22-1997 at 00:18:29
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
11 Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-2, S-5

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-78619

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E113

% Moisture: 16 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/20/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	2	U
319-85-7	beta-BHC	2	U
319-86-8	delta-BHC	2	U
58-89-9	gamma-BHC (Lindane)	2	U
76-44-8	Heptachlor	2	U
309-00-2	Aldrin	2	U
1024-57-3	Heptachlor epoxide	2	U
959-98-8	Endosulfan I	2	U
60-57-1	Dieldrin	4	U
72-55-9	4,4'-DDE	4	U
72-20-8	Endrin	4	U
33213-65-9	Endosulfan II	4	U
72-54-8	4,4'-DDD	4	U
1031-07-8	Endosulfan sulfate	4	U
50-29-3	4,4'-DDT	4	U
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	4	U
7421-36-3	Endrin aldehyde	4	U
57-74-9	Chlordane	20	U
8001-35-2	Toxaphene	50	U
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U

EXTERNAL STANDARD TABLE

********** 11-22-1997 18:26:57 Version 5.1.5 **********

* Sample Name: 78619 P.F
* Date: 11-20-1997 21:49:10 Method: M:APES-I 11-21-1997 22:31:52 # 398
* Interface: 2 Cycle#: 113 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Data File: D:NV14E113

* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

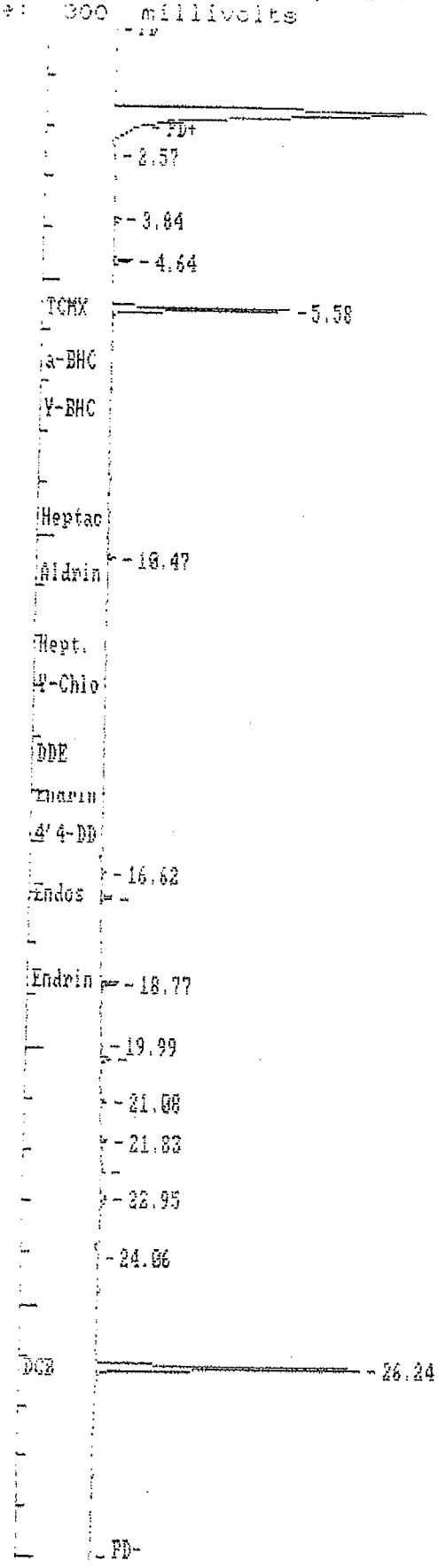
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.572		0.0000	0.0000%	20357	947	21.5	1			1.0000E-09
2	3.841		0.0000	0.0000%	13112	2342	5.6	1			1.0000E-09
3	4.643		0.0000	0.0000%	38509	7966	4.8	1			1.0000E-09
4	5.578	TCMX	74.5813	38.4531%	329948	69504	4.7	1	0	.3201	2.2604E-04
5	10.471		0.0000	0.0000%	15123	3452	4.4	1			1.0000E-09
6	16.616		0.0000	0.0000%	6256	1710	3.7	1			1.0000E-09
7	17.101	DBT	6.1264	3.1587%	19372	4670	4.1	1	0	-.3914	3.1626E-04
8	18.771	Endrin ket.	9.3084	4.7993%	26659	6504	4.1	1	0	.4484	3.4916E-04
9	19.990		0.0000	0.0000%	5705	1196	4.8	1			1.0000E-09
10	20.257		0.0000	0.0000%	20251	4129	4.9	1			1.0000E-09
11	21.075		0.0000	0.0000%	9177	2369	3.9	1			1.0000E-09
12	21.827		0.0000	0.0000%	12317	2852	4.3	1			1.0000E-09
13	22.428		0.0000	0.0000%	5912	1661	3.6	1			1.0000E-09
14	22.946		0.0000	0.0000%	10092	2263	4.5	1			1.0000E-09
15	24.065		0.0000	0.0000%	9409	875	10.7	1			1.0000E-09
16	26.236	DCB	103.9377	53.5889%	537046	102923	5.2	1	0	0	1.9354E-04

TOTAL AMOUNT = 193.9539

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E113.PTS Printed on 11-22-1997 at 13:27:01
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-10, S-5

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-78620

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E114

% Moisture: 20 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/20/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	3	U
319-85-7	beta-BHC	3	U
319-86-8	delta-BHC	3	U
58-89-9	gamma-BHC (Lindane)	3	U
76-44-8	Heptachlor	3	U
309-00-2	Aldrin	3	U
1024-57-3	Heptachlor epoxide	3	U
959-98-8	Endosulfan I	3	U
60-57-1	Dieldrin	3	U
72-55-9	4,4'-DDE	5	U
72-20-8	Endrin	5	U
33213-65-9	Endosulfan II	5	U
72-54-8	4,4'-DDD	5	U
1031-07-8	Endosulfan sulfate	5	U
50-29-3	4,4'-DDT	5	U
72-43-5	Methoxychlor	5	U
53494-70-5	Endrin ketone	30	U
7421-36-3	Endrin aldehyde	5	U
57-74-9	Chlordane	5	U
8001-35-2	Toxaphene	30	U
12674-11-2	Aroclor-1016	60	U
11104-28-2	Aroclor-1221	50	U
11141-16-5	Aroclor-1232	50	U
53469-21-9	Aroclor-1242	50	U
12672-29-6	Aroclor-1248	50	U
11097-69-1	Aroclor-1254	50	U
11096-82-5	Aroclor-1260	50	U

EXTERNAL STANDARD TABLE

********** 11-22-1997 18:27:10 Version 5.1.5 **********

Name: 78620 [illegible]

11-20-1997 22:31:53 Method: M:APES-E 11-21-1997 22:31:52 # 399

Data File: D:NV14E114

face: 2 Cycle#: 114 Operator JJK Channel#: 0 Vial#: N.A.

ting Peak Width: 10 Threshold: 20 Area Threshold: 2000

****

Instrument Type: PE 3500

Solvent Description: Column Type: RTX 5/1701

Conditions:

Detector 0:

* Misc. Information: Detector 1: ECD

****

Starting Delay: 0.00

Area reject: 2000

Amount injected: 1.00

Sample Weight: 1.00000

Ending retention time: 30.00

One sample per 1.002 sec.

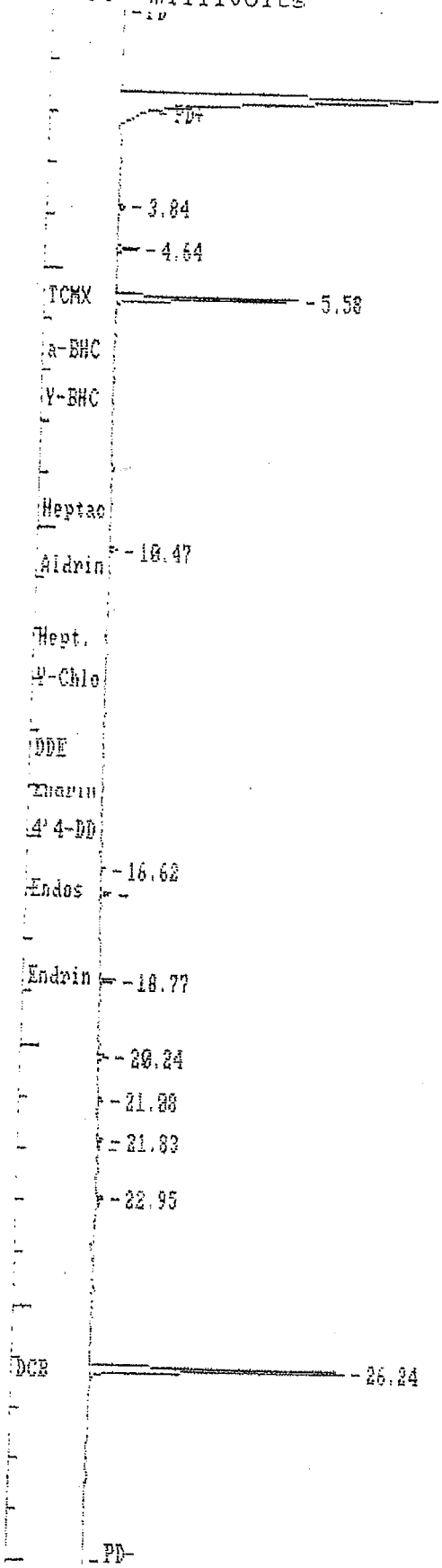
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.841		0.0000	0.0000%	13749	2469	5.6	1			1.0000E-09
2	4.643		0.0000	0.0000%	40702	8420	4.8	1			1.0000E-09
3	5.578	TCMX	76.7995	39.9158%	339761	71082	4.8	1	0	.3201	2.2604E-04
4	10.471		0.0000	0.0000%	14217	3214	4.4	1			1.0000E-09
5	16.616		0.0000	0.0000%	5647	1592	3.5	1			1.0000E-09
6	17.101	DDT	6.1975	3.2211%	19597	4426	4.4	1	0	-.3914	3.1626E-04
7	18.771	Endrin ket.	8.5310	4.4339%	24433	6002	4.1	1	0	.4484	2.4916E-04
8	20.240		0.0000	0.0000%	19969	4125	4.8	1			1.0000E-09
9	21.075		0.0000	0.0000%	9217	2227	4.1	1			1.0000E-09
10	21.827		0.0000	0.0000%	11254	2627	4.3	1			1.0000E-09
11	21.994		0.0000	0.0000%	5225	1209	4.3	1			1.0000E-09
12	22.346		0.0000	0.0000%	11271	2482	4.5	1			1.0000E-09
13	26.236	DCS	100.8758	52.4292%	521225	98267	5.3	1	0	0	1.9354E-04

TOTAL AMOUNT = 192.4040

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E114.PTS Printed on 11-22-1997 at 18:27:14
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5, 5-4

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-78622

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E115

% Moisture: 12 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/20/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	2	U
319-85-7	beta-BHC	2	U
319-86-8	delta-BHC	2	U
58-89-9	gamma-BHC (Lindane)	2	U
76-44-8	Heptachlor	2	U
309-00-2	Aldrin	2	U
1024-57-3	Heptachlor epoxide	2	U
959-98-8	Endosulfan I	2	U
60-57-1	Dieldrin	4	U
72-55-9	4,4'-DDE	4	U
72-20-8	Endrin	4	U
33213-65-9	Endosulfan II	4	U
72-54-8	4,4'-DDD	4	U
1031-07-8	Endosulfan sulfate	4	U
50-29-3	4,4'-DDT	4	U
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	4	U
7421-36-3	Endrin aldehyde	4	U
57-74-9	Chlordane	20	U
8001-35-2	Toxaphene	50	U
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U

EXTERNAL STANDARD TABLE

11-22-1997 18:28:05 Version 5.1.5

Sample Name: 78622 P/P

Date: 11-20-1997 22:58:19 Method: M:APES-E 11-21-1997 22:31:52 # 395

Data File: D:NV14E115

Interface: 2 Cycle#: 115 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00

Area reject: 2000

Amount injected: 1.00

Sample Weight: 1.00000

Ending retention time: 00.00

One sample per 1.002 sec.

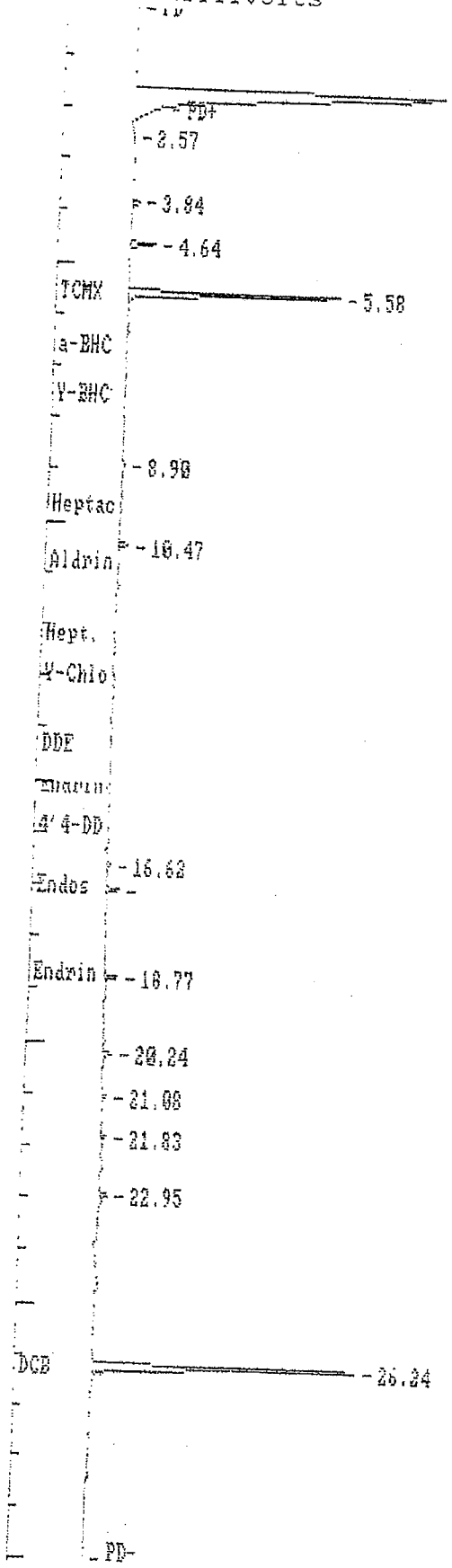
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.572		0.0000	0.0000%	18633	842	22.1	1			1.0000E-09
2	3.841		0.0000	0.0000%	17180	2913	5.9	1			1.0000E-09
3	4.643		0.0001	0.0000%	50312	10001	5.0	1			1.0000E-09
4	5.578	TCMX	91.6681	43.9438%	405539	81969	5.0	1	0	.3201	2.2604E-04
5	8.901		0.0000	0.0000%	5786	1202	4.8	1			1.0000E-09
6	10.471		0.0000	0.0000%	16663	3774	4.4	1			1.0000E-09
7	16.616		0.0000	0.0000%	4797	1329	3.6	1			1.0000E-09
8	17.101	DCT	7.0599	3.3839%	22321	5366	4.2	1	0	-.0914	3.1626E-04
9	19.771	End in ket.	7.1281	3.4170%	20415	5006	4.1	1	0	.4481	3.4916E-04
10	20.240		0.0000	0.0000%	17946	3732	4.8	1			1.0000E-09
11	21.375		0.0000	0.0000%	7138	1838	3.9	1			1.0000E-09
12	21.827		0.0000	0.0000%	9464	2215	4.3	1			1.0000E-09
13	22.946		0.0000	0.0000%	13403	2860	4.7	1			1.0000E-09
14	26.236	DCB	102.7476	49.2551%	530897	100698	5.3	1	0	0	1.9354E-04

TOTAL AMOUNT = 208.6028

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E11S.PTS Printed on 11-22-1997 at 18:28:13
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-7, 5-5

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-78623

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E116

% Moisture: 19 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/20/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	3	U
319-85-7	beta-BHC	3	U
319-86-8	delta-BHC	3	U
58-89-9	gamma-BHC (Lindane)	3	U
76-44-8	Heptachlor	3	U
309-00-2	Aldrin	3	U
1024-57-3	Heptachlor epoxide	3	U
959-98-8	Endosulfan I	3	U
60-57-1	Dieldrin	5	U
72-55-9	4,4'-DDE	5	U
72-20-8	Endrin	5	U
33213-65-9	Endosulfan II	5	U
72-54-8	4,4'-DDD	5	U
1031-07-8	Endosulfan sulfate	5	U
50-29-3	4,4'-DDT	5	U
72-43-5	Methoxychlor	30	U
53494-70-5	Endrin ketone	5	U
7421-36-3	Endrin aldehyde	5	U
57-74-9	Chlordane	30	U
8001-35-2	Toxaphene	60	U
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	50	U
11141-16-5	Aroclor-1232	50	U
53469-21-9	Aroclor-1242	50	U
12672-29-6	Aroclor-1248	50	U
11097-69-1	Aroclor-1254	50	U
11096-82-5	Aroclor-1260	50	U

EXTERNAL STANDARD TABLE

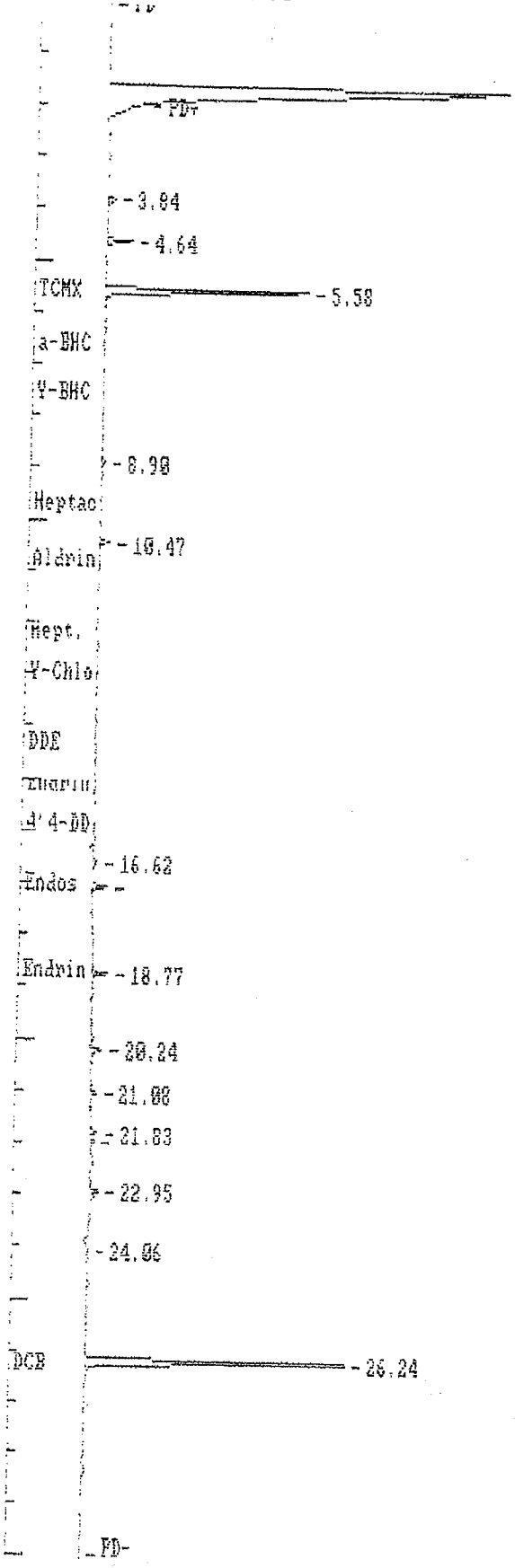
```
********************** 11-22-1997 19:29:12 Version 5.1.5 ***********************
* Sample Name: 79623 P/P                                                        *
* Date: 11-20-1997 23:30:5[illegible] Method: M:APES-E  11-21-1997 22:31:52  #  398 *
* Interface: 2   Cycle#:  116  Operator JJK Channel#: 0    Vial#: N.A.          *
* Starting Peak Width:  10   Threshold: 20  Area Threshold: 2000                *
*************************************************************************************
* Instrument Type: PE 8500                                                      *
*                 Solvent Description:          Column Type: RTX 5/1701         *
* Conditions:                                                                   *
*                 Detector 0:                                                   *
* Misc. Information:                                Detector 1: ECD             *
*************************************************************************************
Starting Delay:    0.00                                                         *
Area reject:       2000                          Ending retention time:    30.00
Amount injected:          1.00                   One sample per   1.002 sec.
Sample Weight:            1.00000                Dilution factor:          1.00
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.841		0.0000	0.0000%	17636	3031	5.8	1			1.0000E-09
2	4.640		0.0000	0.0000%	50763	10248	5.0	1			1.0000E-09
3	5.578	TCMX	87.7667	42.1472%	388280	79267	4.9	1	0	.3201	2.2604E-04
4	8.901		0.0000	0.0000%	6422	1351	4.8	1			1.0000E-09
5	10.471		0.0000	0.0000%	19030	4254	4.5	1			1.0000E-09
6	16.616		0.0000	0.0000%	6078	1694	3.6	1			1.0000E-09
7	17.101	DDT	7.8696	3.7791%	24884	5967	4.2	1	0	-.3914	3.1625E-04
8	18.771	Endrin ket.	8.8504	4.2501%	25348	6171	4.1	1	0	.4484	3.4915E-04
9	20.240		0.0000	0.0000%	21336	4429	4.8	1			1.0000E-09
10	21.075		0.0000	0.0000%	8563	2221	3.9	1			1.0000E-09
11	21.827		0.0000	0.0000%	11667	2785	4.2	1			1.0000E-09
12	21.994		0.0000	0.0000%	5690	1326	4.3	1			1.0000E-09
13	22.946		0.0000	0.0000%	12531	2708	4.6	1			1.0000E-09
14	24.065		0.0000	0.0000%	11733	989	11.9	1			1.0000E-09
15	26.236	DCB	103.7519	49.8235%	536086	100427	5.3	1	0	0	1.9354E-04

TOTAL AMOUNT = 208.2389

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E116.PTS Printed on 11-22-1997 at 18:29:23
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mV.
Full Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9, S-5

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-78624

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E117

% Moisture: 16 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/21/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	2	U
319-85-7	beta-BHC	2	U
319-86-8	delta-BHC	2	U
58-89-9	gamma-BHC (Lindane)	2	U
76-44-8	Heptachlor	2	U
309-00-2	Aldrin	2	U
1024-57-3	Heptachlor epoxide	2	U
959-98-8	Endosulfan I	2	U
60-57-1	Dieldrin	2	U
72-55-9	4,4'-DDE	4	U
72-20-8	Endrin	4	U
33213-65-9	Endosulfan II	4	U
72-54-8	4,4'-DDD	4	U
1031-07-8	Endosulfan sulfate	4	U
50-29-3	4,4'-DDT	4	U
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	4	U
7421-36-3	Endrin aldehyde	4	U
57-74-9	Chlordane	20	U
8001-35-2	Toxaphene	50	U
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U

EXTERNAL STANDARD TABLE

11-22-1997 18:30:20 Version 5.1.5

* Sample Name: 78624 P/F
* Date: 11-21-1997 00:03:41 Method: M:APES-E 11-21-1997 22:31:52 # 998
* Interface: 2 Cycle#: 117 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Data File: D:NV14E117

* Instrument Type: PI 3500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

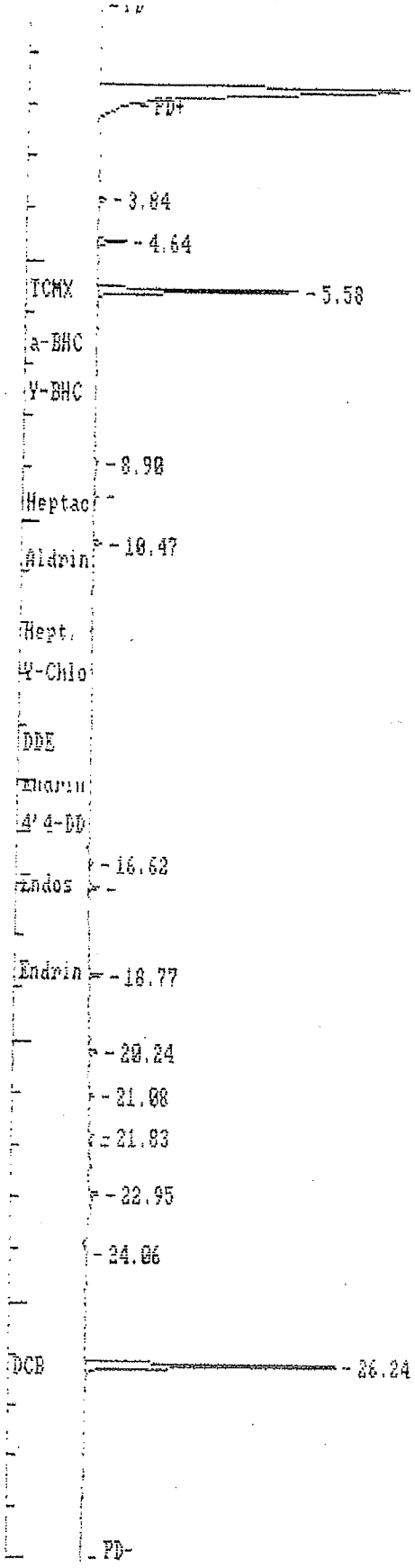
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.841		0.0000	0.0000%	16193	2765	5.9	1			1.0000E-09
2	4.643		0.0001	0.0000%	55729	11161	5.0	1			1.0000E-09
3	5.578	TCMX	86.2338	42.8568%	380614	77319	4.9	1	0	.3201	2.2604E-04
4	8.901		0.0000	0.0000%	6196	1340	4.6	1			1.0000E-09
5	9.569	Heptachlor	1.5401	0.7672%	5954	1660	3.6	1	0	-.6942	2.5867E-04
6	10.471		0.0000	0.0000%	15779	3600	4.4	1			1.0000E-09
7	16.616		0.0000	0.0000%	5215	1458	3.6	1			1.0000E-09
8	17.101	DDT	5.8086	2.8935%	18367	4344	4.2	1	0	-.2914	3.1626E-04
9	18.771	Endrin ket.	7.5678	3.7698%	21674	5286	4.1	1	0	.4484	3.4916E-04
10	20.240		0.0000	0.0000%	18130	3783	4.8	1			1.0000E-09
11	21.075		0.0000	0.0000%	7450	1962	3.8	1			1.0000E-09
12	21.827		0.0000	0.0000%	10020	2351	4.3	2			1.0000E-09
13	21.994		0.0000	0.0000%	5911	1368	4.3	2			1.0000E-09
14	22.946		0.0000	0.0000%	16401	3430	4.8	1			1.0000E-09
15	24.065		0.0000	0.0000%	10696	895	12.0	1			1.0000E-09
16	26.236	DCS	99.7968	49.7127%	515650	95790	5.4	1	0	0	1.9354E-04

TOTAL AMOUNT = 200.7473

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E117.PTS Printed on 11-22-1997 at 18:30:32
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-3, S-4

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-82199

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E131

% Moisture: 14 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/21/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	2	U
319-85-7	beta-BHC	2	U
319-86-8	delta-BHC	2	U
58-89-9	gamma-BHC (Lindane)	2	U
76-44-8	Heptachlor	2	U
309-00-2	Aldrin	2	U
1024-57-3	Heptachlor epoxide	2	U
959-98-8	Endosulfan I	2	U
60-57-1	Dieldrin	2	U
72-55-9	4,4'-DDE	5.4	
72-20-8	Endrin	4	U
33213-65-9	Endosulfan II	4	U
72-54-8	4,4'-DDD	4	U
1031-07-8	Endosulfan sulfate	4	U
50-29-3	4,4'-DDT	4	U
72-43-5	Methoxychlor	4	U
53494-70-5	Endrin ketone	20	U
7421-36-3	Endrin aldehyde	4	U
57-74-9	Chlordane	4	U
8001-35-2	Toxaphene	20	U
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U
		40	U

EXTERNAL STANDARD TABLE

11-22-1997 19:54:03 Version 5.1.5

Sample Name: 82199 8/9 Data File: D:NV14E13:

Date: 11-21-1997 15:11:23 Method: M:APES-E 11-21-1997 22:31:52 # 299

Interface: 2 Cycle#: 131 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.000 sec.

Amount injected: 1.00 Dilution factor: 1.00

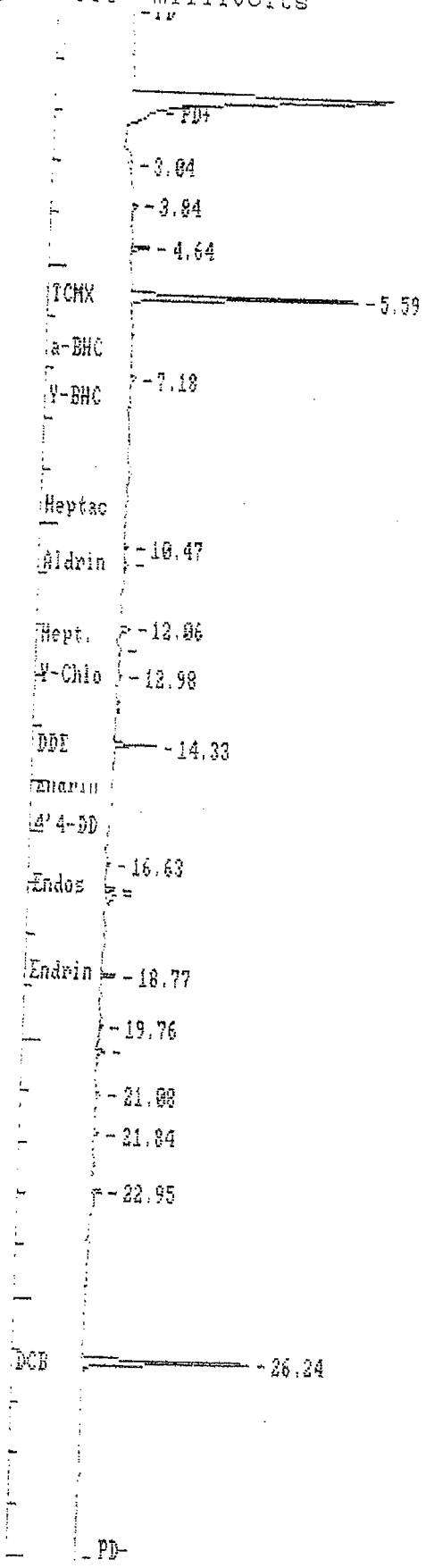
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.039		0.0000	0.0000%	33681	1329	26.5	1			1.0000E-09
2	3.841		0.0000	0.0000%	12640	2269	5.6	1			1.0000E-09
3	4.643		0.0000	0.0000%	38663	7375	5.8	1			1.0000E-09
4	5.594	TCMX	104.3581	48.1080%	461680	88656	5.2	1	0	.6004	2.2604E-04
5	7.181		0.0000	0.0000%	11233	1940	5.8	1			1.0000E-09
6	10.471		0.0000	0.0000%	8356	2008	4.2	1			1.0000E-09
7	10.805	Aldrin	2.0426	0.9416%	9183	1614	5.7	1	0	.4629	2.2242E-04
8	12.057	Hept. epox.	5.0853	2.3443%	20717	3762	5.5	1	0	-.6685	2.4545E-04
9	12.492		0.0000	0.0000%	11522	1169	10.2	1			1.0000E-09
10	12.976	Y-chlordane	0.9906	0.4567%	4972	1314	3.8	1	0	.1304	1.9924E-04
11	14.329	Dieldrin	14.0656	6.4841%	59138	16295	3.6	1	0	0	2.3784E-04
12	16.033		0.0000	0.0000%	6180	1601	3.9	1			1.0000E-09
13	17.191	Endos sulf	6.4950	2.9941%	17718	4061	4.4	2	0	.5870	3.6657E-04
14	17.234	DDE	10.1625	4.6848%	32134	3907	8.2	2	0	.3987	3.1625E-04
15	18.771	Endrin ket.	8.2296	3.7938%	23570	5742	4.1	1	0	.4464	3.4916E-04
16	19.756		0.0000	0.0000%	4728	1470	3.2	1			1.0000E-09
17	20.257		0.0000	0.0000%	15057	3141	4.8	1			1.0000E-09
18	21.075		0.0000	0.0000%	9184	2019	4.3	1			1.0000E-09
19	21.844		0.0000	0.0000%	9915	2287	4.3	1			1.0000E-09
20	22.944		0.0000	0.0000%	15981	3410	4.7	1			1.0000E-09
21	26.236	DDE	65.4950	30.1925%	339412	64789	5.2	1	0	0	1.9354E-04

TOTAL AMOUNT = 216.9645

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E131.PTS Printed on 11-22-1997 at 19:44:21
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-22-1997 19:59:22 Version 5.1.5

Sample Name: 82199 F/P
Data File: D:\DV14E131

Date: 11-21-1997 18:11:29 Method: M:\PE\5-E 11-21-1997 22:32:00 # 391

Interface: 2 Cycle#: 131 Operator JJK Channel#: 1 Vial#: N.A.

Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

Ending retention time: 30.00
One sample per 1.000 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.373		0.0014	0.0005%	1387124	29892	46.4	2			1.0000E-09
2	3.541		0.0003	0.0001%	336978	26086	12.9	2			1.0000E-09
3	3.841		0.0002	0.0001%	240340	22713	10.6	2			1.0000E-09
4	3.975		0.0001	0.0001%	146863	20045	7.3	2			1.0000E-09
5	4.275		0.0004	0.0002%	384152	17968	21.4	2			1.0000E-09
6	4.643		0.0002	0.0001%	158296	9010	17.6	2			1.0000E-09
7	4.843		0.0001	0.0000%	87805	7820	11.2	2			1.0000E-09
8	5.141		0.0001	0.0000%	100841	10278	9.8	2			1.0000E-09
9	6.162	TCMX	98.6201	39.0165%	1549716	280771	5.5	1	0	.5269	6.3636E-05
10	7.047		0.0001	0.0000%	53025	4765	11.1	2			1.0000E-09
11	7.214		0.0000	0.0000%	13474	2550	5.3	2			1.0000E-09
12	7.335		0.0001	0.0006%	53846	7607	7.1	1			1.0000E-09
13	8.609		0.0000	0.0000%	10511	1672	6.3	1			1.0000E-09
14	9.295		0.0000	0.0000%	38401	3252	11.8	1			1.0000E-09
15	9.786		0.0001	0.0000%	79881	13243	6.0	1			1.0000E-09
16	10.003		0.0001	0.0000%	52475	7110	7.4	1			1.0000E-09
17	10.768		0.0000	0.0000%	27205	3251	8.4	1			1.0000E-09
18	11.356		0.0000	0.0000%	36349	8941	4.1	1			1.0000E-09
19	11.640		0.0000	0.0000%	14959	2610	5.7	1			1.0000E-09
20	11.967	Aldrin	1.5067	0.5961%	33340	4361	7.6	1	0	.2784	4.5192E-05
21	12.241		0.0000	0.0000%	9487	2747	3.5	1			1.0000E-09
22	12.441		0.0000	0.0000%	7747	2043	3.8	1			1.0000E-09
23	13.143	B-BHC	7.4366	2.9421%	94933	21506	3.9	1	0	-1.867	8.7558E-05
24	13.711		0.0000	0.0000%	38809	4958	7.8	1			1.0000E-09
25	13.978	d-BHC	2.1725	0.8595%	34449	7069	4.9	1	0	-.9432	6.3064E-05
26	14.412	Hept. epox.	2.0359	0.8054%	43099	8014	5.4	1	0	-.8046	4.7237E-05
27	14.830		0.0001	0.0000%	61880	6548	9.5	1			1.0000E-09
28	15.097	Endosulf I	11.9671	4.7345%	239931	23093	10.4	1	0	-.5400	4.9878E-05
29	15.791	Y-Chlordane	4.8951	1.9366%	106033	13676	7.8	2	0	.1046	4.6166E-05
30	16.013	a-Chlordane	4.4316	1.7533%	99415	20110	4.9	2	0	.1018	4.4577E-05
	16.232		0.0001	0.0002%	46464	12580	7.9	2			1.0000E-09
32	16.399	4,4 DDE	7.4803	2.9594%	183247	29111	6.6	2	0	.1001	5.6139E-05
33	16.634	Dieldrin	14.0346	5.5525%	247504	70736	3.5	1	0	0	5.6705E-05
34	17.101	Endrin	0.6192	0.2450%	8973	1984	4.5	1	0	-1.044	6.9004E-05
35	18.270		0.0000	0.0000%	49824	4630	10.8	1			1.0000E-09
36	18.504		0.0001	0.0000%	51645	4624	11.2	1			1.0000E-09
37	18.854		0.0001	0.0006%	70839	7238	9.8	1			1.0000E-09

41	20.491									1.0000E-09
42	20.708	0.0001	0.0000%	112760	25038	4.5	2			1.0000E-09
43	20.958	0.0000	0.0000%	49607	7649	6.5	2			1.0000E-09
44	21.059 Endrin ald	0.0001	0.0000%	92751	19202	4.8	2			1.0000E-09
45	21.276	8.8434	3.4987%	88815	18878	4.7	2	0	-.1578	9.9572E-05
46	21.409	0.0000	0.0000%	25739	5319	4.8	2			1.0000E-09
47	21.677	0.0000	0.0000%	8217	2176	3.8	2			1.0000E-09
48	21.760	0.0000	0.0000%	12346	3737	3.3	2			1.0000E-09
49	22.378 Methoxychl	0.0000	0.0000%	28456	7466	3.8	2			1.0000E-09
50	23.146	18.1728	7.1896%	98987	16155	6.1	1	0	.0239	1.8359E-04
51	23.447	0.0000	0.0000%	22586	5635	4.0	1			1.0000E-09
52	23.797 Endrin ket	0.0000	0.0000%	38173	8638	4.4	1			1.0000E-09
53	24.031	1.7709	0.7006%	21231	3935	5.4	1	0	0	8.3410E-05
54	24.766	0.0000	0.0000%	16002	3355	4.8	1			1.0000E-09
55	25.284	0.0001	0.0000%	80059	8827	9.1	1			1.0000E-09
56	27.488	0.0001	0.0000%	58899	8428	7.0	1			1.0000E-09
57	28.390 OCS	0.0001	0.0000%	106851	11878	9.0	1			1.0000E-09
58	29.609	65.7285	26.0038%	1344674	221775	6.1	1	0	0	4.8881E-05
		0.0000	0.0000%	44149	3899	11.3	1			1.0000E-09

TOTAL AMOUNT = 252.7653

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E131.PTS Printed on 11-22-1997 at 20:00:04
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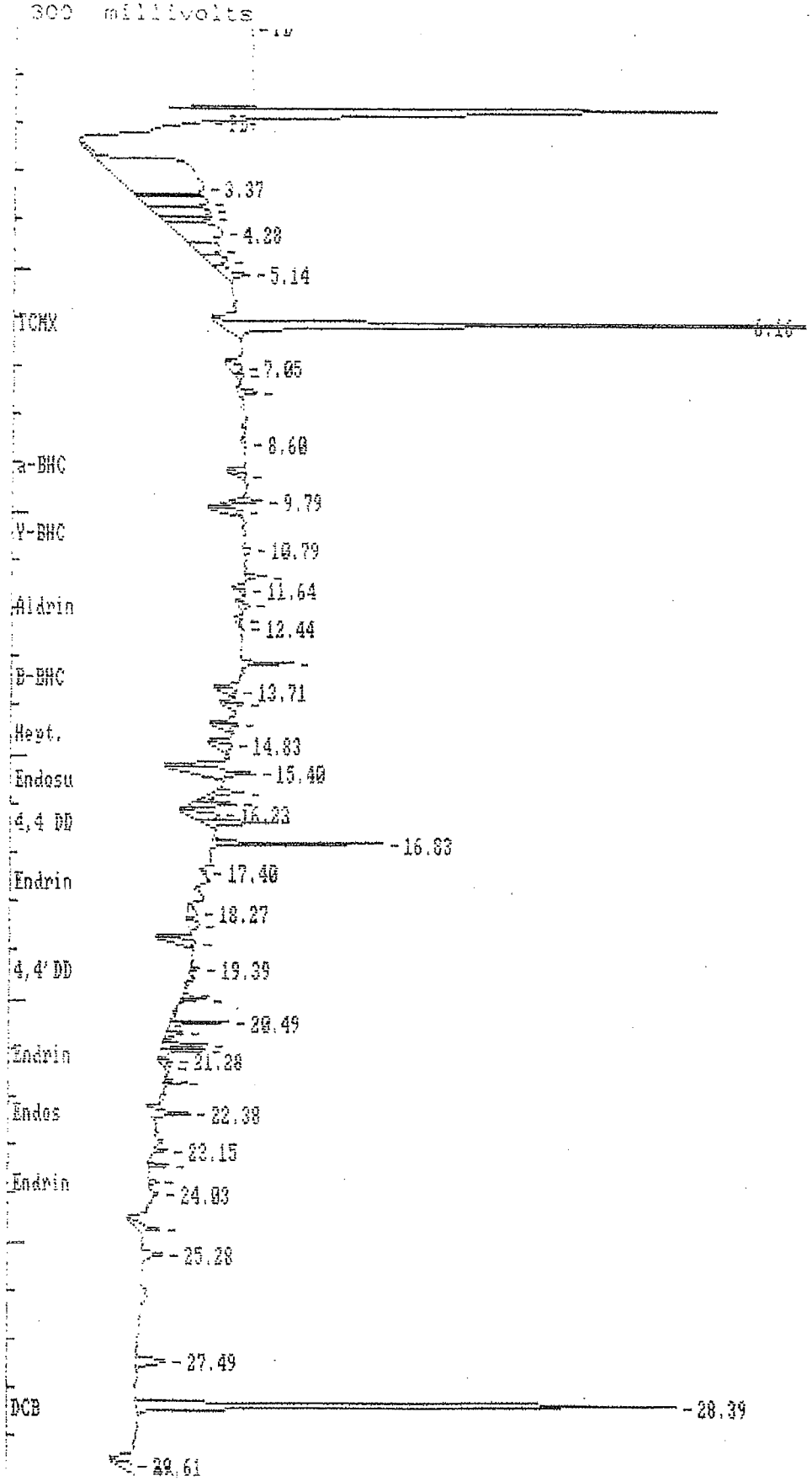
11 Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6, S-4

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-82200

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E124

% Moisture: 17 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/21/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	3	U
319-85-7	beta-BHC	3	U
319-86-8	delta-BHC	3	U
58-89-9	gamma-BHC (Lindane)	3	U
76-44-8	Heptachlor	3	U
309-00-2	Aldrin	3	U
1024-57-3	Heptachlor epoxide	3	U
959-98-8	Endosulfan I	3	U
60-57-1	Dieldrin	5	U
72-55-9	4,4'-DDE	5	U
72-20-8	Endrin	5	U
33213-65-9	Endosulfan II	5	U
72-54-8	4,4'-DDD	5	U
1031-07-8	Endosulfan sulfate	5	U
50-29-3	4,4'-DDT	5	U
72-43-5	Methoxychlor	30	U
53494-70-5	Endrin ketone	5	U
7421-36-3	Endrin aldehyde	5	U
57-74-9	Chlordane	30	U
8001-35-2	Toxaphene	60	U
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	50	U
11141-16-5	Aroclor-1232	50	U
53469-21-9	Aroclor-1242	50	U
12672-29-6	Aroclor-1248	50	U
11097-69-1	Aroclor-1254	50	U
11096-82-5	Aroclor-1260	50	U

EXTERNAL STANDARD TABLE

********** 11-22-1997 19:37:51 Version 5.1.5 **********

Sample Name: 82200 P/P Data File: D:NV14E124

* Date: 11-21-1997 03:52:28 Method: M:APES-E 11-21-1997 22:31:52 # 398 *
* Interface: 2 Cycle#: 124 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

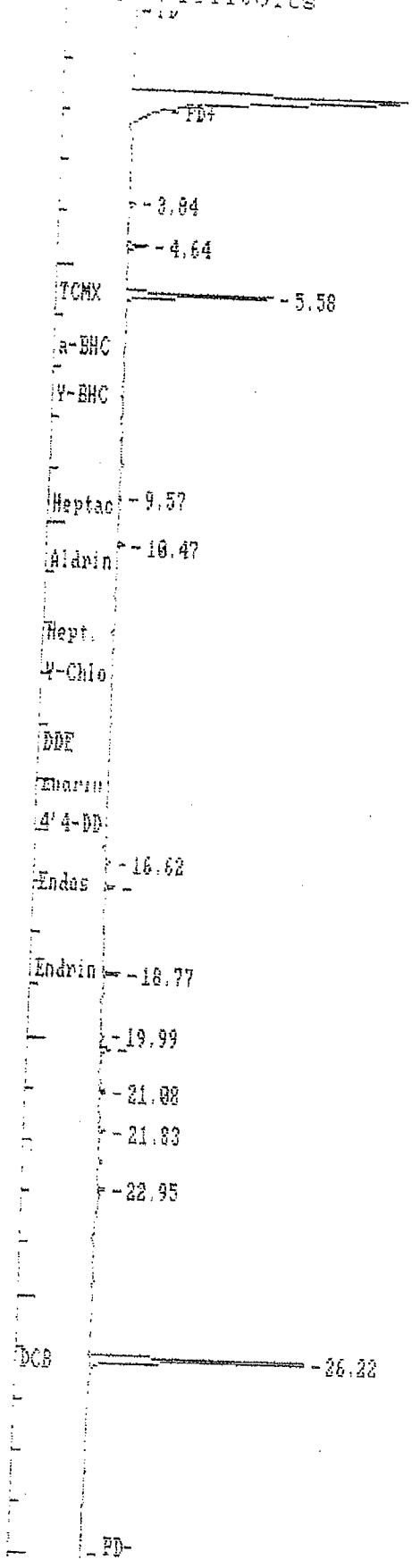
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.841		0.0000	0.0000%	12580	2216	5.7	1			1.0000E-09
2	4.643		0.0000	0.0000%	40040	7924	5.1	1			1.0000E-09
3	5.578	TCMX	65.3237	38.6838%	288992	57751	5.0	1	0	.3201	2.2604E-04
4	9.569	Heptachlor	1.2635	0.7482%	4885	1296	3.8	1	0	-.6942	2.5567E-04
5	10.471		0.0000	0.0000%	12600	2939	4.3	1			1.0000E-09
6	16.616		0.0000	0.0000%	6471	1813	3.6	1			1.0000E-09
7	17.101	DD	5.5588	3.2919%	17577	4163	4.2	1	0	-.3914	3.1626E-04
8	18.771	Endrin ket.	9.0978	5.3876%	26056	6356	4.1	1	0	.4484	3.4916E-04
9	19.990		0.0000	0.0000%	5916	1209	4.9	1			1.0000E-09
10	20.240		0.0000	0.0000%	19431	4005	4.9	1			1.0000E-09
11	21.075		0.0000	0.0000%	8539	2218	3.9	1			1.0000E-09
12	21.827		0.0000	0.0000%	11843	2796	4.2	1			1.0000E-09
13	22.946		0.0000	0.0000%	12702	2711	4.7	1			1.0000E-09
14	26.219	DCS	87.6220	51.8885%	452743	83501	5.4	1	0	-.0800	1.9354E-04

TOTAL AMOUNT = 168.8659

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E124.PTS Printed on 11-22-1997 at 19:37:55
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-8, S-4

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-82201

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E126

% Moisture: 15 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/21/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	2	U
319-85-7	beta-BHC	2	U
319-86-8	delta-BHC	2	U
58-89-9	gamma-BHC (Lindane)	2	U
76-44-8	Heptachlor	2	U
309-00-2	Aldrin	2	U
1024-57-3	Heptachlor epoxide	2	U
959-98-8	Endosulfan I	2	U
60-57-1	Dieldrin	21	
72-55-9	4,4'-DDE	4	U
72-20-8	Endrin	4	U
33213-65-9	Endosulfan II	4	U
72-54-8	4,4'-DDD	4	U
1031-07-8	Endosulfan sulfate	4	U
50-29-3	4,4'-DDT	4	U
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	4	U
7421-36-3	Endrin aldehyde	4	U
57-74-9	Chlordane	20	U
8001-35-2	Toxaphene	50	U
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U

EXTERNAL STANDARD TABLE

11-22-1997 19:38:55 Version 5.1.5

Sample Name: 82201 P/P Data File: D:NV14E126

Date: 11-21-1997 04:57:51 Method: M:APES-E 11-21-1997 22:31:52 # 399

Interface: 2 Cycle#: 126 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

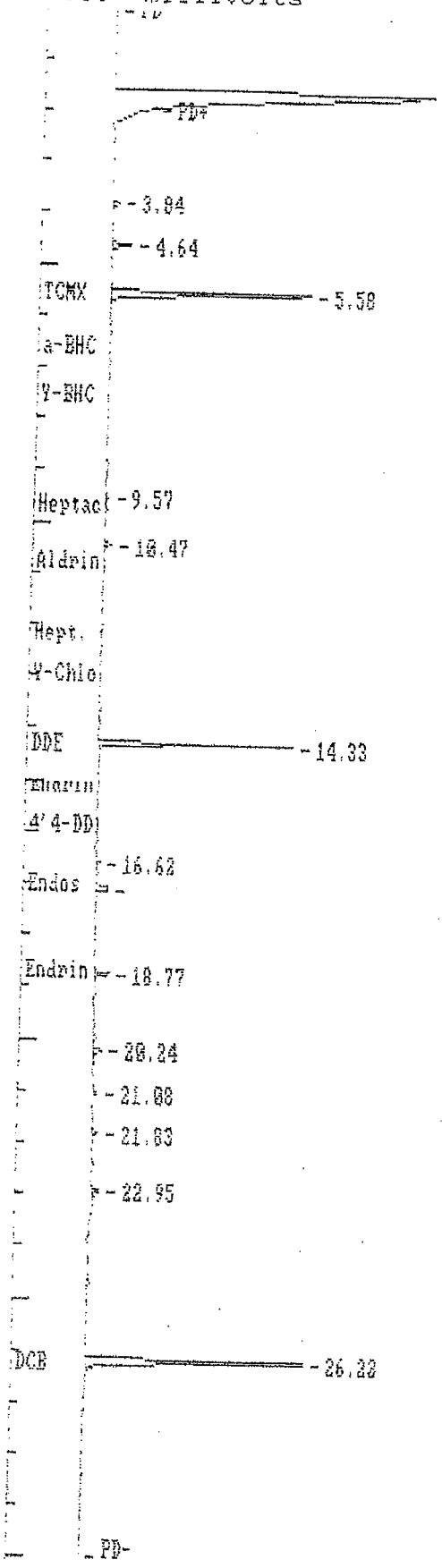
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC.AREA
1	3.841		0.0000	0.0000%	13483	2419	5.6	1			[illegible]
2	4.643		0.0000	0.0000%	38409	7859	4.9	1			[illegible]
3	5.578	TCMX	85.9784	33.7470%	380368	77346	4.9	1	0	.3201	[illegible]
4	9.569	Heptachlor	1.2819	0.5032%	4956	1418	3.5	1	0	-.6942	[illegible]
5	10.471		0.0000	0.0000%	13778	3190	4.3	1			[illegible]
6	14.329	Dieldrin	63.0660	24.7538%	265382	74535	3.6	1	0	0	[illegible]
7	16.616		0.0000	0.0000%	5338	1502	3.6	1			[illegible]
8	17.151	DDT	10.4494	4.1014%	33041	4839	6.8	1	0	0	[illegible]
9	18.771	Endrin ket.	7.5220	2.9524%	21543	5402	4.0	1	0	.4484	[illegible]
10	20.240		0.0000	0.0000%	16208	3441	4.7	1			[illegible]
11	21.075		0.0000	0.0000%	7740	1926	4.0	1			[illegible]
12	21.827		0.0000	0.0000%	9805	2332	4.2	1			[illegible]
13	22.946		0.0000	0.0000%	13271	2777	4.8	1			[illegible]
14	26.219	DCB	86.4755	33.9421%	446819	83698	5.3	1	0	-.0800	[illegible]

TOTAL AMOUNT = 254.7733

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14S126.PTS Printed on 11-22-1997 at 19:39:03
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 19:52:50 Version 5.1.5

Sample Name: 82201 F/F

Date File: [illegible]

Date: 11-21-1997 04:57:51 Method: M:BPES-E 11-21-1997 22:32:03 # 391

Interface: 2 Cycle#: 126 Operator JJK Channel#: 1 Vial#: N.A.

Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00

Area reject: 2000

Amount injected: 1.00

Sample Weight: 1.00000

Ending retention time: 30.00

One sample per 1.002 sec.

Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.006		0.0004	0.0002%	442570	5690	77.8	1			1.0000E-09
2	4.275		0.0001	0.0000%	61758	3550	17.4	1			1.0000E-09
3	4.843		0.0000	0.0000%	14952	1321	11.3	1			1.0000E-09
4	5.127		0.0000	0.0000%	35768	8127	4.4	1			1.0000E-09
5	6.162	TCMX	76.4159	29.6520%	1200799	224391	5.4	1	0	.5269	6.3638E-05
6	7.498		0.0000	0.0000%	23542	4632	5.1	1			1.0000E-09
7	8.066		0.0000	0.0000%	17217	4292	4.0	1			1.0000E-09
8	8.584		0.0000	0.0000%	6783	1382	4.9	1			1.0000E-09
9	11.239		0.0000	0.0000%	48062	11716	4.1	1			1.0000E-09
10	13.126	B-BHC	11.1838	4.3397%	127730	27289	4.7	1	0	-1.392	5.7558E-05
11	13.694		0.0000	0.0000%	25558	3126	8.2	1			1.0000E-09
12	14.395	Hept. epox.	1.2664	0.4914%	26811	5566	4.8	1	0	-.9195	4.7237E-05
13	16.216	a-Chlordane	0.8305	0.3222%	18630	3639	5.1	2	0	1.354	4.4577E-05
14	16.383	4,4 DDE	4.1977	1.6288%	74773	19882	3.8	2	0	0	5.6139E-05
15	16.817	Dieldrin	54.1674	21.0186%	955242	268520	3.6	1	0	0	5.6705E-05
16	18.854		0.0001	0.0000%	64157	5069	12.7	1			1.0000E-09
17	19.372	4,4'DDD	0.6813	0.2646%	8074	2494	3.2	1	0	0	8.4445E-05
18	19.923	4,4 DDT <DC	7.8989	3.0651%	87489	17784	4.9	1	0	0	9.0285E-05
19	20.491		0.0001	0.0000%	84168	21014	4.0	1			1.0000E-09
20	21.359	Endrin ald	6.6684	2.5876%	66971	15853	4.2	1	0	-.1578	9.9572E-05
21	21.760		0.0000	0.0000%	12224	2801	4.4	1			1.0000E-09
22	22.361	Methoxychl	14.6867	5.6990%	79999	19020	4.2	1	0	.1491	1.8359E-04
23	23.129		0.0000	0.0000%	11371	2318	4.9	1			1.0000E-09
24	23.430		0.0000	0.0000%	23892	5851	4.1	1			1.0000E-09
25	23.781	Endrin ket	1.9273	0.7478%	23106	4965	4.7	1	0	0	8.3410E-05
26	24.749		0.0001	0.0000%	66443	7373	9.0	1			1.0000E-09
27	25.284		0.0000	0.0000%	22631	3217	7.0	1			1.0000E-09
28	27.471		0.0001	0.0000%	100886	10925	9.2	1			1.0000E-09
29	28.273	DDE	77.7824	30.1826%	1591293	256592	6.2	1	0	0	4.8881E-05
30	29.626		0.0000	0.0000%	23812	2402	10.0	1			1.0000E-09

TOTAL AMOUNT = 257.7093

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:OV14E126.PTS Printed on 11-22-1997 at 19:53:03
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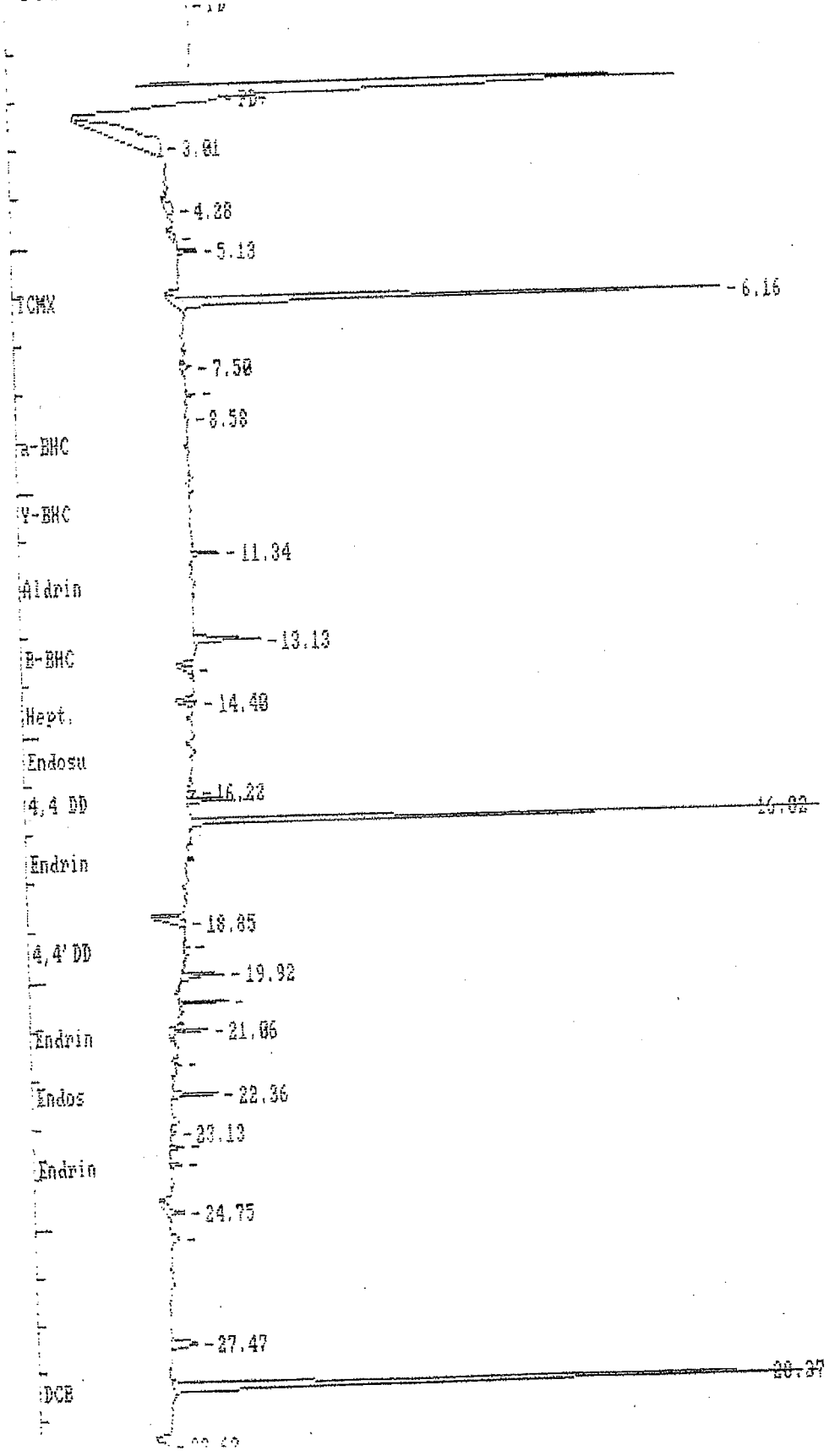
Full Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-4, S-4

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: 97-82202

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E125

% Moisture: 20 decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/21/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	3	U
319-85-7	beta-BHC	3	U
319-86-8	delta-BHC	3	U
58-89-9	gamma-BHC (Lindane)	3	U
76-44-8	Heptachlor	3	U
309-00-2	Aldrin	3	U
1024-57-3	Heptachlor epoxide	3	U
959-98-8	Endosulfan I	3	U
60-57-1	Dieldrin	5	U
72-55-9	4,4'-DDE	5	U
72-20-8	Endrin	5	U
33213-65-9	Endosulfan II	5	U
72-54-8	4,4'-DDD	5	U
1031-07-8	Endosulfan sulfate	5	U
50-29-3	4,4'-DDT	5	U
72-43-5	Methoxychlor	30	U
53494-70-5	Endrin ketone	5	U
7421-36-3	Endrin aldehyde	5	U
57-74-9	Chlordane	30	U
8001-35-2	Toxaphene	60	U
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	50	U
11141-16-5	Aroclor-1232	50	U
53469-21-9	Aroclor-1242	50	U
12672-29-6	Aroclor-1248	50	U
11097-69-1	Aroclor-1254	50	U
11096-82-5	Aroclor-1260	50	U

EXTERNAL STANDARD TABLE

********** 11-22-1997 19:38:04 Version 5.1.5 **********

* Sample Name: 82202 P/F
* Date: 11-21-1997 04:23:12 Method: M:APES-E 11-21-1997 22:31:52 # 298
* Interface: 2 Cycle#: 125 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Data File: D:NV14E125

* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

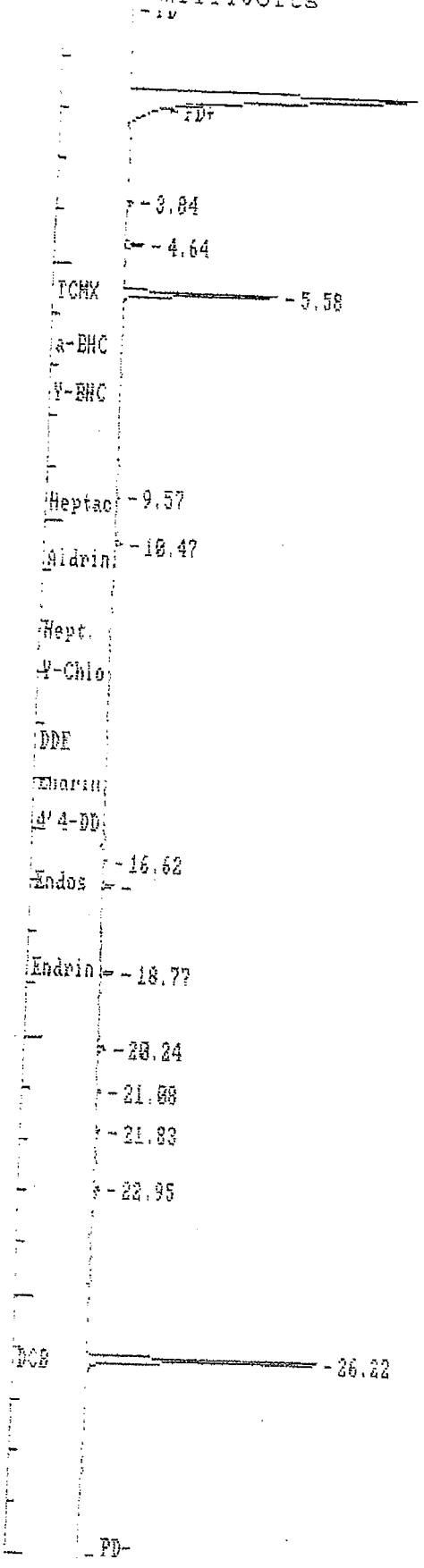
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.841		0.0000	0.0000%	10938	2013	5.4	1			1.0000E-09
2	4.643		0.0000	0.0000%	37042	7435	5.0	1			1.0000E-09
3	5.578	TCMX	66.0613	38.3775%	292257	59211	4.9	1	0	.3201	2.2604E-04
4	9.569	Heptachlor	1.2022	0.6984%	4648	1260	3.7	1	0	-.6942	2.5867E-04
5	10.471		0.0000	0.0000%	12168	2823	4.3	1			1.0000E-09
6	16.616		0.0000	0.0000%	5252	1479	3.6	1			1.0000E-09
7	17.101	DDT	6.2845	3.6509%	19872	4736	4.2	1	0	-.3914	3.1626E-04
8	18.771	Endrin ket.	7.6028	4.4167%	22774	5306	4.1	1	0	.4483	3.4916E-04
9	20.240		0.0000	0.0000%	17210	3606	4.8	1			1.0000E-09
10	21.075		0.0000	0.0000%	7149	1881	3.8	1			1.0000E-09
11	21.827		0.0000	0.0000%	10076	2364	4.3	1			1.0000E-09
12	22.946		0.0000	0.0000%	9708	2105	4.6	1			1.0000E-09
13	26.219	DCB	90.9852	52.8564%	470120	87354	5.4	1	0	-.3800	1.9354E-04

TOTAL AMOUNT = 172.1366

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:\NV14E125.PTS Printed on 11-22-1997 at 19:38:08
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: EMSL ANALYTICAL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

GC Column(1): DB-5 ID: 0.32 (mm) GC Column(2): DB-1701 ID: 0.32 (mm)

LAB SAMPLE ID.	TCX 1 %REC	#	TCX 2 %REC	#	DCB 1 %REC	#	DCB 2 %REC	#	OTHER (1)	OTHER (2)	TOT OUT
MB 451-3	93				107						0
97-78619	63				122						0
97-78620	64				118						0
97-78622	77				120						0
97-78623	74				121						0
97-78624	72				117						0
97-82199	88		106		77		85				0
97-82200	55				102						0
97-82201	72		82		101		100				0
97-82202	56				106						0
MB 444-1	104				110						0
74471MS	95				109						0
74471MSD	90				104						0

	ADVISORY QC LIMITS
TXC = Tetrachloro-m-xylene	(30-150)
DCB = Decachlorobiphenyl	(30-150)

\# Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

4C

PESTICIDE METHOD BLANK SUMMARY

SAMPLE NO.

Lab Nam EMSL ANALYTICAL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Lab Sample ID: MB 444-1 Lab File ID: D:NV14E121

Matrix: (soil/wate Soil Extraction: (SepF/Cont/ Sonc

Sulfur Cleanup: (Y N Date Extracte 11/05/97

Date Analyzed (1): 11/21/97 Date Analyzed

Time Analyzed (1): 2:14 Time Analyzed

Instrument ID (1): Instrument ID

GC Column DB-5 D 0.32 (mm) GC Column(2): DB-1701 D .32 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MS

SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	97-74471MS	11/21/97	
	97-74471MSD	11/21/97	

COMMENTS:

1D

PCB ANALYSIS DATA SHEET

CLIENT SAMPLE ID.

Lab Name: EMSL ANALYTICAL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: MB 444-1

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E121

% Moisture: decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/05/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/21/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U

U= Not detected

EXTERNAL STANDARD TABLE

********** 11-22-1997 18:34:57 Version 5.1.5 **********

* Sample Name: MB 11/5 P/P 5 MB 444-1 Data File: D:NV14E121 *
* Date: 11-21-1997 02:14:23 Method: M:APES-E 11-21-1997 22:31:52 # 393 *
* Interface: 2 Cycle#: 121 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

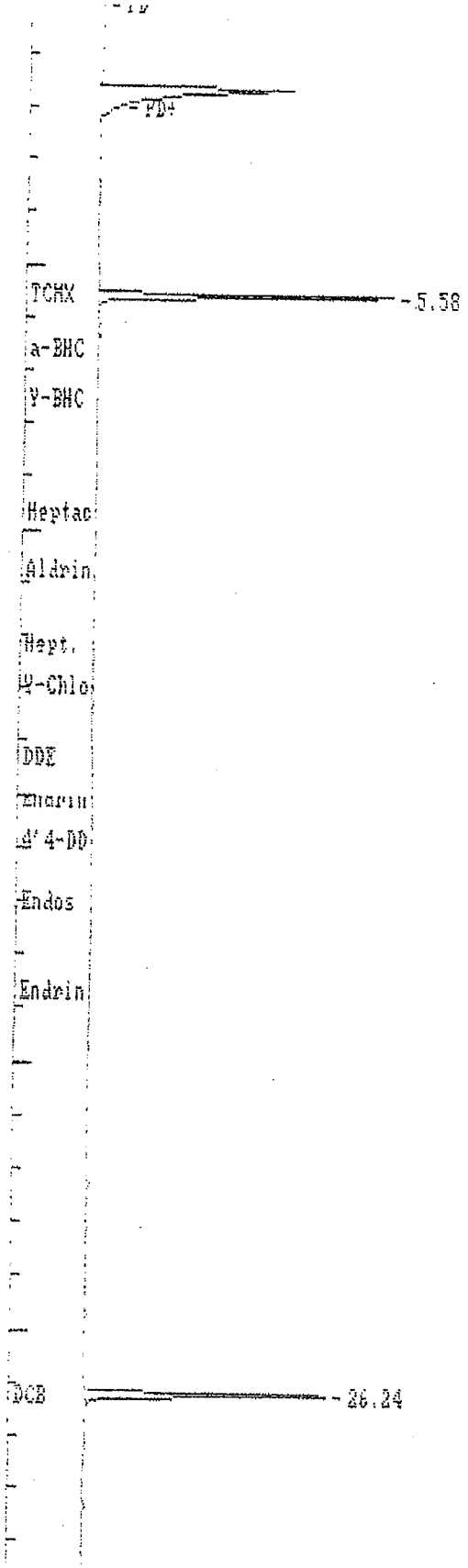
Starting Delay: 0.00 Ending retention time: 20.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.578	TCMX	124.1540	56.8782%	549257	110194	5.2 1	0	.3201	2.2604E-04
2	26.236	DCB	94.1265	43.1218%	486352	39507	5.4 1	0	0	1.9354E-04

TOTAL AMOUNT = 218.2805

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E121.PTS Printed on 11-22-1997 at 18:35:10
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
11 Range: 300 millivolts



4C

PESTICIDE METHOD BLANK SUMMARY

SAMPLE NO.

Lab Nam EMSL ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Lab Sample ID: MB 451-3 Lab File ID: D:NV14E122

Matrix: (soil/wate Soil Extraction: (SepF/Cont/ Sonc

Sulfur Cleanup: (Y N Date Extracte 11/18/97

Date Analyzed (1): 11/21/97 Date Analyzed _____

Time Analyzed (1): 2:47 Time Analyzed _____

Instrument ID (1): _____ Instrument ID _____

GC Column DB-5 D 0.32 (mm) GC Column(2): DB-1701 D .32 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MS

	SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
#		97-78619	11/20/97	
#		97-78620	11/20/97	
#		97-78622	11/20/97	
#		97-78623	11/20/97	
#		97-78624	11/21/97	
#		97-82199	11/21/97	
#		97-82200	11/21/97	
#		97-82201	11/21/97	
#		97-82202	11/21/97	
#				
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COMMENTS: _____

1D
PCB ANALYSIS DATA SHEET

CLIENT SAMPLE ID.

Lab Name: EMSL ANALYTICAL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) soil Lab Sample ID: MB 451-3

Sample wt/vol: 30 (g/mL) g Lab File ID: D:NV14E122

% Moisture: decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Sonc Date Extracted: 11/18/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/21/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U

U= Not detected

EXTERNAL STANDARD TABLE

11-22-1997 10:35:51 Version 5.1.5

* Sample Name: MB 11.18 F/P 5 451-3 Data File: D:\NV14\F102
* Date: 11-21-1997 02:47:06 Method: M:APES-E 11-21-1997 22:31:52 # 398
* Interface: 2 Cycle#: 122 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

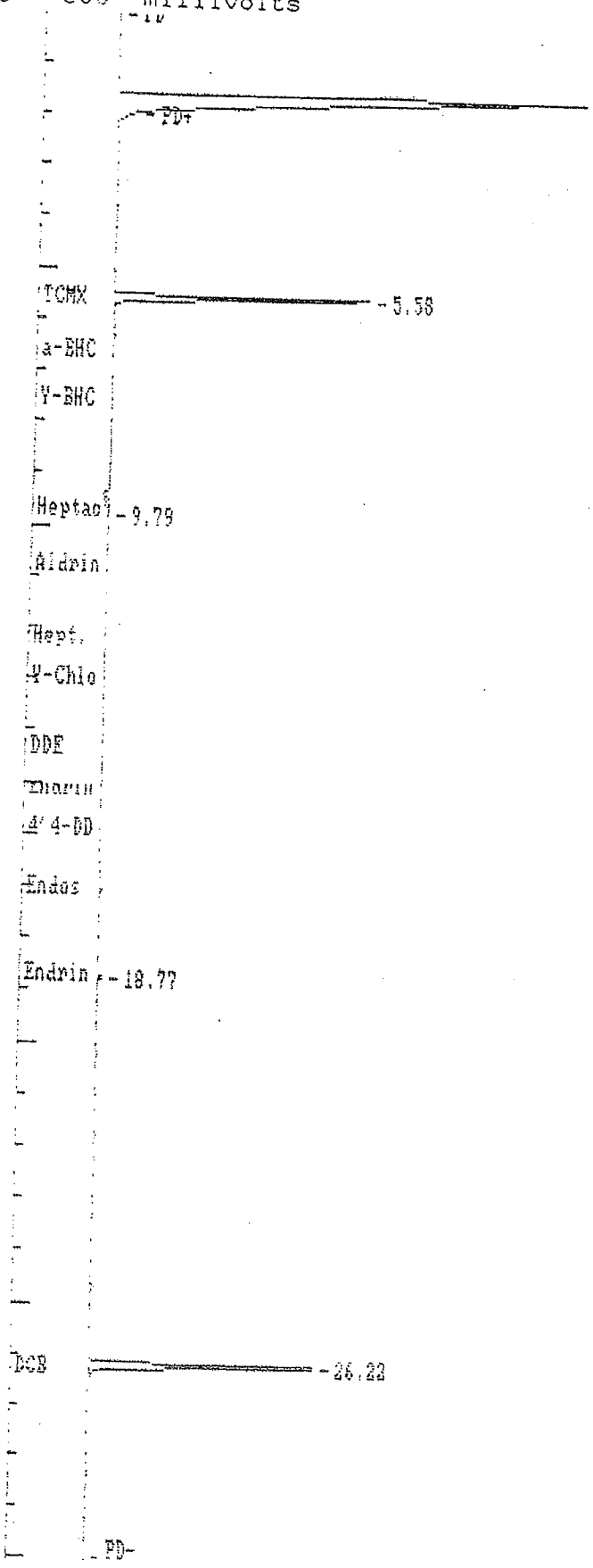
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET.TIME	CONC/RES
1	5.578	TCMX	110.9572	52.3557%	490875	99294	4.9	1	0	.3021	[illegible]
2	9.786	Heptachlor	7.7580	3.6597%	29992	838	35.8	1	0	1.556	[illegible]
3	18.771	Endrin Ket.	2.3979	1.1292%	6867	1725	4.0	1	0	.4494	[illegible]
4	26.219	DCB	91.2220	43.0614%	471344	86508	5.4	1	0	-.0800	[illegible]

TOTAL AMOUNT = 212.3350

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E122.PTS Printed on 11-22-1997 at 18:35:55
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



3E

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EMSL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - EPA Sample No.: 97-74471

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	MS CONCENTRATION (ug/kg)	MS % REC	#	QC. LIMITS REC.
gamma-BHC(Lindane)	16.7	U	17.1	102		46-127
Heptachlor	16.7	U	16.4	98		35-130
Aldrin	16.7	U	15.1	90		34-132
Dieldrin	33.3	U	34.8	105		31-134
Endrin	33.3	U	34.6	104		42-139
4,4'-DDT	33.3	U	36.4	109		23-134

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATI (ug/kg)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC(Lindane)	16.7	15.5	93		9.8		50	46-127
Heptachlor	16.7	15.2	91		7.6		31	35-130
Aldrin	16.7	14.8	89		2		43	34-132
Dieldrin	33.3	33.6	101		3.5		38	31-134
Endrin	33.3	33.1	99		4.4		45	42-139
4,4'-DDT	33.3	31.1	93		16		50	23-134

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 6 outside limits

Spike Recovery: 0 out of 12 outside limits

COMMENTS: _____

EXTERNAL STANDARD TABLE

11-21-1997 13:32:30 Version 5.1.5

Sample Name: 24ST1 2-0 MB Data File: D:\NV14E\11\

Date: 11-21-1997 01:09:04 Method: N:\PE8-E 11-21-1997 22:31:52 = 398

Interface: 2 Cable#: 119 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.11

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

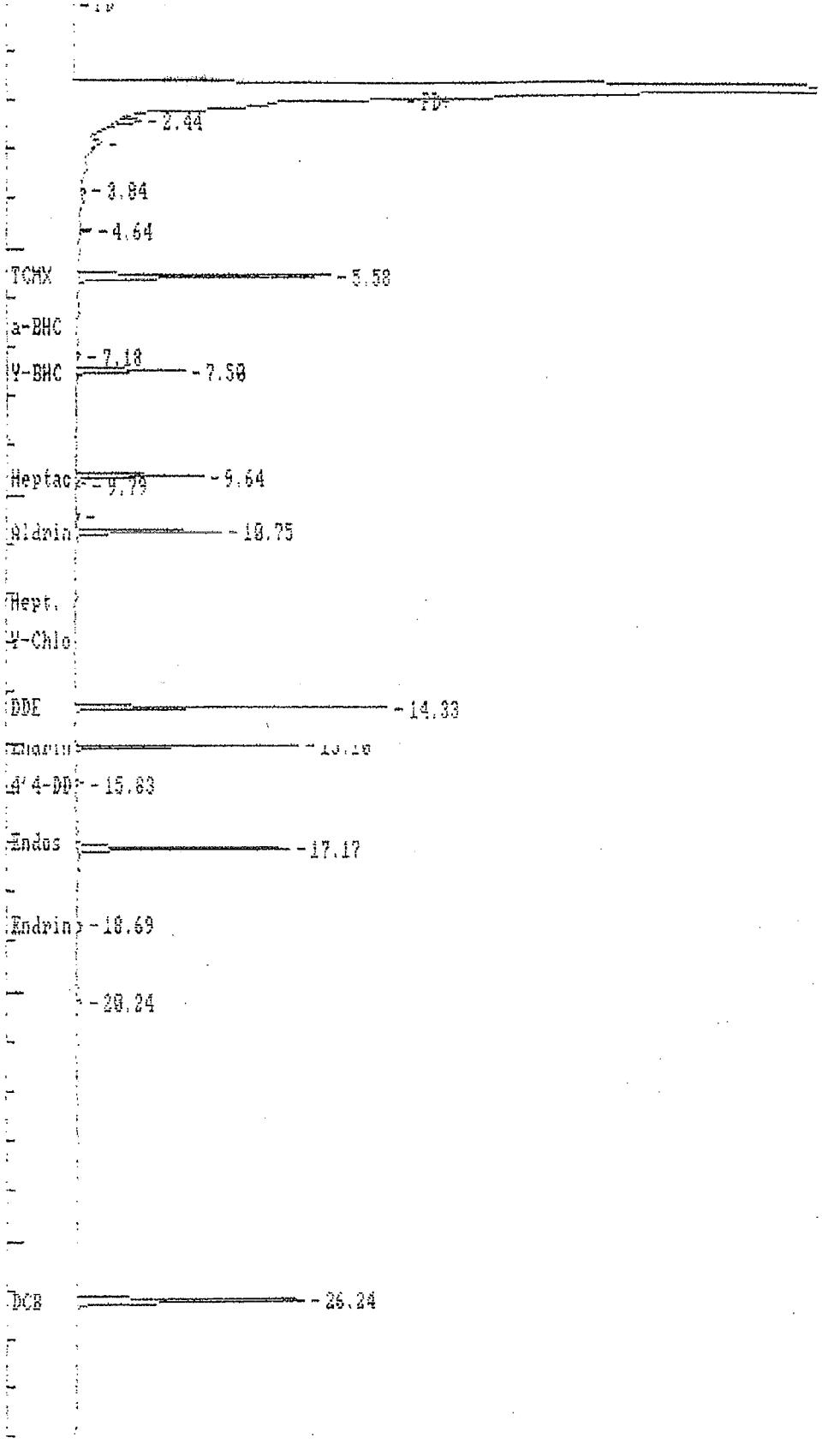
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT RL	REF PEAK	% DELTA RET TIME	CONC. AREA
1	2.438		0.0001	0.0000%	63104	10232	6.2 1			1.0001E-09
2	3.872		0.0000	0.0000%	31026	4211	7.4 1			1.0000E-09
3	5.841		0.0000	0.0000%	9594	1504	6.4 1			1.0000E-09
4	4.643		0.0000	0.0000%	23008	4934	4.6 1			1.0000E-09
5	5.578	TCMX	113.3709	16.7637%	501553	102413	4.9 1	0	.3221	2.2604E-04
6	7.181		0.0000	0.0000%	9463	1622	5.8 1			1.0000E-09
7	7.498	Y-BHC	51.2243	7.5743%	165608	43753	3.8 1	16.1	0	3.0931E-04
8	9.035	Heptachlor	49.3216	7.2930%	190678	51745	3.7 3	0	0	2.9817E-04
9	9.786		0.0000	0.0000%	15178	3907	3.9 1			1.0000E-09
10	10.423		0.0000	0.0000%	9839	1579	6.2 1			1.0000E-09
11	10.755	Aldrin	45.0364	6.7038%	203835	53192	3.8 1	0	0	1.2262E-04
12	14.024	Dieldrin	104.6339	15.4573%	439887	126219	3.5 1	53.3	0	2.5764E-04
13	15.097	Endrin	103.9544	15.3713%	304482	90907	3.4 1	0	0	3.4161E-04
14	15.932	4'4-DDD	4.3219	0.6389%	12799	3227	4.0 1	0	0	3.3761E-04
15	17.168	DDT	109.0733	16.1290%	344907	85570	4.0 1	0	0	3.1626E-04
16	18.687	Endrin ket.	1.9734	0.2918%	5632	1702	3.3 1	0	0	3.4978E-04
17	20.240		0.0000	0.0000%	11052	2423	4.6 1			1.0000E-09
18	26.236	DCB	93.1710	13.7758%	481414	91294	5.3 1	0	0	1.9354E-04

TOTAL AMOUNT = 676.3334

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E119.PTS Printed on 11-22-1997 at 18:32:39
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 500 millivolts



EXTERNAL STANDARD TABLE

********** 11-22-1997 18:33:46 Version 5.1.5 **********

* Sample Name: 74471 P/P MSD Data File: D:NV14E120 *
* Date: 11-21-1997 01:41:45 Method: M:APES-E 11-21-1997 22:31:52 # 398 *
* Interface: 2 Cycle#: 120 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

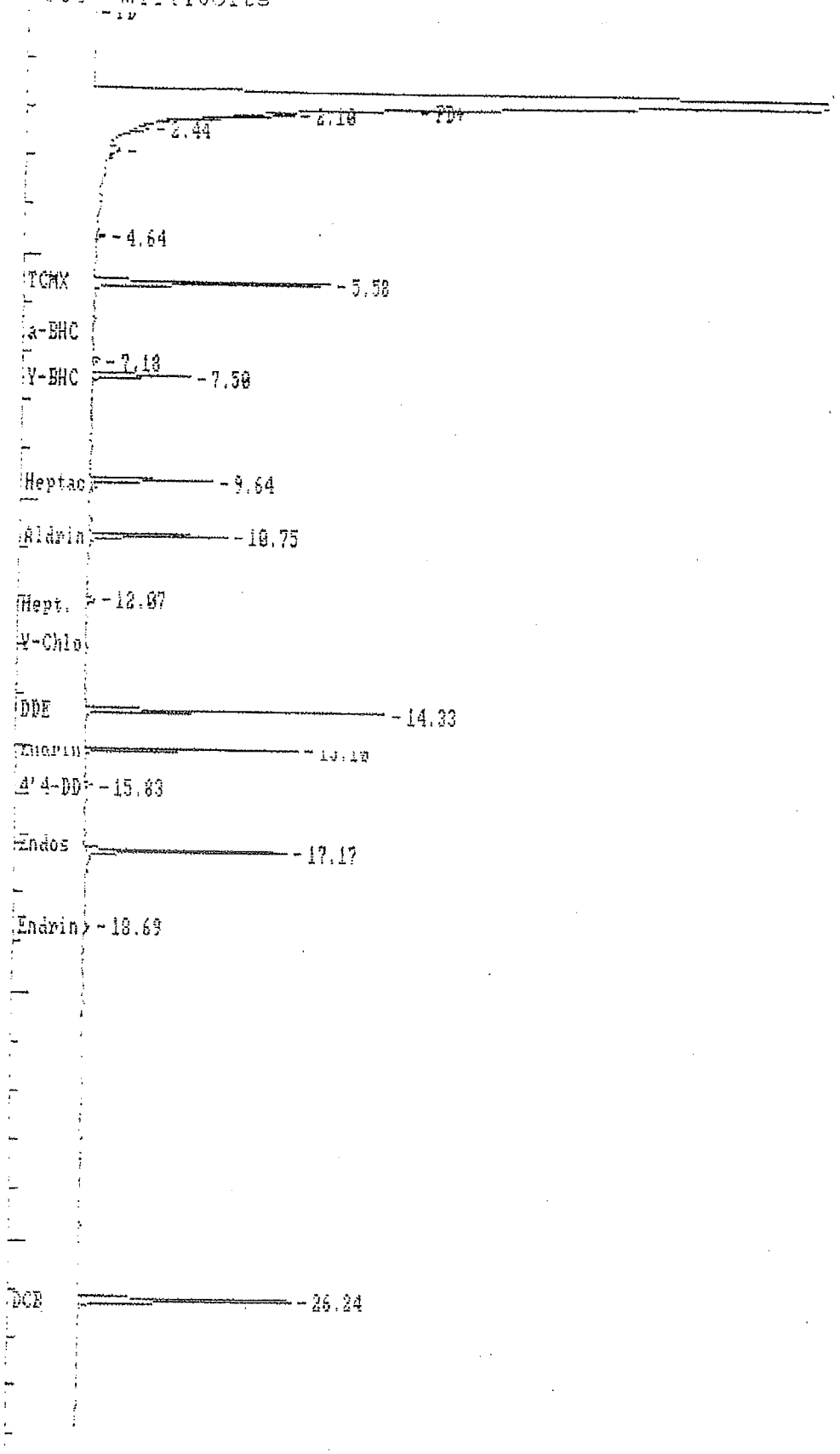
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.104		0.0000	0.0000%	58092	10864	8.1	1			1.0000E-09
2	2.438		0.0000	0.0000%	28425	5467	5.2	1			1.0000E-09
3	2.872		0.0000	0.0000%	29748	4148	7.2	1			1.0000E-09
4	4.643		0.0000	0.0000%	15973	3487	4.6	1			1.0000E-09
5	5.578	TCMX	106.8588	16.7733%	472743	95716	4.9	1	0	.3201	2.2604E-04
6	7.181		0.0000	0.0000%	18229	2951	6.2	1			1.0000E-09
7	7.498	Y-BHC	93 46.6508	15.5 7.3226%	150822	39692	3.8	1	0	0	3.0931E-04
8	9.636	Heptachlor	91 45.6431	15.2 7.1644%	176456	49461	3.6	1	0	0	2.5867E-04
9	10.755	Aldrin	39 44.4625	14.8 6.9792%	199905	56140	3.6	1	0	0	2.2242E-04
10	12.074	Hept. epox	4.6829	0.7351%	19076	3279	5.8	1	0	-.5510	2.4546E-04
11	14.329	Dieldrin	101 100.6874	33.6 15.8046%	423693	121892	3.5	1	0	0	2.3764E-04
12	15.097	Endrin	79 99.2901	33.1 15.5852%	290820	86031	3.4	1	0	0	2.4141E-04
13	15.882	4'4-DDD	4.3656	0.6852%	12931	3257	4.0	1	0	0	3.3761E-04
14	17.168	DDT	93 93.3077	31.1 14.6462%	295039	80779	3.7	1	0	0	3.1626E-04
15	18.687	Endrin ket.	2.3915	0.3754%	6850	1988	3.4	1	0	0	2.4916E-04
16	26.236	DCB	88.7363	13.9287%	458503	86215	5.3	1	0	0	1.9354E-04

TOTAL AMOUNT = 637.0779

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E120.PTS Printed on 11-22-1997 at 18:34:19
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



METALS DATA PACKAGE

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK-B.A.Terminal

Project #: 97122494
Date Received: 11/07/97 18:20

The following results are for Silver

Lab #	Conc.	Unit	Client Designation
97 0078619	<5.9	mg/kg	MW-2,S-5
97 0078620	<6.1	mg/kg	MW-10,S-5
97 0078622	<5.7	mg/kg	MW-5,S-4
97 0078623	<6.1	mg/kg	MW-7,S-5
97 0078624	<5.9	mg/kg	MW-9,S-5

The following results are for Arsenic

Lab #	Conc.	Unit	Client Designation
97 0078619	<12	mg/kg	MW-2,S-5
97 0078620	<12	mg/kg	MW-10,S-5
97 0078622	<11	mg/kg	MW-5,S-4
97 0078623	<12	mg/kg	MW-7,S-5
97 0078624	<12	mg/kg	MW-9,S-5

The following results are for Beryllium

Lab #	Conc.	Unit	Client Designation
97 0078619	<1.2	mg/kg	MW-2,S-5
97 0078620	<1.2	mg/kg	MW-10,S-5
97 0078622	<1.1	mg/kg	MW-5,S-4
97 0078623	<1.2	mg/kg	MW-7,S-5
97 0078624	<1.2	mg/kg	MW-9,S-5

The following results are for Cadmium

Lab #	Conc.	Unit	Client Designation
97 0078619	<2.4	mg/kg	MW-2,S-5
97 0078620	<2.4	mg/kg	MW-10,S-5
97 0078622	<2.3	mg/kg	MW-5,S-4
97 0078623	<2.4	mg/kg	MW-7,S-5
97 0078624	<2.4	mg/kg	MW-9,S-5

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK-B.A.Terminal

Project #: 97122494
Date Received: 11/07/97 18:20

The following results are for Chromium

Lab #	Conc.	Unit	Client Designation
97 0078619	<5.9	mg/kg	MW-2,S-5
97 0078620	<6.1	mg/kg	MW-10,S-5
97 0078622	<5.7	mg/kg	MW-5,S-4
97 0078623	<6.1	mg/kg	MW-7,S-5
97 0078624	<5.9	mg/kg	MW-9,S-5

The following results are for Copper

Lab #	Conc.	Unit	Client Designation
97 0078619	<5.9	mg/kg	MW-2,S-5
97 0078620	<6.1	mg/kg	MW-10,S-5
97 0078622	<5.7	mg/kg	MW-5,S-4
97 0078623	<6.1	mg/kg	MW-7,S-5
97 0078624	<5.9	mg/kg	MW-9,S-5

The following results are for Mercury

Lab #	Conc.	Unit	Client Designation
97 0078619	<0.12	mg/kg	MW-2,S-5
97 0078620	<0.12	mg/kg	MW-10,S-5
97 0078622	<0.11	mg/kg	MW-5,S-4
97 0078623	<0.12	mg/kg	MW-7,S-5
97 0078624	<0.12	mg/kg	MW-9,S-5

The following results are for Nickel

Lab #	Conc.	Unit	Client Designation
97 0078619	<5.9	mg/kg	MW-2,S-5
97 0078620	<6.1	mg/kg	MW-10,S-5
97 0078622	<5.7	mg/kg	MW-5,S-4
97 0078623	<6.1	mg/kg	MW-7,S-5
97 0078624	<5.9	mg/kg	MW-9,S-5

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK-B.A.Terminal

Project #: 97122494
Date Received: 11/07/97 18:20

The following results are for Lead

Lab #	Conc.	Unit	Client Designation
97 0078619	<24	mg/kg	MW-2,S-5
97 0078620	<24	mg/kg	MW-10,S-5
97 0078622	<23	mg/kg	MW-5,S-4
97 0078623	<24	mg/kg	MW-7,S-5
97 0078624	<24	mg/kg	MW-9,S-5

The following results are for Antimony

Lab #	Conc.	Unit	Client Designation
97 0078619	<0.59	mg/kg	MW-2,S-5
97 0078620	<0.61	mg/kg	MW-10,S-5
97 0078622	<0.57	mg/kg	MW-5,S-4
97 0078623	<0.61	mg/kg	MW-7,S-5
97 0078624	<0.59	mg/kg	MW-9,S-5

The following results are for Selenium

Lab #	Conc.	Unit	Client Designation
97 0078619	<0.59	mg/kg	MW-2,S-5
97 0078620	<0.61	mg/kg	MW-10,S-5
97 0078622	<0.57	mg/kg	MW-5,S-4
97 0078623	<0.61	mg/kg	MW-7,S-5
97 0078624	<0.59	mg/kg	MW-9,S-5

The following results are for Thallium

Lab #	Conc.	Unit	Client Designation
97 0078619	<0.59	mg/kg	MW-2,S-5
97 0078620	<0.61	mg/kg	MW-10,S-5
97 0078622	<0.57	mg/kg	MW-5,S-4
97 0078623	<0.61	mg/kg	MW-7,S-5
97 0078624	<0.59	mg/kg	MW-9,S-5

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK-B.A.Terminal

Project #: 97122494
Date Received: 11/07/97 18:20

The following results are for Solids, Total

Lab #	Conc.	Unit	Client Designation
97 0078619	84	%	MW-2,S-5
97 0078620	80	%	MW-10,S-5
97 0078622	88	%	MW-5,S-4
97 0078623	81	%	MW-7,S-5
97 0078624	84	%	MW-9,S-5

The following results are for Zinc

Lab #	Conc.	Unit	Client Designation
97 0078619	6.8	mg/kg	MW-2,S-5
97 0078620	7.1	mg/kg	MW-10,S-5
97 0078622	9.3	mg/kg	MW-5,S-4
97 0078623	9.6	mg/kg	MW-7,S-5
97 0078624	9.4	mg/kg	MW-9,S-5

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK-B.A.Terminal

Project #: 97122697
Date Received: 11/12/97 17:0

The following results are for Silver

Lab #	Conc.	Unit	Client Designation
97 0082199	<5.8	mg/kg	MW-3,S-4
97 0082200	<5.9	mg/kg	MW-6,S-4
97 0082201	<5.9	mg/kg	MW-8,S-4
97 0082202	<6.1	mg/kg	MW-4,S-4

The following results are for Arsenic

Lab #	Conc.	Unit	Client Designation
97 0082199	<12	mg/kg	MW-3,S-4
97 0082200	<12	mg/kg	MW-6,S-4
97 0082201	<12	mg/kg	MW-8,S-4
97 0082202	<12	mg/kg	MW-4,S-4

The following results are for Beryllium

Lab #	Conc.	Unit	Client Designation
97 0082199	<1.2	mg/kg	MW-3,S-4
97 0082200	<1.2	mg/kg	MW-6,S-4
97 0082201	<1.2	mg/kg	MW-8,S-4
97 0082202	<1.2	mg/kg	MW-4,S-4

The following results are for Cadmium

Lab #	Conc.	Unit	Client Designation
97 0082199	<2.3	mg/kg	MW-3,S-4
97 0082200	<2.4	mg/kg	MW-6,S-4
97 0082201	<2.3	mg/kg	MW-8,S-4
97 0082202	<2.4	mg/kg	MW-4,S-4

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK-B.A.Terminal

Project #: 97120697
Date Received: 11/12/97 17:00

The following results are for Chromium

Lab #	Conc.	Unit	Client Designation
97 0082199	17	mg/kg	MW-3,S-4
97 0082200	<5.9	mg/kg	MW-6,S-4
97 0082201	<5.9	mg/kg	MW-8,S-4
97 0082202	<6.1	mg/kg	MW-4,S-4

The following results are for Copper

Lab #	Conc.	Unit	Client Designation
97 0082199	22	mg/kg	MW-3,S-4
97 0082200	<5.9	mg/kg	MW-6,S-4
97 0082201	<5.9	mg/kg	MW-8,S-4
97 0082202	<6.1	mg/kg	MW-4,S-4

The following results are for Mercury

Lab #	Conc.	Unit	Client Designation
97 0082199	<0.12	mg/kg	MW-3,S-4
97 0082200	<0.12	mg/kg	MW-6,S-4
97 0082201	<0.12	mg/kg	MW-8,S-4
97 0082202	<0.12	mg/kg	MW-4,S-4

The following results are for Nickel

Lab #	Conc.	Unit	Client Designation
97 0082199	<5.8	mg/kg	MW-3,S-4
97 0082200	<5.9	mg/kg	MW-6,S-4
97 0082201	<5.9	mg/kg	MW-8,S-4
97 0082202	<6.1	mg/kg	MW-4,S-4

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK-B.A.Terminal

Project #: 97122697
Date Received: 11/12/97 17:00

The following results are for Lead

Lab #	Conc.	Unit	Client Designation
97 0082199	<23	mg/kg	MW-3,S-4
97 0082200	<24	mg/kg	MW-6,S-4
97 0082201	<23	mg/kg	MW-8,S-4
97 0082202	<25	mg/kg	MW-4,S-4

The following results are for Antimony

Lab #	Conc.	Unit	Client Designation
97 0082199	<0.58	mg/kg	MW-3,S-4
97 0082200	<0.59	mg/kg	MW-6,S-4
97 0082201	<0.59	mg/kg	MW-8,S-4
97 0082202	<0.61	mg/kg	MW-4,S-4

The following results are for Selenium

Lab #	Conc.	Unit	Client Designation
97 0082199	<0.58	mg/kg	MW-3,S-4
97 0082200	<0.59	mg/kg	MW-6,S-4
97 0082201	<0.59	mg/kg	MW-8,S-4
97 0082202	<0.61	mg/kg	MW-4,S-4

The following results are for Thallium

Lab #	Conc.	Unit	Client Designation
97 0082199	<0.58	mg/kg	MW-3,S-4
97 0062200	<0.59	mg/kg	MW-6,S-4
97 0082201	<0.59	mg/kg	MW-8,S-4
97 0082202	<0.61	mg/kg	MW-4,S-4

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK-B.A.Terminal

Project #: 97122697
Date Received: 12.12.97 17:00

The following results are for Solids, Total

Lab #	Conc.	Unit	Client Designation
97 0082199	86	%	MW-3,S-4
97 0082200	83	%	MW-6,S-4
97 0082201	85	%	MW-8,S-4
97 0082202	80	%	MW-4,S-4

The following results are for Zinc

Lab #	Conc.	Unit	Client Designation
97 0082199	26	mg/kg	MW-3,S-4
97 0082200	7.1	mg/kg	MW-6,S-4
97 0082201	11	mg/kg	MW-8,S-4
97 0082202	12	mg/kg	MW-4,S-4

Sample Digestion Chain of Custody

Digestion Date Begin: 11/18/97

Tech(s): TL

Matrix:	Aqueous	Soil	Sludge	Oil	Filter	Paintchips	Cassette	TCLP	Other:
		X							

Analysis: X ICP X GFAA

Batch Number: B652 Book: 277 Page: 1 Temp (C))

#	EMSL Sample ID	Prep Amount Wt(g)/Vol(ml)	Volume(ml)	Analysis Date(s) Element(s) Required	TS%	Due
S1QC	78619	0.5027	50		84	
S11	78620	0.5115	50		80	
S27	78622	0.5004	50		88	
S12	78623	0.5029	50		81	
S13	78624	0.5035	50		84	
S14	82199	0.5003	50		86	
S15	82200	0.5070	50		83	
S16	82201	0.5014	50		85	
S17	82202	0.5092	50		80	
S18	81905	2.0013	50		8.5	
S19	85120	0.5006	50			
S20	85121	0.5013	50			
S21	85122	0.5039	50			
S22	85123	0.4992	50			
S23	85124	0.4994	50			
S24	85125	0.5077	50			
S25	85126	0.5019	50			
S26	85127	0.5003	50			
S28						
S29						

#			Batch QC Provided: Inital Wt g/Vol mL	Final Vol
S2,3	2	Prep Blank	20 ml	50
S4	1	Control #1 ICP	20ml	50
S6	1	Sample Dup	0.5067	50
S7	1	Matrix Spike #1 ICP	0.5000	50
S8	1	M.Spike DuP #1 ICP	0.5006	50
S5	1	Control #2 GFAA	20ml	50
		SampleDup #2		
S9	1	Matrix Spike#2 GFAA	0.5019	50
S10	1	M.Spike Dup#2 GFAA	0.5075	50

Digestion Method:

	SW-846 3005	X	SW-846 3051
	SW-846 3010		DIG 200 for ICP/GFAA
	SW-846 3015		NIOSH
	SW-846 3020	Other:	
	SW-846 3040		
	SW-846 3050		

Amount Spike Added (ml)	Standard Serial ID	
0.5	ICP	109-23-D
0.5	GF	257-27-G

Lot # HNO3 Lot # HCL

Lot # 1+1HNO3 Lot # 1+1HCL

Lot # H2O2

Relinquished By: Date: Received By: Date:

ICP Check Standard

Batch Number B652

Analyte	ICV Result mg/l	True Conc mg/l	% Rec 90-110	ICB Result mg/l	CCV-1 Result mg/l	True Conc mg/l	% Rec 90-110	CCB-1 Result mg/l	CCV-F Result mg/l	True Conc mg/l	% Rec 90-110	CCB-F Result mg/l
Ag	0.518	0.5	104	< 0.050	0.544	0.5	109	< 0.050	0.498	0.5	100	< 0.050
Al		5.0		<		5.0		<		5.0		<
As	2.061	2.0	103	< 0.100	2.650	2.5	106	< 0.100	2.473	2.5	99	< 0.100
B		/	ERR	<		/	ERR	<		/	ERR	<
Ba		10.0		<		10.0		<		10.0		<
Be	0.207	0.2	103	< 0.010	0.258	0.25	103	< 0.010	0.243	0.25	97	< 0.010
Ca		25.0		<		25.0		<		25.0		<
Cd	0.496	0.5	99	< 0.020	0.543	0.5	109	< 0.020	0.515	0.5	103	< 0.020
Co	2.058	0.5		<		0.5		<		0.5		<
Cr	~~0.514~~	2.0	~~104~~ 26	< 0.050	2.642	2.5	106	< 0.050	2.494	2.5	100	< 0.050
Cu	2.093	2.0	105	< 0.050	2.710	2.5	108	< 0.050	2.497	2.5	100	< 0.050
Fe		5.0		<		5.0		<		5.0		<
K		25.0		<		25.0		<		25.0		<
Mg		25.0		<		25.0		<		25.0		<
Mn		2.0		<		2.5		<		2.5		<
Mo		1.0		<		1.0		<		1.0		<
Na		25.0		<		25.0		<		25.0		<
Ni	2.055	2.0	103	< 0.050	2.620	2.5	105	< 0.050	2.479	2.5	99	< 0.050
Pb	10.268	10.0	103	< 0.200	10.668	10.0	107	< 0.200	10.261	10.0	103	< 0.200
Sb		2.0		<		2.5		<		2.5		<
Se		2.0		<		2.5		<		2.5		<
Si		/	ERR	<		/	ERR	<		/	ERR	<
Sn		/	ERR	<		/	ERR	<		/	ERR	<
Tl		2.0		<		2.5		<		2.5		<
Ti		2.0		<		2.5		<		2.5		<
V		0.5		<		0.5		<		0.5		<
Zn	2.080	2.0	104	< 0.050	2.636	2.5	105	< 0.050	2.564	2.5	103	< 0.050

mtH 11/25/97

ICP Interference Check Standard

EMSL Standard ID ICSAB-1 Check Standard Source Spex

Analyte	Control Limits Mean	Control Limits Std.Dev.	True Value mg/l	Initial Measured mg/l	% R	Final Measured mg/l	% R
Ag			1.0	0.988	98.8	0.933	93.3
Al			500.0				
As					ERR		ERR
B					ERR		ERR
Ba			0.5				
Be			0.5	0.489	97.8	0.468	93.6
Ca			500.0				
Cd			1.0	0.892	89.2	0.914	91.4
Co			0.5				
Cr			0.5	0.463	92.5	0.450	89.9
Cu			0.5	0.492	98.3	0.451	90.2
Fe			200.0				
K					ERR		ERR
Mg			500.0				
Mn			0.5				
Mo					ERR		ERR
Na					ERR		ERR
Ni			1.0	0.893	89.3	0.870	87.0
Pb			1.0	1.129	112.9	1.198	119.8
Sb					ERR		ERR
Se					ERR		ERR
Si					ERR		ERR
Sn					ERR		ERR
Tl					ERR		ERR
Ti					ERR		ERR
V			0.5				
Zn			1.0	0.978	97.8	0.991	99.1

ICP Interference Check Standard

EMSL Standard ID ICSAB-2 Check Standard Source Spex

Analyte	Control Limits Mean	Control Limits Std.Dev.	True Value mg/l	Initial Measured mg/l	% R	Final Measured mg/l	% R
Ag					ERR		ERR
Al			5.0				
As			5.0	5.172	103.4	5.295	105.9
B			5.0				
Ba					ERR		ERR
Be					ERR		ERR
Ca			0.5				
Cd					ERR		ERR
Co					ERR		ERR
Cr			100.0				
Cu			100.0				
Fe			0.5				
K					ERR		ERR
Mg			0.5				
Mn			100.0				
Mo			5.0				
Na			5.0				
Ni			100.0				
Pb					ERR		ERR
Sb			5.0				
Se			5.0				
Si			0.5				
Sn					ERR		ERR
Tl			5.0				
Ti			100.0				
V			100.0				
Zn					ERR		ERR

QC Sample 78619

Batch Numb. B652

Analyte	Blank/DL		Duplicate			Dilution		Spike								Control		
	Prep Blank mg/kg	Detection Limit mg/kg	Sample Result mg/kg	Dup Samp Result mg/kg	RPD %	1:5 Serial Dilution mg/kg	% Diff.	True Conc mg/kg	MS Result mg/kg	% Rec 80-120	MSD Result mg/kg	% Rec 80-120	RPD %	PostSpike Result mg/kg	% Rec 75-125	Control Result mg/l	True Conc mg/l	% Rec 80-120
Ag	< 5.00	5.00	< 5.9	< 5.9	0.8	< 29.6	400.00	11.905	10.604	89	10.613	89	0.1	10.6	88.8	0.0866	0.1	87
Al	<				ERR		ERR	238.1					ERR				2	
As	< 10.00	10.00	< 11.8	< 11.7	0.8	< 59.2	400.00	238.1	219.07	92	215.66	91	1.6	218.6	91.8	1.8252	2	91
B	<				ERR		ERR	59.524					ERR				0.5	
Ba	<				ERR		ERR	238.1					ERR				2	
Be	< 1.00	1.00	< 1.2	< 1.2	0.8	< 5.9	400.00	5.9524	5.7226	96	5.6539	95	1.2	5.6	94.4	0.0461	0.05	92
Ca	<				ERR		ERR	2381					ERR				20	
Cd	< 2.00	2.00	< 2.4	< 2.3	0.8	< 11.8	400.00	23.81	22.65	95	23.079	97	1.9	22.8	95.8	0.1872	0.2	94
Co	<				ERR		ERR	59.524					ERR				0.5	
Cr	< 5.00	5.00	< 5.9	< 5.9	0.8	< 29.6	400.00	59.524	57.496	97	58.823	99	2.3	59.1	99.2	0.4478	0.5	90
Cu	5.00	5.00	< 5.9	< 5.9	0.8	< 29.6	400.00	59.524	59.423	100	59.129	99	0.5	57.8	97.1	0.5078	0.5	102
Fe	<				ERR		ERR	238.1					ERR				2	
K	<				ERR		ERR	2381					ERR				20	
Mg	<				ERR		ERR	2381					ERR				20	
Mn	<				ERR		ERR	59.524					ERR				0.5	
Mo	<				ERR		ERR	59.524					ERR				0.5	
Na	<				ERR		ERR	2381					ERR				20	
Ni	< 5.00	5.00	< 5.9	< 5.9	0.8	< 29.6	400.00	59.524	57.425	96	57.885	97	0.8	57.6	96.8	0.4471	0.5	89
Pb	< 20.00	20.00	< 23.7	< 23.5	0.8	< 118.4	400.00	238.1	215.04	90	217.94	92	1.3	210.8	88.5	1.7698	2	88
Sb	<				ERR		ERR	595.24					ERR				5	
Se	<				ERR		ERR	238.1					ERR				2	
Si	<				ERR		ERR	119.05					ERR				1	
Sn	<				ERR		ERR	119.05					ERR				1	
Tl	<				ERR		ERR	595.24					ERR				5	
Ti	<				ERR		ERR	238.1					ERR				2	
V	<				ERR		ERR	59.524					ERR				0.5	
Zn	< 5.00	5.00	6.8	8.1	17.3	38.7	470.92	59.524	58.86	88	58.833	87	0.1	61.0	91.1	0.4443	0.5	89

Comment:

NR = No Recovery

#1 = Matrix Interference

#2 = High Analyte

Graphite Furnace QC Results Report

Samples in batch		
78619	82202	85125
78620	81905	85126
78623	85120	85127
78624	85121	
82199	85122	
82200	85123	
82201	85124	

Batch Number B652

Analyte	Analysis Date	ICV Result mg/l	True Conc mg/l	% Rec 90-110	ICB Result mg/l	CCV-I Result mg/l	True Conc mg/l	% Rec 80-120	CCB-I Result mg/l	CCV-F Result mg/l	True Conc mg/l	% Rec 80-120	CCB-F Result mg/l
As			0.040		0.0050		0.050		0.0050		0.050		0.0050
Se	11/19/97	0.021	0.020	107	< 0.0050	0.020	0.020	102	< 0.0050	0.019	0.020	97	< 0.0050
Pb			0.040		0.0050		0.040		0.0050		0.040		0.0050
Sb	11/20/97	0.020	0.020	100	< 0.0050	0.020	0.020	101	< 0.0050	0.020	0.020	98	< 0.0050
Tl	11/20/97	0.042	0.040	104	< 0.0050	0.042	0.040	104	< 0.0050	0.042	0.040	105	< 0.0050

Comment:

NR = No Recovery

#1 = Matrix Interference

#2 = High Analyte

Graphite Furnace QC Results Report

Samples in batch:

78619	82202	85125
78620	81905	85126
78623	85120	85127
78624	85121	
82199	85122	
82200	85123	
82201	85124	

QC Sample 78619

Batch Numb. B652

		Blank/DL		Duplicate					Spike										Control		
Analyte	Analysis Date	Prep Blank mg/kg	Detection Limit mg/kg	Sample Result mg/kg	Dup Samp Result mg/kg	RPD %	1:5 Serial Dilution mg/kg	% Diff.	MS Result mg/kg	True Conc mg/kg	% Rec 80-120	MSD Result mg/kg	True Conc mg/kg	% Rec 80-120	RPD %	1:5 PostSpk Result mg/kg	True Conc mg/kg	% Rec 85-115	Control Result mg/l	True Conc mg/l	% Rec 80-120
As		0.500	0.500			ERR		ERR		4.744			4.692		ERR		14.8			0.040	
Se	11/19/97	< 0.500	0.500	< 0.595	< 0.595		< 2.976	4.00	2.361	2.372	100	2.429	2.346	104	0.8	14.2	12.4	114.0	0.020	0.020	101
Pb		0.500	0.500			ERR		ERR		2.372			2.346		ERR		11.8			0.020	
Sb	11/20/97	< 0.500	0.500	< 0.595	< 0.595		< 2.976	4.00	1.098	2.372	46	1.125	2.346	48	0.9	12.5	11.8	105.8	0.020	0.020	101
Tl	11/20/97	< 0.500	0.500	< 0.595	< 0.595		< 2.976	4.00	2.512	2.372	106	2.536	2.346	108	0.5	11.7	11.8	99.1	0.021	0.020	104

Comment:

NR = No Recovery

#1 = Matrix Interference

#2 = High Analyte

EMSL Analytical Services

Mercury CVAA QC Results Report-NonAqueous

Samples in batch:

78619	82201
78620	82202
78622	81572
78623	
78624	
82199	
82200	

Analyte	Analysis Date	ICV Result mg/l	True Conc mg/l	% Rec 90-110	ICB Result mg/l	CCV-1 Result mg/l	True Conc mg/l	% Rec 90-110	CCB-1 Result mg/l	CCV-F Result mg/l	True Conc mg/l	% Rec 90-110	CCB-F Result mg/l
Hg	11/14/97	0.0021	0.0020	104	< 0.00020	0.0019	0.0020	96	< 0.00020	0.0019	0.0020	93	< 0.00020

Comment:

NR = No Recovery

#1 = Matrix Interference

#2 = High Analyte

EMSL Analy Services

Mercury CVAA QC Results Report-NonAqueous

Samples in batch:

78619	82201
78620	82202
78622	81572
78623	
78624	
82199	
82200	

QC Sample 78619

		Blank/DL		Duplicate					Spike										Control		
Analyte	Analysis Date	Prep Blank mg/kg	Detection Limit mg/kg	Sample Result mg/kg	Dup Samp Result mg/kg	RPD %	1:5 Serial Dilution mg/kg	% Diff.	MS Result mg/kg	True Conc mg/kg	% Rec 80-120	MSD Result mg/kg	True Conc mg/kg	% Rec 80-120	RPD %	1:5 PostSpk Result mg/kg	True Conc mg/kg	% Rec 85-115	Control Result mg/l	True Conc mg/l	% Rec 80-120
Hg	11/14/97	< 0.10	0.10	< 0.119	< 0.119		NA		1.187	1.181	101	1.150	1.177	98	0.7	NA	NA	NA	0.0020	0.0020	99

Comment:

NR = No Recovery

#1 = Matrix interference

#2 = High Analyte

PETROLEUM HYDROCARBON DATA PACKAGE

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK-B.A.Terminal

Project #: 97122494
Date Received: 11/07/97 18:20

The following results are for Petroleum Hydrocarbons, Total (I.R)

Lab #	Conc.	Unit	Client Designation
97 0078619	17	mg/kg	MW-2,S-5
97 0078620	29	mg/kg	MW-10,S-5
97 0078622	20	mg/kg	MW-5,S-4
97 0078623	37	mg/kg	MW-7,S-5
97 0078624	29	mg/kg	MW-9,S-5

The following results are for Solids, Total

Lab #	Conc.	Unit	Client Designation
97 0078619	84	%	MW-2,S-5
97 0078620	80	%	MW-10,S-5
97 0078622	88	%	MW-5,S-4
97 0078623	81	%	MW-7,S-5
97 0078624	84	%	MW-9,S-5

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK-B.A.Terminal

Project #: 97123697
Date Received: 12/12/97 17:00

The following results are for Petroleum Hydrocarbons, Total (I.R)

Lab #	Conc.	Unit	Client Designation
97 0082199	93	mg/kg	MW-3,S-4
97 0082200	22	mg/kg	MW-6,S-4
97 0082201	27	mg/kg	MW-8,S-4
97 0082202	27	mg/kg	MW-4,S-4

The following results are for Solids, Total

Lab #	Conc.	Unit	Client Designation
97 0082199	86	%	MW-3,S-4
97 0082200	83	%	MW-6,S-4
97 0082201	85	%	MW-8,S-4
97 0082202	80	%	MW-4,S-4

BLANKS

Lab Name: EMSL Analytical Contract: _____

Lab Code: _____ Case No.: _____ AS No.: _____ SDG No.: _____

Preparation Blank Matrix (Soil/Water): Soil

Preparation Blank Concentration Units (mg/l or mg/kg): mg/kg

Analyte	Initial Calib. Blank (mg/l)	C	Continuing Calibration Blank (mg/l) 1	C	2	C	3	C	Preparation Blank	C	M
Total Petroleum Hydrocarbons (11/12/97)									<10		
Total Petroleum Hydrocarbons (11/13/97)									<10		

PETROLEUM HYDROCARBON MATRIX SPIKE RECOVERY

Lab Name: EMSL ANALYTICAL, INC.

Lab Code: _____

Lab Sample ID: _97-78624; 97-82202_____

Concentration Units (mg/l or mg/kg dry weight): _mg/kg DWB_____

Compound	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Total Petroleum Hydrocarbons	80-120	292		29		296	89		
Total Petroleum Hydrocarbons	80-120	311		26		294	97		

*VALUES OUTSIDE OF QC LIMITS

Spike Recovery:____0____ out of ____2_____ outside limits

COMMENTS:_____

PETROLEUM HYDROCARBON RESULT/DUPLICATE RECOVERY

Lab Name: EMSL ANALYTICAL, INC.

Lab Code: _____

Lab Sample ID: 97-78624; 97-82202

Parameter	Units	Sample Result	Conc. Duplicate	RPD %	QC Limits Recovery
Total Petroleum Hydrocarbons	**mg/kg DWB**	29.2	37.4	25	+/-20%
Total Petroleum Hydrocarbons	**mg/kg DWB**	26.5	26.5	0	+/-20%

* Values outside of QC limits.

RPD: 1 out of 2 outside limits

Comments: _____

EMSL

PETROLEUM HYDROCARBON CONTROL RECOVERY

Lab Name: EMSL ANALYTICAL, INC.

Lab Code: _____

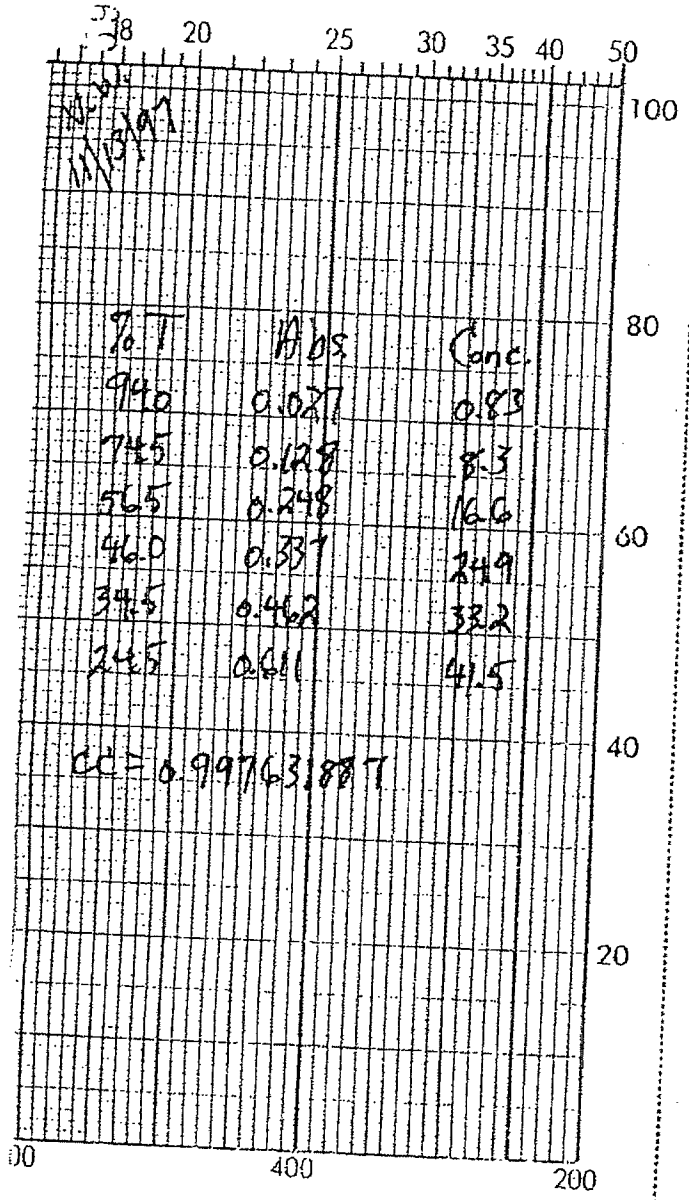
Lab Sample ID: _____Control_____

Compound	Control Actual Value mg	Control Theoretical Value, mg	% Recovery	QC Limits Recovery
Total Petroleum Hydrocarbons	26.2	24.9	105	80-120
(11/12/97)				
Total Petroleum Hydrocarbons	25.1	24.9	101	80-120
(11/13/97)				

* VALUES OUTSIDE OF QC LIMITS

Control Recovery: _____0_____ out of _____2_____ outside limits

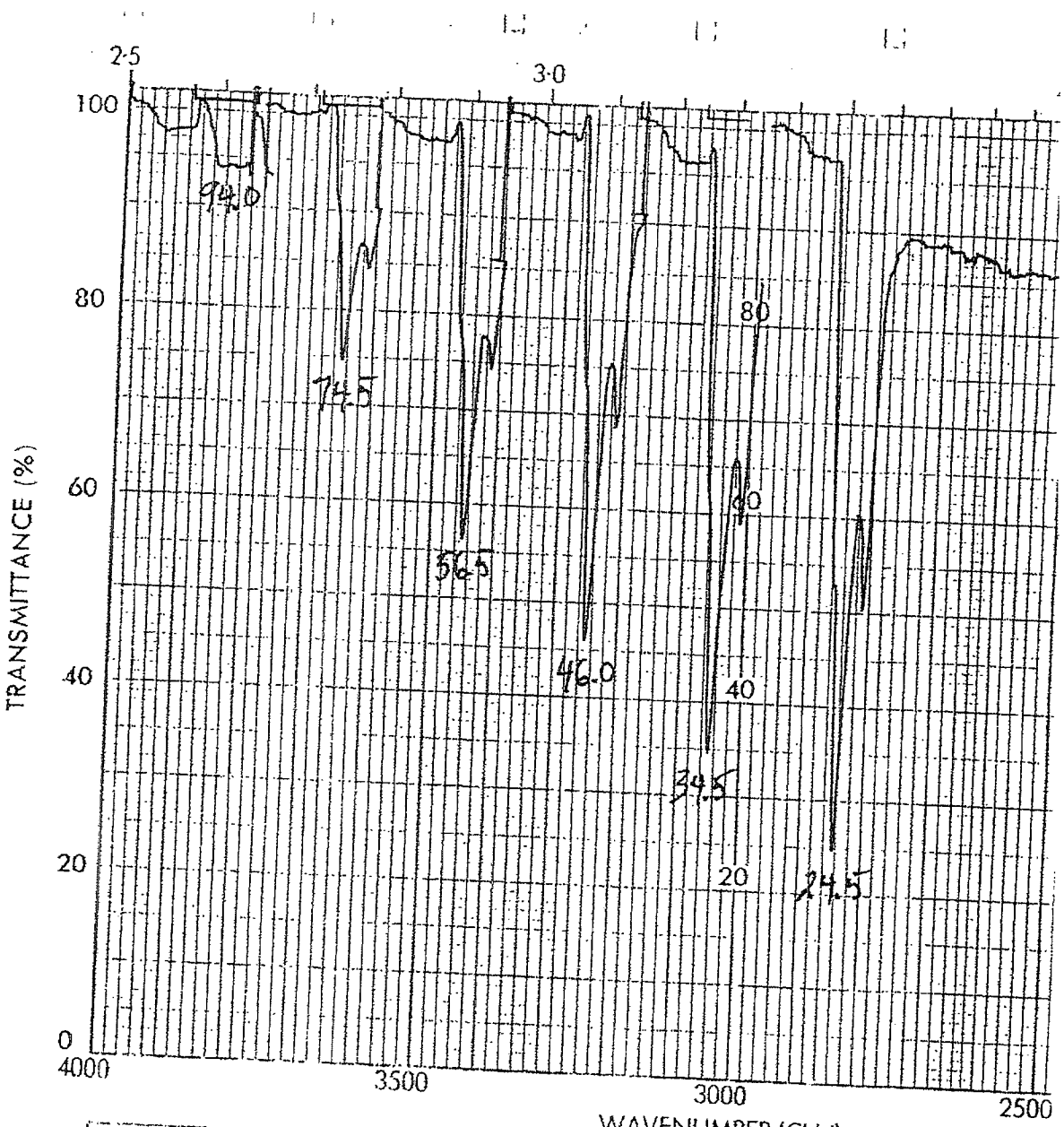
COMMENTS:_____



% T	Abs	Conc.
94.0	0.027	0.83
74.5	0.128	8.3
56.5	0.248	16.6
46.0	0.337	24.9
34.5	0.462	33.2
24.5	0.611	41.5

CC = 0.99763188 T

OPERATOR	
DATE	
REF No.	



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	CONCI
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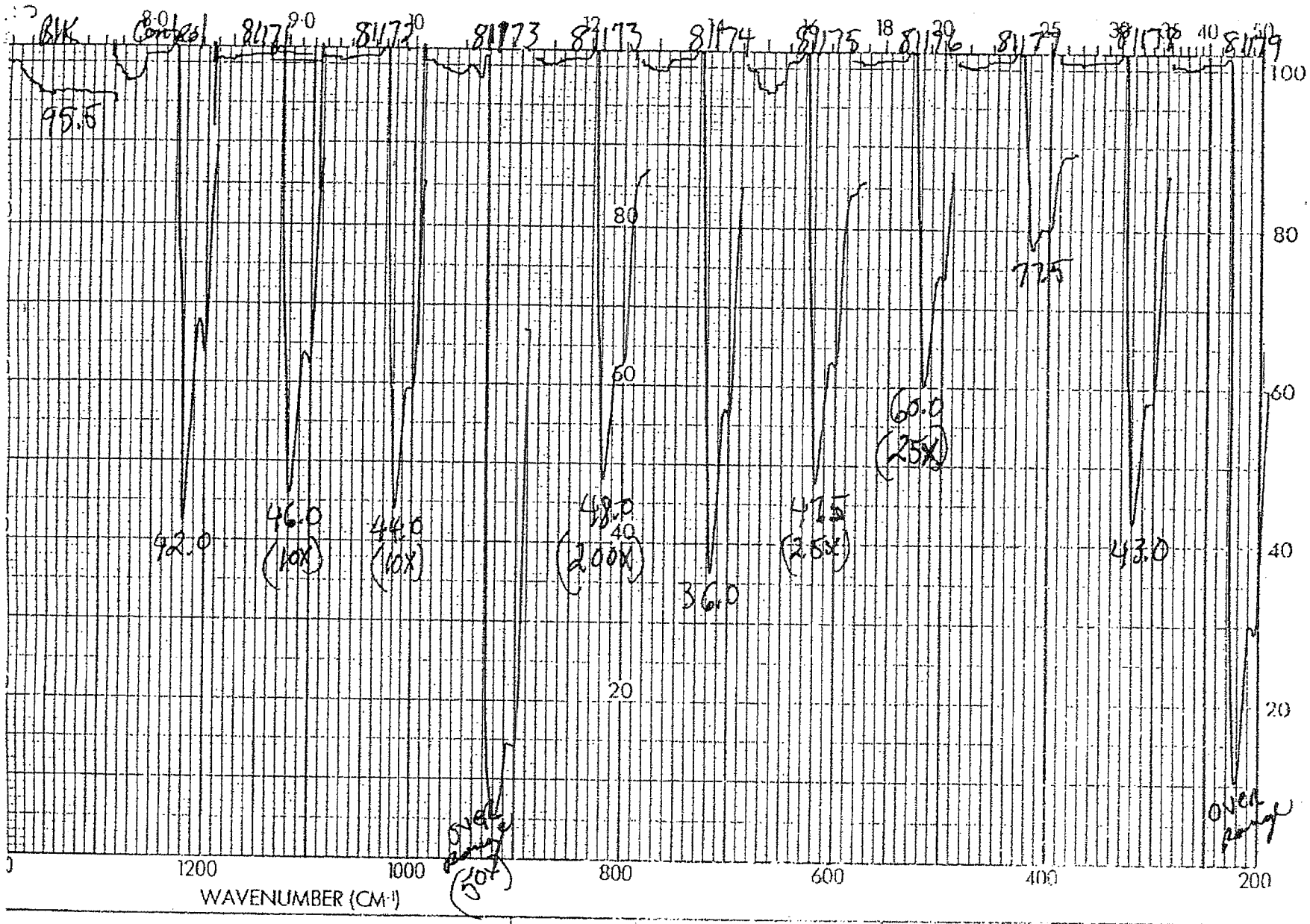
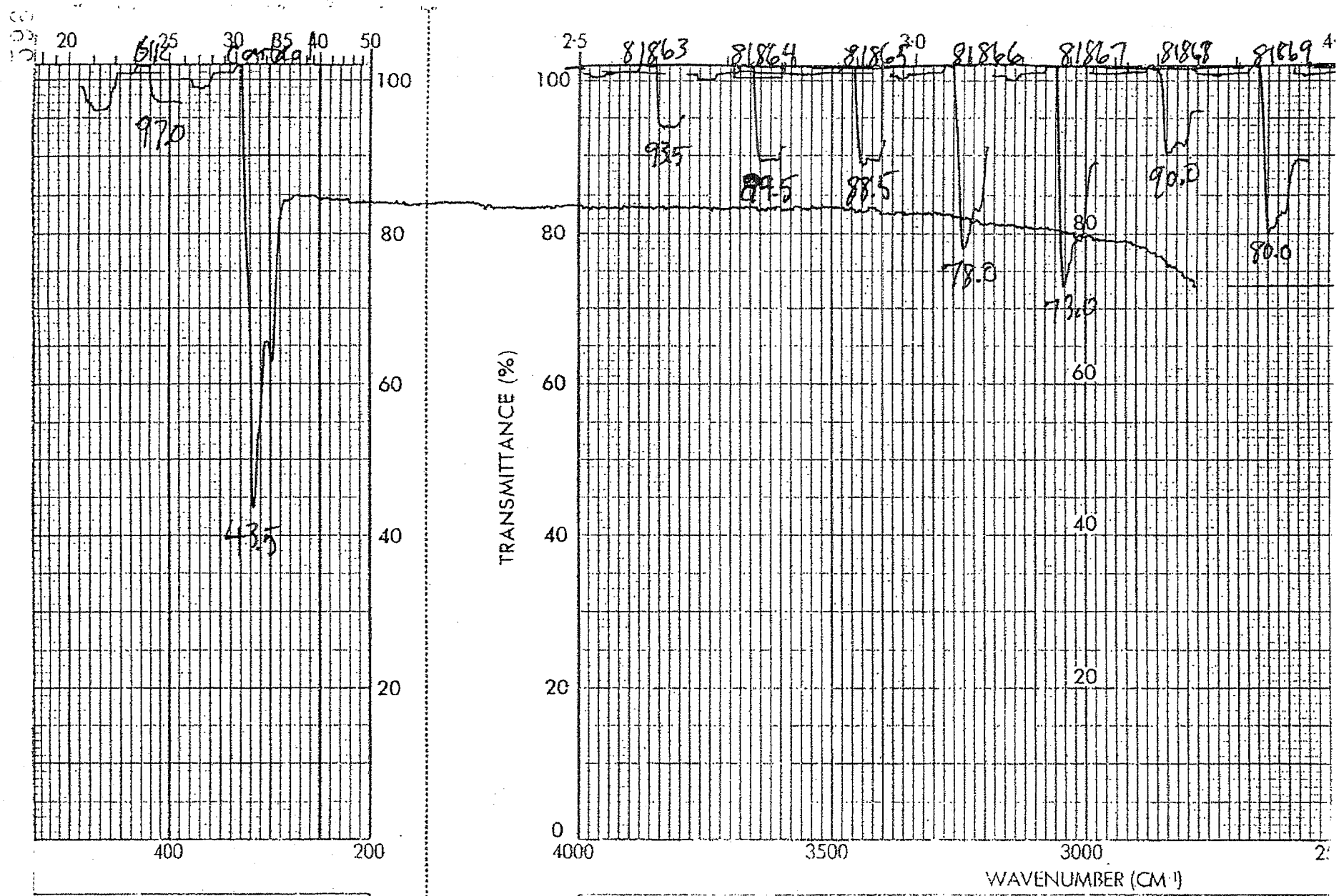


SCAN MODE SLIT____ TIME CONSTANT	OPERATOR DATE
GRAPHIC CONTROLS CORPORATION BUFFALO NEW YORK No. PR 5100 4367	REF No.



OPERATOR

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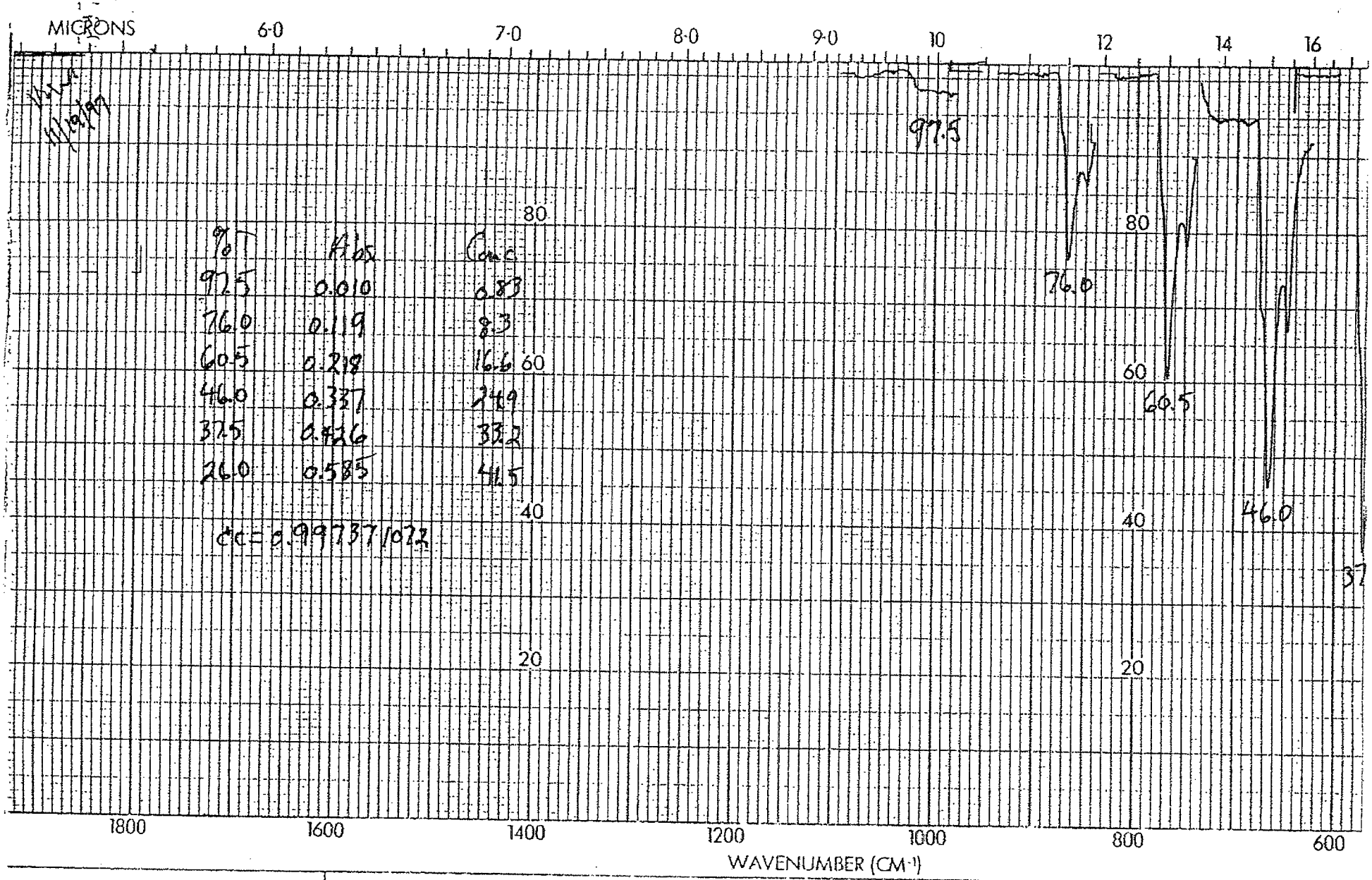
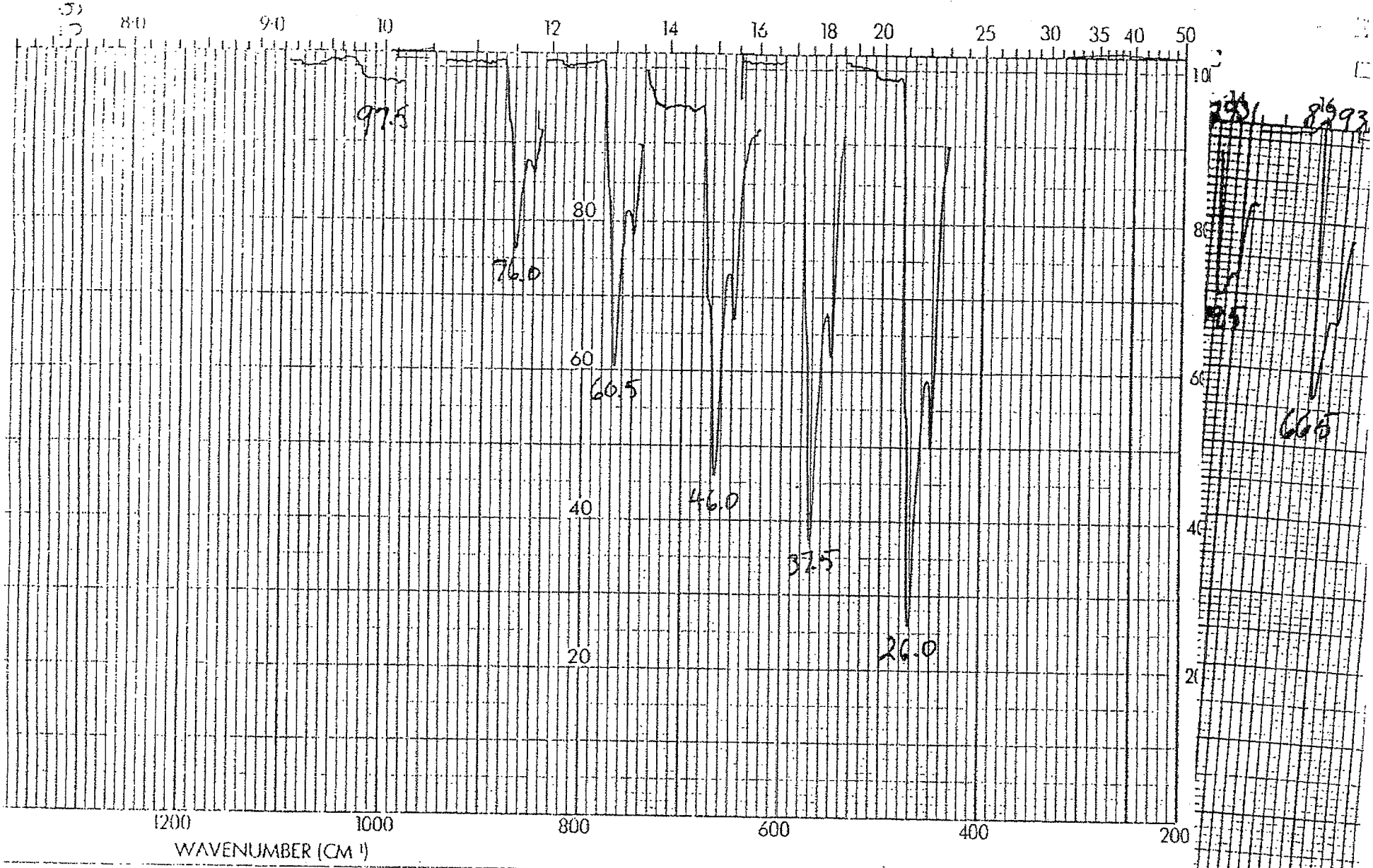


REMARKS

SCAN MODE

SLIT TIME CONSTANT

GRAPHIC CONTROLS CORPORATION
BUFFALO NEW YORK
No. PR 5 367



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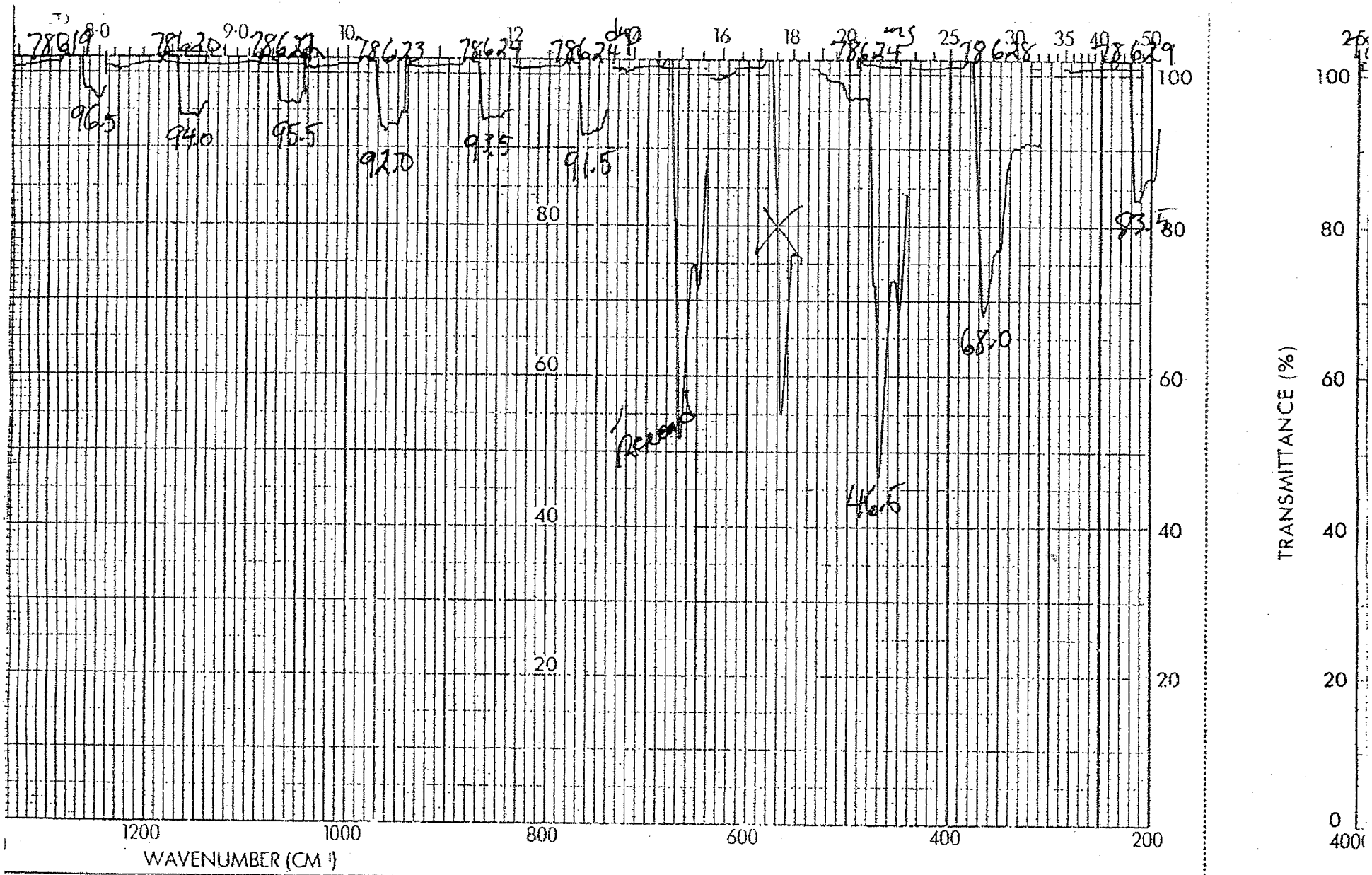
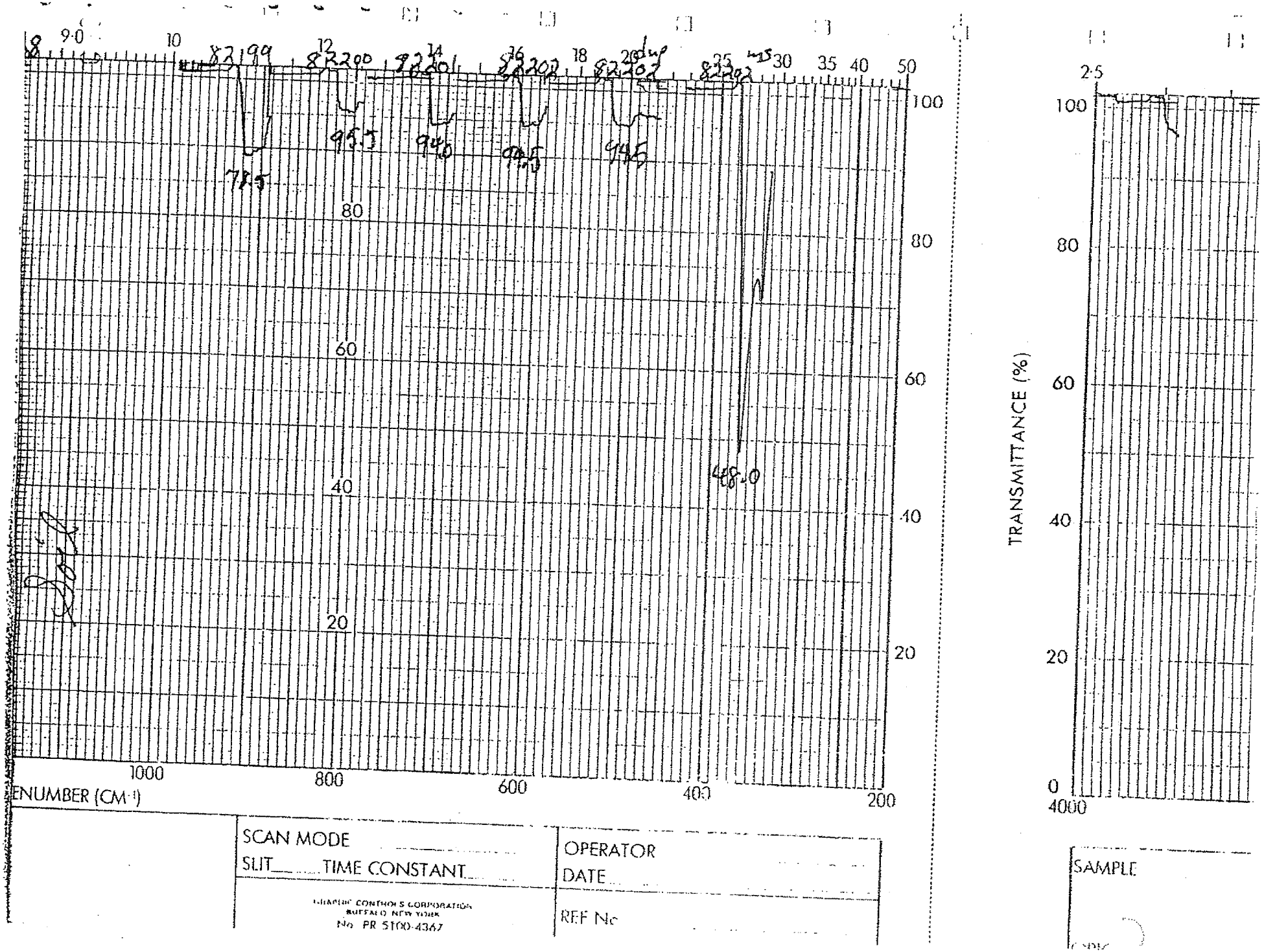
SLIT TIME CONSTANT	DATE
GRAPHIC CONTROLS CORPORATION BUFFALO NEW YORK No. PR 5106	RFF No.



	SCAN MODE	OPERATOR
	SLIT ____ TIME CONSTANT	DATE
	GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK No. PR 5100-4367	REF No.


9·0
10
12
14
16
18
20
25
30
35
40
50
100
80
60
40
20
1000
800
600
400
200
ENUMBER (CM⁻¹)
TRANSMITTANCE (%)
2·5
4000
0
SCAN MODE
SLIT TIME CONSTANT
OPERATOR
DATE
SAMPLE
REF No
No PR 5100-4367

GENERAL CHEMISTRY ANALYSIS DATA PACKAGE

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JPK-E.A.Terminal

Project #: PO128494
Date Received: 11/07/97 18:20

The following results are for Phenolics as phenol

Lab #	Conc.	Unit	Client Designation
97 0078619	<1.2	mg/kg	MW-2,S-5
97 0078620	<1.2	mg/kg	MW-10,S-5
97 0078622	<1.2	mg/kg	MW-5,S-4
97 0078623	<1.2	mg/kg	MW-7,S-5
97 0078624	<1.2	mg/kg	MW-9,S-5

The following results are for Total Cyanide

Lab #	Conc.	Unit	Client Designation
97 0078619	<0.25	mg/kg	MW-2,S-5
97 0078620	<0.25	mg/kg	MW-10,S-5
97 0078622	<0.25	mg/kg	MW-5,S-4
97 0078623	<0.25	mg/kg	MW-7,S-5
97 0078624	<0.25	mg/kg	MW-9,S-5

The following results are for Solids, Total

Lab #	Conc.	Unit	Client Designation
97 0078619	84	%	MW-2,S-5
97 0078620	80	%	MW-10,S-5
97 0078622	88	%	MW-5,S-4
97 0078623	81	%	MW-7,S-5
97 0078624	84	%	MW-9,S-5

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1997
Customer Project No. JFK-B.A.Terminal

Project #: [illegible]
Date Received: 11/12/97 17:0[illegible]

The following results are for Phenolics as phenol

Lab #	Conc.	Unit	Client Designation
97 0082199	<1.2	mg/kg	MW-3,S-4
97 0082200	<1.2	mg/kg	MW-6,S-4
97 0082201	<1.2	mg/kg	MW-8,S-4
97 0082202	<1.2	mg/kg	MW-4,S-4

The following results are for Total Cyanide

Lab #	Conc.	Unit	Client Designation
97 0082199	<0.25	mg/kg	MW-3,S-4
97 0082200	<0.25	mg/kg	MW-6,S-4
97 0082201	<0.25	mg/kg	MW-8,S-4
97 0082202	<0.25	mg/kg	MW-4,S-4

The following results are for Solids, Total

Lab #	Conc.	Unit	Client Designation
97 0082199	86	%	MW-3,S-4
97 0082200	83	%	MW-6,S-4
97 0082201	85	%	MW-8,S-4
97 0082202	80	%	MW-4,S-4

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK-B.A.Terminal

Project #: 97100697
Date Received: 11/12/97 17:0

The following results are for Phenolics as phenol

Lab #	Conc.	Unit	Client Designation
97 0082199	<1.2	mg/kg	MW-3,S-4
97 0082200	<1.2	mg/kg	MW-6,S-4
97 0082201	<1.2	mg/kg	MW-8,S-4
97 0082202	<1.2	mg/kg	MW-4,S-4

The following results are for Total Cyanide

Lab #	Conc.	Unit	Client Designation
97 0082199	<0.25	mg/kg	MW-3,S-4
97 0082200	<0.25	mg/kg	MW-6,S-4
97 0082201	<0.25	mg/kg	MW-8,S-4
97 0082202	<0.25	mg/kg	MW-4,S-4

The following results are for Solids, Total

Lab #	Conc.	Unit	Client Designation
97 0082199	86	%	MW-3,S-4
97 0082200	83	%	MW-6,S-4
97 0082201	85	%	MW-8,S-4
97 0082202	80	%	MW-4,S-4

BLANKS

Lab Name: EMSL Analytical Contract:

Lab Code: Case No.: AS No.: SDG No.:

Preparation Blank Matrix (Soil/Water): Soil

Preparation Blank Concentration Units (ug/l or mg/kg): mg/kg

Analyte	Initial Calib. Blank (ug/l)	C	Continuing Calibration Blank (ug/l) 1	C	2	C	3	C	Preparation Blank	C	M
Phenolics											
Total Cyanide (11/13/97)									**<1.25**		
Total Cyanide (11/14/97)									**<0.25**		
									<0.25		

EMSL

SPIKE SAMPLE RECOVERY

Lab Name: **EMSL Analytical** Contract: _____ Lab Sample No.: **97-66708, 97-78620**

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): **Soil** Level (low/med) : _____

% Solids for Sample: **91, 80**

Concentration Units (mg/l or mg/kg dry weight): **mg/kg DWB**

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Phenolics	75-125	7980		399		7812	97		
Total Cyanide	75-125	9.32		0		10.0	93		

Comments: _____

EMSL

DUPLICATES

Lab Name: EMSL ANALYTICAL Contract: ________ Lab Sample No.: 97-66706, 97-78620

Lab Code: ________ Case No.: ________ SAS No.: ________ SDG No.: ________

Matrix (soil/water): Soil :Level (low/med.): ________

% Solids for Sample: 2, 80 % Solids for Duplicate: 2, 80

Concentration units (mg/l or mg/kg dry weight): mg/kg DWB

Analyte	Control Limit	Sample(S)	C	Duplicate(D)	C	RPD	Q	M
Phenolics	+/-20%	399		351		13		
Total Cyanide	+/-20%	<0.25		<0.25		NC		

LABORATORY CONTROL SAMPLE

Lab Name: EMSL Analytical Contract: _____

Lab Code: _____ Case No.: _____ SAS No: _____ SDG No: _____

Solid LCS Source: _____

Aqueous LCS Source: Various

Analyte	Aqueous (mg/l)			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Phenolics	**0.500**	**0.485**	**97**				**80-120**	
Total Cyanide (11/13/97)	**0.400**	**0.371**	**93**				**80-120**	
Total Cyanide (11/14/97)	**0.400**	**0.371**	**93**				**80-120**	

New Jersey Department of Environmental Protection
Division of Water Resources
Bureau of Underground Storage Tanks
CN-029, Trenton, New Jersey 08625

LABORATORY AUTHENTICATION STATEMENT

I certify under penalty of law, where applicable, this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18, 40 CFR Part 136 for Water and Wastewater Analyses and SW 846 for Solid Waste Analyses. I have personally examined and am familiar with the information contained in this report, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, complete, and meets the standards specified in N.J.A.C. 7:18, 40 CFR Part 136, and/or SW 846. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Laboratory Manager (as defined in N.J.A.C. 7:18)

PORT AUTHORITY LEASE NO. [illegible]

SUPPLEMENT NO. 2

PORT AUTHORITY OF NEW YORK AND NEW JERSEY

AND

BRITISH AIRWAYS, PLC

VOLUME 2

Environmental Engineering Unit
Aviation Design Division

J.F.K. International Airport British Airways Building 59 Environmental Investigation Summary Report

December 1997

Engineering Department
The Port Authority of NY & NJ

EXHIBIT L
Book 3 of 3

For the Port Authority

Initialed:

For the Lessee

APPENDIX "C"

LABORATORY REPORTS OF GROUNDWATER

EMSL ANALYTICAL, INC.

Asbestos – Lead – Environmental – Materials

Corporate Office and Lab
108 Haddon Avenue
Westmont, NJ
609-858-4800

3 Cooper Street
Westmont, NJ
609-858-4800

San Mateo, CA
415-570-5401

S. Pasadena, CA
213-254-9960

N. Miami Beach, FL
305-650-0577

Smyrna, GA
770-333-6066

Indianapolis, IN
317-570-5892

Lexington, KY
293-1590

Ann Arbor, MI
313-668-6810

Piscataway, NJ
732-981-0550

New York, NY
212-290-0051

Carle Place, NY
516-997-7251

Buffalo, NY
516-997-7251

Charlotte, NC
704-567-1521

Greensboro, NC
910-297-1487

Dallas, TX
214-831-9725

Houston, TX
713-686-3635

...le, WA
...233-9007

EMSL France
Paris
011-33-147014805

ANALYTICAL DATA REPORT
FOR
PORT AUTHORITY OF NY & NJ
Engineering Department
241 Erie Street, Room 234
Jersey City, NJ 07310-1397

PROJECT : **JFK British Airways**

EMSL Project: # 97123007

Field Sample No. & Location	Laboratory Sample ID	Matrix	Date & Time of Collection	Date Received
MW-2	**97-85731**	**Aqueous**	**11/17/97 @ 1040**	**11/18/97**
MW-3	**97-85732**	**Aqueous**	**11/17/97 @ 1007**	**11/18/97**
MW-5	**97-85733**	**Aqueous**	**11/17/97 @ 0945**	**11/18/97**
MW-6	**97-85734**	**Aqueous**	**11/17/97 @ 1245**	**11/18/97**
MW-7	**97-85735**	**Aqueous**	**11/17/97 @ 0923**	**11/18/97**
MW-8	**97-85736**	**Aqueous**	**11/17/97 @ 1147**	**11/18/97**
MW-9	**97-85737**	**Aqueous**	**11/17/97 @ 0855**	**11/18/97**
MW-9A	**97-85738**	**Aqueous**	**11/17/97 @ 0900**	**11/18/97**
Field Blank	**97-85739**	**Aqueous**	**11/17/97 @ 0830**	**11/18/97**
Trip Blank	**97-85740**	**Aqueous**	**11/17/97 ----**	**11/18/97**
MW-10	**97-85741**	**Aqueous**	**11/17/97 @ 1104**	**11/18/97**

Laboratory Name — EMSL ANALYTICAL, INC.

Certification No. — NJDEPE No. 04653

Supervisor/Manager Signature
Printed Name — Paul V. Laraia

Date — 12-3-97

EMSL

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- Method Blank Data
- Matrix Spike Data
- Duplicate Data
- Laboratory Control Sample
- Spectra

General Chemistry Analytical Data Package ---------- 552-557
- Sample Results
- Blanks
- Quality Assurance Data

Statement of Authentication ---------- 558

SAMPLE DATA SUMMARY PACKAGE

Date of Report: 12/01/97
Project Number: 97123007
Lab ID: 97-0085731
Date Collected: 11/17/97 10:40
Collected By: Client
Date Received: 11/18/97 15:00

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK British Airways

Client Designation: MW-2

	Conc.	Unit
LIMITED		
Phenolics as phenol	<0.050	mg/l
Total Cyanide	<0.010	mg/l
Petroleum Hydrocarbons, Total (I.R)	<1.0	mg/l
METALS		
Silver	<0.050	mg/l
Arsenic	<0.0080	mg/l
Beryllium	<0.010	mg/l
Cadmium	<0.020	mg/l
Chromium	<0.050	mg/l
Copper	<0.050	mg/l
Mercury	<0.00020	mg/l
Nickel	<0.050	mg/l
Lead	<0.0050	mg/l
Antimony	<0.0050	mg/l
Selenium	<0.0050	mg/l
Thallium	<0.0050	mg/l
Zinc	<0.050	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/l
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/l
VOA by 8260 with Library Search	see attached	ug/l

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-2

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85731

Sample wt/vol: 1000 (g/mL) mL Lab File ID: D:NV14E161

% Moisture N/A decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785731B

MW-2

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785731B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7251.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 9785731B MW-2

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785731B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7251.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	B
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785731B
MW-2

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785731B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7251.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.90	7	J
2.				
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IA

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785731V MD-2

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785731V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9736.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785731V

MW-2

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785731V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9736.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785731V
MB-2

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785731V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9736.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
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EMSL

Date of Report: 12/01/97
Project Number: 97123007
Lab ID: 97-0085732
Date Collected: 11/17/97 10:37
Collected By: Client
Date Received: 11/18/97 15:00

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK British Airways

Client Designation: MW-3

	Conc.	Unit
LIMITED		
Phenolics as phenol	<0.050	mg/l
Total Cyanide	<0.010	mg/l
Petroleum Hydrocarbons, Total (I.R)	<1.0	mg/l
METALS		
Silver	<0.050	mg/l
Arsenic	<0.0080	mg/l
Beryllium	<0.010	mg/l
Cadmium	<0.020	mg/l
Chromium	<0.050	mg/l
Copper	<0.050	mg/l
Mercury	<0.00020	mg/l
Nickel	<0.050	mg/l
Lead	<0.0050	mg/l
Antimony	<0.0050	mg/l
Selenium	<0.0050	mg/l
Thallium	<0.0050	mg/l
Zinc	<0.050	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/l
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/l
VOA by 8260 with Library Search	see attached	ug/l

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-3

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85732

Sample wt/vol: 990 (g/mL) mL Lab File ID: D:NV14E162

% Moisture N/A decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785732B
MW-3

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785732B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7252.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785732B

MW-3

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785732B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7252.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	1	J
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785732B
MB-3

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785732B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7252.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 4 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown Hydrocarbon	10.78	10	J
2.	Unknown Hydrocarbon	10.90	12	J
3. 57-10-3	Hexadecanoic acid	22.90	10	J
4. 10544-50-0	Sulfur, mol. (S8)	23.47	4	J
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785732V
MW-3

013

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785732V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9737.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785732V
MW-3

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785732V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9737.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units:
(ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785732V
MW-3 U

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785732V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9737.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
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Date of Report: 12/01/97
Project Number: 97123007
Lab ID: 97-0085733
Date Collected: 11/17/97 09:45
Collected By: Client
Date Received: 11/18/97 15:00

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK British Airways

Client Designation: MW-5

	Conc.	Unit
LIMITED		
Phenolics as phenol	<0.050	mg/l
Total Cyanide	<0.010	mg/l
Petroleum Hydrocarbons, Total (I.R)	<1.0	mg/l
METALS		
Silver	<0.050	mg/l
Arsenic	<0.0080	mg/l
Beryllium	0.016	mg/l
Cadmium	0.025	mg/l
Chromium	<0.050	mg/l
Copper	<0.050	mg/l
Mercury	<0.00020	mg/l
Nickel	<0.050	mg/l
Lead	<0.0050	mg/l
Antimony	<0.0050	mg/l
Selenium	<0.0050	mg/l
Thallium	<0.0050	mg/l
Zinc	0.064	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/l
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/l
VOA by 8260 with Library Search	see attached	ug/l

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85733

Sample wt/vol: 930 (g/mL) mL Lab File ID: D:NV14E163

% Moisture N/A decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785733B
MW-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785733B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7253.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785733B MB-5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785733B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7253.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785733B
MW-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785733B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7253.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.90	8	J
2. 10544-50-0	Sulfur, mol. (S8)	23.47	6	J
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785733V
MW-5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785733V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9738.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785733V

MW-5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785733V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9738.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785733V
MW-5

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785733V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9738.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
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Date of Report: 12/01/97
Project Number: 97123007
Lab ID: 97-0085734
Date Collected: 11/17/97 12:45
Collected By: Client
Date Received: 11/18/97 15:00

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK British Airways

Client Designation: MW-6

	Conc.	Unit
LIMITED		
Phenolics as phenol	<0.050	mg/l
Total Cyanide	<0.010	mg/l
Petroleum Hydrocarbons, Total (I.R)	<1.0	mg/l
METALS		
Silver	<0.050	mg/l
Arsenic	<0.0080	mg/l
Beryllium	<0.010	mg/l
Cadmium	<0.020	mg/l
Chromium	<0.050	mg/l
Copper	<0.050	mg/l
Mercury	<0.00020	mg/l
Nickel	<0.050	mg/l
Lead	<0.0050	mg/l
Antimony	<0.0050	mg/l
Selenium	<0.0050	mg/l
Thallium	<0.0050	mg/l
Zinc	<0.050	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/l
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/l
VOA by 8260 with Library Search	see attached	ug/l

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85734

Sample wt/vol: 990 (g/mL) mL Lab File ID: D:NV14E164

% Moisture N/A decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.05	
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 9785734B MW-6

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785734B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7254.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 9785734B MW-6

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785734B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7254.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785734B
MW-6

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785734B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7254.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	6.09	8	J
2. 57-10-3	Hexadecanoic acid	22.89	5	J
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785734V
MD-6

034

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785734V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9739.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785734V
MW-6

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785734V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9739.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	8	
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785734V
MD-6

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785734V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9739.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
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EMSL

Date of Report: 12/01/97
Project Number: 97123007
Lab ID: 97-0085735
Date Collected: 11/17/97 09:23
Collected By: Client
Date Received: 11/18/97 15:00

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK British Airways

Client Designation: MW-7

	Conc.	Unit
LIMITED		
Phenolics as phenol	<0.050	mg/l
Total Cyanide	<0.010	mg/l
Petroleum Hydrocarbons, Total (I.R)	<1.0	mg/l
METALS		
Silver	<0.050	mg/l
Arsenic	<0.0080	mg/l
Beryllium	<0.010	mg/l
Cadmium	<0.020	mg/l
Chromium	<0.050	mg/l
Copper	<0.050	mg/l
Mercury	<0.00020	mg/l
Nickel	<0.050	mg/l
Lead	<0.0050	mg/l
Antimony	<0.0050	mg/l
Selenium	<0.0050	mg/l
Thallium	<0.0050	mg/l
Zinc	<0.050	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/l
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/l
VOA by 8260 with Library Search	see attached	ug/l

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-7

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85735

Sample wt/vol: 950 (g/mL) mL Lab File ID: D:NV14E165

% Moisture N/A decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785735B

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785735B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7255.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785735B

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785735B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7255.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	7	B
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785735B
MW-7

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785735B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7255.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.91	8	J
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785735V MW-7

042

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785735V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9740.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

IA

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785735V
MW-7

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785735V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9740.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785735V
MB-7

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785735V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9740.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
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EMSL

Date of Report: 12/01/97
Project Number: 97123007
Lab ID: 97-0085736
Date Collected: 11/17/97 11:47
Collected By: Client
Date Received: 11/18/97 15:00

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK British Airways

Client Designation: MW-8

	Conc.	Unit
LIMITED		
Phenolics as phenol	<0.050	mg/l
Total Cyanide	<0.010	mg/l
Petroleum Hydrocarbons, Total (I.R)	<1.0	mg/l
METALS		
Silver	<0.050	mg/l
Arsenic	<0.0080	mg/l
Beryllium	<0.010	mg/l
Cadmium	<0.020	mg/l
Chromium	<0.050	mg/l
Copper	<0.050	mg/l
Mercury	<0.00020	mg/l
Nickel	<0.050	mg/l
Lead	<0.0050	mg/l
Antimony	<0.0050	mg/l
Selenium	<0.0050	mg/l
Thallium	<0.0050	mg/l
Zinc	<0.050	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/l
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/l
VOA by 8260 with Library Search	see attached	ug/l

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-8

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85736

Sample wt/vol: 1000 (g/mL) mL Lab File ID: D:NV14E166

% Moisture N/A decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.06	
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785736B MB-8

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785736B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7256.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785736B

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785736B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7256.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	1	U
85-68-7	Butylbenzylphthalate	4	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	3	B
205-99-2	Benzo[b]fluoranthene	3	U
207-08-9	Benzo[k]fluoranthene	1	U
50-32-8	Benzo[a]pyrene	2	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785736B
MW-8

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785736B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7256.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.91	10	J
2.	Unknown	31.79	32	J
3.				
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785736V
MW-8

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785736V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9741.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	2	
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
9785736V
MW-8

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785736V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9741.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9785736V
MB-8

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785736V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9741.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
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EMSL

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK British Airways

Client Designation: MW-9

Date of Report: 12/01/97
Project Number: 97123007
Lab ID: 97-0085737
Date Collected: 11/17/97 08:55
Collected By: Client
Date Received: 11/18/97 15:00

	Conc.	Unit
LIMITED		
Phenolics as phenol	<0.050	mg/l
Total Cyanide	<0.010	mg/l
Petroleum Hydrocarbons, Total (I.R)	<1.0	mg/l
METALS		
Silver	<0.050	mg/l
Arsenic	<0.0080	mg/l
Beryllium	<0.010	mg/l
Cadmium	<0.020	mg/l
Chromium	<0.050	mg/l
Copper	<0.050	mg/l
Mercury	<0.00020	mg/l
Nickel	<0.050	mg/l
Lead	<0.0050	mg/l
Antimony	<0.0050	mg/l
Selenium	<0.0050	mg/l
Thallium	<0.0050	mg/l
Zinc	0.058	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/l
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/l
VOA by 8260 with Library Search	see attached	ug/l

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85737

Sample wt/vol: 990 (g/mL) mL Lab File ID: D:NV14E167

% Moisture N/A decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785737B

MW-9

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785737B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7257.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785737B MB-9

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785737B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7257.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	B
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785737B MW-9

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785737B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7257.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.91	9	J
2.	Unknown	31.77	34	J
3.				
4.				
5.				
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785737V
MW-9

USC

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785737V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9742.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785737V MW-9

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785737V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9742.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785737V
MW-9

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785737V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9742.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
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30.				

EMSL

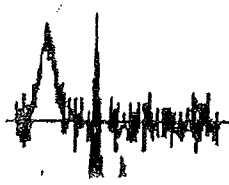
Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK British Airways

Client Designation: MW-9A

Date of Report: 12/01/97
Project Number: 97123007
Lab ID: 97-0085738
Date Collected: 11/17/97 09:00
Collected By: Client
Date Received: 11/18/97 15:00

	Conc.	Unit
LIMITED		
Phenolics as phenol	<0.050	mg/l
Total Cyanide	<0.010	mg/l
Petroleum Hydrocarbons, Total (I.R)	<1.0	mg/l
METALS		
Silver	<0.050	mg/l
Arsenic	<0.0080	mg/l
Beryllium	<0.010	mg/l
Cadmium	<0.020	mg/l
Chromium	<0.050	mg/l
Copper	<0.050	mg/l
Mercury	<0.00020	mg/l
Nickel	<0.050	mg/l
Lead	<0.0050	mg/l
Antimony	<0.0050	mg/l
Selenium	<0.0050	mg/l
Thallium	<0.0050	mg/l
Zinc	0.057	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/l
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/l
VOA by 8260 with Library Search	see attached	ug/l



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9A

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85738

Sample wt/vol: 990 (g/mL) mL Lab File ID: D:NV14E168

% Moisture N/A decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785738B
MW-9A

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785738B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7258.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785738B MB-9A

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785738B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7258.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785738B
MW-9A

065

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785738B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7258.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.91	8	J
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785738V
MW-9A

060

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785738V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9743.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
9785738V
MW 9A

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785738V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9743.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9785738V
MW 9A

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785738V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9743.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
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30.				

EMSL

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Date of Report: 12/01/97
Project Number: 97123007
Lab ID: 97-0085739
Date Collected: 11/17/97 08:30
Collected By: Client
Date Received: 11/18/97 15:00

Client Project: JFK British Airways

Client Designation: Field Blank

	Conc.	Unit
LIMITED		
Phenolics as phenol	<0.050	mg/l
Total Cyanide	<0.010	mg/l
Petroleum Hydrocarbons, Total (I.R)	<1.0	mg/l
METALS		
Silver	<0.050	mg/l
Arsenic	<0.0080	mg/l
Beryllium	<0.010	mg/l
Cadmium	<0.020	mg/l
Chromium	<0.050	mg/l
Copper	<0.050	mg/l
Mercury	<0.00020	mg/l
Nickel	<0.050	mg/l
Lead	<0.0050	mg/l
Antimony	<0.0050	mg/l
Selenium	<0.0050	mg/l
Thallium	<0.0050	mg/l
Zinc	<0.050	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/l
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/l
VOA by 8260 with Library Search	see attached	ug/l

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Field Blank

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85739

Sample wt/vol: 940 (g/mL) mL Lab File ID: D:NV14E169

% Moisture N/A decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785739B
Field Blank

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785739B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7259.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785739B
Field Blank

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785739B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7259.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785739B
Field Blank

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785739B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7259.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785739V
Field Blank

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785739V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9735.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	10	
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785739V Field Blank

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785739V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9735.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785739V
Field Blank

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785739V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9735.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
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Date of Report: 11/26/97
Project Number: 97123007
Lab ID: 97-0085740
Date Collected: 11/17/97 00:00
Collected By: Client
Date Received: 11/18/97 15:00

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JFK British Airways

Client Designation: Trip Blank

	Conc.	Unit
ORGANIC		
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/l
VOA by 8260 with Library Search	see attached	ug/l

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785740V Trip Blank

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785740V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9734.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	10	
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785740V Trip Blank

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785740V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9734.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785740V
Trip Blank

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785740V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9734.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	16.30	23	J
2.	Unknown	20.33	50	J
3.				
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Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City NJ 07310-1397

Client Project: JPK British Airways

Date of Report: 12/01/97
Project Number: 97123007
Lab ID: 97-0085741
Date Collected: 11/17/97 11:04
Collected By: Client
Date Received: 11/18/97 15:00

Client Designation: MW-10

	Conc.	Unit
LIMITED		
Phenolics as phenol	<0.050	mg/l
Total Cyanide	<0.010	mg/l
Petroleum Hydrocarbons, Total (I.R)	<1.0	mg/l
METALS		
Silver	<0.050	mg/l
Arsenic	<0.0080	mg/l
Beryllium	<0.010	mg/l
Cadmium	<0.020	mg/l
Chromium	<0.050	mg/l
Copper	<0.050	mg/l
Mercury	<0.00020	mg/l
Nickel	<0.050	mg/l
Lead	<0.0050	mg/l
Antimony	<0.0050	mg/l
Selenium	<0.0050	mg/l
Thallium	<0.0050	mg/l
Zinc	<0.050	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
BNA by 8270 with Library Search	see attached	ug/l
Volatiles		
Acrolein and Acrylonitrile	see attached	ug/l
MTBE by GC/MS(624/8260)	see attached	ug/l
VOA by 8260 with Library Search	see attached	ug/l

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-18

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85741

Sample wt/vol: 950 (g/mL) mL Lab File ID: D:NV14E170

% Moisture N/A decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785741B MW-10

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785741B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7260.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785741B
MW-10

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785741B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7260.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	3	B
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785741B
MW-10

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785741B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7260.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.89	6	J
2.				
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785741V

MW-18

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785741V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9745.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/21/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785741V
MW-10

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785741V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9745.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/21/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9785741V
MW-10

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785741V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9745.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/21/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
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17.				
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21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

LABORATORY DELIVERABLES

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following laboratory deliverables shall be included in the data submission. All deviations from the accepted methodology and procedures, or performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The proposed "Technical Requirements for Site Remediation" rules, which appeared in the May 4, 1992 New Jersey Register, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits be included in one section of the data package and in the main body of the report.

		Check If Complete
1.	Cover Page, Title Page listing Lab Certification #, facility name, address & date of report.	X
2.	Table of Contents	X
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds.	X
4.	Summary Table cross-referencing field ID #'s vs. Lab ID #'s.	X
5.	Document bound, paginated and legible.	X
6.	Chain of Custody	X
7.	Methodology Summary	X
8.	Laboratory Chronicle and Holding Time Check.	X
9.	Results submitted on a dry weight basis (if applicable).	X
10.	Method Detection Limits.	X
11.	Lab certified by NJDEP for parameters or appropriate category of parameters or a member of the USEP CLP.	X
12.	Non-Conformance Summary	X

M

Laboratory Manager or Environmental Consultant's Signature

12-3-97

Date

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

A. Checklist which must be attached to the Summary

The following information must be reported in the Closure Plan Implementation Summary for all laboratory analyses performed in the compliance with the site assessment requirements:

Page #		
1	1.	Name and address of the facility.
1	2.	Name of the laboratory performing the sample analysis.
1	3.	NJDEP certification number assigned to the laboratory pursuant to N.J.A.C. 7:18.
1	4.	Laboratory sample identification number.
1	5.	Customer sample identification number corresponding to the laboratory sample identification.
1	6.	Sample Location (also on the site diagram).
1	7.	Matrix of the sample analyzed (i.e., water or sediments; including soil, sediment, and sludges). All sediment results must be reported on a dry weight basis.
101-104	8.	The reference for the method used (e.g., EPA Method 625, 40 CFR Part 136).
1	9.	The signature of the person completing the report form.
1	10.	The dates the laboratory report form was prepared, as well as the dates the sample were collected, submitted and analyzed.
105	11.	A list of all parameters (constituents and conditions) for which the analyses were performed.
4-88	12.	Sample results and corresponding units for each parameter.

CHAIN OF CUSTODY

THE PORT AUTHORITY OF N.Y. & N.J. 9712 3007 09
ENGINEERING DEPARTMENT
MATERIALS ENGINEERING DIVISION
CHAIN OF CUSTODY REPORT

LABORATORY DESTINATION: ENSL

PAGE 1 OF 1

BILLING INFORMATION

BILL TO: PA NY & NJ
ADDRESS: 241 Erie Street
Jersey City, NJ 07310-1397
ATTENTION: V. Berndt
TELEPHONE: 201-216-2963
FAX: 201-216-2949

PROJECT INFORMATION

PROJECT: JFK British Airways
JOB#: A3 972.010
LOCATION: NY
CONTACT: DORIAN BAILEY (201) 216-2963
SAMPLED BY: R.G. / L.M.
ANALYTICAL PROTOCOL: 2 wk TAT

SAMPLE ID	DATE	TIME	SAMPLE TYPE: COMPOSITE	SAMPLE TYPE: GRAB	SAMPLE MATRIX	# OF BOTTLES	ANALYSIS (METHOD): PP+40+MTBE+Acetone	ANALYSIS (METHOD): TPHC	ANALYSIS (METHOD): VOA+15+MTBE Acetone Xylenes	PRESERVATIVES: H_2SO_4	PRESERVATIVES: HCL	PRESERVATIVES: HNO_3	PRESERVATIVES: NAOH	PRESERVATIVES: NON-PRES
~~MW 1~~	11-17-97			x	AQ									
MW 2 8573		10:40AM		x		10	✓	✓		2	2	1	1	4
MW 3 32		10:07A		x		10	✓	✓		2	2	1	1	4
MW 4				x										
MW 5 33		9:45AM		x		10	✓	✓		2	2	1	1	4
MW 6 34		12:45PM		x		10	✓	✓		2	2	1	1	4
MW 7 35		9:13AM		x		10	✓	✓		2	2	1	1	4
MW 8 36		11:77AM		x		11	✓	✓		3	2	1	1	4
MW 9 37		8:55AM		x		10	✓	✓		2	2	1	1	4
MW 9A 38		9:00AM		x		10	✓	✓		2	2	1	1	4
F.B. 39	↓	8:30AM		x	↓	10	✓	✓		2	2	1	1	4
T.B. 46	11-17-97	—		✓	AQ	2			✓		2			
MW 10 41	11-17-97	11:04AM		x	AQ	11	✓	✓		3	2	1	1	4

TURNAROUND (INDICATE IN CALENDAR DAYS): FAX: HARD COPY:

RELINQUISHED BY: DATE: 11/18/97 TIME: 11:55
RECEIVED BY: EMSL DATE: 11-18-97 TIME: 11:55
RELINQUISHED BY: DATE: TIME:
RECEIVED BY: DATE: 11/18

DELIVERABLES/ (CIRCLE ONE): DATA SUM NY/ASP (RED/DELIV) CLP OTHER: as per Angeles

COMMENTS: HARDCOPY REPORTS BY 12/3/97

11-18-97

Sample Digestion Chain of Custody

Digestion Date Begin: 11/19/97

Tech(s): TL

Batch Number: B656 Book: 277 Page: 5 Temp. (C) 95

Matrix:	Aqueous	Soil	Sludge	Oil	Filter	Paintchips	Cassette	TCLP	Other:
	X								

Analysis: X ICP X GFAA

#	EMSL Sample ID	Prep Amount Volume(ml)	Prep Amount Volume(ml)	Analysis Date(s) 11-21-97 Element(s) Required	Due
A1QC	85731	50.00	50.00	~~Ag Be Cd Cr Cu Ni Zn~~ ~~TIZR~~	11/25
A11	85732	50.00	50.00		
A12	85733	50.00	50.00		
A13	85734	50.00	50.00		
A14	85735	50.00	50.00		
A15	85736	50.00	50.00		
A16	85737	50.00	50.00		
A17	85738	50.00	50.00		
A18	85739	50.00	50.00		
A19	85741	50.00	50.00		
A20	85742	50.00	50.00	~~FE Mn~~ ①	11/21
A21	85743	50.00	50.00		12/4
A22					
A23					
A24					
A25					
A26					
A27					
A28					
A29					

① Reported 11-21-97 JB

Remainder reported 11-24-97 08:30 SVHP

Ref # 97-864

NV21B

#			Batch QC Provided: Initial Wt(g)/Vol(ml)	Final Vol(ml)
A2,3	2	Prep Blank	50	50
A4	1	Control #1 ICP	50	50
A6	1	Sample Dup	50	50
A7	1	Matrix Spike #1 ICP	50	50
A8	1	M.Spike DuP #1 ICP	50	50
A5	1	Control #2 GFAA	50	50
		SampleDup #2		
A9	1	Matrix Spike#2 GFAA	50	50
A10	1	M.Spike Dup#2 GFAA	50	50

Digestion Method:

	SW-846 3005		SW-846 3051
	SW-846 3010	X	DIG 200 for ICP/GFAA
	SW-846 3015		NIOSH
	SW-846 3020	Other:	
	SW-846 3040		
	SW-846 3050		

Amount Spike Added (ml)	Standard Serial ID	
0.5	ICP	109-23-D
0.5	GFAA	257-27-G

Lot # HNO3 Lot # HCL Lot # H2O2

Lot # 1+1HNO3 Lot # 1+1HCL

Relinquished By: [signature] Date: 11/20/97 Received By: [signature] Date: 11/20/97

Mercury Analysis
Post Sequence Summary Report

Methodology EPA

Operator: ERIKA TAYLOR
Reviewer:
Data file C:\HGTALK\DATA\HGNOV19B
Samples Prepared 11/19/97

Wavelength 253.7 nm
Loop size ml
Instrument ID: AM3200
Lab. Name: EMSL
IDL : .05 ug/L
CRDL : .2 ug/L
Detector Range 1.0 Au/1 volt
Final Sample Volume 100 ml

Current
C:\HGTALK\METHOD\HGAQ.HMH
C:\HGTALK\SEQUENCE\HGNOV19B.hsq
Wed Nov 19 21:36:30 1997

Original
C:\HGTALK\METHOD\HGAQ.HMH
C:\HGTALK\SEQUENCE\HGNOV19B.hsq
Wed Nov 19 21:36:30 1997

SDG No	Inj No	Time	Vial	Sample ID	Samp Type	Calc Amt	Test Value	Result	Dil Fact
	1	21:37	1/11	RINSE	sample	0.0000 ug/L		Pass	1.00
	2	21:41	1/1	BLANK	blank	0.0000 ug/L			1.00
	3	21:44	1/2	S1	standard	0.2000 ug/L			1.00
	4	21:48	1/3	S2	standard	0.5000 ug/L			1.00
	5	21:52	1/4	S3	standard	1.0000 ug/L			1.00
	6	21:55	1/5	S4	standard	2.0000 ug/L			1.00
	7	21:59	1/6	S5	standard	5.0000 ug/L			1.00
Correlation coefficient 0.999874 Passed									
Rf0 -3.0268e-002 Rf1 3.5699e-005									
Standard Error Passed									
	8	22:03	1/7	ICV	ICV	1.9781 ug/L	98.91%	Pass	1.00
	9	22:06	1/11	RINSE	sample	0.0351 ug/L		Pass	1.00
	10	22:10	1/1	ICB	ICB	0.0240 ug/L		Pass	1.00
	11	22:14	1/1	PREP BLK	sample	0.0207 ug/L		Pass	1.00
	12	22:18	2/1	CONTROL	LCS	1.9396 ug/L	96.98%	Pass	1.00
	13	22:21	2/2	85741	sample	0.0448 ug/L		Pass	1.00
	14	22:25	2/3	85741 DUP	sample	0.0270 ug/L		Pass	1.00
	15	22:29	2/4	85741 MS	sample	1.9166 ug/L		Pass	1.00
	16	22:32	2/5	85741 MSD	sample	1.9207 ug/L		Pass	1.00
	17	22:36	2/6	85739	sample	No Peak found			1.00
	18	22:40	2/7	85738	sample	0.0253 ug/L		Pass	1.00
	19	22:43	2/8	85737	sample	0.0386 ug/L		Pass	1.00
	20	22:47	2/9	85736	sample	No Peak found			1.00
	21	22:51	1/7	CCV1	CCV	1.9073 ug/L	95.36%	Pass	1.00
	22	22:54	1/11	RINSE	sample	0.0326 ug/L		Pass	1.00
	23	22:58	1/1	CCB1	CCB	0.0217 ug/L		Pass	1.00
Batch Passed									
	24	23:02	2/10	85735	sample	0.0321 ug/L		Pass	1.00
	25	23:05	2/11	85734	sample	No Peak found			1.00
	26	23:09	2/12	85733	sample	0.0529 ug/L		Pass	1.00
	27	23:13	2/13	85732	sample	0.0418 ug/L		Pass	1.00
	28	23:17	2/14	85731	sample	0.0348 ug/L		Pass	1.00
	29	23:20	1/7	CCV2	CCV	1.8765 ug/L	93.83%	Pass	1.00
	30	23:24	1/10	RINSE	sample	0.0281 ug/L		Pass	1.00
	31	23:28	1/9	CCB2	CCB	No Peak found			1.00
Batch Passed									

End of Report. Number of page(s) 1

11/19/97

Continued on Page

Read and Understood By

Signed _____ Date _____ Signed _____ Date _____

Mercury Analysis
Post Sequence Summary Report

Methodology EPA

Operator: ERIKA TAYLOR
Reviewer:
Data file C:\HGTALK\DATA\HGNOV19B
Samples Prepared 11/19/97

Wavelength 253.7 nm
Loop size ml
Instrument ID: AM3200
Lab. Name: EMSL
IDL : .05 ug/L
CRDL : .2 ug/L
Detector Range 1.0 Au/1 volt
Final Sample Volume 100 ml

Current
C:\HGTALK\METHOD\HGAQ.HMH
C:\HGTALK\SEQUENCE\HGNOV19B.hsq
Wed Nov 19 21:36:30 1997

Original
C:\HGTALK\METHOD\HGAQ.HMH
C:\HGTALK\SEQUENCE\HGNOV19B.hsq
Wed Nov 19 21:36:30 1997

SDG No	Inj No	Time	Vial	Sample ID	Samp Type	Calc Amt	Test Value	Result	Dil Fact
	1	21:37	1/11	RINSE	sample	0.0000 ug/L		Pass	1.00
	2	21:41	1/1	BLANK	blank	0.0000 ug/L			1.00
	3	21:44	1/2	S1	standard	0.2000 ug/L			1.00
	4	21:48	1/3	S2	standard	0.5000 ug/L			1.00
	5	21:52	1/4	S3	standard	1.0000 ug/L			1.00
	6	21:55	1/5	S4	standard	2.0000 ug/L			1.00
	7	21:59	1/6	S5	standard	5.0000 ug/L			1.00
Correlation coefficient 0.999874 Passed									
Rf0 -3.0268e-002 Rf1 3.5699e-005									
Standard Error Passed									
	8	22:03	1/7	ICV	ICV	1.9781 ug/L	98.91%	Pass	1.00
	9	22:06	1/11	RINSE	sample	0.0351 ug/L		Pass	1.00
	10	22:10	1/1	ICB	ICB	0.0240 ug/L		Pass	1.00
	11	22:14	1/1	PREP BLK	sample	0.0207 ug/L		Pass	1.00
	12	22:18	2/1	CONTROL	LCS	1.9396 ug/L	96.98%	Pass	1.00
	13	22:21	2/2	85741	sample	0.0448 ug/L		Pass	1.00
	14	22:25	2/3	85741 DUP	sample	0.0270 ug/L		Pass	1.00
	15	22:29	2/4	85741 MS	sample	1.9166 ug/L		Pass	1.00
	16	22:32	2/5	85741 MSD	sample	1.9207 ug/L		Pass	1.00
	17	22:36	2/6	85739	sample	No Peak found			1.00
	18	22:40	2/7	85738	sample	0.0253 ug/L		Pass	1.00
	19	22:43	2/8	85737	sample	0.0386 ug/L		Pass	1.00
	20	22:47	2/9	85736	sample	No Peak found			1.00
	21	22:51	1/7	CCV1	CCV	1.9073 ug/L	95.36%	Pass	1.00
	22	22:54	1/11	RINSE	sample	0.0326 ug/L		Pass	1.00
	23	22:58	1/1	CCB1	CCB	0.0217 ug/L		Pass	1.00
Batch Passed									
	24	23:02	2/10	85735	sample	0.0321 ug/L		Pass	1.00
	25	23:05	2/11	85734	sample	No Peak found			1.00
	26	23:09	2/12	85733	sample	0.0529 ug/L		Pass	1.00
	27	23:13	2/13	85732	sample	0.0418 ug/L		Pass	1.00
	28	23:17	2/14	85731	sample	0.0348 ug/L		Pass	1.00
	29	23:20	1/7	CCV2	CCV	1.8765 ug/L	93.83%	Pass	1.00
	30	23:24	1/10	RINSE	sample	0.0281 ug/L		Pass	1.00
	31	23:28	1/9	CCB2	CCB	No Peak found			1.00
Batch Passed									

End of Report. Number of page(s) 1

EJ 11/19/97

Continued on Page

Read and Understood By

Signed _____ Date _____ Signed _____ Date _____

EMSL ANALYTICAL, INC.

INTERNAL CHAIN OF CUSTODY

PETROLEUM HYDROCARBONS

L E	TIME	SAMPLE ID #	ANALYSIS	INITIALS	SIGNATURE
1/17/97	12:30	82930 -937	TPH/S	V.W.	Velisa Wathen
↓	13:00	82938	TPH/AQ	P.S.	Pam S
↓	↓	82944	↓	↓	↓
1/18/97	10:00	84787 -94	TPH/S	V.W.	Velisa Wathen
↓	↓	85679	↓	↓	↓
1/19/97	11:00	85149 -53	TPH/AQ	P.S.	Pam S
↓	↓	85731-3941+42	↓	↓	↓
1/20/97	12:30	85812	TPH/AQ	P.S.	Pam Boyd
↓	↓	85868	↓	↓	↓
↓	↓	86113 -116	↓	↓	↓
↓	14:00	82928	TPH/S	V.W.	Velisa Wathen
↓	↓	83176-79,82,83+88	↓	↓	↓
↓	↓	85054+55	↓	↓	↓
↓	↓	85875+76	↓	↓	↓
↓	↓	85883	↓	↓	↓
↓	↓	82939 -943	↓	↓	↓
1/21/97	13:30	85184 -188	TPH/S	V.W.	Velisa Wathen
↓	↓	86598	↓	↓	↓
1/22/97	15:30	86914 - 926	TPH/S	V.W.	Velisa Wathen
↓	↓	86960	↓	↓	↓
↓	↓	86927 -929	↓	↓	↓

EMSL ANALYTICAL, INC.

INTERNAL CHAIN OF CUSTODY

093

WET CHEMISTRY

DATE	TIME	SAMPLE ID #	ANALYSIS	INITIALS	SIGNATURE
11/21/97	9 AM	85742	NH_3-N	MY	Mary Yan
↓	↓	85731-39	Pheno	MY	Mary Yan
↓	↓	85741	↓	↓	↓
↓	↓	85140-47	r-CN	MY	Mary Yan
11/23/97	9 AM	86140-159	TDS	MY	Mary Yan
↓	↓	86628-33	↓	↓	↓
11/24/97	9 AM	81433-37	Hardness	MY	Mary Yan
↓	↓	86140-149	NH_3-N	↓	↓
↓	↓	85210	$r-S^{=}+CN$	↓	↓
↓	↓	86926	$r-S^{=}+CN$	↓	↓
11/25/97	3 PM	89284-86	TSS	MY	Mary Yan
↓	↓	89318	$r-S^{=}$	↓	↓
11/20/97		85731-39, 41	T. Cyanide	PS	Pamela Harsy C

EMSL ANALYTICAL, INC.

INTERNAL CHAIN OF CUSTODY

ORGANIC PREP.

faxed 11/24/97 mail 12/1/97

DATE	TIME	SAMPLE ID #	ANALYSIS	INITIALS	SIGNATURE	REC'D BY	DATE
11/21	4:30	BLK	BNA 1200ml	BY	Bryan Young	[signature]	11/24/97
		85731					
		85732					
		85733					
		85734					
		85735					
	5:00	85736					
		85737					
		85738					
		85739					
		85741					
		85741MS	BNA 500ml				
	5:45	85741MSD	"				
		LCS	BNA 1200ml				

Organics Internal COC

Sample Number(s)	Analysis	Date	Name(Print)	Initial
82945	VOA8021	11/18/97	SVANBTE	SV
85210-11	Zhe	11/18/97	S. OSTROWSKI	SO
81886-7	BNA	11/18/97	SVANBTE	SV
81276	"	"	"	"
81279-88	"	"	"	"
81819-24	BNA	11/17-18/97	"	"
82199-202	"	"	"	"
86178-80	ETGAIR + TICR	11/20/97	S. OSTROWSKI	SO
85210	TCLP Benzene	11/20/97	S. OSTROWSKI	SO
85210	TCLP VOA	11/20/97	"	"
83181, 84, 87-88	VOA + LS + TIER	11/17/97	"	"
81185	8270 BN	11/20/97	SVANBTE	SV
86845	Glycol ne	11/21/97	"	"
86456-58	VOA	11/21/97	S. OSTROWSKI	SO
85812	Benzene + RE	11/21/97	S. OSTROWSKI	SO
85054-56	VOA + LS + TIER	11/21/97	S. OSTROWSKI	SO
85731-41	VOA + ACAC + MTBE + LS + TIER	"	"	"
81433-7	625 BN	11/20-1/97	SVANBTE	SV
81433-8	EGLI VOA	11/21/97	"	"
81861	BNA	11/21/97	"	"
86459-64	524.2	11/21/97	S. OSTROWSKI	SO
86118	624	11/25/97	S. OSTROWSKI	SO
89113-14	624	11/24/97	"	"
86598	VOA + LS	11/21/97	S. OSTROWSKI	SO
86981-82	Benzene + RE	11/24/97	S. OSTROWSKI	SO
85210	TCLP BNA	11/25/97	SVANBTE	SV
86640-42	Zhe	11/24/97	S. OSTROWSKI	SO
85731-41	BNA	11/24/97	SVANBTE	SV
86943-44	BTEX 624	11/25/97	S. OSTROWSKI	SO
86610-14	BTEX 624	"	"	"
86640-42	TCLP Benzene	11/25/97	S. OSTROWSKI	SO
82196-7	BN	11/21/97	SVANBTE	SV

Organic Preparation Log

QC Number: 452

Fraction: P/P AQ

	Sample (EMSL No.)	A-type (bna,bn, etc.)	Amount (g or mL)	FV (final vol)	Ext. (ext. date)	By (initials)	Conc. (conc. date)	By (initials)	Clnup (clean-up)	Comments
1	81276	P/P	800	10	11/14	DL	11/17/17	DL		
2	78285	P/P	1200	1e	11/10	BY	11/15	BY		MBH
3	85731	P/P	1000	10	11/24	DL	11/24	DL		from BNA extract
4	85732		990							
5	85733		930							
6	85734		990							
7	85735		950							
8	85736		1000							
9	85737		990							
10	85738		990							
11	85739		940							
12	85741		950							
13	86118		990							
14	86979		1000							
15	86980		990							
16	85068	P/B	1080			JVN	11/15	DL		
17	81861	P/P	1200	1e	11/14					from BNA ext
18										
19										
20										
Blank 1	452-1	P/P	1000	10	11/14	DL				
Blank 2	452-2	P/P	1200	10	11/10	BY	11/15	BY		
Blank 3	452-3	P/P	1000	10	11/24	DL	11/24	DL		from BNA extract
LS	85734	P/P	990	10	11/24	DL	11/24	DL		
LSD			990							

Extraction Method: SepF | LIQ/LIQ | Sonicat | Dilution

Spot Information

Surrogate	Lot#	Amount(ul)
Pest Spike		

Spike Solutions	Lot#	Amount(uL)
BN		
Acid		
Pest/PCB	1ml of 400 ng/L	
TPH		
Other		

Solvent	Lot#
MeCl2	
Acetone	
Hexane	# 1194-610
SodSulfate	
Other	

Blank Spike 452-3 P/P 1000 1200 10 10 11/18 11/14 11/13

to check Aluminas from BNA ext.

095

EMSL ANALYTICAL, INC.

INTERNAL CHAIN OF CUSTODY

PEST/PCB/HERB

ATE	TIME	SAMPLE ID #	ANALYSIS	INITIALS	SIGNATURE
4-5		71195-213	PCB	J.H	
16		74461-6	PLP		
6		74468-73	PLP		
16		73892	PCB		
17		74412	PCB		
17		75594	PCB		
15		72295-6	T Herb		
17		74405	PCB		
-		77707-11	PCB		
12-13		73398-9	T Pest		
12		73398-9	PCB		
112		73398-9	T Herb		
11-12		78320-8	PCB		
11/12		77164-7	PLP		
-16		81851-8	PCB		
16		78457	PCB		
16		81055	PCB		
14		81100-92	PCB		
		85120-47	PCB		
17		85731-41	Pest/PCBs		

METHODOLOGY SUMMARY

METHODOLOGY SUMMARY

Mercury, Solid/Aqueous

SW 846 Method 7471, a cold-vapor atomic absorption method, is based on the absorption of radiation at the 253.7-nm wavelength by mercury vapor. The mercury is reduced to the elemental state and aerated from solution in a closed system. The mercury vapor passes through a cell positioned in the light path of an atomic absorption spectrophotometer. Absorbance (peak height) is measured as a function of mercury concentration.

Metals - Aqueous (Total)

This is a procedure used to determine metals concentrations in aqueous matrices. It involves an acidic digestion under oxidizing conditions of approximately 100 milliliters of sample. Nitric and hydrochloric acids as well as hydrogen peroxide are employed in the digestion. The digested sample is filtered and diluted to 100 milliliters. The analysis is performed by ICP, furnace atomic absorption or flame atomic absorption. Reference methods are SW-846 3rd Edition, September 1986, Revised July 1992, EPA Methods for the Chemical Analysis of Water and Wastes, Revised, March 1983 and Methods for the Determination of Metals in Environmental Samples EPA/600/4-91/010 June 1991.

Metals - Aqueous (Dissolved)

This is a procedure used to determine metals concentrations in aqueous matrices. It involves immediate field or laboratory filtration of all samples through a 0.45 um filter before analysis. The samples are exposed to an acidic digestion under oxidizing conditions of approximately 100 milliliters of sample. Nitric and hydrochloric acids as well as hydrogen peroxide are employed in the digestion. The digested sample is filtered and diluted to 100 milliliters. The analysis is performed by ICP, furnace atomic absorption or flame atomic absorption. Reference methods are SW-846 3rd Edition, September 1986, Revised July 1992, EPA Methods for the Chemical Analysis of Water and Wastes, Revised, March 1983 and Methods for the Determination of Metals in Environmental Samples EPA/600/4-91/010 June 1991.

Semivolatiles by GC/MS - Aqueous

EPA Method 625 - This is a gas chromatograph/mass spectrometer (GC/MS) method applicable to the determination of a number of organic compounds that are partitioned in an organic solvent and amenable to gas chromatography. Federal Register, Vol. 40, No. 136, July, 1988.

An HP5890/5970B GC/MS was used with a DB-5 fused silica capillary column.

Method detection limits are as stated.

Pesticides/PCB's - Aqueous

EPA Method 608 - This method covers the determination of pesticides and polychlorinated biphenyls (PCB's) in samples by extraction/concentration with organic solvents and subsequent qualification/quantification by Gas Chromatography. The gas chromatograph utilizes an electron capture detector (ECD) which is applicable for the determination of the compounds listed for this method in the U.S.E.P.A. Manual entitled "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater".

Phenolics

A portion of sample is distilled at pH 4. An aliquot of the distillate is reacted with 4-aminoantipyrene to form a dye, the intensity of which is proportional to concentration. Reference method is EPA Method 420.1.

Petroleum Hydrocarbons by IR - Aqueous

The sample is extracted with freon and an Infrared Spectrophotometer (IR) method is used to determine petroleum hydrocarbon levels in aqueous matrices. The non-petroleum hydrocarbons are removed with silica gel and the extract is analyzed by IR against a series of standard mixtures. Reference method is EPA Method 418.1.

Cyanide

An aliquot of sample is acidified under analysis conditions liberating cyanide as HCN. A distillation follows leaving behind interferences and scrubbing the distilled HCN in sodium hydroxide solution. An aliquot of the NaOH solution is analyzed colorimetrically for cyanide ion. Reference method is EPA Method 335.2.

Volatile Organics by GC/MS

Reference Method SW-846 8240/8260/624

A representative sample, typically 5.0 grams for soils and 5.0 mLs for waters, is analyzed by the purge and trap method. The purged sample components are trapped in a tube containing suitable sorbent materials. The trapped components are then introduced into the gas chromatograph and analyzed using mass spectrometry.

Sample spectra and area responses are compared to standards analyzed in an identical way using the internal standard calculation technique.

Surrogate compounds are added to monitor analytical efficiency.

If tentatively identified compounds are requested, a computer program analyzes the non-priority pollutant/HSL/TCL compounds with standard mass spectra found in the latest version of the NIH/NBS/EPA mass spectral library.

METHODOLOGY

All analyses are adapted from one or more of the following reference methods:

- "Guidelines Establishing Test Procedures for the Analysis of Pollutants", Code of Federal Regulations Vol. 40, Part 136.
- "Test Methods for Evaluating Solid Waste", SW846 Third Edition, September 1986, USEPA.
- Code of Federal Regulations Vol. 40, Part 261, "Appendix II-Method 1311 Toxicity Characteristic Leaching Procedure (TCLP)".
- "Standard Methods for the Examination of Water and Wastewater", 15th, 16th and 17th editions.
- "Methods for the Chemical Analysis of Water and Wastes", EPA 600/4-79-020, March 1983, U.S.EPA, EMSL.
- "Annual Book of Standards, Section 11-Water", American Society for Testing and Materials (ASTM).
- "Methods for the Determination of Organic Compounds in Drinking Water", EPA 600/4-88/039, December 1988.
- "Official Methods of Analysis", Association of Official Analytical Chemists AOAC 15th Edition, 1990.
- NIOSH Manual of Analytical Methods, Third Edition, 1984, Revised 8/15/90, DHHS Pub. No. 84-100.

DEFINITIONS OF ABBREVIATIONS

U:	Not Detected
E:	Estimated Concentration
NFL:	No Free Liquid
NR:	Not Reactive
NS:	Not requested
<:	Less than minimum detection limit
NC:	Not calculable
LCS:	Laboratory Control Sample
MS/MSD:	Matrix Spike/Matrix Spike Duplicate
RSD:	Relative Standard Deviation
NTU:	Nephelometric Turbidity Units; used for turbidity.
deg. C:	degrees celcius
ug:	microgram; there are 1000 ug in 1 mg.
g:	gram; there are 1000 g in 1 Kg.
ul:	microliter; there are 1000 ul in 1 ml.
L	Liter
ppb	Parts per billion = ug/Kg, ug/L
ppm	Parts per million = mg/Kg, ug/g mg/L, ug/ml; 1 ppm = 1000 ppb.
B:	Compound found in method blank
J:	Compound detected, however below reportable detection limit
NA:	Not Applicable
NI:	Not Ignitable
ND:	Not Detected
MDL:	Method detection limit. Can be a limit specified by the method or a number determined by performing an MDL study.
RPD:	Relative Percent Difference
umhos:	Conductivity units; resistance is expressed in ohms.
col/3:	Colonies per volume of sample analyzed; used for bacteriology.
deg. F:	degrees Fahrenheit
mg:	milligram; there are 1000 mg in 1 g.
Kg:	kilogram
ml:	milliliter; there are 1000 ml in 1 liter.

COMMENTS: All soil samples are calculated on a dry weight basis except as noted.

LABORATORY CHRONICLE

Lab ID: 97-85731 to 97-85741

Client: Port Authority of NY & NJ

	I DATE	II	Hold Time
Date Sampled	11/17/97		
Receipt/Refrigeration	11/18/97		
Extractions			
1. Metals prep	11/19/97		---
2. Mercury prep	11/19/97		---
3. Semivolatiles	11/19-11/21/97		7 Days
4. Pesticides/PCBs	11/24/97		7 Days
Analyses			
1. Metals	11/20-11/25/97		180 Days
2. Mercury	11/19/97		28 Days
3. Semivolatiles	11/24/97		40 Days
4. Pesticides/PCBs	11/25/97		40 Days
5. Phenolics	11/21/97		28 Days
6. Total Cyanide	11/20/97		14 Days
7. Total Petroleum Hydrocarbons	11/19/97-11/24/97		14 Days
8. Volatile Organics	11/20-11/21/97		14 Days

QC Supervisor
Review & Approval

(Signature) _____

(Printed Name) Peter B. Panton

(Date) 12-3-97

NOTE: If fractions are re-extracted and re-analyzed because the initial endeavors failed to meet the required Quality Control Criteria, the dates of re-extraction and/or re-analysis will be entered in Column II Additionally.

EMSL

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		No	Yes
1.	Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)		X
2.	GC/MS Tune Specifications		
	a. BFB Meet Criteria		X
	b. DFTPP Meet Criteria		
3.	GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series.		X
4,	GC/MS Calibration - Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of. sample analysis for 600 series and 12 hours for 8000 series.		X
5.	GC/MS Calibration - Initial Requirements		
	a. Calibration Check Compounds		X
	b. System Performance Check Compounds		
6.	Blank Contamination - If yes, list compounds and concentrations in each blank:		X
	a. VOA Fraction		
	b. B/N Fraction **bis(2-ethylhexyl)phthalate 2 ppb.**		
	c. Acid Fraction		
7.	Surrogate Recoveries Meet Criteria	X	
	If not met, list those compounds and their recoveries which fall outside the acceptable range:		
	a. VOA Fraction		
	b. B/N Fraction **85733: NBZ 14% Recovery**		
	c. Acid Fraction		
	If not met, were the calculations checked and the results qualified as "estimated"?		NA
8.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries which fall outside the acceptable range)	X	
	a. VOA Fraction		
	b. B/N Fraction		
	c. Acid Fraction **2, 4-Dimethylphenol MS=30%.**		
9.	Internal Standard Area/Retention Time Shift Meet Criteria		X

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT, cont.

		No	Yes
10.	Extraction Holding Time Met		X
	If not met, list number of days exceeded for each sample:		
11.	Analysis Holding Time Met		X
	If not met, list number of days exceeded for each sample:		

12. Definitions:
U=Not Detected. J=Detected, but below report detection limit. B=Compound found in blank. E=Estimated concentration. NA=Not Applicable

Additional Comments:

Laboratory Manager M Date: 12-3-97

EMSL

GC ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

	No	Yes
1. Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)		X
2. Standards Summary Submitted		X
3. Calibration-Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of sample analysis.		X
4. Blank Contamination - If yes, list compounds and concentrations in each blank:	X	
a. VOA Fraction		
b. B/N Fraction		
c. Acid Fraction		
d. Pesticides/PCB's		
e. Other		
5. Surrogate Recoveries Meet Criteria (If Applicable)	X	
a. VOA Fraction		
b. B/N Fraction		
c. Acid Fraction		
d. Pesticides/PCB's **Matrix spike & matrix spike dup not spiked with surrogates.**		
e. Other		
If not Met, were the calculations checked and the results qualified (if applicable)		NA
6. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (if applicable)		X
(if not met, list those compounds and their recoveries which fall outside the acceptable range)		
a. VOA Fraction		
b. B/N Fraction		
c. Acid Fraction		
d. Pesticides/PCB's		
e. Other		
7. Retention Time Shift Meet Criteria (if applicable)		X

GC ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT, cont.

		No	Yes
8.	Extraction Holding Time Met If not met, list number of days exceeded for each sample:		X
9.	Analysis Holding Time Met If not met, list number of days exceeded for each sample:		X

10. Definitions:
U=Not Detected. J=Detected, but below report detection limit. B=Compound found in blank. E=Estimated concentration. NA=Not Applicable

Additional Comments:

Laboratory Manager: [signature] Date: 12-3-97

METALS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMA

		No	Yes
1.	Calibration Summary Meet Criteria		X
2.	ICP Interference Check Sample Results Summary Submitted (if applicable) Meet Criteria		X
3.	Serial Dilution Summary Submitted (if applicable) / Meet Criteria		NA
4.	Laboratory Control Sample Summary Submitted (if applicable) / Meet Criteria		X
5.	Blank Contamination - If yes, list compounds and concentrations in each blank.	X	
6.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (if not met, list those compounds and their recoveries which fall outside the acceptable range) **Furnace: As, Se and Pb MS/MSDs outside QC limits, post-spike recoveries for all elements are within limits.**	X	
7.	Extraction Holding Time Met If not met, list number of days exceeded for each sample:		X
8.	Analysis Holding Time Met If not met, list number of days exceeded for each sample:		X

9. Definitions: U=Not Detected. J=Detected, but below report detection limit. B=Compound found in blank, E=Estimated concentration. NA=Not Applicable

Additional Comments: _____

Laboratory Manager: M Date: 12-3-97

PHC ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		No	Yes
1.	Blank Contamination - If yes, list the sample and the corresponding concentration in each blank:	X	
2.	Matrix Spike Duplicate Recoveries Meet Criteria (if not met, list the sample and corresponding recovery which falls outside the acceptable range)		X
3.	IR Spectra submitted for all standards, blanks & samples		X
4.	Chromatograms submitted for all standards, blanks, & samples if GC finger-printing was conducted		NA
5.	Extraction Holding Time Met		X
	If not met, list number of days exceeded for each sample:		
6.	Analysis Holding Time Met		X
	If not met, list number of days exceeded for each sample:		

7. Definitions: U=Not Detected. J=Detected, but below report detection limit. B=Compound found in blank. E=Estimated concentration. NA=Not Applicable

Additional Comments: _____

Laboratory Manager: _____ Date: 12-3-97

GC/MS VOLATILE ORGANIC DATA PACKAGE

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)
EPA 624

Lab Name: EMSL ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Lab File ID: C9557.D BFB Injection Date: 11/09/97

Instrument ID: 5972-INSTRUMENT 1 BFB Injection Time: 2308

GC Column RTX-62 ID: 0.53 (mm) Heated Purge: (Y / N) _____

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	24.1
75	30.0 - 60.0% of mass 95	51.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	77.2
175	5.0 - 9.0% of mass 174	6.6 (8.6)1
176	95.0 - 101.0% of mass 174	75.0 (97.2)1
177	5.0 - 9.0% of mass 176	4.8 (6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

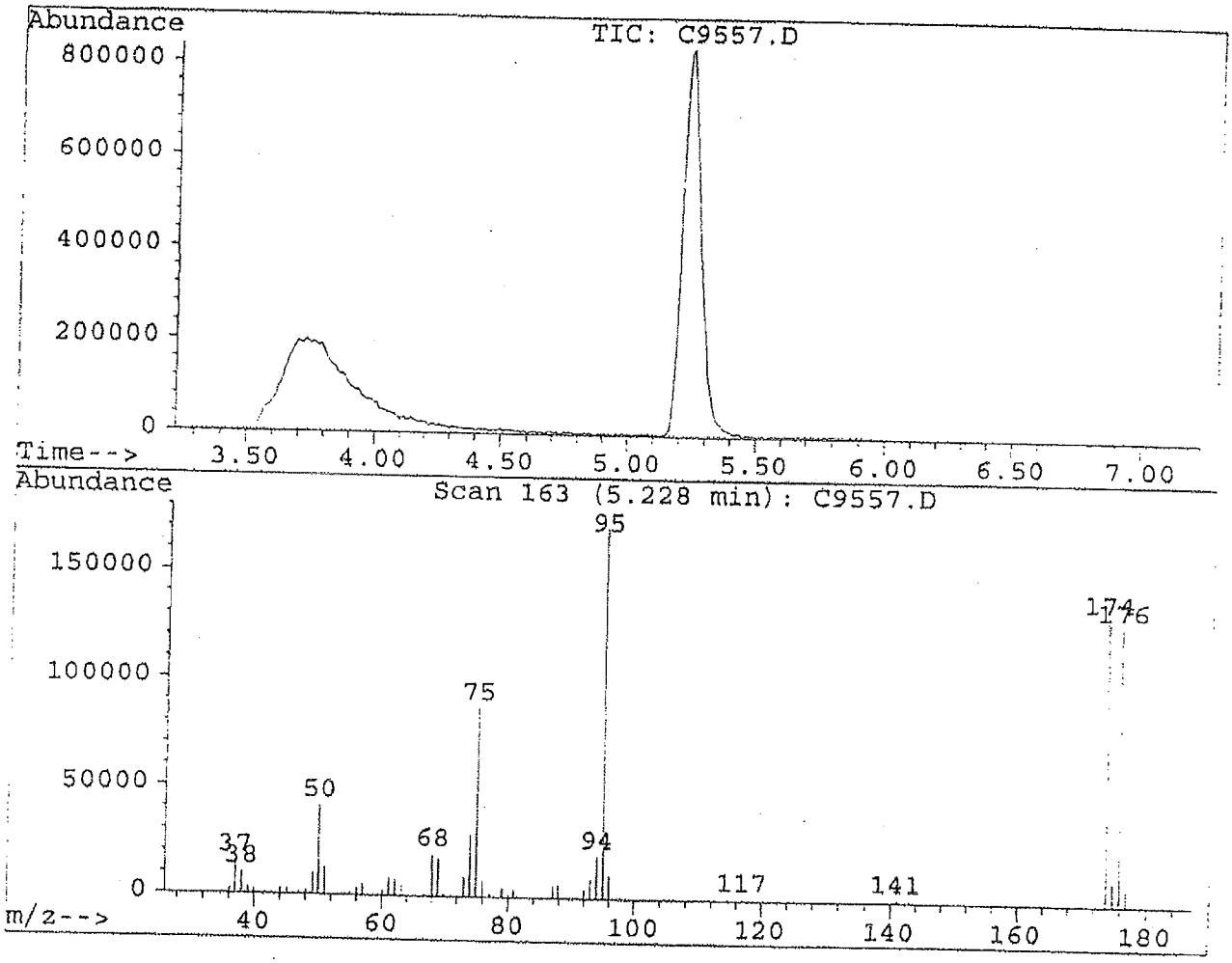
	CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		1 PPB STANDARD	C9558.D	11/09/97	2331
02		5 PPB STANDARD	C9559.D	11/10/97	0008
03		20 PPB STANDARD	C9560.D	11/10/97	0044
04		100 PPB STANDARD	C9561.D	11/10/97	0121
05		150 PPB STANDARD	C9562.D	11/10/97	0158
06		200 PPB STANDARD	C9563.D	11/10/97	0235
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

CLPBFB

Data File : C:\HPCHEM\1\DATA\C9557.D
Acq On : 9 Nov 97 11:08 pm
Sample : BFB TUNE
Misc : 50 NG INJECTION

Vial: 2
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\110997W.M
Title : VOA Standards for 5 point calibration



Peak Apex is scan: 163

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.1	41312	PASS
75	95	30	60	51.0	87520	PASS
95	95	100	100	100.0	171648	PASS
96	95	5	9	6.2	10572	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	77.2	132544	PASS
175	174	5	9	8.6	11375	PASS
176	174	95	101	97.2	128872	PASS
177	176	5	9	6.4	8195	PASS

C9557.D 110997W.M Mon Nov 10 12:08:51 1997 VOA1

can 163 (5.228 min): C9557.D
BFB TUNE

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	2722	51.00	12488	69.90	1150	90.90	1439
36.95	15176	54.95	1130	73.10	8946	92.00	4330
37.95	10236	55.95	3136	74.00	28728	93.00	8965
38.95	3555	56.95	5115	75.00	87520	94.00	19416
39.85	2374	60.05	2171	76.00	7593	95.00	171648
44.00	2634	60.95	7977	77.15	1586	96.00	10572
45.10	2651	61.95	7494	78.95	4248	116.90	1164
47.00	1783	63.05	5122	79.95	1338	140.90	1371
48.10	1854	66.70	1043	80.85	3875	142.90	1321
49.10	10083	68.10	19328	86.95	5894	173.90	132544
50.00	41312	69.00	17208	87.85	5976	174.95	11375

can 163 (5.228 min): C9557.D
BFB TUNE

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
175.95	128872						
176.95	8195						

Response Factor Report 5972 - In

Method : C:\HPCHEM\1\METHODS\110997W.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Initial Calibration

Calibration Files
1 =C9558.D 5 =C9559.D 20 =C9560.D
100 =C9561.D 150 =C9562.D 200 =C9563.D

		Compound	1	5	20	100	150	200	Avg	%RSD
1)	I	Bromochloromethane	ISTD							
2)	M	Dichlorodifluoromet	1.325	1.742	1.722	1.179	1.139	1.349	1.410	18.66
3)	PM	Chloromethane		0.479	0.397	0.387	0.406	0.470	0.428	10.17
4)	CM	Vinyl chloride	0.653	0.858	0.870	0.733	0.696	0.794	0.767	11.48
5)	TM	Bromomethane		0.695	0.551	0.602	0.630	0.738	0.643	11.56
6)	M	Chloroethane		0.499	0.528	0.472	0.427	0.467	0.479	7.88
7)	M	Trichlorofluorometh	2.184	2.511	2.550	2.179	2.089	2.285	2.299	8.25
8)	T	Acrolein	0.020	0.019	0.020	0.024	0.027		0.022	13.97
9)	MC	1,1-Dichloroethene	0.924	0.924	0.933	0.858	0.826	0.897	0.894	4.83
10)	T	Acetone			0.530	0.330	0.323	0.295	0.369	29.25
11)	T	Carbon disulfide	2.295	2.337	2.460	2.192	2.086	2.271	2.274	5.61
12)	M	Methylene chloride			1.664	1.327	1.275	1.310	1.394	13.01
13)	T	Acrylonitrile			0.144	0.155	0.142	0.141	0.146	4.35
14)	M	trans-1,2-Dichloroe	0.765	0.966	1.014	0.970	0.925	0.982	0.937	9.48
15)	M	Methyl-tert butyl e	2.997	2.542	2.574	2.589	2.465	2.466	2.606	7.63
16)	T	tert-Butyl Alcohol		0.060	0.063	0.068	0.063	0.061	0.063	4.97
17)	PM	1,1-Dichloroethane	1.798	1.947	1.971	1.977	1.915	1.955	1.927	3.47
	T	cis-1,2-Dichloroeth	0.965	1.073	1.123	1.135	1.095	1.109	1.083	5.70
19)	T	2-Butanone		0.574	0.510	0.416	0.402	0.371	0.455	18.57
20)	M	Chloroform	2.182	2.276	2.356	2.308	2.203	2.259	2.264	2.85
21)	M	1,1,1-Trichloroetha	2.091	2.157	2.267	2.220	2.137	2.163	2.172	2.86
22)	M	Carbon tetrachlorid	1.798	2.001	2.139	2.065	1.975	2.029	2.001	5.74
23)	S	1,2-Dichloroethane-	1.416	1.437	1.458	1.342	1.356	1.343	1.392	3.69
24)	M	Benzene	3.162	3.246	3.257	3.172	3.060	3.110	3.168	2.41
25)	M	1,2-Dichloroethane	1.550	1.517	1.640	1.663	1.594	1.606	1.595	3.42
26)	I	1,4-Difluorobenzene	ISTD							
27)	M	Trichloroethene	0.336	0.377	0.392	0.396	0.382	0.383	0.378	5.76
28)	CM	1,2-Dichloropropane	0.270	0.271	0.286	0.308	0.300	0.297	0.289	5.39
29)	M	Bromodichloromethan	0.482	0.531	0.578	0.621	0.606	0.597	0.569	9.28
30)	M	2-Chloroethyl vinyl	0.109	0.109	0.121	0.136	0.131		0.121	10.11
31)	M	cis-1,3-Dichloropro	0.403	0.420	0.469	0.509	0.494	0.482	0.463	9.08
32)	T	4-Methyl-2-pentanon	0.241	0.276	0.271	0.278	0.266	0.243	0.262	6.29
33)	S	Toluene-d8	0.930	0.936	0.951	0.953	0.947	0.953	0.945	1.02
34)	MC	Toluene	0.560	0.545	0.584	0.595	0.579	0.576	0.573	3.08
35)	M	trans-1,3-Dichlorop	0.366	0.398	0.445	0.485	0.468	0.449	0.435	10.27
36)	M	1,1,2-Trichloroetha	0.237	0.256	0.272	0.295	0.287	0.279	0.271	7.83
37)	T	2-Hexanone	0.212	0.180	0.192	0.187	0.183	0.160	0.185	9.24
38)	M	Tetrachloroethene	0.333	0.346	0.358	0.362	0.348	0.348	0.349	2.90
39)	M	Dibromochloromethan	0.401	0.453	0.488	0.544	0.527	0.520	0.489	10.96
41)	I	Chlorobenzene-d5	ISTD							
	MP	Chlorobenzene	0.920	0.889	0.933	0.969	0.947	0.925	0.931	2.88
	T	1,1,1,2-Tetrachloro	0.405	0.449	0.472	0.499	0.486	0.476	0.464	7.17
	CM	Ethylbenzene	1.421	1.429	1.533	1.534	1.503	1.471	1.482	3.36
45)	M	Xylene (para & meta	1.210	1.200	1.258	1.265	1.227	1.194	1.226	2.42
46)	M	Xylene (ortho)	1.066	1.069	1.180	1.190	1.165	1.142	1.135	4.83
47)	T	Styrene	0.844	0.899	0.981	1.041	1.023	0.991	0.963	7.91
48)	PM	Bromoform	0.316	0.373	0.435	0.476	0.471	0.453	0.421	15.07

49)	S	4-Bromofluorobenzen	0.738	0.758	0.759	0.771	0.768	0.783	0.763	2.00
50)	PM	1,1,2,2-Tetrachloro	0.436	0.450	0.496	0.534	0.515	0.499	0.488	7.76
51)	M	1,3-Dichlorobenzene	0.807	0.754	0.833	0.887	0.877	0.844	0.834	5.84
52)	M	1,4-Dichlorobenzene	0.881	0.947	1.000	1.031	1.019	0.970	0.975	5.67
53)	M	1,2-Dichlorobenzene	0.737	0.789	0.867	0.906	0.881	0.855	0.839	7.58

* = Out of Range

Quantitation Report

Data File : C:\HPCHEM\1\DATA\C9558.D
Acq On : 9 Nov 97 11:31 pm
Sample : 1 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 11:50 1997

Vial: 3
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	11.70	130	545886	30.00	ug/l		0.16
26) 1,4-Difluorobenzene	13.39	114	2230568	30.00	ug/l		0.16
41) Chlorobenzene-d5	18.34	117	1891165	30.00	ug/l		0.16
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	12.72	65	773151	29.01	ug/l		96.70%
33) Toluene-d8	15.80	98	2074026	30.26	ug/l		100.86%
49) 4-Bromofluorobenzene	20.42	95	1394930	29.63	ug/l		98.77%
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.02	85	24115	0.83	ug/l	#	88
3) Chloromethane	4.56	50	16397	1.57	ug/l	m	38
4) Vinyl chloride	4.81	62	11885	0.84	ug/l		94
5) Bromomethane	5.69	94	18379	1.69	ug/l	m	95
6) Chloroethane	5.97	64	5529	0.63	ug/l	m	74
7) Trichlorofluoromethane	6.52	101	39741	0.89	ug/l		97
8) Acrolein	7.69	56	15268	15.68	ug/l		100
9) 1,1-Dichloroethene	7.74	96	16812	0.99	ug/l	#	88
10) Acetone	8.02	43	34675	8.12	ug/l		100
11) Carbon disulfide	8.18	76	41764	0.98	ug/l		100
12) Methylene chloride	8.90	49	82707	3.13	ug/l		99
14) trans-1,2-Dichloroethene	9.33	96	13928	0.78	ug/l	#	78
15) Methyl-tert butyl ether	9.29	73	54535	1.04	ug/l		96
16) tert-Butyl Alcohol	9.15	59	1860	1.36	ug/l		100
17) 1,1-Dichloroethane	10.20	63	32720	0.91	ug/l		85
18) cis-1,2-Dichloroethene	11.28	96	17565	0.89	ug/l	#	90
20) Chloroform	11.83	83	39712	0.90	ug/l		94
21) 1,1,1-Trichloroethane	12.08	97	38050	0.87	ug/l		79
22) Carbon tetrachloride	12.31	117	32715	0.83	ug/l	#	73
24) Benzene	12.70	78	57545	1.01	ug/l		100
25) 1,2-Dichloroethane	12.88	62	28213	0.89	ug/l		91
27) Trichloroethene	13.77	130	24972	0.84	ug/l	#	78
28) 1,2-Dichloropropane	14.25	63	20089	0.97	ug/l		91
29) Bromodichloromethane	14.68	83	35839	0.81	ug/l		83
30) 2-Chloroethyl vinyl ether	15.18	63	8119	0.81	ug/l		75
31) cis-1,3-Dichloropropene	15.44	75	29997	0.83	ug/l		88
32) 4-Methyl-2-pentanone	15.66	43	17915	0.85	ug/l		89
34) Toluene	15.92	92	41609	0.96	ug/l		88
35) trans-1,3-Dichloropropene	16.40	75	27227	0.77	ug/l	#	48
36) 1,1,2-Trichloroethane	16.73	97	17641	0.86	ug/l		85
37) 2-Hexanone	17.08	43	15792	1.24	ug/l		85
38) Tetrachloroethene	16.82	164	24782	0.91	ug/l		93
39) Dibromochloromethane	17.37	129	29848	0.78	ug/l		85
42) Chlorobenzene	18.39	112	57997	0.98	ug/l		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\C9558.D
Acq On : 9 Nov 97 11:31 pm
Sample : 1 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 11:50 1997

Vial: 3
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration

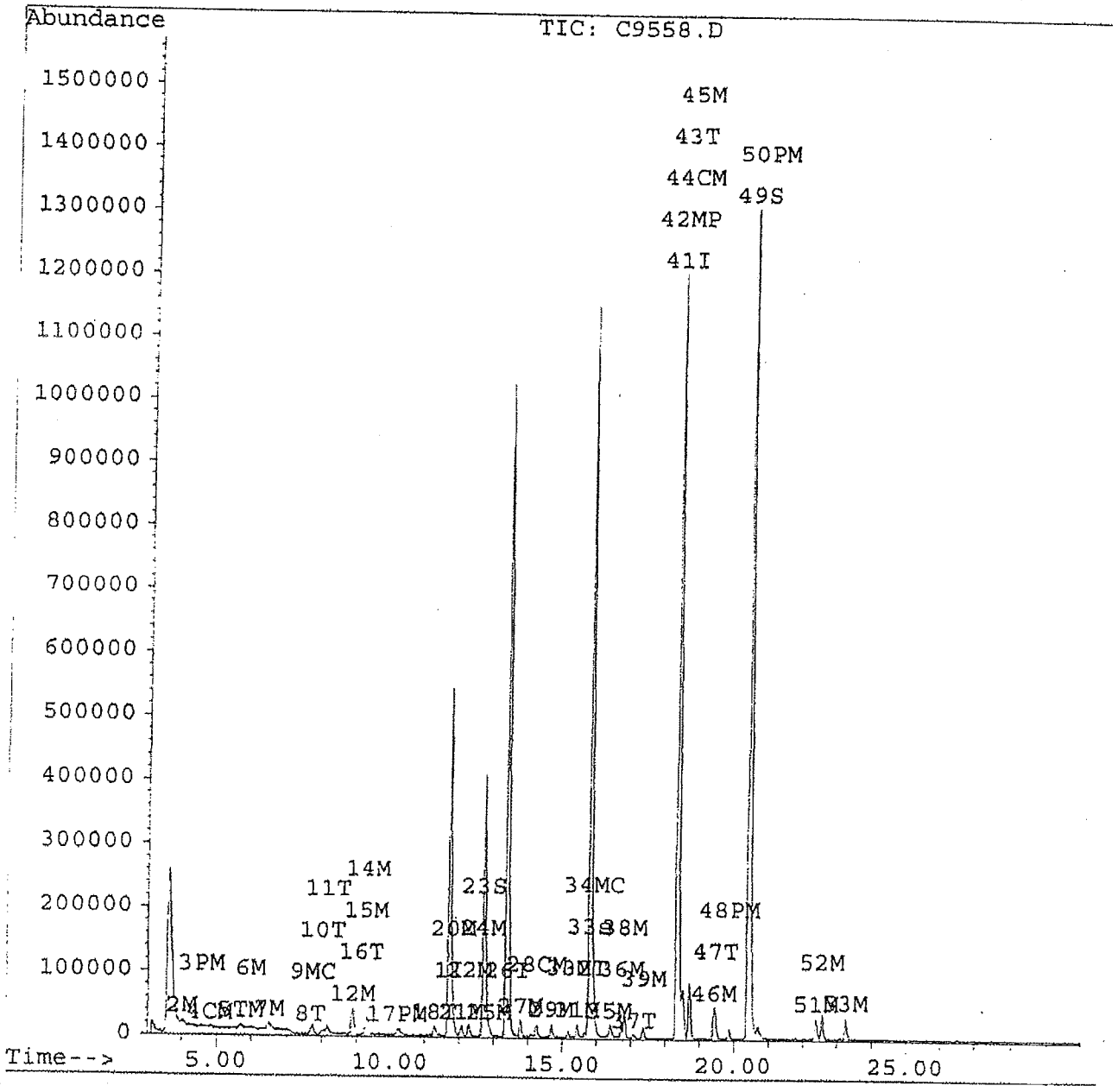
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) 1,1,1,2-Tetrachloroethane	18.53	131	25547	0.85	ug/l	83
44) Ethylbenzene	18.51	91	89588	0.92	ug/l	93
45) Xylene (para & meta)	18.71	91	152567	1.88	ug/l	100
46) Xylene (ortho)	19.42	91	67211	0.89	ug/l	86
47) Styrene	19.47	104	53214	0.86	ug/l	93
48) Bromoform	19.86	173	19906	0.68	ug/l	82
50) 1,1,2,2-Tetrachloroethane	20.70	83	27462	0.87	ug/l	83
51) 1,3-Dichlorobenzene	22.39	146	50899	0.93	ug/l	92
52) 1,4-Dichlorobenzene	22.56	146	55560	0.87	ug/l	99
53) 1,2-Dichlorobenzene	23.25	146	46473	0.83	ug/l	99

Quantitation Report

Data File : C:\HPCHEM\1\DATA\C9558.D
Acq On : 9 Nov 97 11:31 pm
Sample : 1 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 11:50 1997

Vial: 3
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data\c9559.d
Acq On : 10 Nov 97 12:08 am
Sample : 5 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 11:54 1997

Vial: 4
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	11.73	130	514237	30.00	ug/l		0.19
26) 1,4-Difluorobenzene	13.41	114	2150426	30.00	ug/l		0.18
41) Chlorobenzene-d5	18.34	117	1786626	30.00	ug/l		0.16
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	12.74	65	738942	29.43	ug/l		98.10%
33) Toluene-d8	15.81	98	2012570	30.46	ug/l		101.52%
49) 4-Bromofluorobenzene	20.42	95	1353401	30.43	ug/l		101.44%
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.06	85	149333	5.45	ug/l	#	85
3) Chloromethane	4.61	50	41059	4.18	ug/l	m	86
4) Vinyl chloride	4.86	62	73536	5.51	ug/l		93
5) Bromomethane	5.72	94	59584	5.83	ug/l	m	74
6) Chloroethane	5.98	64	42770	5.19	ug/l	m	87
7) Trichlorofluoromethane	6.54	101	215181	5.12	ug/l		99
8) Acrolein	7.71	56	30864	33.64	ug/l		100
9) 1,1-Dichloroethene	7.76	96	79186	4.96	ug/l	#	87
10) Acetone	8.06	43	76297	18.97	ug/l		100
11) Carbon disulfide	8.20	76	200316	4.98	ug/l		100
12) Methylene chloride	8.91	49	232452	9.35	ug/l		98
13) Acrylonitrile	9.56	53	7447	3.04	ug/l		100
14) trans-1,2-Dichloroethene	9.35	96	82774	4.89	ug/l		98
15) Methyl-tert butyl ether	9.31	73	217853	4.43	ug/l		97
16) tert-Butyl Alcohol	9.17	59	23189	18.04	ug/l		100
17) 1,1-Dichloroethane	10.24	63	166867	4.90	ug/l		98
18) cis-1,2-Dichloroethene	11.30	96	91922	4.93	ug/l		97
19) 2-Butanone	11.36	43	49199	7.73	ug/l		89
20) Chloroform	11.84	83	195059	4.70	ug/l		98
21) 1,1,1-Trichloroethane	12.08	97	184843	4.47	ug/l		93
22) Carbon tetrachloride	12.31	117	171491	4.60	ug/l		96
24) Benzene	12.70	78	278237	5.20	ug/l		100
25) 1,2-Dichloroethane	12.87	62	129989	4.34	ug/l		98
27) Trichloroethene	13.78	130	135016	4.70	ug/l		91
28) 1,2-Dichloropropane	14.26	63	97132	4.85	ug/l		96
29) Bromodichloromethane	14.70	83	190374	4.44	ug/l		87
30) 2-Chloroethyl vinyl ether	15.19	63	39187	4.05	ug/l		75
31) cis-1,3-Dichloropropene	15.44	75	150697	4.31	ug/l		83
32) 4-Methyl-2-pentanone	15.67	43	98914	4.85	ug/l		89
34) Toluene	15.93	92	195507	4.67	ug/l		91
35) trans-1,3-Dichloropropene	16.41	75	142757	4.20	ug/l		92
36) 1,1,2-Trichloroethane	16.72	97	91786	4.62	ug/l		97
37) 2-Hexanone	17.09	43	64376	5.24	ug/l		85
38) Tetrachloroethene	16.82	164	123952	4.72	ug/l		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9559.d
Acq On : 10 Nov 97 12:08 am
Sample : 5 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 11:54 1997

Vial: 4
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) Dibromochloromethane	17.37	129	162484	4.39 ug/l		87
42) Chlorobenzene	18.39	112	264811	4.73 ug/l		94
43) 1,1,1,2-Tetrachloroethane	18.53	131	133731	4.69 ug/l		98
44) Ethylbenzene	18.50	91	425520	4.64 ug/l		95
45) Xylene (para & meta)	18.71	91	714865	9.34 ug/l		98
46) Xylene (ortho)	19.42	91	318359	4.46 ug/l		95
47) Styrene	19.48	104	267750	4.56 ug/l		89
48) Bromoform	19.87	173	111178	4.02 ug/l		100
50) 1,1,2,2-Tetrachloroethane	20.70	83	133970	4.50 ug/l		97
51) 1,3-Dichlorobenzene	22.40	146	224561	4.34 ug/l		99
52) 1,4-Dichlorobenzene	22.56	146	282018	4.69 ug/l	m	99
53) 1,2-Dichlorobenzene	23.27	146	234862	4.45 ug/l		91

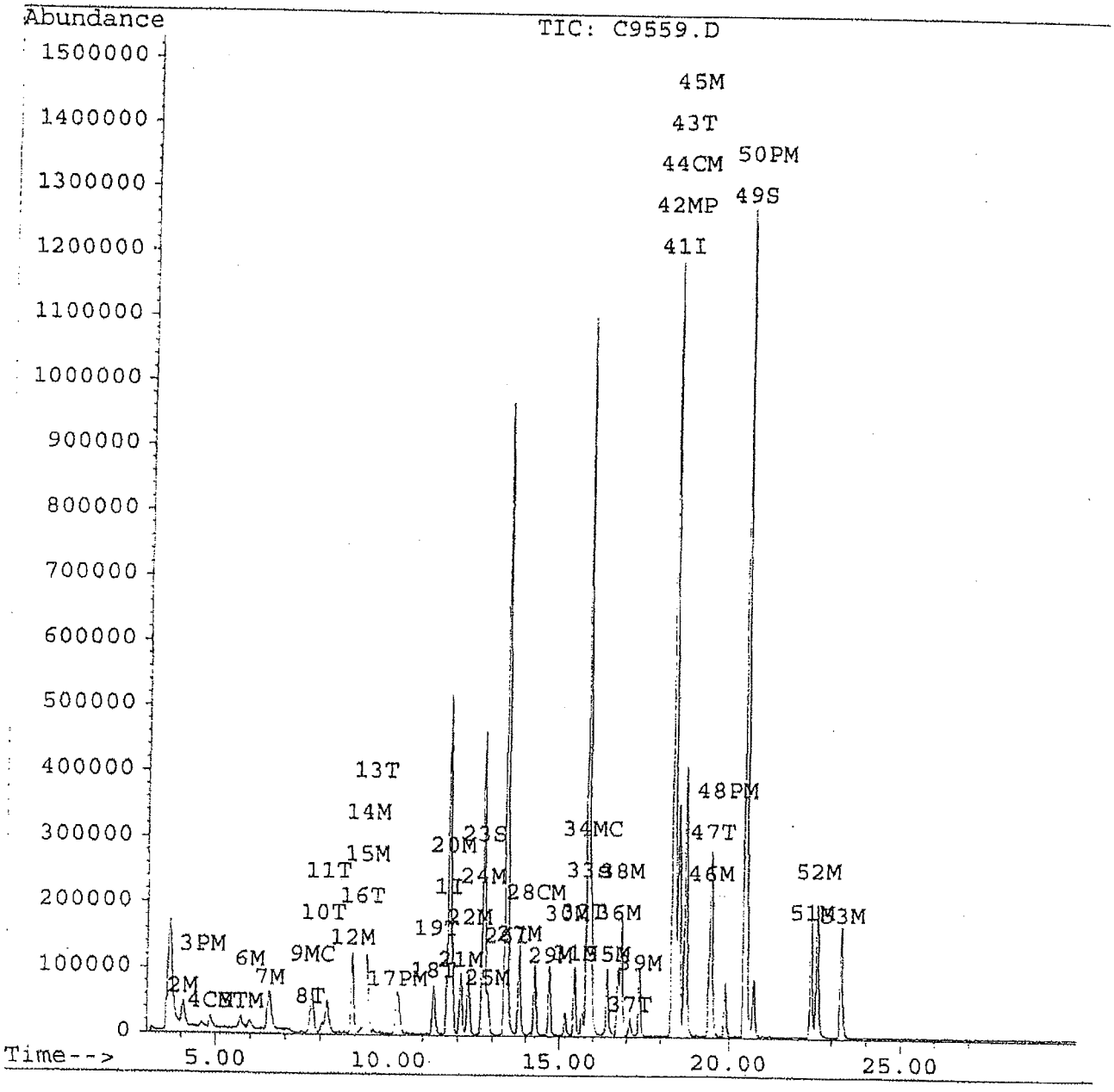
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9559.d
Acq On : 10 Nov 97 12:08 am
Sample : 5 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 11:54 1997

Vial: 4
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data\c9560.d
Acq On : 10 Nov 97 12:44 am
Sample : 20 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 11:57 1997

Vial: 5
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	11.73	130	538077	30.00	ug/l		0.19
26) 1,4-Difluorobenzene	13.41	114	2188865	30.00	ug/l		0.18
41) Chlorobenzene-d5	18.35	117	1794299	30.00	ug/l		0.17
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	12.74	65	784320	29.85	ug/l		99.52%
33) Toluene-d8	15.82	98	2081544	30.95	ug/l		103.15%
49) 4-Bromofluorobenzene	20.42	95	1362699	30.51	ug/l		101.70%
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.06	85	617815	21.57	ug/l		99
3) Chloromethane	4.62	50	142398	13.87	ug/l		79
4) Vinyl chloride	4.87	62	312174	22.34	ug/l		100
5) Bromomethane	5.71	94	197623	18.48	ug/l		95
6) Chloroethane	5.95	64	189482	21.96	ug/l		93
7) Trichlorofluoromethane	6.54	101	914715	20.80	ug/l		97
8) Acrolein	7.71	56	65603	68.34	ug/l		100
9) 1,1-Dichloroethene	7.77	96	334756	20.05	ug/l		92
10) Acetone	8.06	43	190124	45.17	ug/l		91
11) Carbon disulfide	8.20	76	882523	20.95	ug/l		100
12) Methylene chloride	8.91	49	596838	22.94	ug/l		96
13) Acrylonitrile	9.57	53	51644	20.17	ug/l		100
14) trans-1,2-Dichloroethene	9.35	96	363704	20.53	ug/l		98
15) Methyl-tert butyl ether	9.32	73	923427	17.95	ug/l		96
16) tert-Butyl Alcohol	9.18	59	101903	75.78	ug/l	m	100
17) 1,1-Dichloroethane	10.24	63	706914	19.86	ug/l		95
18) cis-1,2-Dichloroethene	11.31	96	402671	20.65	ug/l		98
19) 2-Butanone	11.36	43	182989	27.48	ug/l		97
20) Chloroform	11.84	83	845012	19.44	ug/l		95
21) 1,1,1-Trichloroethane	12.09	97	813078	18.79	ug/l		99
22) Carbon tetrachloride	12.31	117	767451	19.69	ug/l		99
24) Benzene	12.72	78	1168297	20.87	ug/l		100
25) 1,2-Dichloroethane	12.88	62	588185	18.78	ug/l		95
27) Trichloroethene	13.81	130	572516	19.56	ug/l		92
28) 1,2-Dichloropropane	14.26	63	417684	20.47	ug/l		98
29) Bromodichloromethane	14.70	83	843789	19.32	ug/l		95
30) 2-Chloroethyl vinyl ether	15.18	63	176681	17.93	ug/l		99
31) cis-1,3-Dichloropropene	15.45	75	684663	19.25	ug/l		100
32) 4-Methyl-2-pentanone	15.67	43	395150	19.02	ug/l		98
34) Toluene	15.94	92	852042	20.00	ug/l		99
35) trans-1,3-Dichloropropene	16.42	75	649934	18.78	ug/l		96
36) 1,1,2-Trichloroethane	16.73	97	396837	19.63	ug/l		92
37) 2-Hexanone	17.08	43	279450	22.36	ug/l		100
38) Tetrachloroethene	16.82	164	522243	19.55	ug/l		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9560.d
Acq On : 10 Nov 97 12:44 am
Sample : 20 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 11:57 1997

Vial: 5
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) Dibromochloromethane	17.37	129	712423	18.90	ug/l		96
42) Chlorobenzene	18.40	112	1116420	19.86	ug/l		95
43) 1,1,1,2-Tetrachloroethane	18.53	131	564461	19.69	ug/l		100
44) Ethylbenzene	18.51	91	1833549	19.93	ug/l		96
45) Xylene (para & meta)	18.72	91	3008921	39.14	ug/l		99
46) Xylene (ortho)	19.43	91	1411547	19.69	ug/l		99
47) Styrene	19.48	104	1172905	19.88	ug/l		98
48) Bromoform	19.88	173	520574	18.74	ug/l		97
50) 1,1,2,2-Tetrachloroethane	20.70	83	593106	19.83	ug/l		96
51) 1,3-Dichlorobenzene	22.39	146	996012	19.18	ug/l		99
52) 1,4-Dichlorobenzene	22.57	146	1196594	19.82	ug/l	m	98
53) 1,2-Dichlorobenzene	23.26	146	1037673	19.59	ug/l		97

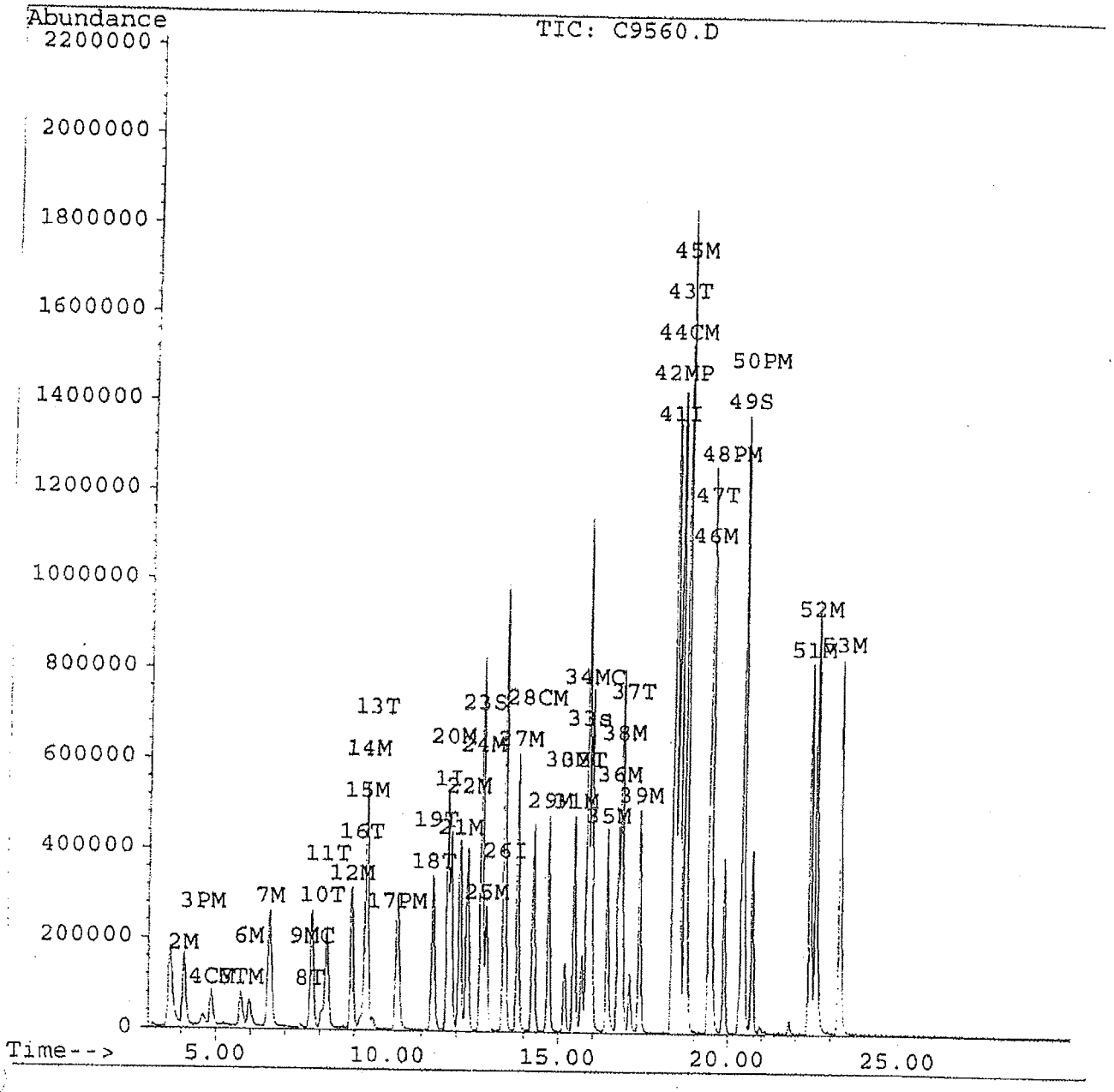
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9560.d
Acq On : 10 Nov 97 12:44 am
Sample : 20 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 11:57 1997

Vial: 5 126
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data\c9561.d
Acq On : 10 Nov 97 1:21 am
Sample : 100 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 11:59 1997

Vial: 6
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	11.73	130	552384	30.00	ug/l		0.19
26) 1,4-Difluorobenzene	13.41	114	2137299	30.00	ug/l		0.18
41) Chlorobenzene-d5	18.35	117	1778259	30.00	ug/l		0.17
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	12.74	65	741024	27.48	ug/l		91.59%
33) Toluene-d8	15.82	98	2035792	31.00	ug/l		103.32%
49) 4-Bromofluorobenzene	20.42	95	1371098	30.97	ug/l		103.25%
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.07	85	2170443	73.80	ug/l		100
3) Chloromethane	4.62	50	711691	67.52	ug/l		92
4) Vinyl chloride	4.87	62	1350556	94.15	ug/l		93
5) Bromomethane	5.71	94	1107911	100.89	ug/l		80
6) Chloroethane	5.95	64	868919	98.08	ug/l		100
7) Trichlorofluoromethane	6.53	101	4011280	88.85	ug/l		98
8) Acrolein	7.73	56	130149	132.07	ug/l		100
9) 1,1-Dichloroethene	7.77	96	1580089	92.18	ug/l		95
10) Acetone	8.05	43	607449	140.59	ug/l		97
11) Carbon disulfide	8.20	76	4035964	93.32	ug/l		100
12) Methylene chloride	8.90	49	2443006	91.46	ug/l		98
13) Acrylonitrile	9.55	53	285477	108.61	ug/l		100
14) trans-1,2-Dichloroethene	9.36	96	1785673	98.21	ug/l		99
15) Methyl-tert butyl ether	9.32	73	4767559	90.27	ug/l		100
16) tert-Butyl Alcohol	9.17	59	568716	411.96	ug/l	m	100
17) 1,1-Dichloroethane	10.25	63	3640759	99.61	ug/l		97
18) cis-1,2-Dichloroethene	11.30	96	2089762	104.39	ug/l	m	0
19) 2-Butanone	11.36	43	766051	112.04	ug/l		98
20) Chloroform	11.84	83	4249490	95.25	ug/l		99
21) 1,1,1-Trichloroethane	12.09	97	4087185	91.99	ug/l		100
22) Carbon tetrachloride	12.32	117	3802964	95.02	ug/l		97
24) Benzene	12.72	78	5840677	101.65	ug/l		100
25) 1,2-Dichloroethane	12.88	62	3062517	95.26	ug/l		99
27) Trichloroethene	13.81	130	2824673	98.86	ug/l		96
28) 1,2-Dichloropropane	14.26	63	2191275	110.00	ug/l		99
29) Bromodichloromethane	14.70	83	4426011	103.80	ug/l		97
30) 2-Chloroethyl vinyl ether	15.18	63	969282	100.73	ug/l		96
31) cis-1,3-Dichloropropene	15.44	75	3623391	104.34	ug/l		96
32) 4-Methyl-2-pentanone	15.67	43	1983530	97.79	ug/l		97
34) Toluene	15.94	92	4235714	101.83	ug/l		99
35) trans-1,3-Dichloropropene	16.41	75	3454852	102.22	ug/l		100
36) 1,1,2-Trichloroethane	16.73	97	2100132	106.38	ug/l		94
37) 2-Hexanone	17.07	43	1331024	109.08	ug/l		97
38) Tetrachloroethene	16.82	164	2580687	98.91	ug/l		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9561.d
Acq On : 10 Nov 97 1:21 am
Sample : 100 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 11:59 1997

Vial: 6
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration

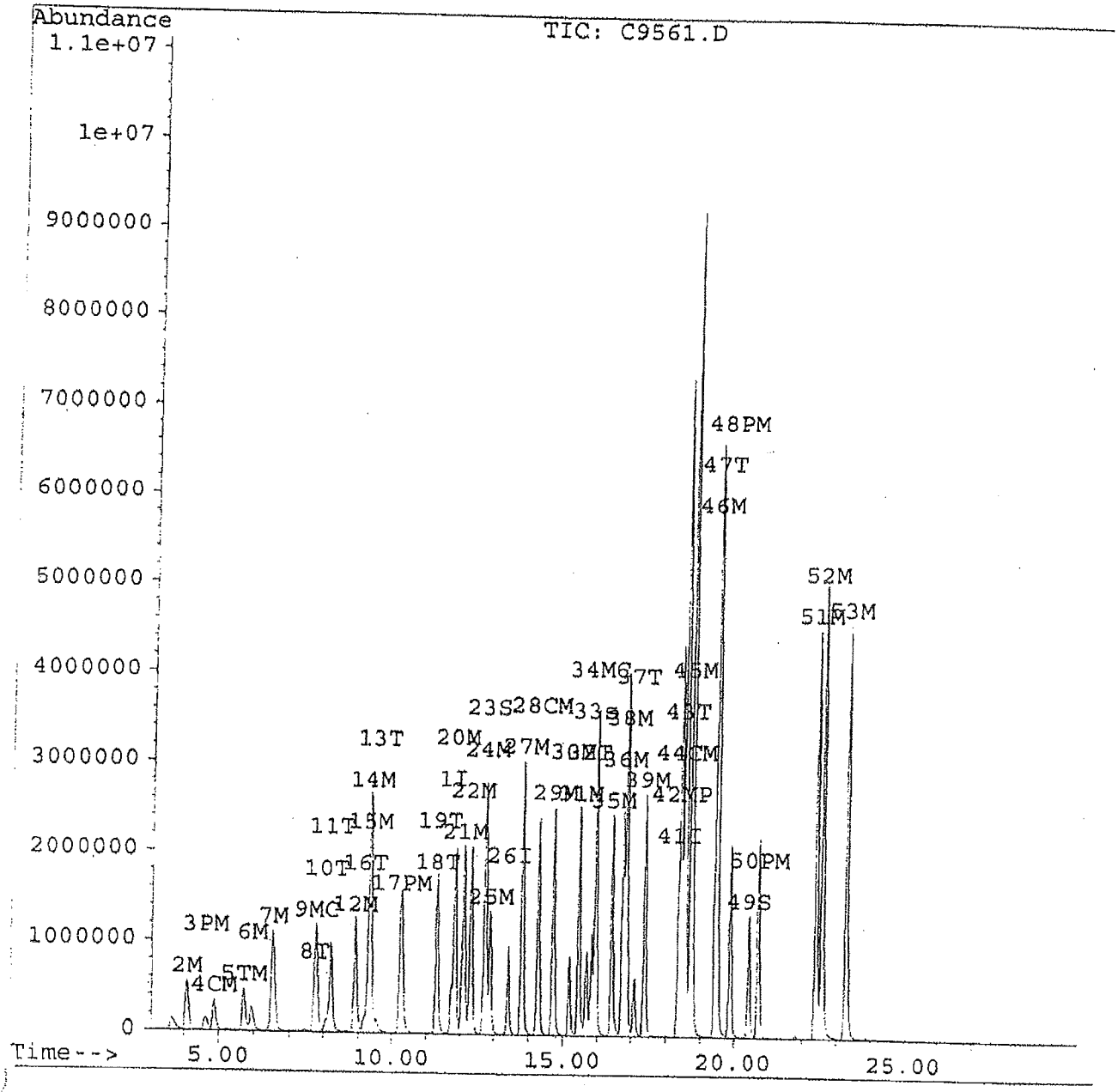
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Dibromochloromethane	17.37	129	3876340	105.33 ug/l	100
42) Chlorobenzene	18.39	112	5743122	103.10 ug/l	98
43) 1,1,1,2-Tetrachloroethane	18.54	131	2956233	104.06 ug/l	95
44) Ethylbenzene	18.51	91	9091715	99.69 ug/l	95
45) Xylene (para & meta)	18.72	91	14992749	196.78 ug/l	96
46) Xylene (ortho)	19.43	91	7051722	99.28 ug/l	99
47) Styrene	19.48	104	6171828	105.57 ug/l	96
48) Bromoform	19.87	173	2821976	102.48 ug/l	98
50) 1,1,2,2-Tetrachloroethane	20.70	83	3164029	106.72 ug/l	98
51) 1,3-Dichlorobenzene	22.39	146	5256229	102.12 ug/l	97
52) 1,4-Dichlorobenzene	22.57	146	6112081	102.14 ug/l	99
53) 1,2-Dichlorobenzene	23.26	146	5370093	102.27 ug/l	100

Quantitation Report

Data File : c:\hpchem\1\data\c9561.d
Acq On : 10 Nov 97 1:21 am
Sample : 100 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 11:59 1997

Vial: 6
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data\c9562.d
Acq On : 10 Nov 97 1:58 am
Sample : 150 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 12:02 1997

Vial: 7
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	11.72	130	558862	30.00	ug/l		0.18
26) 1,4-Difluorobenzene	13.40	114	2144192	30.00	ug/l		0.17
41) Chlorobenzene-d5	18.34	117	1762760	30.00	ug/l		0.15
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	12.73	65	757787	27.77	ug/l		92.57%
33) Toluene-d8	15.81	98	2030176	30.81	ug/l		102.70%
49) 4-Bromofluorobenzene	20.41	95	1354111	30.86	ug/l		102.87%
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.07	85	3182237	106.95	ug/l		99
3) Chloromethane	4.60	50	1133328	106.27	ug/l		91
4) Vinyl chloride	4.85	62	1944653	133.99	ug/l		91
5) Bromomethane	5.70	94	1760190	158.43	ug/l		84
6) Chloroethane	5.92	64	1193651	133.17	ug/l		99
7) Trichlorofluoromethane	6.50	101	5836602	127.79	ug/l		96
8) Acrolein	7.72	56	222655	223.33	ug/l		100
9) 1,1-Dichloroethene	7.75	96	2306910	133.02	ug/l		96
10) Acetone	8.05	43	901288	206.18	ug/l		99
11) Carbon disulfide	8.17	76	5827717	133.19	ug/l		100
12) Methylene chloride	8.89	49	3561695	131.79	ug/l		98
13) Acrylonitrile	9.53	53	397946	149.65	ug/l		100
14) trans-1,2-Dichloroethene	9.34	96	2583360	140.43	ug/l		96
15) Methyl-tert butyl ether	9.31	73	6888890	128.92	ug/l		99
16) tert-Butyl Alcohol	9.19	59	794358	568.74	ug/l	m	100
17) 1,1-Dichloroethane	10.22	63	5351339	144.71	ug/l		96
18) cis-1,2-Dichloroethene	11.30	96	3059445	151.05	ug/l		97
19) 2-Butanone	11.35	43	1124549	162.57	ug/l	m	100
20) Chloroform	11.83	83	6156966	136.40	ug/l		99
21) 1,1,1-Trichloroethane	12.08	97	5971772	132.86	ug/l		98
22) Carbon tetrachloride	12.30	117	5517930	136.27	ug/l		99
24) Benzene	12.71	78	8550799	147.09	ug/l		100
25) 1,2-Dichloroethane	12.87	62	4453622	136.93	ug/l		97
27) Trichloroethene	13.79	130	4095882	142.89	ug/l		97
28) 1,2-Dichloropropane	14.25	63	3211127	160.68	ug/l		100
29) Bromodichloromethane	14.69	83	6491715	151.76	ug/l		97
30) 2-Chloroethyl vinyl ether	15.17	63	1404423	145.48	ug/l		99
31) cis-1,3-Dichloropropene	15.44	75	5300797	152.15	ug/l		95
32) 4-Methyl-2-pentanone	15.66	43	2850934	140.10	ug/l		95
34) Toluene	15.93	92	6204982	148.70	ug/l		97
35) trans-1,3-Dichloropropene	16.41	75	5022188	148.12	ug/l		98
36) 1,1,2-Trichloroethane	16.73	97	3077195	155.37	ug/l		98
37) 2-Hexanone	17.07	43	1961640	160.25	ug/l		99
38) Tetrachloroethene	16.82	164	3729465	142.48	ug/l		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9562.d
Acq On : 10 Nov 97 1:58 am
Sample : 150 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 12:02 1997

Vial: 7
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration

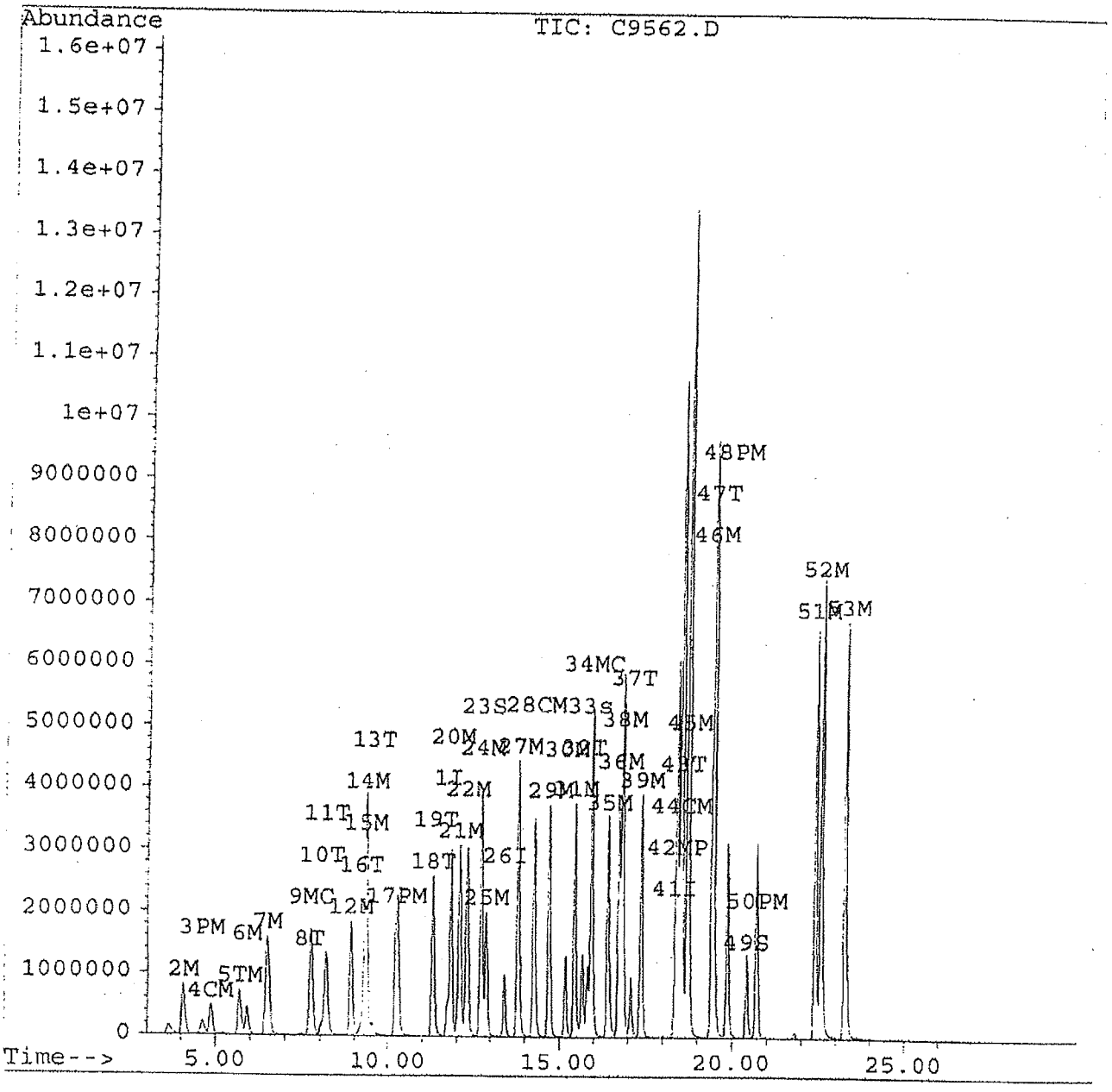
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Dibromochloromethane	17.36	129	5650281	153.05 ug/l	99
42) Chlorobenzene	18.39	112	8349006	151.19 ug/l	99
43) 1,1,1,2-Tetrachloroethane	18.54	131	4279504	151.96 ug/l	95
44) Ethylbenzene	18.50	91	13251247	146.58 ug/l	96
45) Xylene (para & meta)	18.71	91	21635688	286.46 ug/l	97
46) Xylene (ortho)	19.42	91	10268993	145.84 ug/l	99
47) Styrene	19.47	104	9016136	155.58 ug/l	98
48) Bromoform	19.87	173	4152158	152.11 ug/l	100
50) 1,1,2,2-Tetrachloroethane	20.69	83	4535091	154.31 ug/l	97
51) 1,3-Dichlorobenzene	22.38	146	7733457	151.57 ug/l	97
52) 1,4-Dichlorobenzene	22.56	146	8979443	151.38 ug/l	98
53) 1,2-Dichlorobenzene	23.25	146	7766844	149.22 ug/l	99

Quantitation Report

Data File : c:\hpchem\1\data\c9562.d
Acq On : 10 Nov 97 1:58 am
Sample : 150 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 12:02 1997

Vial: 7
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data\c9563.d
Acq On : 10 Nov 97 2:35 am
Sample : 200 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 12:04 1997

Vial: 8
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	11.73	130	534848	30.00	ug/l		0.19
26) 1,4-Difluorobenzene	13.41	114	2079245	30.00	ug/l		0.18
41) Chlorobenzene-d5	18.35	117	1720534	30.00	ug/l		0.17
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	12.74	65	718395	27.51	ug/l		91.70%
33) Toluene-d8	15.82	98	1980723	31.00	ug/l		103.33%
49) 4-Bromofluorobenzene	20.42	95	1346403	31.44	ug/l		104.79%
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.07	85	4811774	168.98	ug/l		97
3) Chloromethane	4.61	50	1676349	164.25	ug/l		98
4) Vinyl chloride	4.86	62	2830833	203.80	ug/l		95
5) Bromomethane	5.70	94	2631584	247.50	ug/l		79
6) Chloroethane	5.92	64	1666715	194.29	ug/l		97
7) Trichlorofluoromethane	6.51	101	8147209	186.38	ug/l		98
8) Acrolein	7.71	56	380667	398.96	ug/l		100
9) 1,1-Dichloroethene	7.76	96	3199095	192.75	ug/l		97
10) Acetone	8.06	43	1052992	251.70	ug/l		97
11) Carbon disulfide	8.20	76	8099164	193.41	ug/l		100
12) Methylene chloride	8.90	49	4669600	180.55	ug/l		98
13) Acrylonitrile	9.55	53	503772	197.95	ug/l		100
14) trans-1,2-Dichloroethene	9.35	96	3503237	198.99	ug/l		97
15) Methyl-tert butyl ether	9.32	73	8791670	171.91	ug/l		99
16) tert-Butyl Alcohol	9.19	59	993015	742.90	ug/l	m	100
17) 1,1-Dichloroethane	10.24	63	6969490	196.94	ug/l		99
18) cis-1,2-Dichloroethene	11.30	96	3954211	203.99	ug/l	m	0
19) 2-Butanone	11.35	43	1323258	199.89	ug/l	m	97
20) Chloroform	11.84	83	8055376	186.48	ug/l		98
21) 1,1,1-Trichloroethane	12.09	97	7710952	179.25	ug/l		98
22) Carbon tetrachloride	12.31	117	7235677	186.72	ug/l		99
24) Benzene	12.72	78	11088519	199.31	ug/l		100
25) 1,2-Dichloroethane	12.88	62	5725836	183.94	ug/l		94
27) Trichloroethene	13.80	130	5312845	191.13	ug/l		97
28) 1,2-Dichloropropane	14.26	63	4121149	212.66	ug/l		100
29) Bromodichloromethane	14.70	83	8282001	199.66	ug/l		96
30) 2-Chloroethyl vinyl ether	15.18	63	616006	65.81	ug/l		99
31) cis-1,3-Dichloropropene	15.45	75	6684374	197.86	ug/l		94
32) 4-Methyl-2-pentanone	15.67	43	3367402	170.64	ug/l		96
34) Toluene	15.94	92	7978258	197.16	ug/l		96
35) trans-1,3-Dichloropropene	16.41	75	6219316	189.16	ug/l		98
36) 1,1,2-Trichloroethane	16.73	97	3870111	201.50	ug/l		95
37) 2-Hexanone	17.07	43	2213106	186.44	ug/l		99
38) Tetrachloroethene	16.82	164	4825820	190.13	ug/l		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9563.d
Acq On : 10 Nov 97 2:35 am
Sample : 200 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 12:04 1997

Vial: 8
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Dibromochloromethane	17.37	129	7202395	201.18 ug/l	100
42) Chlorobenzene	18.40	112	10609199	196.84 ug/l	98
43) 1,1,1,2-Tetrachloroethane	18.54	131	5456253	198.50 ug/l	94
44) Ethylbenzene	18.51	91	16870566	191.20 ug/l	96
45) Xylene (para & meta)	18.72	91	27399085	371.68 ug/l	96
46) Xylene (ortho)	19.43	91	13101935	190.64 ug/l	99
47) Styrene	19.48	104	11364624	200.92 ug/l	99
48) Bromoform	19.88	173	5191983	194.87 ug/l	99
50) 1,1,2,2-Tetrachloroethane	20.70	83	5720944	199.44 ug/l	97
51) 1,3-Dichlorobenzene	22.39	146	9675212	194.28 ug/l	96
52) 1,4-Dichlorobenzene	22.57	146	11126945	192.18 ug/l	99
53) 1,2-Dichlorobenzene	23.26	146	9805651	193.01 ug/l	99

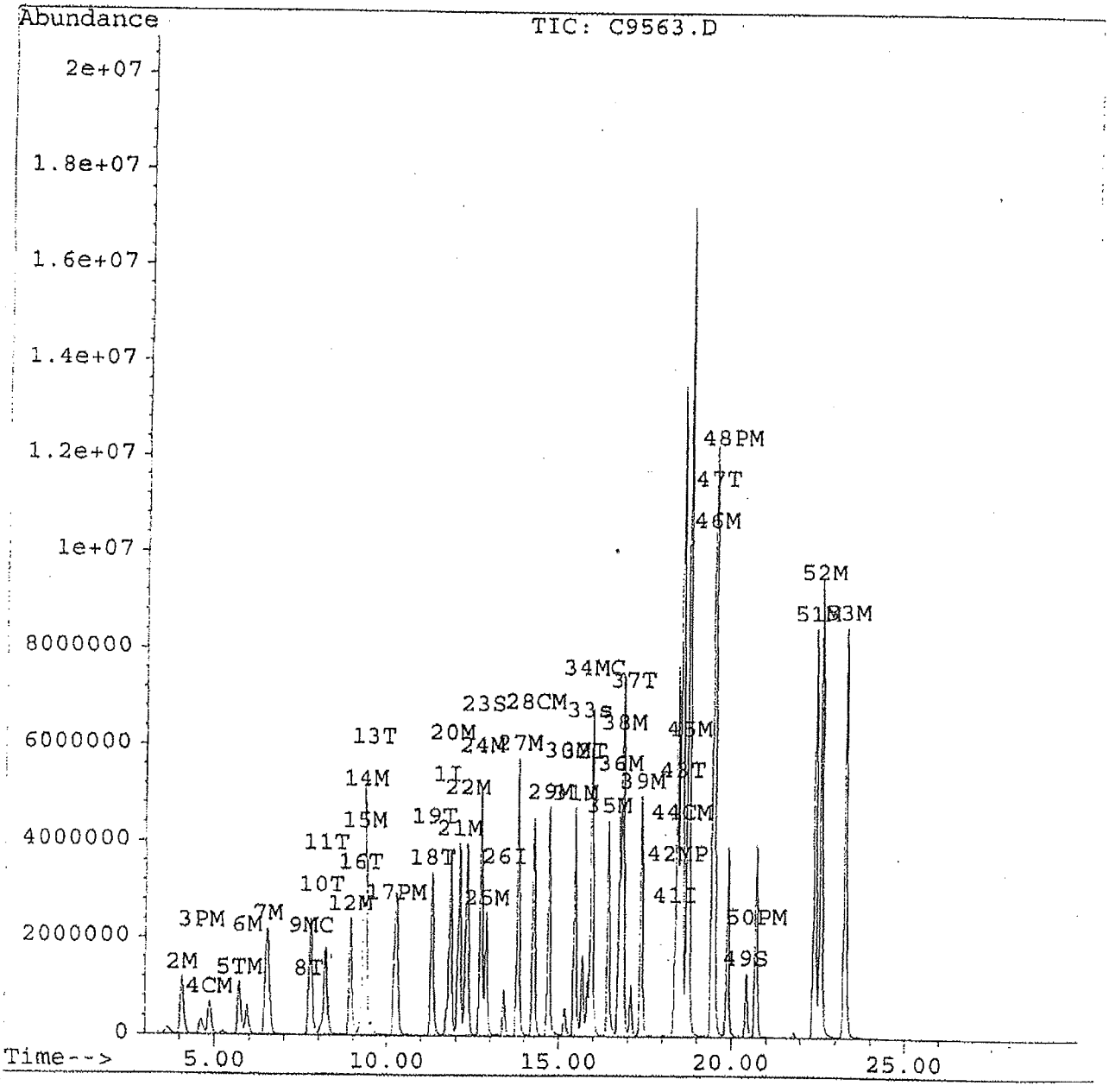
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9563.d
Acq On : 10 Nov 97 2:35 am
Sample : 200 PPB STANDARD
Misc : 5 ML
Quant Time: Nov 10 12:04 1997

Vial: 8
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Nov 10 12:23:57 1997
Response via : Multiple Level Calibration



5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

136

Lab Name : EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID: C9731.D BFB Injection Date: 11/20/97

Instrument ID: 5972-INSTRUMENT 1 BFB Injection Time: 1704

GC Column: RTX-624 X ID: 0.53 (mm) Heated Purge: (Y/N) _____

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	24.7
75	30.0 - 66.0% of mass 95	51.6
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	75.7
175	4.0 - 9.0% of mass 174	5.1 (6.7)1
176	93.0 - 101.0% of mass 174	74.6 (98.6)1
177	5.0 - 9.0% of mass 176	4.3 (5.7)2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

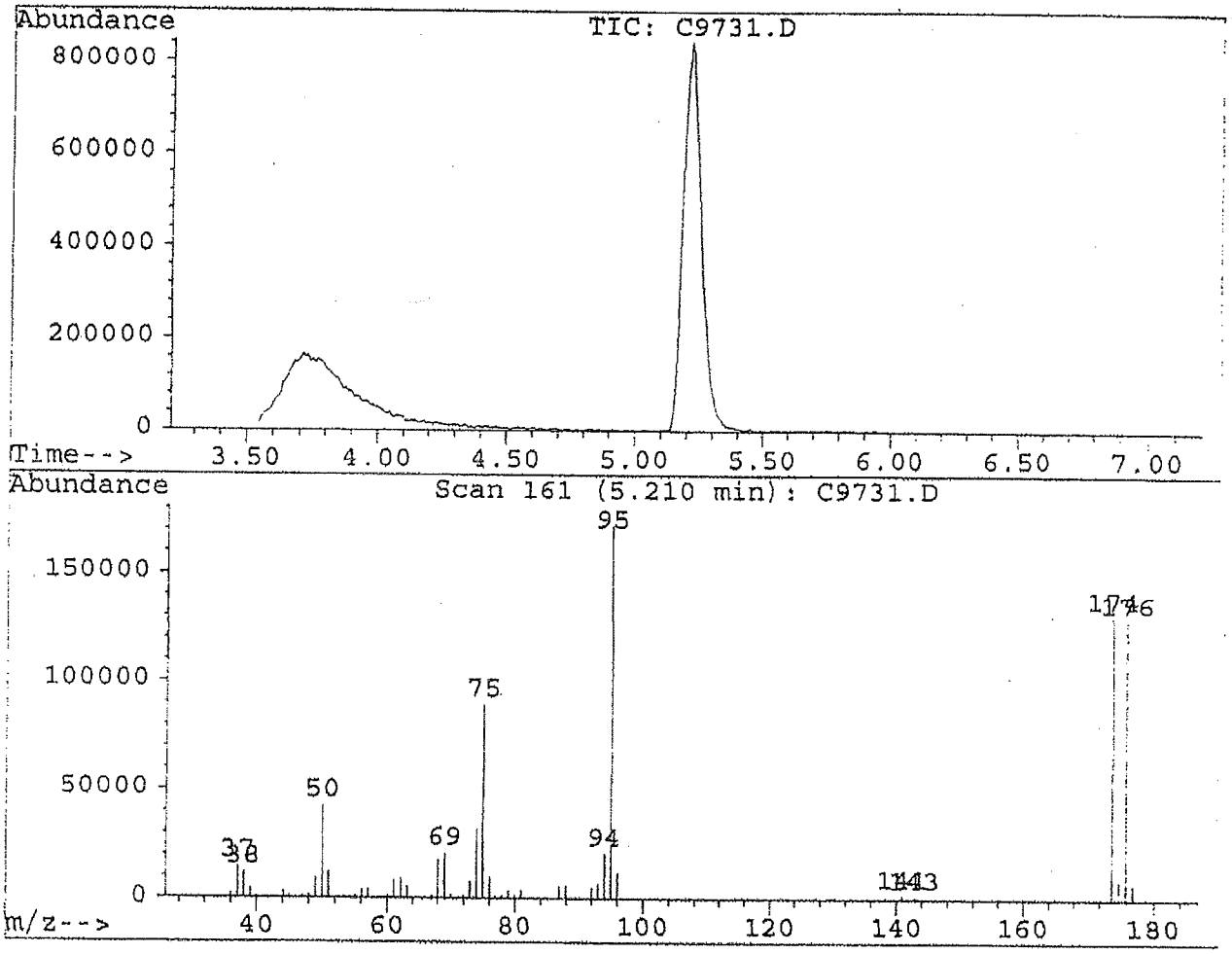
	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD020	20 STND	C9732.D	11/20/97	1717
02	VBLK01	M. BLANK	C9733.D	11/20/97	1753
03	9785740V	9785740V	C9734.D	11/20/97	1830
04	9785739V	9785739V	C9735.D	11/20/97	1906
05	9785731V	9785731V	C9736.D	11/20/97	1943
06	9785732V	9785732V	C9737.D	11/20/97	2019
07	9785733V	9785733V	C9738.D	11/20/97	2056
08	9785734V	9785734V	C9739.D	11/20/97	2132
09	9785735V	9785735V	C9740.D	11/20/97	2208
10	9785736V	9785736V	C9741.D	11/20/97	2245
11	9785737V	9785737V	C9742.D	11/20/97	2321
12	9785738V	9785738V	C9743.D	11/20/97	2357
13	9785741MS	85741MS	C9744.D	11/21/97	0034
14	9785741V	9785741V	C9745.D	11/21/97	0110
15	9785741MSD	85741MSD	C9746.D	11/21/97	0146
16					
17					
18					
19					
20					
21					
22					

CLPBFB

Data File : C:\HPCHEM\1\DATA\C9731.D
Acq On : 20 Nov 97 5:04 pm
Sample : BFB TUNE
Misc : 50 NG INJECTION

Vial: 2
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration



Peak Apex is scan: 161

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.7	42672	PASS
75	95	30	60	51.6	89184	PASS
95	95	100	100	100.0	172800	PASS
96	95	5	9	6.9	11922	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	75.7	130840	PASS
175	174	5	9	6.7	8795	PASS
176	174	95	101	98.6	128960	PASS
177	176	5	9	5.7	7382	PASS

C9731.D 624NAP.M Thu Nov 20 18:02:51 1997 VOA1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\C9732.D
Acq On : 20 Nov 97 5:17 pm
Sample : 20 PPB CHK STANDARD
Misc : 5 ML
Quant Time: Nov 20 18:04 1997

Vial: 3
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	11.67	130	556675	30.00	ug/l		-0.06
26) 1,4-Difluorobenzene	13.35	114	2172861	30.00	ug/l		-0.06
41) Chlorobenzene-d5	18.30	117	1822659	30.00	ug/l		-0.05
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	12.69	65	816473	31.61	ug/l		105.37%
33) Toluene-d8	15.77	98	2081135	30.41	ug/l		101.38%
49) 4-Bromofluorobenzene	20.37	95	1431900	30.90	ug/l		103.00%
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.02	85	411234	15.72	ug/l	m	93
3) Chloromethane	4.53	50	127561	16.07	ug/l		92
4) Vinyl chloride	4.79	62	254993	17.91	ug/l		90
5) Bromomethane	5.63	94	193099	16.18	ug/l		91
6) Chloroethane	5.85	64	176938	19.92	ug/l		95
7) Trichlorofluoromethane	6.46	101	940615	22.04	ug/l		99
8) Acrolein	7.63	56	80823	198.24	ug/l	m	100
9) 1,1-Dichloroethene	7.71	96	322915	19.47	ug/l		95
10) Acetone	8.01	43	178462	26.03	ug/l	m	86
11) Carbon disulfide	8.13	76	818918	19.41	ug/l		100
12) Methylene chloride	8.85	49	604616	23.38	ug/l		98
13) Acrylonitrile	9.48	53	44428	16.44	ug/l		100
14) trans-1,2-Dichloroethene	9.29	96	354214	20.37	ug/l		97
15) Methyl-tert butyl ether	9.25	73	995384	20.59	ug/l		99
16) tert-Butyl Alcohol	9.14	59	116752	99.89	ug/l	m	100
17) 1,1-Dichloroethane	10.17	63	729132	20.39	ug/l		97
18) cis-1,2-Dichloroethene	11.23	96	408984	20.35	ug/l		98
19) 2-Butanone	11.30	43	181153	21.47	ug/l		96
20) Chloroform	11.78	83	888903	21.16	ug/l		92
21) 1,1,1-Trichloroethane	12.03	97	882884	21.90	ug/l		99
22) Carbon tetrachloride	12.24	117	825282	22.22	ug/l		100
24) Benzene	12.66	78	1167254	19.86	ug/l		100
25) 1,2-Dichloroethane	12.82	62	651992	22.03	ug/l		99
27) Trichloroethene	13.74	130	578357	21.14	ug/l		95
28) 1,2-Dichloropropane	14.21	63	413928	19.80	ug/l		97
29) Bromodichloromethane	14.64	83	929642	22.55	ug/l		97
30) 2-Chloroethyl vinyl ether	15.14	63	184669	21.01	ug/l		99
31) cis-1,3-Dichloropropene	15.40	75	731898	21.82	ug/l		99
32) 4-Methyl-2-pentanone	15.62	43	417050	21.94	ug/l		97
34) Toluene	15.89	92	843049	20.31	ug/l		97
35) trans-1,3-Dichloropropene	16.35	75	708244	22.46	ug/l		99
36) 1,1,2-Trichloroethane	16.68	97	412605	21.02	ug/l		96
37) 2-Hexanone	17.03	43	313407	23.33	ug/l		87
38) Tetrachloroethene	16.77	164	554693	21.93	ug/l		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\C9732.D
Acq On : 20 Nov 97 5:17 pm
Sample : 20 PPB CHK STANDARD
Misc : 5 ML
Quant Time: Nov 20 18:04 1997

Vial: 3 114
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Dibromochloromethane	17.32	129	780972	22.05	ug/l	98
42)	Chlorobenzene	18.35	112	1135883	20.09	ug/l	95
43)	1,1,1,2-Tetrachloroethane	18.49	131	608582	21.57	ug/l	96
44)	Ethylbenzene	18.46	91	1847427	20.52	ug/l	97
45)	Xylene (para & meta)	18.66	91	3106181	41.71	ug/l	99
46)	Xylene (ortho)	19.38	91	1466618	21.26	ug/l	99
47)	Styrene	19.42	104	1224616	20.93	ug/l	99
48)	Bromoform	19.82	173	575586	22.52	ug/l	99
50)	1,1,2,2-Tetrachloroethane	20.66	83	618190	20.85	ug/l	96
51)	1,3-Dichlorobenzene	22.35	146	1053641	20.80	ug/l	99
52)	1,4-Dichlorobenzene	22.51	146	1241339	20.96	ug/l	95
53)	1,2-Dichlorobenzene	23.22	146	1108129	21.73	ug/l	97

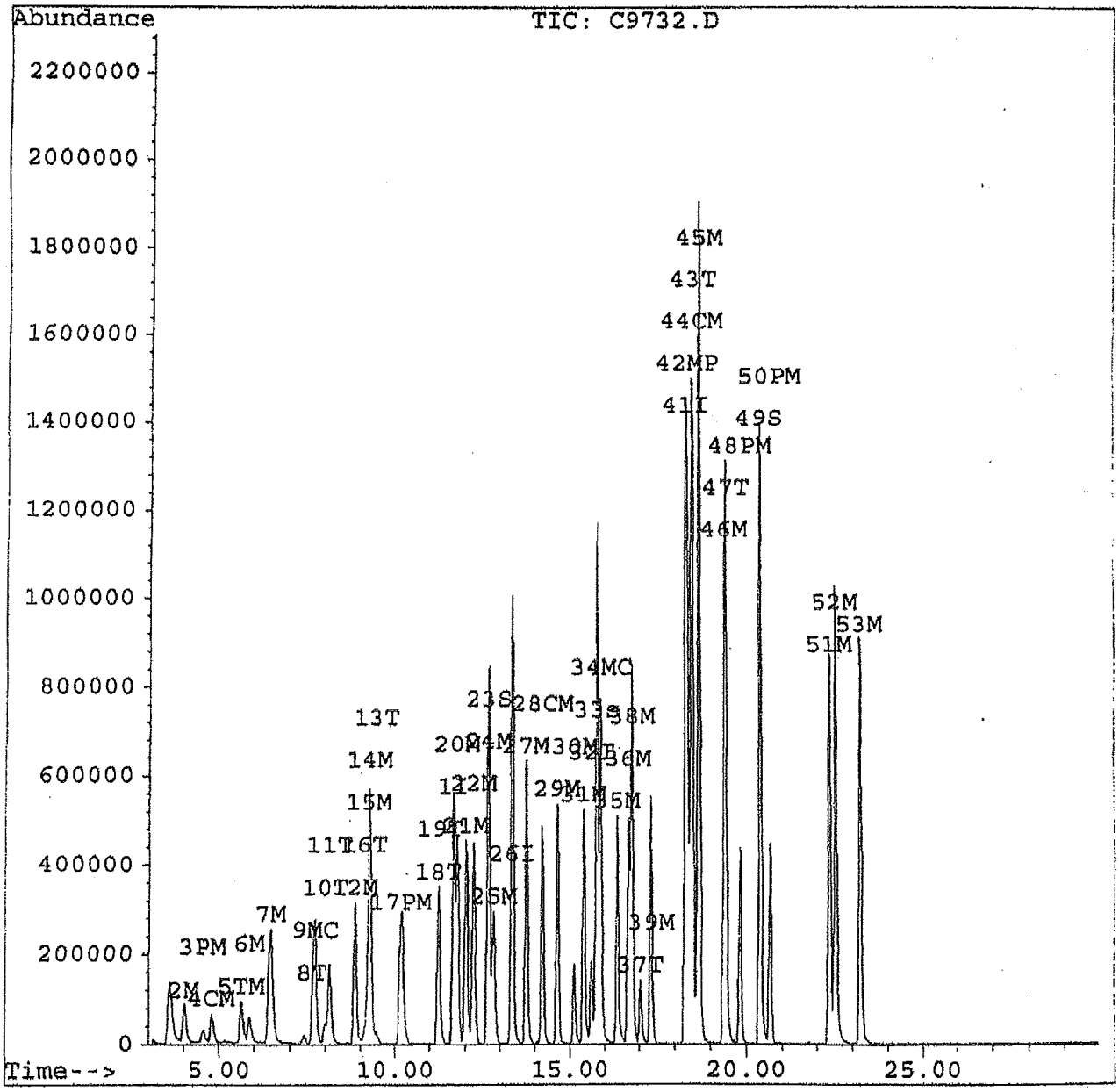
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\C9732.D
Acq On : 20 Nov 97 5:17 pm
Sample : 20 PPB CHK STANDARD
Misc : 5 ML
Quant Time: Nov 20 18:04 1997

Vial: 3
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration



8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID (Standard): C9732.D Date Analyzed: 11/20/97

Instrument ID: 5972-INSTRUMENT 1 Time Analyzed: 1717

GC Column: RTX-624 X 75M ID: 0.53 (mm) Heated Purge (Y/N) N

		IS1 (BCM) AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
	12 HOUR STD	556675	11.67	2172861	13.35	1822659	18.30
	UPPER LIMIT	1113350	12.17	4345722	13.85	3645318	18.80
	LOWER LIMIT	278338	11.17	1086431	12.85	911330	17.80
	SAMPLE NO.						
01	VBLK01	483448	11.68	1948900	13.36	1656717	18.30
02	9785740V	499713	11.68	1944023	13.36	1678762	18.31
03	9785739V	511681	11.68	1970229	13.37	1716908	18.31
04	9785731V	511342	11.69	1949425	13.37	1671534	18.31
05	9785732V	501975	11.69	1945762	13.37	1659894	18.31
06	9785733V	495004	11.69	1959512	13.37	1677060	18.31
07	9785734V	501602	11.69	1944151	13.37	1668502	18.31
08	9785735V	490418	11.71	1900246	13.38	1632687	18.32
09	9785736V	482333	11.69	1966797	13.37	1648831	18.31
10	9785737V	486437	11.69	1915847	13.37	1646473	18.31
11	9785738V	491016	11.70	1911849	13.37	1628123	18.31
12	9785741MS	469402	11.69	1870912	13.37	1557973	18.31
13	9785741V	410981	11.68	1527573	13.36	1327560	18.31
14	9785741MSD	472042	11.69	1910829	13.37	1600941	18.32
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785731V

MW-2

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785731V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9736.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785731V

MW-2

148

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785731V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9736.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785731V
MW2-2

L40

Lab Name: EMSL ANALYTICAL Contract: _____

Project No. _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785731V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9736.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data\c9736.d
Acq On : 20 Nov 97 7:43 pm
Sample : 9785731
Misc : 5 ML
Quant Time: Nov 21 11:23 1997

Vial: 7
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	11.69	130	511342	30.00	ug/l	0.02
26) 1,4-Difluorobenzene	13.37	114	1949425	30.00	ug/l	0.02
41) Chlorobenzene-d5	18.31	117	1671534	30.00	ug/l	0.01
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	12.70	65	777223	32.76	ug/l	109.20%
33) Toluene-d8	15.78	98	1857393	30.25	ug/l	100.85%
49) 4-Bromofluorobenzene	20.39	95	1275166	30.01	ug/l	100.02%
Target Compounds						Qvalue

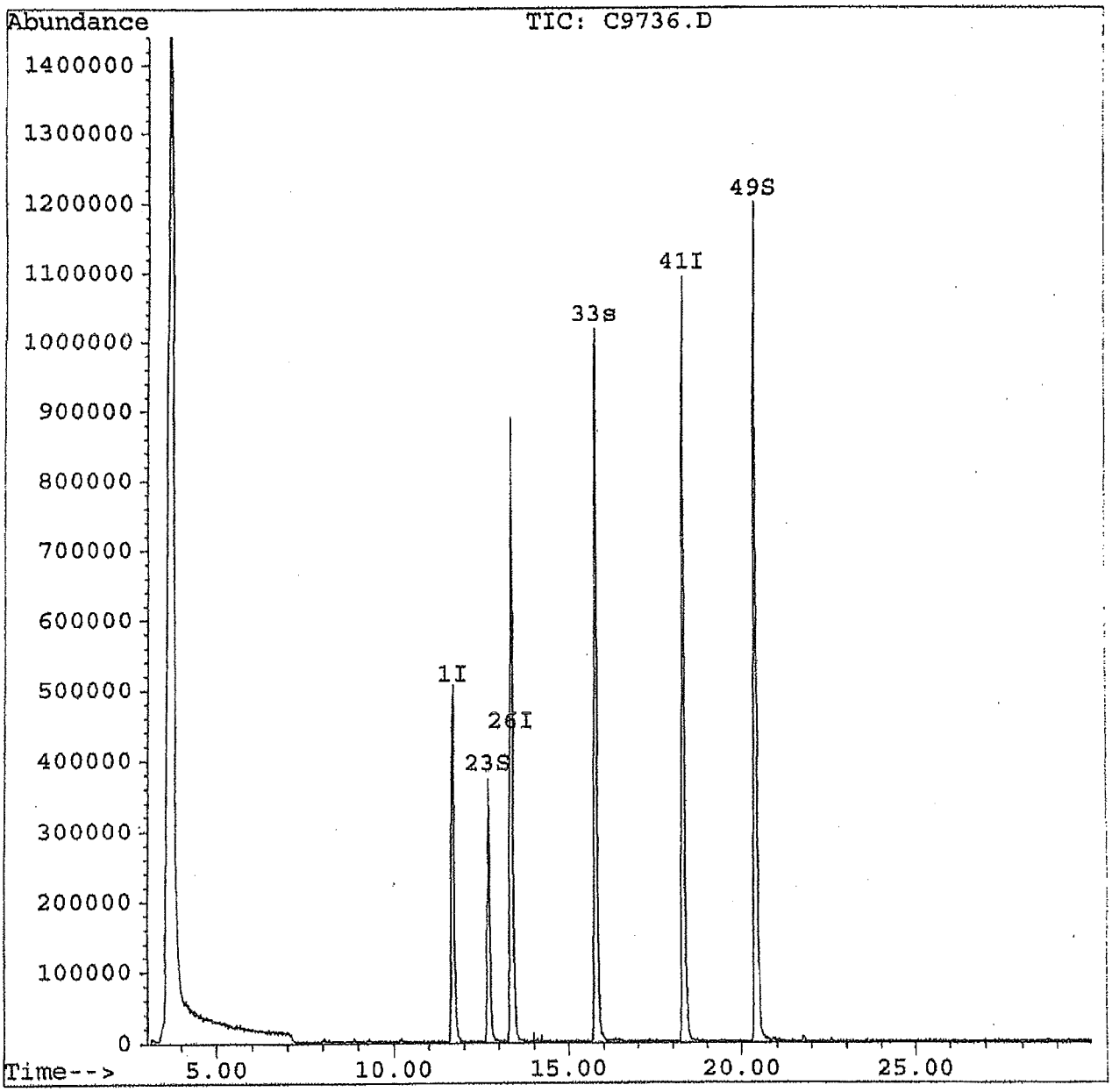
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9736.d
Acq On : 20 Nov 97 7:43 pm
Sample : 9785731
Misc : 5 ML
Quant Time: Nov 21 11:23 1997

Vial: 7
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration



Library Search Compound Report

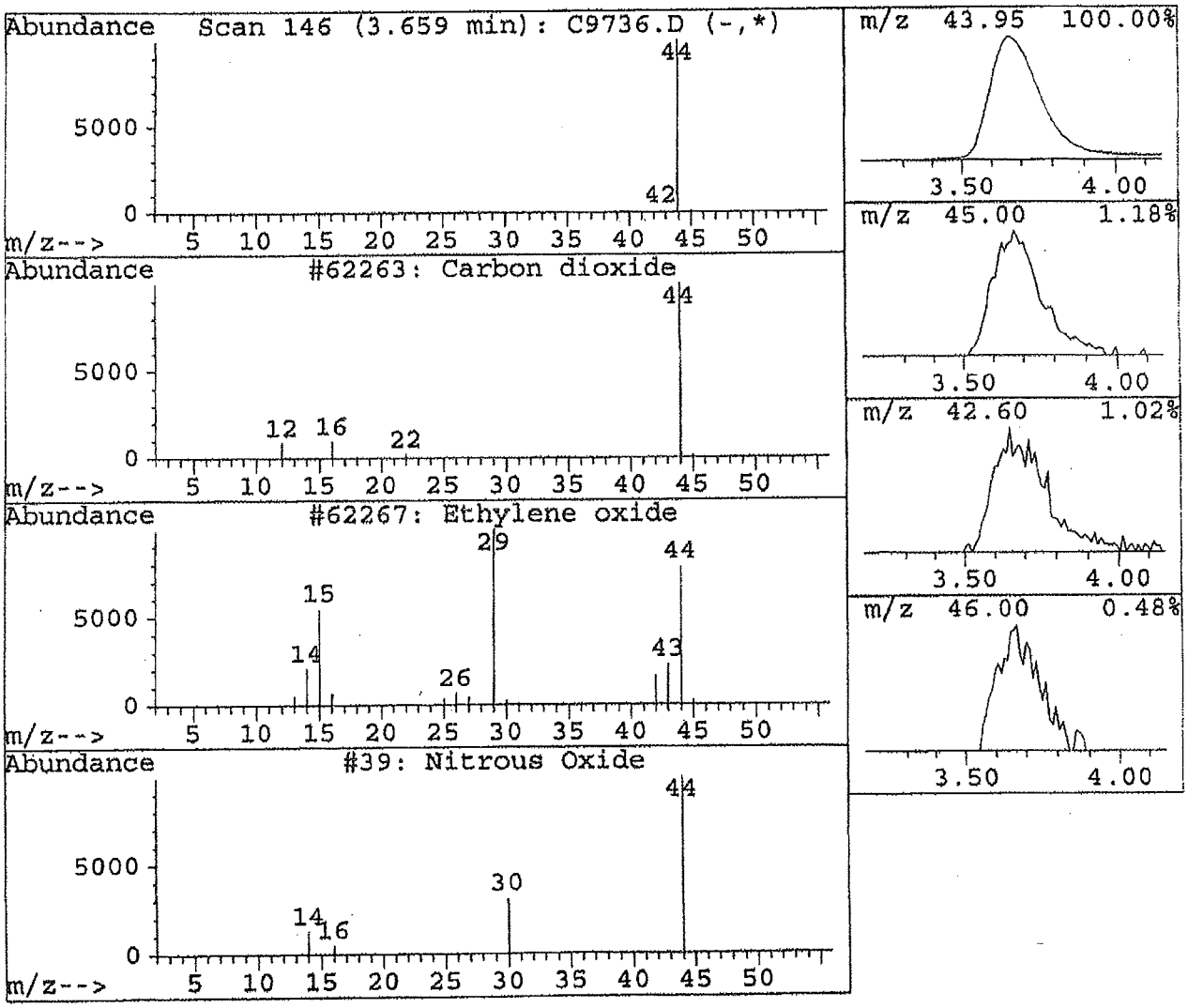
Data File : c:\hpchem\1\data\c9736.d
Acq On : 20 Nov 97 7:43 pm
Sample : 9785731
Misc : 5 ML

Vial: 7 152
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
3.66	228.99 ug/l	20838204	Bromochloromethane	11.69

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Ethylene oxide	62267	000075-21-8	3
3	Nitrous Oxide	39	010024-97-2	3
4	Acetaldehyde	62265	000075-07-0	2
5	Ethyne, fluoro-	35	002713-09-9	2



Library Search Compound Report

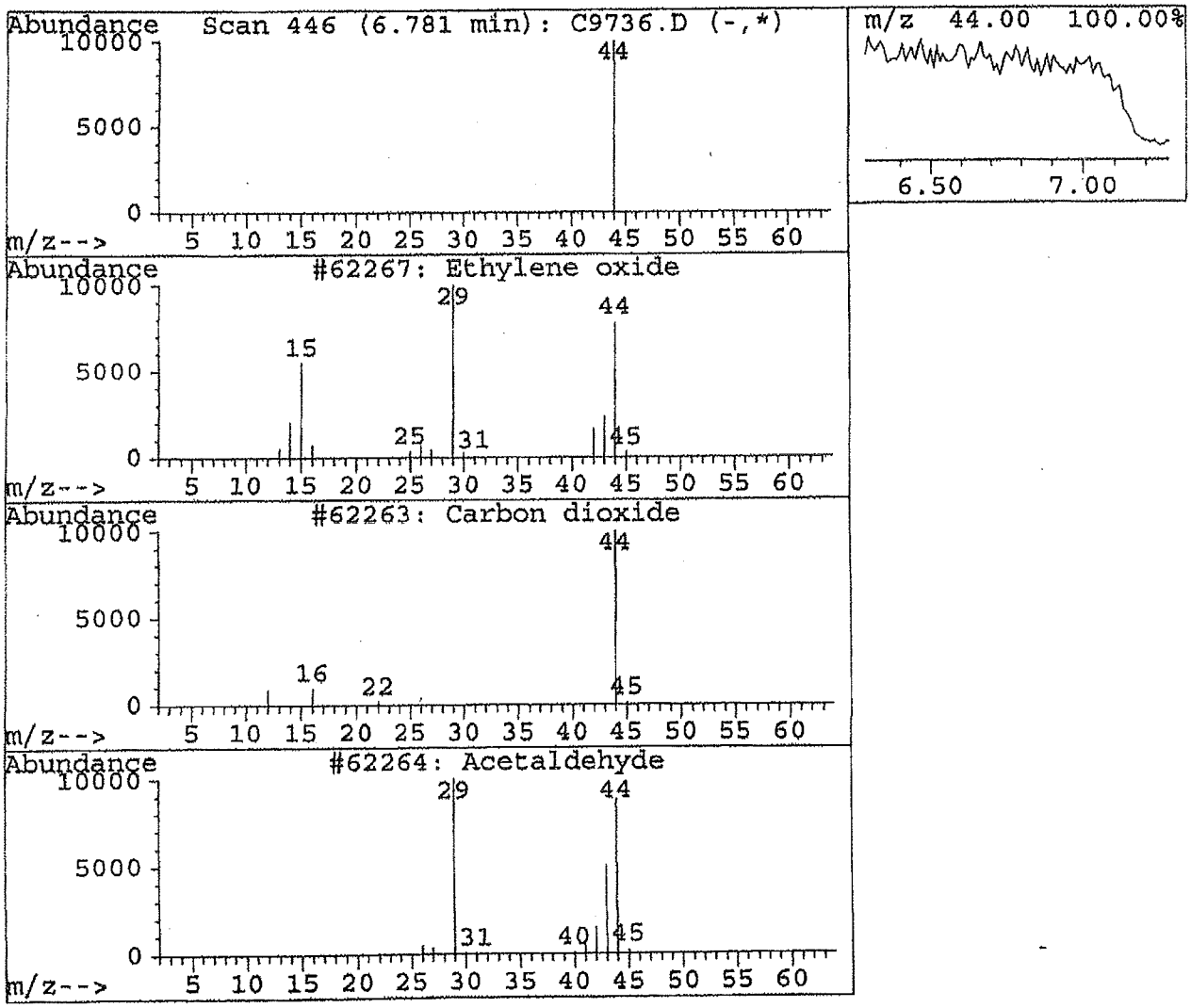
Data File : c:\hpchem\1\data\c9736.d
Acq On : 20 Nov 97 7:43 pm
Sample : 9785731
Misc : 5 ML

Vial: 7
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
6.78	3.28 ug/l	298051	Bromochloromethane	11.69

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Ethylene oxide	62267	000075-21-8	2
2	Carbon dioxide	62263	000124-38-9	2
3	Acetaldehyde	62264	000075-07-0	2
4	Nitrous Oxide	62270	010024-97-2	2
5	Ethyne, fluoro-	35	002713-09-9	2



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785732V

MW-3

154

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785732V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9737.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785732V
MW-3

155

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785732V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9737.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9785732V MS-3

150

Lab Name: EMSL ANALYTICAL Contract: _____

Project No. _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785732V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9737.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units:
(ug/L or ug/Kg) ug/L

Number TICs found: 0

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
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17.				
18.				
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21.				
22.				
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26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data\c9737.d
Acq On : 20 Nov 97 8:19 pm
Sample : 9785732
Misc : 5 ML
Quant Time: Nov 21 11:24 1997

Vial: 8
Operator: SRK
Inst : 5972 In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	11.69	130	501975	30.00	ug/l	0.02
26) 1,4-Difluorobenzene	13.37	114	1945762	30.00	ug/l	0.02
41) Chlorobenzene-d5	18.31	117	1659894	30.00	ug/l	0.01
System Monitoring Compounds						**%Recovery**
23) 1,2-Dichloroethane-d4	12.71	65	754694	32.40	ug/l	108.01%
33) Toluene-d8	15.78	98	1870228	30.52	ug/l	101.74%
49) 4-Bromofluorobenzene	20.40	95	1259513	29.85	ug/l	99.48%
Target Compounds						**Qvalue**

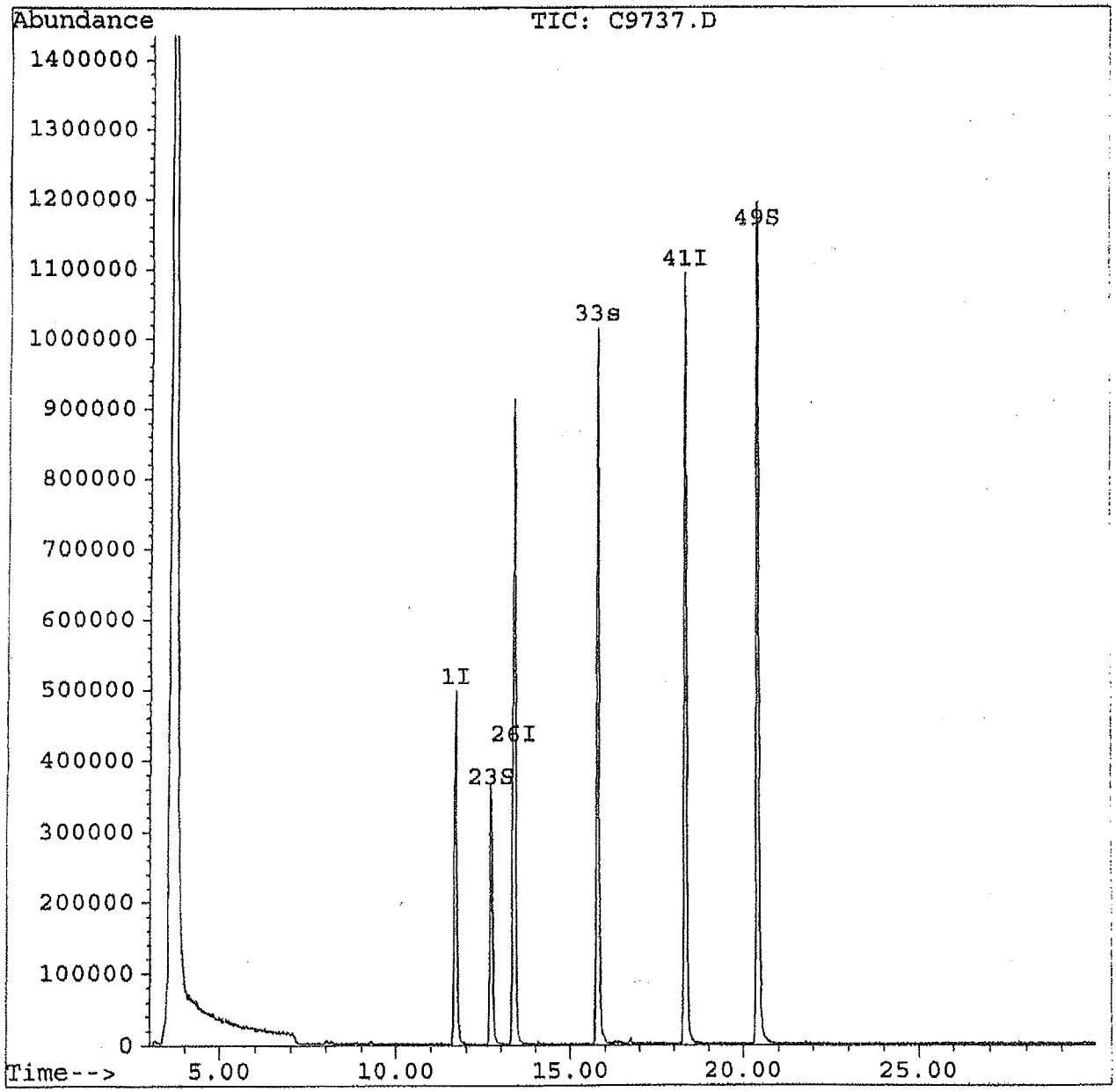
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9737.d
Acq On : 20 Nov 97 8:19 pm
Sample : 9785732
Misc : 5 ML
Quant Time: Nov 21 11:24 1997

Vial: 8
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration



Library Search Compound Report

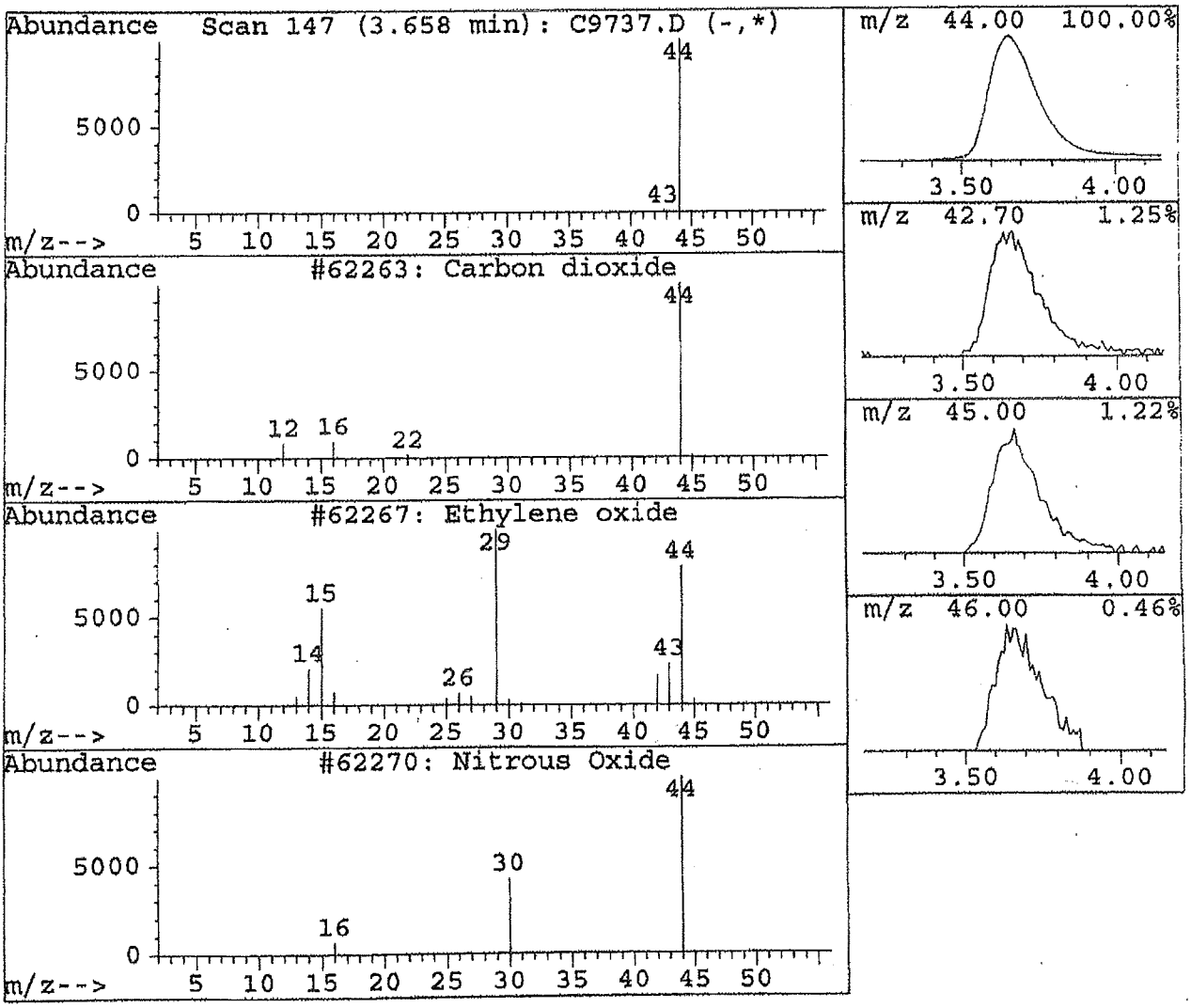
Data File : c:\hpchem\1\data\c9737.d
Acq On : 20 Nov 97 8:19 pm
Sample : 9785732
Misc : 5 ML

Vial: 8 159
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
3.66	296.97 ug/l	26534633	Bromochloromethane	11.69

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Ethylene oxide	62267	000075-21-8	3
3	Nitrous Oxide	62270	010024-97-2	3
4	Cyclopropane, 1,1-dibromo-2-chloro-	33732	024071-57-6	2
5	Acetaldehyde	62265	000075-07-0	2



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785733V

MW-5

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785733V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9738.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785733V

MW-5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____ 161

Matrix: (soil/water) WATER Lab Sample ID: 9785733V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9738.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

SAMPLE NO. 162

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

9785733V
MW-5

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785733V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9738.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
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Quantitation Report

Data File : c:\hpchem\1\data\c9738.d
Acq On : 20 Nov 97 8:56 pm
Sample : 9785733
Misc : 5 ML
Quant Time: Nov 21 11:24 1997

Vial: 9 163
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	11.69	130	495004	30.00	ug/l	0.02
26) 1,4-Difluorobenzene	13.37	114	1959512	30.00	ug/l	0.02
41) Chlorobenzene-d5	18.31	117	1677060	30.00	ug/l	0.01
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	12.70	65	758892	33.04	ug/l	110.14%
33) Toluene-d8	15.78	98	1878737	30.44	ug/l	101.48%
49) 4-Bromofluorobenzene	20.39	95	1286246	30.17	ug/l	100.56%
Target Compounds						Qvalue

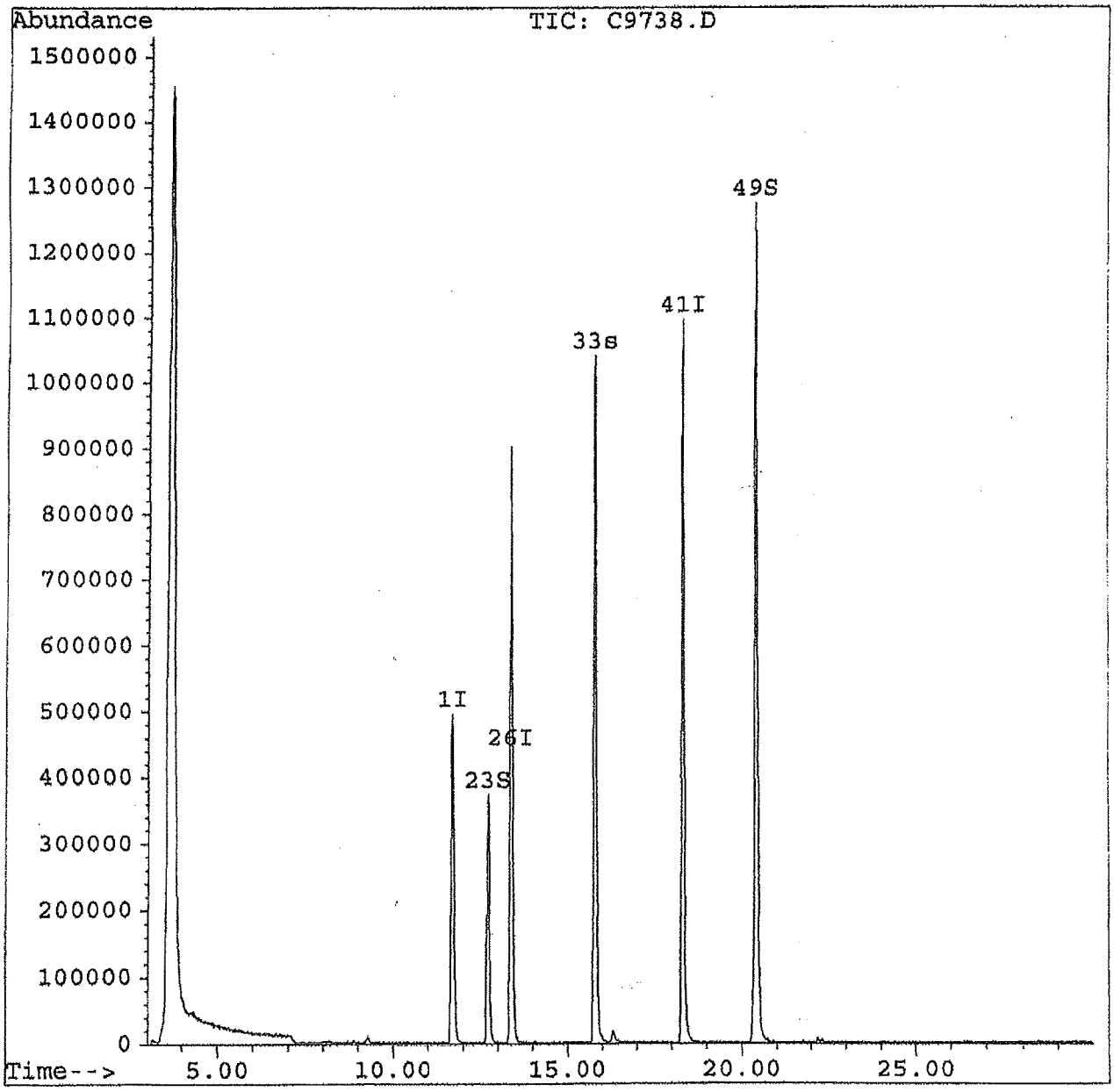
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9738.d
Acq On : 20 Nov 97 8:56 pm
Sample : 9785733
Misc : 5 ML
Quant Time: Nov 21 11:24 1997

Vial: 9
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration



Library Search Compound Report

165

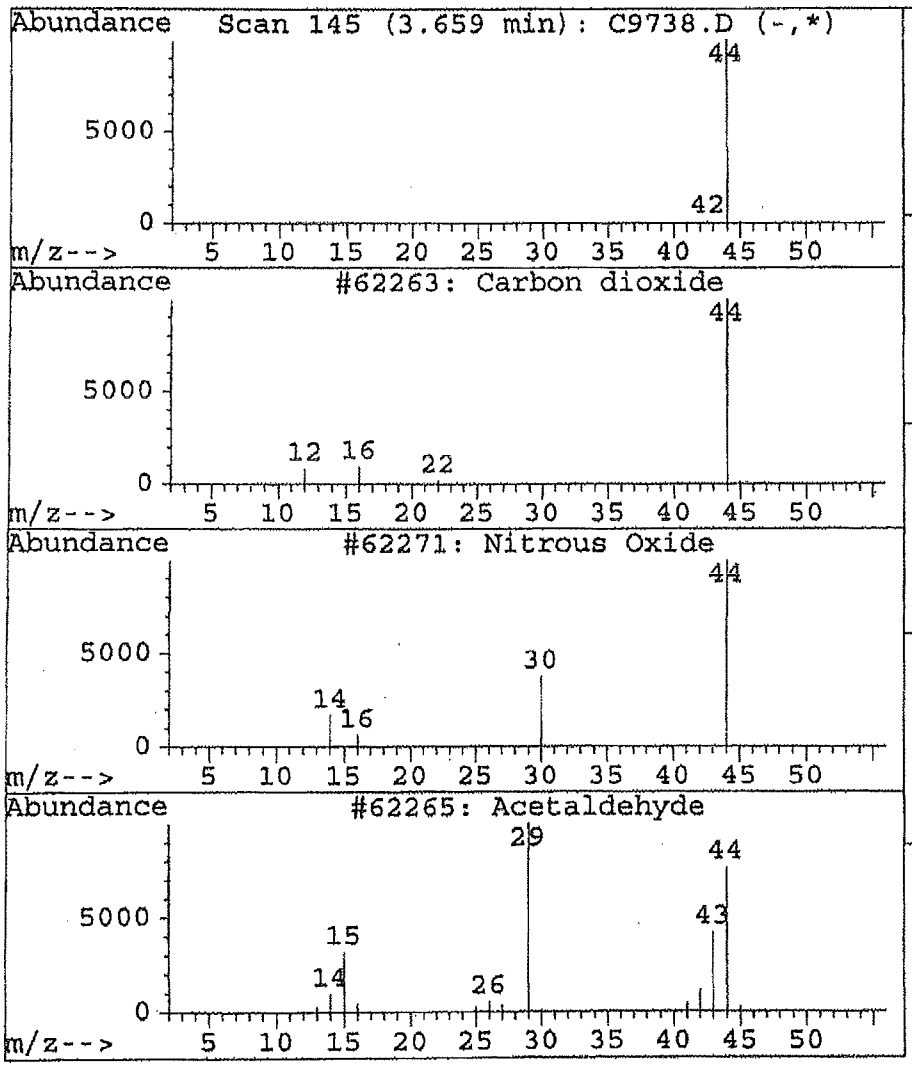
Data File : c:\hpchem\1\data\c9738.d
Acq On : 20 Nov 97 8:56 pm
Sample : 9785733
Misc : 5 ML

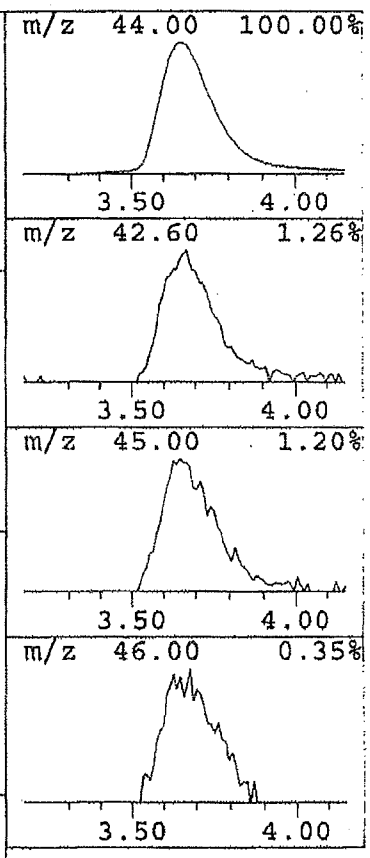
Vial: 9
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
3.66	215.88 ug/l	19481862	Bromochloromethane	11.69

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Nitrous Oxide	62271	010024-97-2	3
3	Acetaldehyde	62265	000075-07-0	2
4	Ethyne, fluoro-	35	002713-09-9	2
5	Ethylene oxide	62267	000075-21-8	2





1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785734V

MW-6

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785734V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9739.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
9785734V
MW-6

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785734V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9739.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units:
(ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	8	
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785734V
MW-6 163

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785734V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9739.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
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29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data\c9739.d
Acq On : 20 Nov 97 9:32 pm
Sample : 9785734
Misc : 5 ML
Quant Time: Nov 21 11:25 1997

Vial: 10
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

160

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	11.69	130	501602	30.00	ug/l	0.02
26) 1,4-Difluorobenzene	13.37	114	1944151	30.00	ug/l	0.02
41) Chlorobenzene-d5	18.31	117	1668502	30.00	ug/l	0.01
System Monitoring Compounds						**%Recovery**
23) 1,2-Dichloroethane-d4	12.70	65	755126	32.45	ug/l	108.15%
33) Toluene-d8	15.79	98	1889053	30.85	ug/l	102.85%
49) 4-Bromofluorobenzene	20.39	95	1271661	29.98	ug/l	99.93%
Target Compounds						**Qvalue**
15) Methyl-tert butyl ether	9.29	73	331846	7.62	ug/l	95

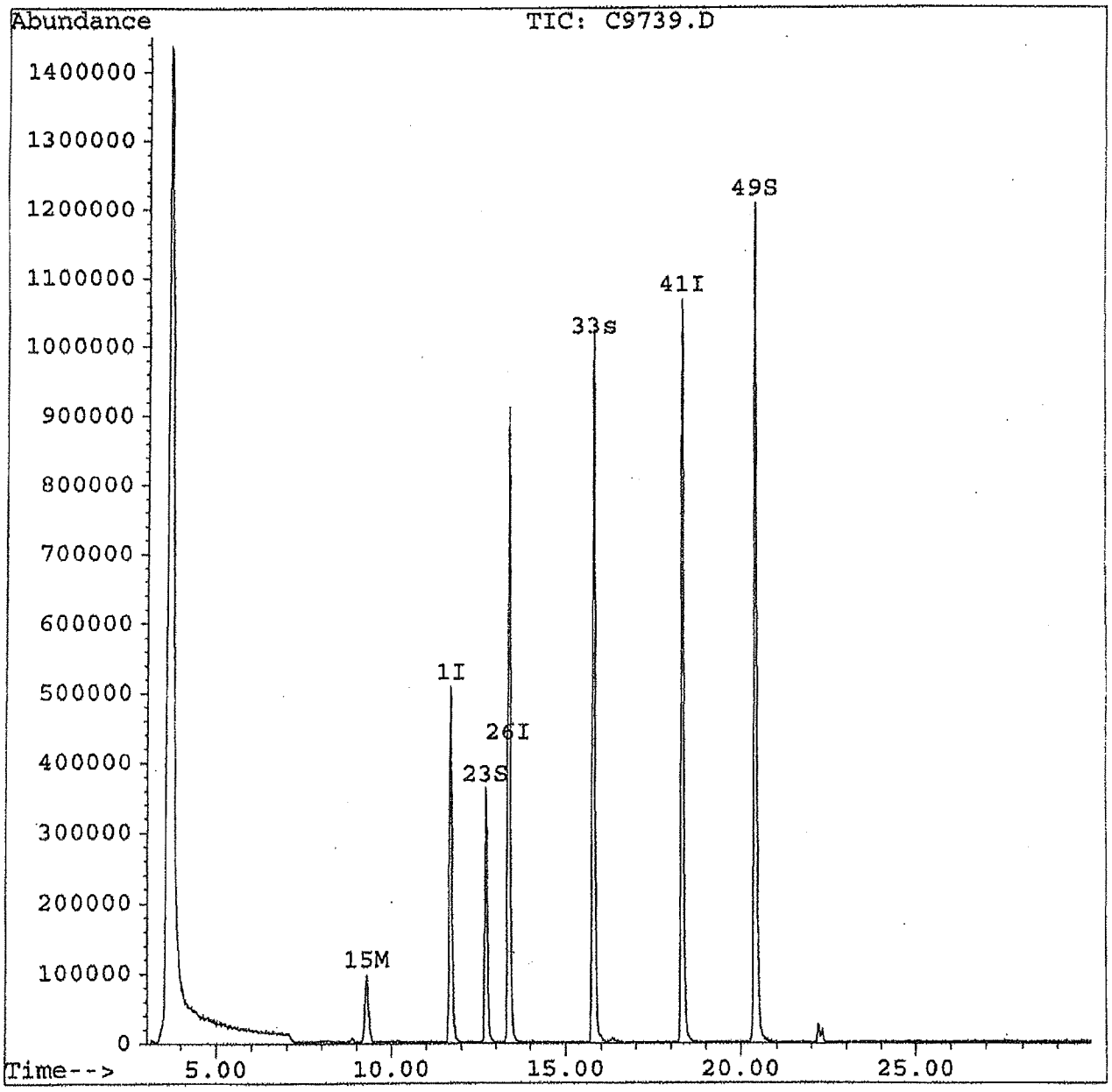
(#) = qualifier out of range (m) = manual integration

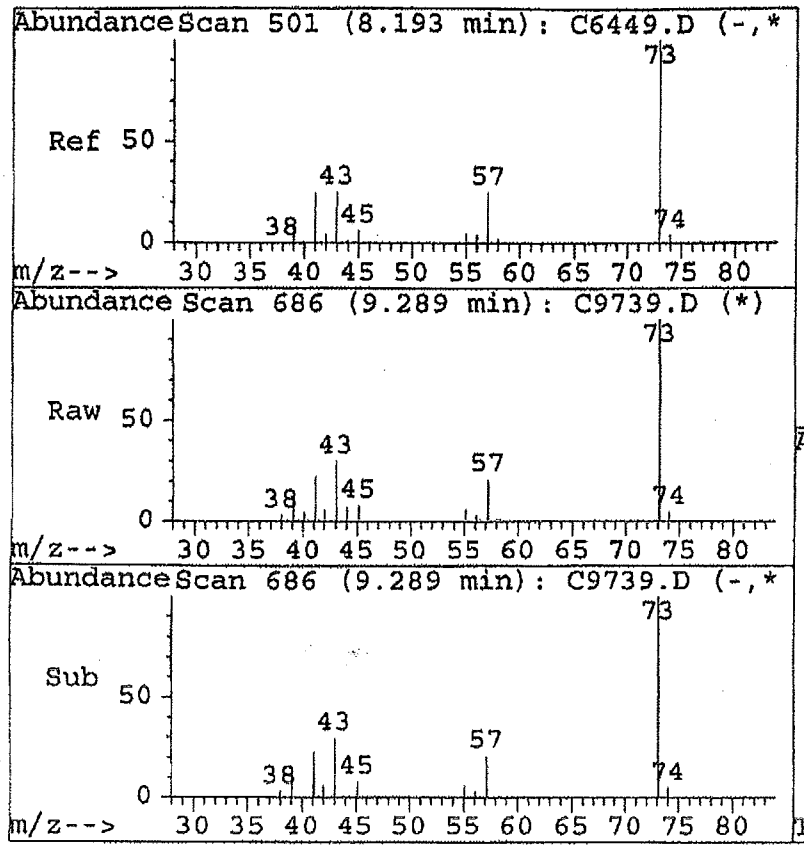
Quantitation Report

Data File : c:\hpchem\1\data\c9739.d
Acq On : 20 Nov 97 9:32 pm
Sample : 9785734
Misc : 5 ML
Quant Time: Nov 21 11:25 1997

Vial: 10
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

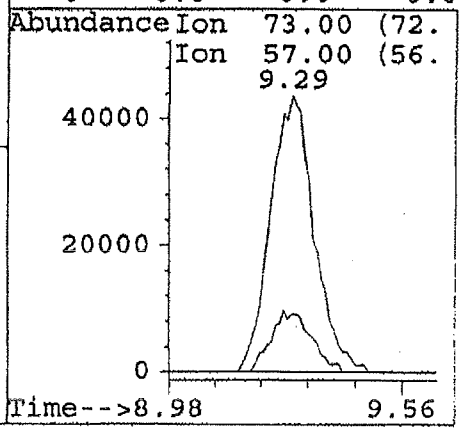




#15
Methyl-tert butyl ether
Concen: 7.62 ug/l
RT: 9.29 min Scan# 686
Delta R.T. 0.04 min
Lab File: c9739.d
Acq: 20 Nov 97 9:32 pm

Tgt Ion:73 Resp: 331846

Ion	Ratio	Lower	Upper
73	100		
57	20.9	3.4	43.4
0	0.0	0.0	0.0
0	0.0	0.0	0.0



1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9785736V
MW-8

Lab Name: EMSL ANALYTICAL Contract: _____

Project No. _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785736V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9741.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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Quantitation Report

Data File : c:\hpchem\1\data\c9741.d
Acq On : 20 Nov 97 10:45 pm
Sample : 9785736
Misc : 5 ML
Quant Time: Nov 21 11:26 1997

Vial: 12
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	11.69	130	482333	30.00	ug/l	0.02
26) 1,4-Difluorobenzene	13.37	114	1966797	30.00	ug/l	0.02
41) Chlorobenzene-d5	18.31	117	1648831	30.00	ug/l	0.01
System Monitoring Compounds						**%Recovery**
23) 1,2-Dichloroethane-d4	12.70	65	717575	32.06	ug/l	106.88%
33) Toluene-d8	15.78	98	1845427	29.79	ug/l	99.31%
49) 4-Bromofluorobenzene	20.39	95	1252166	29.87	ug/l	99.57%
Target Compounds						**Qvalue**
17) 1,1-Dichloroethane	10.20	63	75413	2.43	ug/l	90

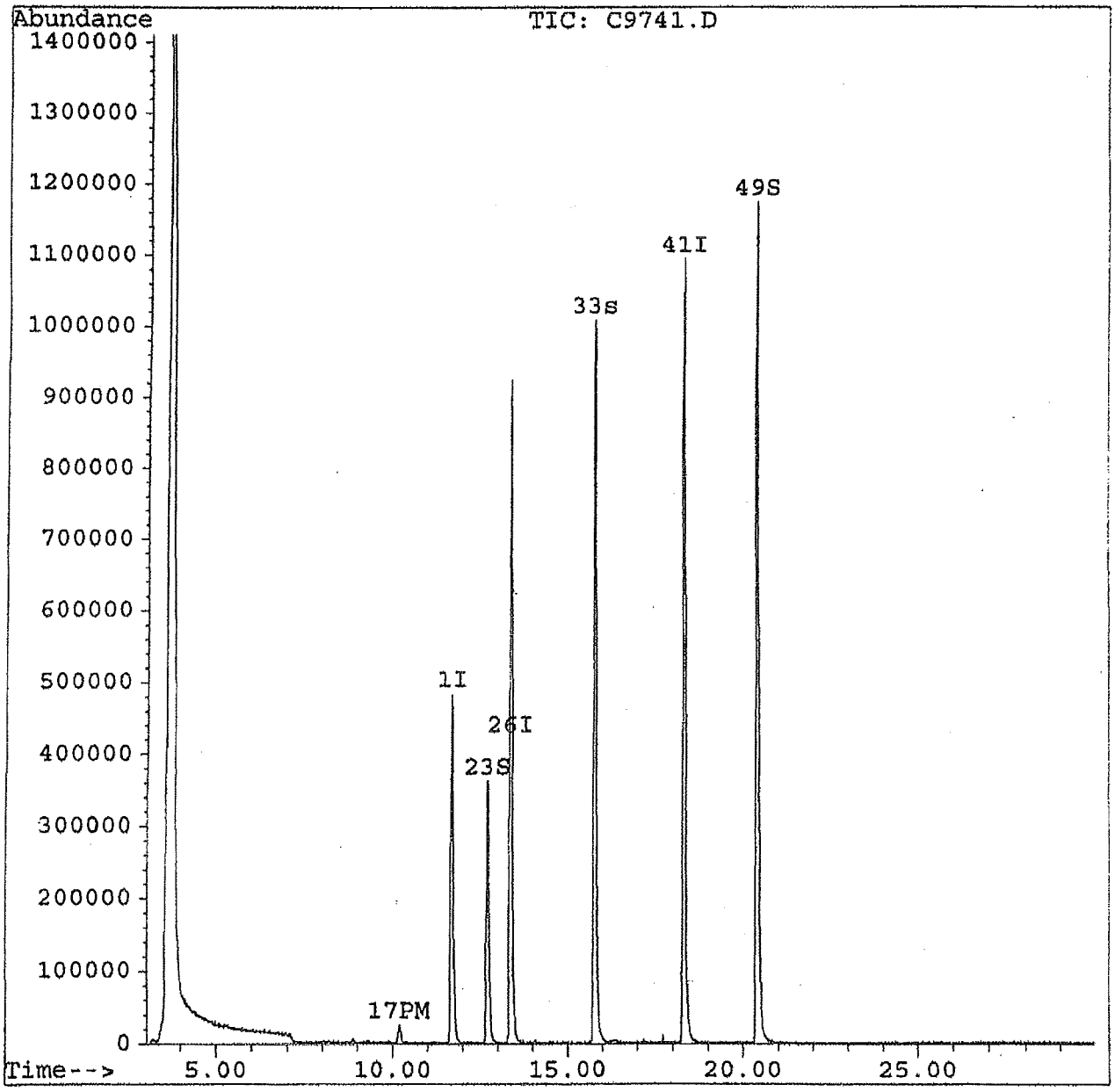
(#) = qualifier out of range (m) = manual integration

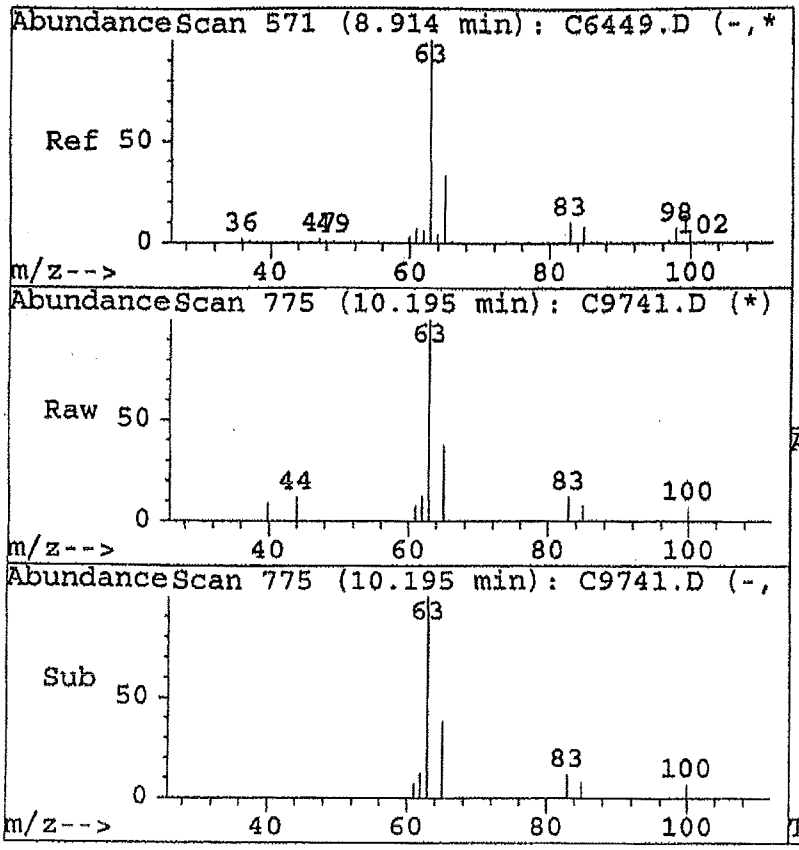
Quantitation Report

Data File : c:\hpchem\1\data\c9741.d
Acq On : 20 Nov 97 10:45 pm
Sample : 9785736
Misc : 5 ML
Quant Time: Nov 21 11:26 1997

Vial: 12
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

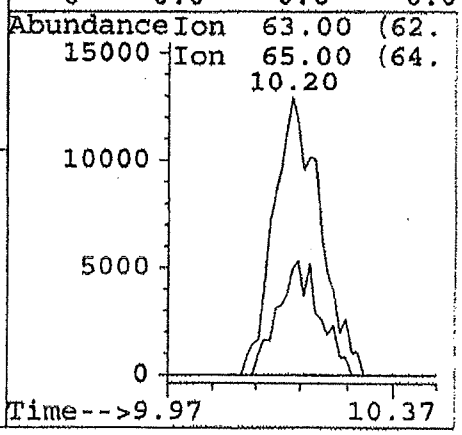




#17
1,1-Dichloroethane
Concen: 2.43 ug/l
RT: 10.20 min Scan# 775
Delta R.T. 0.02 min
Lab File: c9741.d
Acq: 20 Nov 97 10:45 pm

Tgt Ion:63 Resp: 75413

Ion	Ratio	Lower	Upper
63	100		
65	38.3	12.7	52.7
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

180

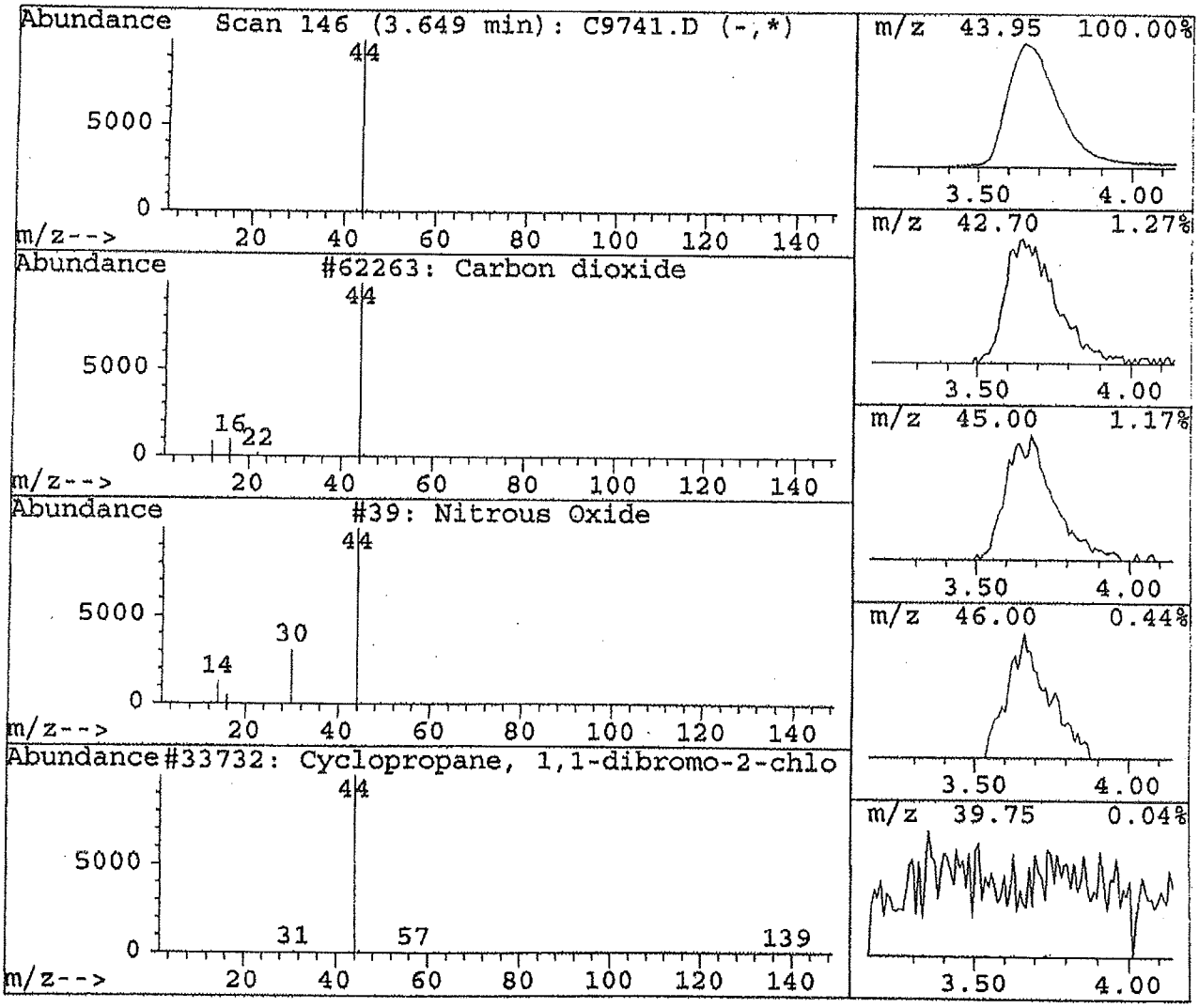
Data File : c:\hpchem\1\data\c9741.d
Acq On : 20 Nov 97 10:45 pm
Sample : 9785736
Misc : 5 ML

Vial: 12
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
3.65	264.80 ug/l	22930665	Bromochloromethane	11.69

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Nitrous Oxide	39	010024-97-2	3
3	Cyclopropane, 1,1-dibromo-2-chloro-	33732	024071-57-6	2
4	Carbamic acid, monoammonium salt	391	001111-78-0	2
5	Ethyne, fluoro-	35	002713-09-9	2



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785737V

MW-9

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785737V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9742.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785737V

mu1-9

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785737V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9742.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

SAMPLE NO.

9785737V
MW2-9

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

180

Lab Name: EMSL ANALYTICAL Contract: _____

Project No. _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785737V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9742.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data\c9742.d
Acq On : 20 Nov 97 11:21 pm
Sample : 9785737
Misc : 5 ML
Quant Time: Nov 21 11:26 1997

Vial: 13
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	11.69	130	486437	30.00	ug/l	0.02
26) 1,4-Difluorobenzene	13.37	114	1915847	30.00	ug/l	0.02
41) Chlorobenzene-d5	18.31	117	1646473	30.00	ug/l	0.01
System Monitoring Compounds						**%Recovery**
23) 1,2-Dichloroethane-d4	12.71	65	710596	31.48	ug/l	104.95%
33) Toluene-d8	15.78	98	1849742	30.66	ug/l	102.19%
49) 4-Bromofluorobenzene	20.40	95	1246705	29.78	ug/l	99.28%

Target Compounds Qvalue

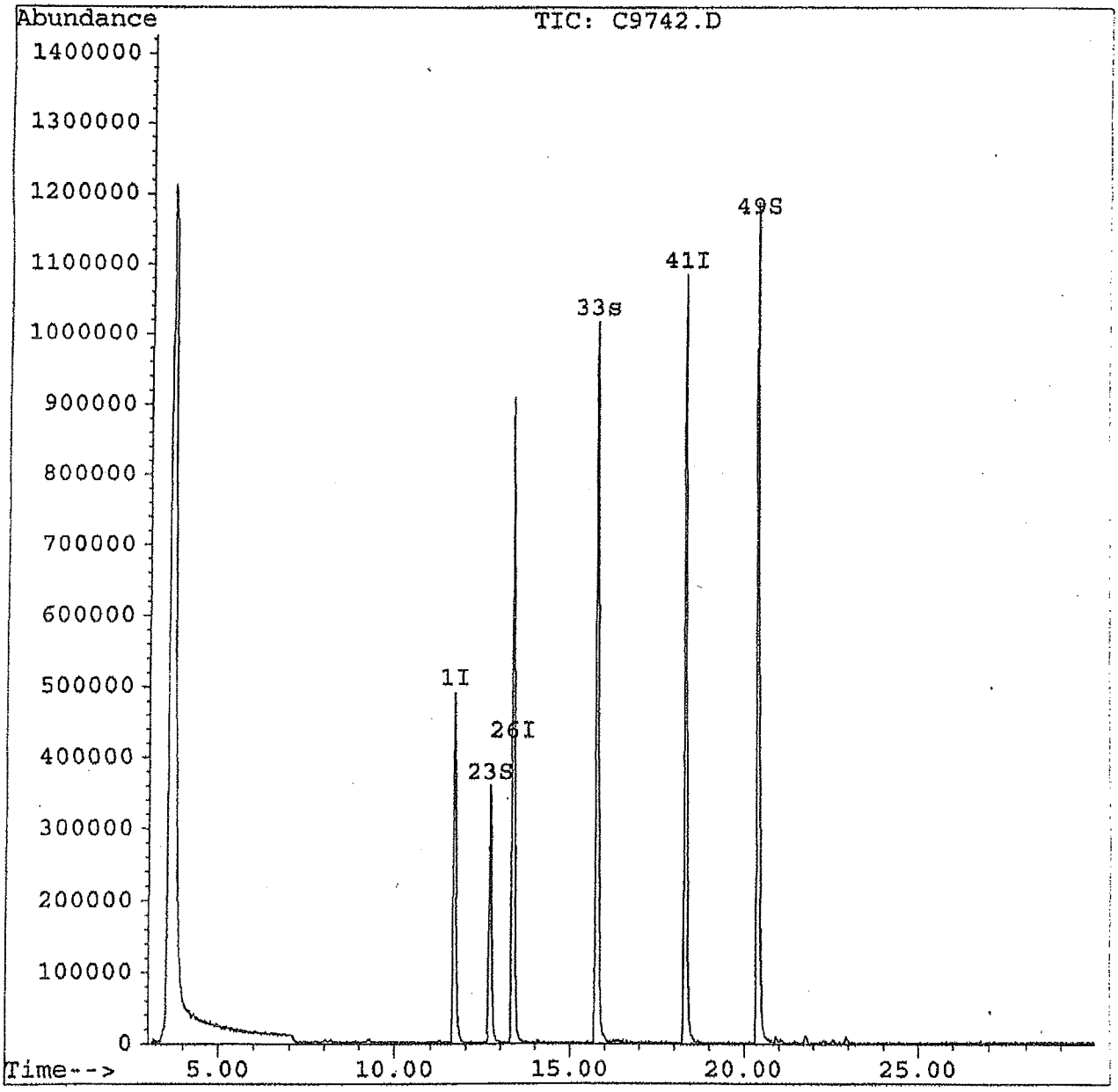
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9742.d
Acq On : 20 Nov 97 11:21 pm
Sample : 9785737
Misc : 5 ML
Quant Time: Nov 21 11:26 1997

Vial: 13
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration



Library Search Compound Report

192

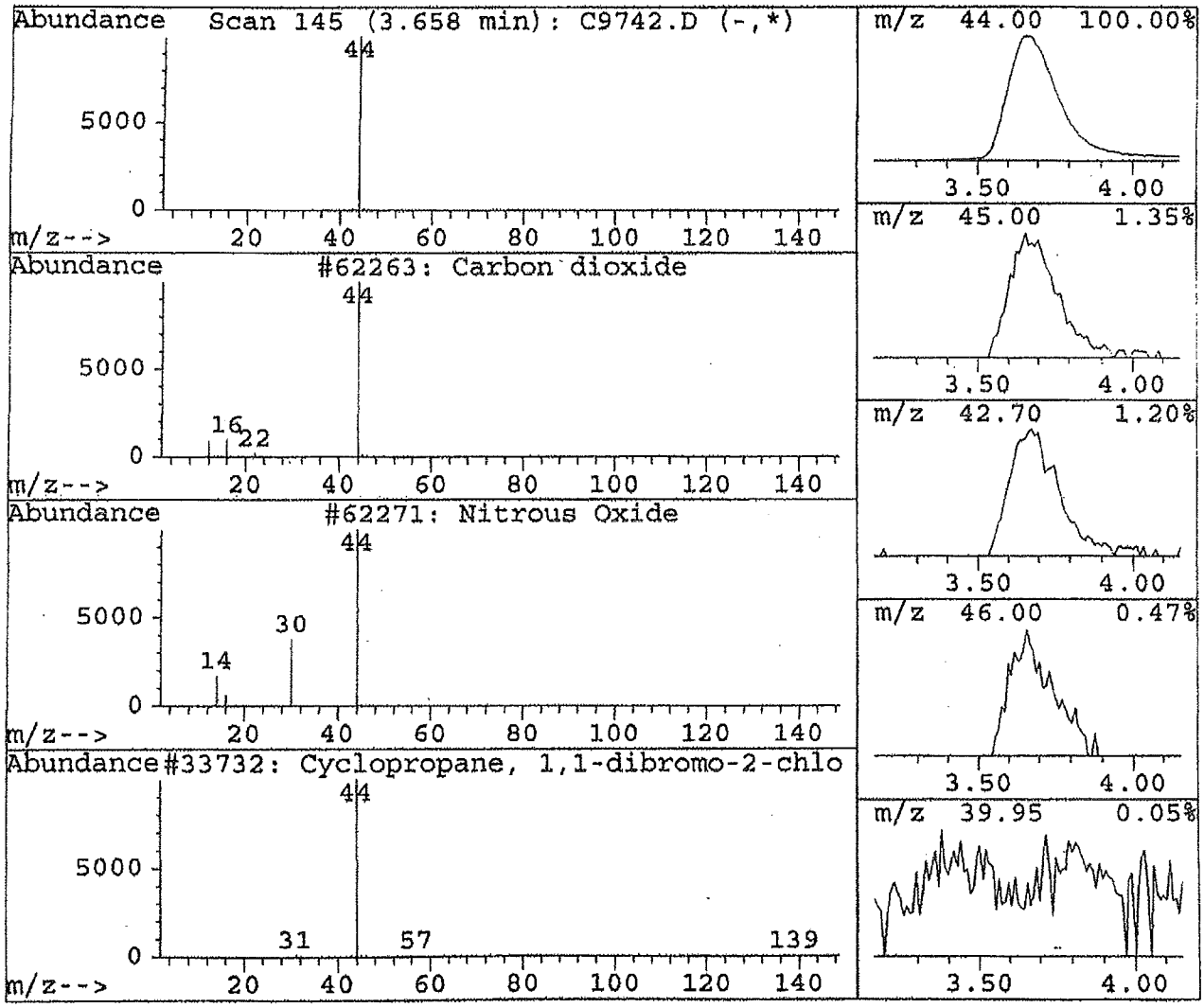
Data File : c:\hpchem\1\data\c9742.d
Acq On : 20 Nov 97 11:21 pm
Sample : 9785737
Misc : 5 ML

Vial: 13
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
3.66	182.12 ug/l	15965112	Bromochloromethane	11.69

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Nitrous Oxide	62271	010024-97-2	3
3	Cyclopropane, 1,1-dibromo-2-chloro-	33732	024071-57-6	2
4	Acetaldehyde	36	000075-07-0	2
5	Carbamic acid, monoammonium salt	391	001111-78-0	2



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785738V 190

MW-94

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785738V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9743.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785738V

MW-9A

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785738V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9743.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

9785738V
MW-9A

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785738V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9743.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data\c9743.d
Acq On : 20 Nov 97 11:57 pm
Sample : 9785738
Misc : 5 ML
Quant Time: Nov 21 11:27 1997

Vial: 14 193
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	11.70	130	491016	30.00	ug/l	0.03
26) 1,4-Difluorobenzene	13.37	114	1911849	30.00	ug/l	0.02
41) Chlorobenzene-d5	18.31	117	1628123	30.00	ug/l	0.01
System Monitoring Compounds						**%Recovery**
23) 1,2-Dichloroethane-d4	12.71	65	750793	32.96	ug/l	109.85%
33) Toluene-d8	15.79	98	1827234	30.35	ug/l	101.16%
49) 4-Bromofluorobenzene	20.39	95	1251375	30.23	ug/l	100.77%
Target Compounds						**Qvalue**

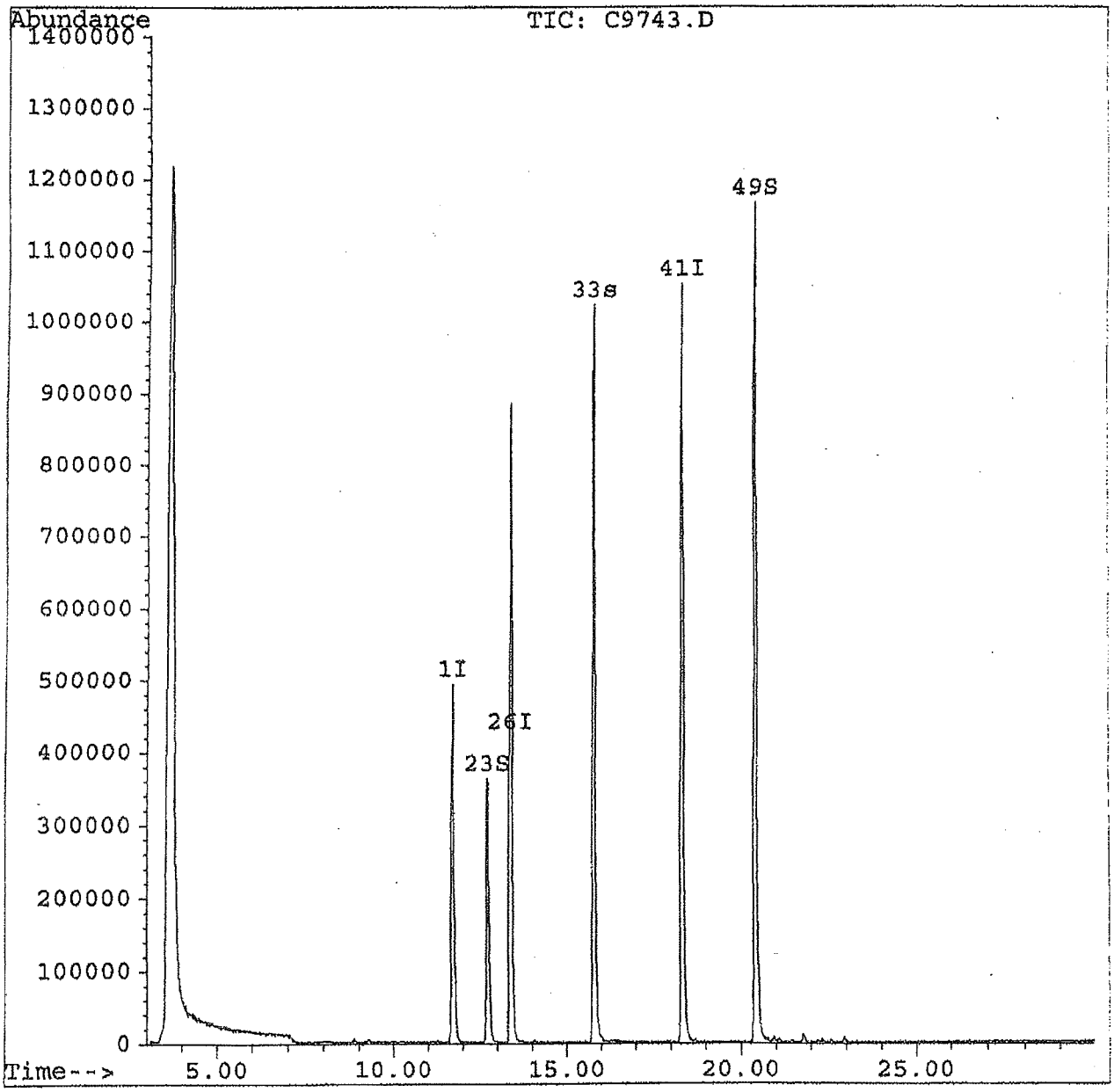
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9743.d
Acq On : 20 Nov 97 11:57 pm
Sample : 9785738
Misc : 5 ML
Quant Time: Nov 21 11:27 1997

Vial: 14
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration



Library Search Compound Report

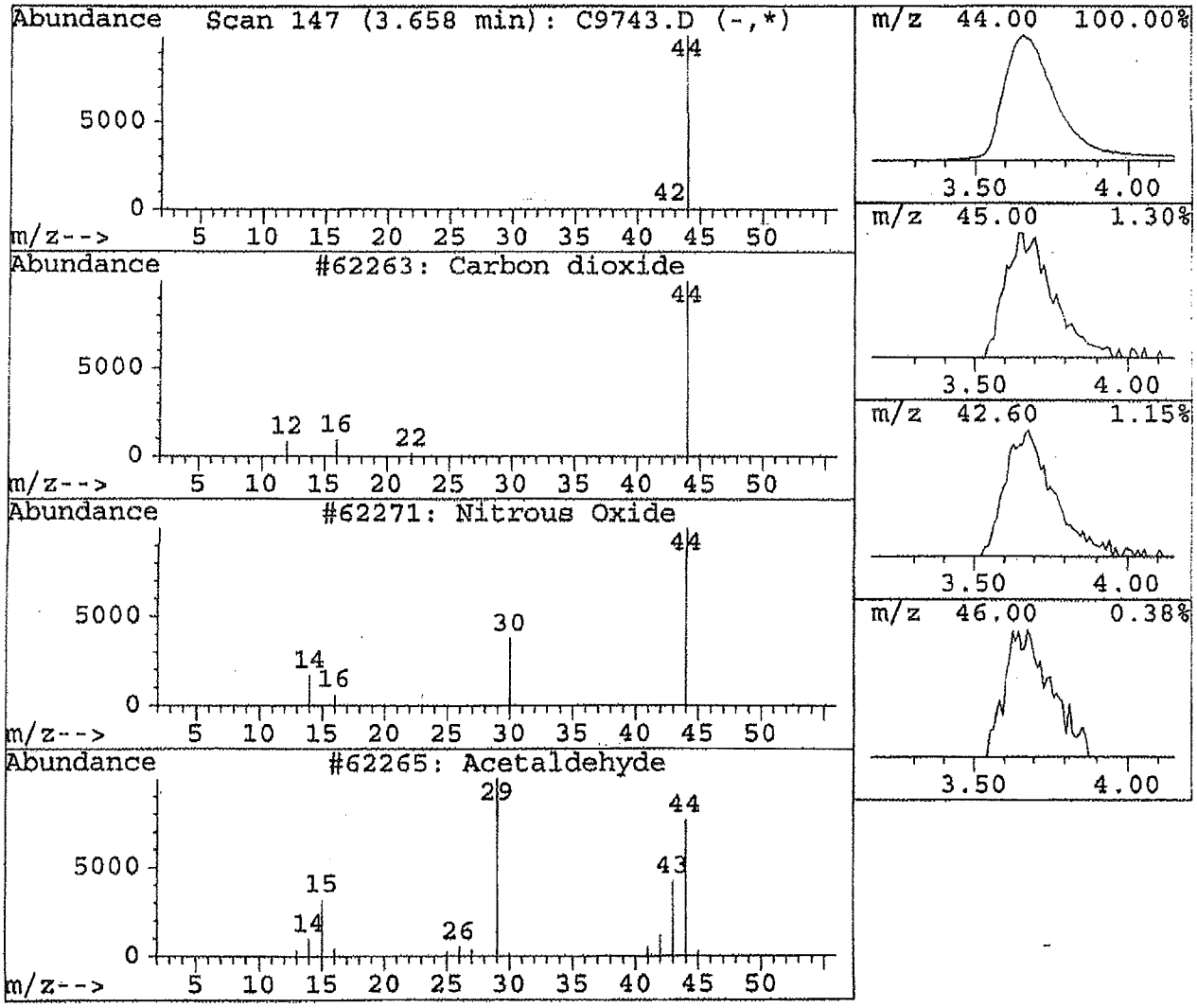
Data File : c:\hpchem\1\data\c9743.d
Acq On : 20 Nov 97 11:57 pm
Sample : 9785738
Misc : 5 ML

Vial: 14
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
3.66	183.90 ug/l	16196428	Bromochloromethane	11.70

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Nitrous Oxide	62271	010024-97-2	3
3	Acetaldehyde	62265	000075-07-0	2
4	Ethyne, fluoro-	35	002713-09-9	2
5	Ethylene oxide	62267	000075-21-8	2



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785739V
Field Blank

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785739V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9735.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	10	
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785739V FB

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785739V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9735.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO. 9785739V FB

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785739V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9735.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data\c9735.d
Acq On : 20 Nov 97 7:06 pm
Sample : 9785739 FB
Misc : 5 ML
Quant Time: Nov 21 11:23 1997

Vial: 6
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	11.68	130	511681	30.00	ug/l	0.01
26) 1,4-Difluorobenzene	13.37	114	1970229	30.00	ug/l	0.02
41) Chlorobenzene-d5	18.31	117	1716908	30.00	ug/l	0.01
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	12.70	65	763554	32.16	ug/l	107.21%
33) Toluene-d8	15.78	98	1905660	30.71	ug/l	102.38%
49) 4-Bromofluorobenzene	20.39	95	1317576	30.18	ug/l	100.61%
Target Compounds						Qvalue
12) Methylene chloride	8.87	49	230558	9.70	ug/l	98

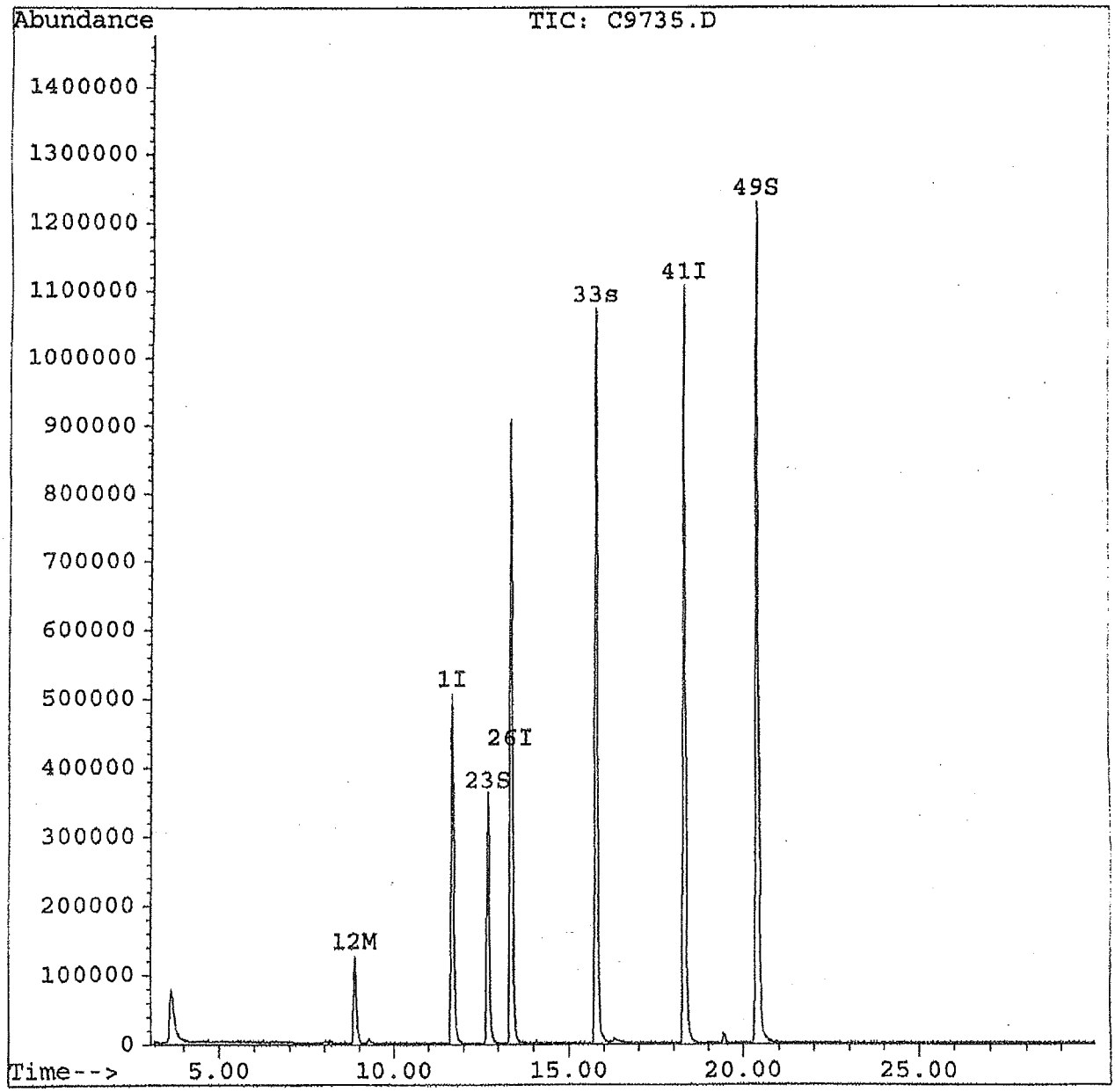
(#) = qualifier out of range (m) = manual integration

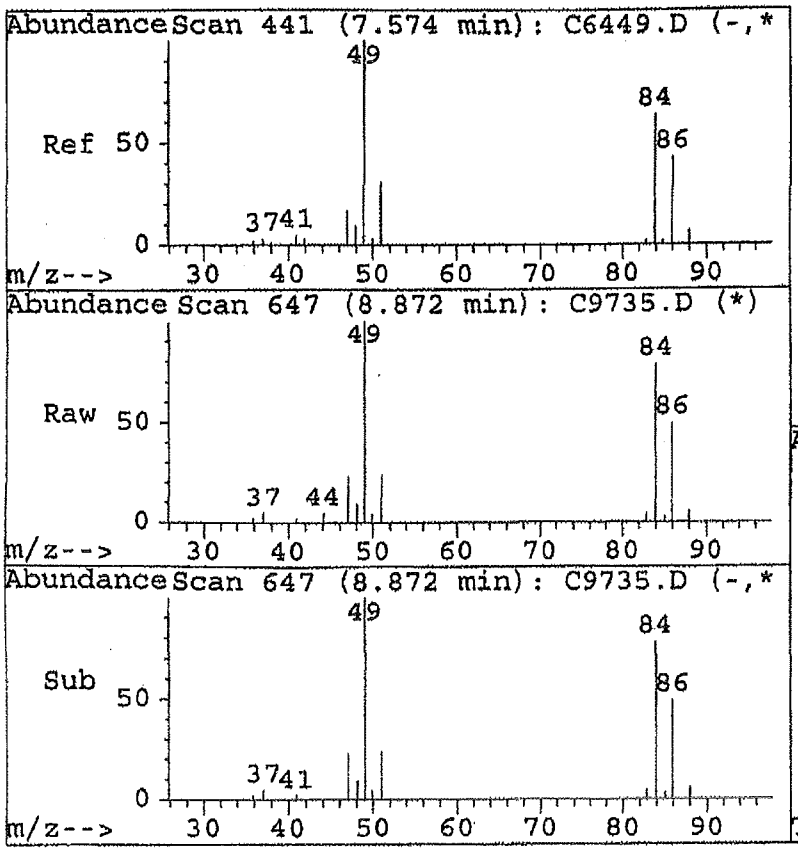
Quantitation Report

Data File : c:\hpchem\1\data\c9735.d
Acq On : 20 Nov 97 7:06 pm
Sample : 9785739 FB
Misc : 5 ML
Quant Time: Nov 21 11:23 1997

Vial: 6
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

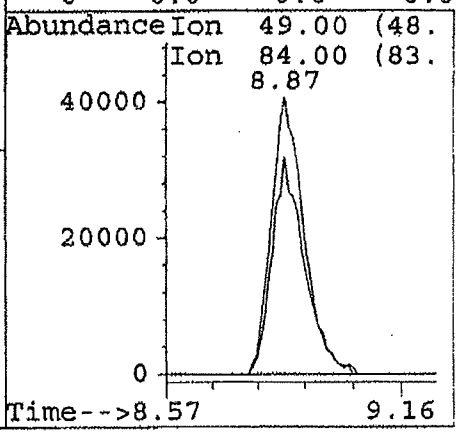




#12
Methylene chloride
Concen: 9.70 ug/l
RT: 8.87 min Scan# 647
Delta R.T. 0.02 min
Lab File: c9735.d
Acq: 20 Nov 97 7:06 pm

Tgt Ion:49 Resp: 230558

Ion	Ratio	Lower	Upper
49	100		
84	78.3	31.5	121.5
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

235

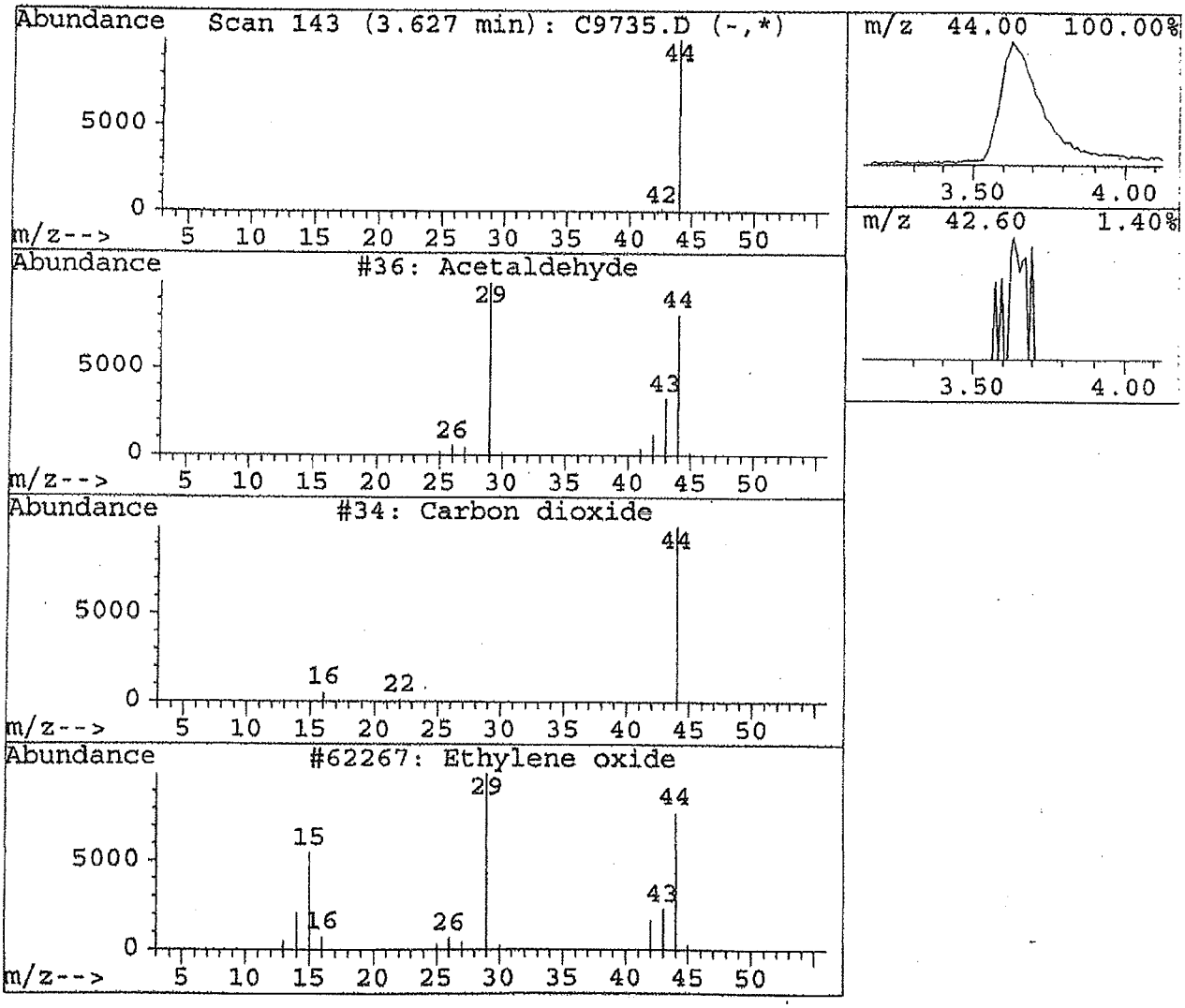
Data File : c:\hpchem\1\data\c9735.d
Acq On : 20 Nov 97 7:06 pm
Sample : 9785739 FB
Misc : 5 ML

Vial: 6
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
3.63	9.39 ug/l	856458	Bromochloromethane	11.68

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Acetaldehyde	36	000075-07-0	2
2	Carbon dioxide	34	000124-38-9	2
3	Ethylene oxide	62267	000075-21-8	2
4	Nitrous Oxide	62271	010024-97-2	2
5	Ethyne, fluoro-	35	002713-09-9	2



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785740V

Trip Blank

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785740V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9734.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	10	
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785740V

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785740V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9734.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

SAMPLE NO. 9785740V

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785740V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9734.D

Level: (low/med) Date Received: 11/18/97

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	Unknown	16.30	23	J
2.	Unknown	20.33	50	J
3.				
4.				
5.				
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Quantitation Report

Data File : c:\hpchem\1\data\c9734.d
Acq On : 20 Nov 97 6:30 pm
Sample : 9785740 TB
Misc : 5 ML
Quant Time: Nov 21 11:22 1997

Vial: 5 230
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	11.68	130	499713	30.00	ug/l	0.01
26) 1,4-Difluorobenzene	13.36	114	1944023	30.00	ug/l	0.01
41) Chlorobenzene-d5	18.31	117	1678762	30.00	ug/l	0.01
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	12.70	65	744958	32.13	ug/l	107.10%
33) Toluene-d8	15.78	98	1872517	30.59	ug/l	101.95%
49) 4-Bromofluorobenzene	20.38	95	1329111	31.14	ug/l	103.80%
Target Compounds						Qvalue
12) Methylene chloride	8.86	49	231024	9.95	ug/l	98

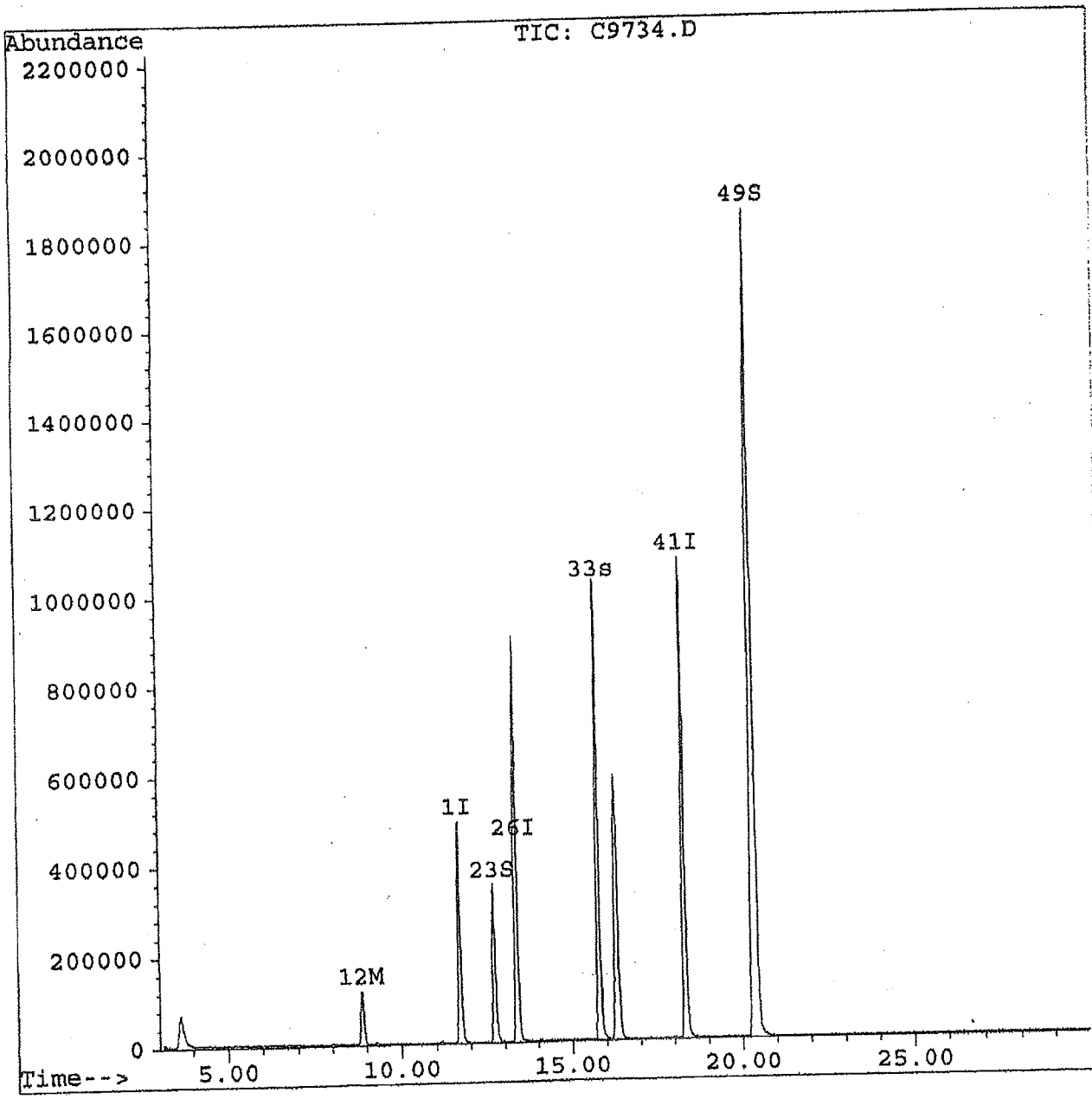
(#) = qualifier out of range (m) = manual integration

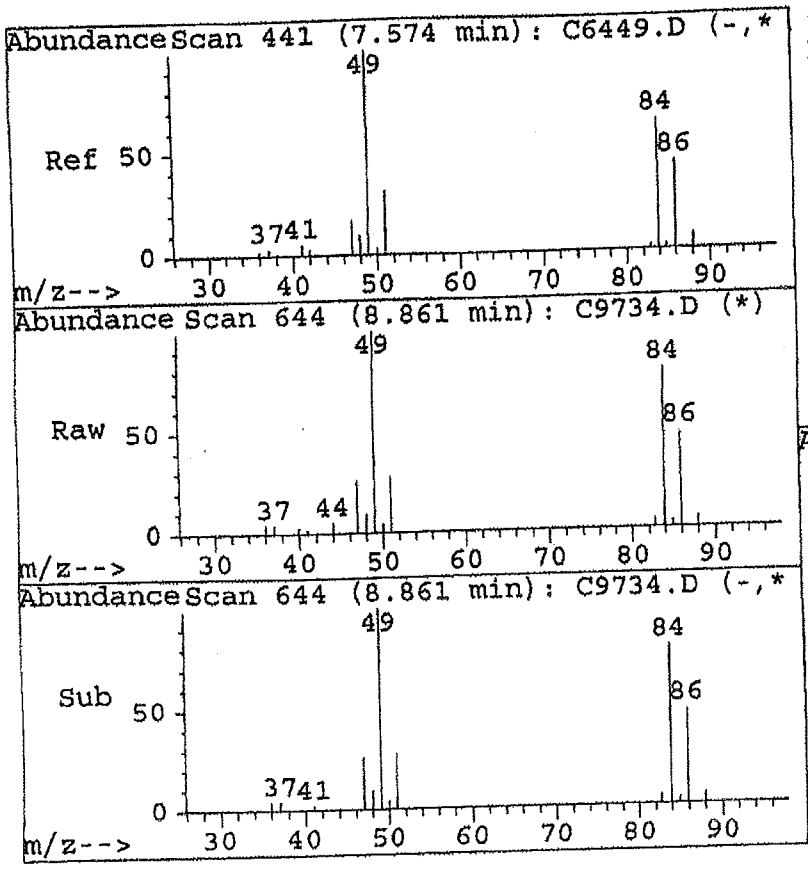
Quantitation Report

Data File : c:\hpchem\1\data\c9734.d
Acq On : 20 Nov 97 6:30 pm
Sample : 9785740 TB
Misc : 5 ML
Quant Time: Nov 21 11:22 1997

Vial: 5
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration



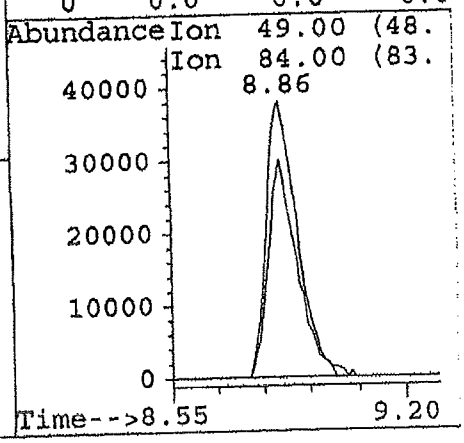


#12
Methylene chloride
Concen: 9.95 ug/l
RT: 8.86 min Scan# 644
Delta R.T. 0.01 min
Lab File: c9734.d
Acq: 20 Nov 97 6:30 pm

211

Tgt Ion:49 Resp: 231024

Ion	Ratio	Lower	Upper
49	100		
84	78.6	31.5	121.5
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

212

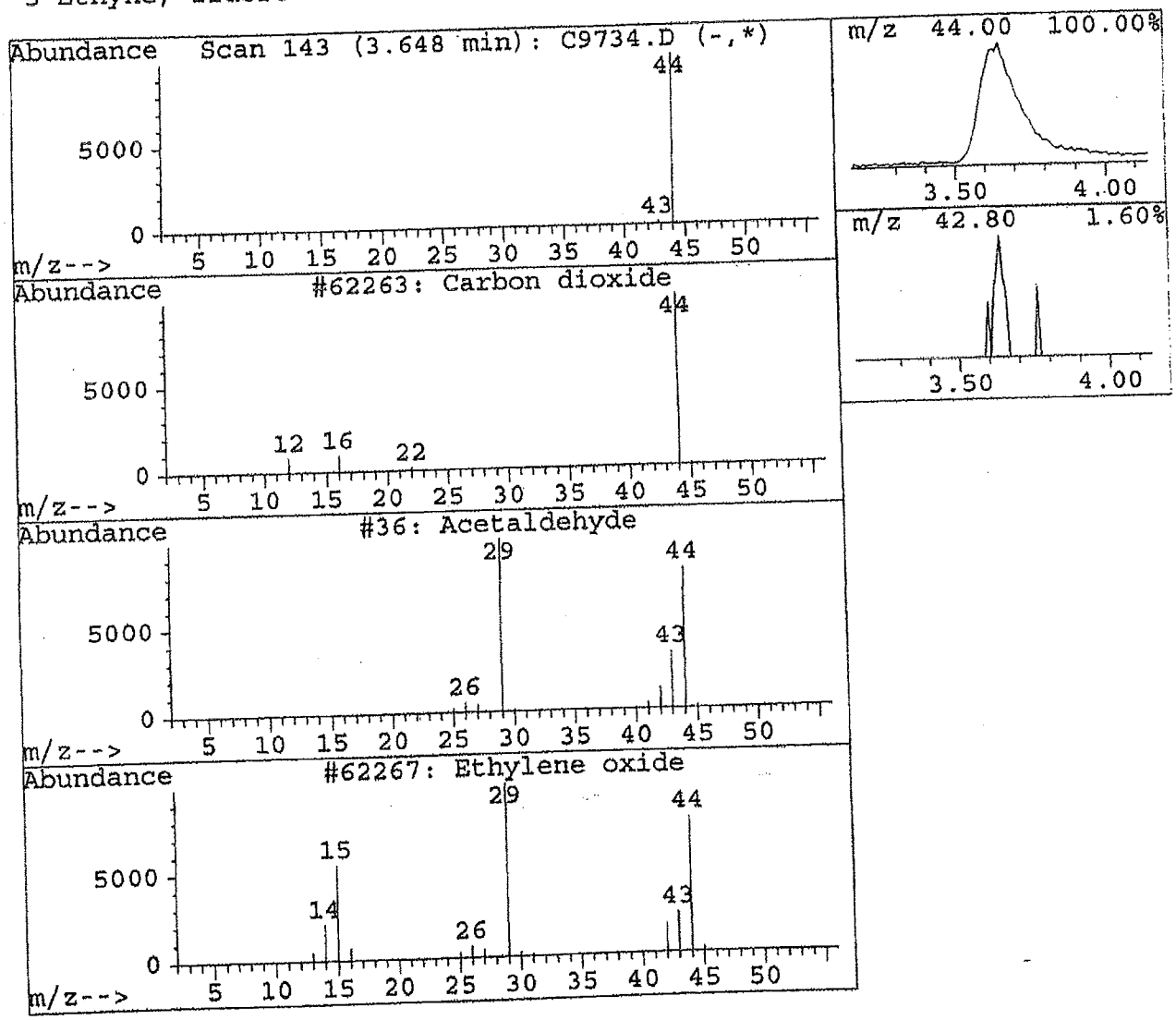
Data File : c:\hpchem\1\data\c9734.d
Acq On : 20 Nov 97 6:30 pm
Sample : 9785740 TB
Misc : 5 ML

Vial: 5
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
3.65	8.52 ug/l	750405	Bromochloromethane	11.68

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	2
2	Acetaldehyde	36	000075-07-0	2
3	Ethylene oxide	62267	000075-21-8	2
4	Nitrous Oxide	62270	010024-97-2	2
5	Ethyne, fluoro-	35	002713-09-9	2



Library Search Compound Report

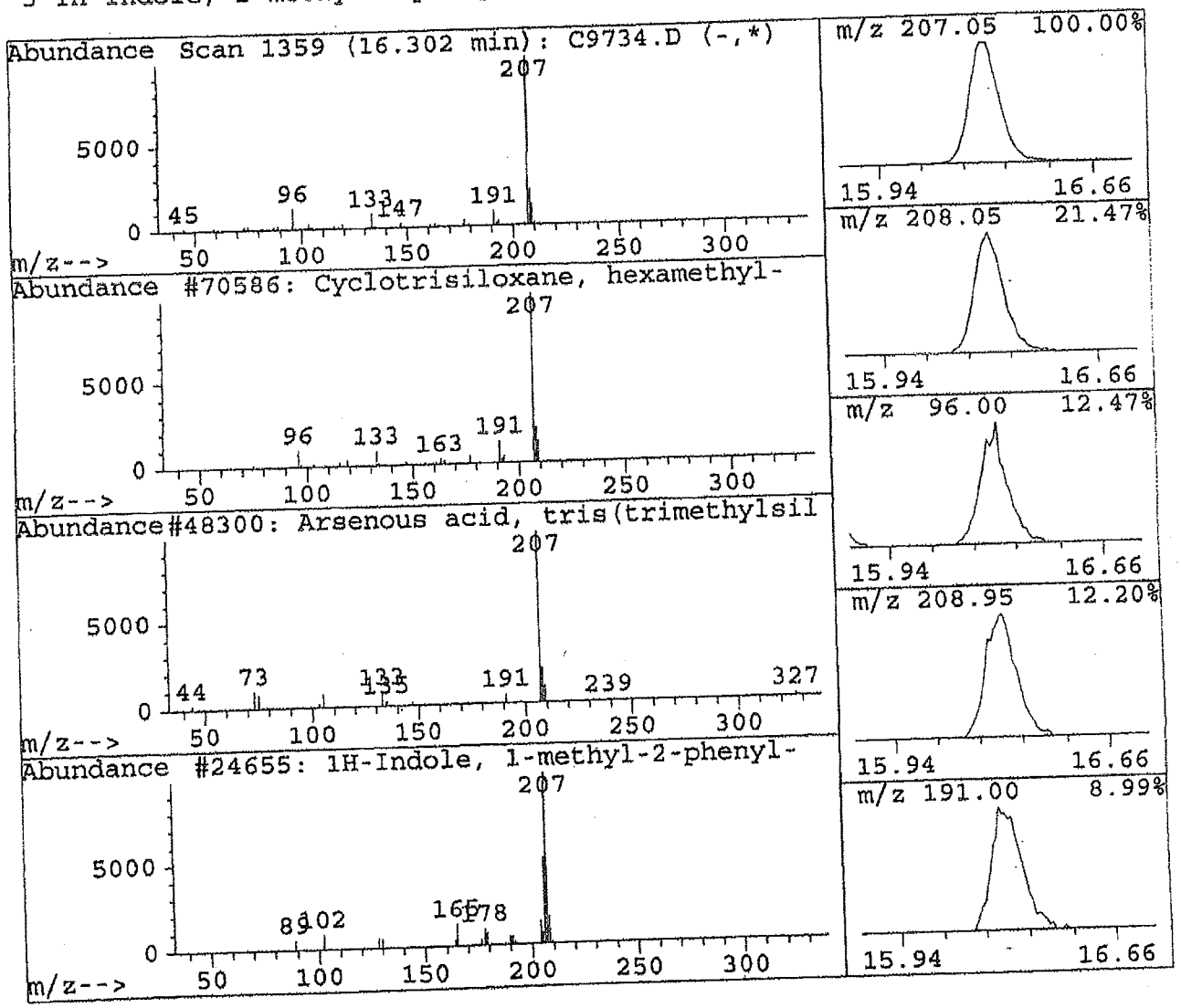
Data File : c:\hpchem\1\data\c9734.d
Acq On : 20 Nov 97 6:30 pm
Sample : 9785740 TB
Misc : 5 ML

Vial: 5
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
16.30	23.25 ug/l	4191504	Chlorobenzene-d5	18.31

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	70586	000541-05-9	47
2	Arsenous acid, tris(trimethylsilyl)	48300	055429-29-3	56
3	1H-Indole, 1-methyl-2-phenyl-	24655	003558-24-5	38
4	1H-Indole, 5-methyl-2-phenyl-	24654	013228-36-9	38
5	1H-Indole, 2-methyl-3-phenyl-	24658	004757-69-1	9



Library Search Compound Report

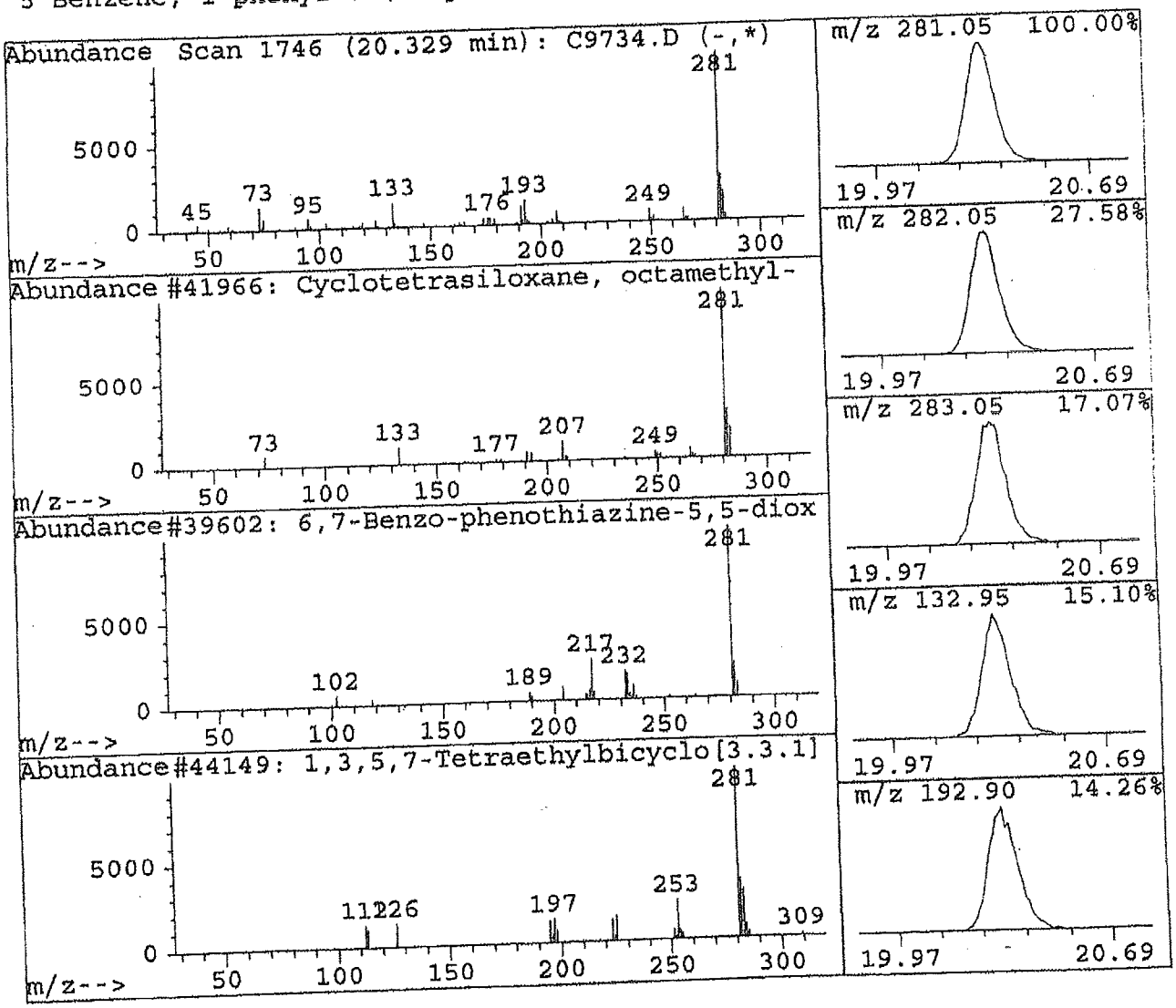
Data File : c:\hpchem\1\data\c9734.d
Acq On : 20 Nov 97 6:30 pm
Sample : 9785740 TB
Misc : 5 ML

Vial: 5
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
20.33	50.13 ug/l	9037464	Chlorobenzene-d5	18.31

Hit# of 16	Tentative ID	Ref#	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-	41966	000556-67-2	64
2	6,7-Benzo-phenothiazine-5,5-dioxide	39602	000000-00-0	9
3	1,3,5,7-Tetraethylbicyclo[3.3.1]tet	44149	073420-21-0	4
4	4-(1-Benzimidazyl)-7-nitro-2,1,3-ox	39560	091485-32-4	5
5	Benzene, 1-phenyl-4-(2-cyano-2-phen	39643	027869-56-3	47



1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785741V

WMB-10

215

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785741V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9745.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/21/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	2	U
110-75-8	2-Chloroethyl vinyl ether	1	U
541-73-1	1,3-Dichlorobenzene	1	U-
106-46-7	1,4-Dichlorobenzene		

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 9785741V MW2-10

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785741V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9745.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/21/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9785741V
MW3-10

Lab Name: EMSL ANALYTICAL Contract: _____

Project No. _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785741V

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9745.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: not dec. _____ Date Analyzed: 11/21/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units:
(ug/L or ug/Kg) ug/L

Number TICs found: 0

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
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Quantitation Report

Data File : c:\hpchem\1\data\c9745.d
Acq On : 21 Nov 97 1:10 am
Sample : 9785741
Misc : 5 ML
Quant Time: Nov 21 11:28 1997

Vial: 16 219
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	11.68	130	410981	30.00	ug/l	0.01
26) 1,4-Difluorobenzene	13.36	114	1527573	30.00	ug/l	0.01
41) Chlorobenzene-d5	18.31	117	1327560	30.00	ug/l	0.01
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	12.71	65	607668	31.87	ug/l	106.23%
33) Toluene-d8	15.78	98	1461351	30.38	ug/l	101.26%
49) 4-Bromofluorobenzene	20.39	95	997149	29.54	ug/l	98.48%
Target Compounds						Qvalue

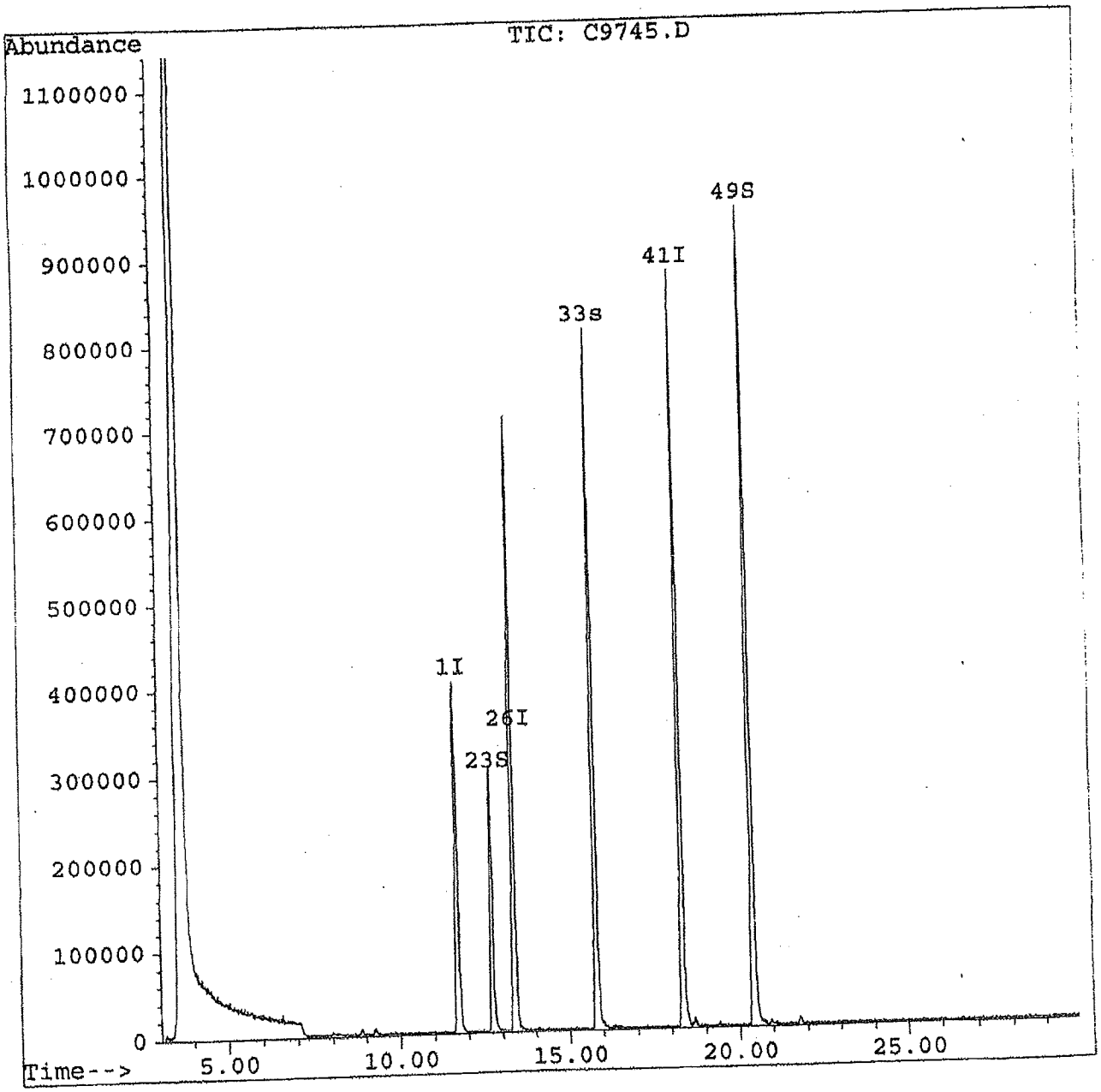
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9745.d
Acq On : 21 Nov 97 1:10 am
Sample : 9785741
Misc : 5 ML
Quant Time: Nov 21 11:28 1997

Vial: 16
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration



Library Search Compound Report

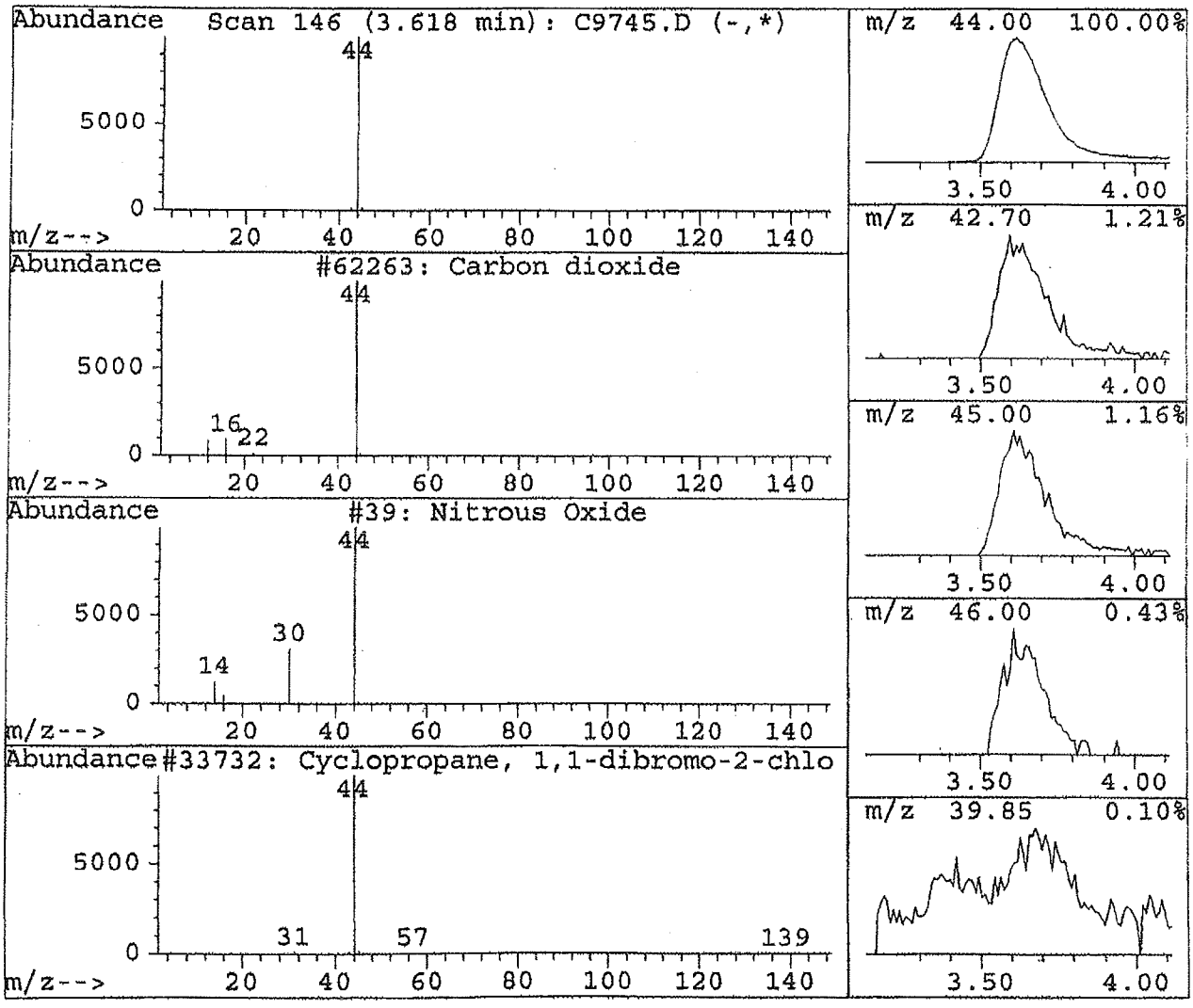
Data File : c:\hpchem\1\data\c9745.d
Acq On : 21 Nov 97 1:10 am
Sample : 9785741
Misc : 5 ML

Vial: 16
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
3.62	331.66 ug/l	24414535	Bromochloromethane	11.68

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	4
2	Nitrous Oxide	39	010024-97-2	3
3	Cyclopropane, 1,1-dibromo-2-chloro-	33732	024071-57-6	2
4	Carbamic acid, monoammonium salt	391	001111-78-0	2
5	Ethyne, fluoro-	35	002713-09-9	2



2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

	SAMPLE NO.	SMC1 (DCE) #	SMC2 (TLD8) #	SMC3 (BFB) #	OTHER #	TOT OUT
01	VBLK01	108	101	99		
02	9785740V	107	102	104		
03	9785739V	107	102	101		
04	9785731V	109	101	100		
05	9785732V	108	102	100		
06	9785733V	110	101	101		
07	9785734V	108	103	100		
08	9785735V	110	102	100		
09	9785736V	107	99	100		
10	9785737V	105	102	99		
11	9785738V	110	101	101		
12	9785741MS	106	101	105		
13	9785741V	106	101	98		
14	9785741MSD	106	102	102		
15						
16						
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	QC LIMITS
SMC1 (DCE) = 1,2-Dichloroethane-d4	(81-112)
SMC2 (TLD8) = Toluene-d8	(91-113)
SMC3 (BFB) = 4-Bromofluorobenzene	(81-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

VBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Lab File ID: C9733.D Lab Sample ID: M. BLANK

Date Analyzed: 11/20/97 Time Analyzed: 1753

GC Column: RTX-624 X 7 ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: 5972-INST

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	9785740V	9785740V	C9734.D	1830
02	9785739V	9785739V	C9735.D	1906
03	9785731V	9785731V	C9736.D	1943
04	9785732V	9785732V	C9737.D	2019
05	9785733V	9785733V	C9738.D	2056
06	9785734V	9785734V	C9739.D	2132
07	9785735V	9785735V	C9740.D	2208
08	9785736V	9785736V	C9741.D	2245
09	9785737V	9785737V	C9742.D	2321
10	9785738V	9785738V	C9743.D	2357
11	9785741MS	85741MS	C9744.D	0034
12	9785741V	9785741V	C9745.D	0110
13	9785741MSD	85741MSD	C9746.D	0146
14				
15				
16				
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COMMENTS:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

VBLK01

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: M. BLANK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9733.D

Level: (low/med) _____ Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl chloride	1	U
75-00-3	Chloroethane	1	U
75-69-4	Trichlorofluoromethane	1	U
75-09-2	Methylene chloride	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-60-65	trans-1,2-Dichloroethene	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
108-38-9	Xylene (para & meta)	1	U
95-47-6	Xylene (ortho)	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

VBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: M. BLANK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9733.D

Level: (low/med) Date Received:

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
95-50-1	1,2-Dichlorobenzene	1	U
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-65-0	Methyl-tert butyl ether	1	U
1634-04-4	tert-Butyl Alcohol	10	U

1E

SAMPLE NO. 225

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: M. BLANK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C9733.D

Level: (low/med) Date Received:

% Moisture: not dec. Date Analyzed: 11/20/97

GC Column: RTX-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data\c9733.d
Acq On : 20 Nov 97 5:53 pm
Sample : METHOD BLANK
Misc : 5 ML
Quant Time: Nov 21 11:22 1997

Vial: 4
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	11.68	130	483448	30.00	ug/l	0.01
26) 1,4-Difluorobenzene	13.36	114	1948900	30.00	ug/l	0.01
41) Chlorobenzene-d5	18.30	117	1656717	30.00	ug/l	0.00
System Monitoring Compounds						%Recovery
23) 1,2-Dichloroethane-d4	12.70	65	726994	32.41	ug/l	108.04%
33) Toluene-d8	15.77	98	1860570	30.31	ug/l	101.05%
49) 4-Bromofluorobenzene	20.38	95	1253563	29.76	ug/l	99.20%

Target Compounds Qvalue

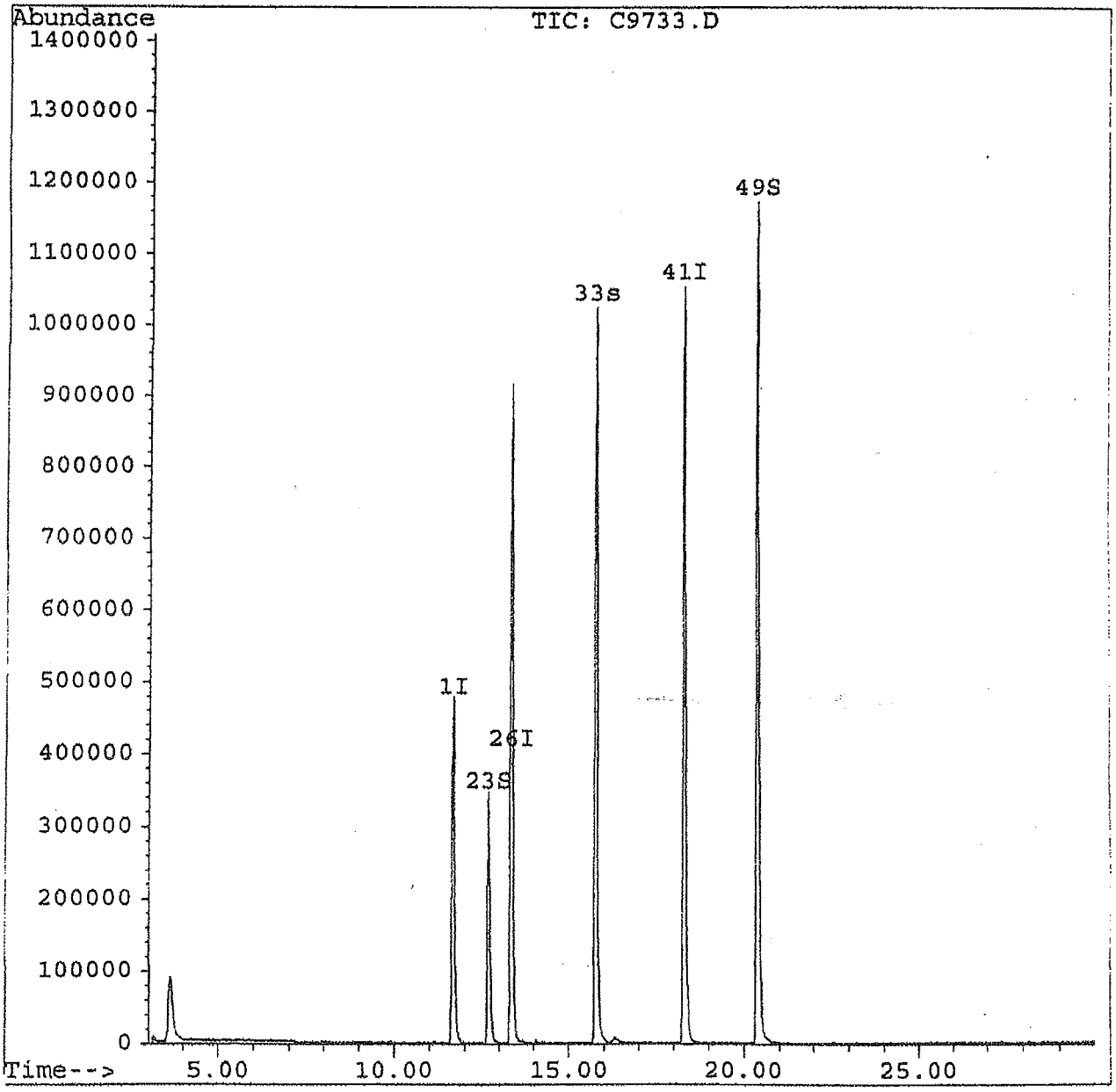
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9733.d
Acq On : 20 Nov 97 5:53 pm
Sample : METHOD BLANK
Misc : 5 ML
Quant Time: Nov 21 11:22 1997

Vial: 4
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration



Library Search Compound Report

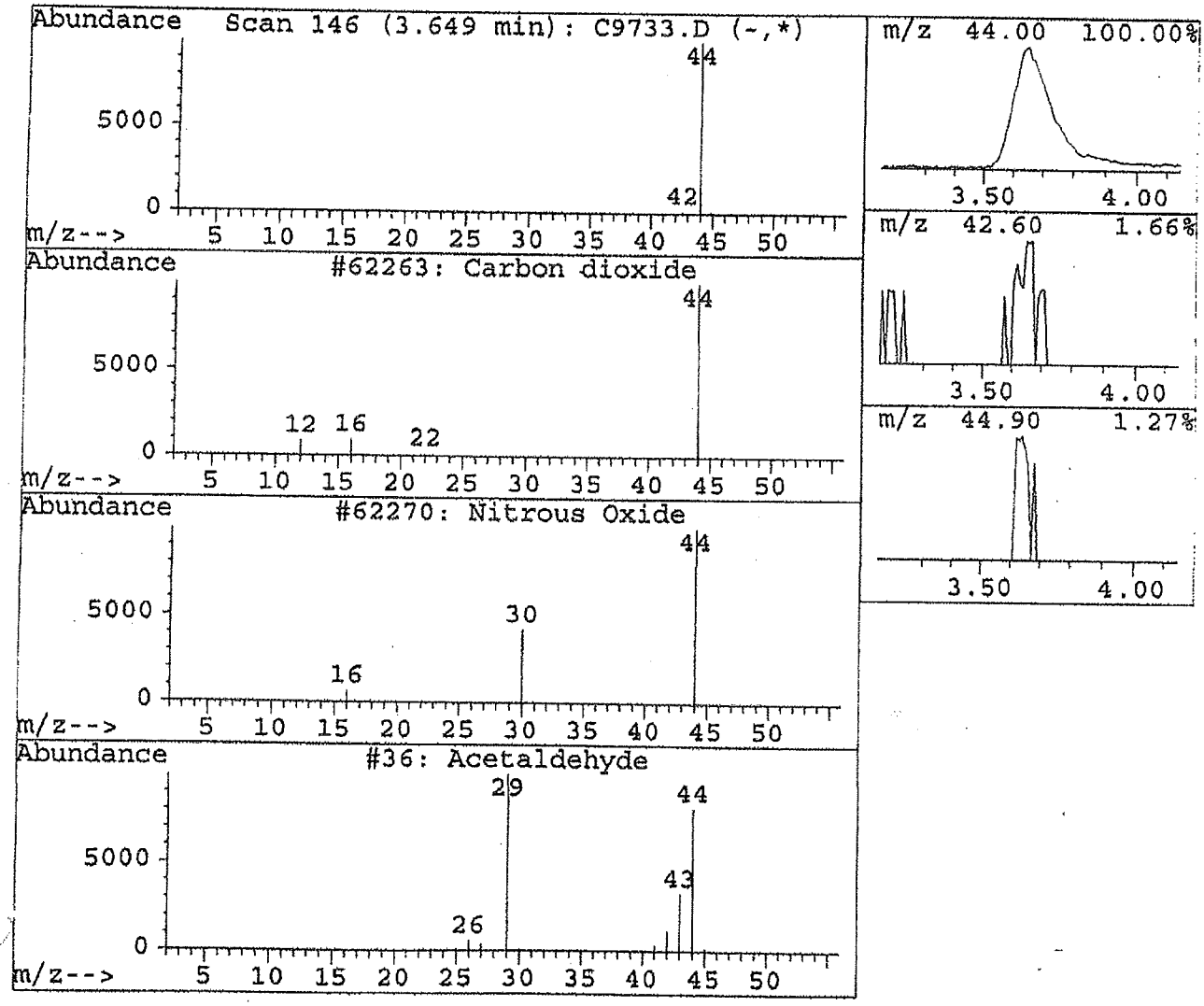
Data File : c:\hpchem\1\data\c9733.d
Acq On : 20 Nov 97 5:53 pm
Sample : METHOD BLANK
Misc : 5 ML

Vial: 4 220
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
3.65	10.49 ug/l	909546	Bromochloromethane	11.68

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Carbon dioxide	62263	000124-38-9	3
2	Nitrous Oxide	62270	010024-97-2	3
3	Acetaldehyde	36	000075-07-0	2
4	2,5-Dimethoxy-4-(methylsulfonyl)amp	38244	000000-00-0	1
5	Cyclopropane, 1,1-dibromo-2-chloro-	33732	024071-57-6	1



Spike Recovery and RPD Summary Report - WATER

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
L t Update : Thu Nov 20 18:04:35 1997
Response via : Initial Calibration

Non-Spiked Sample: C9745.D

	Spike Sample	Spike Duplicate Sample
File ID :	C9744.D	C9746.D
Sample :	9785741 MS	9785741 MSD
Acq Time:	21 Nov 97 12:34 am	21 Nov 97 1:46 am

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
Dichlorodifluorometh	0.0	20	15	17	75	85	12	25	50-150
Chloromethane	0.0	20	17	18	83	91	9	99	1-273
Vinyl chloride	0.0	20	16	19	82	93	13	100	1-251
Bromomethane	0.0	20	16	18	82	91	10	90	1-242
Chloroethane	0.0	20	19	20	94	101	7	57	14-230
Trichlorofluorometha	0.0	20	22	24	109	119	9	50	17-181
1,1-Dichloroethene	0.0	20	19	21	93	106	12	46	1-234
Methylene chloride	0.0	20	23	25	114	122	7	37	1-221
trans-1,2-Dichloroet	0.0	20	20	21	99	107	8	29	54-156
Methyl-tert butyl et	0.0	20	21	21	106	106	1	25	25-150
1-Dichloroethane	0.0	20	21	22	104	108	4	26	59-155
loroform	0.0	20	22	22	107	112	4	31	51-138
1,1,1-Trichloroethan	0.0	20	21	23	105	114	8	23	52-162
Carbon tetrachloride	0.0	20	21	22	104	112	7	26	70-140
Benzene	0.0	20	20	21	99	105	6	35	37-151
1,2-Dichloroethane	0.0	20	24	25	118	122	3	30	49-155
Trichloroethene	0.0	20	20	21	102	106	4	33	71-157
1,2-Dichloropropane	0.0	20	20	20	100	101	1	69	1-210
Bromodichloromethane	0.0	20	21	22	106	109	3	32	35-155
2-Chloroethyl vinyl	0.0	20	0	0	0	1	200#	130	0-305
cis-1,3-Dichloroprop	0.0	20	20	20	98	98	0	79	1-227
Toluene	0.0	20	20	21	99	104	5	24	47-150
trans-1,3-Dichloropr	0.0	20	20	21	102	103	0	52	17-183
1,1,2-Trichloroethan	0.0	20	21	21	105	105	0	28	52-150
Tetrachloroethene	0.0	20	21	21	103	107	4	25	64-148
Dibromochloromethane	0.0	20	21	21	104	104	1	31	53-149
Chlorobenzene	0.0	20	20	20	102	102	0	32	37-160
Ethylbenzene	0.0	20	21	21	103	104	1	30	37-162
Xylene (para & meta)	0.0	40	41	42	101	104	3	25	50-150
Xylene (ortho)	0.0	20	21	21	103	105	2	25	50-150
Bromoform	0.0	20	20	21	101	106	4	27	45-169
1,1,2,2-Tetrachloroe	0.0	20	21	21	106	103	3	37	46-157
1,3-Dichlorobenzene	0.0	20	20	20	101	101	0	28	59-156
1,4-Dichlorobenzene	0.0	20	20	21	101	103	2	36	18-190
1,2-Dichlorobenzene	0.0	20	21	21	107	106	1	36	18-190

Quantitation Report

Data File : c:\hpchem\1\data\c9744.d
Acq On : 21 Nov 97 12:34 am
Sample : 9785741 MS
Misc : 5 ML
Quant Time: Nov 21 11:28 1997

Vial: 15
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	11.69	130	469402	30.00	ug/l		0.02
26) 1,4-Difluorobenzene	13.37	114	1870912	30.00	ug/l		0.02
41) Chlorobenzene-d5	18.31	117	1557973	30.00	ug/l		0.01
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	12.70	65	692033	31.78	ug/l		105.92%
33) Toluene-d8	15.78	98	1789940	30.38	ug/l		101.26%
49) 4-Bromofluorobenzene	20.39	95	1244002	31.41	ug/l		104.69%
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.03	85	332262	15.07	ug/l	m	90
3) Chloromethane	4.57	50	111110	16.60	ug/l	m	91
4) Vinyl chloride	4.82	62	196374	16.35	ug/l		95
5) Bromomethane	5.65	94	165876	16.48	ug/l		96
6) Chloroethane	5.91	64	140273	18.73	ug/l		95
7) Trichlorofluoromethane	6.48	101	782355	21.74	ug/l		95
8) Acrolein	7.67	56	65217	189.70	ug/l	m	100
9) 1,1-Dichloroethene	7.72	96	261209	18.68	ug/l		95
10) Acetone	8.00	43	163639	28.31	ug/l		92
11) Carbon disulfide	8.15	76	642604	18.06	ug/l		100
12) Methylene chloride	8.86	49	506626	23.23	ug/l		97
13) Acrylonitrile	9.49	53	40705	17.86	ug/l		100
14) trans-1,2-Dichloroethene	9.31	96	291152	19.86	ug/l		98
15) Methyl-tert butyl ether	9.29	73	864581	21.21	ug/l		92
16) tert-Butyl Alcohol	9.13	59	87426	88.71	ug/l	m	100
17) 1,1-Dichloroethane	10.19	63	625042	20.73	ug/l		95
18) cis-1,2-Dichloroethene	11.26	96	337282	19.90	ug/l		97
19) 2-Butanone	11.31	43	136595	19.20	ug/l		98
20) Chloroform	11.80	83	762217	21.52	ug/l		99
21) 1,1,1-Trichloroethane	12.05	97	715805	21.06	ug/l		100
22) Carbon tetrachloride	12.26	117	653096	20.86	ug/l		98
24) Benzene	12.68	78	979195	19.75	ug/l		100
25) 1,2-Dichloroethane	12.84	62	597035	23.92	ug/l		100
27) Trichloroethene	13.75	130	480767	20.41	ug/l		98
28) 1,2-Dichloropropane	14.22	63	360562	20.03	ug/l		92
29) Bromodichloromethane	14.66	83	750199	21.13	ug/l		97
31) cis-1,3-Dichloropropene	15.41	75	566518	19.62	ug/l		97
32) 4-Methyl-2-pentanone	15.63	43	339797	20.76	ug/l		97
34) Toluene	15.90	92	712586	19.94	ug/l		92
35) trans-1,3-Dichloropropene	16.38	75	554843	20.44	ug/l		98
36) 1,1,2-Trichloroethane	16.69	97	355574	21.04	ug/l		88
37) 2-Hexanone	17.04	43	199070	17.21	ug/l		94
38) Tetrachloroethene	16.79	164	449152	20.62	ug/l		91
39) Dibromochloromethane	17.34	129	631209	20.70	ug/l		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9744.d
Acq On : 21 Nov 97 12:34 am
Sample : 9785741 MS
Misc : 5 ML
Quant Time: Nov 21 11:28 1997

Vial: 15
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
42) Chlorobenzene	18.36	112	985041	20.38 ug/l	98
43) 1,1,1,2-Tetrachloroethane	18.50	131	501659	20.80 ug/l	96
44) Ethylbenzene	18.48	91	1611543	20.94 ug/l	100
45) Xylene (para & meta)	18.68	91	2591592	40.71 ug/l	99
46) Xylene (ortho)	19.39	91	1222514	20.73 ug/l	94
47) Styrene	19.43	104	826757	16.53 ug/l	97
48) Bromoform	19.84	173	442812	20.27 ug/l	97
50) 1,1,2,2-Tetrachloroethane	20.67	83	538238	21.23 ug/l	99
51) 1,3-Dichlorobenzene	22.36	146	874490	20.20 ug/l	100
52) 1,4-Dichlorobenzene	22.54	146	1021082	20.17 ug/l	100
53) 1,2-Dichlorobenzene	23.23	146	930888	21.36 ug/l	99

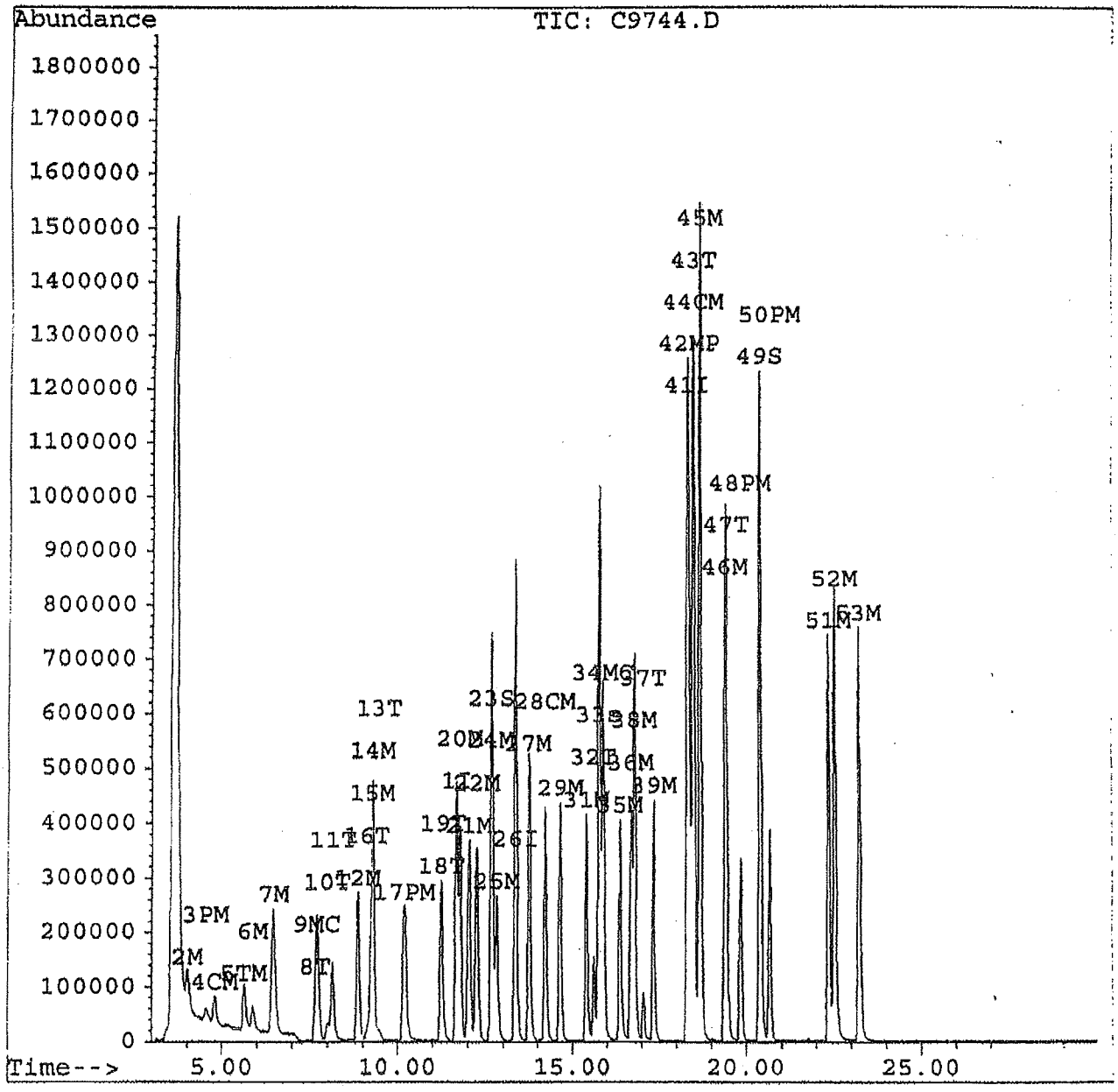
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9744.d
Acq On : 21 Nov 97 12:34 am
Sample : 9785741 MS
Misc : 5 ML
Quant Time: Nov 21 11:28 1997

Vial: 15
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data\c9746.d
Acq On : 21 Nov 97 1:46 am
Sample : 9785741 MSD
Misc : 5 ML
Quant Time: Nov 21 11:29 1997

Vial: 17
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	11.69	130	472042	30.00	ug/l		0.02
26) 1,4-Difluorobenzene	13.37	114	1910829	30.00	ug/l		0.02
41) Chlorobenzene-d5	18.32	117	1600941	30.00	ug/l		0.02
System Monitoring Compounds							%Recovery
23) 1,2-Dichloroethane-d4	12.71	65	694293	31.70	ug/l		105.67%
33) Toluene-d8	15.79	98	1847920	30.71	ug/l		102.36%
49) 4-Bromofluorobenzene	20.39	95	1250696	30.73	ug/l		102.43%
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.05	85	375631	16.94	ug/l	m	92
3) Chloromethane	4.58	50	122148	18.15	ug/l		95
4) Vinyl chloride	4.81	62	225811	18.70	ug/l		93
5) Bromomethane	5.66	94	184330	18.21	ug/l		98
6) Chloroethane	5.90	64	152025	20.18	ug/l		85
7) Trichlorofluoromethane	6.49	101	859439	23.75	ug/l		98
8) Acrolein	7.69	56	62922	182.00	ug/l	m	100
9) 1,1-Dichloroethene	7.73	96	297582	21.16	ug/l		98
10) Acetone	8.03	43	172223	29.63	ug/l		97
11) Carbon disulfide	8.16	76	670602	18.75	ug/l		100
12) Methylene chloride	8.88	49	545847	24.89	ug/l		92
13) Acrylonitrile	9.51	53	39206	17.10	ug/l		100
14) trans-1,2-Dichloroethene	9.32	96	315920	21.43	ug/l		94
15) Methyl-tert butyl ether	9.28	73	874516	21.33	ug/l		100
16) tert-Butyl Alcohol	9.15	59	88292	89.09	ug/l	m	100
17) 1,1-Dichloroethane	10.21	63	653884	21.56	ug/l		97
18) cis-1,2-Dichloroethene	11.28	96	365790	21.46	ug/l		98
19) 2-Butanone	11.33	43	135317	18.91	ug/l		95
20) Chloroform	11.81	83	796643	22.36	ug/l		98
21) 1,1,1-Trichloroethane	12.07	97	777839	22.76	ug/l		99
22) Carbon tetrachloride	12.27	117	706315	22.43	ug/l		96
24) Benzene	12.69	78	1044106	20.95	ug/l		100
25) 1,2-Dichloroethane	12.85	62	620603	24.73	ug/l		99
27) Trichloroethene	13.76	130	510031	21.20	ug/l		96
28) 1,2-Dichloropropane	14.22	63	371336	20.20	ug/l		92
29) Bromodichloromethane	14.67	83	788223	21.74	ug/l		97
31) cis-1,3-Dichloropropene	15.42	75	577541	19.58	ug/l		93
32) 4-Methyl-2-pentanone	15.65	43	341009	20.40	ug/l		94
34) Toluene	15.91	92	763070	20.91	ug/l		95
35) trans-1,3-Dichloropropene	16.37	75	569082	20.52	ug/l		99
36) 1,1,2-Trichloroethane	16.70	97	363215	21.04	ug/l		89
37) 2-Hexanone	17.05	43	202038	17.10	ug/l		76
38) Tetrachloroethene	16.79	164	475148	21.36	ug/l		87
39) Dibromochloromethane	17.34	129	649149	20.84	ug/l		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data\c9746.d
Acq On : 21 Nov 97 1:46 am
Sample : 9785741 MSD
Misc : 5 ML
Quant Time: Nov 21 11:29 1997

Vial: 17
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

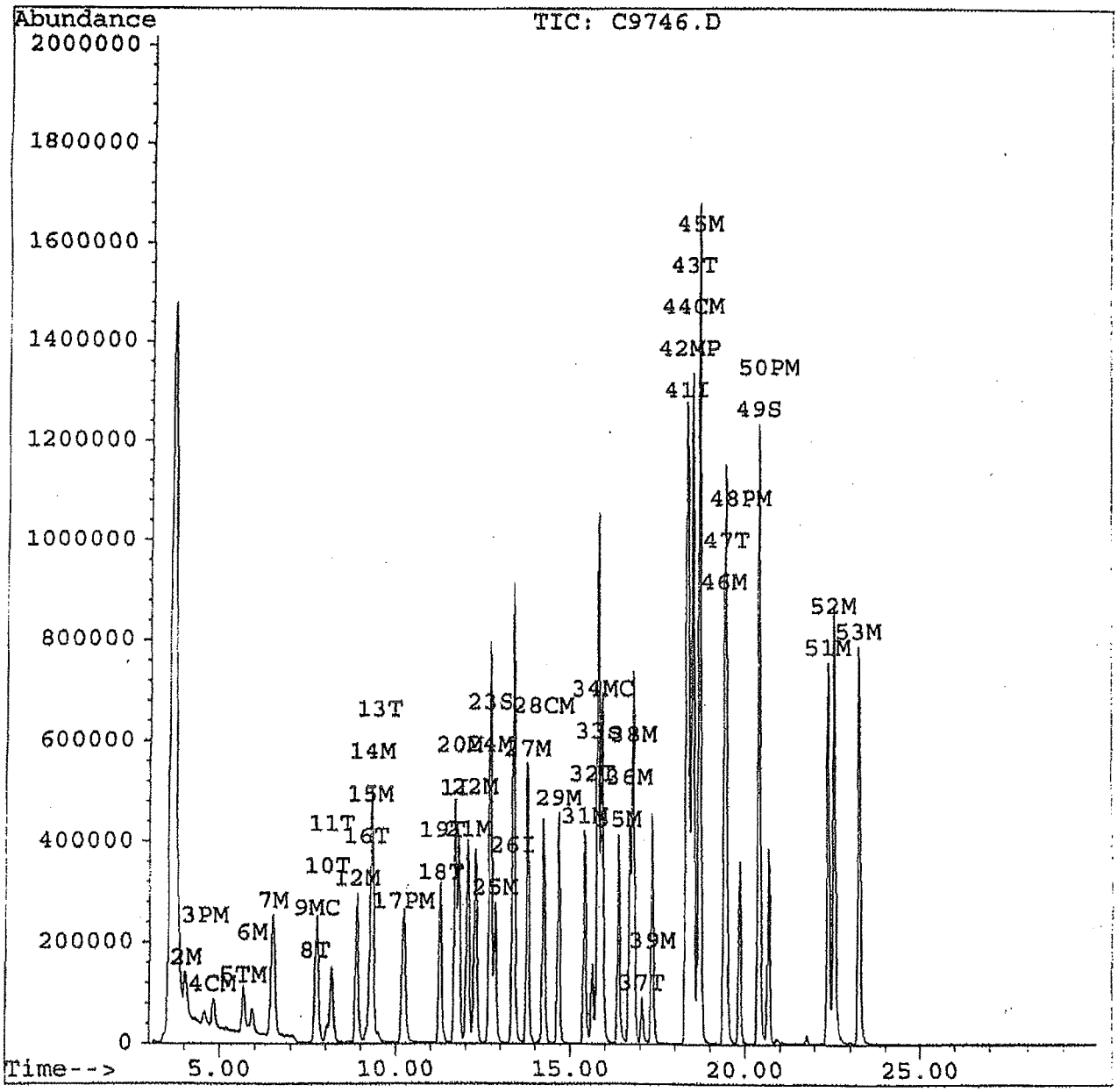
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
42) Chlorobenzene	18.37	112	1012036	20.38 ug/l	93
43) 1,1,1,2-Tetrachloroethane	18.50	131	509088	20.54 ug/l	95
44) Ethylbenzene	18.48	91	1672855	21.15 ug/l	98
45) Xylene (para & meta)	18.68	91	2746458	41.99 ug/l	96
46) Xylene (ortho)	19.39	91	1285156	21.21 ug/l	96
47) Styrene	19.44	104	1027697	20.00 ug/l	98
48) Bromoform	19.84	173	474376	21.13 ug/l	95
50) 1,1,2,2-Tetrachloroethane	20.67	83	538242	20.66 ug/l	95
51) 1,3-Dichlorobenzene	22.36	146	898821	20.20 ug/l	96
52) 1,4-Dichlorobenzene	22.52	146	1070041	20.57 ug/l	95
53) 1,2-Dichlorobenzene	23.23	146	950147	21.22 ug/l	97

Quantitation Report

Data File : c:\hpchem\1\data\c9746.d
Acq On : 21 Nov 97 1:46 am
Sample : 9785741 MSD
Misc : 5 ML
Quant Time: Nov 21 11:29 1997

Vial: 17
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration



GC/MS SEMIVOLATILE DATA PACKAGE

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name : EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID: B7063.D DFTPP Injection Date: 11/4/97

Instrument ID: ABNA DFTPP Injection Time: 1525

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	59.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	72.2
70	Less than 2.0% of mass 69	(0.7)1
127	25.0 - 75.0% of mass 198	43.2
197	Less than 1.0% of mass 198	0.1
198	Base Peak, 100 % relative abundance	100.0
199	5.0 - 9.0% of mass 198	5.9
275	10.0 - 30.0% of mass 198	23.0
365	Greater than 0.75% of mass 198	3.4
441	Present, but less than mass 443	1.8
442	40.0 - 110.0% of mass 198	59.8
443	15.0 - 24.0% of mass 442	(18.7)2

1-Value is % mass 69 2-Value is % mass 442

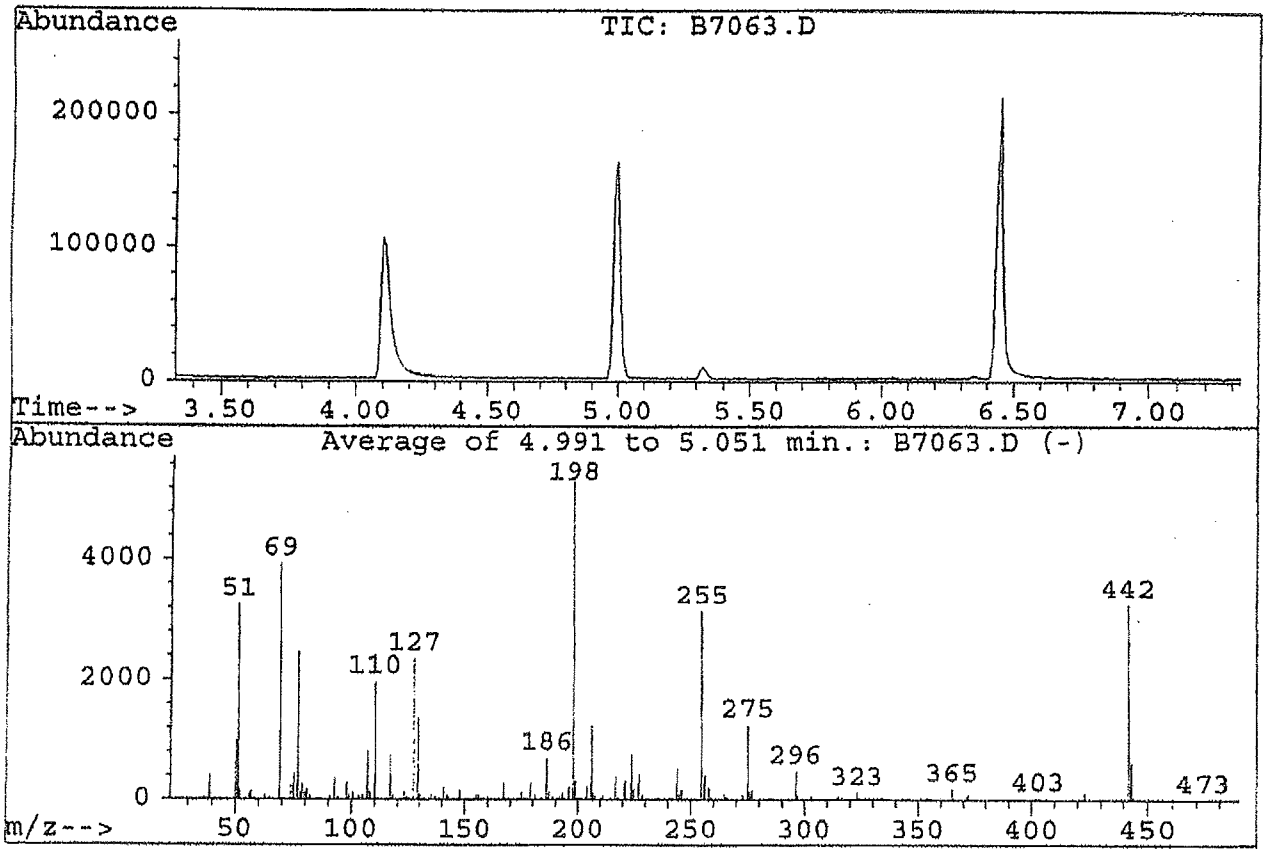
This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD010	10 STD	B7065.D	11/4/97	1622
02	SSTD020	20 STD	B7066.D	11/4/97	1709
03	SSTD050	50 STD	B7067.D	11/4/97	1756
04	SSTD080	80 STD	B7068.D	11/4/97	1843
05	SSTD120	120 STD	B7069.D	11/4/97	1930
06	SSTD160	160 STD	B7070.D	11/4/97	2017
07	SBLK01	BLANK1	B7071.D	11/4/97	2103
08	9774468B	9774468B	B7072.D	11/4/97	2150
09	9774469B	9774469B	B7073.D	11/4/97	2236
10	9774470B	9774470B	B7074.D	11/4/97	2323
11	9774471B	9774471B	B7075.D	11/5/97	0009
12	9774472B	9774472B	B7076.D	11/5/97	0055
13	9774473B	9774473B	B7077.D	11/5/97	0142
14					
15					
16					
17					
18					
19					
20					
21					
22					

DFTPP

Data File : C:\HPCHEM\1\DATA3\B7063.D Vial: 1
Acq On : 4 Nov 97 3:25 pm Operator: SCOTTV
Sample : DFTPP..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration



Peak Apex is scan: 235

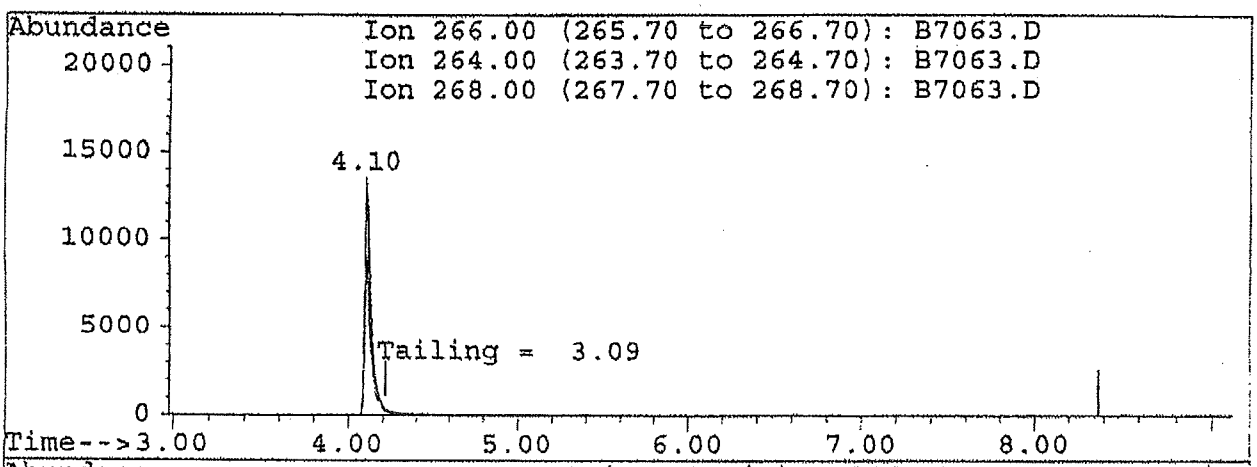
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	59.7	3251	PASS
68	69	0	2	0.2	7	PASS
69	198	0	100	72.2	3934	PASS
70	69	0	2	0.7	27	PASS
127	198	40	60	43.2	2352	PASS
197	198	0	1	0.1	4	PASS
198	198	100	100	100.0	5447	PASS
199	198	5	9	5.9	323	PASS
275	198	10	30	23.0	1253	PASS
365	198	1	100	3.4	185	PASS
441	443	0	100	1.8	11	PASS
442	198	40	100	59.8	3258	PASS
443	442	17	23	18.7	610	PASS

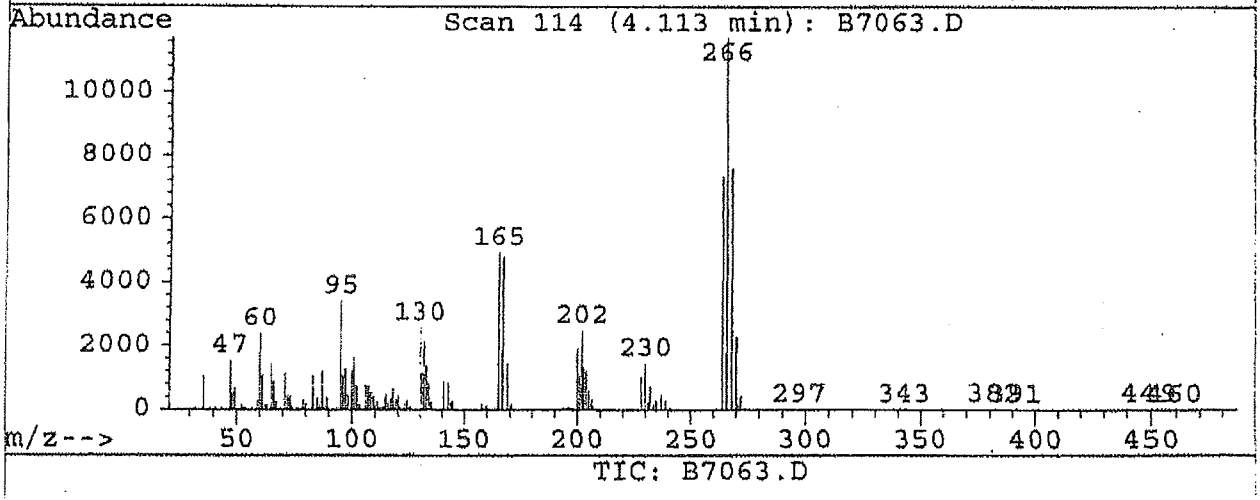
B7063.D BNACLP.M Thu Nov 20 15:59:39 1997 BNA

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\B7063.D Vial: 1
Acq On : 4 Nov 97 3:25 pm Operator: SCOTTV
Sample : DFTPP..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 4 15:54 1997

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 30 14:02:52 1997
Response via : Multiple Level Calibration





TIC: B7063.D

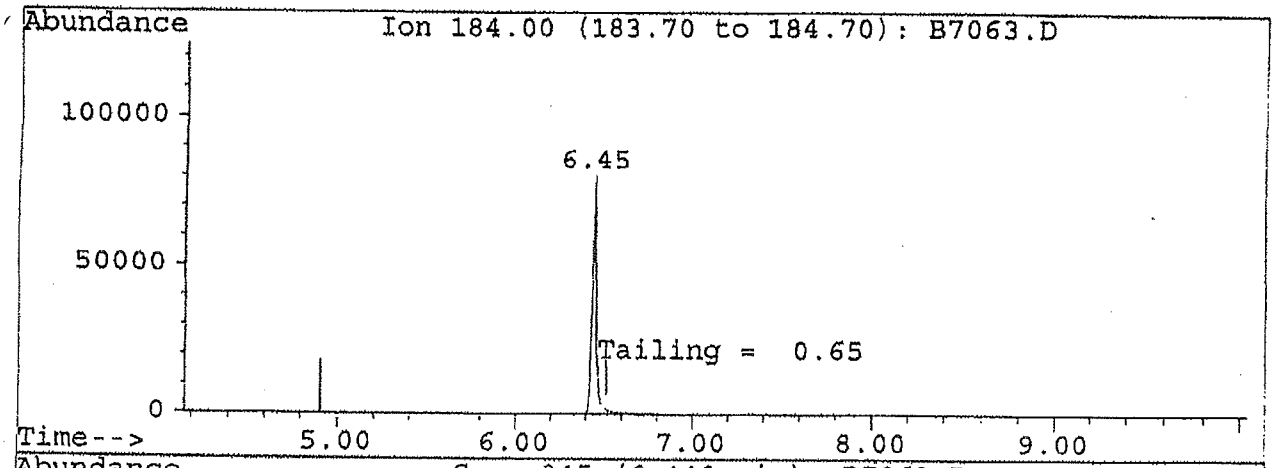
(1) Pentachlorophenol (CM)
5.37min 0.00ug/mL d
response 0

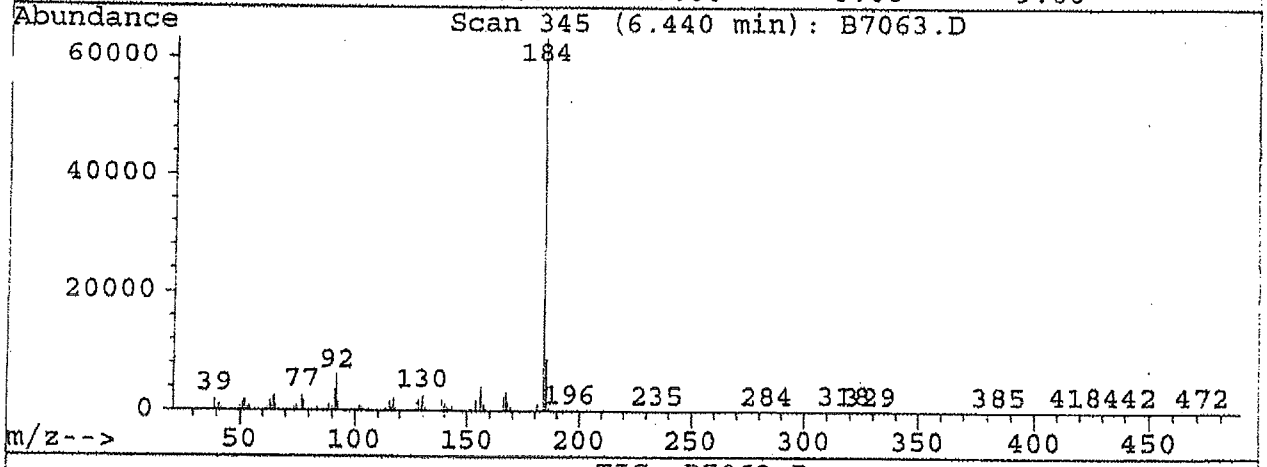
Ion	Exp%	Act%
266.00	100	0.00
264.00	64.30	0.00#
268.00	64.70	0.00#
0.00	0.00	0.00

Quantitation Report

Data File : C:\HPCHEM\1\DATA2\B7063.D Vial: 1
Acq On : 4 Nov 97 3:25 pm Operator: SCOTTV
Sample : DFTPP..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 4 15:54 1997

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Thu Oct 30 14:02:52 1997
Response via : Multiple Level Calibration





TIC: B7063.D

(2) Benzidine
7.91min 0.00ug/ml d
response 0

Ion	Exp%	Act%
184.00	100	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Response Factor Report ABNA

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Initial Calibration

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Calibration Files
10 =B7065.D 20 =B7066.D 50 =B7067.D
80 =B7068.D 120 =B7069.D 160 =B7070.D

		Compound	10	20	50	80	120	160	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	ISTD							
2)	S	2-Fluorophenol	0.237	0.235	0.244	0.252	0.286	0.251	0.251	7.38
3)	S	Phenol-d5	1.675	1.521	1.514	1.465	1.442	1.381	1.500	6.66
4)	M	N-nitrosodimethylam	0.308	0.559	0.569	0.606	0.643	0.598	0.547	22.08
5)		Pyridine	0.669	1.152	1.020	0.998	1.146	1.145	1.022	18.20
6)	CM	Phenol	1.392	1.657	1.728	1.717	1.745	1.718	1.659	8.11
7)		Benzyl alcohol	0.809	1.079	1.167	1.230	1.237	1.200	1.120	14.57
8)	MT	bis(2-Chloroethyl)e	0.796	0.880	0.906	0.873	0.820	0.790	0.844	5.74
9)	M	2-Chlorophenol	1.150	1.392	1.427	1.351	1.359	1.374	1.342	7.31
10)	MT	1,3-Dichlorobenzene	1.009	1.173	1.187	1.211	1.198	1.172	1.158	6.43
11)	CM	1,4-Dichlorobenzene	1.104	1.287	1.265	1.282	1.291	1.258	1.248	5.76
12)	M	1,2-Dichlorobenzene	1.071	1.273	1.261	1.280	1.282	1.256	1.237	6.65
13)	T	2-Methylphenol	0.948	1.250	1.315	1.306	1.313	1.314	1.241	11.74
14)	M	bis(2-chloroisoprop	2.026	2.423	2.398	2.366	2.348	2.275	2.306	6.33
15)	T	4-Methylphenol	1.094	1.366	1.349	1.448	1.441	1.428	1.354	9.89
16)	PM	N-Nitroso-Di-n-prop	0.891	1.038	1.100	1.200	1.035	0.940	1.034	10.71
17)	M	Hexachloroethane	0.613	0.719	0.733	0.746	0.735	0.713	0.710	6.88
18)	I	Naphthalene-d8	ISTD							
19)	S	Nitrobenzene-d5	0.361	0.351	0.367	0.371	0.376	0.385	0.369	3.17
20)	M	Nitrobenzene	0.282	0.342	0.340	0.343	0.347	0.357	0.335	8.00
21)	M	Isophorone	0.550	0.668	0.666	0.640	0.685	0.690	0.650	7.96
22)	MC	2-Nitrophenol	0.198	0.254	0.268	0.285	0.288	0.288	0.264	13.25
23)	M	2,4-Dimethylphenol	0.371	0.452	0.489	0.482	0.489	0.499	0.463	10.36
24)	M	bis(2-Chloroethoxy)	0.328	0.380	0.412	0.412	0.412	0.411	0.393	8.71
25)	MC	2,4-Dichlorophenol	0.278	0.355	0.386	0.374	0.366	0.378	0.356	11.19
26)	M	1,2,4-Trichlorobenz	0.287	0.336	0.335	0.336	0.334	0.334	0.327	5.97
27)	M	Naphthalene	0.887	0.993	1.032	1.029	1.031	1.014	0.997	5.64
28)	T	4-Chloroaniline	0.398	0.502	0.521	0.528	0.532	0.533	0.502	10.43
29)	MC	Hexachlorobutadiene	0.210	0.251	0.244	0.244	0.248	0.250	0.241	6.35
30)	MC	4-Chloro-3-methylph	0.348	0.428	0.446	0.446	0.458	0.477	0.434	10.43
31)	M	2-Chloronaphthalene	0.724	0.833	0.817	0.828	0.832	0.877	0.819	6.18
32)	T	2-Methylnaphthalene	0.633	0.799	0.792	0.802	0.799	0.824	0.775	9.07
33)	I	Acenaphthene-d10	ISTD							
34)	P	Hexachlorocyclopent		0.258	0.315	0.362	0.392	0.417	0.349	18.14
35)	MC	2,4,6-Trichlorophen	0.327	0.405	0.428	0.430	0.396	0.404	0.398	9.47
36)	T	2,4,5-Trichlorophen	0.323	0.460	0.448	0.486	0.463	0.436	0.436	13.31
37)	S	2-Fluorobiphenyl	1.046	1.058	1.044	1.087	1.117	1.173	1.088	4.63
38)	T	2-Nitroaniline	0.323	0.455	0.474	0.518	0.530	0.585	0.481	18.65
39)	M	Dimethylphthalate	0.843	0.967	0.662	0.562	0.932	0.972	0.823	20.99
40)	M	Acenaphthylene	1.438	1.647	1.694	1.771	1.854	1.894	1.716	9.63
41)	T	2,6-Dinitrotoluene	0.235	0.302	0.190	0.270	0.287	0.314	0.266	17.46
42)	T	3-Nitroaniline	0.269	0.371	0.403	0.434	0.339	0.330	0.358	16.32
43)	CM	Acenaphthene	0.989	1.149	1.124	1.186	1.202	1.275	1.154	8.32
44)	MP	2,4-Dinitrophenol		0.158	0.228	0.241	0.273	0.295	0.239	21.96
45)	PM	4-Nitrophenol		0.204	0.243	0.233	0.214	0.261	0.231	9.76
46)	T	Dibenzofuran	1.507	1.888	1.821	1.957	1.999	2.050	1.870	10.45
47)	M	2,4-Dinitrotoluene	0.255	0.313	0.221	0.291	0.283	0.298	0.277	12.12

48)	M	Diethylphthalate	1.280	1.459	1.143	1.165	1.192	1.185	1.238	9.56
49)	M	Fluorene	1.178	1.372	1.387	1.469	1.162	1.188	1.293	10.24
50)	M	4-Chlorophenyl-phen	0.556	0.677	0.653	0.685	0.728	0.748	0.675	10.04
51)		Phenanthrene-d10	----------ISTD----------							
[illegible]	T	4-Nitroaniline	0.128	0.158	0.171	0.151	0.128	0.115	0.142	15.04
[illegible]	MC	4,6-Dinitro-2-methy		0.121	0.150	0.147	0.168	0.179	0.153	14.46
54)	T	n-Nitrosodiphenylam	0.352	0.414	0.416	0.381	0.382	0.333	0.380	8.67
55)	S	2,4,6-Tribromopheno	0.167	0.169	0.222	0.183	0.186	0.178	0.184	10.75
56)		1,2-Diphenylhydrazi	0.777	0.885	1.016	0.870	0.811	0.786	0.857	10.41
57)	M	4-Bromophenyl-pheny	0.176	0.215	0.232	0.224	0.222	0.214	0.214	9.25
58)	M	Hexachlorobenzene	0.265	0.312	0.395	0.323	0.325	0.312	0.322	13.05
59)	CM	Pentachlorophenol		0.118	0.185	0.204	0.209	0.211	0.185	21.15
60)	M	Phenanthrene	0.903	0.938	1.006	1.027	1.018	1.230	1.020	11.14
61)	M	Anthracene	0.750	0.787	0.831	0.882	0.878	0.868	0.833	6.53
62)		Carbazole	0.792	0.887	0.913	0.883	0.887	0.912	0.879	5.06
63)	M	Di-n-butylphthalate	1.247	1.357	1.450	1.384	1.256	1.249	1.324	6.49
64)	MC	Fluoranthene	1.120	1.126	1.224	1.193	1.118	1.168	1.158	3.80
65)	I	Chrysene-d12	----------ISTD----------							
66)		Benzidine	0.310	0.330	0.278	0.256	0.290	0.276	0.290	9.20
67)	M	Pyrene	1.224	1.537	1.663	1.534	1.344	1.351	1.442	11.25
68)	S	Terphenyl-d14	0.976	1.042	1.135	1.055	0.974	1.000	1.031	5.95
69)	M	Butylbenzylphthalat	0.515	0.632	0.606	0.592	0.580	0.593	0.586	6.72
70)	M	Benzo[a]anthracene	0.998	1.099	1.188	1.257	1.368	1.202	1.185	10.76
71)	M	3,3'-Dichlorobenzid	0.359	0.313	0.261	0.260	0.325	0.349	0.311	13.68
72)	M	Chrysene	0.646	0.710	0.673	0.789	0.732	0.518	0.678	13.68
73)	M	bis(2-Ethylhexyl)ph	0.662	0.869	0.819	0.829	0.794	0.809	0.797	8.89
74)	I	Perylene-d12	----------ISTD----------							
75)	MC	Di-n-octylphthalate	1.476	1.944	2.380	2.294	2.015	1.853	1.994	16.35
[illegible]	M	Benzo[b]fluoranthen	1.424	1.372	1.718	2.300	2.264	1.821	1.816	21.97
[illegible]	m	Benzo[k]fluoranthen	1.505	1.480	1.141	1.010	0.774	0.748	1.110	29.83
78)	mc	Benzo[a]pyrene	1.116	0.972	1.027	1.015	0.979	0.945	1.009	5.98
79)	m	Indeno[1,2,3-cd]pyr	0.603	0.611	0.691	0.777	0.806	0.805	0.715	13.16
80)	m	Dibenz[a,h]anthrace	0.443	0.532	0.572	0.650	0.689	0.693	0.597	16.64
81)	M	Benzo[g,h,i]perylen	0.377	0.444	0.653	0.689	0.656	0.645	0.577	22.80

#) = Out of Range

verage of 4.991 to 5.051 min.: B7063.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.95	27	44.60	2	51.90	162	58.10	9
37.10	3	44.75	4	52.85	16	58.70	3
37.30	4	45.70	2	53.10	3	59.60	2
37.90	24	46.65	6	53.60	2	59.80	2
39.00	399	47.05	16	54.00	5	59.95	6
41.60	1	47.50	4	54.60	4	60.30	5
42.10	5	48.40	10	55.05	1	61.55	5
42.40	5	49.60	4	55.60	1	62.00	10
42.60	5	50.00	995	56.00	110	62.30	4
42.80	5	50.20	3	57.00	139	62.90	79
43.70	23	51.00	3251	57.20	9	63.30	6

verage of 4.991 to 5.051 min.: B7063.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
63.80	7	70.00	27	75.00	441	83.50	2
64.90	27	70.30	4	75.20	4	83.75	10
65.40	6	70.65	11	77.00	2463	83.80	2
65.95	6	71.25	8	78.00	129	84.55	4
66.30	3	71.60	2	78.90	256	84.85	11
66.90	12	72.70	5	79.90	113	85.15	7
67.50	2	73.00	15	80.50	2	85.65	4
68.30	7	73.60	8	81.00	157	85.85	12
68.50	4	74.00	238	81.20	4	86.15	6
68.95	3934	74.30	5	82.05	70	86.90	27
69.75	8	74.60	5	83.30	5	88.15	3

erage of 4.991 to 5.051 min.: B7063.D

--fied:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
88.45	1	95.50	4	103.25	2	109.35	7
88.90	6	95.90	25	103.65	5	109.95	1971
89.25	5	97.45	3	103.85	61	110.65	3
89.55	4	97.65	3	104.65	3	110.95	33
90.85	59	97.95	312	104.85	66	111.95	2
91.55	1	98.15	6	105.25	6	112.15	2
92.25	5	98.95	84	105.95	3	113.85	4
92.45	2	100.95	106	106.25	2	114.20	7
92.85	362	102.15	4	106.95	820	114.40	7
93.95	36	102.65	1	107.95	132	114.75	3
94.35	3	103.00	48	108.85	6	115.20	7

erage of 4.991 to 5.051 min.: B7063.D

lified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
116.95	758	124.65	2	130.05	86	137.00	56
117.75	2	124.95	4	130.95	4	137.25	2
117.85	3	125.25	18	131.50	4	137.45	3
118.00	66	125.40	23	131.85	17	138.35	9
119.30	3	125.65	2	132.45	1	138.60	7
120.55	3	125.95	3	132.80	4	139.15	11
120.75	2	126.15	3	133.15	5	139.35	2
.95	24	126.95	2352	134.55	3	139.50	2
2.25	1	128.25	2	134.95	90	139.80	3
2.95	123	128.95	1372	135.35	2	140.90	202
43.95	61	129.15	4	136.00	9	141.95	68

erage of 4.991 to 5.051 min.: B7063.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
2.30	2	149.95	15	155.00	76	161.95	17
2.85	45	150.20	3	155.60	4	162.20	8
143.80	5	150.50	2	156.00	93	163.90	3
144.10	7	150.70	1	156.20	2	164.10	2
144.50	1	151.00	26	156.90	9	164.60	3
145.00	15	151.65	6	157.50	19	164.90	29
145.95	33	151.90	1	157.95	39	165.10	5
146.55	3	152.80	3	159.95	64	165.70	2
146.80	16	153.10	4	160.85	21	166.30	1
147.30	40	153.95	46	161.20	1	166.65	9
147.90	153	154.40	15	161.70	2	166.80	6

erage of 4.991 to 5.051 min.: B7063.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
166.95	284	171.95	19	181.00	82	191.10	11
167.30	2	172.90	19	181.90	14	191.35	31
167.90	27	173.05	21	182.80	3	192.05	74
169.05	29	173.80	4	183.15	9	192.60	4
169.30	2	174.05	23	184.00	26	193.05	98
169.50	2	174.45	3	184.40	3	193.80	5
169.80	8	175.00	126	186.00	701	194.10	23
170.55	12	176.05	43	187.00	119	194.55	9
170.80	3	176.95	35	188.90	40	195.15	2
171.10	11	178.00	1	190.05	14	195.95	222
171.30	6	179.00	274	190.40	10	196.15	2

rage of 4.991 to 5.051 min.: B7063.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
196.95	4	202.95	25	211.35	2	216.85	392
197.25	2	203.90	212	212.45	1	217.95	53
197.85	5447	204.30	4	212.75	4	218.85	2
198.95	323	205.10	26	213.35	2	220.50	11
199.95	26	205.95	1251	213.65	2	220.95	317
200.25	8	206.25	3	214.95	25	221.35	1
200.85	2	206.85	114	215.25	1	221.75	2
201.15	2	207.65	2	215.65	3	222.75	2
201.40	37	207.90	58	216.05	2	223.35	1
202.30	3	210.20	24	216.30	3	223.95	739
202.55	4	210.95	60	216.55	1	224.55	1

erage of 4.991 to 5.051 min.: B7063.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
224.95	170	232.00	12	239.05	21	245.65	2
225.60	5	232.25	4	239.45	2	245.95	161
226.15	2	232.55	1	240.50	3	246.95	29
226.45	2	232.90	5	240.90	29	247.15	4
226.65	1	233.50	7	241.35	8	247.65	1
226.95	420	233.90	10	241.65	1	248.30	8
227.45	1	234.95	25	242.00	37	248.55	1
227.90	12	235.65	1	242.55	6	249.00	21
228.95	82	236.00	22	243.25	1	249.50	3
229.40	4	237.75	1	243.95	526	250.05	3
231.00	33	238.75	4	245.10	99	250.70	3

erage of 4.991 to 5.051 min.: B7063.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
0.95	4	255.95	396	265.55	9	272.20	4
1.20	3	257.30	12	265.90	44	272.90	77
251.50	7	257.90	197	267.15	5	273.20	22
251.80	10	258.40	3	267.50	8	273.90	5
252.00	10	258.95	37	268.50	1	275.00	1253
252.30	3	259.90	3	269.95	7	275.50	1
252.85	1	261.00	6	270.40	2	275.90	121
254.10	2	262.20	3	270.60	2	276.30	5
254.90	3141	262.55	5	271.00	13	277.00	136
255.10	2	263.15	6	271.30	1	277.40	2
255.30	3	264.95	86	271.95	9	278.50	1

erage of 4.991 to 5.051 min.: B7063.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
281.30	3	288.20	1	292.15	7	300.20	2
281.80	2	288.50	1	292.90	34	300.80	2
282.40	7	288.90	3	293.10	1	301.05	5
283.05	20	289.40	2	293.40	2	301.30	3
283.95	6	289.65	3	294.00	5	301.80	7
284.25	8	289.90	5	294.30	8	302.00	2
284.50	2	290.25	4	296.00	481	302.30	4
284.90	25	290.50	1	296.95	66	302.60	1
285.50	1	290.90	1	297.50	1	303.00	48
285.70	1	291.20	1	299.10	1	303.70	2
286.20	1	291.90	4	299.70	1	303.95	15

ıge of 4.991 to 5.051 min.: B7063.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
304.30	2	314.00	32	321.05	9	328.00	13
306.75	1	314.60	2	321.45	1	328.75	6
307.70	4	314.90	47	322.65	2	330.90	2
308.05	3	316.00	26	322.95	127	331.30	5
308.75	3	317.05	3	324.00	28	331.55	3
309.75	2	317.95	1	325.05	1	331.75	6
309.85	2	318.15	2	325.40	2	332.20	9
310.00	8	318.55	3	326.25	8	332.55	4
311.55	3	320.10	3	326.95	23	332.80	4
312.20	6	320.45	1	327.25	1	333.35	16
313.00	8	320.85	12	327.75	4	333.75	10

erage of 4.991 to 5.051 min.: B7063.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
334.00	34	344.95	2	353.75	4	359.55	1
334.25	4	345.60	7	354.05	37	360.05	4
337.20	3	346.00	26	355.35	2	360.95	1
338.20	2	346.85	3	355.65	3	362.05	2
338.85	1	347.35	3	356.85	1	362.35	3
340.55	8	349.85	2	357.25	3	363.55	4
1.35	1	350.45	5	357.95	2	364.65	7
3.05	1	351.55	6	358.40	4	364.95	185
343.35	1	351.90	24	358.75	3	365.95	29
343.75	1	352.35	1	359.05	2	366.90	2
344.50	3	353.05	5	359.35	3	367.20	1

erage of 4.991 to 5.051 min.: B7063.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
[illegible].50	1	372.80	3	382.80	12	390.00	3
[illegible].40	1	373.05	14	383.00	11	390.30	3
368.60	1	374.10	2	383.50	2	390.60	2
369.00	3	375.30	2	383.85	5	390.80	1
370.00	2	376.30	3	384.10	2	391.10	9
370.20	3	377.10	1	384.80	4	391.90	9
370.40	5	377.70	2	385.65	5	392.60	1
370.90	13	377.90	4	386.10	1	392.90	5
371.40	3	378.70	1	386.60	2	393.30	2
371.70	1	381.90	2	387.60	1	394.55	3
372.05	77	382.20	3	389.65	8	395.00	1

erage of 4.991 to 5.051 min.: B7063.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
395.30	4	401.70	1	406.80	2	416.70	1
396.30	3	402.10	28	407.30	1	416.95	2
396.80	1	402.80	5	407.60	2	417.35	2
398.10	1	403.05	33	407.95	5	417.75	1
398.70	2	403.40	2	408.70	3	418.25	1
398.95	2	403.95	12	409.00	1	418.55	1
399.55	4	405.25	3	410.60	2	418.95	3
399.80	1	405.50	2	410.90	1	419.25	1
400.50	2	405.70	2	412.80	4	419.50	3
400.75	4	406.25	3	414.05	4	420.75	3
401.00	2	406.50	1	415.00	1	421.00	24

ge of 4.991 to 5.051 min.: B7063.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
421.30	3	429.95	1	438.00	7	444.00	55
421.75	5	430.40	3	438.30	4	444.95	2
422.95	97	430.80	6	438.95	12	445.45	2
424.65	4	433.25	1	439.45	6	445.75	1
425.55	1	434.40	5	441.10	11	446.05	3
427.45	3	434.75	2	441.55	2	446.65	2
428.05	1	434.90	2	441.75	3	446.85	2
428.35	3	436.60	3	442.05	3258	447.15	2
428.55	3	436.95	2	442.75	2	447.85	1
428.90	2	437.35	2	442.95	610	448.05	2
429.15	1	437.65	10	443.35	2	448.55	2

erage of 4.991 to 5.051 min.: B7063.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
450.95	4	462.25	2	470.15	4		
451.55	1	462.45	2	471.10	4		
453.60	5	462.95	1	471.35	1		
454.85	2	463.70	3	472.50	1		
456.35	2	464.15	2	473.00	4		
457.25	1	465.85	1	473.60	3		
[illegible]7.65	1	467.45	3	473.90	1		
[illegible]7.95	1	468.45	2				
459.15	1	468.75	1				
459.75	1	469.25	2				
460.15	4	469.55	3				

Quantitation Report

Data File : c:\hpchem\1\data3\b7066.d Vial: 3
Acq On : 4 Nov 97 5:09 pm Operator: SCOTTV
Sample : 20 STD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 5 12:08 1997

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.13	152	12269	40.00	ug/mL	0.00
18) Naphthalene-d8	10.91	136	52621	40.00	ug/mL	0.00
33) Acenaphthene-d10	16.16	164	41636	40.00	ug/mL	0.00
51) Phenanthrene-d10	20.49	188	98645	40.00	ug/ml	0.00
65) Chrysene-d12	28.44	240	78584	40.00	ug/mL	0.01
74) Perylene-d12	32.41	264	37898	40.00	ug/mL	0.00
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.83	112	3610	10.04	ug/mL	10.04%
3) Phenol-d5	7.06	99	23331	38.72	ug/mL	38.72%
19) Nitrobenzene-d5	8.98	82	23112	36.61	ug/mL	36.61%
37) 2-Fluorobiphenyl	14.39	172	55089	45.24	ug/mL	45.24%
55) 2,4,6-Tribromophenol	18.62	330	20898	34.39	ug/mL	34.39%
68) Terphenyl-d14	25.57	244	102390	50.20	ug/mL	50.20%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.45	74	3428	14.03	ug/ml	100
5) Pyridine	1.41	79	7069	17.23	ug/ml	100
6) Phenol	7.11	94	10163	15.85	ug/mL	100
7) Benzyl alcohol	8.00	79	6621	21.58	ug/ml	95
8) bis(2-Chloroethyl)ether	6.82	93	5400	13.99	ug/mL	89
9) 2-Chlorophenol	6.82	128	8540	18.49	ug/mL	96
10) 1,3-Dichlorobenzene	6.98	146	7193	20.66	ug/mL	98
11) 1,4-Dichlorobenzene	7.19	146	7894	20.44	ug/mL	97
12) 1,2-Dichlorobenzene	7.69	146	7812	20.99	ug/mL	97
13) 2-Methylphenol	8.75	108	7670	17.33	ug/mL	93
14) bis(2-chloroisopropyl)ethe	8.43	45	14862	27.70	ug/mL	99
15) 4-Methylphenol	9.22	108	8382	17.70	ug/mL	97
16) N-Nitroso-Di-n-propylamine	8.87	70	6365	16.53	ug/mL	98
17) Hexachloroethane	8.55	117	4411	15.33	ug/mL#	76
20) Nitrobenzene	9.04	77	8989	16.28	ug/mL	94
21) Isophorone	9.79	82	17569	21.77	ug/mL	100
22) 2-Nitrophenol	9.99	139	6695	19.07	ug/mL	98
23) 2,4-Dimethylphenol	10.62	107	11886	17.58	ug/mL	98
24) bis(2-Chloroethoxy)methane	10.75	93	10006	16.53	ug/mL	99
25) 2,4-Dichlorophenol	10.89	162	9353	20.68	ug/mL	96
26) 1,2,4-Trichlorobenzene	10.87	180	8834	20.87	ug/mL	98
27) Naphthalene	10.95	128	26119	18.89	ug/mL	98
28) 4-Chloroaniline	11.50	127	13217	20.11	ug/mL	98
29) Hexachlorobutadiene	11.64	225	6603	19.40	ug/mL	97
30) 4-Chloro-3-methylphenol	13.39	107	11263	18.70	ug/mL	98
31) 2-Chloronaphthalene	14.47	162	21928	21.11	ug/ml	97
32) 2-Methylnaphthalene	13.06	142	21017	20.98	ug/mL	98
34) Hexachlorocyclopentadiene	13.80	237	5380	11.61	ug/mL	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data3\b7066.d Vial: 3
Acq On : 4 Nov 97 5:09 pm Operator: SCOTTV
Sample : 20 STD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 5 12:08 1997

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35)	2,4,6-Trichlorophenol	14.22	196	8426	18.21	ug/mL	97
36)	2,4,5-Trichlorophenol	14.47	196	9582	20.44	ug/mL	99
38)	2-Nitroaniline	15.16	65	9462	15.11	ug/mL	87
39)	Dimethylphthalate	15.95	163	20136	17.38	ug/mL	100
40)	Acenaphthylene	15.67	152	34279	19.62	ug/mL#	99
41)	2,6-Dinitrotoluene	16.10	165	6295	18.24	ug/mL	98
42)	3-Nitroaniline	16.46	138	7722	19.69	ug/mL	93
43)	Acenaphthene	16.24	153	23910	20.42	ug/mL	98
44)	2,4-Dinitrophenol	16.81	184	3283	10.85	ug/mL	86
45)	4-Nitrophenol	17.66	109	4255	14.70	ug/mL	94
46)	Dibenzofuran	16.75	168	39295	20.79	ug/mL	98
47)	2,4-Dinitrotoluene	17.23	165	6519	13.71	ug/mL	91
48)	Diethylphthalate	18.13	149	30381	19.34	ug/mL	96
49)	Fluorene	17.76	166	28565	20.66	ug/mL	99
50)	4-Chlorophenyl-phenylether	17.99	204	14099	20.58	ug/mL	99
52)	4-Nitroaniline	18.31	138	7804	18.28	ug/mL	96
53)	4,6-Dinitro-2-methylphenol	18.41	198	5976	13.98	ug/mL	100
54)	n-Nitrosodiphenylamine	18.46	169	20428	21.66	ug/mL	100
56)	1,2-Diphenylhydrazine (as	18.41	77	43634	17.90	ug/ml	100
57)	4-Bromophenyl-phenylether	19.39	248	10589	18.62	ug/mL	98
58)	Hexachlorobenzene	19.62	284	15405	17.20	ug/mL#	88
59)	Pentachlorophenol	20.37	266	5811	10.83	ug/mL	98
60)	Phenanthrene	20.55	178	46271	18.24	ug/mL	99
61)	Anthracene	20.67	178	38833	16.53	ug/mL	99
62)	Carbazole	21.43	167	43726	19.95	ug/ml	99
63)	Di-n-butylphthalate	23.03	149	66939	19.08	ug/mL	99
64)	Fluoranthene	24.09	202	55545	18.39	ug/mL	94
66)	Benzidine	24.88	184	12981	28.06	ug/ml	100
67)	Pyrene	24.70	202	60401	23.73	ug/mL	95
69)	Butylbenzylphthalate	27.45	149	24851	20.10	ug/mL#	85
70)	Benzo[a]anthracene	28.38	228	43188	20.44	ug/mL	100
71)	3,3'-Dichlorobenzidine	28.67	252	12290	16.07	ug/mL#	93
72)	Chrysene	28.50	228	27904	15.15	ug/mL	99
73)	bis(2-Ethylhexyl)phthalate	29.42	149	34159	16.27	ug/mL#	36
75)	Di-n-octylphthalate	31.19	149	36835	21.37	ug/mL	99
76)	Benzo[b]fluoranthene	31.43	252	25999	13.89	ug/mL	96
77)	Benzo[k]fluoranthene	31.51	252	28039	34.76	ug/mLm	98
78)	Benzo[a]pyrene	32.25	252	18418	20.35	ug/mL#	97
79)	Indeno[1,2,3-cd]pyrene	34.93	276	11570	16.29	ug/mLm	96
80)	Dibenz[a,h]anthracene	35.03	278	10087	16.11	ug/mLm	96
81)	Benzo[g,h,i]perylene	35.46	276	8411	16.38	ug/mLm	98

(#) = qualifier out of range (m) = manual integration

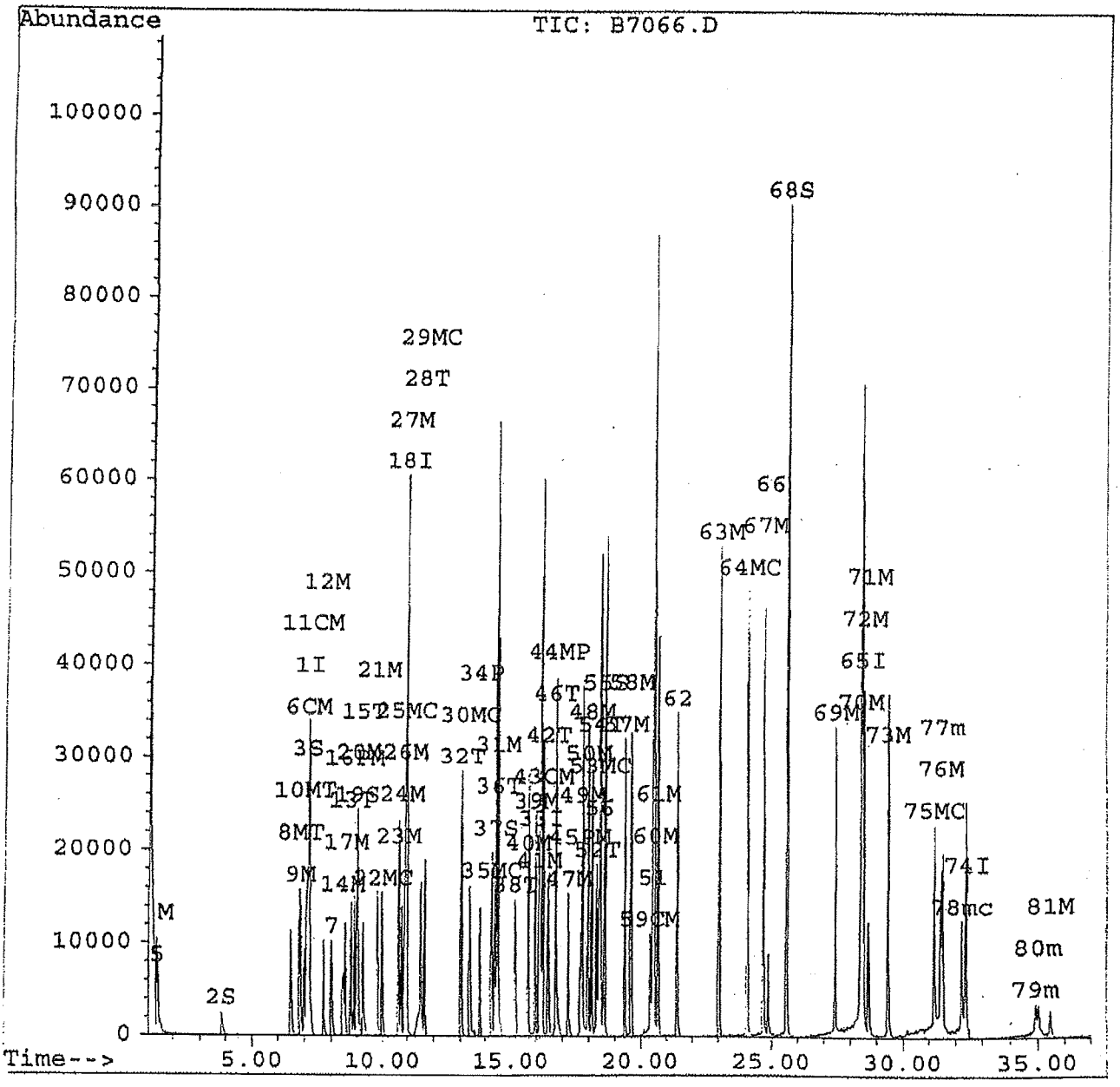
Quantitation Report

Data File : c:\hpchem\1\data3\b7066.d
Acq On : 4 Nov 97 5:09 pm
Sample : 20 STD.....
Misc :
Quant Time: Nov 5 12:08 1997

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Converted from RTE d

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed.Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Quantitation Report

250

Data File : c:\hpchem\1\data3\b7067.d Vial: 4
Acq On : 4 Nov 97 5:56 pm Operator: SCOTTV
Sample : 50 STD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 5 11:52 1997

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.13	152	12591	40.00	ug/mL	0.00
18) Naphthalene-d8	10.91	136	53219	40.00	ug/mL	0.00
33) Acenaphthene-d10	16.16	164	44781	40.00	ug/mL	0.00
51) Phenanthrene-d10	20.50	188	83157	40.00	ug/ml	0.00
65) Chrysene-d12	28.43	240	64621	40.00	ug/mL	0.00
74) Perylene-d12	32.40	264	27266	40.00	ug/mL	0.00
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.83	112	3846	10.43	ug/mL	10.43%
3) Phenol-d5	7.04	99	23829	38.53	ug/mL	38.53%
19) Nitrobenzene-d5	9.00	82	24384	38.19	ug/mL	38.19%
37) 2-Fluorobiphenyl	14.39	172	58444	44.62	ug/mL	44.62%
55) 2,4,6-Tribromophenol	18.62	330	23077	45.05	ug/mL	45.05%
68) Terphenyl-d14	25.58	244	91716	54.68	ug/mL	54.68%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.45	74	8960	35.73	ug/ml	100
5) Pyridine	1.41	79	16046	38.11	ug/ml	100
6) Phenol	7.08	94	27204	41.34	ug/mL	100
7) Benzyl alcohol	8.02	79	18367	58.34	ug/ml	100
8) bis(2-Chloroethyl)ether	6.82	93	14260	36.00	ug/mL	100
9) 2-Chlorophenol	6.80	128	22452	47.36	ug/mL	100
10) 1,3-Dichlorobenzene	6.98	146	18685	52.30	ug/mL	100
11) 1,4-Dichlorobenzene	7.19	146	19914	50.25	ug/mL	100
12) 1,2-Dichlorobenzene	7.69	146	19841	51.95	ug/mL	100
13) 2-Methylphenol	8.71	108	20695	45.55	ug/mL	100
14) bis(2-chloroisopropyl)ethe	8.43	45	37734	68.52	ug/mL	100
15) 4-Methylphenol	9.20	108	21225	43.66	ug/mL	100
16) N-Nitroso-Di-n-propylamine	8.89	70	17310	43.79	ug/mL	100
17) Hexachloroethane	8.53	117	11540	39.09	ug/mL	100
20) Nitrobenzene	9.04	77	22594	40.47	ug/mL	100
21) Isophorone	9.83	82	44324	54.31	ug/mL	100
22) 2-Nitrophenol	9.99	139	17850	50.29	ug/mL	100
23) 2,4-Dimethylphenol	10.62	107	32521	47.56	ug/mL	100
24) bis(2-Chloroethoxy)methane	10.77	93	27379	44.73	ug/mL	100
25) 2,4-Dichlorophenol	10.87	162	25686	56.15	ug/mL	100
26) 1,2,4-Trichlorobenzene	10.87	180	22318	52.14	ug/mL	100
27) Naphthalene	10.97	128	68625	49.08	ug/mL	100
28) 4-Chloroaniline	11.50	127	34647	52.13	ug/mL	100
29) Hexachlorobutadiene	11.66	225	16217	47.11	ug/mL	100
30) 4-Chloro-3-methylphenol	13.37	107	29641	48.66	ug/mL	100
31) 2-Chloronaphthalene	14.47	162	54376	51.76	ug/ml	100
32) 2-Methylnaphthalene	13.07	142	52666	51.99	ug/mL	100
34) Hexachlorocyclopentadiene	13.80	237	17634	35.39	ug/mL	100

(#) = qualifier out of range (m) = manual integration

Data File : c:\hpchem\1\data3\b7067.d Vial: 4
Acq On : 4 Nov 97 5:56 pm Operator: SCOTTV
Sample : 50 STD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 5 11:52 1997

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

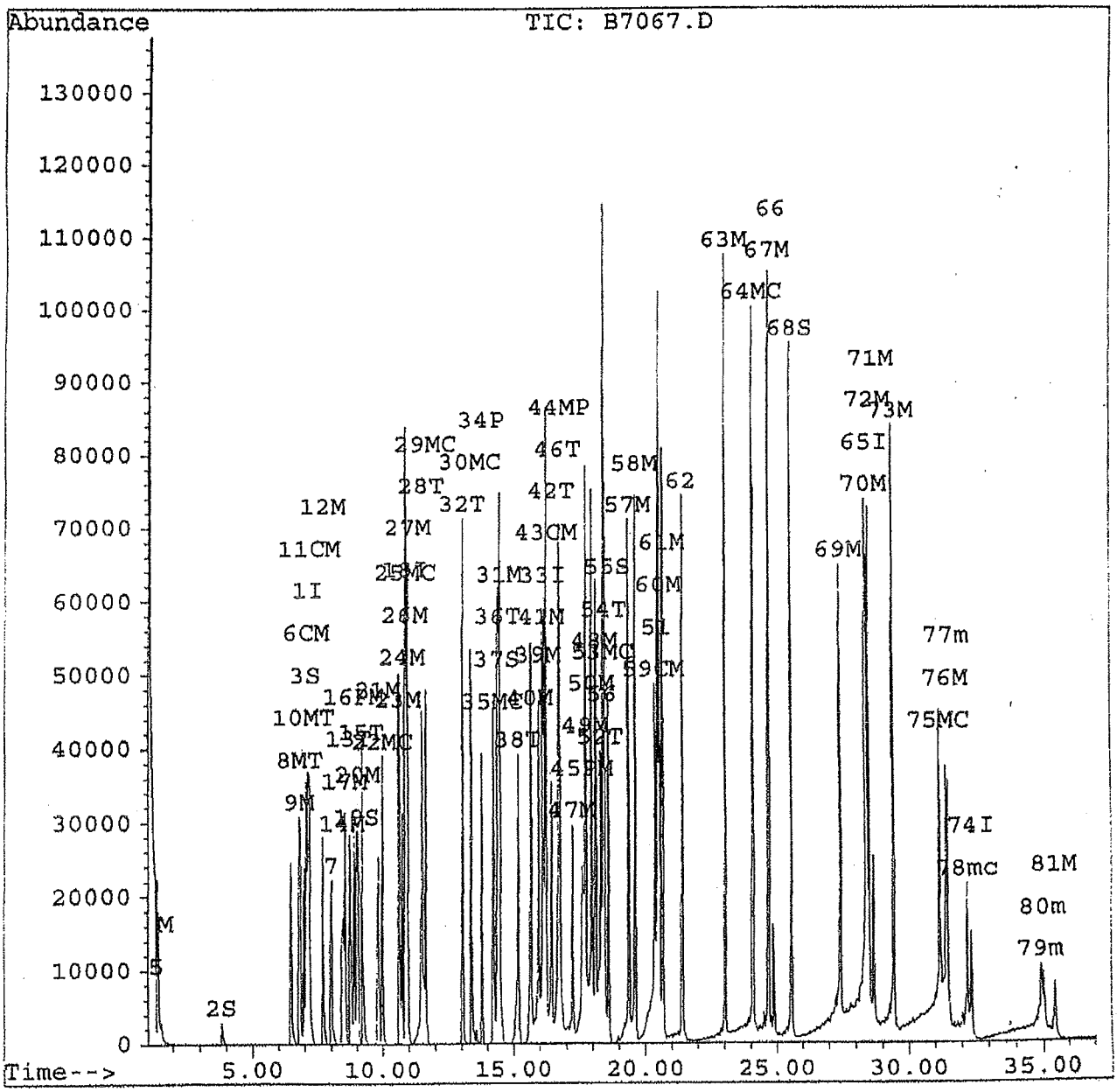
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35)	2,4,6-Trichlorophenol	14.22	196	23973	48.18	ug/mL	100
36)	2,4,5-Trichlorophenol	14.43	196	25067	49.72	ug/mL	100
38)	2-Nitroaniline	15.18	65	26511	39.37	ug/mL	100
39)	Dimethylphthalate	15.98	163	37038	29.73	ug/mL	99
40)	Acenaphthylene	15.67	152	94812	50.46	ug/mL#	100
41)	2,6-Dinitrotoluene	16.12	165	10617	28.60	ug/mL	100
42)	3-Nitroaniline	16.46	138	22549	53.46	ug/mL	98
43)	Acenaphthene	16.26	153	62915	49.96	ug/mL	100
44)	2,4-Dinitrophenol	16.79	184	12777	39.27	ug/mL	91
45)	4-Nitrophenol	17.62	109	13583	43.62	ug/mL	90
46)	Dibenzofuran	16.75	168	101953	50.15	ug/mL	100
47)	2,4-Dinitrotoluene	17.24	165	12363	24.17	ug/mL	97
48)	Diethylphthalate	18.13	149	63976	37.87	ug/mL	100
49)	Fluorene	17.77	166	77628	52.20	ug/mL	100
50)	4-Chlorophenyl-phenylether	17.99	204	36576	49.64	ug/mL	100
52)	4-Nitroaniline	18.34	138	17743	49.29	ug/mL	100
53)	4,6-Dinitro-2-methylphenol	18.44	198	15547	43.15	ug/mL	100
54)	n-Nitrosodiphenylamine	18.46	169	43254	54.39	ug/mL	100
56)	1,2-Diphenylhydrazine (as	18.42	77	105640	51.40	ug/ml	100
57)	4-Bromophenyl-phenylether	19.40	248	24164	50.41	ug/mL	100
58)	Hexachlorobenzene	19.64	284	41054	54.36	ug/mL	100
59)	Pentachlorophenol	20.37	266	19202	42.46	ug/mL	100
60)	Phenanthrene	20.56	178	104592	48.90	ug/mL	100
61)	Anthracene	20.68	178	86372	43.60	ug/mL	100
62)	Carbazole	21.43	167	94913	51.38	ug/ml	100
63)	Di-n-butylphthalate	23.04	149	150770	50.97	ug/mL	100
64)	Fluoranthene	24.10	202	127219	49.97	ug/mL	100
66)	Benzidine	24.87	184	22464	59.04	ug/ml	100
67)	Pyrene	24.71	202	134292	64.17	ug/mL	100
69)	Butylbenzylphthalate	27.43	149	48943	48.15	ug/mL	100
70)	Benzo[a]anthracene	28.39	228	95939	55.22	ug/mL	100
71)	3,3'-Dichlorobenzidine	28.68	252	21097	33.54	ug/mL	96
72)	Chrysene	28.51	228	54401	35.93	ug/mL	100
73)	bis(2-Ethylhexyl)phthalate	29.43	149	66174	38.32	ug/mL#	34
75)	Di-n-octylphthalate	31.18	149	81128	65.41	ug/mL	100
76)	Benzo[b]fluoranthene	31.44	252	58547	43.48	ug/mL	100
77)	Benzo[k]fluoranthene	31.51	252	38876	66.99	ug/mLm	99
78)	Benzo[a]pyrene	32.24	252	35012	53.76	ug/mL	99
79)	Indeno[1,2,3-cd]pyrene	34.92	276	23545	46.08	ug/mL	97
80)	Dibenz[a,h]anthracene	35.02	278	19484	43.25	ug/mL	98
81)	Benzo[g,h,i]perylene	35.45	276	22245	60.20	ug/mLm	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data3\b7067.d Vial: 4
Acq On : 4 Nov 97 5:56 pm Operator: SCOTTV
Sample : 50 STD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 5 11:52 1997

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data3\b7068.d Vial: 55
Acq On : 4 Nov 97 6:43 pm Operator: SCOTTV
Sample : 80 STD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 5 12:09 1997

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.13	152	12515	40.00	ug/mL	0.00
18) Naphthalene-d8	10.93	136	53129	40.00	ug/mL	0.02
33) Acenaphthene-d10	16.18	164	42933	40.00	ug/mL	0.02
51) Phenanthrene-d10	20.50	188	80359	40.00	ug/ml	0.00
65) Chrysene-d12	28.44	240	64139	40.00	ug/mL	0.01
74) Perylene-d12	32.39	264	27867	40.00	ug/mL	0.00
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.83	112	3943	10.76	ug/mL	10.76%
3) Phenol-d5	7.04	99	22922	37.29	ug/mL	37.29%
19) Nitrobenzene-d5	9.00	82	24667	38.70	ug/mL	38.70%
37) 2-Fluorobiphenyl	14.41	172	58335	46.45	ug/mL	46.45%
55) 2,4,6-Tribromophenol	18.63	330	18409	37.19	ug/mL	37.19%
68) Terphenyl-d14	25.57	244	84584	50.81	ug/mL	50.81%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.45	74	15164	60.84	ug/ml	100
5) Pyridine	1.41	79	24971	59.67	ug/ml	100
6) Phenol	7.06	94	42973	65.70	ug/mL	100
7) Benzyl alcohol	8.02	79	30799	98.41	ug/ml	93
8) bis(2-Chloroethyl)ether	6.82	93	21839	55.47	ug/mL	99
9) 2-Chlorophenol	6.78	128	33820	71.77	ug/mL	94
10) 1,3-Dichlorobenzene	6.98	146	30305	85.35	ug/mL	97
11) 1,4-Dichlorobenzene	7.19	146	32089	81.47	ug/mL	99
12) 1,2-Dichlorobenzene	7.70	146	32050	84.43	ug/mL	99
13) 2-Methylphenol	8.71	108	32699	72.41	ug/mL	97
14) bis(2-chloroisopropyl)ethe	8.43	45	59215	108.19	ug/mL	98
15) 4-Methylphenol	9.20	108	36254	75.03	ug/mL	98
16) N-Nitroso-Di-n-propylamine	8.92	70	30048	76.48	ug/mL	98
17) Hexachloroethane	8.53	117	18676	63.64	ug/mL	98
20) Nitrobenzene	9.06	77	36400	65.31	ug/mL	94
21) Isophorone	9.87	82	67961	83.41	ug/mL	100
22) 2-Nitrophenol	10.02	139	30305	85.52	ug/mL	92
23) 2,4-Dimethylphenol	10.65	107	51165	74.96	ug/mL	100
24) bis(2-Chloroethoxy)methane	10.77	93	43765	71.63	ug/mL	99
25) 2,4-Dichlorophenol	10.87	162	39776	87.10	ug/mL	98
26) 1,2,4-Trichlorobenzene	10.89	180	35717	83.58	ug/mL	99
27) Naphthalene	10.97	128	109370	78.35	ug/mL	98
28) 4-Chloroaniline	11.52	127	56087	84.53	ug/mL	99
29) Hexachlorobutadiene	11.66	225	25915	75.42	ug/mL	99
30) 4-Chloro-3-methylphenol	13.37	107	47370	77.89	ug/mL	98
31) 2-Chloronaphthalene	14.49	162	87993	83.90	ug/ml	94
32) 2-Methylnaphthalene	13.07	142	85204	84.25	ug/mL	100
34) Hexachlorocyclopentadiene	13.80	237	31109	65.12	ug/mL	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data3\b7068.d Vial: 5
Acq On : 4 Nov 97 6:43 pm Operator: SCOTTV
Sample : 80 STD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 5 12:09 1997

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35)	2,4,6-Trichlorophenol	14.25	196	36922	77.39	ug/mL	98
36)	2,4,5-Trichlorophenol	14.41	196	41772	86.42	ug/mL	98
38)	2-Nitroaniline	15.20	65	44514	68.95	ug/mL	92
39)	Dimethylphthalate	15.98	163	48284	40.42	ug/mL	99
40)	Acenaphthylene	15.69	152	152107	84.44	ug/mL#	99
41)	2,6-Dinitrotoluene	16.14	165	23178	65.12	ug/mLm	0
42)	3-Nitroaniline	16.49	138	37308	92.26	ug/mL	97
43)	Acenaphthene	16.26	153	101837	84.35	ug/mL	100
44)	2,4-Dinitrophenol	16.81	184	20716	66.40	ug/mL	96
45)	4-Nitrophenol	17.61	109	20023	67.07	ug/mL	89
46)	Dibenzofuran	16.77	168	168024	86.20	ug/mL	96
47)	2,4-Dinitrotoluene	17.26	165	25026	51.02	ug/mLm	0
48)	Diethylphthalate	18.16	149	100070	61.78	ug/mL	99
49)	Fluorene	17.79	166	126152	88.48	ug/mL	99
50)	4-Chlorophenyl-phenylether	18.00	204	58807	83.25	ug/mL	99
52)	4-Nitroaniline	18.38	138	24208	69.60	ug/mL	95
53)	4,6-Dinitro-2-methylphenol	18.44	198	23688	68.04	ug/mL	100
54)	n-Nitrosodiphenylamine	18.49	169	61306	79.78	ug/mL	99
56)	1,2-Diphenylhydrazine (as	18.44	77	139779	70.38	ug/ml	100
57)	4-Bromophenyl-phenylether	19.40	248	36071	77.87	ug/mL	96
58)	Hexachlorobenzene	19.65	284	51918	71.14	ug/mL	97
59)	Pentachlorophenol	20.38	266	32803	75.05	ug/mL	98
60)	Phenanthrene	20.56	178	164982	79.82	ug/mL	100
61)	Anthracene	20.71	178	141795	74.07	ug/mLm	0
62)	Carbazole	21.44	167	141950	79.52	ug/ml	99
63)	Di-n-butylphthalate	23.05	149	222482	77.84	ug/mL	99
64)	Fluoranthene	24.10	202	191798	77.96	ug/mL	98
66)	Benzidine	24.88	184	32788	86.82	ug/ml	100
67)	Pyrene	24.72	202	196824	94.76	ug/mL	98
69)	Butylbenzylphthalate	27.44	149	75898	75.22	ug/mL	96
70)	Benzo[a]anthracene	28.40	228	161209	93.49	ug/mL	99
71)	3,3'-Dichlorobenzidine	28.67	252	33293	53.33	ug/mL#	96
72)	Chrysene	28.50	228	101248	67.36	ug/mLm	99
73)	bis(2-Ethylhexyl)phthalate	29.42	149	106379	62.07	ug/mL#	33
75)	Di-n-octylphthalate	31.19	149	127876	100.88	ug/mL	99
76)	Benzo[b]fluoranthene	31.44	252	128205	93.15	ug/mLm	97
77)	Benzo[k]fluoranthene	31.52	252	56264	94.86	ug/mLm	98
78)	Benzo[a]pyrene	32.23	252	56555	84.97	ug/mL	99
79)	Indeno[1,2,3-cd]pyrene	34.94	276	43278	82.88	ug/mL	94
80)	Dibenz[a,h]anthracene	35.02	278	36241	78.71	ug/mL	99
81)	Benzo[g,h,i]perylene	35.44	276	38394	101.66	ug/mLm	98

(#) = qualifier out of range (m) = manual integration

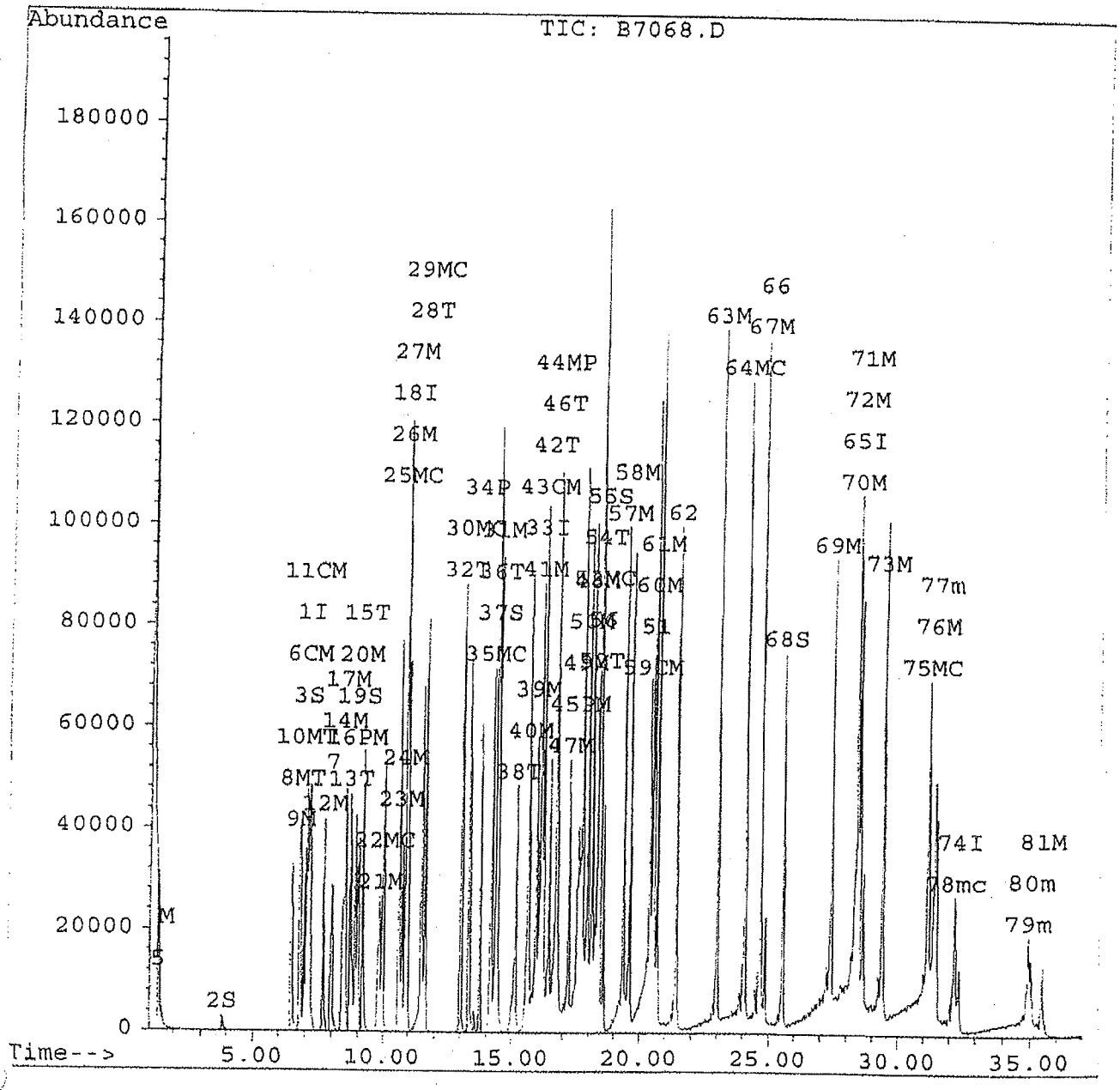
Quantitation Report

Data File : c:\hpchem\1\data3\b7068.d
Acq On : 4 Nov 97 6:43 pm
Sample : 80 STD.....
Misc :
Quant Time: Nov 5 12:09 1997

Converted from RTE d

Vial: 5
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data3\b7069.d
Acq On : 4 Nov 97 7:30 pm
Sample : 120 STD.....
Misc :
Quant Time: Nov 5 12:11 1997

Vial: 6
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.14	152	14123	40.00	ug/mL	0.02
18) Naphthalene-d8	10.95	136	59497	40.00	ug/mL	0.04
33) Acenaphthene-d10	16.18	164	47603	40.00	ug/mL	0.02
51) Phenanthrene-d10	20.51	188	91651	40.00	ug/ml	0.01
65) Chrysene-d12	28.45	240	76941	40.00	ug/mL	0.02
74) Perylene-d12	32.39	264	39927	40.00	ug/mL	-0.02
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.85	112	5051	12.21	ug/mL	12.21%
3) Phenol-d5	7.04	99	25456	36.70	ug/mL	36.70%
19) Nitrobenzene-d5	9.02	82	27985	39.21	ug/mL	39.21%
37) 2-Fluorobiphenyl	14.41	172	66487	47.75	ug/mL	47.75%
55) 2,4,6-Tribromophenol	18.63	330	21252	37.64	ug/mL	37.64%
68) Terphenyl-d14	25.58	244	93719	46.93	ug/mL	46.93%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.47	74	27223	96.79	ug/ml	100
5) Pyridine	1.41	79	48554	102.82	ug/ml	100
6) Phenol	7.06	94	73934	100.17	ug/mL	100
7) Benzyl alcohol	8.08	79	52423	148.44	ug/ml	98
8) bis(2-Chloroethyl)ether	6.86	93	34730	78.17	ug/mL	95
9) 2-Chlorophenol	6.80	128	57584	108.28	ug/mL	96
10) 1,3-Dichlorobenzene	7.00	146	50776	126.72	ug/mL	97
11) 1,4-Dichlorobenzene	7.19	146	54708	123.08	ug/mL	99
12) 1,2-Dichlorobenzene	7.71	146	54316	126.80	ug/mL	99
13) 2-Methylphenol	8.73	108	55637	109.18	ug/mL	96
14) bis(2-chloroisopropyl)ethe	8.45	45	99481	161.06	ug/mL#	94
15) 4-Methylphenol	9.22	108	61074	112.01	ug/mL	97
16) N-Nitroso-Di-n-propylamine	8.96	70	43847	98.90	ug/mL	94
17) Hexachloroethane	8.55	117	31159	94.09	ug/mL	90
20) Nitrobenzene	9.08	77	61962	99.28	ug/mL	95
21) Isophorone	9.95	82	122291	134.02	ug/mLm	99
22) 2-Nitrophenol	10.03	139	51357	129.41	ug/mL	95
23) 2,4-Dimethylphenol	10.67	107	87302	114.21	ug/mL	99
24) bis(2-Chloroethoxy)methane	10.79	93	73610	107.58	ug/mL	99
25) 2,4-Dichlorophenol	10.89	162	65377	127.84	ug/mL#	94
26) 1,2,4-Trichlorobenzene	10.89	180	59683	124.71	ug/mL	99
27) Naphthalene	10.99	128	183957	117.68	ug/mL	99
28) 4-Chloroaniline	11.54	127	94913	127.74	ug/mL	97
29) Hexachlorobutadiene	11.66	225	44206	114.88	ug/mL	98
30) 4-Chloro-3-methylphenol	13.37	107	81762	120.05	ug/mL	99
31) 2-Chloronaphthalene	14.49	162	148585	126.51	ug/ml	100
32) 2-Methylnaphthalene	13.09	142	142547	125.86	ug/mL	100
34) Hexachlorocyclopentadiene	13.80	237	56010	105.75	ug/mL	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data3\b7069.d Vial: 6
Acq On : 4 Nov 97 7:30 pm Operator: SCOTTV
Sample : 120 STD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 5 12:11 1997

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) 2,4,6-Trichlorophenol	14.25	196	56543	106.89	ug/mL	98
36) 2,4,5-Trichlorophenol	14.41	196	66127	123.39	ug/mL	99
38) 2-Nitroaniline	15.23	65	75618	105.64	ug/mL	96
39) Dimethylphthalate	16.02	163	133049	100.46	ug/mLm	0
40) Acenaphthylene	15.71	152	264705	132.53	ug/mL#	97
41) 2,6-Dinitrotoluene	16.16	165	41027	103.96	ug/mLm	0
42) 3-Nitroaniline	16.51	138	48477	108.11	ug/mL	94
43) Acenaphthene	16.29	153	171601	128.19	ug/mL	99
44) 2,4-Dinitrophenol	16.84	184	39004	112.76	ug/mL#	83
45) 4-Nitrophenol	17.59	109	30518	92.20	ug/mL	92
46) Dibenzofuran	16.80	168	285506	132.10	ug/mL	93
47) 2,4-Dinitrotoluene	17.30	165	40367	74.23	ug/mLm	0
48) Diethylphthalate	18.18	149	170268	94.81	ug/mL	100
49) Fluorene	17.79	166	165984	105.00	ug/mL	99
50) 4-Chlorophenyl-phenylether	18.02	204	104023	132.81	ug/mL	96
52) 4-Nitroaniline	18.43	138	35234	88.81	ug/mL	94
53) 4,6-Dinitro-2-methylphenol	18.49	198	46252	116.48	ug/mL	100
54) n-Nitrosodiphenylamine	18.51	169	104957	119.75	ug/mL	99
56) 1,2-Diphenylhydrazine (as	18.47	77	223095	98.50	ug/ml	100
57) 4-Bromophenyl-phenylether	19.41	248	60960	115.39	ug/mL	94
58) Hexachlorobenzene	19.67	284	89267	107.25	ug/mL	99
59) Pentachlorophenol	20.41	266	57529	115.41	ug/mL	96
60) Phenanthrene	20.59	178	279773	118.68	ug/mL	99
61) Anthracene	20.71	178	241503	110.61	ug/mLm	0
62) Carbazole	21.44	167	243789	119.75	ug/ml	99
63) Di-n-butylphthalate	23.05	149	345368	105.95	ug/mL	99
64) Fluoranthene	24.11	202	307479	109.58	ug/mL	99
66) Benzidine	24.89	184	66833	147.53	ug/ml	100
67) Pyrene	24.72	202	310170	124.49	ug/mL	97
69) Butylbenzylphthalate	27.45	149	133840	110.58	ug/mL	94
70) Benzo[a]anthracene	28.41	228	315726	152.63	ug/mL	99
71) 3,3'-Dichlorobenzidine	28.68	252	75023	100.18	ug/mL	96
72) Chrysene	28.51	228	169059	93.77	ug/mLm	99
73) bis(2-Ethylhexyl)phthalate	29.43	149	183213	89.11	ug/mL#	36
75) Di-n-octylphthalate	31.18	149	241325	132.88	ug/mL	100
76) Benzo[b]fluoranthene	31.45	252	271161	137.52	ug/mLm	98
77) Benzo[k]fluoranthene	31.51	252	92736	109.13	ug/mLm	99
78) Benzo[a]pyrene	32.24	252	117256	122.95	ug/mL	98
79) Indeno[1,2,3-cd]pyrene	34.93	276	96546	129.04	ug/mL	98
80) Dibenz[a,h]anthracene	35.03	278	82578	125.18	ug/mL	98
81) Benzo[g,h,i]perylene	35.46	276	78556	145.18	ug/mLm	0

(#) = qualifier out of range (m) = manual integration

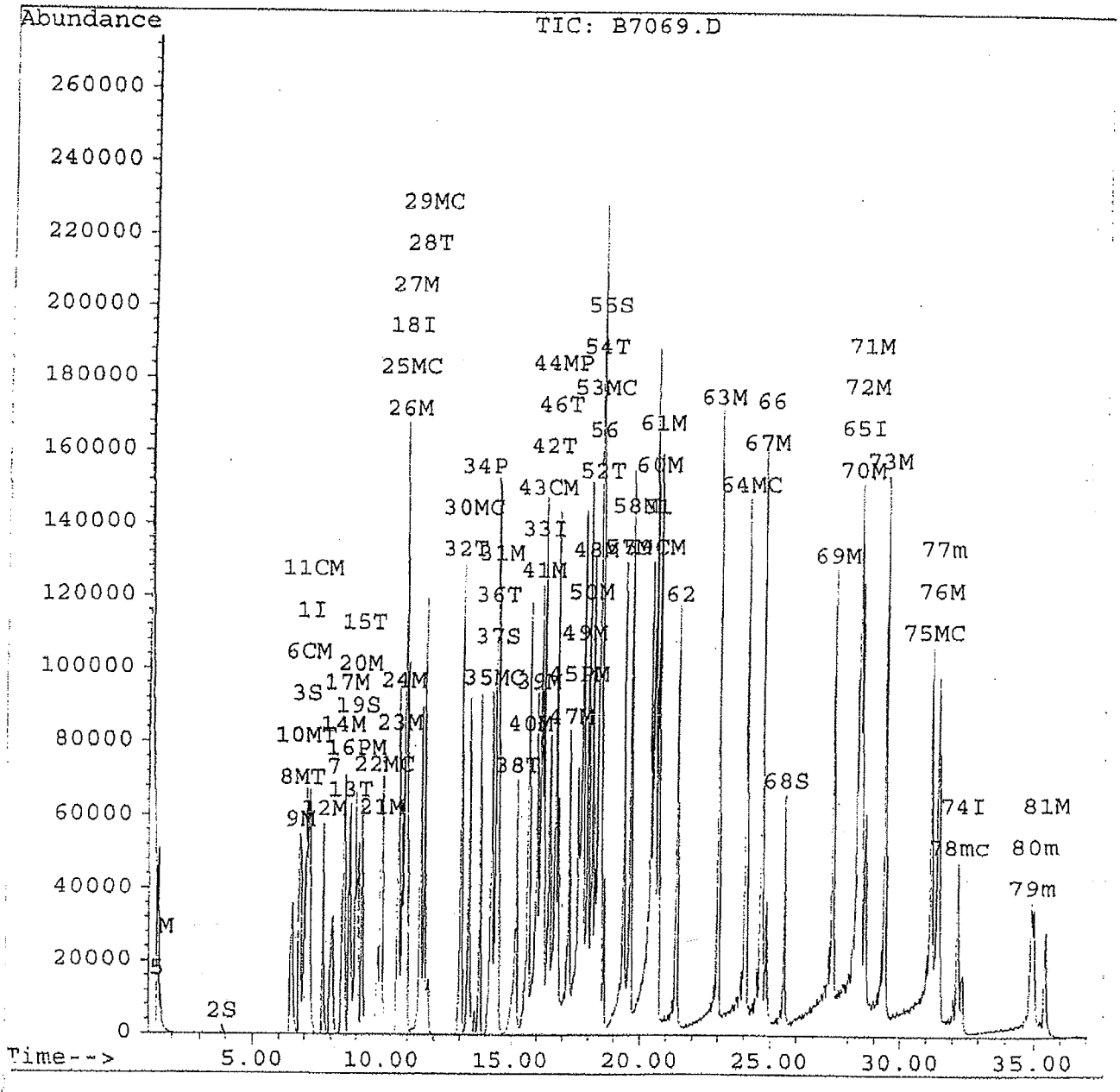
Quantitation Report

Data File : c:\hpchem\1\data3\b7069.d
Acq On : 4 Nov 97 7:30 pm
Sample : 120 STD.....
Misc :
Quant Time: Nov 5 12:11 1997

Converted from RTE d

Vial: 6
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data3\b7070.d
Acq On : 4 Nov 97 8:17 pm
Sample : 160 STD.....
Misc :
Quant Time: Nov 5 12:14 1997

Vial: 7 259
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.15	152	13448	40.00	ug/mL	0.02
18) Naphthalene-d8	10.95	136	54814	40.00	ug/mL	0.04
33) Acenaphthene-d10	16.21	164	42984	40.00	ug/mL	0.05
51) Phenanthrene-d10	20.51	188	86796	40.00	ug/ml	0.02
65) Chrysene-d12	28.44	240	77058	40.00	ug/mL	0.01
74) Perylene-d12	32.36	264	43988	40.00	ug/mL	-0.05
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.85	112	4215	10.70	ug/mL	10.70%
3) Phenol-d5	7.04	99	23220	35.16	ug/mL	35.16%
19) Nitrobenzene-d5	9.04	82	26370	40.10	ug/mL	40.10%
37) 2-Fluorobiphenyl	14.44	172	63032	50.13	ug/mL	50.13%
55) 2,4,6-Tribromophenol	18.64	330	19337	36.17	ug/mL	36.17%
68) Terphenyl-d14	25.57	244	96367	48.18	ug/mL	48.18%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.47	74	32166	120.10	ug/ml	100
5) Pyridine	1.41	79	61598	136.98	ug/ml	100
6) Phenol	7.09	94	92417	131.50	ug/mL	100
7) Benzyl alcohol	8.10	79	64548	191.94	ug/ml	93
8) bis(2-Chloroethyl)ether	6.86	93	42519	100.50	ug/mL	93
9) 2-Chlorophenol	6.80	128	73917	145.97	ug/mL	96
10) 1,3-Dichlorobenzene	7.00	146	63048	165.24	ug/mL	97
11) 1,4-Dichlorobenzene	7.21	146	67678	159.90	ug/mL	100
12) 1,2-Dichlorobenzene	7.72	146	67555	165.62	ug/mL	99
13) 2-Methylphenol	8.75	108	70665	145.63	ug/mL	97
14) bis(2-chloroisopropyl)ethe	8.47	45	122364	208.05	ug/mL#	91
15) 4-Methylphenol	9.24	108	76813	147.94	ug/mL	98
16) N-Nitroso-Di-n-propylamine	8.96	70	50563	119.77	ug/mL	96
17) Hexachloroethane	8.55	117	38339	121.58	ug/mL	91
20) Nitrobenzene	9.08	77	78384	136.32	ug/mL	97
21) Isophorone	10.00	82	151189	179.85	ug/mLm	97
22) 2-Nitrophenol	10.04	139	63114	172.63	ug/mL	99
23) 2,4-Dimethylphenol	10.69	107	109315	155.22	ug/mL	99
24) bis(2-Chloroethoxy)methane	10.81	93	90222	143.12	ug/mL	100
25) 2,4-Dichlorophenol	10.91	162	82823	175.80	ug/mL#	93
26) 1,2,4-Trichlorobenzene	10.91	180	73310	166.27	ug/mL	99
27) Naphthalene	11.02	128	222329	154.38	ug/mL	99
28) 4-Chloroaniline	11.54	127	116770	170.59	ug/mL	98
29) Hexachlorobutadiene	11.67	225	54752	154.44	ug/mL	99
30) 4-Chloro-3-methylphenol	13.40	107	104682	166.84	ug/mL	91
31) 2-Chloronaphthalene	14.52	162	192300	177.72	ug/ml	97
32) 2-Methylnaphthalene	13.09	142	180714	173.20	ug/mL	100
34) Hexachlorocyclopentadiene	13.80	237	71714	149.94	ug/mL	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data3\b7070.d
Acq On : 4 Nov 97 8:17 pm
Sample : 160 STD.....
Misc :
Quant Time: Nov 5 12:14 1997

Converted from RTE d

Vial: 7
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) 2,4,6-Trichlorophenol	14.27	196	69468	145.44	ug/mL	99
36) 2,4,5-Trichlorophenol	14.42	196	74941	154.86	ug/mL	99
38) 2-Nitroaniline	15.25	65	100530	155.53	ug/mL	91
39) Dimethylphthalate	16.05	163	167169	139.79	ug/mLm	0
40) Acenaphthylene	15.72	152	325699	180.59	ug/mL#	98
41) 2,6-Dinitrotoluene	16.19	165	53931	151.34	ug/mLm	0
42) 3-Nitroaniline	16.53	138	56794	140.27	ug/mL	96
43) Acenaphthene	16.31	153	219300	181.43	ug/mL	100
44) 2,4-Dinitrophenol	16.86	184	50708	162.35	ug/mL#	82
45) 4-Nitrophenol	17.60	109	44835	150.00	ug/mL	96
46) Dibenzofuran	16.80	168	352500	180.63	ug/mL	97
47) 2,4-Dinitrotoluene	17.31	165	51280	104.43	ug/mLm	0
48) Diethylphthalate	18.21	149	203755	125.65	ug/mL	99
49) Fluorene	17.82	166	204200	143.06	ug/mL	99
50) 4-Chlorophenyl-phenylether	18.02	204	128659	181.92	ug/mL	98
52) 4-Nitroaniline	18.45	138	40026	106.54	ug/mL	94
53) 4,6-Dinitro-2-methylphenol	18.51	198	62119	165.18	ug/mL	100
54) n-Nitrosodiphenylamine	18.49	169	115782	139.49	ug/mL	92
56) 1,2-Diphenylhydrazine (as	18.47	77	272905	127.23	ug/ml	100
57) 4-Bromophenyl-phenylether	19.41	248	74348	148.60	ug/mL	94
58) Hexachlorobenzene	19.68	284	108365	137.48	ug/mL	96
59) Pentachlorophenol	20.41	266	73326	155.33	ug/mL	98
60) Phenanthrene	20.60	178	426945	191.24	ug/mL	99
61) Anthracene	20.74	178	301514	145.82	ug/mLm	0
62) Carbazole	21.47	167	316501	164.16	ug/ml	99
63) Di-n-butylphthalate	23.06	149	433500	140.42	ug/mL	99
64) Fluoranthene	24.12	202	405341	152.53	ug/mL	99
66) Benzidine	24.87	184	85114	187.60	ug/ml	100
67) Pyrene	24.73	202	416516	166.91	ug/mL	97
69) Butylbenzylphthalate	27.44	149	182685	150.71	ug/mL	97
70) Benzo[a]anthracene	28.42	228	370480	178.83	ug/mL	99
71) 3,3'-Dichlorobenzidine	28.67	252	107457	143.27	ug/mL	96
72) Chrysene	28.52	228	159666	88.42	ug/mLm	0
73) bis(2-Ethylhexyl)phthalate	29.42	149	249255	121.04	ug/mL#	35
75) Di-n-octylphthalate	31.17	149	325996	162.93	ug/mL	99
76) Benzo[b]fluoranthene	31.46	252	320354	147.46	ug/mLm	99
77) Benzo[k]fluoranthene	31.48	252	131605	140.57	ug/mLm	100
78) Benzo[a]pyrene	32.23	252	166216	158.20	ug/mL	98
79) Indeno[1,2,3-cd]pyrene	34.94	276	141725	171.94	ug/mL	99
80) Dibenz[a,h]anthracene	35.02	278	122005	167.87	ug/mL	98
81) Benzo[g,h,i]perylene	35.45	276	113480	190.36	ug/mLm	0

(#) = qualifier out of range (m) = manual integration

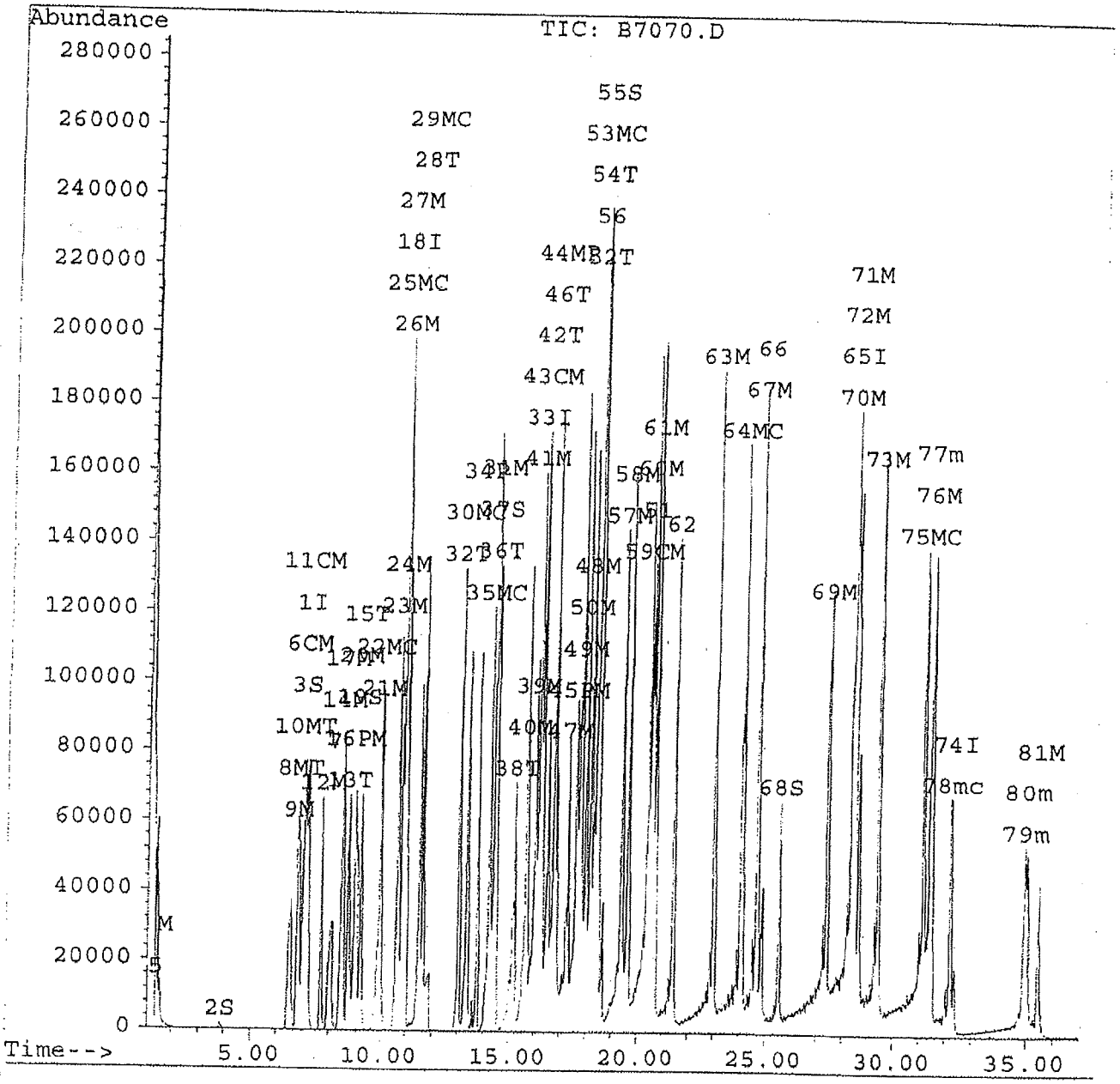
Quantitation Report

Data File : c:\hpchem\1\data3\b7070.d
Acq On : 4 Nov 97 8:17 pm
Sample : 160 STD.....
Misc :
Quant Time: Nov 5 12:14 1997

Converted from RTE d

Vial: 7
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name : EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID: B7248.D DFTPP Injection Date: 11/24/97

Instrument ID: ABNA DFTPP Injection Time: 0949

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	56.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	80.3
70	Less than 2.0% of mass 69	0.3 (0.3)1
127	25.0 - 75.0% of mass 198	48.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100 % relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.1
275	10.0 - 30.0% of mass 198	18.5
365	Greater than 0.75% of mass 198	3.9
441	Present, but less than mass 443	0.1
442	40.0 - 110.0% of mass 198	83.8
443	15.0 - 24.0% of mass 442	16.3 (19.5)2

1-Value is % mass 69 2-Value is % mass 442

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

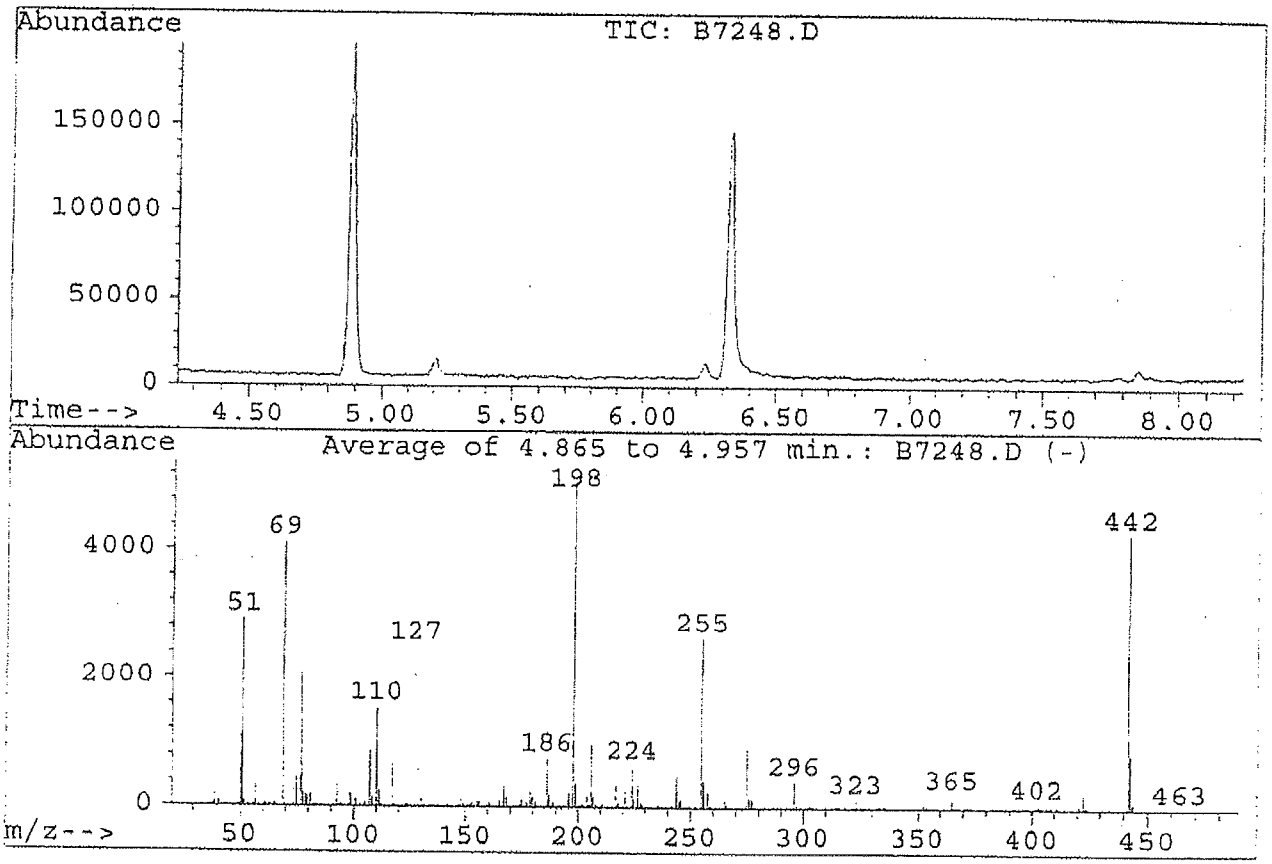
	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	50 STD	B7249.D	11/24/97	1008
02	SBLK01	BLANK1	B7250.D	11/24/97	1055
03	9785731B	9785731B	B7251.D	11/24/97	1142
04	9785732B	9785732B	B7252.D	11/24/97	1230
05	9785733B	9785733B	B7253.D	11/24/97	1318
06	9785734B	9785734B	B7254.D	11/24/97	1405
07	9785735B	9785735B	B7255.D	11/24/97	1453
08	9785736B	9785736B	B7256.D	11/24/97	1540
09	9785737B	9785737B	B7257.D	11/24/97	1628
10	9785738B	9785738B	B7258.D	11/24/97	1716
11	9785739B	9785739B	B7259.D	11/24/97	1803
12	9785741B	9785741B	B7260.D	11/24/97	1850
13	85741MS	85741MS	B7261.D	11/24/97	1937
14	85741MSD	85741MSD	B7262.D	11/24/97	2024
15					
16					
17					
18					
19					
20					
21					
22					

DFTPP

Data File : C:\HPCHEM\1\DATA2\B7248.D
Acq On : 24 Nov 97 9:49 am
Sample : DFTPP.....
Misc :

Vial: 1
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration



Peak Apex is scan: 317

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	56.7	2901	PASS
68	69	0	2	0.1	6	PASS
69	198	0	100	80.3	4108	PASS
70	69	0	2	0.3	13	PASS
127	198	40	60	48.3	2474	PASS
197	198	0	1	0.0	2	PASS
198	198	100	100	100.0	5119	PASS
199	198	5	9	7.1	364	PASS
275	198	10	30	18.5	945	PASS
365	198	1	100	3.9	201	PASS
441	443	0	100	0.6	5	PASS
442	198	40	100	83.8	4290	PASS
443	442	17	23	19.5	836	PASS

verage of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
5.60	1	38.95	305	44.70	1	50.00	1117
5.70	3	39.60	2	45.70	2	50.60	6
36.00	5	40.25	3	46.00	4	51.00	2901
36.20	3	40.90	82	46.20	1	51.20	6
36.70	3	41.60	3	46.35	4	51.70	8
36.80	4	41.75	8	47.30	9	51.80	4
36.95	25	42.05	11	47.50	2	51.90	96
37.85	65	42.25	9	47.70	6	52.75	9
38.25	7	43.15	16	48.25	5	53.15	14
38.40	6	43.95	30	48.95	79	53.50	3
38.60	6	44.30	3	49.35	11	54.00	14

verage of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
54.30	7	59.75	6	63.20	6	68.90	4108
54.60	25	60.00	25	63.55	11	69.80	4
55.70	4	60.70	9	64.90	46	69.90	13
55.95	87	61.05	58	65.15	25	70.35	9
56.35	17	61.60	4	65.40	2	71.20	4
56.95	341	61.90	40	65.90	4	71.50	3
57.75	7	62.10	3	66.00	4	71.75	5
58.35	6	62.30	2	66.20	12	72.45	12
58.90	3	62.70	4	66.55	7	73.40	6
59.20	4	62.80	2	66.80	13	73.95	256
59.50	3	62.90	84	67.70	6	74.20	8

ge of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
74.50	1	79.90	168	84.65	5	88.55	4
75.00	459	80.70	9	84.90	16	88.90	10
75.40	6	80.95	199	85.10	8	89.30	7
75.85	12	81.30	1	85.35	7	89.55	2
76.40	3	82.10	26	85.85	36	89.80	9
77.00	2073	82.35	8	86.05	8	90.15	1
77.60	2	82.65	9	86.20	5	90.95	87
78.05	211	82.95	35	86.90	16	91.90	9
78.25	6	83.30	26	87.35	8	92.55	2
78.65	10	83.95	40	87.85	7	92.85	357
78.95	183	84.35	4	88.25	1	93.25	2

erage of 4.865 to 4.957 min.: B7248.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
93.65	6	98.50	11	105.05	7	110.45	6
93.95	35	98.90	183	105.55	8	110.70	6
94.25	7	99.95	8	105.80	7	110.95	241
94.90	40	100.30	6	106.40	3	111.25	2
95.55	1	100.95	121	106.65	3	111.65	5
95.65	2	102.80	6	106.95	871	111.90	41
5.80	14	103.05	9	107.95	139	112.15	2
6.15	19	103.35	5	108.55	4	112.55	6
96.50	11	103.55	5	108.90	13	112.80	10
97.95	257	103.85	36	109.90	1526	113.10	6
98.30	11	104.85	66	110.25	3	113.55	2

verage of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
3.85	5	117.90	37	122.35	7	126.95	2474
4.15	2	119.05	6	122.65	8	127.75	2
114.50	7	119.35	1	122.95	61	128.05	6
115.10	6	119.85	23	123.15	14	128.95	1248
115.45	1	120.20	3	123.45	2	129.45	3
115.85	6	120.55	6	123.80	12	129.95	126
116.25	1	120.85	15	124.05	41	130.15	3
116.95	695	121.05	3	124.35	11	131.00	26
117.35	2	121.30	8	124.70	5	131.55	3
117.65	4	121.90	76	125.05	58	131.80	8
117.75	3	122.10	9	125.75	1	132.00	13

erage of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
132.05	1	135.75	1	141.50	5	146.95	59
132.15	2	135.85	2	141.95	61	147.85	137
132.40	3	135.95	21	142.00	3	149.00	35
133.00	8	136.20	5	142.10	7	149.70	4
133.05	3	137.00	18	142.80	23	150.35	4
133.15	5	137.30	8	143.50	8	150.85	33
133.95	50	137.60	12	144.70	2	151.30	12
134.25	7	138.00	9	145.20	3	151.80	9
134.55	4	138.30	14	145.90	33	152.05	19
134.90	77	138.70	10	146.00	4	152.30	10
135.45	6	140.90	129	146.15	6	152.85	62

ge of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
153.80	31	158.35	4	162.05	12	167.20	3
154.25	7	159.00	4	162.30	3	168.00	153
154.50	11	159.15	21	162.70	2	168.30	1
154.95	103	160.00	51	163.05	16	168.95	22
155.10	2	160.30	3	163.80	13	169.60	1
155.30	14	160.85	62	164.40	4	169.95	18
155.75	15	161.05	8	164.55	10	170.40	3
155.95	63	161.20	1	164.95	91	170.60	2
157.00	10	161.40	5	165.95	23	171.30	16
157.45	6	161.55	6	166.30	6	171.65	7
157.90	29	161.80	14	166.90	332	171.70	3

erage of 4.865 to 4.957 min.: B7248.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
171.80	1	176.00	25	180.25	4	185.70	9
171.95	21	176.30	5	180.50	6	185.95	750
172.25	6	176.60	7	180.95	76	186.50	4
172.85	15	177.00	68	181.40	1	186.90	191
173.00	1	177.15	5	181.70	6	187.25	3
173.20	29	177.40	2	182.05	13	187.50	2
3.35	6	177.80	4	182.90	8	187.80	4
3.90	36	178.90	223	183.65	10	188.05	19
174.25	9	179.10	1	183.95	12	188.60	7
174.90	114	179.50	1	184.60	1	188.80	1
175.50	2	179.90	152	185.15	4	188.95	63

Average of 4.865 to 4.957 min.: B7248.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
189.85	10	193.60	2	199.15	1	203.05	17
190.15	9	193.90	39	199.45	1	203.55	3
190.40	3	194.60	11	199.65	1	203.75	24
190.70	7	195.15	13	199.90	32	204.00	170
190.95	8	195.45	2	200.20	5	204.45	2
191.25	23	195.90	219	200.65	16	205.10	64
191.65	10	196.35	17	200.95	9	205.90	979
191.85	13	196.75	1	201.20	32	206.90	164
192.00	22	197.55	2	201.55	36	207.55	2
192.30	3	197.85	5119	202.20	27	207.90	51
192.90	23	198.85	364	202.75	12	208.20	3

Average of 4.865 to 4.957 min.: B7248.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
208.75	9	215.15	15	221.25	4	226.45	4
208.95	12	216.00	3	221.65	5	226.85	350
209.25	1	216.35	18	222.10	32	227.85	58
209.75	16	216.85	345	223.35	2	228.10	19
210.40	25	217.20	5	223.65	7	228.45	4
210.85	69	217.55	1	223.95	633	228.85	62
211.75	5	217.90	58	224.15	4	229.15	1
212.15	9	218.15	3	224.90	138	229.60	4
212.65	1	219.15	14	225.25	2	229.75	2
212.90	8	220.20	2	225.75	2	229.90	15
214.55	3	220.95	283	226.15	4	230.20	15

Average of 4.865 to 4.957 min.: B7248.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
230.40	3	235.30	8	239.35	5	244.75	1
230.55	1	235.55	3	239.65	6	245.05	89
230.75	5	236.00	32	240.15	4	245.20	4
231.00	32	236.75	14	240.30	15	245.95	111
231.50	5	236.95	13	240.65	4	246.90	15
231.90	5	237.15	2	240.85	14	247.25	1
232.35	3	237.65	4	241.90	57	247.70	7
233.00	17	237.85	3	242.55	8	248.05	6
233.30	10	238.60	3	243.65	2	248.70	4
233.80	8	238.80	10	243.95	502	248.95	16
234.90	33	239.00	15	244.45	2	249.30	2

Average of 4.865 to 4.957 min.: B7248.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
249.60	2	253.50	2	260.05	3	263.80	10
249.85	4	253.70	3	260.40	2	264.05	11
250.20	9	254.15	8	260.65	3	264.30	2
250.80	8	254.85	2640	261.00	2	264.90	97
251.00	4	255.90	399	261.50	1	265.35	5
251.35	5	256.15	3	261.80	1	265.80	48
251.95	13	257.05	3	262.25	4	266.00	4
252.20	8	257.60	1	262.45	3	266.30	2
252.60	11	257.85	222	262.85	6	266.65	6
252.90	11	258.80	36	263.15	3	267.05	19
253.20	8	259.60	1	263.55	4	267.70	7

:an 161 (5.210 min): C9731.D
BFB TUNE

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
5.95	2138	51.00	12488	70.00	2032	86.95	6069
37.05	14649	55.05	1311	72.00	1299	87.95	6517
37.95	11679	56.05	3709	73.00	7522	92.00	5236
39.05	4491	57.05	4339	74.00	31880	93.00	6678
39.95	1164	60.05	1871	75.00	89184	94.00	20768
44.10	3307	61.05	8655	76.00	9599	95.00	172800
44.90	1407	62.05	9147	76.90	1205	96.00	11922
47.00	1727	63.05	5675	77.95	1134	140.90	1753
48.00	1669	67.00	1412	78.95	3906	142.90	1151
49.00	9803	68.00	17784	79.95	1219	172.30	1076
50.00	42672	69.00	20816	80.95	4258	173.90	130840

:an 161 (5.210 min): C9731.D
BFB TUNE

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
174.95	8795						
175.95	128960						
176.95	7382						

7A

VOLATILE CONTINUING CALIBRATION CHECK

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Lab Name: EMSL ANALYTICAL Contract: _____

Project No. _____ Site: _____ Location: _____ Group: _____

Instrument ID: 5972-INSTRUMENT 1 Calibration Date: 11/20/97 Time: 1717

Lab File ID: C9732.D Init. Calib. Date(s): 11/9/97 _____

Heated Purge: (Y/N) N Init. Calib. Times: _____ _____

GC Column: RTX-624 X ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF20	MIN RRF	%D	MAX %D
Chloromethane	0.428	0.344		19.6	25.0
Bromomethane	0.643	0.520		19.1	25.0
Vinyl chloride	0.767	0.687		10.4	25.0
Chloroethane	0.479	0.477		0.4	25.0
Trichlorofluoromethane	2.299	2.535		-10.3	25.0
Methylene chloride	1.394	1.629		-16.9	25.0
1,1-Dichloroethene	0.894	0.870		2.7	25.0
1,1-Dichloroethane	1.927	1.965		-2.0	25.0
trans-1,2-Dichloroethene	0.937	0.954		-1.8	25.0
cis-1,2-Dichloroethene	1.083	1.102		-1.8	25.0
Chloroform	2.264	2.395		-5.8	25.0
1,2-Dichloroethane	1.595	1.757		-10.2	25.0
1,1,1-Trichloroethane	2.172	2.379		-9.5	25.0
Carbon tetrachloride	2.001	2.224		-11.1	25.0
Bromodichloromethane	0.569	0.642		-12.8	25.0
1,2-Dichloropropane	0.289	0.286		1.0	25.0
cis-1,3-Dichloropropene	0.463	0.505		-9.1	25.0
Trichloroethene	0.378	0.399		-5.6	25.0
Dibromochloromethane	0.489	0.539		-10.2	25.0
1,1,2-Trichloroethane	0.271	0.285		-5.2	25.0
Benzene	3.168	3.145		0.7	25.0
trans-1,3-Dichloropropene	0.435	0.489		-12.4	25.0
Bromoform	0.421	0.474		-12.6	25.0
Tetrachloroethene	0.349	0.383		-9.7	25.0
1,1,2,2-Tetrachloroethane	0.488	0.509		-4.3	25.0
Toluene	0.573	0.582		-1.6	25.0
Chlorobenzene	0.931	0.935		-0.4	25.0
Ethylbenzene	1.482	1.520		-2.6	25.0
Xylene (para & meta)	1.226	1.278		-4.2	25.0
Xylene (ortho)	1.135	1.207		-6.3	25.0
2-Chloroethyl vinyl ether	0.121	0.127		-5.0	25.0
1,3-Dichlorobenzene	0.834	0.867		-4.0	25.0
1,4-Dichlorobenzene	0.975	1.022		-4.8	25.0
1,2-Dichlorobenzene	0.839	0.912		-8.7	25.0
Acrolein	0.022	0.024		-9.1	25.0
Acrylonitrile	0.146	0.120		17.8	25.0

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7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMSL ANALYTICAL Contract: ____________

Project No. ____________ Site: ________ Location: ________ Group: ________

Instrument ID: 5972-INSTRUMENT 1 Calibration Date: 11/20/97 Time: 1717

Lab File ID: C9732.D Init. Calib. Date(s): 11/9/97 ________

Heated Purge: (Y/N) N Init. Calib. Times: ________ ________

GC Column: RTX-624 X ID: 0.53 (mm)

COMPOUND	RRF (avg.)	RRF20	MIN RRF	%D	MAX %D
Methyl-tert butyl ether	2.606	2.682		-2.9	25.0
tert-Butyl Alcohol	0.063	0.069		-9.5	25.0
1,2-Dichloroethane-d4	1.392	1.467		-5.4	25.0
Toluene-d8	0.945	0.958		-1.4	25.0
4-Bromofluorobenzene	0.763	0.786		-3.0	25.0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\C9732.D
Acq On : 20 Nov 97 5:17 pm
Sample : 20 PPB CHK STANDARD
Misc : 5 ML

Vial: 3
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

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Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	Bromochloromethane	1.000	1.000	0.0	103	0.00
2	M	Dichlorodifluoromethane	1.410	1.108	21.4	67	0.00
3	PM	Chloromethane	0.428	0.344	19.6	90	0.00
4	CM	Vinyl chloride	0.767	0.687	10.5	82	0.00
5	TM	Bromomethane	0.643	0.520	19.1	98	0.00
6	M	Chloroethane	0.479	0.477	0.4	93	0.00
7	M	Trichlorofluoromethane	2.299	2.535	-10.2	103	0.00
8	T	Acrolein	0.022	0.024	-10.1	123	0.00
9	MC	1,1-Dichloroethene	0.894	0.870	2.6	96	0.00
10	T	Acetone	0.369	0.481	-30.2#	94	0.00
11	T	Carbon disulfide	2.274	2.207	2.9	93	0.00
12	M	Methylene chloride	1.394	1.629	-16.9	101	0.00
13	T	Acrylonitrile	0.146	0.120	17.8	86	0.00
	M	trans-1,2-Dichloroethene	0.937	0.954	-1.9	97	0.00
	M	Methyl-tert butyl ether	2.606	2.682	-2.9	108	0.00
16	T	tert-Butyl Alcohol	0.063	0.069	-10.3	115	0.00
17	PM	1,1-Dichloroethane	1.927	1.965	-1.9	103	0.00
18	T	cis-1,2-Dichloroethene	1.083	1.102	-1.7	102	0.00
19	T	2-Butanone	0.455	0.488	-7.3	99	0.00
20	M	Chloroform	2.264	2.395	-5.8	105	0.00
21	M	1,1,1-Trichloroethane	2.172	2.379	-9.5	109	0.00
22	M	Carbon tetrachloride	2.001	2.224	-11.1	108	0.00
23	S	1,2-Dichloroethane-d4	1.392	1.467	-5.4	104	0.00
24	M	Benzene	3.168	3.145	0.7	100	0.00
25	M	1,2-Dichloroethane	1.595	1.757	-10.1	111	0.00
26	I	1,4-Difluorobenzene	1.000	1.000	0.0	99	0.00
27	M	Trichloroethene	0.378	0.399	-5.7	101	0.00
28	CM	1,2-Dichloropropane	0.289	0.286	1.0	99	0.00
29	M	Bromodichloromethane	0.569	0.642	-12.7	110	0.00
30	M	2-Chloroethyl vinyl ether	0.121	0.127	-5.1	105	0.00
31	M	cis-1,3-Dichloropropene	0.463	0.505	-9.1	107	0.00
32	T	4-Methyl-2-pentanone	0.262	0.288	-9.7	106	0.00
33	S	Toluene-d8	0.945	0.958	-1.4	100	0.00
34	MC	Toluene	0.573	0.582	-1.6	99	0.00
35	M	trans-1,3-Dichloropropene	0.435	0.489	-12.3	109	0.00
36	M	1,1,2-Trichloroethane	0.271	0.285	-5.1	104	0.00
37	T	2-Hexanone	0.185	0.216	-16.6	112	0.00
	4	Tetrachloroethene	0.349	0.383	-9.7	106	0.00
	M	Dibromochloromethane	0.489	0.539	-10.3	110	0.00
		1,2-Dibromoethane	0.000	0.000	0.0	0#	0.00
41	I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\C9732.D
Acq On : 20 Nov 97 5:17 pm
Sample : 20 PPB CHK STANDARD
Misc : 5 ML

Vial: 3
Operator: SRK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\624NAP.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Nov 20 18:04:35 1997
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
2	MP	Chlorobenzene	0.931	0.935	-0.4	102	0.00
3	T	1,1,1,2-Tetrachloroethane	0.464	0.501	-7.9	108	0.00
4	CM	Ethylbenzene	1.482	1.520	-2.6	101	0.00
5	M	Xylene (para & meta)	1.226	1.278	-4.3	103	0.00
6	M	Xylene (ortho)	1.135	1.207	-6.3	104	0.00
7	T	Styrene	0.963	1.008	-4.6	104	0.00
8	PM	Bromoform	0.421	0.474	-12.6	111	0.00
9	S	4-Bromofluorobenzene	0.763	0.786	-3.0	105	0.00
0	PM	1,1,2,2-Tetrachloroethane	0.488	0.509	-4.2	104	0.00
1	M	1,3-Dichlorobenzene	0.834	0.867	-4.0	106	0.00
2	M	1,4-Dichlorobenzene	0.975	1.022	-4.8	104	0.00
3	M	1,2-Dichlorobenzene	0.839	0.912	-8.7	107	0.00
4	t	Diisopropyl ether	0.000	0.000	0.0	0#	0.00
	:	Naphthalene	0.000	0.000	0.0	0#	-26.77#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

verage of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
7.85	17	272.75	17	277.85	14	284.70	6
58.30	2	273.05	54	278.20	1	285.10	9
269.75	9	273.35	2	278.65	6	285.90	6
270.25	8	274.20	3	279.05	2	286.90	1
270.40	3	274.85	945	279.20	2	287.10	1
270.65	5	275.30	1	279.45	2	287.40	6
271.00	4	275.90	153	281.10	3	287.90	1
271.15	10	276.30	5	281.40	8	288.00	1
271.45	4	276.85	137	281.70	2	288.15	5
272.10	2	277.40	4	282.85	14	288.80	11
272.50	1	277.65	8	283.85	16	289.20	1

verage of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
290.00	9	294.40	11	299.00	1	302.90	47
291.15	4	294.70	4	299.80	2	303.70	5
291.30	3	295.90	401	300.45	5	304.00	18
291.50	4	296.20	2	300.65	4	304.15	2
292.35	12	296.40	1	300.90	2	304.55	3
292.65	4	296.80	34	301.15	3	304.90	3
292.90	27	297.00	19	301.45	9	305.95	1
293.15	11	297.80	5	301.75	8	306.50	3
293.80	5	298.15	3	302.00	6	306.70	3
294.00	1	298.55	2	302.20	6	307.05	1
294.15	10	298.80	1	302.50	15	307.95	1

ge of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
308.40	3	312.90	6	317.35	1	322.95	124
308.80	6	313.20	3	317.75	1	323.95	21
309.05	4	313.55	5	318.15	3	324.15	3
309.40	4	313.95	16	318.65	1	324.90	5
309.65	1	314.10	9	319.15	4	325.15	6
309.90	6	314.35	20	319.35	1	325.45	7
310.25	4	314.90	55	319.75	4	325.65	1
311.25	1	315.45	4	320.20	9	326.15	10
311.55	2	315.90	31	321.20	9	326.95	28
311.65	2	316.75	2	321.85	9	327.75	2
312.55	8	317.05	3	322.50	2	328.00	11

erage of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
328.90	9	333.90	75	339.05	7	343.00	3
329.75	1	334.15	1	339.85	1	343.25	2
330.90	6	334.95	29	340.25	2	343.85	2
331.20	4	335.15	5	340.45	1	344.05	2
331.45	1	335.35	1	340.75	7	345.10	4
331.55	3	335.90	7	341.05	1	345.35	3
1.70	10	336.25	3	341.25	1	345.80	37
1.95	9	336.50	4	341.80	4	346.05	3
32.75	7	337.85	1	341.95	1	346.30	4
32.90	17	338.25	5	342.10	4	347.05	1
333.45	15	338.75	3	342.50	2	347.95	2

verage of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
8.25	2	354.95	14	359.10	5	363.40	4
8.55	1	355.15	2	359.35	1	363.60	2
349.25	2	355.40	2	359.65	4	363.80	3
349.90	4	355.85	5	360.30	4	364.10	3
350.80	6	356.05	2	360.75	4	364.30	4
351.15	2	356.50	4	360.95	2	364.80	201
351.85	44	356.85	7	361.35	6	365.70	19
352.90	35	357.35	2	361.75	2	365.90	16
353.25	2	357.55	3	362.05	3	366.10	2
353.90	23	358.10	4	362.60	2	366.60	1
354.20	4	358.75	6	363.00	5	366.90	4

verage of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
367.85	6	373.05	14	378.30	2	382.95	18
368.50	1	373.30	2	378.70	1	383.40	5
369.15	4	373.50	1	379.05	5	383.70	1
369.50	12	373.90	4	379.20	1	383.80	2
369.85	7	375.30	3	379.80	2	383.95	9
370.20	5	375.50	1	380.35	3	384.60	5
370.80	6	375.70	1	381.75	9	384.95	5
371.15	3	376.75	3	381.90	1	385.75	5
371.65	7	377.10	2	382.10	3	386.10	6
371.95	51	377.30	3	382.40	1	386.45	2
372.45	7	377.55	2	382.65	9	386.90	2

ge of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
387.45	2	391.80	2	395.10	1	400.95	9
387.90	5	391.95	10	396.10	4	401.15	8
388.35	3	392.50	5	396.50	1	401.50	6
388.65	4	393.25	3	396.90	10	402.00	60
389.60	2	393.65	3	397.45	4	402.40	10
389.85	13	393.85	3	398.05	2	402.75	14
390.20	5	394.00	1	399.10	3	403.00	38
390.70	2	394.20	1	399.55	5	403.45	2
390.95	20	394.30	2	400.05	7	403.85	20
391.10	1	394.45	2	400.40	1	404.60	4
391.70	2	394.90	1	400.60	1	404.90	3

erage of 4.865 to 4.957 min.: B7248.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
405.10	1	409.30	1	414.70	10	418.10	4
405.35	7	409.70	6	415.05	3	420.40	10
405.60	3	410.15	4	415.40	1	420.90	49
405.80	2	410.50	4	415.60	1	421.60	7
406.40	7	410.90	4	415.90	5	422.05	10
406.90	1	411.30	1	416.25	5	422.25	2
.40	7	412.55	3	416.40	2	422.60	4
7.80	6	412.90	2	416.60	2	422.85	227
408.15	2	413.60	2	416.70	2	423.15	2
408.50	1	414.00	2	416.85	2	423.35	1
409.00	3	414.35	5	417.00	2	423.90	49

verage of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
24.55	2	430.05	1	437.05	7	442.90	836
24.90	11	430.55	9	438.00	12	443.25	1
426.25	4	430.90	4	438.55	14	443.90	78
427.25	2	433.45	8	439.20	13	444.75	9
427.55	2	433.70	4	439.65	1	445.25	1
428.20	2	434.10	8	439.90	3	445.45	4
428.40	4	435.20	5	440.60	7	446.75	3
428.70	2	435.50	7	441.25	5	447.50	3
429.15	1	436.05	8	441.95	4290	448.25	4
429.45	1	436.35	1	442.60	5	448.75	5
429.85	1	436.75	7	442.75	2	449.10	4

erage of 4.865 to 4.957 min.: B7248.D

odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
449.55	4	452.95	2	456.95	2	462.35	3
449.75	1	453.15	4	457.35	1	462.65	1
450.00	3	453.90	4	457.80	5	463.15	7
450.30	6	454.20	4	458.35	1	463.45	9
450.65	1	454.80	5	459.25	6	463.95	1
450.95	4	455.05	2	460.10	5	464.20	6
451.15	1	455.35	3	461.05	2	464.60	3
451.35	5	455.70	3	461.15	1	465.45	4
451.55	2	456.05	2	461.30	2	465.75	2
452.25	1	456.35	2	461.85	1	466.35	1
452.55	1	456.75	4	462.10	5	466.75	3

ge of 4.865 to 4.957 min.: B7248.D

dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
467.25	2	471.25	7				
467.95	5	471.45	3				
468.65	2	471.85	1				
468.75	2	472.30	3				
468.90	4	472.85	6				
469.05	1	473.80	2				
469.25	3	473.95	5				
469.65	1	474.45	3				
469.85	1						
470.50	5						
470.85	4						

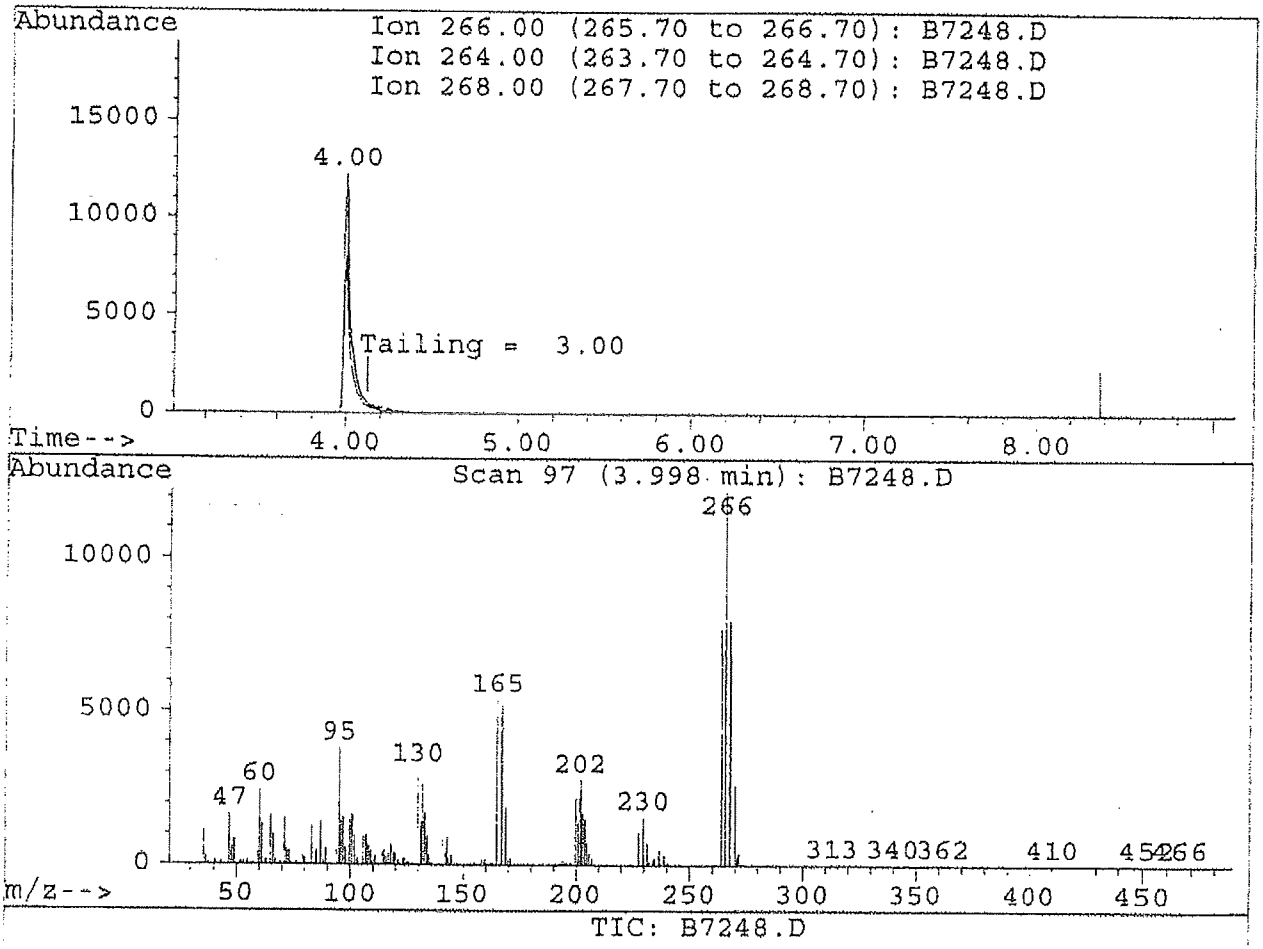
Quantitation Report

Data File : C:\HPCHEM\1\DATA2\B7248.D
Acq On : 24 Nov 97 9:49 am
Sample : DFTPP.....
Misc :
Quant Time: Nov 24 10:25 1997

Vial: 1
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Converted from RTE d

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



(1) Pentachlorophenol (CM)

5.37min 0.00ug/mL d

response 0

Ion	Exp%	Act%
266.00	100	0.00
264.00	64.30	0.00#
268.00	64.70	0.00#
0.00	0.00	0.00

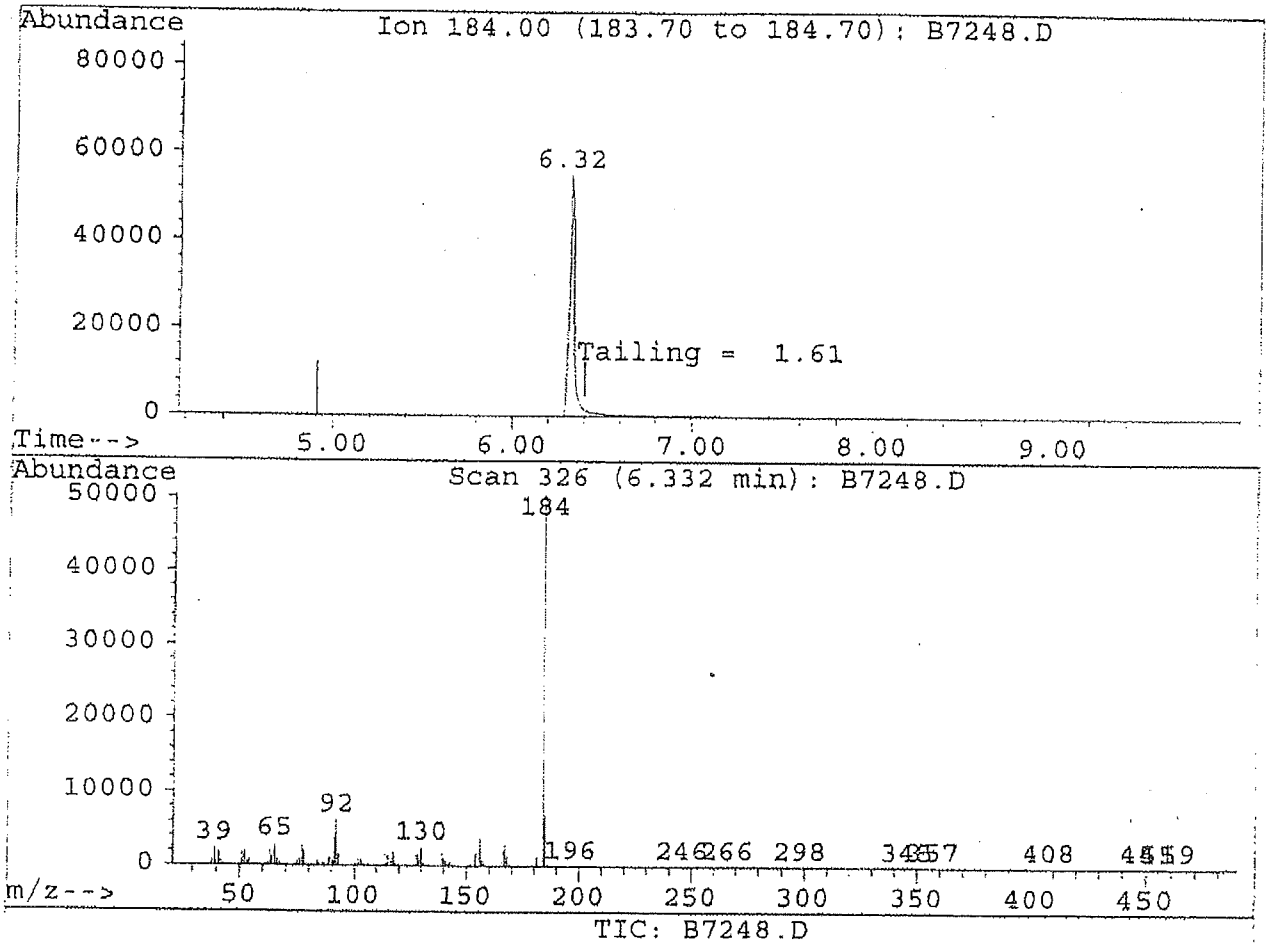
Quantitation Report

Data File : C:\HPCHEM\1\DATA2\B7248.D
Acq On : 24 Nov 97 9:49 am
Sample : DFTPP.....
Misc :
Quant Time: Nov 24 10:25 1997

Vial: 1
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Converted from RTE d

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



TIC: B7248.D

(2) Benzidine

7.91min 0.00ug/ml d

response 0

Ion	Exp%	Act%
184.00	100	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMSL ANALYTICAL Contract: _____

Project No. _____ Site: _____ Location: _____ Group: _____

Instrument ID: ABNA Calibration Date: #### Time: 1008

Lab File ID: B7249.D Init. Calib. Date(s): #### 1/0/00

Init. Calib. Times: 1008 0000

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
N-nitrosodimethylamine	0.547	0.627		-14.6	
Phenol	1.659	1.743		-5.1	30.0
bis(2-Chloroethyl)ether	0.844	0.930		-10.2	
2-Chlorophenol	1.342	1.380		-2.8	
1,3-Dichlorobenzene	1.158	1.212		-4.7	
1,4-Dichlorobenzene	1.248	1.340		-7.4	30.0
1,2-Dichlorobenzene	1.237	1.288		-4.1	
bis(2-chloroisopropyl)ether	2.306	2.256		2.2	
N-Nitroso-Di-n-propylamine	1.034	1.044	0.050	-1.0	
Hexachloroethane	0.710	0.746		-5.1	
Nitrobenzene	0.335	0.345		-3.0	
Isophorone	0.650	0.659		-1.4	
2-Nitrophenol	0.264	0.265		-0.4	30.0
2,4-Dimethylphenol	0.463	0.468		-1.1	
bis(2-Chloroethoxy)methane	0.393	0.392		0.3	
2,4-Dichlorophenol	0.356	0.356		0.0	30.0
1,2,4-Trichlorobenzene	0.327	0.333		-1.8	
Naphthalene	0.997	1.033		-3.6	
Hexachlorobutadiene	0.241	0.236		2.1	30.0
4-Chloro-3-methylphenol	0.434	0.442		-1.8	30.0
Hexachlorocyclopentadiene	0.349	0.318	0.050	8.9	
2,4,6-Trichlorophenol	0.398	0.382		4.0	30.0
2-Chloronaphthalene	0.819	0.827		-1.0	
Dimethylphthalate	0.823	0.705		14.3	
Acenaphthylene	1.716	1.764		-2.8	
2,6-Dinitrotoluene	0.266	0.315		-18.4	
Acenaphthene	1.154	1.169		-1.3	30.0
2,4-Dinitrophenol	0.239	0.229	0.050	4.2	
4-Nitrophenol	0.231	0.193	0.050	16.5	
2,4-Dinitrotoluene	0.277	0.281		-1.4	
Diethylphthalate	1.238	1.479		-19.5	
Fluorene	1.293	1.416		-9.5	
4-Chlorophenyl-phenylether	0.675	0.659		2.4	
4,6-Dinitro-2-methylphenol	0.153	0.144		5.9	30.0
n-Nitrosodiphenylamine	0.380	0.449		-18.2	
1,2-Diphenylhydrazine(as azo)	0.000	0.000			
4-Bromophenyl-phenylether	0.214	0.223		-4.2	

All other compounds must meet a minimum RRF of 0.010.

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMSL ANALYTICAL Contract: _____

Project No. _____ Site: _____ Location: _____ Group: _____

Instrument ID: ABNA Calibration Date: #### Time: 1008

Lab File ID: B7249.D Init. Calib. Date(s): #### 1/0/00

Init. Calib. Times: 1008 0000

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Hexachlorobenzene	0.322	0.303		5.9	
Pentachlorophenol	0.185	0.140		24.3	30.0
Phenanthrene	1.020	1.002		1.8	
Anthracene	0.833	0.824		1.1	
Di-n-butylphthalate	1.324	1.327		-0.2	
Fluoranthene	1.158	0.968		16.4	30.0
Benzidine	0.290	0.240		17.2	
Pyrene	1.442	1.696		-17.6	
Butylbenzylphthalate	0.586	0.634		-8.2	
Benzo[a]anthracene	1.185	1.155		2.5	
3,3'-Dichlorobenzidine	0.311	0.264		15.1	
Chrysene	0.678	0.735		-8.4	
bis(2-Ethylhexyl)phthalate	0.797	0.848		-6.4	
Di-n-octylphthalate	1.994	1.879		5.8	30.0
Benzo[b]fluoranthene	1.816	1.844		-1.5	
Benzo[k]fluoranthene	1.110	1.159		-4.4	
Benzo[a]pyrene	1.009	1.027		-1.8	30.0
Indeno[1,2,3-cd]pyrene	0.715	0.774		-8.3	
Dibenz[a,h]anthracene	0.597	0.672		-12.6	
Benzo[g,h,i]perylene	0.577	0.662		-14.7	
2-Fluorophenol	0.251	0.242		3.6	
Phenol-d5	1.500	1.669		-11.3	
Nitrobenzene-d5	0.369	0.377		-2.2	
2-Fluorobiphenyl	1.088	1.070		1.7	
2,4,6-Tribromophenol	0.184	0.174		5.4	
Terphenyl-d14	1.031	1.104		-7.1	

All other compounds must meet a minimum RRF of 0.010.

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\B7249.D Vial: 2
Acq On : 24 Nov 97 10:08 am Operator: SCOTTV SUP
Sample : 50 STD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	92	-0.18
2	S	2-Fluorophenol	0.251	0.242	3.4	91	-0.24
3	S	Phenol-d5	1.500	1.669	-11.3	102	-0.18
4	M	N-nitrosodimethylamine	0.547	0.627	-14.7	102	-0.08
5		Pyridine	1.022	0.953	6.7	86	-0.08
6	CM	Phenol	1.659	1.743	-5.0	93	-0.18
7		Benzyl alcohol	1.120	1.022	8.8	81	-0.18
8	MT	bis(2-Chloroethyl)ether	0.844	0.930	-10.2	95	-0.18
9	M	2-Chlorophenol	1.342	1.380	-2.8	89	-0.20
10	MT	1,3-Dichlorobenzene	1.158	1.212	-4.6	94	-0.20
11	CM	1,4-Dichlorobenzene	1.248	1.340	-7.3	98	-0.20
12	M	1,2-Dichlorobenzene	1.237	1.288	-4.1	94	-0.18
13	T	2-Methylphenol	1.241	1.212	2.3	85	-0.12
	1	bis(2-chloroisopropyl)ether	2.306	2.256	2.2	87	-0.16
	[illegible]	4-Methylphenol	1.354	1.368	-1.0	94	-0.16
16	PM	N-Nitroso-Di-n-propylamine	1.034	1.044	-1.0	88	-0.16
17	M	Hexachloroethane	0.710	0.746	-5.1	94	-0.18
18	I	Naphthalene-d8	1.000	1.000	0.0	93	-0.16
19	S	Nitrobenzene-d5	0.369	0.377	-2.2	95	-0.18
20	M	Nitrobenzene	0.335	0.345	-3.0	94	-0.16
21	M	Isophorone	0.650	0.659	-1.4	92	-0.18
22	MC	2-Nitrophenol	0.264	0.265	-0.4	92	-0.16
23	M	2,4-Dimethylphenol	0.463	0.468	-1.1	89	-0.16
24	M	bis(2-Chloroethoxy)methane	0.393	0.392	0.2	88	-0.18
25	MC	2,4-Dichlorophenol	0.356	0.356	0.1	86	-0.16
26	M	1,2,4-Trichlorobenzene	0.327	0.333	-1.9	92	-0.16
27	M	Naphthalene	0.997	1.033	-3.5	93	-0.18
28	T	4-Chloroaniline	0.502	0.512	-1.9	91	-0.16
29	MC	Hexachlorobutadiene	0.241	0.236	2.3	90	-0.18
30	MC	4-Chloro-3-methylphenol	0.434	0.442	-2.0	92	-0.16
31	M	2-Chloronaphthalene	0.819	0.827	-1.0	94	-0.18
32	T	2-Methylnaphthalene	0.775	0.801	-3.4	94	-0.18
33	I	Acenaphthene-d10	1.000	1.000	0.0	90	-0.18
34	P	Hexachlorocyclopentadiene	0.349	0.318	8.8	91	-0.18
35	MC	2,4,6-Trichlorophenol	0.398	0.382	4.0	80	0.04
36	T	2,4,5-Trichlorophenol	0.436	0.480	-10.0	96	-0.16
3	[illegible]	2-Fluorobiphenyl	1.088	1.070	1.6	92	-0.16
[illegible]	[illegible]	2-Nitroaniline	0.481	0.495	-3.1	94	-0.16
[illegible]	M	Dimethylphthalate	0.823	0.705	14.3	96	-0.18
39	M	Acenaphthylene	1.716	1.764	-2.8	93	-0.18

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\B7249.D Vial: 2
Acq On : 24 Nov 97 10:08 am Operator: SCOTTV SUP
Sample : 50 STD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
41	M	2,6-Dinitrotoluene	0.266	0.315	-18.1	149	-0.16
42	T	3-Nitroaniline	0.358	0.387	-8.3	86	-0.16
43	CM	Acenaphthene	1.154	1.169	-1.3	93	-0.18
44	MP	2,4-Dinitrophenol	0.239	0.229	4.2	90	-0.14
45	PM	4-Nitrophenol	0.231	0.193	16.3	71	-0.16
46	T	Dibenzofuran	1.870	1.854	0.9	91	-0.18
47	M	2,4-Dinitrotoluene	0.277	0.281	-1.5	114	-0.16
48	M	Diethylphthalate	1.238	1.479	-19.5	116	-0.18
49	M	Fluorene	1.293	1.416	-9.5	92	-0.18
50	M	4-Chlorophenyl-phenylether	0.675	0.659	2.3	90	-0.18
51		Phenanthrene-d10	1.000	1.000	0.0	105	-0.19
52	T	4-Nitroaniline	0.142	0.162	-14.2	99	-0.16
	MC	4,6-Dinitro-2-methylphenol	0.153	0.144	5.7	101	-0.19
	M	n-Nitrosodiphenylamine	0.380	0.449	-18.3	113	-0.16
55	S	2,4,6-Tribromophenol	0.184	0.174	5.4	82	-0.19
56		1,2-Diphenylhydrazine (as a	0.857	0.976	-13.8	100	-0.16
57	M	4-Bromophenyl-phenylether	0.214	0.223	-4.3	100	-0.19
58	M	Hexachlorobenzene	0.322	0.303	5.8	80	-0.19
59	CM	Pentachlorophenol	0.185	0.140	24.6	79	-0.17
60	M	Phenanthrene	1.020	1.002	1.8	104	-0.19
61	M	Anthracene	0.833	0.824	1.1	104	-0.19
62		Carbazole	0.879	0.804	8.6	92	-0.19
63	M	Di-n-butylphthalate	1.324	1.327	-0.2	96	-0.19
64	MC	Fluoranthene	1.158	0.968	16.4	83	-0.21
65	I	Chrysene-d12	1.000	1.000	0.0	77	-0.21
66		Benzidine	0.290	0.240	17.1	66	-0.17
67	M	Pyrene	1.442	1.696	-17.6	78	-0.21
68	S	Terphenyl-d14	1.031	1.104	-7.2	75	-0.21
69	M	Butylbenzylphthalate	0.586	0.634	-8.1	80	-0.19
70	M	Benzo[a]anthracene	1.185	1.155	2.6	75	-0.21
71	M	3,3'-Dichlorobenzidine	0.311	0.264	15.2	77	-0.19
72	M	Chrysene	0.678	0.735	-8.4	84	-0.21
73	M	bis(2-Ethylhexyl)phthalate	0.797	0.848	-6.3	79	-0.12
74	I	Perylene-d12	1.000	1.000	0.0	58	-0.21
75	MC	Di-n-octylphthalate	1.994	1.879	5.8	46#	-0.19
7		Benzo[b]fluoranthene	1.816	1.844	-1.5	62	-0.21
	n	Benzo[k]fluoranthene	1.110	1.159	-4.5	59	-0.21
3	mc	Benzo[a]pyrene	1.009	1.027	-1.8	58	-0.21
	m	Indeno[1,2,3-cd]pyrene	0.715	0.774	-8.1	65	-0.19

(#) = Out of Range

Evaluate Continuing Calibration Report

270

Data File : C:\HPCHEM\1\DATA2\B7249.D Vial: 2
Acq On : 24 Nov 97 10:08 am Operator: SCOTTV SUP
Sample : 50 STD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
0	m	Dibenz[a,h]anthracene	0.597	0.672	-12.7	68	-0.21
1	M	Benzo[g,h,i]perylene	0.577	0.662	-14.7	59	-0.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report

Data File : c:\hpchem\1\data2\b7249.d Vial: 2
Acq On : 24 Nov 97 10:08 am Operator: SCOTTV
Sample : 50 STD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 24 15:31 1997

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.94	152	11610	40.00	ug/mL	-0.18
18) Naphthalene-d8	10.75	136	49414	40.00	ug/mL	-0.16
33) Acenaphthene-d10	15.98	164	40152	40.00	ug/mL	-0.18
51) Phenanthrene-d10	20.31	188	86961	40.00	ug/ml	-0.19
65) Chrysene-d12	28.22	240	49546	40.00	ug/mL	-0.21
74) Perylene-d12	32.19	264	15805	40.00	ug/mL	-0.21
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.59	112	3519	48.31	ug/mL	48.31%
3) Phenol-d5	6.86	99	24222	55.64	ug/mL	55.64%
19) Nitrobenzene-d5	8.81	82	23282	51.12	ug/mL	51.12%
37) 2-Fluorobiphenyl	14.23	172	53724	49.21	ug/mL	49.21%
55) 2,4,6-Tribromophenol	18.44	330	18956	47.30	ug/mL	47.30%
68) Terphenyl-d14	25.38	244	68404	53.59	ug/mL	53.59%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.37	74	9105	57.34	ug/mlm	100
5) Pyridine	1.33	79	13826	46.63	ug/ml	100
6) Phenol	6.90	94	25290	52.51	ug/mL	100
7) Benzyl alcohol	7.84	79	14825	45.59	ug/ml	100
8) bis(2-Chloroethyl)ether	6.64	93	13503	55.11	ug/mL	95
9) 2-Chlorophenol	6.60	128	20025	51.41	ug/mL	94
10) 1,3-Dichlorobenzene	6.78	146	17588	52.31	ug/mL	96
11) 1,4-Dichlorobenzene	6.98	146	19440	53.67	ug/mL	96
12) 1,2-Dichlorobenzene	7.51	146	18690	52.05	ug/mL	100
13) 2-Methylphenol	8.59	108	17593	48.84	ug/mL	93
14) bis(2-chloroisopropyl)ethe	8.26	45	32735	48.91	ug/mL	99
15) 4-Methylphenol	9.04	108	19847	50.48	ug/mL	97
16) N-Nitroso-Di-n-propylamine	8.73	70	15150	50.48	ug/mL	98
17) Hexachloroethane	8.35	117	10829	52.55	ug/mL	98
20) Nitrobenzene	8.88	77	21309	51.48	ug/mL#	86
21) Isophorone	9.65	82	40695	50.70	ug/mL	97
22) 2-Nitrophenol	9.83	139	16351	50.22	ug/mL	90
23) 2,4-Dimethylphenol	10.46	107	28931	50.53	ug/mL	99
24) bis(2-Chloroethoxy)methane	10.58	93	24202	49.91	ug/mL	96
25) 2,4-Dichlorophenol	10.71	162	21979	49.94	ug/mL#	92
26) 1,2,4-Trichlorobenzene	10.71	180	20593	50.94	ug/mL	98
27) Naphthalene	10.79	128	63778	51.76	ug/mL	97
28) 4-Chloroaniline	11.34	127	31617	50.96	ug/mL	96
29) Hexachlorobutadiene	11.48	225	14550	48.86	ug/mL	98
30) 4-Chloro-3-methylphenol	13.21	107	27320	50.98	ug/mL	97
31) 2-Chloronaphthalene	14.29	162	51087	50.51	ug/ml	96
32) 2-Methylnaphthalene	12.88	142	49485	51.71	ug/mL	99
34) Hexachlorocyclopentadiene	13.61	237	15982	45.62	ug/mL	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b7249.d Vial: 2
Acq On : 24 Nov 97 10:08 am Operator: SCOTTV
Sample : 50 STD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 24 15:31 1997

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35)	2,4,6-Trichlorophenol	14.27	196	19193	48.01 ug/mL	98
36)	2,4,5-Trichlorophenol	14.27	196	24067	54.99 ug/mL	98
38)	2-Nitroaniline	15.02	65	24860	51.53 ug/mL	87
39)	Dimethylphthalate	15.79	163	35398	42.85 ug/mLm	0
40)	Acenaphthylene	15.49	152	88523	51.38 ug/mL#	99
41)	2,6-Dinitrotoluene	15.95	165	15790	59.05 ug/mLm	0
42)	3-Nitroaniline	16.30	138	19448	54.14 ug/mL	100
43)	Acenaphthene	16.08	153	58670	50.64 ug/mL	99
44)	2,4-Dinitrophenol	16.65	184	11490	47.88 ug/mL	86
45)	4-Nitrophenol	17.46	109	9702	41.85 ug/mLm	91
46)	Dibenzofuran	16.57	168	93030	49.55 ug/mL	98
47)	2,4-Dinitrotoluene	17.07	165	14100	50.73 ug/mLm	0
48)	Diethylphthalate	17.95	149	74246	59.77 ug/mL	98
49)	Fluorene	17.58	166	71045	54.75 ug/mL	99
50)	4-Chlorophenyl-phenylether	17.81	204	33090	48.86 ug/mL	97
52)	4-Nitroaniline	18.17	138	17600	57.10 ug/mL	93
53)	4,6-Dinitro-2-methylphenol	18.26	198	15685	47.14 ug/mL	100
54)	n-Nitrosodiphenylamine	18.30	169	48837	59.14 ug/mL	96
56)	1,2-Diphenylhydrazine (as	18.26	77	106091	56.91 ug/ml	100
57)	4-Bromophenyl-phenylether	19.21	248	24251	52.15 ug/mL	97
58)	Hexachlorobenzene	19.46	284	32958	47.09 ug/mL	95
59)	Pentachlorophenol	20.21	266	15206	37.72 ug/mLm	95
60)	Phenanthrene	20.37	178	108911	49.10 ug/mL	99
61)	Anthracene	20.49	178	89576	49.47 ug/mLm	100
62)	Carbazole	21.25	167	87361	45.72 ug/ml	99
63)	Di-n-butylphthalate	22.85	149	144224	50.11 ug/mL	99
64)	Fluoranthene	23.89	202	105272	41.81 ug/mL	99
66)	Benzidine	24.70	184	14883	41.43 ug/mlm	100
67)	Pyrene	24.50	202	105033	58.80 ug/mL	99
69)	Butylbenzylphthalate	27.25	149	39247	54.05 ug/mLm	87
70)	Benzo[a]anthracene	28.18	228	71509	48.71 ug/mL	99
71)	3,3'-Dichlorobenzidine	28.49	252	16336	42.40 ug/mL	99
72)	Chrysene	28.31	228	45545	54.22 ug/mL	99
73)	bis(2-Ethylhexyl)phthalate	29.24	149	52493	53.17 ug/mLm	38
75)	Di-n-octylphthalate	30.99	149	37119	47.12 ug/mLm	99
76)	Benzo[b]fluoranthene	31.24	252	36423	50.75 ug/mL	98
77)	Benzo[k]fluoranthene	31.30	252	22901	52.24 ug/mLm	98
78)	Benzo[a]pyrene	32.03	252	20292	50.90 ug/mL	97
79)	Indeno[1,2,3-cd]pyrene	34.74	276	15285	54.07 ug/mL#	90
80)	Dibenz[a,h]anthracene	34.82	278	13279	56.33 ug/mL	99
81)	Benzo[g,h,i]perylene	35.25	276	13076	57.33 ug/mLm	0

(#) = qualifier out of range (m) = manual integration

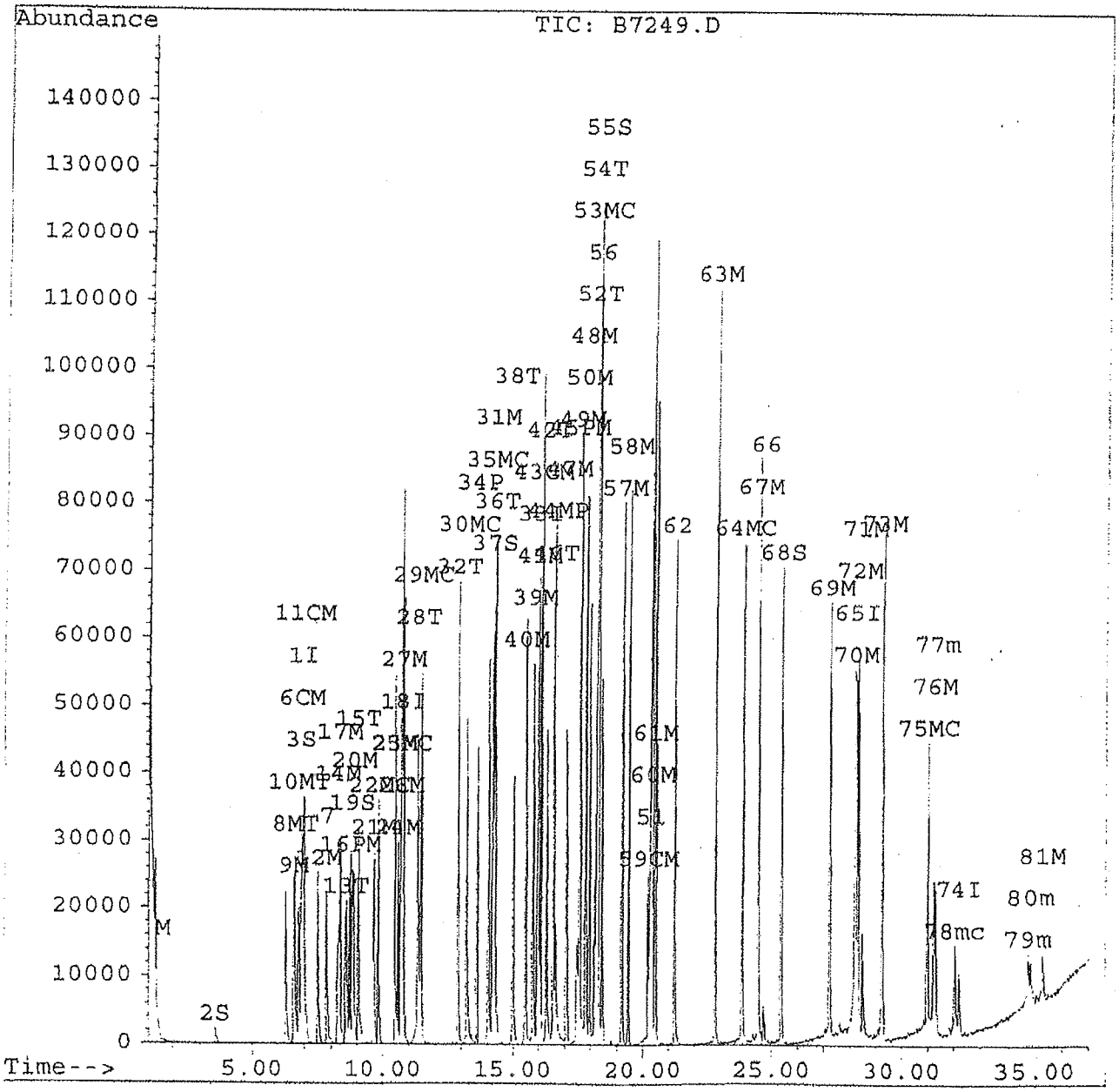
Quantitation Report

Data File : c:\hpchem\1\data2\b7249.d
Acq On : 24 Nov 97 10:08 am
Sample : 50 STD.....
Misc :
Quant Time: Nov 24 15:31 1997

Converted from RTE d

Vial: 2
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID (Standard): B7249.D Date Analyzed: 11/24/97

Instrument ID: ABNA Time Analyzed: 1008

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	11610	6.94	49414	10.75	40152	15.98
	UPPER LIMIT	23220	7.44	98828	11.25	80304	16.48
	LOWER LIMIT	5805	6.44	24707	10.25	20076	15.48
	SAMPLE NO.						
01	SBLK01	13000	6.94	55823	10.72	46583	15.97
02	9785731B	13476	6.94	58254	10.72	46534	15.97
03	9785732B	12502	6.94	57493	10.72	45073	15.97
04	9785733B	12391	6.94	53782	10.72	42120	15.97
05	9785734B	12109	6.95	55268	10.73	43100	15.98
06	9785735B	12707	6.94	55078	10.72	43595	15.97
07	9785736B	12335	6.94	56046	10.72	45718	15.97
08	9785737B	13227	6.94	57607	10.72	45619	15.97
09	9785738B	12591	6.94	54049	10.73	45171	15.97
10	9785739B	12708	6.95	58050	10.71	45961	15.98
11	9785741B	12774	6.94	57033	10.72	45476	15.97
12	85741MS	13340	6.94	58490	10.73	47567	15.98
13	85741MSD	12945	6.92	56726	10.73	46974	15.98
14							
15							
16							
17							
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19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Lab File ID (Standard): B7249.D Date Analyzed: 11/24/97

Instrument ID: ABNA Time Analyzed: 1008

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	86961	20.31	49546	28.22	15805	32.19
	UPPER LIMIT	173922	20.81	99092	28.72	31610	32.69
	LOWER LIMIT	43481	19.81	24773	27.72	7903	31.69
	SAMPLE NO.						
01	SBLK01	99527	20.30	87592	28.23	24588	32.19
02	9785731B	100316	20.30	77052	28.23	27296	32.19
03	9785732B	91176	20.30	82968	28.21	18579	32.18
04	9785733B	89139	20.30	62068	28.23	28751	32.19
05	9785734B	92510	20.29	73108	28.22	29767	32.18
06	9785735B	94448	20.28	70390	28.21	26280	32.20
07	9785736B	93092	20.28	67613	28.21	29929	32.18
08	9785737B	94184	20.28	62707	28.22	23021	32.18
09	9785738B	93322	20.29	62917	28.22	23011	32.18
10	9785739B	94472	20.29	87806	28.22	22359	32.18
11	9785741B	94824	20.28	69660	28.21	28706	32.18
12	85741MS	99141	20.29	67614	28.23	26651	32.18
13	85741MSD	94442	20.29	59420	28.23	23747	32.18
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785731B

MW-2

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785731B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7251.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785731B

MW-2

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785731B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7251.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	B
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785731B
MW-2

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785731B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7251.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.90	7	J
2.				
3.				
4.				
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29.				
30.				

Quantitation Report

235

Data File : c:\hpchem\1\data2\b7251.d
Acq On : 24 Nov 97 11:42 am
Sample : 85731.....
Misc :
Quant Time: Nov 24 15:42 1997

Converted from RTE d

Vial: 4
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.94	152	13476	40.00	ug/mL	-0.19
18) Naphthalene-d8	10.72	136	58254	40.00	ug/mL	-0.19
33) Acenaphthene-d10	15.97	164	46534	40.00	ug/mL	-0.19
51) Phenanthrene-d10	20.30	188	100316	40.00	ug/ml	-0.20
65) Chrysene-d12	28.23	240	77052	40.00	ug/mL	-0.20
74) Perylene-d12	32.19	264	27296	40.00	ug/mL	-0.21
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.60	112	2895	34.24	ug/mL	34.24%
3) Phenol-d5	6.88	99	26351	52.15	ug/mL	52.15%
19) Nitrobenzene-d5	8.81	82	22106	41.17	ug/mL	41.17%
37) 2-Fluorobiphenyl	14.22	172	62218	49.17	ug/mL	49.17%
55) 2,4,6-Tribromophenol	18.43	330	24830	53.71	ug/mL	53.71%
68) Terphenyl-d14	25.38	244	116440	58.65	ug/mL	58.65%
Target Compounds						Qvalue
73) bis(2-Ethylhexyl)phthalate	29.23	149	3607	2.35	ug/mL#	38

(#) = qualifier out of range (m) = manual integration

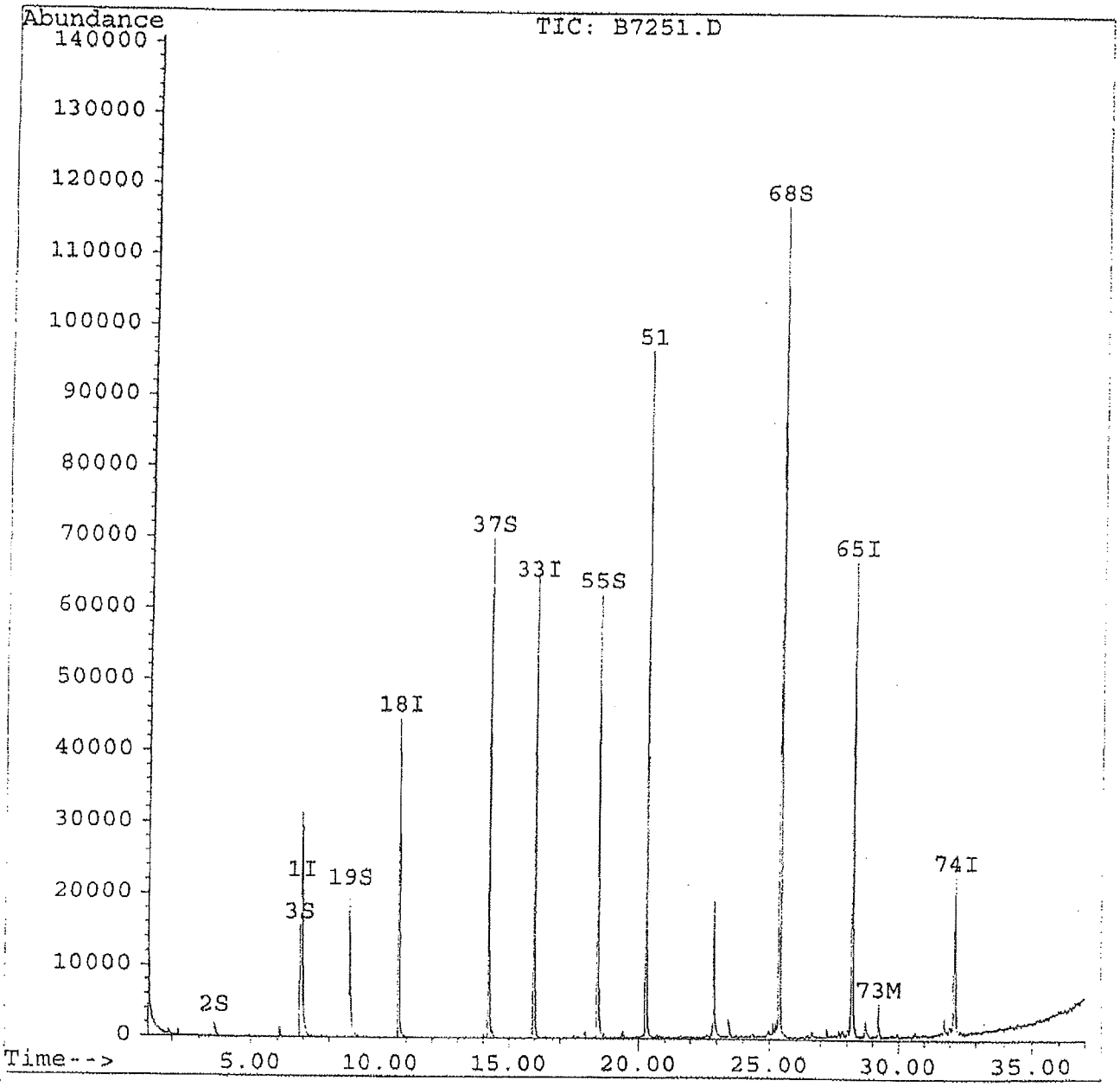
Quantitation Report

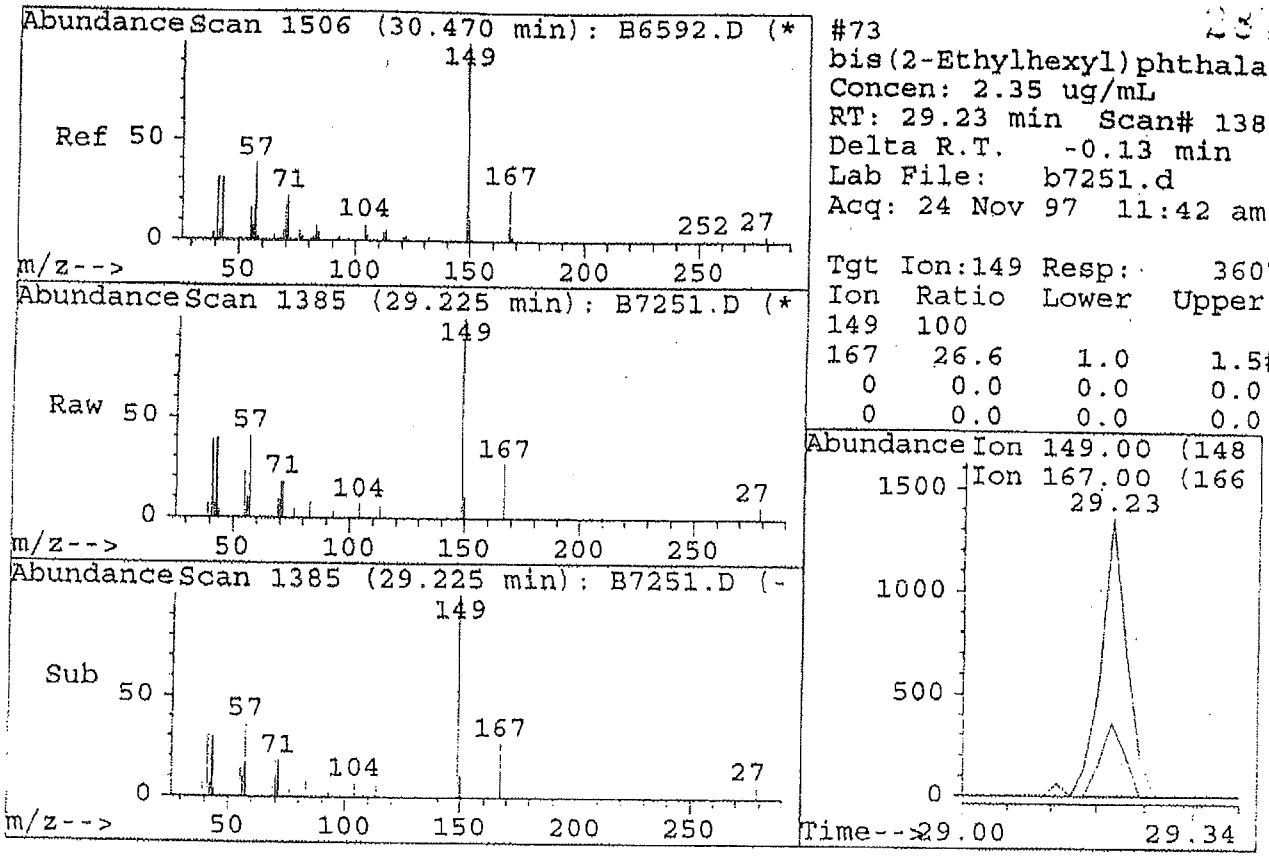
Data File : c:\hpchem\1\data2\b7251.d
Acq On : 24 Nov 97 11:42 am
Sample : 85731.....
Misc :
Quant Time: Nov 24 15:42 1997

Converted from RTE d

Vial: 4
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration





#73
bis(2-Ethylhexyl)phthalate
Concen: 2.35 ug/mL
RT: 29.23 min Scan# 1385
Delta R.T. -0.13 min
Lab File: b7251.d
Acq: 24 Nov 97 11:42 am

Tgt Ion:149 Resp: 3607

Ion	Ratio	Lower	Upper
149	100		
167	26.6	1.0	1.5#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

Library Search Compound Report

Data File : c:\hpchem\1\data2\b7251.d
Acq On : 24 Nov 97 11:42 am
Sample : 85731.....
Misc :

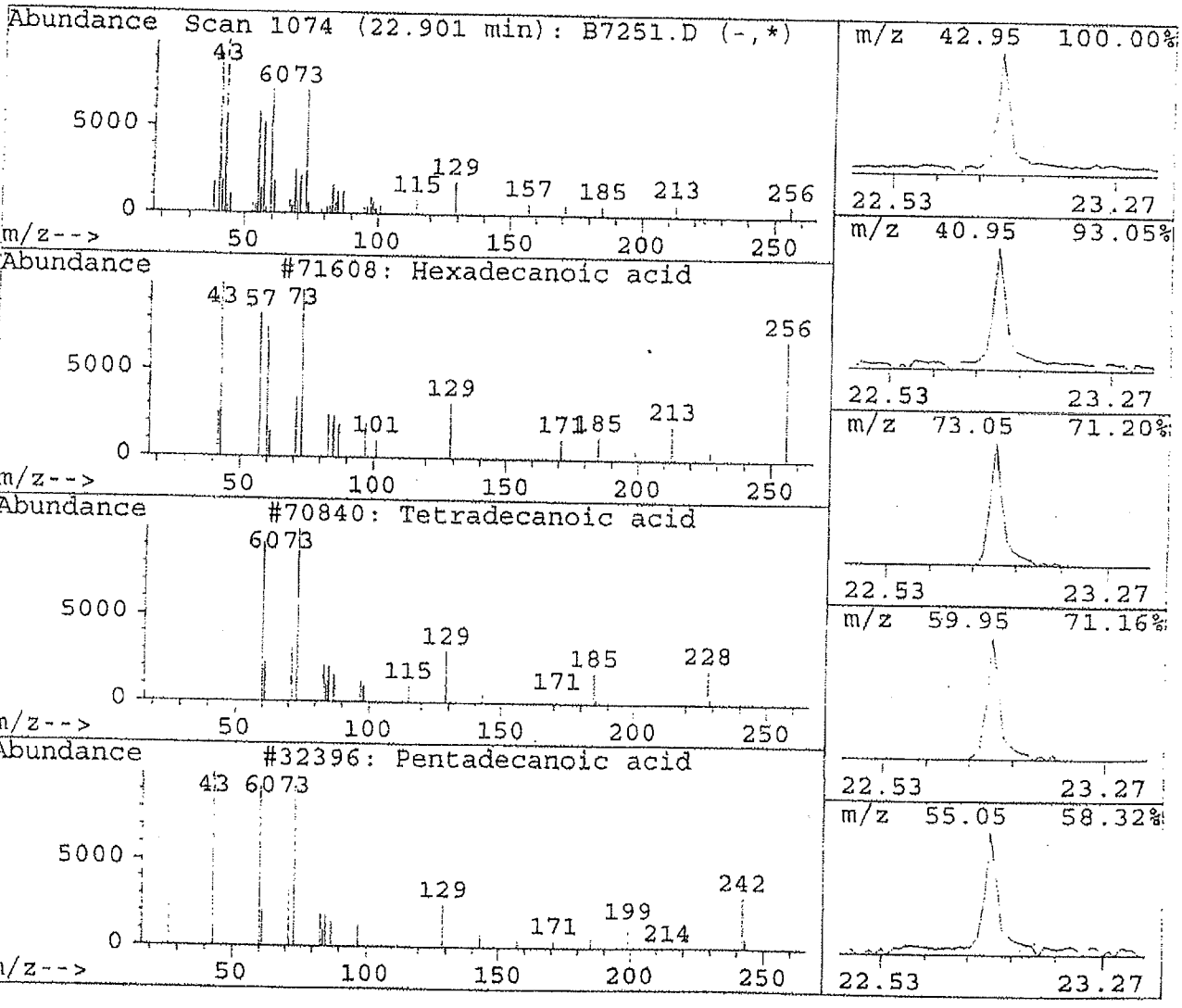
Converted from RTE d

Vial: 4
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
22.90	8.41 ug/mL	53136	Phenanthrene-d10	20.30

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexadecanoic acid	71608	000057-10-3	96
2	Tetradecanoic acid	70840	000544-63-8	87
3	Pentadecanoic acid	32396	001002-84-2	87
4	Undecanoic acid	19473	000112-37-8	86
5	Tridecanoic acid	70343	000638-53-9	86



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785732B

MW-3

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785732B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7252.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 23

9785732B
MW-3

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785732B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7252.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	1	U
85-68-7	Butylbenzylphthalate	4	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	1	U
205-99-2	Benzo[b]fluoranthene	1	J
207-08-9	Benzo[k]fluoranthene	1	U
50-32-8	Benzo[a]pyrene	2	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785732B
MW-3

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785732B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7252.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 4 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown Hydrocarbon	10.78	10	J
2.	Unknown Hydrocarbon	10.90	12	J
3. 57-10-3	Hexadecanoic acid	22.90	10	J
4. 10544-50-0	Sulfur, mol. (S8)	23.47	4	J
5.				
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Quantitation Report

Data File : c:\hpchem\1\data2\b7252.d
Acq On : 24 Nov 97 12:30 pm
Sample : 85732.....
Misc :
Quant Time: Nov 24 15:43 1997

Converted from RTE d

Vial: 5
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.94	152	12502	40.00	ug/mL	-0.19
18) Naphthalene-d8	10.72	136	57493	40.00	ug/mL	-0.19
33) Acenaphthene-d10	15.97	164	45073	40.00	ug/mL	-0.19
51) Phenanthrene-d10	20.30	188	91176	40.00	ug/ml	-0.20
65) Chrysene-d12	28.21	240	82968	40.00	ug/mL	-0.22
74) Perylene-d12	32.18	264	18579	40.00	ug/mL	-0.22
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.60	112	3872	49.36	ug/mL	49.36%
3) Phenol-d5	6.90	99	28509	60.82	ug/mL	60.82%
19) Nitrobenzene-d5	8.81	82	25310	47.77	ug/mL	47.77%
37) 2-Fluorobiphenyl	14.22	172	70223	57.30	ug/mL	57.30%
55) 2,4,6-Tribromophenol	18.43	330	28251	67.24	ug/mL	67.24%
68) Terphenyl-d14	25.39	244	119528	55.92	ug/mL	55.92%
Target Compounds						Qvalue
75) Di-n-octylphthalate	31.00	149	1347	1.45	ug/mLm	74

(#) = qualifier out of range (m) = manual integration

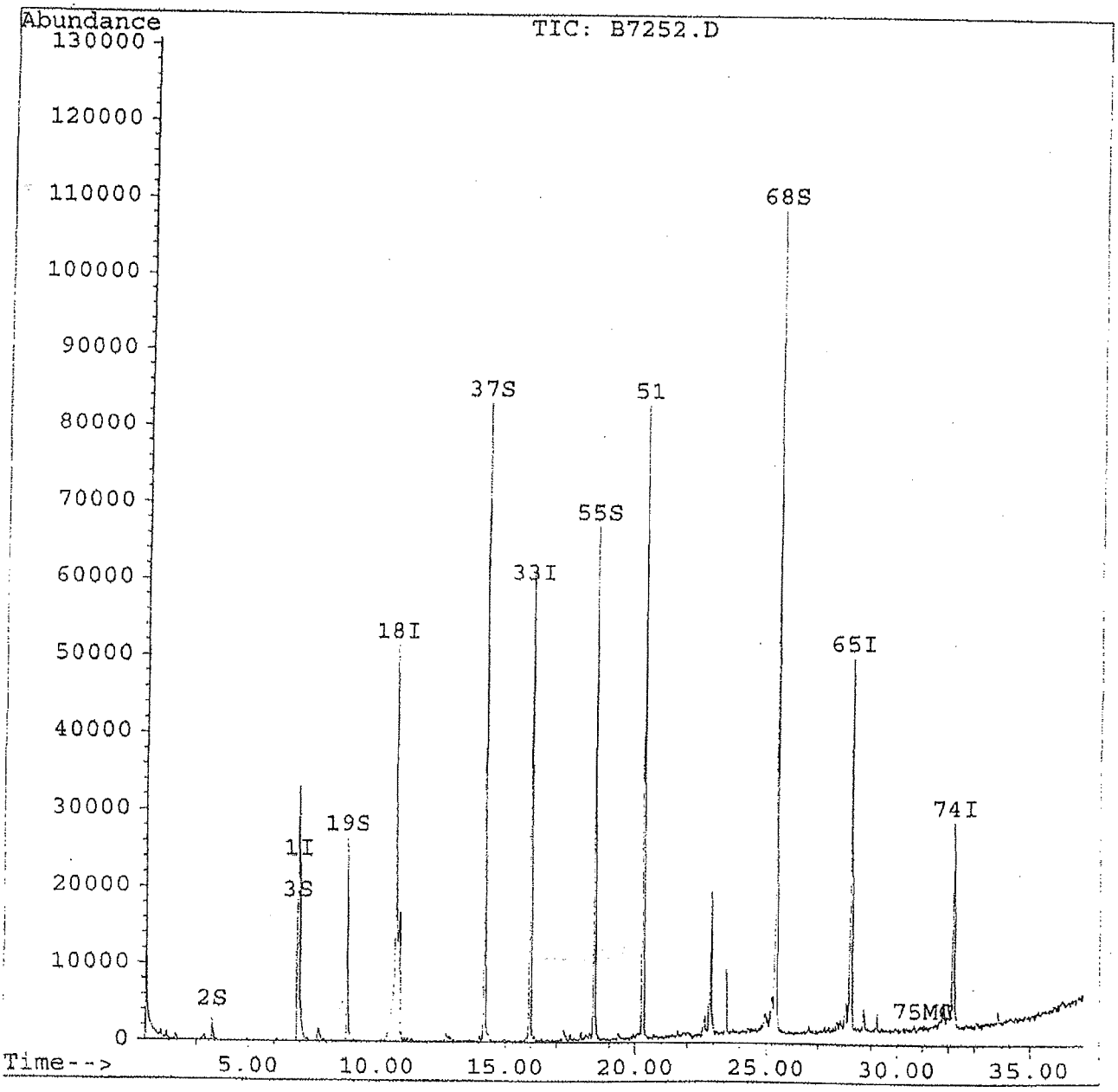
Quantitation Report

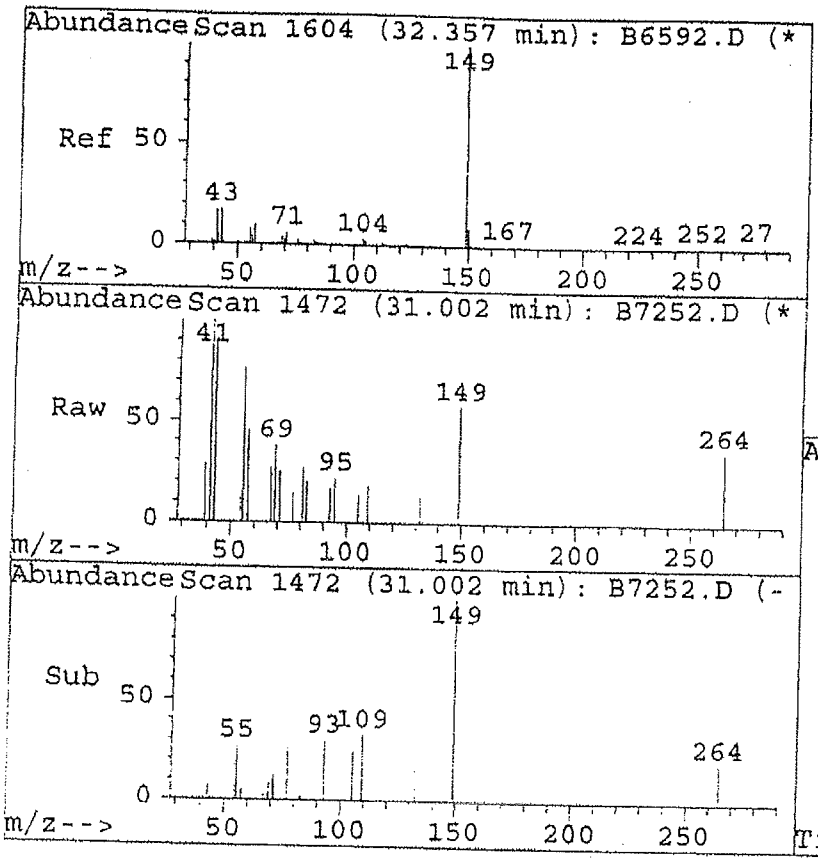
Data File : c:\hpchem\1\data2\b7252.d
Acq On : 24 Nov 97 12:30 pm
Sample : 85732.....
Misc :
Quant Time: Nov 24 15:43 1997

Converted from RTE d

Vial: 5
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

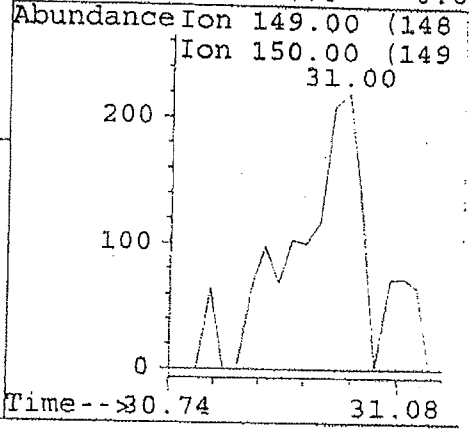




#75
Di-n-octylphthalate
Concen: 1.45 ug/mL m
RT: 31.00 min Scan# 1472
Delta R.T. -0.18 min
Lab File: b7252.d
Acq: 24 Nov 97 12:30 pm

Tgt Ion:149 Resp: 1347

Ion	Ratio	Lower	Upper
149	100		
150	0.0	7.7	11.5#
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

293

Data File : c:\hpchem\1\data2\b7252.d
Acq On : 24 Nov 97 12:30 pm
Sample : 85732.....
Misc :

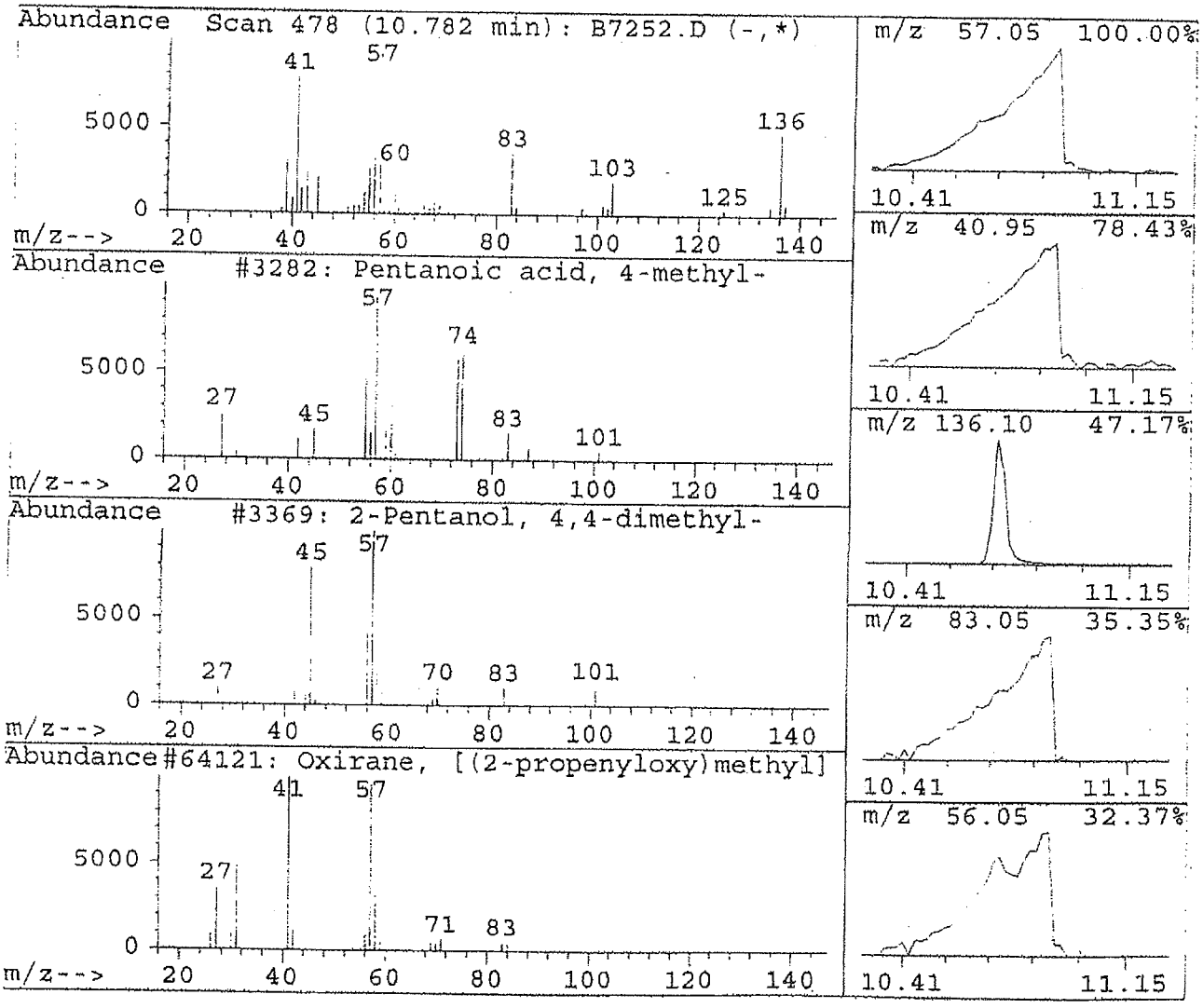
Converted from RTE d

Vial: 5
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
10.78	12.37 ug/mL	81413	Naphthalene-d8	10.72

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Pentanoic acid, 4-methyl-	3282	000646-07-1	10
2	2-Pentanol, 4,4-dimethyl-	3369	006144-93-0	9
3	Oxirane, [(2-propenyloxy)methyl]-	64121	000106-92-3	9
4	Butane, 2-nitro-	1818	000600-24-8	9
5	1-Propanol, 2,2-dimethyl-	62936	000075-84-3	9



Library Search Compound Report

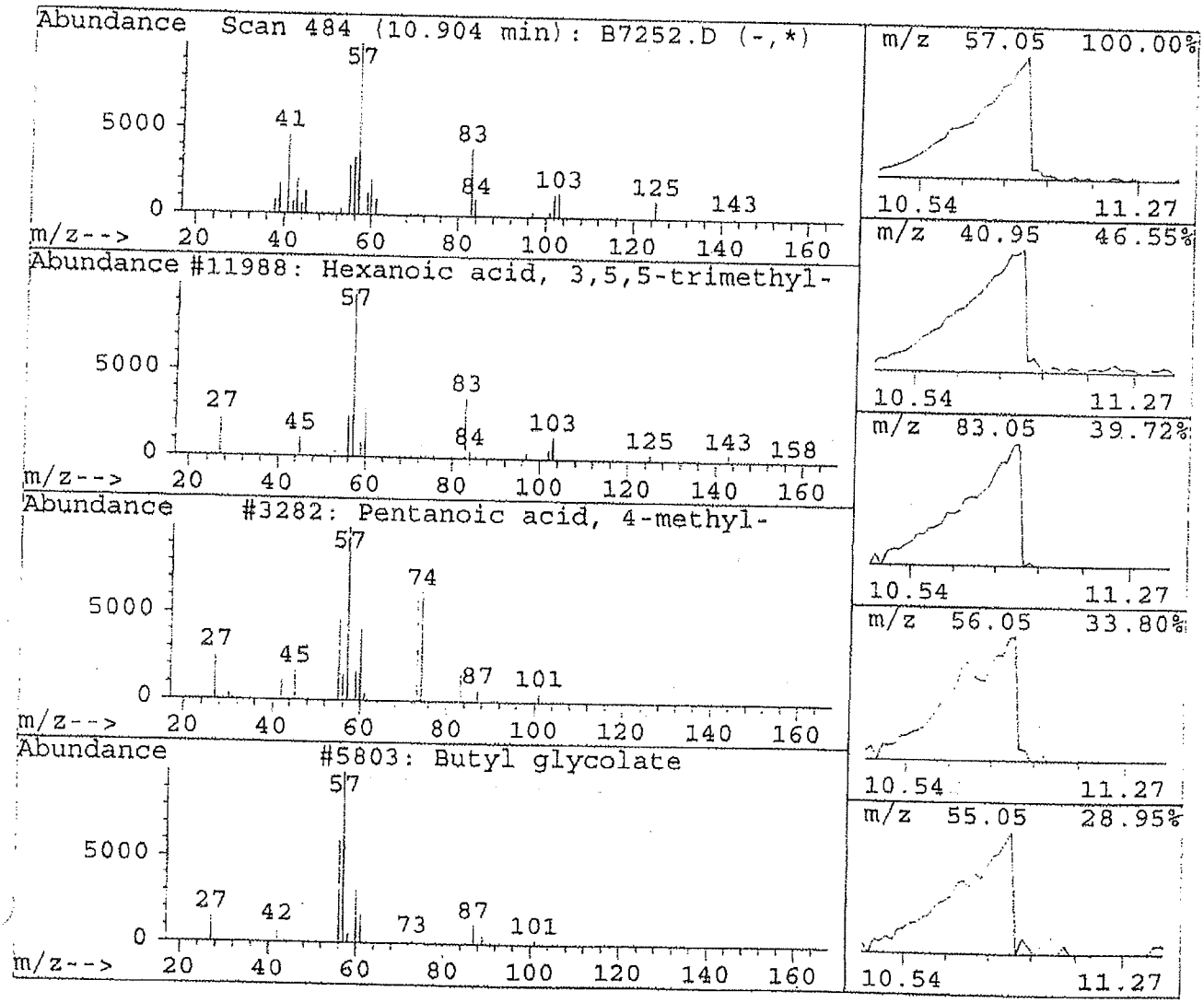
Data File : c:\hpchem\1\data2\b7252.d
Acq On : 24 Nov 97 12:30 pm
Sample : 85732.....
Misc :

Vial: 5
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
10.90	14.81 ug/mL	97514	Naphthalene-d8	10.72

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexanoic acid, 3,5,5-trimethyl-	11988	003302-10-1	36
2	Pentanoic acid, 4-methyl-	3282	000646-07-1	10
3	Butyl glycolate	5803	007397-62-8	9
4	1-Propanol, 2,2-dimethyl-	848	000075-84-3	9
5	Hexanoic acid, butyl ester	68354	000626-82-4	9



Library Search Compound Report

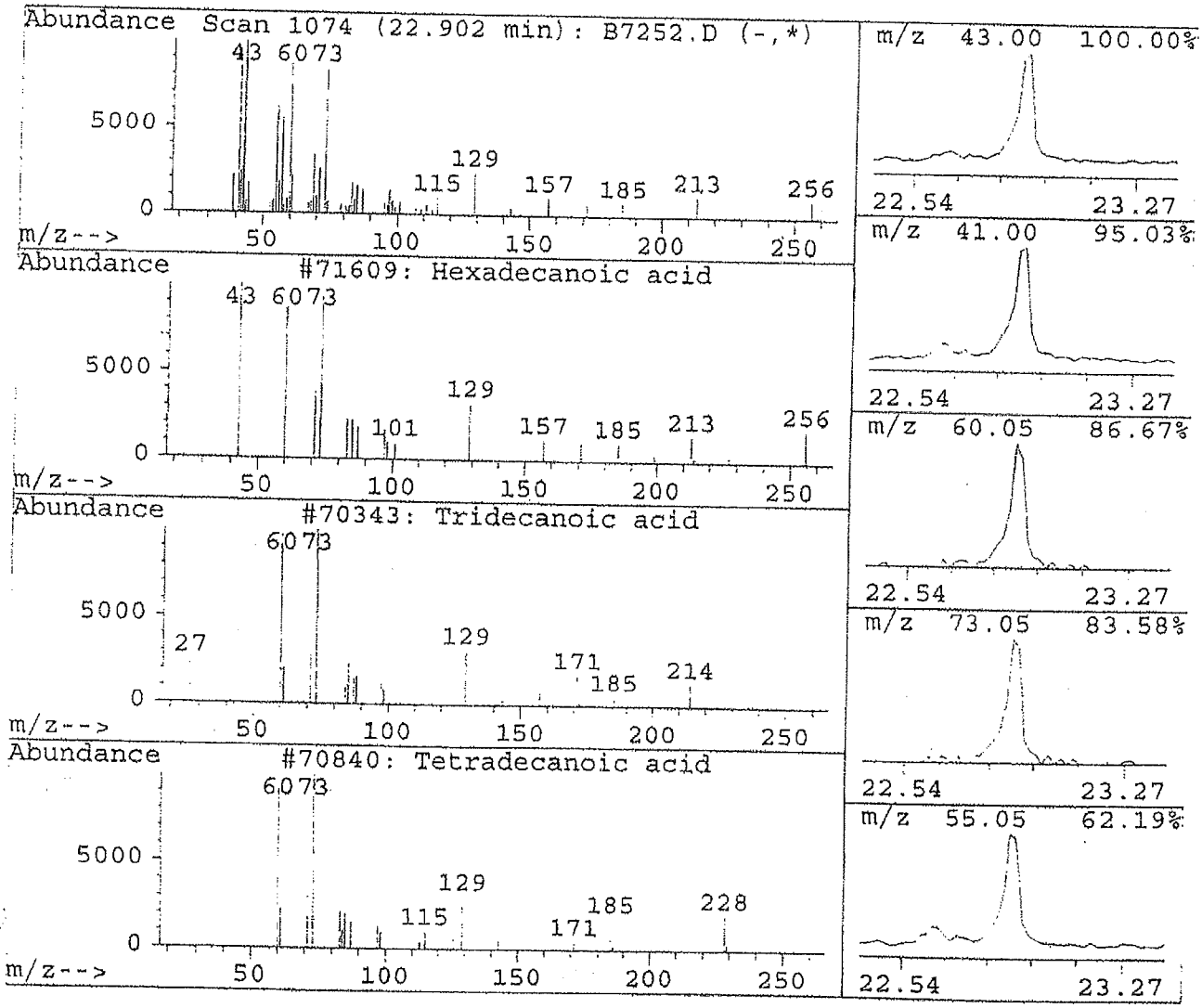
Data File : c:\hpchem\1\data2\b7252.d
Acq On : 24 Nov 97 12:30 pm
Sample : 85732.....
Misc :

Vial: 5
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
22.90	11.61 ug/mL	68464	Phenanthrene-d10	20.30

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexadecanoic acid	71609	000057-10-3	96
2	Tridecanoic acid	70343	000638-53-9	87
3	Tetradecanoic acid	70840	000544-63-8	87
4	Pentadecanoic acid	71237	001002-84-2	83
5	Undecanoic acid	19473	000112-37-8	64



Library Search Compound Report

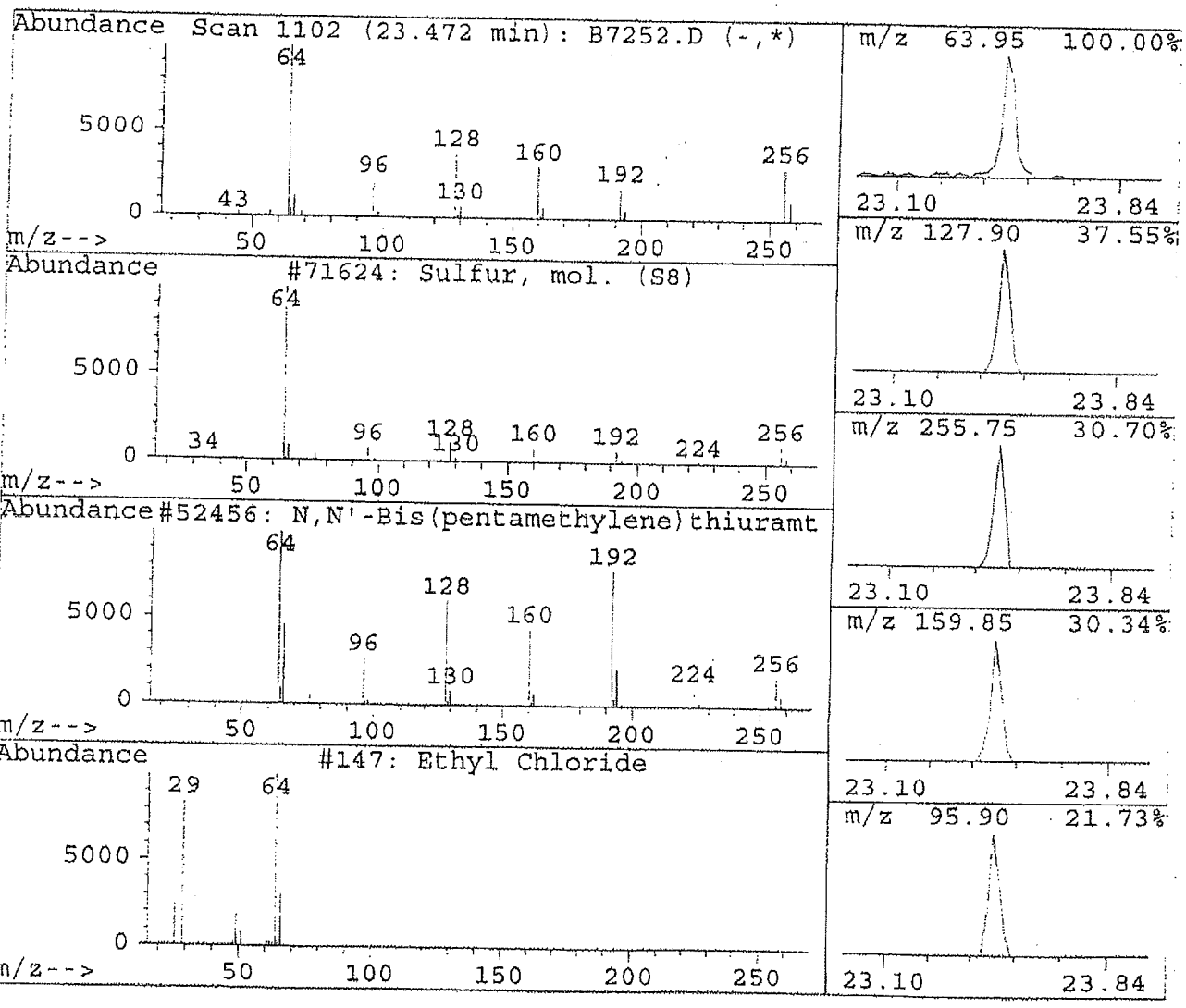
Data File : c:\hpchem\1\data2\b7252.d
Acq On : 24 Nov 97 12:30 pm
Sample : 85732.....
Misc :

Vial: 5 293
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
23.47	4.36 ug/mL	25706	Phenanthrene-d10	20.30

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Sulfur, mol. (S8)	71624	010544-50-0	25
2	N,N'-Bis(pentamethylene)thiuramtetr	52456	000000-00-0	20
3	Ethyl Chloride	147	000075-00-3	4
4	Thiodiphosphoryl fluoride ([F2P(S)]	27288	022606-64-0	4
5	Cyclohexane-d12	1082	001735-17-7	3



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785733B

MW-5

295

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785733B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7253.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785733B
MW-5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785733B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7253.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO. 301

9785733B
mw-5

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785733B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7253.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.90	8	J
2. 10544-50-0	Sulfur, mol. (S8)	23.47	6	J
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data2\b7253.d
Acq On : 24 Nov 97 1:18 pm
Sample : 85733.....
Misc :
Quant Time: Nov 24 15:44 1997

Converted from RTE d

Vial: 6
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

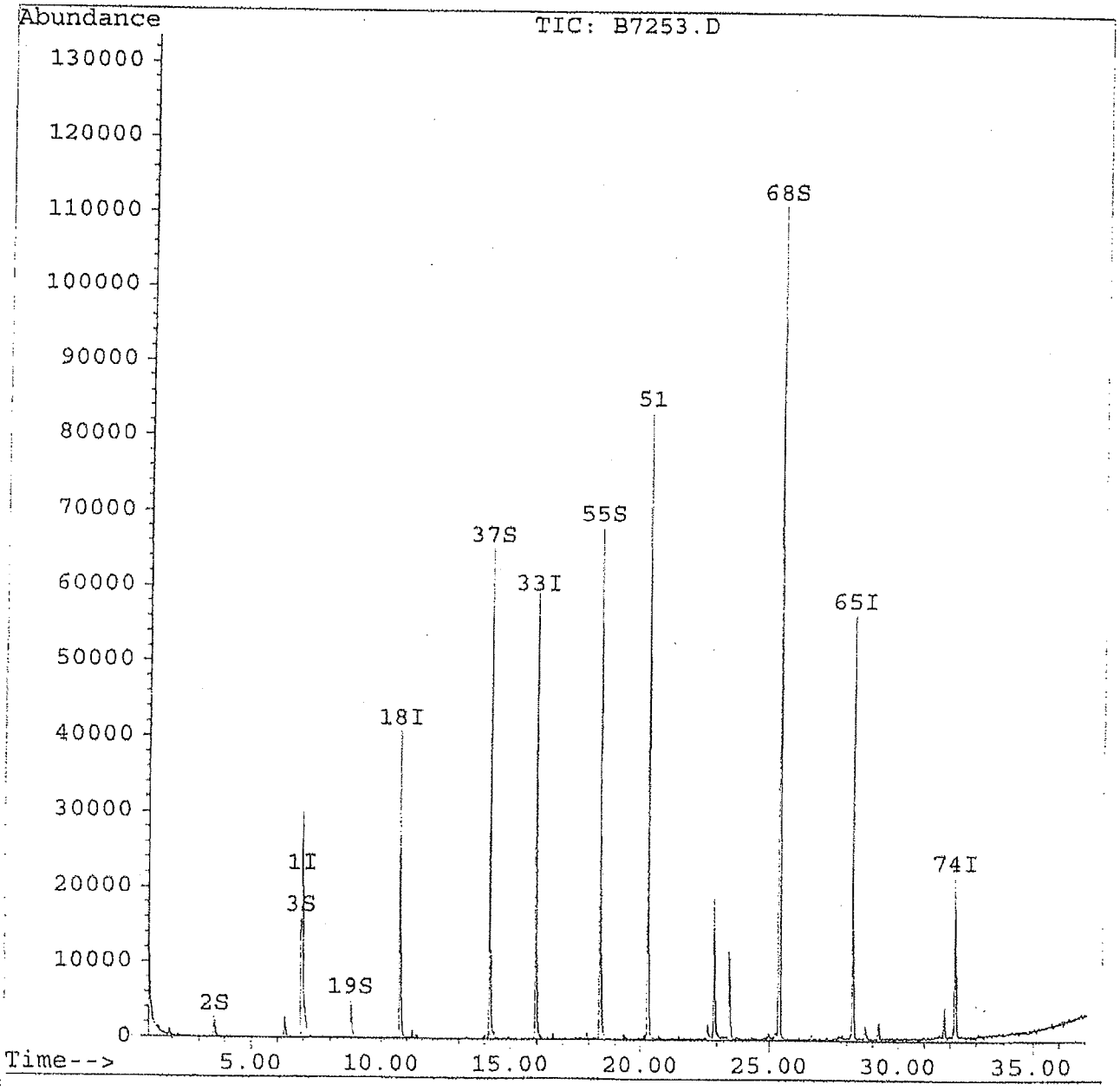
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.94	152	12391	40.00	ug/mL	-0.19
18) Naphthalene-d8	10.72	136	53782	40.00	ug/mL	-0.19
33) Acenaphthene-d10	15.97	164	42120	40.00	ug/mL	-0.19
51) Phenanthrene-d10	20.30	188	89139	40.00	ug/ml	-0.20
65) Chrysene-d12	28.23	240	62068	40.00	ug/mL	-0.20
74) Perylene-d12	32.19	264	28751	40.00	ug/mL	-0.21
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.60	112	4019	51.70	ug/mL	51.70%
3) Phenol-d5	6.88	99	27713	59.65	ug/mL	59.65%
19) Nitrobenzene-d5	8.81	82	6854	13.83	ug/mL	13.83%
37) 2-Fluorobiphenyl	14.22	172	55978	48.88	ug/mL	48.88%
55) 2,4,6-Tribromophenol	18.43	330	25832	62.89	ug/mL	62.89%
68) Terphenyl-d14	25.38	244	99785	62.40	ug/mL	62.40%
Target Compounds						Qvalue

Quantitation Report

Data File : c:\hpchem\1\data2\b7253.d
Acq On : 24 Nov 97 1:18 pm
Sample : 85733.....
Misc :
Quant Time: Nov 24 15:44 1997

Vial: 6 3 3
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Library Search Compound Report

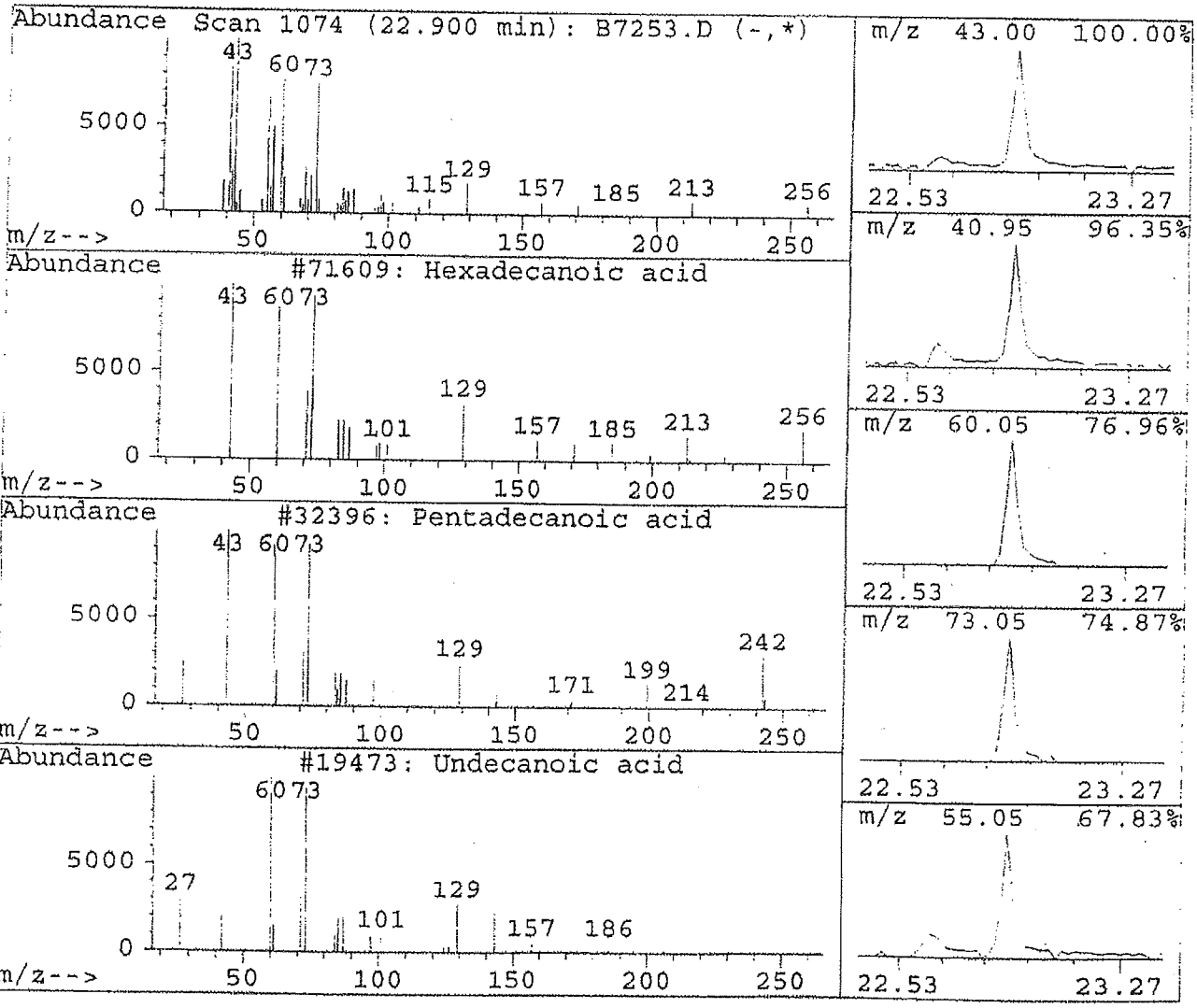
Data File : c:\hpchem\1\data2\b7253.d
Acq On : 24 Nov 97 1:18 pm
Sample : 85733.....
Misc :

Vial: 6
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
22.90	9.54 ug/mL	53546	Phenanthrene-d10	20.30

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexadecanoic acid	71609	000057-10-3	95
2	Pentadecanoic acid	32396	001002-84-2	83
3	Undecanoic acid	19473	000112-37-8	80
4	Tetradecanoic acid	70840	000544-63-8	80
5	Tridecanoic acid	70343	000638-53-9	72



Library Search Compound Report

Data File : c:\hpchem\1\data2\b7253.d
Acq On : 24 Nov 97 1:18 pm
Sample : 85733.....
Misc :

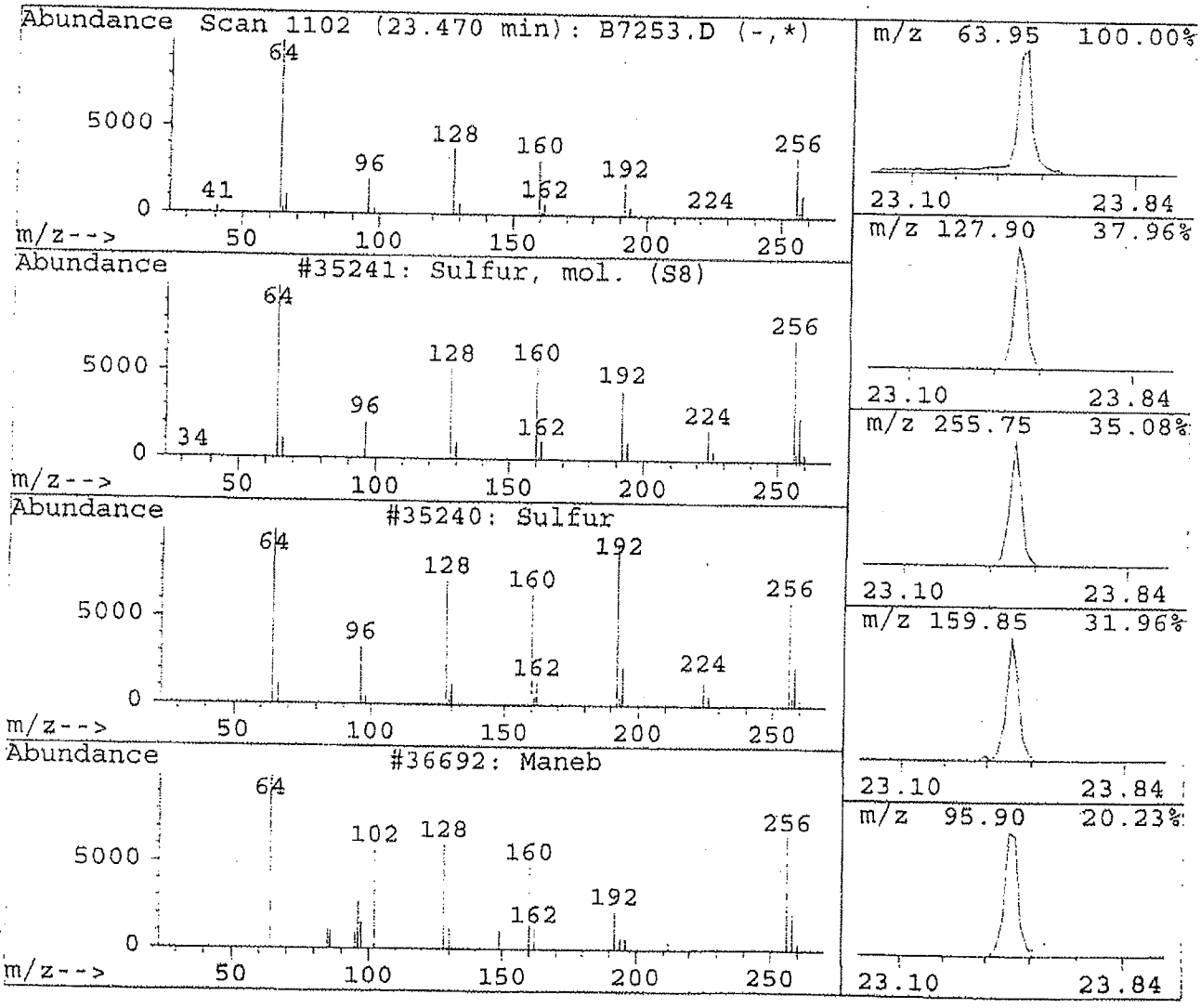
Converted from RTE d

Vial: 6
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
23.47	6.96 ug/mL	39050	Phenanthrene-d10	20.30

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Sulfur, mol. (S8)	35241	010544-50-0	94
2	Sulfur	35240	007704-34-9	55
3	Maneb	36692	012427-38-2	43
4	N,N'-Bis(pentamethylene)thiuramtetr	52456	000000-00-0	20
5	Ethyl Chloride	147	000075-00-3	4



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785734B

MW-6

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785734B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7254.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785734B
MW5-6

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785734B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7254.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785734B

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785734B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7254.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	6.09	8	J
2. 57-10-3	Hexadecanoic acid	22.89	5	J
3.				
4.				
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Quantitation Report

Data File : c:\hpchem\1\data2\b7254.d Vial: 7
Acq On : 24 Nov 97 2:05 pm Operator: SCOTTV
Sample : 85734..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 24 15:44 1997

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.95	152	12109	40.00	ug/mL	-0.18
18) Naphthalene-d8	10.73	136	55268	40.00	ug/mL	-0.18
33) Acenaphthene-d10	15.98	164	43100	40.00	ug/mL	-0.18
51) Phenanthrene-d10	20.29	188	92510	40.00	ug/ml	-0.21
65) Chrysene-d12	28.22	240	73108	40.00	ug/mL	-0.21
74) Perylene-d12	32.18	264	29767	40.00	ug/mL	-0.22
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.61	112	1876	24.69	ug/mL	24.69%
3) Phenol-d5	6.91	99	15273	33.64	ug/mL	33.64%
19) Nitrobenzene-d5	8.80	82	18879	37.06	ug/mL	37.06%
37) 2-Fluorobiphenyl	14.21	172	48015	40.97	ug/mL	40.97%
55) 2,4,6-Tribromophenol	18.42	330	15209	35.68	ug/mL	35.68%
68) Terphenyl-d14	25.37	244	108037	57.36	ug/mL	57.36%
Target Compounds						Qvalue

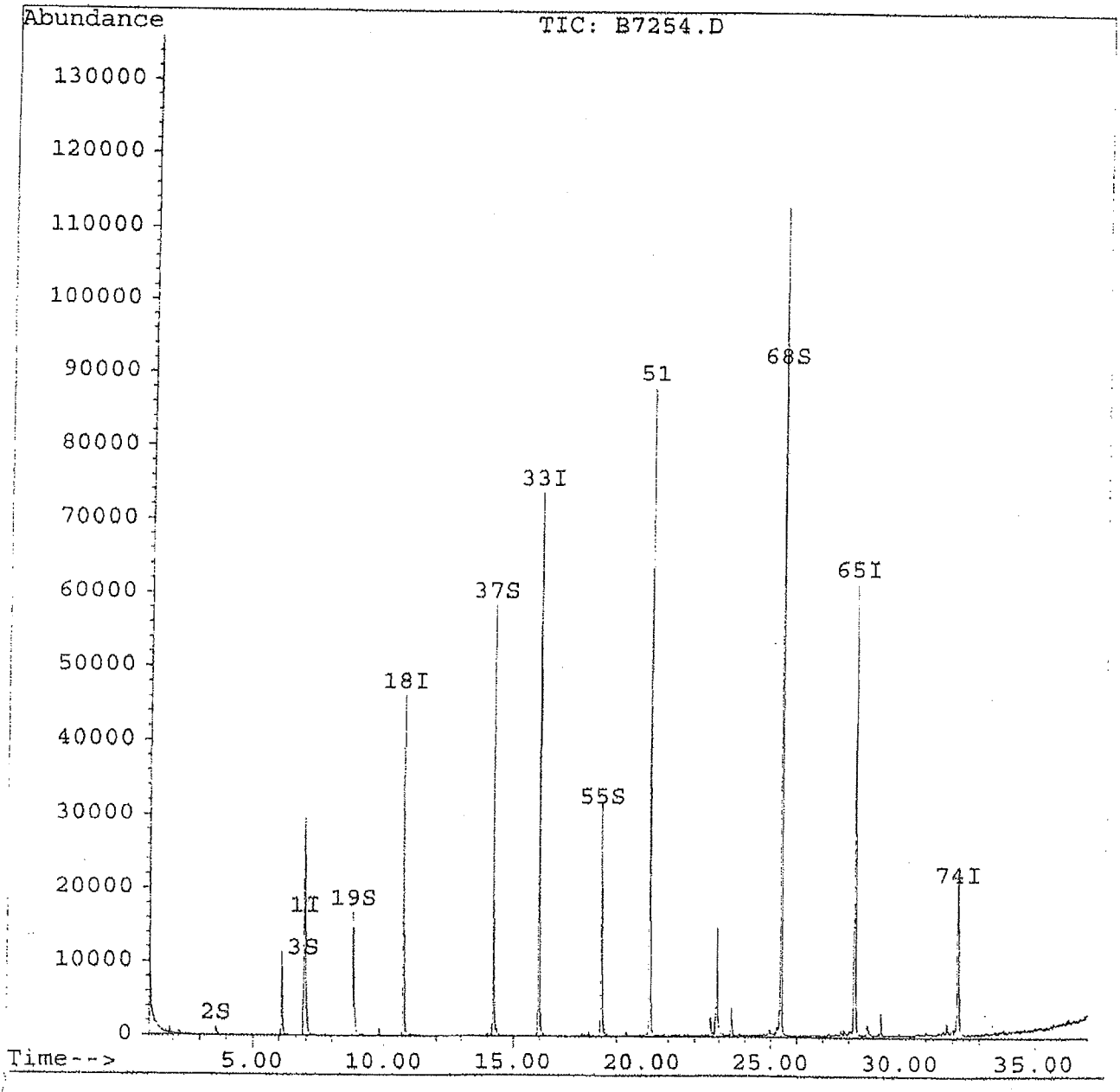
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b7254.d
Acq On : 24 Nov 97 2:05 pm
Sample : 85734.....
Misc :
Quant Time: Nov 24 15:44 1997

Vial: 7
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Library Search Compound Report

Data File : c:\hpchem\1\data2\b7254.d
Acq On : 24 Nov 97 2:05 pm
Sample : 85734.....
Misc :

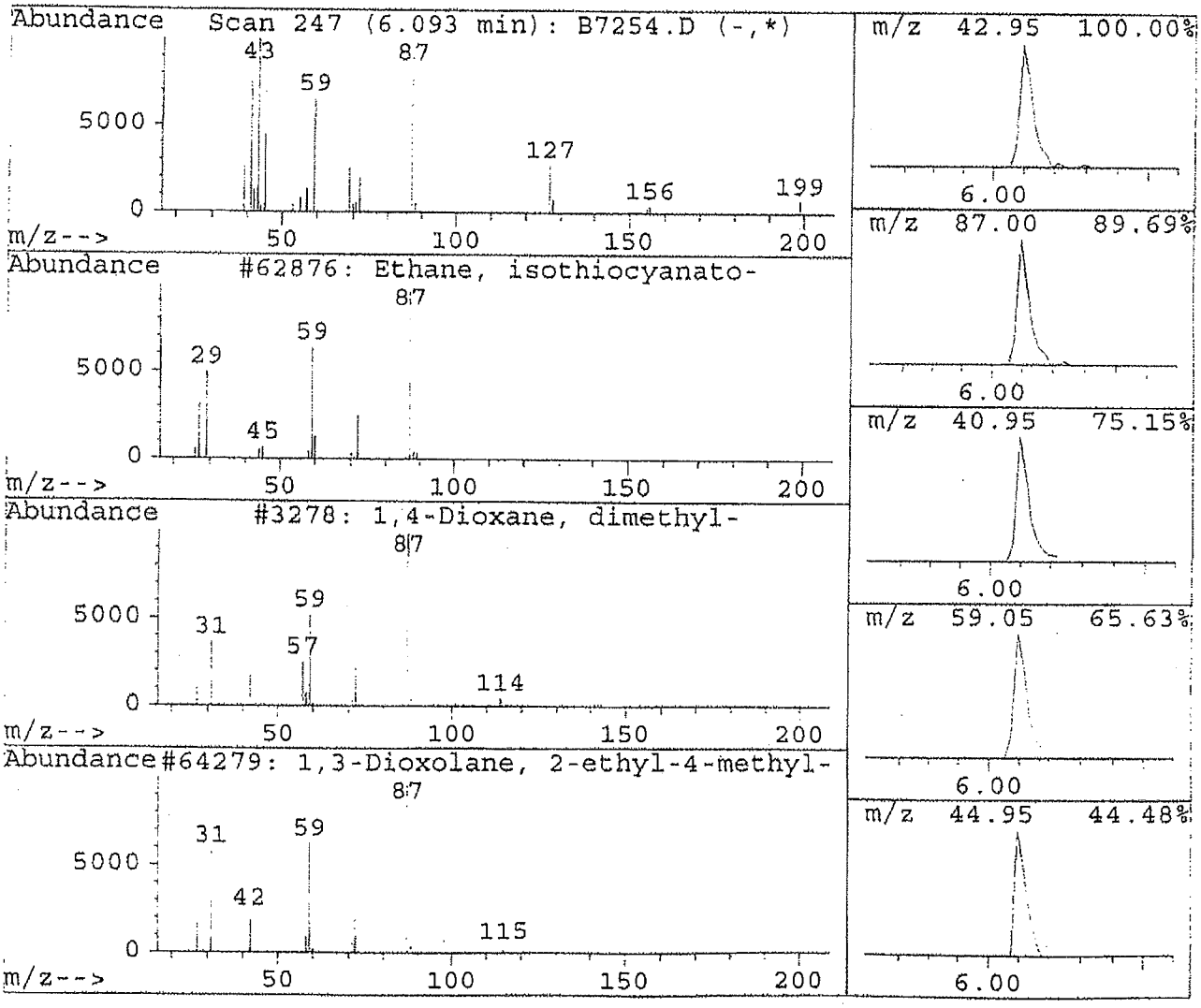
Vial: 7
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Converted from RTE d

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
6.09	9.93 ug/mL	32463	1,4-Dichlorobenzene-d4	6.95

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Ethane, isothiocyanato-	62876	000542-85-8	52
2	1,4-Dioxane, dimethyl-	3278	025136-55-4	50
3	1,3-Dioxolane, 2-ethyl-4-methyl-	64279	004359-46-0	50
4	Acetamide, N-ethyl-	750	000625-50-3	38
5	3-Hexanol, 2,3-dimethyl-	5520	004166-46-5	37



Library Search Compound Report

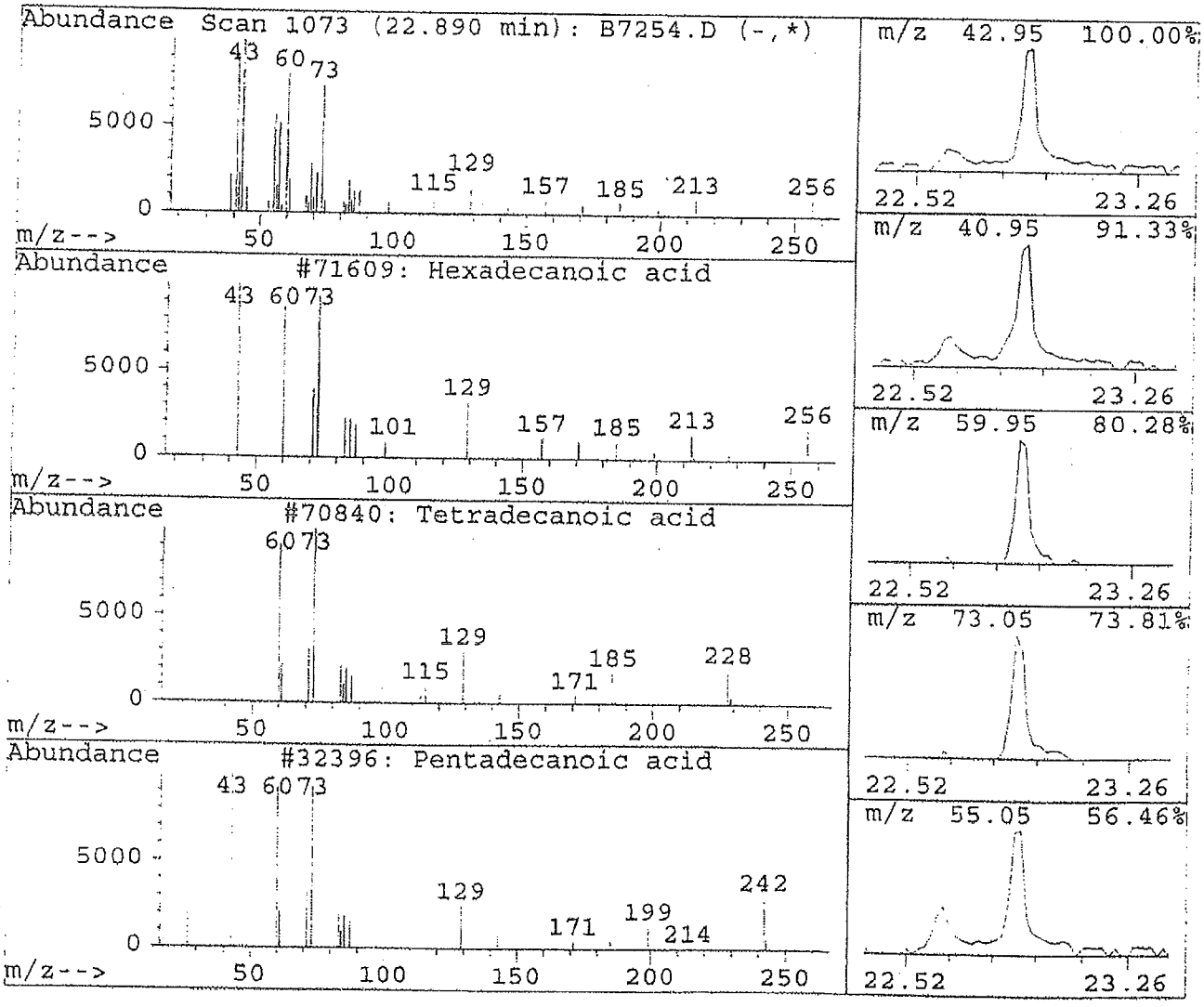
Data File : c:\hpchem\1\data2\b7254.d
Acq On : 24 Nov 97 2:05 pm
Sample : 85734.....
Misc :

Vial: 7
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
22.89	6.05 ug/mL	35368	Phenanthrene-d10	20.29

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexadecanoic acid	71609	000057-10-3	95
2	Tetradecanoic acid	70840	000544-63-8	87
3	Pentadecanoic acid	32396	001002-84-2	87
4	Tridecanoic acid	26355	000638-53-9	64
5	Undecanoic acid	19473	000112-37-8	59



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785735B

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785735B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7255.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785735B

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785735B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7255.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	7	B
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO. 9785735B MB2-7

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785735B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7255.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.91	8	J
2.				
3.				
4.				
5.				
6.				
7.				
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Quantitation Report

Data File : c:\hpchem\1\data2\b7255.d
Acq On : 24 Nov 97 2:53 pm
Sample : 85735.....
Misc :
Quant Time: Nov 24 15:44 1997

Vial: 8
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.94	152	12707	40.00	ug/mL	-0.18
18) Naphthalene-d8	10.72	136	55078	40.00	ug/mL	-0.18
33) Acenaphthene-d10	15.97	164	43595	40.00	ug/mL	-0.19
51) Phenanthrene-d10	20.28	188	94448	40.00	ug/ml	-0.21
65) Chrysene-d12	28.21	240	70390	40.00	ug/mL	-0.22
74) Perylene-d12	32.20	264	26280	40.00	ug/mL	-0.20
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.61	112	3517	44.11	ug/mL	44.11%
3) Phenol-d5	6.88	99	24584	51.60	ug/mL	51.60%
19) Nitrobenzene-d5	8.79	82	20264	39.92	ug/mL	39.92%
37) 2-Fluorobiphenyl	14.20	172	54534	46.00	ug/mL	46.00%
55) 2,4,6-Tribromophenol	18.41	330	24497	56.28	ug/mL	56.28%
68) Terphenyl-d14	25.39	244	103021	56.80	ug/mL	56.80%
Target Compounds						Qvalue
73) bis(2-Ethylhexyl)phthalate	29.23	149	11072	7.89	ug/mL#	40

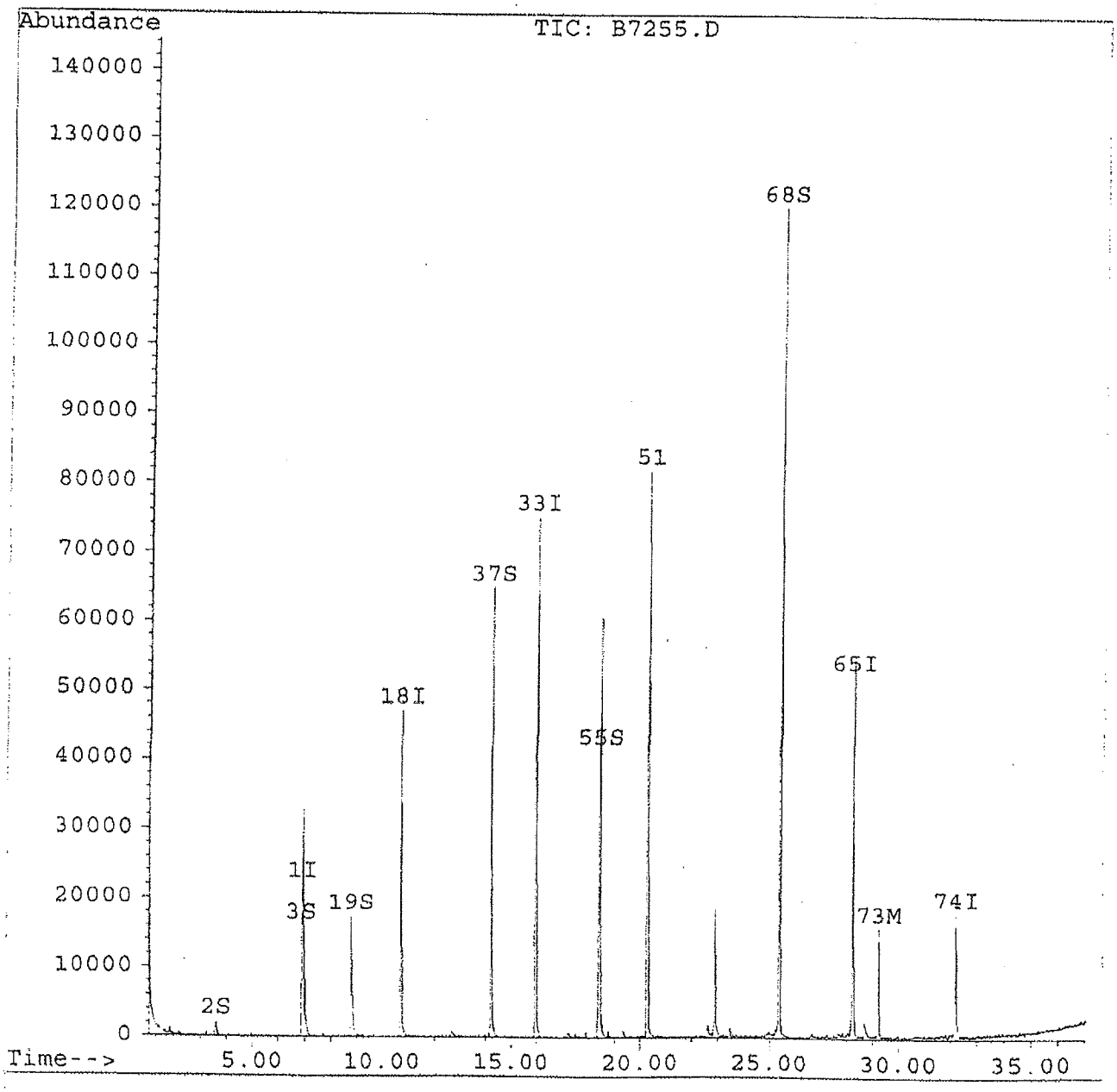
(#) = qualifier out of range (m) = manual integration

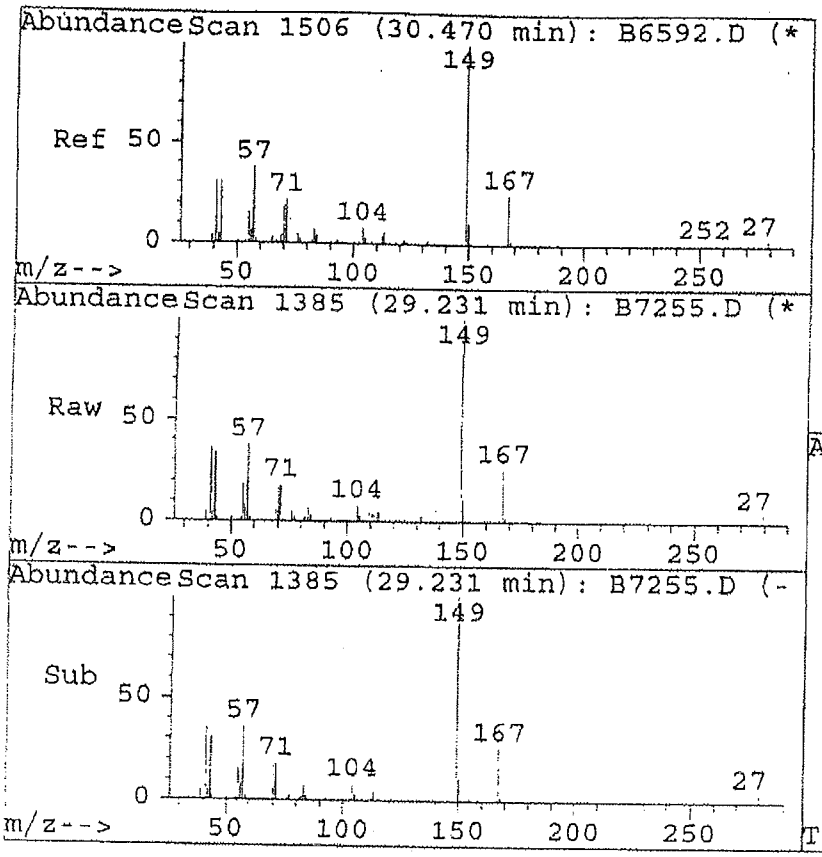
Quantitation Report

Data File : c:\hpchem\1\data2\b7255.d
Acq On : 24 Nov 97 2:53 pm
Sample : 85735.....
Misc :
Quant Time: Nov 24 15:44 1997

Vial: 8
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

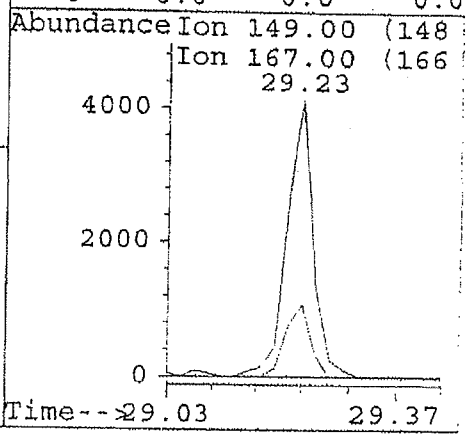




#73
bis(2-Ethylhexyl)phthalate
Concen: 7.89 ug/mL
RT: 29.23 min Scan# 1385
Delta R.T. -0.13 min
Lab File: b7255.d
Acq: 24 Nov 97 2:53 pm

Tgt Ion:149 Resp: 11072

Ion	Ratio	Lower	Upper
149	100		
167	25.9	1.0	1.5#
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

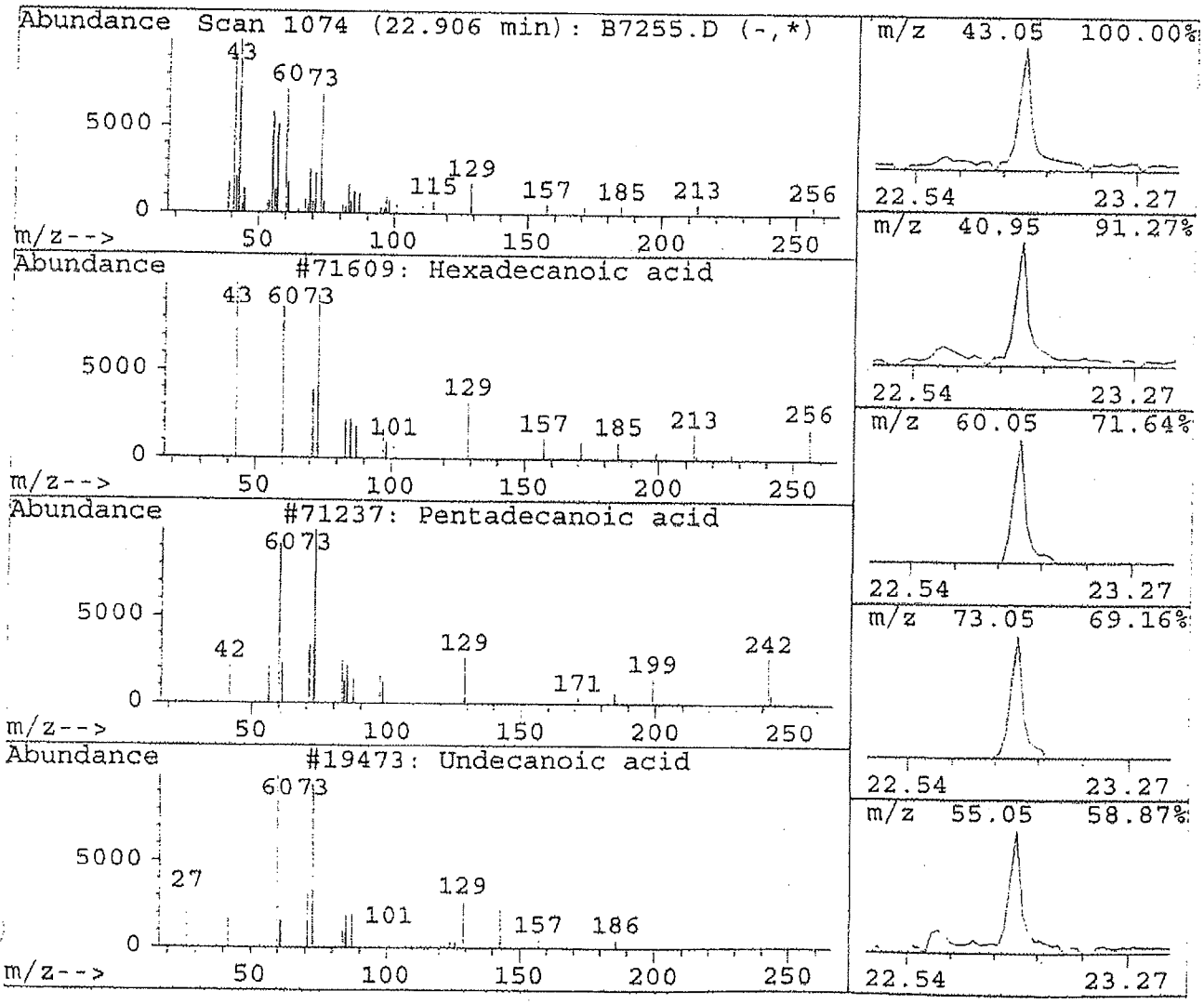
Data File : c:\hpchem\1\data2\b7255.d
Acq On : 24 Nov 97 2:53 pm
Sample : 85735.....
Misc :

Vial: 8
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
22.91	9.45 ug/mL	57246	Phenanthrene-d10	20.28

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexadecanoic acid	71609	000057-10-3	97
2	Pentadecanoic acid	71237	001002-84-2	87
3	Undecanoic acid	19473	000112-37-8	86
4	Tetradecanoic acid	70843	000544-63-8	78
5	Tridecanoic acid	70343	000638-53-9	72



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 9785736B MW-8

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785736B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7256.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785736B

MW-8

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785736B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7256.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	3	B
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785736B
MW-8

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785736B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7256.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.91	10	J
2.	Unknown	31.79	32	J
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data2\b7256.d
Acq On : 24 Nov 97 3:40 pm
Sample : 85736.....
Misc :
Quant Time: Nov 25 11:04 1997

Converted from RTE d

Vial: 9
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.94	152	12335	40.00	ug/mL	-0.18
18) Naphthalene-d8	10.72	136	56046	40.00	ug/mL	-0.19
33) Acenaphthene-d10	15.97	164	45718	40.00	ug/mL	-0.19
51) Phenanthrene-d10	20.28	188	93092	40.00	ug/ml	-0.21
65) Chrysene-d12	28.21	240	67613	40.00	ug/mL	-0.22
74) Perylene-d12	32.18	264	29929	40.00	ug/mL	-0.22
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.61	112	3056	39.49	ug/mL	39.49%
3) Phenol-d5	6.88	99	24627	53.25	ug/mL	53.25%
19) Nitrobenzene-d5	8.79	82	20358	39.41	ug/mL	39.41%
37) 2-Fluorobiphenyl	14.20	172	56590	45.52	ug/mL	45.52%
55) 2,4,6-Tribromophenol	18.41	330	24356	56.78	ug/mL	56.78%
68) Terphenyl-d14	25.37	244	100601	57.75	ug/mL	57.75%
Target Compounds						Qvalue
73) bis(2-Ethylhexyl)phthalate	29.23	149	4426	3.29	ug/mL#	44

(#) = qualifier out of range (m) = manual integration

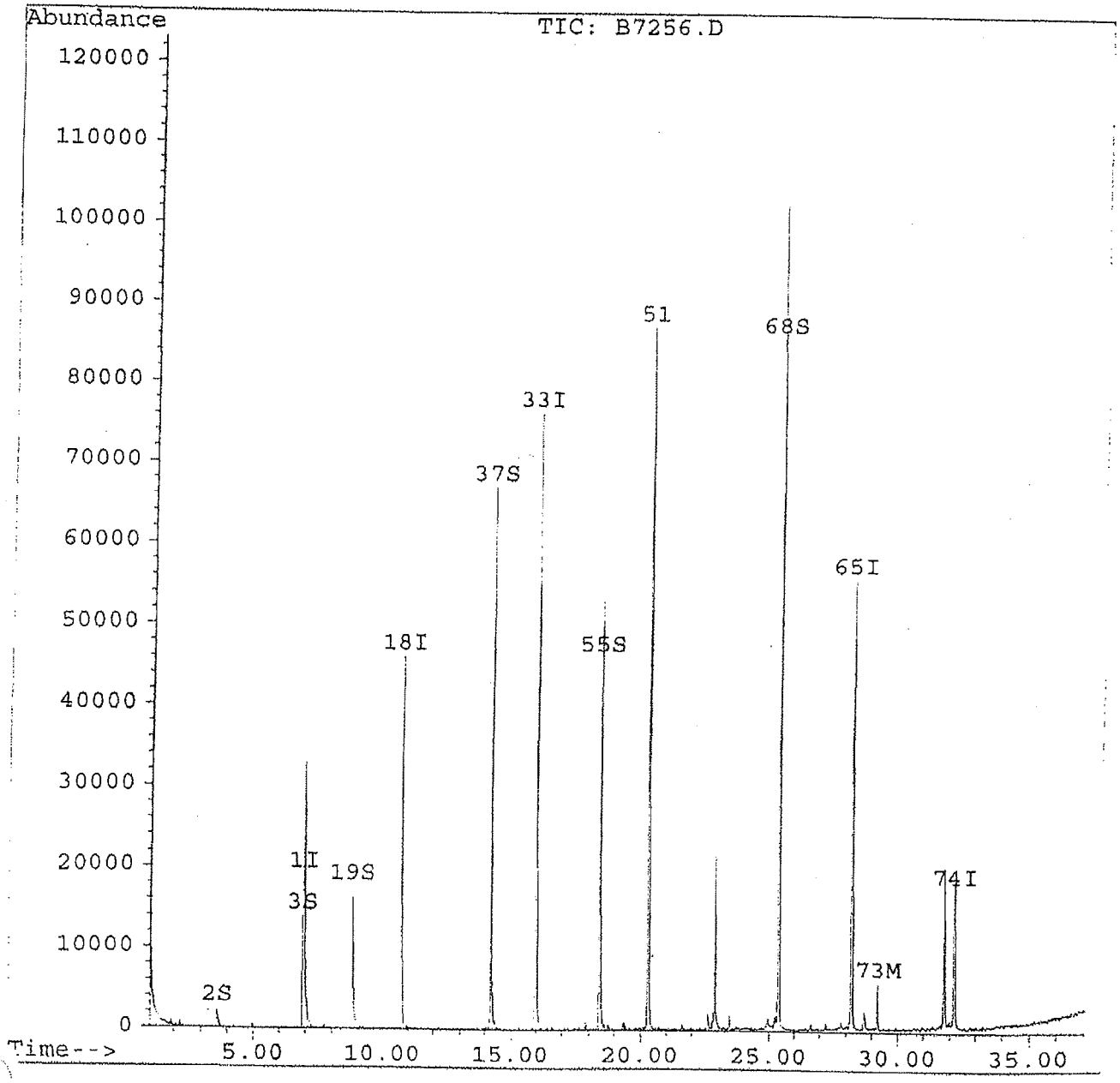
Quantitation Report

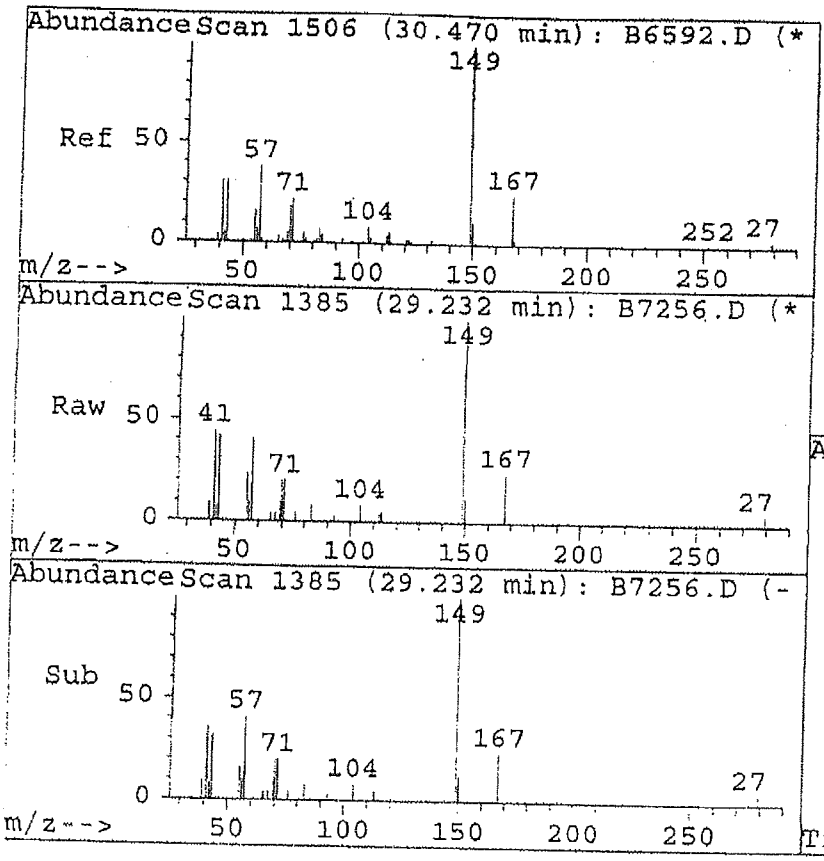
Data File : c:\hpchem\1\data2\b7256.d
Acq On : 24 Nov 97 3:40 pm
Sample : 85736.....
Misc :
Quant Time: Nov 25 11:04 1997

Converted from RTE d

Vial: 9
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

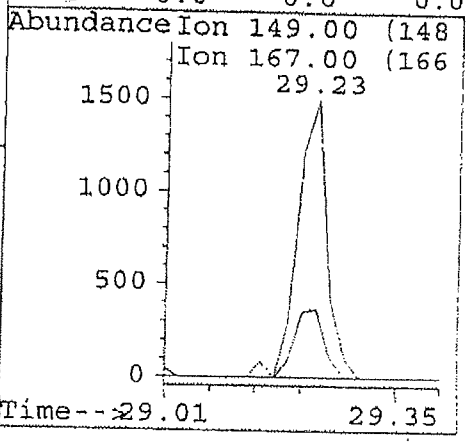




#73
bis(2-Ethylhexyl)phthalate
Concen: 3.29 ug/mL
RT: 29.23 min Scan# 1385
Delta R.T. -0.13 min
Lab File: b7256.d
Acq: 24 Nov 97 3:40 pm

Tgt Ion:149 Resp: 4426

Ion	Ratio	Lower	Upper
149	100		
167	24.2	1.0	1.5#
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

Data File : c:\hpchem\1\data2\b7256.d
Acq On : 24 Nov 97 3:40 pm
Sample : 85736.....
Misc :

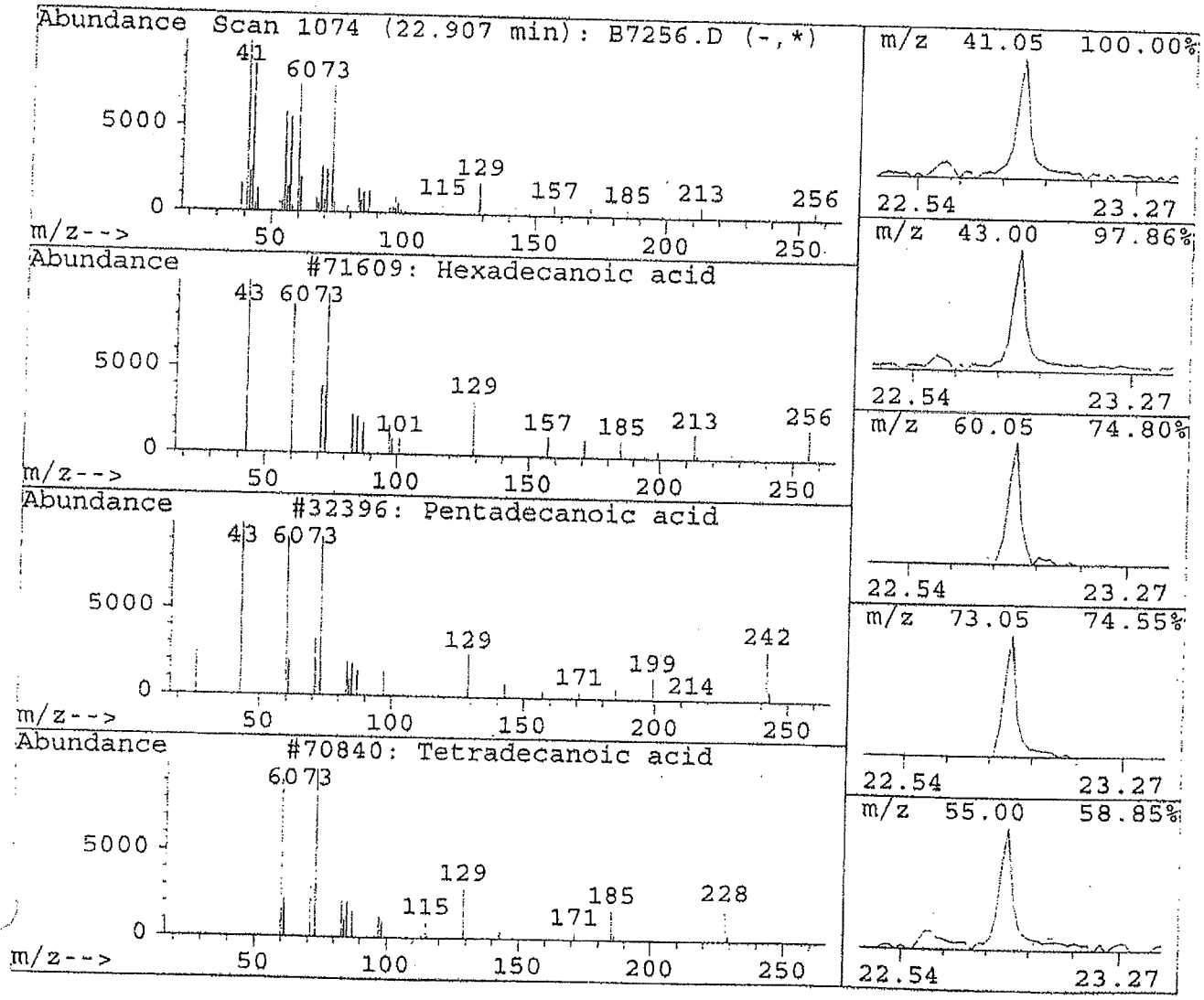
Converted from RTE d

Vial: 9
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
22.91	12.04 ug/mL	70983	Phenanthrene-d10	20.28

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexadecanoic acid	71609	000057-10-3	96
2	Pentadecanoic acid	32396	001002-84-2	83
3	Tetradecanoic acid	70840	000544-63-8	72
4	Undecanoic acid	69096	000112-37-8	64
5	Tridecanoic acid	70343	000638-53-9	64



Library Search Compound Report

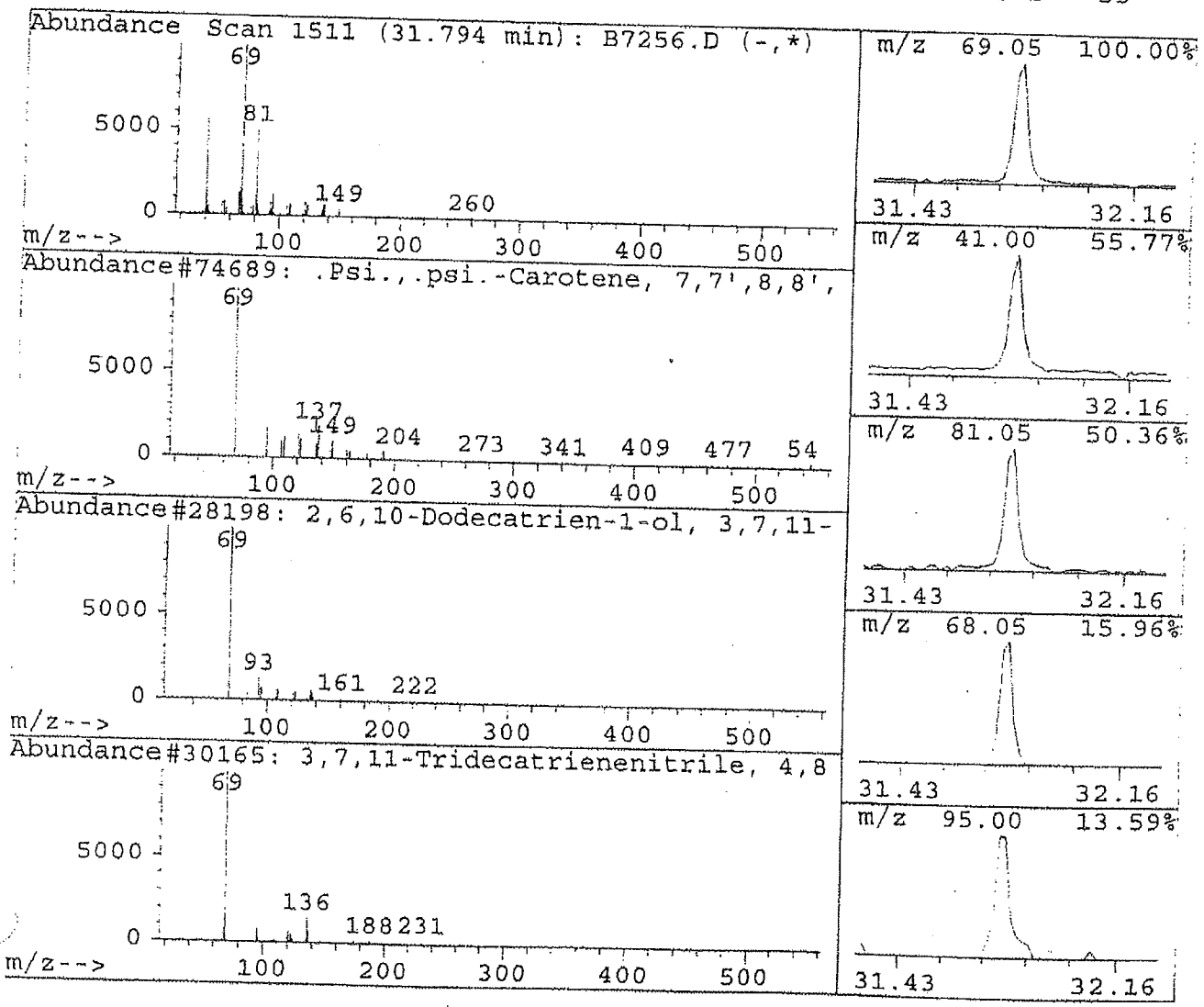
Data File : c:\hpchem\1\data2\b7256.d
Acq On : 24 Nov 97 3:40 pm
Sample : 85736.....
Misc :

Vial: 9
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
31.79	38.68 ug/mL	67386	Perylene-d12	32.18

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	.Psi.,.psi.-Carotene, 7,7',8,8',11,	74689	000502-62-5	83
2	2,6,10-Dodecatrien-1-ol, 3,7,11-tri	28198	000106-28-5	78
3	3,7,11-Tridecatrienenitrile, 4,8,12	30165	006006-01-5	72
4	2,6,10-Dodecatrien-1-ol, 3,7,11-tri	28243	004602-84-0	64
5	2,6-Octadien-1-ol, 3,7-dimethyl-, (	67079	000106-25-2	53



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785737B

MW-9

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785737B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7257.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785737B 3.23
mw-9

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785737B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7257.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	B
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785737B

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785737B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7257.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.91	9	J
2.	Unknown	31.77	34	J
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data2\b7257.d
Acq On : 24 Nov 97 4:28 pm
Sample : 85737.....
Misc :
Quant Time: Nov 25 11:05 1997

Vial: 10
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.94	152	13227	40.00	ug/mL	-0.18
18) Naphthalene-d8	10.72	136	57607	40.00	ug/mL	-0.19
33) Acenaphthene-d10	15.97	164	45619	40.00	ug/mL	-0.19
51) Phenanthrene-d10	20.28	188	94184	40.00	ug/ml	-0.21
65) Chrysene-d12	28.22	240	62707	40.00	ug/mL	-0.22
74) Perylene-d12	32.18	264	23021	40.00	ug/mL	-0.22
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.61	112	3329	40.11	ug/mL	40.11%
3) Phenol-d5	6.88	99	24824	50.05	ug/mL	50.05%
19) Nitrobenzene-d5	8.79	82	20689	38.97	ug/mL	38.97%
37) 2-Fluorobiphenyl	14.20	172	60865	49.07	ug/mL	49.07%
55) 2,4,6-Tribromophenol	18.41	330	24329	56.06	ug/mL	56.06%
68) Terphenyl-d14	25.37	244	109980	68.07	ug/mL	68.07%
Target Compounds						Qvalue
73) bis(2-Ethylhexyl)phthalate	29.21	149	3173	2.54	ug/mL#	31

(#) = qualifier out of range (m) = manual integration

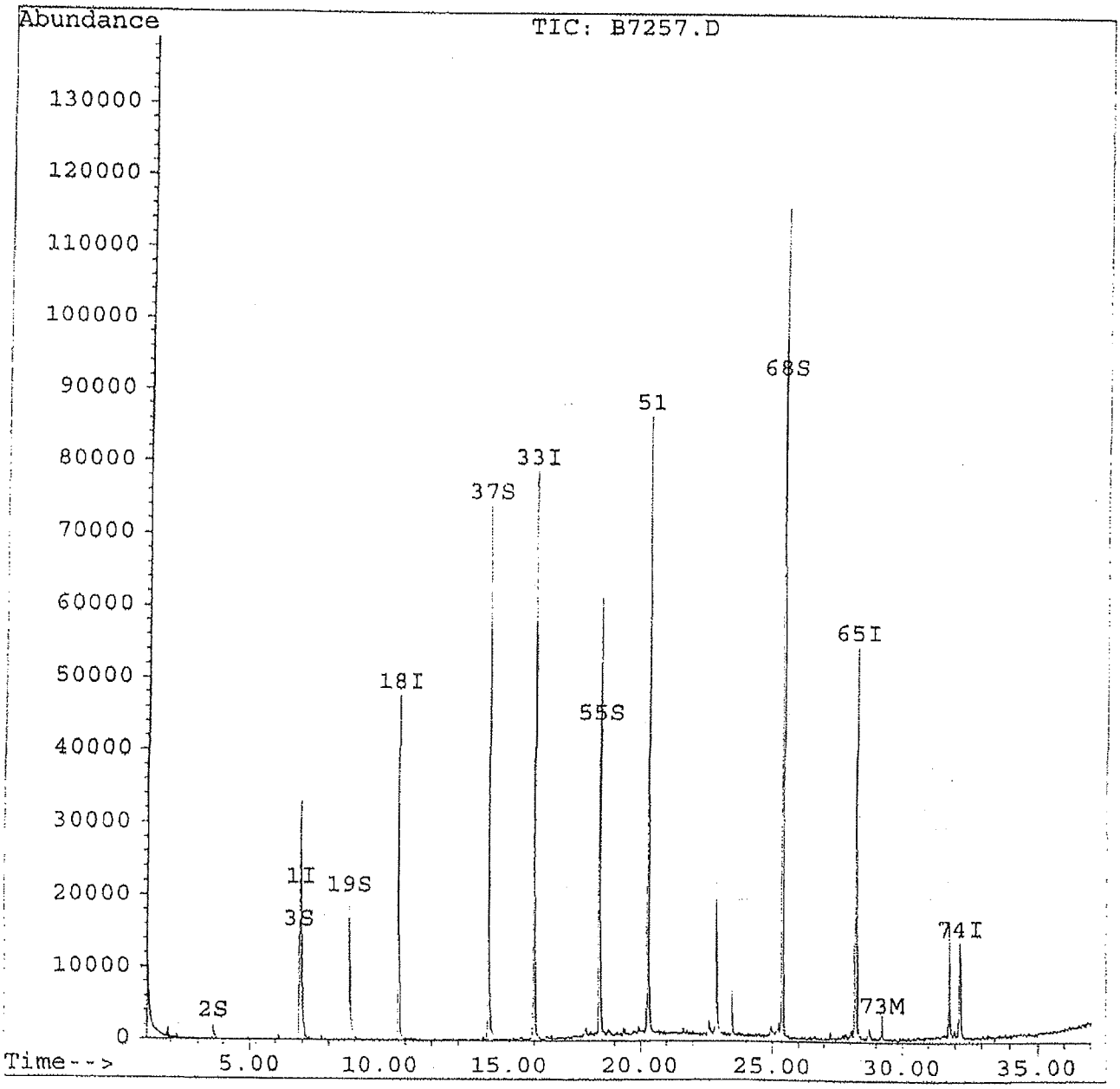
Quantitation Report

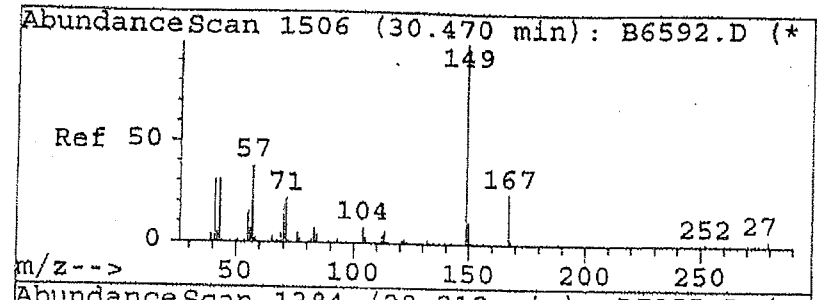
Data File : c:\hpchem\1\data2\b7257.d
Acq On : 24 Nov 97 4:28 pm
Sample : 85737.....
Misc :
Quant Time: Nov 25 11:05 1997

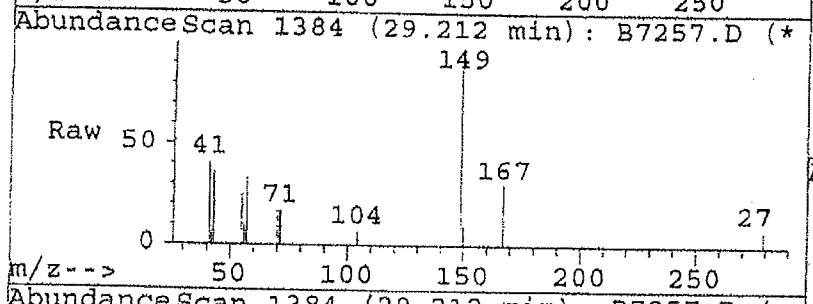
Converted from RTE d

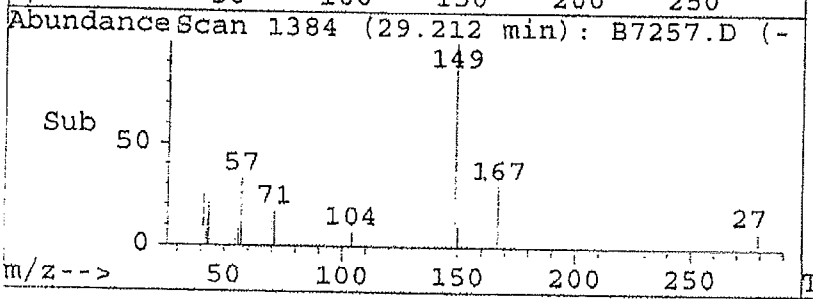
Vial: 10
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration





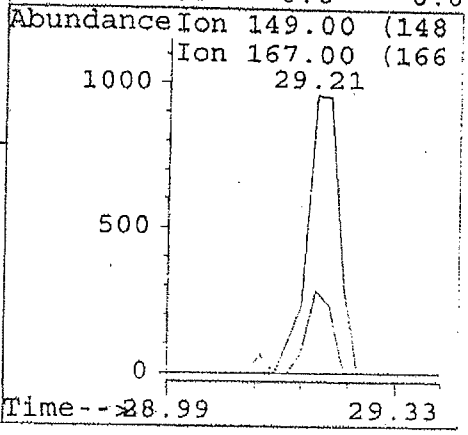




#73 335
bis(2-Ethylhexyl)phthalate
Concen: 2.54 ug/mL
RT: 29.21 min Scan# 1384
Delta R.T. -0.15 min
Lab File: b7257.d
Acq: 24 Nov 97 4:28 pm

Tgt Ion:149 Resp: 3173

Ion	Ratio	Lower	Upper
149	100		
167	29.6	1.0	1.5#
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

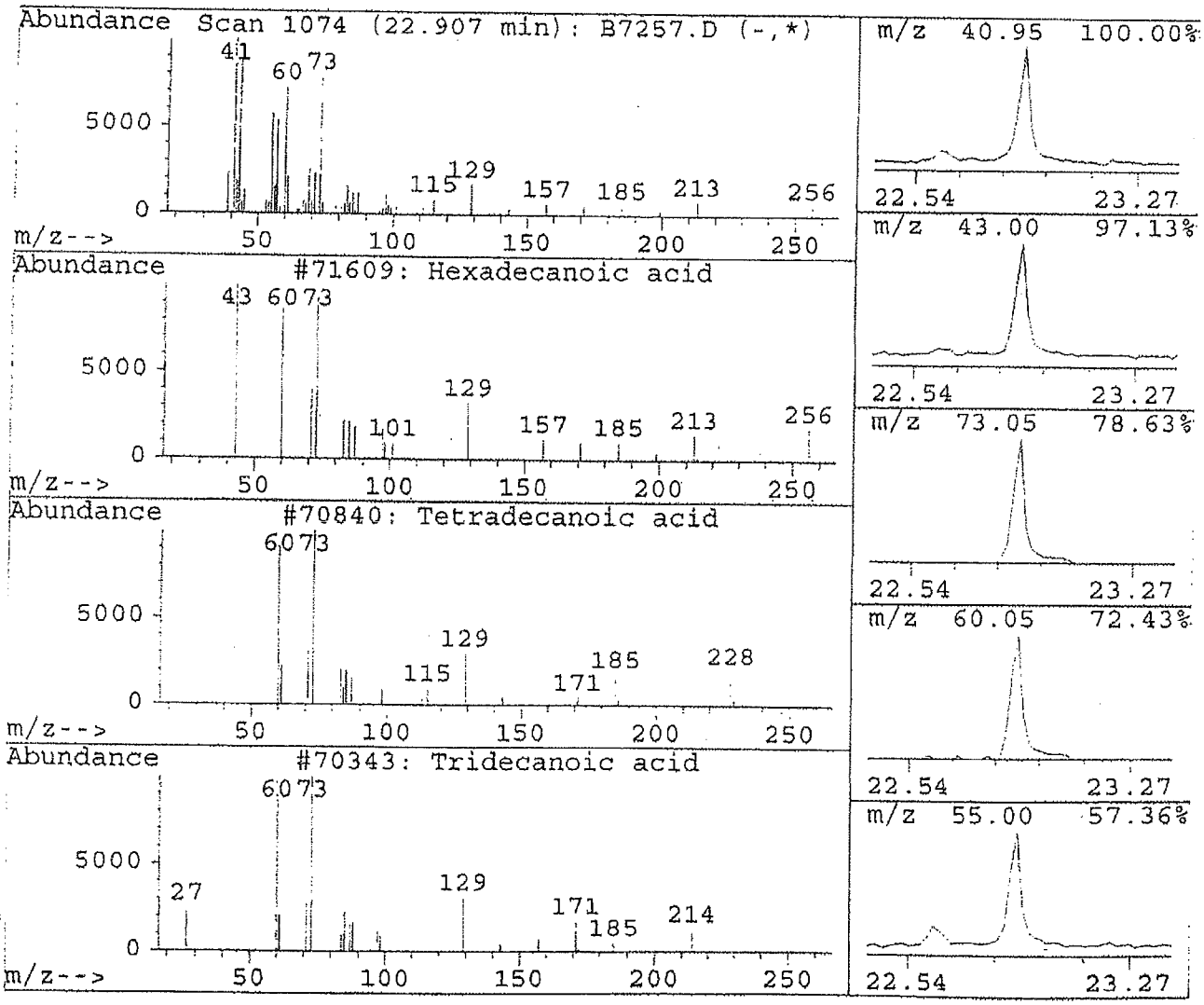
Data File : c:\hpchem\1\data2\b7257.d
Acq On : 24 Nov 97 4:28 pm
Sample : 85737.....
Misc :

Vial: 10
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
22.91	10.63 ug/mL	66704	Phenanthrene-d10	20.28

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexadecanoic acid	71609	000057-10-3	97
2	Tetradecanoic acid	70840	000544-63-8	83
3	Tridecanoic acid	70343	000638-53-9	72
4	Pentadecanoic acid	32396	001002-84-2	72
5	Glycine, N-methyl-N-(1-oxododecyl)-	37917	000097-78-9	64



Library Search Compound Report

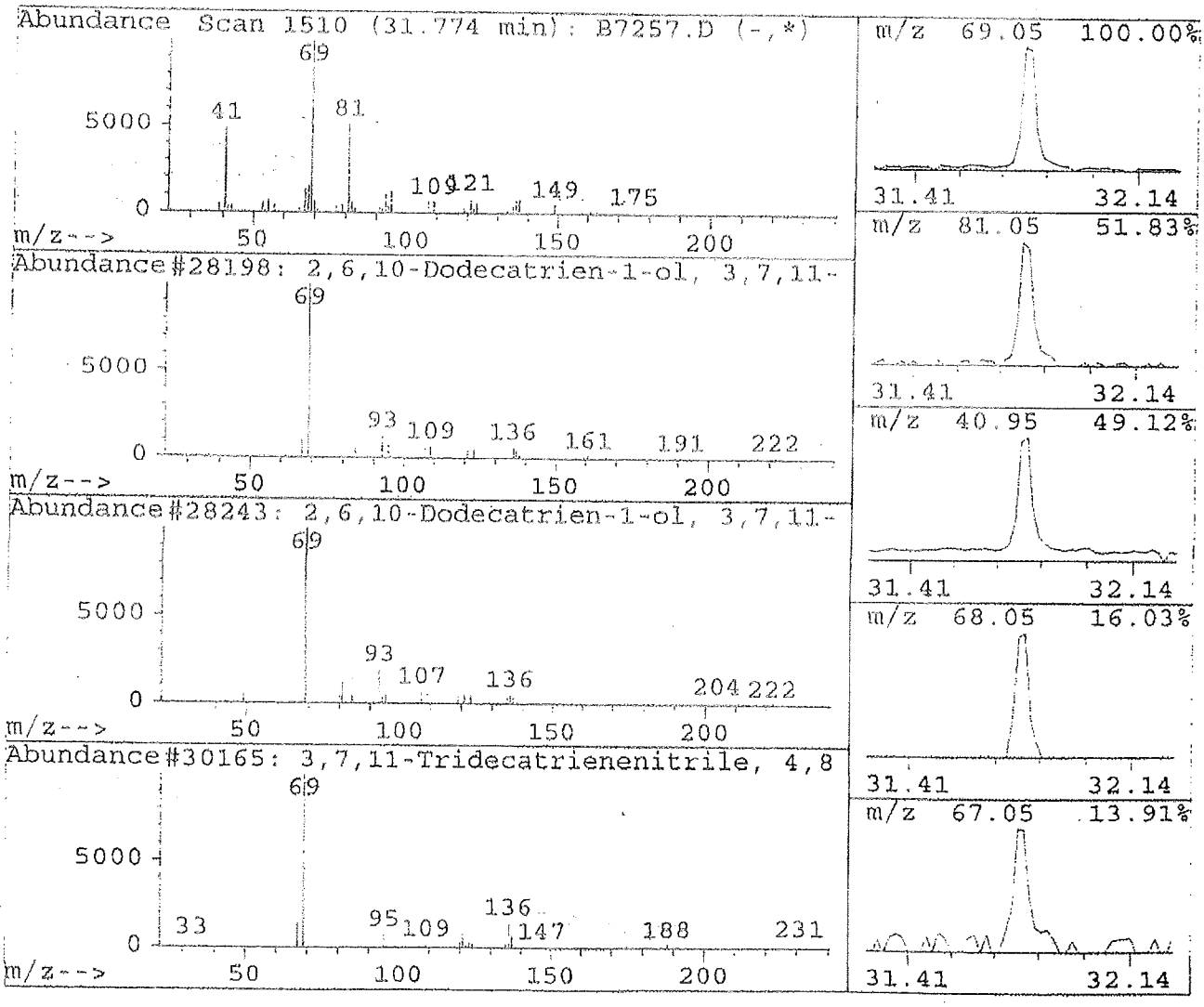
Data File : c:\hpchem\1\data2\b7257.d
Acq On : 24 Nov 97 4:28 pm
Sample : 85737.....
Misc :

Vial: 10
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
31.77	41.01 ug/mL	55569	Perylene-d12	32.18

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2,6,10-Dodecatrien-1-ol, 3,7,11-tri	28198	000106-28-5	90
2	2,6,10-Dodecatrien-1-ol, 3,7,11-tri	28243	004602-84-0	74
3	3,7,11-Tridecatrienenitrile, 4,8,12	30165	006006-01-5	56
4	2,6-Octadien-1-ol, 3,7-dimethyl-, (	67079	000106-25-2	53
5	4-Methyl-1,5-Heptadiene	2326	000998-94-7	50



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785738B

MW-9B

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785738B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7258.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785738B
MW-9A

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785738B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7258.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785738B
MW-9A

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785738B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7258.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.91	8	J
2.				
3.				
4.				
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Quantitation Report

Data File : c:\hpchem\1\data2\b7258.d
Acq On : 24 Nov 97 5:16 pm
Sample : 85738.....
Misc :
Quant Time: Nov 25 11:05 1997

Converted from RTE d

Vial: 11
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.94	152	12591	40.00	ug/mL	-0.18
18) Naphthalene-d8	10.73	136	54049	40.00	ug/mL	-0.18
33) Acenaphthene-d10	15.97	164	45171	40.00	ug/mL	-0.19
51) Phenanthrene-d10	20.29	188	93322	40.00	ug/ml	-0.21
65) Chrysene-d12	28.22	240	62917	40.00	ug/mL	-0.21
74) Perylene-d12	32.18	264	23011	40.00	ug/mL	-0.22
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.59	112	3556	45.01	ug/mL	45.01%
3) Phenol-d5	6.88	99	25885	54.83	ug/mL	54.83%
19) Nitrobenzene-d5	8.79	82	22527	45.22	ug/mL	45.22%
37) 2-Fluorobiphenyl	14.20	172	60263	49.06	ug/mL	49.06%
55) 2,4,6-Tribromophenol	18.41	330	25588	59.50	ug/mL	59.50%
68) Terphenyl-d14	25.37	244	102664	63.33	ug/mL	63.33%

Target Compounds Qvalue

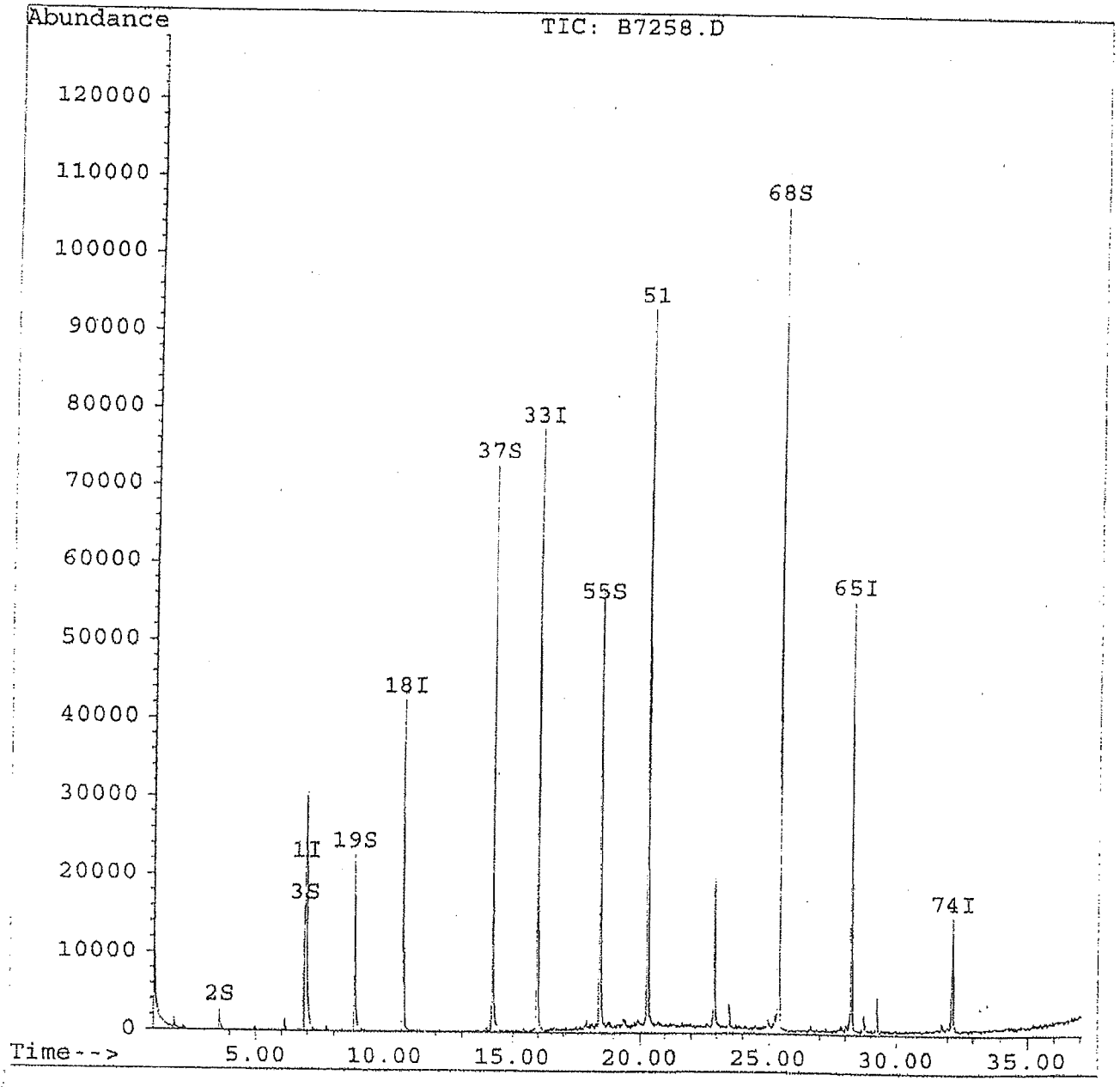
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b7258.d
Acq On : 24 Nov 97 5:16 pm
Sample : 85738.....
Misc :
Quant Time: Nov 25 11:05 1997

Vial: 11
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Library Search Compound Report

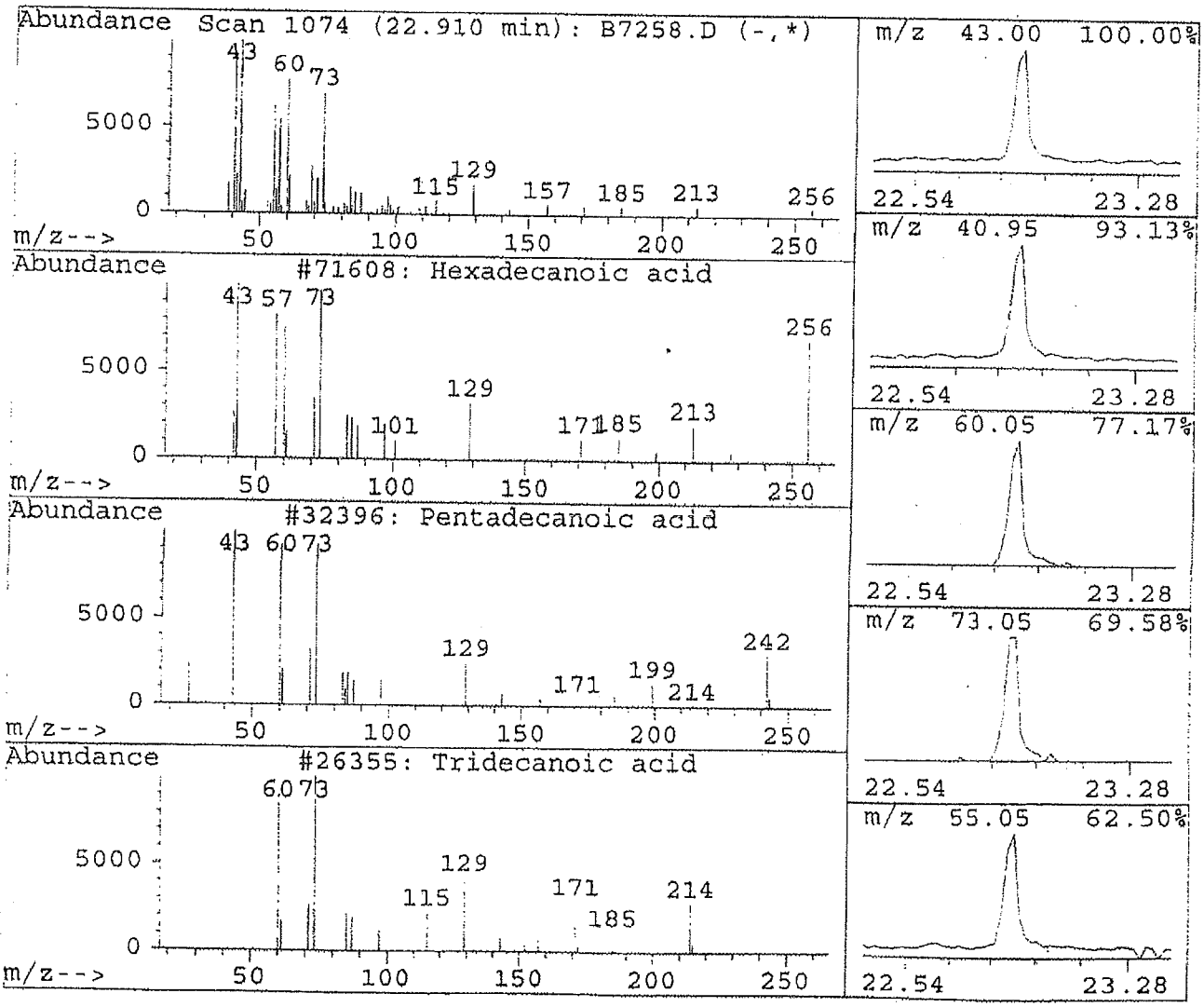
Data File : c:\hpchem\1\data2\b7258.d
Acq On : 24 Nov 97 5:16 pm
Sample : 85738.....
Misc :

Vial: 11
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
22.91	9.67 ug/mL	60017	Phenanthrene-d10	20.29

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexadecanoic acid	71608	000057-10-3	95
2	Pentadecanoic acid	32396	001002-84-2	64
3	Tridecanoic acid	26355	000638-53-9	64
4	Glycine, N-methyl-N-(1-oxododecyl)-	37917	000097-78-9	56
5	Decanoic acid	15788	000334-48-5	53



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 9785739B FB

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9785739B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7259.D

Level: (low/med) _____ Date Received: 11/18/97

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785739B
FB

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785739B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7259.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785739B
FB

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785739B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7259.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
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Quantitation Report

Data File : c:\hpchem\1\data2\b7259.d
Acq On : 24 Nov 97 6:03 pm
Sample : 85739.....
Misc :
Quant Time: Nov 25 14:14 1997

Converted from RTE d

Vial: 12
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.95	152	12708	40.00	ug/mL	-0.18
18) Naphthalene-d8	10.71	136	58050	40.00	ug/mL	-0.20
33) Acenaphthene-d10	15.98	164	45961	40.00	ug/mL	-0.18
51) Phenanthrene-d10	20.29	188	94472	40.00	ug/ml	-0.21
65) Chrysene-d12	28.22	240	87806	40.00	ug/mL	-0.21
74) Perylene-d12	32.18	264	22359	40.00	ug/mL	-0.22
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.61	112	3382	42.42	ug/mL	42.42%
3) Phenol-d5	6.89	99	21716	45.58	ug/mL	45.58%
19) Nitrobenzene-d5	8.80	82	21397	39.99	ug/mL	39.99%
37) 2-Fluorobiphenyl	14.21	172	51189	40.96	ug/mL	40.96%
55) 2,4,6-Tribromophenol	18.42	330	21692	49.83	ug/mL	49.83%
68) Terphenyl-d14	25.37	244	117653	52.01	ug/mL	52.01%
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration

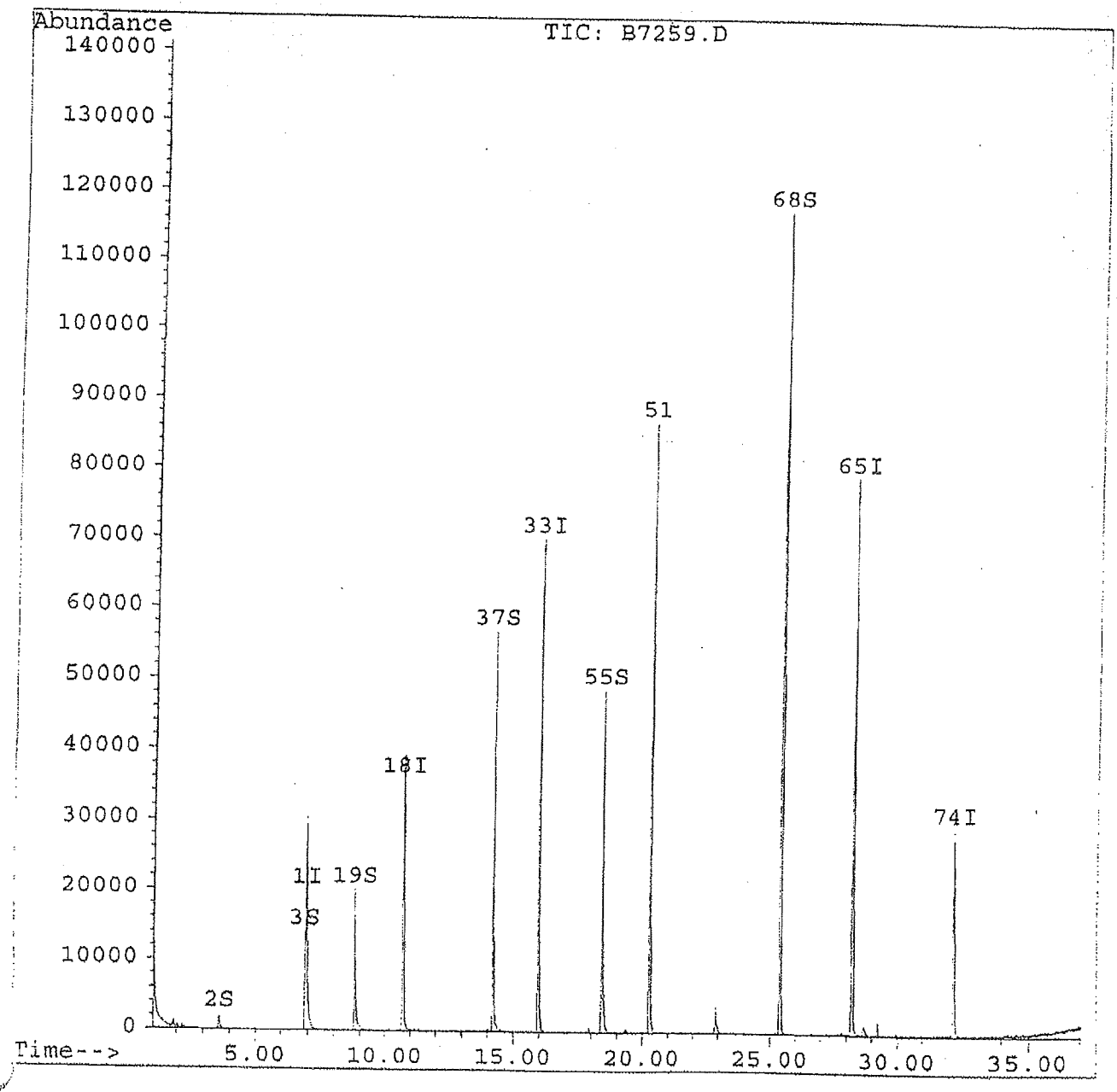
Quantitation Report

Data File : c:\hpchem\1\data2\b7259.d
Acq On : 24 Nov 97 6:03 pm
Sample : 85739.....
Misc :
Quant Time: Nov 25 14:14 1997

Converted from RTE d

Vial: 12
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Library Search Compound Report

Data File : c:\hpchem\1\data2\b7259.d
Acq On : 24 Nov 97 6:03 pm
Sample : 85739.....
Misc :

Converted from RTE d

Vial: 12
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : NBS75K.L

No Library Search Compounds Detected

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785741B

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785741B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7260.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9785741B

MW-16

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785741B

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7260.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	3	B
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9785741B
MW3-10

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9785741B

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7260.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 57-10-3	Hexadecanoic acid	22.89	6	J
2.				
3.				
4.				
5.				
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Quantitation Report

Data File : c:\hpchem\1\data2\b7260.d
Acq On : 24 Nov 97 6:50 pm
Sample : 85741.....
Misc :
Quant Time: Nov 25 11:06 1997

Converted from RTE d

Vial: 13
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.94	152	12774	40.00	ug/mL	-0.18
18) Naphthalene-d8	10.72	136	57033	40.00	ug/mL	-0.18
33) Acenaphthene-d10	15.97	164	45476	40.00	ug/mL	-0.19
51) Phenanthrene-d10	20.28	188	94824	40.00	ug/ml	-0.21
65) Chrysene-d12	28.21	240	69660	40.00	ug/mL	-0.22
74) Perylene-d12	32.18	264	28706	40.00	ug/mL	-0.22
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.59	112	2869	35.80	ug/mL	35.80%
3) Phenol-d5	6.88	99	22866	47.74	ug/mL	47.74%
19) Nitrobenzene-d5	8.79	82	21555	41.01	ug/mL	41.01%
37) 2-Fluorobiphenyl	14.20	172	56542	45.72	ug/mL	45.72%
55) 2,4,6-Tribromophenol	18.41	330	22392	51.24	ug/mL	51.24%
68) Terphenyl-d14	25.37	244	113342	63.15	ug/mL	63.15%
Target Compounds						Qvalue
73) bis(2-Ethylhexyl)phthalate	29.21	149	4317	3.11	ug/mL#	39

(#) = qualifier out of range (m) = manual integration

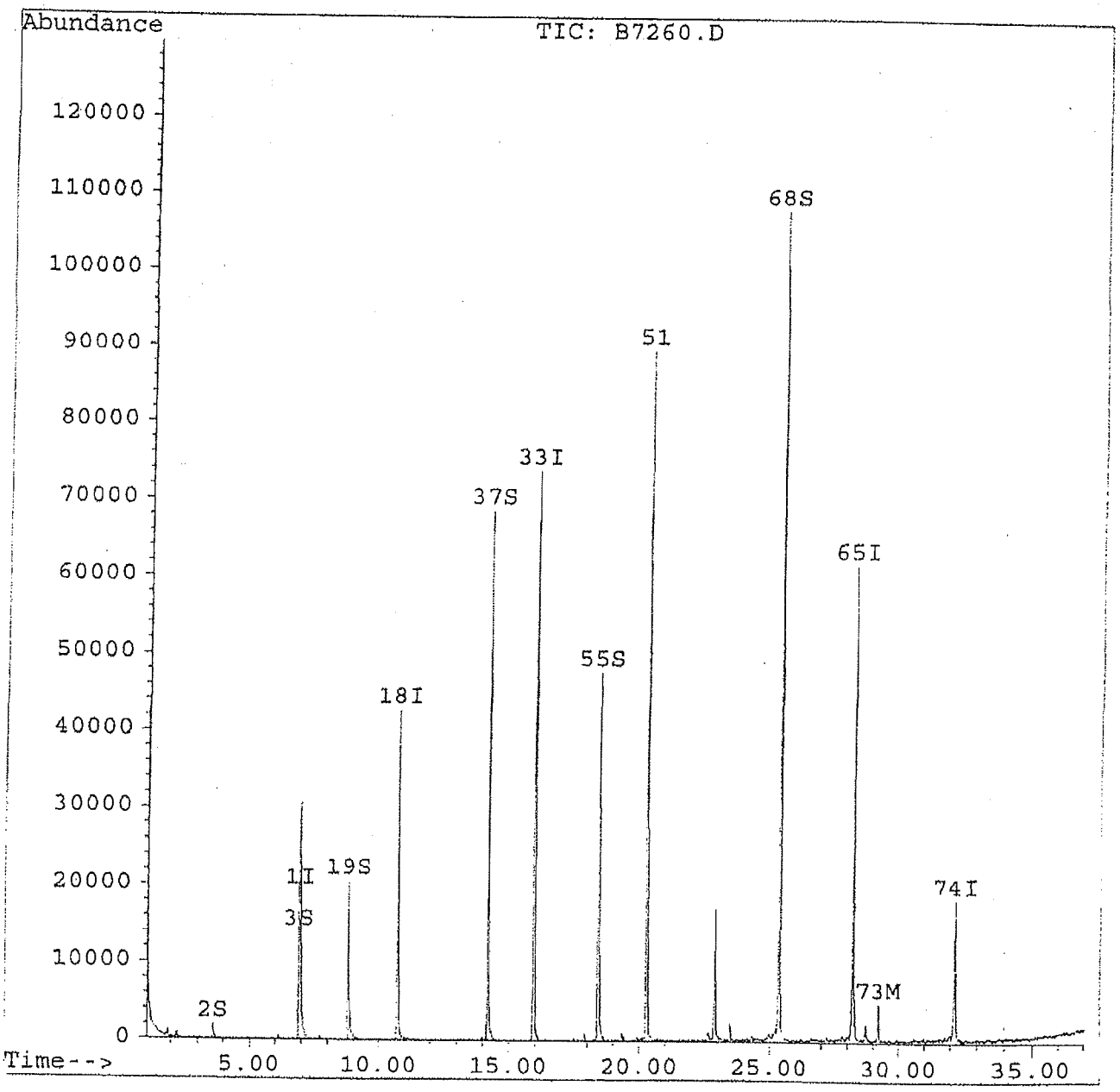
Quantitation Report

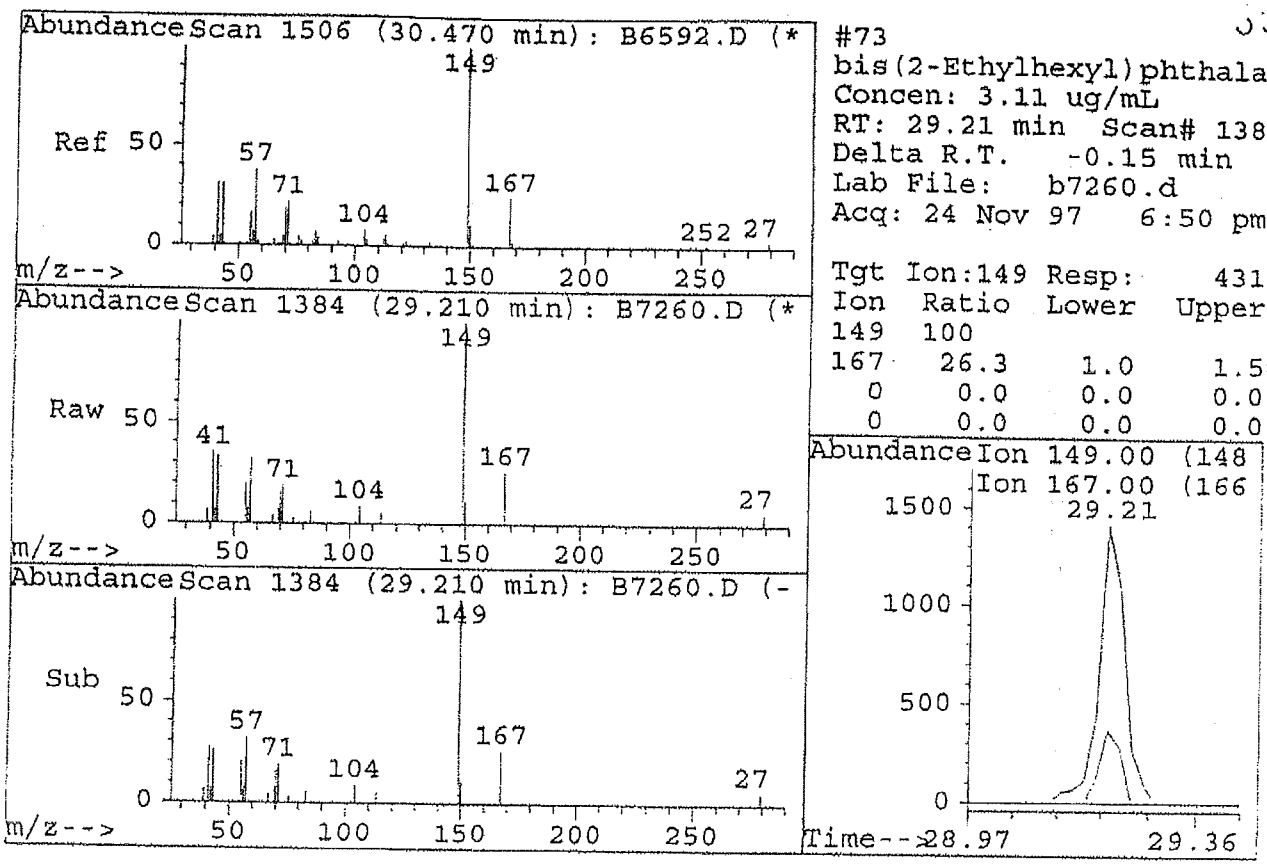
Data File : c:\hpchem\1\data2\b7260.d
Acq On : 24 Nov 97 6:50 pm
Sample : 85741.....
Misc :
Quant Time: Nov 25 11:06 1997

Converted from RTE d

Vial: 13
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration





#73
bis(2-Ethylhexyl)phthalate
Concen: 3.11 ug/mL
RT: 29.21 min Scan# 1384
Delta R.T. -0.15 min
Lab File: b7260.d
Acq: 24 Nov 97 6:50 pm

Tgt Ion:149 Resp: 4317

Ion	Ratio	Lower	Upper
149	100		
167	26.3	1.0	1.5#
0	0.0	0.0	0.0
0	0.0	0.0	0.0

Library Search Compound Report

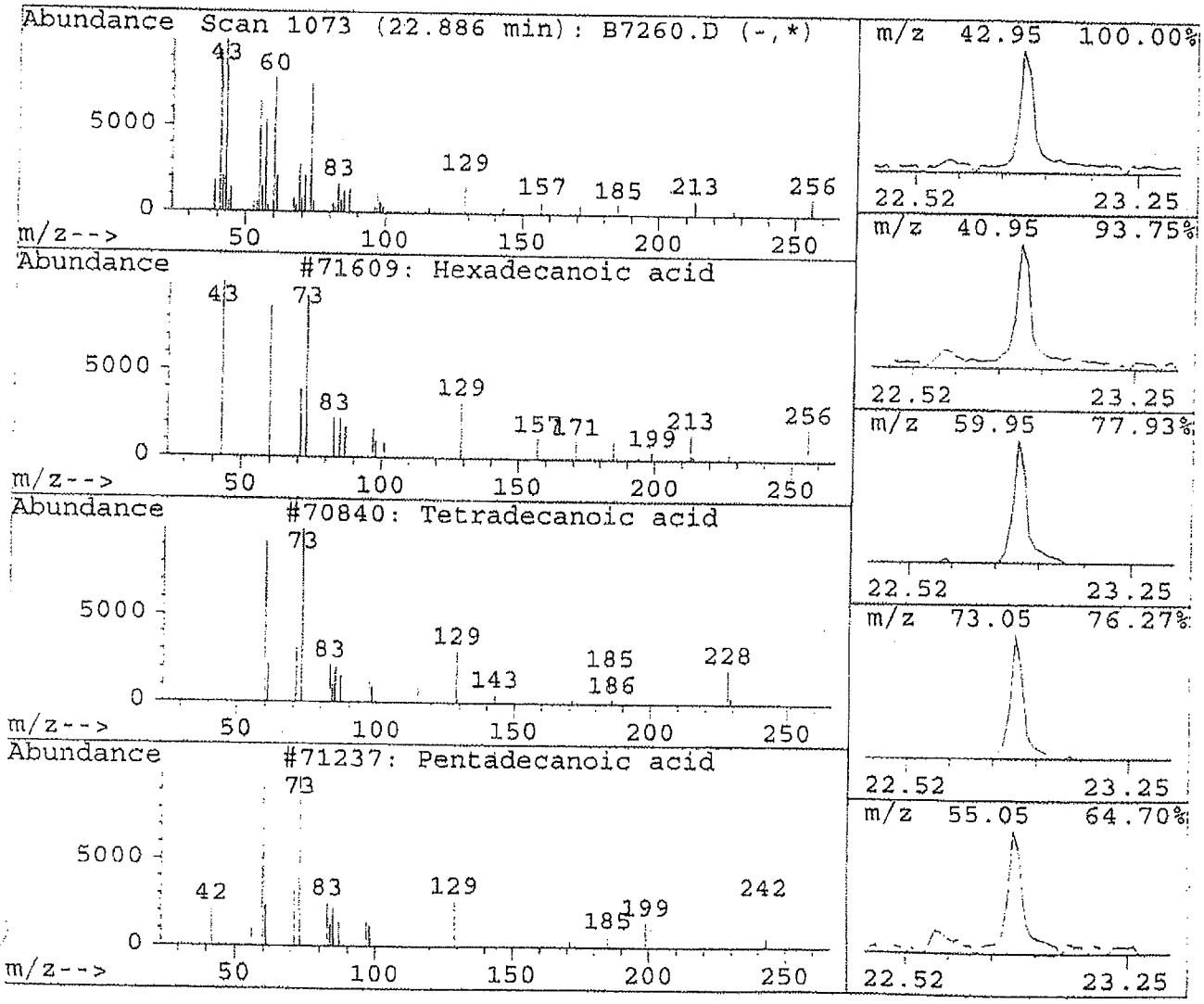
Data File : c:\hpchem\1\data2\b7260.d
Acq On : 24 Nov 97 6:50 pm
Sample : 85741.....
Misc :

Vial: 13
Operator: SCOTTV
Converted from RTE d Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : C:\DATABASE\NBS75K.L

R.T.	Conc	Area	Relative to ISTD	R.T.
22.89	6.73 ug/mL	40366	Phenanthrene-d10	20.28

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Hexadecanoic acid	71609	000057-10-3	97
2	Tetradecanoic acid	70840	000544-63-8	83
3	Pentadecanoic acid	71237	001002-84-2	80
4	Tridecanoic acid	70343	000638-53-9	80
5	Decanoic acid	68356	000334-48-5	64



2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	SBLK01	44	48	48	45	56	65			
02	9785731B	34	52	41	49	54	59			
03	9785732B	49	61	48	57	67	56			
04	9785733B	52	60	14 *	49	63	62			1
05	9785734B	25	34	37	41	36	57			
06	9785735B	44	52	40	46	56	57			
07	9785736B	39	53	39	46	57	58			
08	9785737B	40	50	39	49	56	68			
09	9785738B	45	55	45	49	60	63			
10	9785739B	42	46	40	41	50	52			
11	9785741B	36	48	41	46	51	63			
12	85741MS	34	45	37	40	51	58			
13	85741MSD	45	49	42	43	61	62			
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

	QC LIMITS
S1 (2FP) = 2-Fluorophenol	(4-106)
S2 (PHL) = Phenol-d5	(5-87)
S3 (NBZ) = Nitrobenzene-d5	(22-101)
S4 (FBP) = 2-Fluorobiphenyl	(20-94)
S5 (TBP) = 2,4,6-Tribromophenol	(17-126)
S6 (TPH) = Terphenyl-d14	(35-127)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

4B

SEMIVOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

SBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Lab File ID: B7250.D Lab Sample ID: BLANK1

Instrument ID: ABNA Date Extracted: 11/19/97

Matrix: (soil/water) WATER Date Analyzed: 11/24/97

Level: (low/med) Time Analyzed: 1055

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	9785731B	9785731B	B7251.D	11/24/97
02	9785732B	9785732B	B7252.D	11/24/97
03	9785733B	9785733B	B7253.D	11/24/97
04	9785734B	9785734B	B7254.D	11/24/97
05	9785735B	9785735B	B7255.D	11/24/97
06	9785736B	9785736B	B7256.D	11/24/97
07	9785737B	9785737B	B7257.D	11/24/97
08	9785738B	9785738B	B7258.D	11/24/97
09	9785739B	9785739B	B7259.D	11/24/97
10	9785741B	9785741B	B7260.D	11/24/97
11	85741MS	85741MS	B7261.D	11/24/97
12	85741MSD	85741MSD	B7262.D	11/24/97
13				
14				
15				
16				
17				
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27				
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29				
30				

COMMENTS:

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

SBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: BLANK1

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7250.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-nitrosodimethylamine	5	U
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
108-60-1	bis(2-chloroisopropyl)ether	1	U
621-64-7	N-Nitroso-Di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
131-11-3	Dimethylphthalate	1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
83-32-9	Acenaphthene	1	U
51-28-5	2,4-Dinitrophenol	1	U
100-02-7	4-Nitrophenol	2	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
86-73-7	Fluorene	1	U
7005-72-3	4-Chlorophenyl-phenylether	2	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. SBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: BLANK1

Sample wt/vol: 1200.0 (g/mL ML Lab File ID: B7250.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N): N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
534-52-1	4,6-Dinitro-2-methylphenol	1	U
86-30-6	n-Nitrosodiphenylamine	1	U
122-66-7	1,2-Diphenylhydrazine(as azo)	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1	U
85-01-08	Phenanthrene	1	U
120-12-7	Anthracene	1	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
92-87-5	Benzidine	1	U
129-00-0	Pyrene	4	U
85-68-7	Butylbenzylphthalate	1	U
56-55-3	Benzo[a]anthracene	1	U
91-94-1	3,3'-Dichlorobenzidine	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	
117-84-0	Di-n-octylphthalate	3	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	2	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno[1,2,3-cd]pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

SBLK01

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: BLANK1

Sample wt/vol: 1200.0 (g/mL) ML Lab File ID: B7250.D

Level: (low/med) Date Received: 11/18/97

% Moisture: decanted: (Y/N) N Date Extracted: 11/19/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/24/97

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.				
2.				
3.				
4.				
5.				
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24.				
25.				
26.				
27.				
28.				
29.				
30.				

Quantitation Report

Data File : c:\hpchem\1\data2\b7250.d
Acq On : 24 Nov 97 10:55 am
Sample : BLANK.....
Misc :
Quant Time: Nov 24 15:42 1997

Converted from RTE d

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.94	152	13000	40.00	ug/mL	-0.19
18) Naphthalene-d8	10.72	136	55823	40.00	ug/mL	-0.19
33) Acenaphthene-d10	15.97	164	46583	40.00	ug/mL	-0.19
51) Phenanthrene-d10	20.30	188	99527	40.00	ug/ml	-0.20
65) Chrysene-d12	28.23	240	87592	40.00	ug/mL	-0.20
74) Perylene-d12	32.19	264	24588	40.00	ug/mL	-0.21
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.60	112	3620	44.38	ug/mL	44.38%
3) Phenol-d5	6.90	99	23533	48.28	ug/mL	48.28%
19) Nitrobenzene-d5	8.81	82	24482	47.59	ug/mL	47.59%
37) 2-Fluorobiphenyl	14.22	172	56951	44.96	ug/mL	44.96%
55) 2,4,6-Tribromophenol	18.43	330	25546	55.70	ug/mL	55.70%
68) Terphenyl-d14	25.38	244	146214	64.79	ug/mL	64.79%
Target Compounds						Qvalue
73) bis(2-Ethylhexyl)phthalate	29.22	149	3732	2.14	ug/mL#	37

(#) = qualifier out of range (m) = manual integration

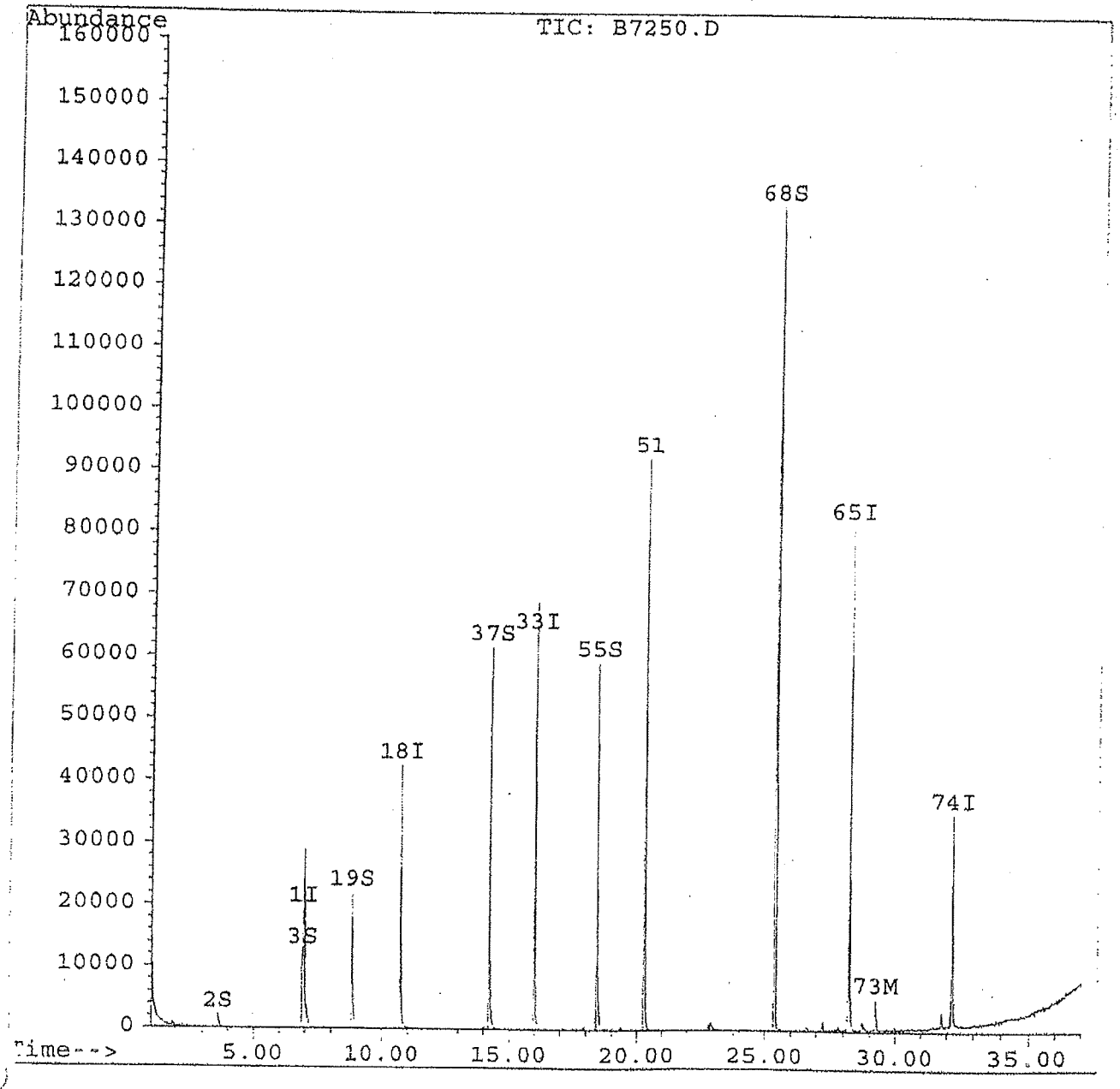
Quantitation Report

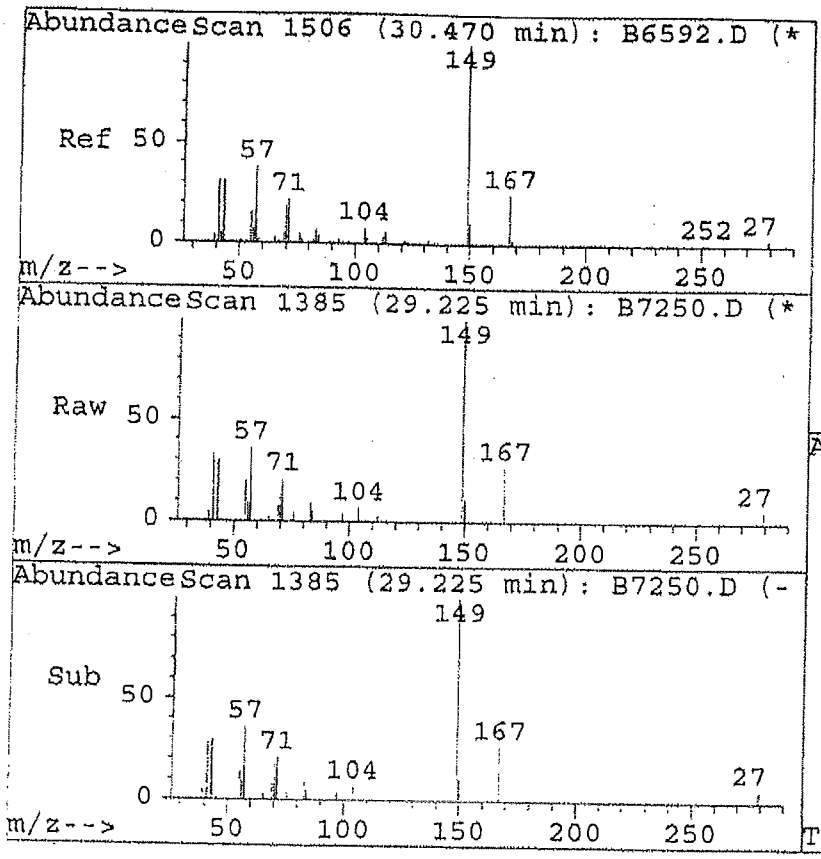
Data File : c:\hpchem\1\data2\b7250.d
Acq On : 24 Nov 97 10:55 am
Sample : BLANK.....
Misc :
Quant Time: Nov 24 15:42 1997

Converted from RTE d

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

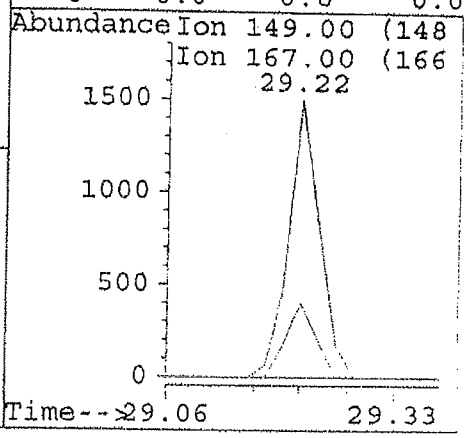




#73
bis(2-Ethylhexyl)phthalate
Concen: 2.14 ug/mL
RT: 29.22 min Scan# 1385
Delta R.T. -0.14 min
Lab File: b7250.d
Acq: 24 Nov 97 10:55 am

Tgt Ion:149 Resp: 3732

Ion	Ratio	Lower	Upper
149	100		
167	27.0	1.0	1.5#
0	0.0	0.0	0.0
0	0.0	0.0	0.0



Library Search Compound Report

365

Data File : c:\hpchem\1\data2\b7250.d
Acq On : 24 Nov 97 10:55 am
Sample : BLANK.....
Misc :

Converted from RTE d

Vial: 3
Operator: SCOTTV
Inst : ABNA
BT Multiplr: 1.00

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Library : NBS75K.L

No Library Search Compounds Detected

Spike Recovery and RPD Summary Report - WATER(ANALYZED 11/24/97)

Method : C:\HPCHEM\1\METHODS\BNACLP.M
File : CLP BNA Calibration
Update : Wed Nov 05 12:20:55 1997
Response via : Initial Calibration

Non-Spiked Sample: B7260.D

	Spike Sample	Spike Duplicate Sample
File ID :	B7261.D	B7262.D
Sample :	85741MS.....	Converted from RTE data file >B7261::D5

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
N-nitrosodimethylami	0.0	100	23	27	23	27	18	100	1-300
Phenol	0.0	100	40	44	40	44	9	23	5-112
bis(2-Chloroethyl)et	0.0	100	40	50	40	50	21	55	12-158
2-Chlorophenol	0.0	100	32	43	32	43	27	29	23-134
1,3-Dichlorobenzene	0.0	100	31	41	31	41	28	42	1-172
1,4-Dichlorobenzene	0.0	100	31	42	31	42	29	32	20-124
1,2-Dichlorobenzene	0.0	100	37	42	37	42	13	31	32-129
bis(2-chloroisopropy	0.0	100	39	50	39	50	23	46	36-166
N-Nitroso-Di-n-propy	0.0	100	44	52	44	52	15	55	1-230
Hexachloroethane	0.0	100	48	48	48	48	1	25	40-113
Nitrobenzene	0.0	100	40	50	40	50	22	39	35-180
phorone	0.0	100	47	53	47	53	11	63	21-196
itrophenol	0.0	100	30	37	30	37	21	35	29-182
2,4-Dimethylphenol	0.0	100	30	37	30#	37	21	26	32-119
bis(2-Chloroethoxy)m	0.0	100	41	49	41	49	18	35	33-184
2,4-Dichlorophenol	0.0	100	45	45	45	45	0	26	39-135
1,2,4-Trichlorobenze	0.0	100	46	55	46	55	16	28	44-142
Naphthalene	0.0	100	35	42	35	42	19	30	21-133
Hexachlorobutadiene	0.0	100	31	38	31	38	21	26	24-116
4-Chloro-3-methylphe	0.0	100	43	49	43	49	13	37	22-147
2-Chloronaphthalene	0.0	100	82	88	82	88	8	13	60-118
2,4,6-Trichloropheno	0.0	100	46	54	46	54	16	32	37-144
Dimethylphthalate	0.0	100	26	25	26	25	3	23	1-112
Acenaphthylene	0.0	100	45	51	45	51	11	40	33-145
2,6-Dinitrotoluene	0.0	100	68	73	68	73	7	30	50-158
Acenaphthene	0.0	100	54	50	54	50	6	28	47-145
2,4-Dinitrophenol	0.0	100	39	47	39	47	19	50	1-191
4-Nitrophenol	0.0	100	48	50	48	50	5	47	1-132
2,4-Dinitrotoluene	0.0	100	82	88	82	88	7	22	39-139
Diethylphthalate	0.2	100	42	46	42	46	8	27	1-114
Fluorene	0.0	100	59	60	59	60	1	21	59-121
4-Chlorophenyl-pheny	0.0	100	45	50	45	50	10	33	25-158
4,6-Dinitro-2-methyl	0.3	100	47	55	46	54	16	93	1-181
4-Bromophenyl-phenyl	0.0	100	54	57	54	57	6	23	53-127
Hexachlorobenzene	0.0	100	45	52	45	52	14	25	1-152
Pentachlorophenol	0.0	100	48	54	48	54	13	49	14-176
anthrene	0.0	100	61	58	61	58	5	21	54-120
hracene	0.0	100	61	70	61	70	13	32	52-115
-n-butylphthalate	0.6	100	57	62	57	62	8	17	1-118
uoranthene	0.0	100	49	53	49	53	8	33	26-137
Pyrene	0.0	100	60	71	60	71	16	25	52-115
Butylbenzylphthalate	0.3	100	71	80	71	80	11	23	1-152
Benzo[a]anthracene	0.2	100	60	64	60	64	6	28	33-143
3,3'-Dichlorobenzidi	0.0	100	20	24	20	24	19	71	1-262

Chrysene	0.4	100	77	86	77	85	11	48	17-168
bis(2-Ethylhexyl)pht	3.1	100	80	88	77	85	10	41	8-158
Di-n-octylphthalate	0.3	100	81	88	81	88	9	31	4-146
Benzo[b]fluoranthene	0.1	100	65	67	65	67	2	39	24-159
Benzo[k]fluoranthene	0.2	100	48	51	48	50	6	32	11-162
Benzo[a]pyrene	0.0	100	53	59	53	59	10	39	17-163
Indeno[1,2,3-cd]pyre	0.0	100	73	86	73	86	16	45	1-171
Dibenz[a,h]anthracen	0.0	100	74	86	74	86	14	70	1-227
Benzo[g,h,i]perylene	0.0	100	85	101	85	101	18	59	1-219

Quantitation Report

Data File : c:\hpchem\1\data2\b7261.d Vial: 14
Acq On : 24 Nov 97 7:37 pm Operator: SCOTTV
Sample : 85741MS..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 25 14:38 1997

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.94	152	13340	40.00	ug/mL	-0.18
18) Naphthalene-d8	10.73	136	58490	40.00	ug/mL	-0.18
33) Acenaphthene-d10	15.98	164	47567	40.00	ug/mL	-0.18
51) Phenanthrene-d10	20.29	188	99141	40.00	ug/ml	-0.21
65) Chrysene-d12	28.23	240	67614	40.00	ug/mL	-0.20
74) Perylene-d12	32.18	264	26651	40.00	ug/mL	-0.22
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.59	112	2866	34.24	ug/mL	34.24%
3) Phenol-d5	6.86	99	22336	44.66	ug/mL	44.66%
19) Nitrobenzene-d5	8.79	82	19729	36.60	ug/mL	36.60%
37) 2-Fluorobiphenyl	14.20	172	52078	40.26	ug/mL	40.26%
55) 2,4,6-Tribromophenol	18.42	330	23180	50.74	ug/mL	50.74%
68) Terphenyl-d14	25.36	244	101428	58.22	ug/mL	58.22%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.39	74	4116	22.56	ug/ml	100
6) Phenol	6.90	94	22142	40.01	ug/mLm	100
7) Benzyl alcohol	7.82	79	14629	39.15	ug/ml	94
8) bis(2-Chloroethyl)ether	6.62	93	11296	40.12	ug/mL	99
9) 2-Chlorophenol	6.60	128	14536	32.48	ug/mL	99
10) 1,3-Dichlorobenzene	6.78	146	11954	30.94	ug/mL	95
11) 1,4-Dichlorobenzene	6.98	146	13087	31.45	ug/mL	99
12) 1,2-Dichlorobenzene	7.51	146	15159	36.74	ug/mLm	100
13) 2-Methylphenol	8.59	108	14733	35.60	ug/mL	99
14) bis(2-chloroisopropyl)ethe	8.24	45	30312	39.42	ug/mL	100
15) 4-Methylphenol	9.06	108	17646	39.06	ug/mL	99
16) N-Nitroso-Di-n-propylamine	8.71	70	15269	44.28	ug/mL#	96
17) Hexachloroethane	8.34	117	11346	47.92	ug/mLm	88
20) Nitrobenzene	8.85	77	19579	39.96	ug/mL	93
21) Isophorone	9.63	82	44922	47.28	ug/mL	97
22) 2-Nitrophenol	9.81	139	11560	30.00	ug/mL	95
23) 2,4-Dimethylphenol	10.46	107	20205	29.81	ug/mLm	98
24) bis(2-Chloroethoxy)methane	10.56	93	23430	40.82	ug/mL	98
25) 2,4-Dichlorophenol	10.73	162	23344	44.81	ug/mLm	93
26) 1,2,4-Trichlorobenzene	10.68	180	22237	46.47	ug/mLm	99
27) Naphthalene	10.77	128	50644	34.72	ug/mL	97
28) 4-Chloroaniline	11.34	127	22821	31.08	ug/mL	96
29) Hexachlorobutadiene	11.46	225	10908	30.94	ug/mL	98
30) 4-Chloro-3-methylphenol	13.21	107	27351	43.12	ug/mL	97
31) 2-Chloronaphthalene	14.29	162	97720	81.62	ug/mlm	98
32) 2-Methylnaphthalene	12.86	142	40400	35.66	ug/mL	97
35) 2,4,6-Trichlorophenol	14.06	196	21847	46.13	ug/mLm	100
36) 2,4,5-Trichlorophenol	14.25	196	24658	47.55	ug/mL	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b7261.d Vial: 14
Acq On : 24 Nov 97 7:37 pm Operator: SCOTTV
Sample : 85741MS..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 25 14:38 1997

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

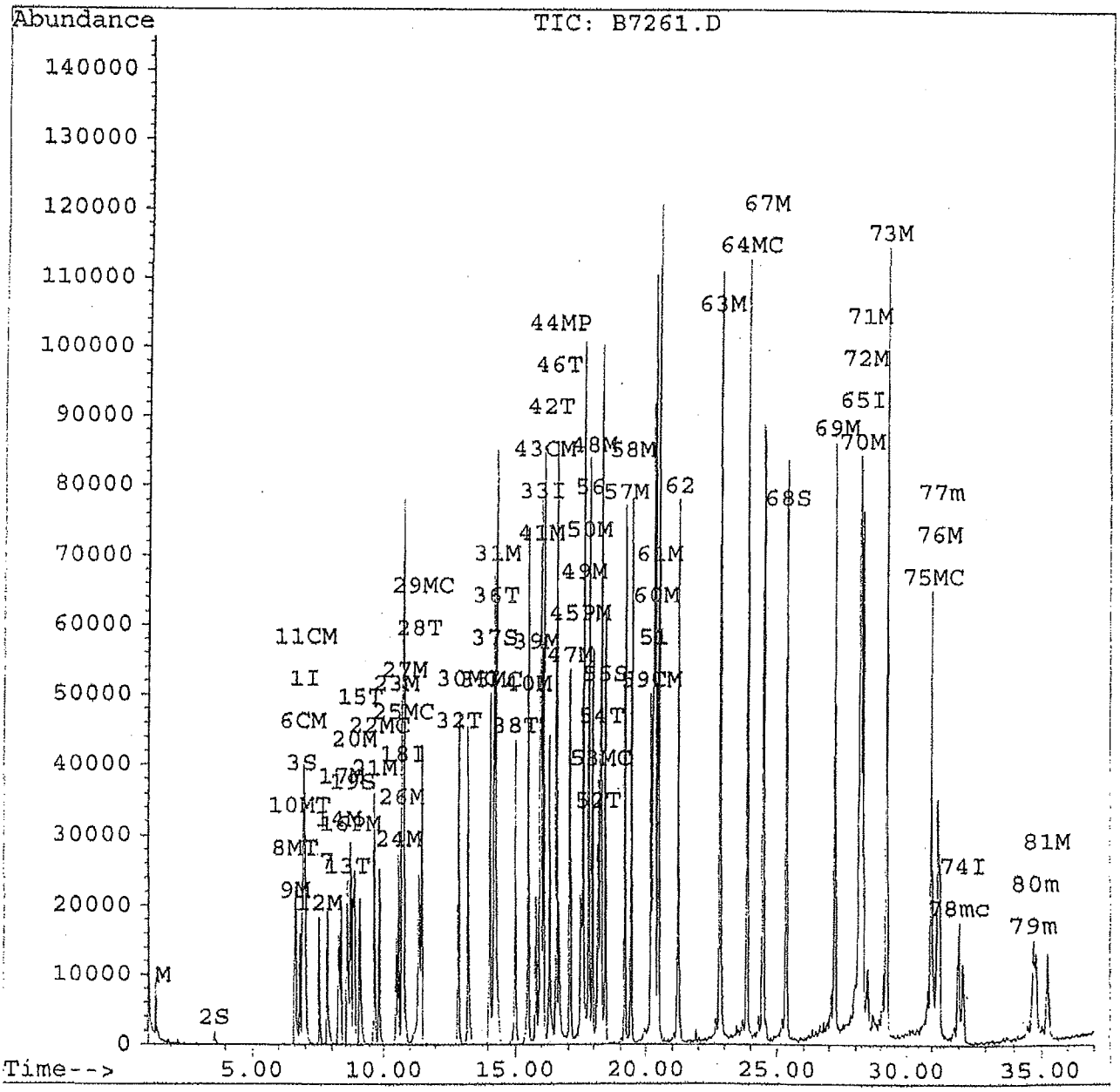
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
38)	2-Nitroaniline	15.00	65	26687	46.69	ug/mL	97
39)	Dimethylphthalate	15.77	163	25453	26.01	ug/mLm	0
40)	Acenaphthylene	15.49	152	92124	45.14	ug/mL#	98
41)	2,6-Dinitrotoluene	15.93	165	21619	68.24	ug/mLm	0
42)	3-Nitroaniline	16.30	138	18623	43.76	ug/mL	87
43)	Acenaphthene	16.06	153	73713	53.71	ug/mLm	98
44)	2,4-Dinitrophenol	16.63	184	11011	38.73	ug/mL	94
45)	4-Nitrophenol	17.44	109	13153	47.89	ug/mL	95
46)	Dibenzofuran	16.57	168	91666	41.21	ug/mL	95
47)	2,4-Dinitrotoluene	17.07	165	27011	82.03	ug/mLm	0
48)	Diethylphthalate	17.95	149	62479	42.45	ug/mL	96
49)	Fluorene	17.58	166	91363	59.43	ug/mLm	98
50)	4-Chlorophenyl-phenylether	17.79	204	36089	44.98	ug/mL	98
52)	4-Nitroaniline	18.15	138	20477	58.27	ug/mL	96
53)	4,6-Dinitro-2-methylphenol	18.26	198	17726	46.73	ug/mL	100
54)	n-Nitrosodiphenylamine	18.28	169	52585	55.86	ug/mL	97
56)	1,2-Diphenylhydrazine (as	17.81	77	18818	8.85	ug/ml	100
57)	4-Bromophenyl-phenylether	19.19	248	28762	54.25	ug/mLm	96
58)	Hexachlorobenzene	19.44	284	35782	44.84	ug/mL	99
59)	Pentachlorophenol	20.19	266	21899	47.65	ug/mL	97
60)	Phenanthrene	20.35	178	153454	60.69	ug/mLm	99
61)	Anthracene	20.50	178	126406	61.24	ug/mLm	0
62)	Carbazole	21.25	167	111327	51.11	ug/ml	98
63)	Di-n-butylphthalate	22.83	149	188511	57.45	ug/mL	100
64)	Fluoranthene	23.89	202	140058	48.79	ug/mL#	93
67)	Pyrene	24.48	202	147269	60.41	ug/mL	99
69)	Butylbenzylphthalate	27.23	149	70766	71.42	ug/mL	89
70)	Benzo[a]anthracene	28.19	228	120601	60.20	ug/mL	99
71)	3,3'-Dichlorobenzidine	28.47	252	10383	19.75	ug/mL	97
72)	Chrysene	28.29	228	88424	77.13	ug/mLm	100
73)	bis(2-Ethylhexyl)phthalate	29.23	149	107984	80.15	ug/mL#	41
75)	Di-n-octylphthalate	30.98	149	107512	80.94	ug/mL	100
76)	Benzo[b]fluoranthene	31.22	252	79048	65.32	ug/mLm	97
77)	Benzo[k]fluoranthene	31.28	252	35392	47.87	ug/mLm	97
78)	Benzo[a]pyrene	32.01	252	35826	53.30	ug/mL	97
79)	Indeno[1,2,3-cd]pyrene	34.72	276	34594	72.58	ug/mL#	87
80)	Dibenz[a,h]anthracene	34.80	278	29446	74.07	ug/mL	97
81)	Benzo[g,h,i]perylene	35.23	276	32578	84.70	ug/mLm	0

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b7261.d Vial: 14
Acq On : 24 Nov 97 7:37 pm Operator: SCOTTV
Sample : 85741MS..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 25 14:38 1997

Method : C:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration



Quantitation Report

Data File : c:\hpchem\1\data2\b7262.d Vial: 15
Acq On : 24 Nov 97 8:24 pm Operator: SCOTTV
Sample : 85741MSD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 25 14:41 1997

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.92	152	12945	40.00	ug/mL	-0.20
18) Naphthalene-d8	10.73	136	56726	40.00	ug/mL	-0.18
33) Acenaphthene-d10	15.98	164	46974	40.00	ug/mL	-0.18
51) Phenanthrene-d10	20.29	188	94442	40.00	ug/ml	-0.20
65) Chrysene-d12	28.23	240	59420	40.00	ug/mL	-0.20
74) Perylene-d12	32.18	264	23747	40.00	ug/mL	-0.23
System Monitoring Compounds						%Recovery
2) 2-Fluorophenol	3.59	112	3648	44.92	ug/mL	44.92%
3) Phenol-d5	6.86	99	23841	49.12	ug/mL	49.12%
19) Nitrobenzene-d5	8.79	82	22111	42.29	ug/mL	42.29%
37) 2-Fluorobiphenyl	14.21	172	55290	43.29	ug/mL	43.29%
55) 2,4,6-Tribromophenol	18.42	330	26427	60.72	ug/mL	60.72%
68) Terphenyl-d14	25.36	244	94514	61.74	ug/mL	61.74%
Target Compounds						Qvalue
4) N-nitrosodimethylamine	1.39	74	4802	27.12	ug/mlm	100
6) Phenol	6.90	94	23585	43.92	ug/mL	100
7) Benzyl alcohol	7.82	79	16297	44.95	ug/ml	95
8) bis(2-Chloroethyl)ether	6.62	93	13535	49.54	ug/mL	99
9) 2-Chlorophenol	6.60	128	18523	42.65	ug/mL	98
10) 1,3-Dichlorobenzene	6.78	146	15363	40.98	ug/mL	98
11) 1,4-Dichlorobenzene	6.98	146	17086	42.31	ug/mL	99
12) 1,2-Dichlorobenzene	7.51	146	16678	41.66	ug/mL#	98
13) 2-Methylphenol	8.57	108	17330	43.15	ug/mL	99
14) bis(2-chloroisopropyl)ethe	8.24	45	37151	49.78	ug/mL	97
15) 4-Methylphenol	9.04	108	19503	44.49	ug/mL	97
16) N-Nitroso-Di-n-propylamine	8.71	70	17234	51.50	ug/mL	95
17) Hexachloroethane	8.35	117	10936	47.60	ug/mLm	83
20) Nitrobenzene	8.85	77	23707	49.89	ug/mL	91
21) Isophorone	9.63	82	48698	52.85	ug/mL	97
22) 2-Nitrophenol	9.81	139	13819	36.98	ug/mL	95
23) 2,4-Dimethylphenol	10.46	107	24271	36.92	ug/mLm	99
24) bis(2-Chloroethoxy)methane	10.56	93	27295	49.03	ug/mL	96
25) 2,4-Dichlorophenol	10.71	162	22675	44.88	ug/mL	96
26) 1,2,4-Trichlorobenzene	10.69	180	25434	54.80	ug/mLm	99
27) Naphthalene	10.77	128	59636	42.16	ug/mL	97
28) 4-Chloroaniline	11.34	127	26490	37.20	ug/mL	97
29) Hexachlorobutadiene	11.46	225	13099	38.31	ug/mL	97
30) 4-Chloro-3-methylphenol	13.21	107	30287	49.24	ug/mL	94
31) 2-Chloronaphthalene	14.29	162	102460	88.24	ug/mlm	95
32) 2-Methylnaphthalene	12.86	142	45299	41.23	ug/mL	100
35) 2,4,6-Trichlorophenol	14.04	196	25310	54.11	ug/mLm	100
36) 2,4,5-Trichlorophenol	14.25	196	28740	56.13	ug/mL	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b7262.d Vial: 15
Acq On : 24 Nov 97 8:24 pm Operator: SCOTTV
Sample : 85741MSD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 25 14:41 1997

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

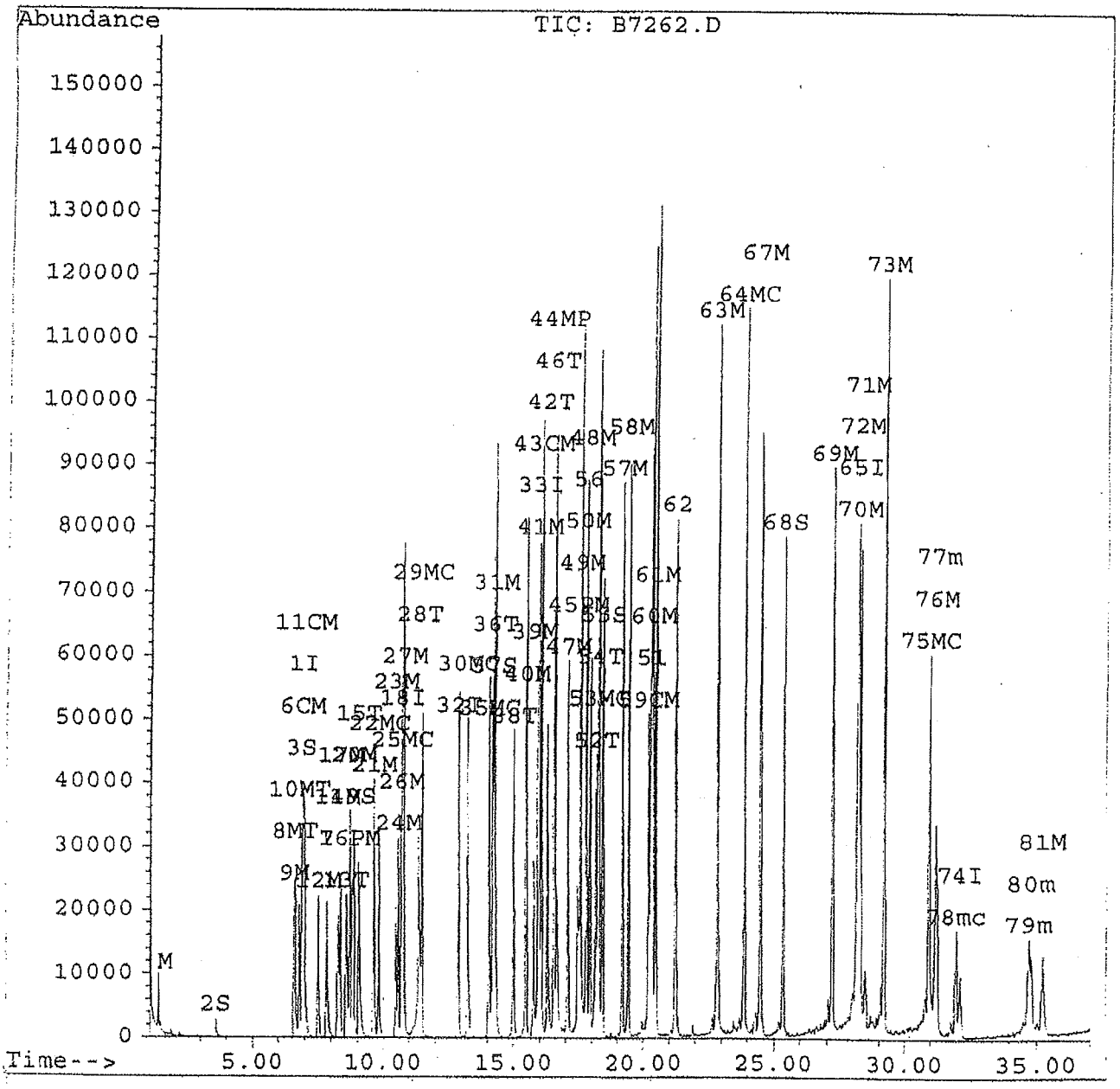
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
38)	2-Nitroaniline	15.00	65	29725	52.66	ug/mL	99
39)	Dimethylphthalate	15.77	163	24322	25.17	ug/mLm	0
40)	Acenaphthylene	15.49	152	102071	50.64	ug/mL#	98
41)	2,6-Dinitrotoluene	15.93	165	22865	73.09	ug/mLm	0
42)	3-Nitroaniline	16.30	138	20908	49.75	ug/mL	95
43)	Acenaphthene	16.06	153	68336	50.42	ug/mL	99
44)	2,4-Dinitrophenol	16.63	184	13164	46.89	ug/mL	91
45)	4-Nitrophenol	17.44	109	13644	50.31	ug/mL	90
46)	Dibenzofuran	16.57	168	101775	46.33	ug/mL	96
47)	2,4-Dinitrotoluene	17.08	165	28593	87.93	ug/mLm	0
48)	Diethylphthalate	17.95	149	66587	45.82	ug/mL	98
49)	Fluorene	17.58	166	91139	60.04	ug/mLm	98
50)	4-Chlorophenyl-phenylether	17.79	204	39478	49.82	ug/mL	99
52)	4-Nitroaniline	18.17	138	20969	62.64	ug/mL	89
53)	4,6-Dinitro-2-methylphenol	18.26	198	19722	54.58	ug/mL	100
54)	n-Nitrosodiphenylamine	18.28	169	57439	64.05	ug/mL	98
56)	1,2-Diphenylhydrazine (as	17.81	77	19860	9.81	ug/ml	100
57)	4-Bromophenyl-phenylether	19.19	248	29034	57.49	ug/mL	97
58)	Hexachlorobenzene	19.44	284	39212	51.59	ug/mL	96
59)	Pentachlorophenol	20.19	266	23694	54.12	ug/mL	98
60)	Phenanthrene	20.35	178	138727	57.59	ug/mL	99
61)	Anthracene	20.50	178	137192	69.77	ug/mLm	0
62)	Carbazole	21.25	167	117482	56.62	ug/ml	99
63)	Di-n-butylphthalate	22.83	149	194124	62.10	ug/mL	100
64)	Fluoranthene	23.89	202	145069	53.05	ug/mL	94
67)	Pyrene	24.48	202	151499	70.72	ug/mL	100
69)	Butylbenzylphthalate	27.23	149	69702	80.04	ug/mL	90
70)	Benzo[a]anthracene	28.19	228	112821	64.08	ug/mL	99
71)	3,3'-Dichlorobenzidine	28.47	252	11057	23.93	ug/mL	90
72)	Chrysene	28.29	228	86454	85.82	ug/mLm	99
73)	bis(2-Ethylhexyl)phthalate	29.23	149	104471	88.23	ug/mL#	40
75)	Di-n-octylphthalate	30.98	149	104631	88.40	ug/mL	100
76)	Benzo[b]fluoranthene	31.22	252	72027	66.80	ug/mLm	99
77)	Benzo[k]fluoranthene	31.28	252	33367	50.65	ug/mLm	98
78)	Benzo[a]pyrene	32.01	252	35126	58.64	ug/mL	97
79)	Indeno[1,2,3-cd]pyrene	34.72	276	36334	85.55	ug/mL	95
80)	Dibenz[a,h]anthracene	34.80	278	30307	85.56	ug/mL	96
81)	Benzo[g,h,i]perylene	35.23	276	34693	101.23	ug/mLm	0

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : c:\hpchem\1\data2\b7262.d Vial: 15
Acq On : 24 Nov 97 8:24 pm Operator: SCOTTV
Sample : 85741MSD..... Converted from RTE d Inst : ABNA
Misc : BT Multiplr: 1.00
Quant Time: Nov 25 14:41 1997

Method : c:\HPCHEM\1\METHODS\BNACLP.M
Title : CLP BNA Calibration
Last Update : Wed Nov 05 12:20:55 1997
Response via : Multiple Level Calibration

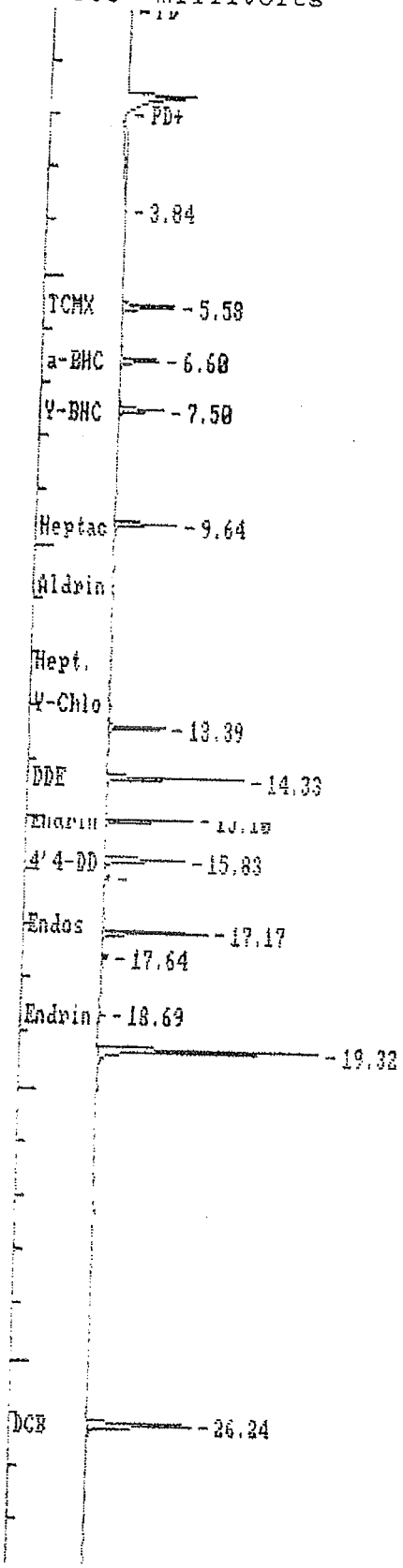


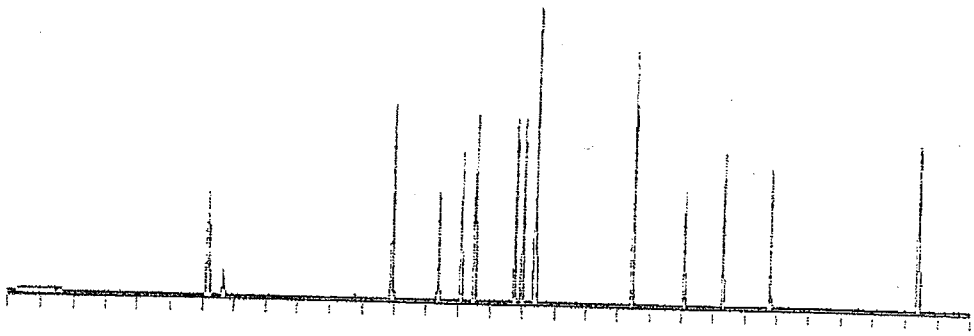
6	13.393	Endosulfan I	19.8340	3.8395%	J	72513	20626	3.5 1	0	0	2.7352E-04
7	14.329	Dieldrin	40.0312	7.7494%	J	168451	49680	3.4 1	0	0	2.3764E-04
8	15.097	Endrin	37.9400	7.3446%	J	111126	31503	3.5 1	0	0	3.4141E-04
9	15.832	4'4-DDD	38.5265	7.4581%	J	114115	29099	3.9 2	0	0	3.3761E-04
10	16.166	Endrin ald	3.1120	0.6024%		9336	2170	4.3 2	0	1027	3.3333E-04
	17.168	DDT	42.7859	8.2826%	J	135289	37977	3.6 1	0	0	3.1626E-04
	17.635		0.0000	0.0000%		9779	2289	4.3 1			1.0000E-09
13	18.687	Endrin ket.	2.8570	0.5531%		8182	2175	3.8 1	0	0	3.4916E-04
14	19.322	Methoxychlor	211.0378	40.8534%	J	328586	80677	4.1 1	0	0	6.4226E-04
15	26.236	DCB	39.3247	7.6126%	J	203191	37944	5.4 1	0	0	1.9354E-04

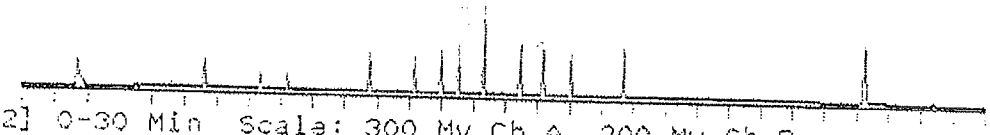
TOTAL AMOUNT = 516.5736

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E182.ATB
ta File = D:NV14E182.PTS Printed on 11-25-1997 at 20:02:28
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts







[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
INDB 20-40 Processed: 11-25-1997 19:28:13, segment 8, cycle 181
RAW DATA SAVED IN FILE D:NV14E181.PTS Second Channel Stored in D:NV14E181.PTS

EXTERNAL STANDARD TABLE

11-25-1997 19:29:20 Version 5.1.5

Sample Name: INDB 20-40
Data File: D:NV14E181
Date: 11-25-1997 18:57:36 Method: M:APES-E 11-25-1997 14:16:36 # 399
Interface: 2 Cycle#: 181 Operator JJK Channel#: 0 Vial#: N.A.
Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
Instrument Type: PE 8500 Column Type: RTX 5/1701
Solvent Description:
Conditions:
Detector 0: Detector 1: ECD
Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

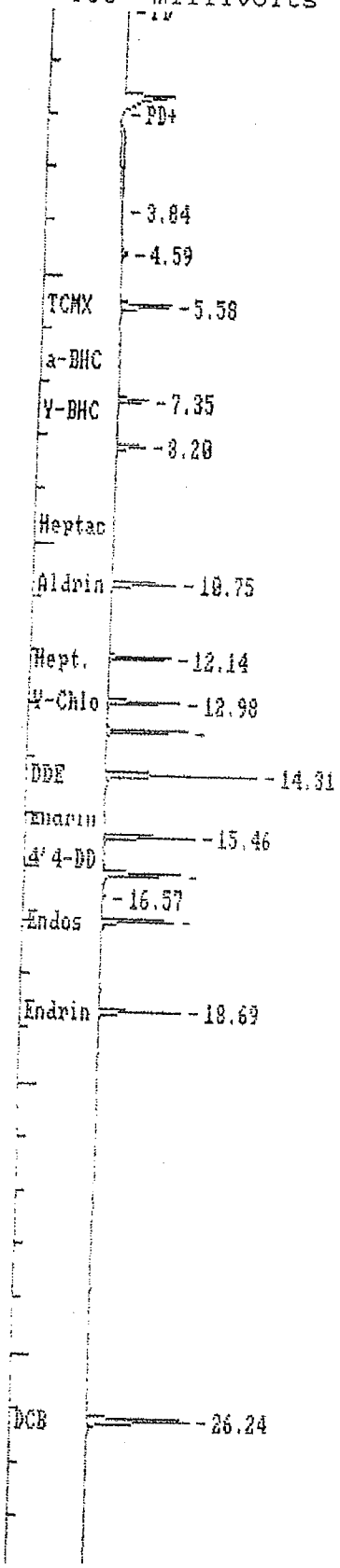
NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.841		0.0001	0.0000%	121270	803	151.1 2			1.0000E-09
2	4.592		0.0000	0.0000%	11078	1912	5.8 2			1.0000E-09
3	5.578	TCMX	21.0515	5.7194%	93132	18802	5.0 1	0	.3201	2.2604E-04

6	10.755 Aldrin	19.3949	5.2693%	√	87200	23890	3.7 1	0	0	2.2242E-04
7	12.141 Hept. epox.	19.5456	5.3102%	√	79629	22729	3.5 1	0	0	2.4546E-04
8	12.976 Y-Chlordane	20.1939	5.4864%	√	101353	26966	3.8 1	0	.1304	1.9924E-04
9	13.510 a-Chlordane	20.2201	5.4935%	√	104073	29884	3.5 1	0	0	1.9429E-04
10	14.312 DDE	39.2777	10.6711%	√	202359	56131	3.6 1	0	0	1.9410E-04
11	15.464 Endosif II	37.9717	10.3163%	√	118510	33442	3.5 1	0	.1113	3.2041E-04
12	16.166 Endrin ald	37.6655	10.2331%	√	112997	28594	4.0 1	0	.1027	3.3333E-04
13	16.566	0.0000	0.0000%		4933	1298	3.8 1			1.0000E-09
14	17.017 Endos sulf	36.9254	10.0320%	√	100733	26575	3.8 1	0	0	3.6657E-04
15	18.687 Endrin ket.	37.7055	10.2440%	√	107989	30466	3.5 1	0	0	3.4916E-04
16	26.236 DCB	39.0821	10.6180%	√	201937	37768	5.3 1	0	0	1.9354E-04

TOTAL AMOUNT = 368.0751

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Areas, times, and heights stored in: D:NV14E181.ATB
Data File = D:NV14E181.PTS Printed on 11-25-1997 at 19:29:44
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-25-1997 20:20:48 Version 5.1.5

* Sample Name: INDA 20-200
* Date: 11-25-1997 19:30:18 Method: M:BPES-E 11-25-1997 14:16:47 # 392
* Interface: 2 Cycle#: 182 Operator JJK Channel#: 1 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Data File: D:\V14E182

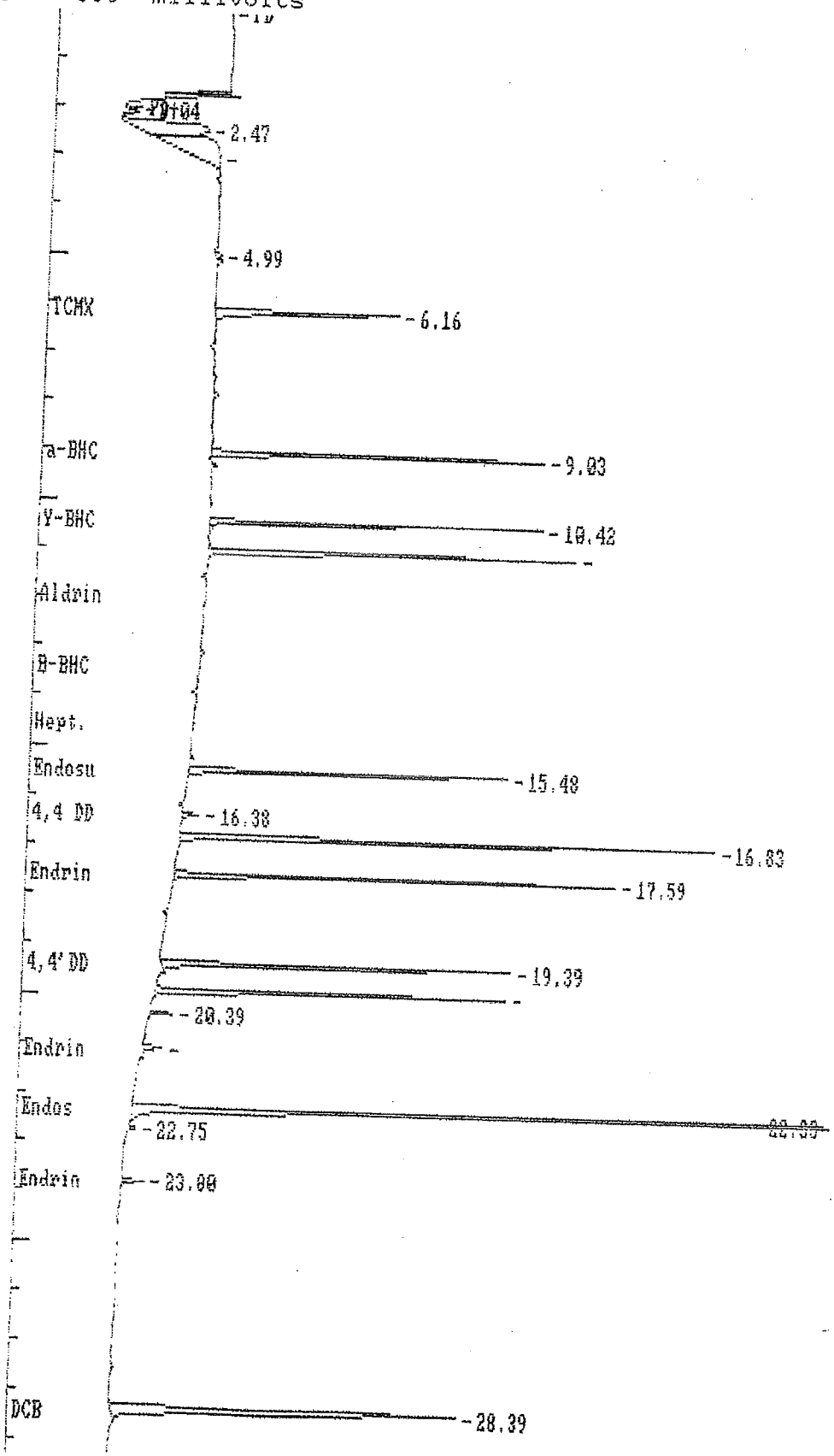
Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.037		0.0000	0.0000%	9179	2489	3.7	1			1.0000E-09
2	2.472		0.0004	0.0001%	400563	25677	15.6	2			1.0000E-09
3	3.023		0.0005	0.0001%	469608	7707	60.9	2			1.0000E-09
4	4.993		0.0000	0.0000%	10721	2103	5.1	1			1.0000E-09
	6.162	TCMX	22.5407	4.0778%	✓354204	74175	4.8	1	0	.5269	6.3638E-05
6	9.035	a-BHC	21.4353	3.8779%	✓469133	133769	3.5	1	0	0	4.5691E-05
7	10.421	Y-BHC	22.0375	3.9868%	✓459129	133350	3.4	1	0	0	4.7998E-05
8	11.022	Heptachlor	22.3860	4.0499%	✓542995	147020	3.7	1	0	0	4.1227E-05
9	15.481	Endosulf I	22.0419	3.9876%	✓441918	127387	3.5	1	0	0	4.9878E-05
10	16.382	4,4 DDE	1.3438	0.2440%	24027	6691	3.6	1	0	0	5.6139E-05
11	16.834	Dieldrin	44.1162	7.9811%	✓777989	213989	3.6	1	0	0	5.6705E-05
12	17.565	Endrin	42.1217	7.6202%	✓610428	175620	3.5	1	0	0	6.9004E-05
13	19.389	4,4'DDD	40.6870	7.3607%	✓491816	139166	3.5	1	0	0	8.4445E-05
14	19.923	4,4 DDT	44.3835	8.0294%	✓491592	139462	3.5	1	0	0	9.0285E-05
15	20.391		0.0000	0.0000%	28001	9232	3.0	1			1.0000E-09
16	21.092	Endrin ald	3.0310	0.5483%	30441	7668	4.0	1	0	0	9.9572E-05
17	22.328	Methoxychl	221.7220	40.1118%	✓1207720	301069	4.0	1	0	0	1.8359E-04
18	22.745		0.0000	0.0000%	10343	3003	3.4	1			1.0000E-09
19	23.797	Endrin ket	2.9661	0.5366%	35560	8827	4.0	1	0	0	8.3410E-05
20	28.390	DCB	41.9419	7.5877%	✓ 858048	137281	6.3	1	0	0	4.8881E-05

TOTAL AMOUNT = 552.7606

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E182.PTS Printed on 11-25-1997 at 20:20:57 460
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-25-1997 20:19:57 Version 5.1.5 **********

* Sample Name: INDB 20-40
* Date: 11-25-1997 18:57:36 Method: M:BPES-E 11-25-1997 14:16:47 # 392
* Interface: 2 Cycle#: 181 Operator JJK Channel#: 1 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Data File: D:OV14E181

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

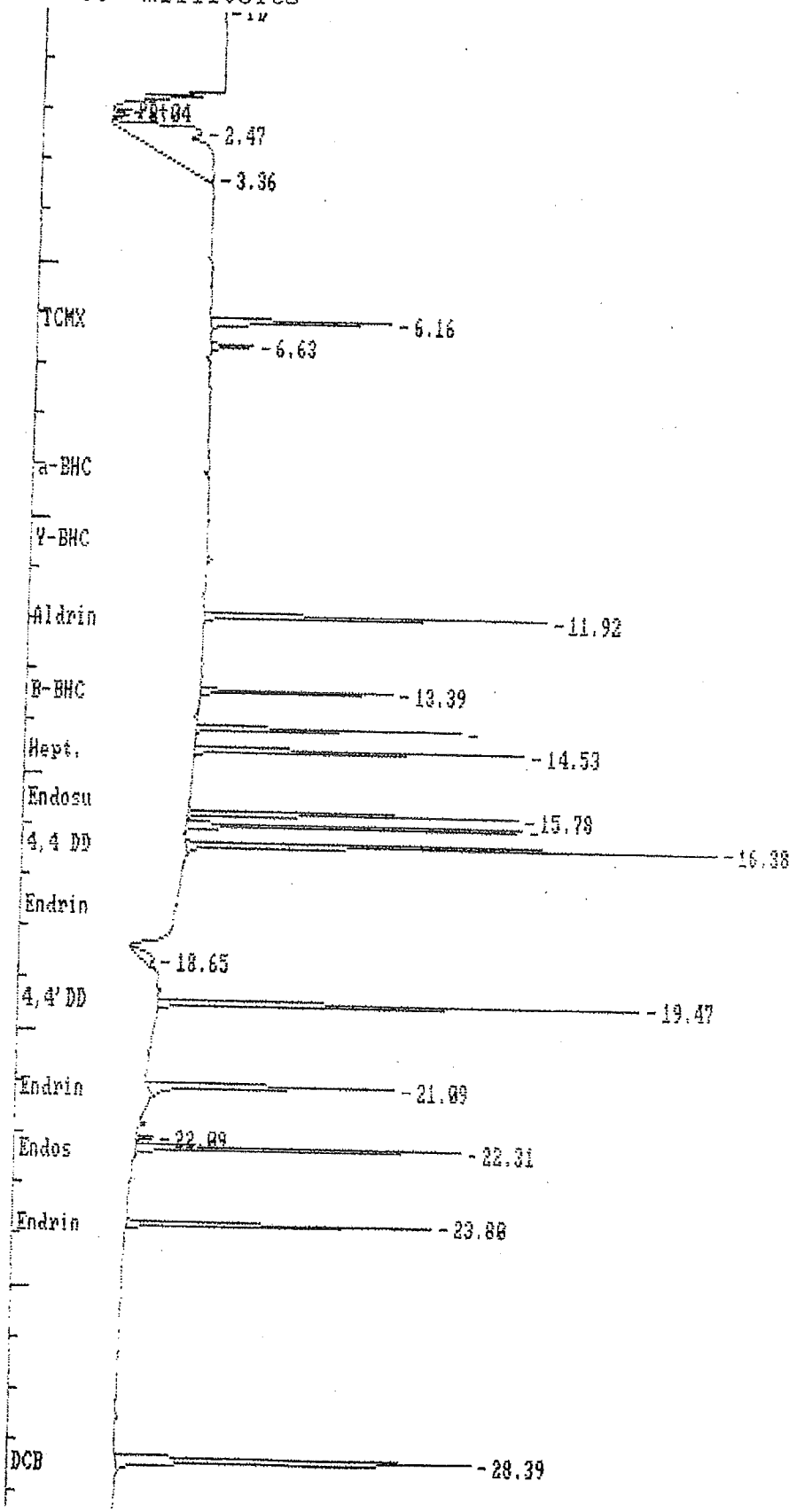
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.037		0.0000	0.0000%	9766	2491	3.9	1			1.0000E-09
2	2.472		0.0004	0.0001%	424296	27389	15.5	3			1.0000E-09
3	3.357		0.0007	0.0002%	721427	3043	236.7	4			1.0000E-09
4	6.162 TCMX		22.3189	5.5700%	J 350718	71008	4.9	1	0	.5269	6.3638E-05
5	6.630		0.0001	0.0000%	70917	17017	4.2	1			1.0000E-09
	11.924 Aldrin		21.7014	5.4160%	J 480210	133325	3.6	1	0	0	4.5190E-05
	13.393 B-BHC		21.6410	5.4009%	J 247162	74795	3.3	1	0	0	8.7558E-05
8	14.111 D-BHC		21.0691	5.2582%	J 334093	102940	3.2	1	0	0	6.3064E-05
9	14.529 Hept. epox.		21.6805	5.4107%	J 458976	128208	3.6	1	0	0	4.7237E-05
10	15.731 Y-Chlordane		21.5861	5.3872%	J 467576	128697	3.6	2	0	.1046	4.6165E-05
11	15.999 A-Chlordane		21.7825	5.4362%	J 488648	131064	3.7	2	0	0	4.4577E-05
12	16.383 4,4 DDE		42.4848	10.6028%	J 756782	205211	3.7	1	0	0	5.6139E-05
13	19.634		0.0001	0.0000%	58300	3483	16.7	1			1.0000E-09
14	19.472 EndosIfII		41.9711	10.4746%	J 672923	186312	3.6	1	0	0	6.2371E-05
15	21.092 Endrin ald		39.9894	9.9800%	J 401613	95615	4.2	1	0	0	9.9572E-05
16	22.094		0.0000	0.0000%	27274	6592	4.1	2			1.0000E-09
17	22.311 Endos sulf		40.9994	10.2321%	J 461120	126245	3.7	2	0	0	8.8913E-05
18	23.797 Endrin ket		41.6872	10.4038%	J 499788	118382	4.2	1	0	0	8.3410E-05
19	28.390 DCB		41.7812	10.4272%	J 854760	137879	6.2	1	0	0	4.8881E-05

TOTAL AMOUNT = 400.6938

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E181.PTS Printed on 11-25-1997 at 20:20:02
art time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
ull Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-2

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85731

Sample wt/vol: 1000 (g/mL) mL Lab File ID: D:NV14E161

% Moisture N/A decanted: (Y/N) N Date Received:

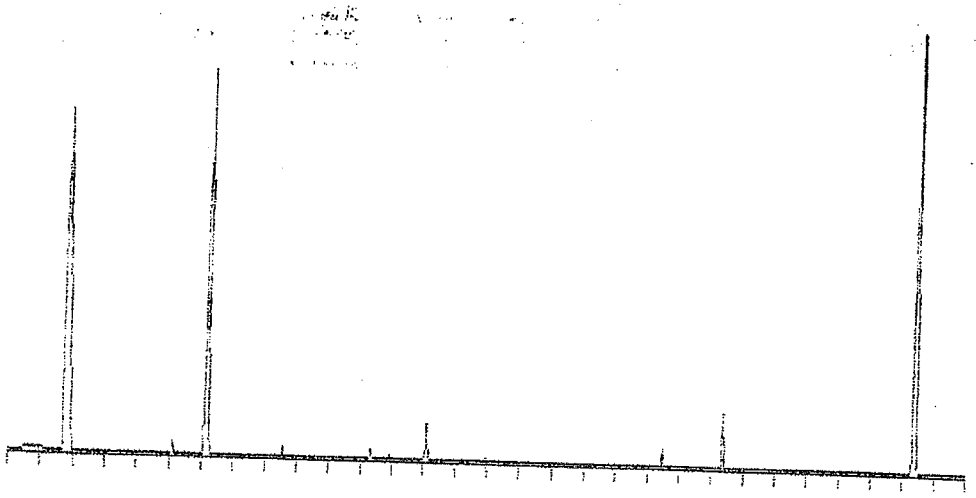
Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

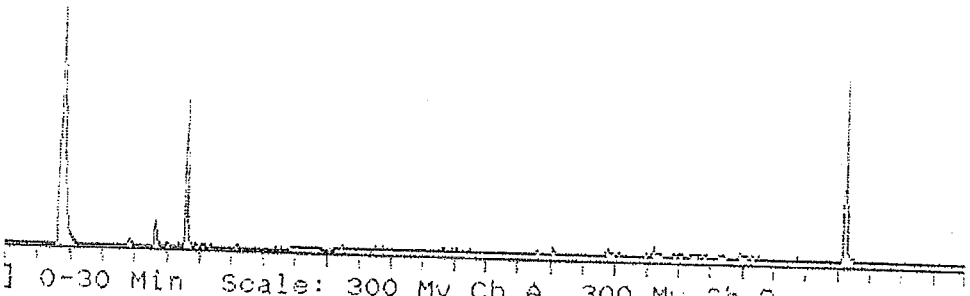
Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U



clean



[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
85731 P/P Processed: 11-25-1997 00:42:31, segment 3, cycle 161
RAW DATA SAVED IN FILE D:NV14E161.PTS Second Channel Stored in D:NV14E161.PTS

EXTERNAL STANDARD TABLE

11-25-1997 00:43:36 Version 5.1.5

Sample Name: 85731 P/P
Data File: D:NV14E161
Date: 11-25-1997 00:11:53 Method: M:APES-E 11-21-1997 22:31:52 # 393
Interface: 2 Cycle#: 161 Operator JJK Channel#: 0 Vial#: N.A.
Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
Instrument Type: PE 8500 Column Type: RTX 5/1701
Solvent Description:
Conditions:
Detector 0: Detector 1: ECD
Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

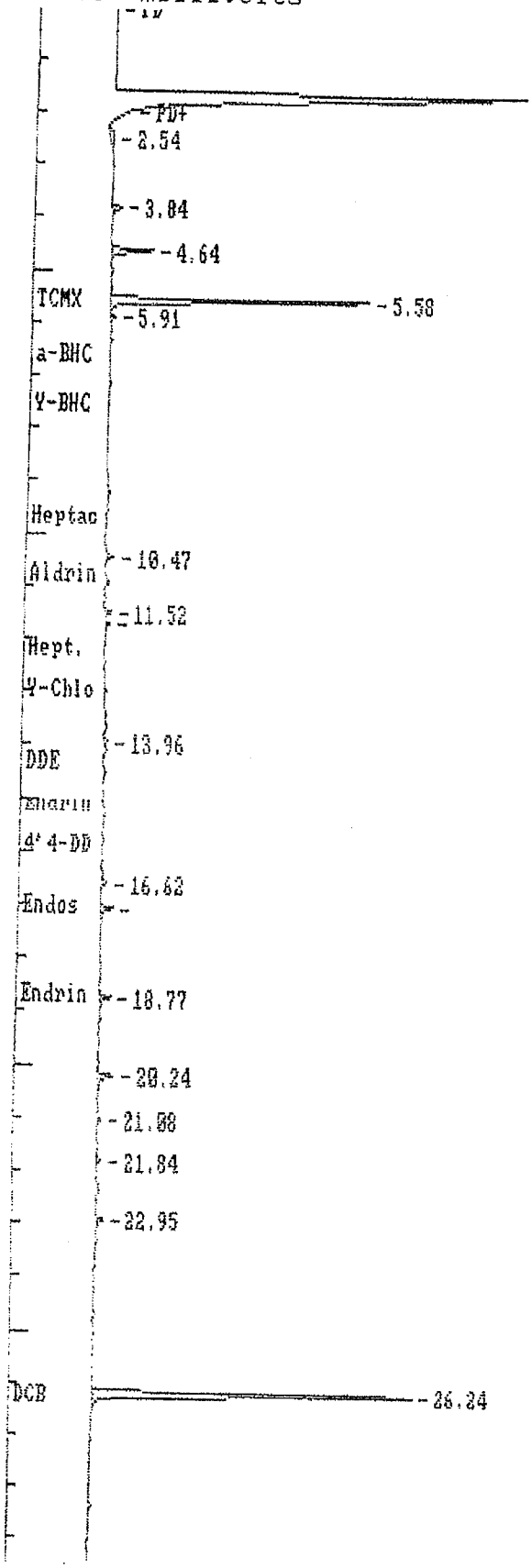
	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
	2.538		0.0000	0.0000%	31502	1369	23.0	1			1.0000E-09
2	3.841		0.0000	0.0000%	21847	3710	5.9	1			1.0000E-09
3	4.643		0.0001	0.0000%	79604	15891	5.0	1			1.0000E-09
4	5.578	TCMX	104.6807	43.8960%	463108	97601	4.7	2	0	.3201	2.2604E-04

7	11.523	0.0000	0.0000%	11498	2534	4.5	1			1.0000E-09
8	11.757	0.0000	0.0000%	8028	1831	4.4	1			1.0000E-09
9	13.961	0.0000	0.0000%	7282	1678	4.3	1			1.0000E-09
10	16.616	0.0000	0.0000%	10460	2199	4.8	1			1.0000E-09
11	17.101 DBT	6.4529	2.7059%	20404	4595	4.4	1	0	-.3914	3.1626E-04
	18.771 Endrin ket.	5.6530	2.3705%	16190	3969	4.1	1	0	.4484	3.4916E-04
	20.240	0.0000	0.0000%	28805	5999	4.8	1			1.0000E-09
14	21.075	0.0000	0.0000%	5726	1378	4.2	1			1.0000E-09
15	21.844	0.0000	0.0000%	6811	1594	4.3	1			1.0000E-09
16	22.946	0.0000	0.0000%	13790	2420	4.5	1			1.0000E-09
17	26.036 DDB	121.6873	51.0274%	608759	120842	5.2	1	0	0	1.9354E-04

TOTAL AMOUNT = 238.4743

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Areas, times, and heights stored in: D:NV14E161.ATB
Data File = D:NV14E161.PTS Printed on 11-25-1997 at 00:43:59
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-3

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85732

Sample wt/vol: 990 (g/mL) mL Lab File ID: D:NV14E162

% Moisture N/A decanted: (Y/N) N Date Received:

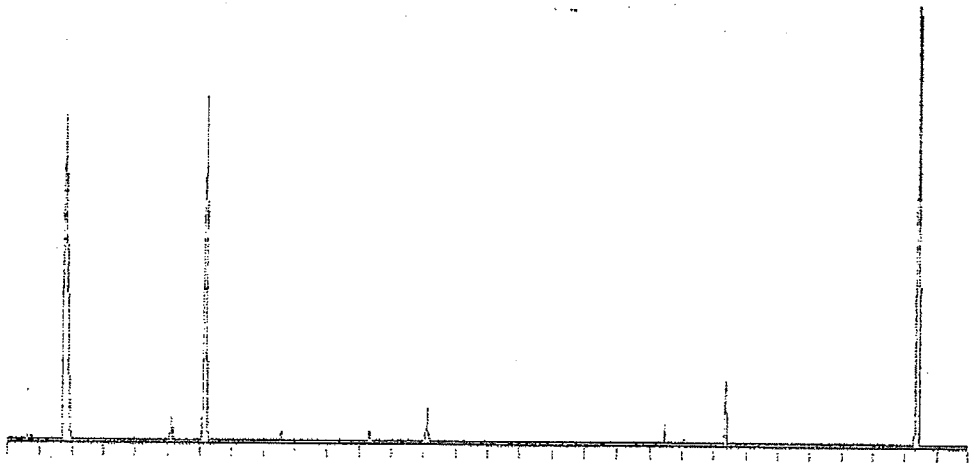
Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

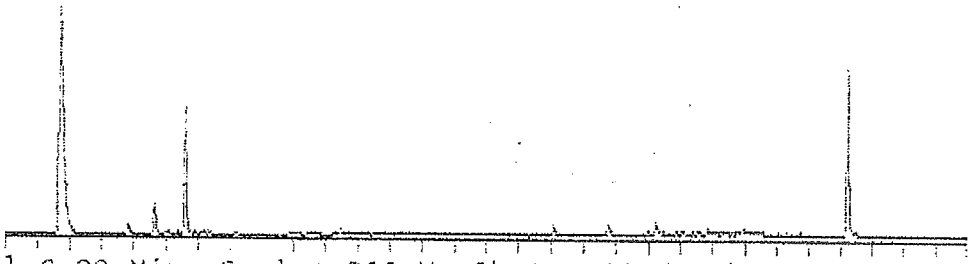
Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U





[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
85732 P/P Processed: 11-25-1997 01:15:12, segment 4, cycle 162
RAW DATA SAVED IN FILE D:NV14E162.PTS Second Channel Stored in D:\V14E162.PTS

EXTERNAL STANDARD TABLE

11-25-1997 01:16:17 Version 5.1.5

Sample Name: 85732 P/P Data File: D:NV14E162

Date: 11-25-1997 00:44:35 Method: M:APES-E 11-21-1997 22:31:52 # 398

Interface: 2 Cycle#: 162 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

Sample Weight: 1.00000

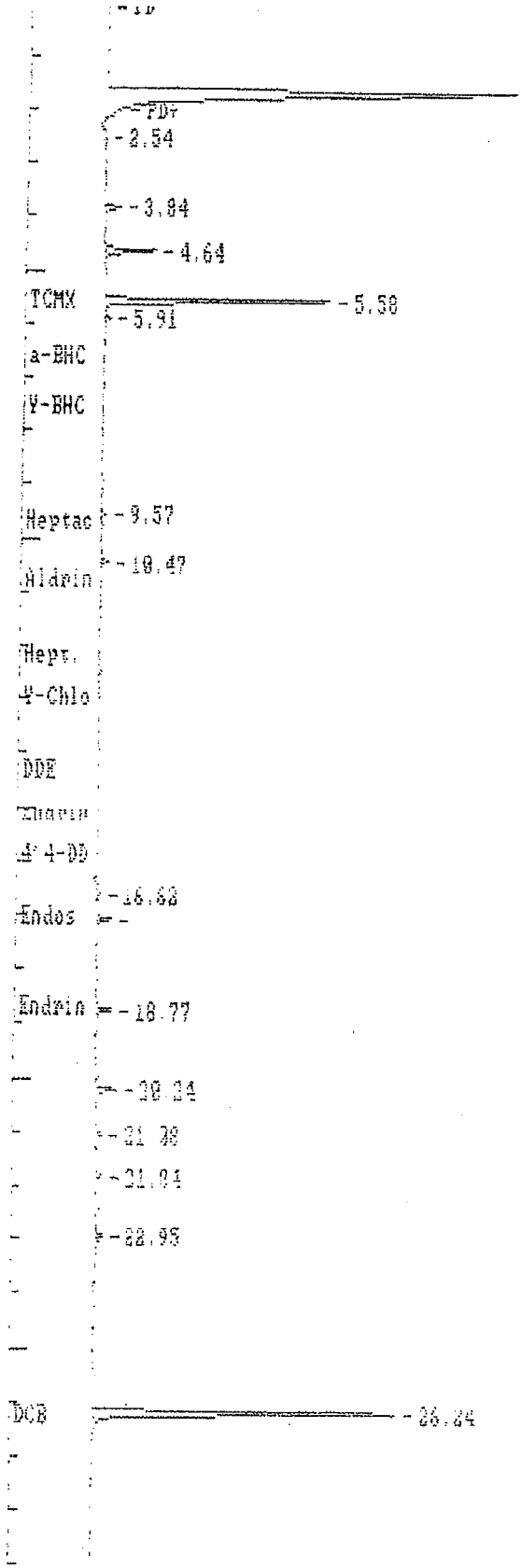
NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.538		0.0000	0.0000%	27356	1210	22.6	1			1.0000E-09
2	3.841		0.0000	0.0000%	33858	5893	5.7	1			1.0000E-09
3	4.643		0.0001	0.0000%	93336	19058	4.9	1			1.0000E-09
4	5.578	TCMX	88.5038	40.7950%	391541	83197	4.7	2	0	.3201	2.2604E-04

7	10.471	0.0000	0.0000%	12032	2815	4.3	1			1.0000E-09
8	16.616	0.0000	0.0000%	5229	1369	3.8	1			1.0000E-09
9	17.101 DDT	7.0764	3.2618%	22376	5269	4.2	1	0	-.3914	3.1626E-04
10	18.771 Endrin ket.	7.7823	3.5872%	22288	5464	4.1	1	0	.4484	3.4916E-04
11	20.240	0.0000	0.0000%	36901	7542	4.9	1			1.0000E-09
	21.075	0.0000	0.0000%	7471	1939	3.9	1			1.0000E-09
	21.844	0.0000	0.0000%	9485	2235	4.2	1			1.0000E-09
14	22.946	0.0000	0.0000%	9773	2190	4.5	1			1.0000E-09
15	26.236 DDE	111.5559	51.4207%	576410	110746	5.2	1	0	0	1.9354E-04

TOTAL AMOUNT = 216.9475

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E162.ATB
ta File = D:NV14E162.PTS Printed on 11-25-1997 at 01:16:40
art time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
ll Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85733

Sample wt/vol: 930 (g/mL) mL Lab File ID: D:NV14E163

% Moisture N/A decanted: (Y/N) N Date Received:

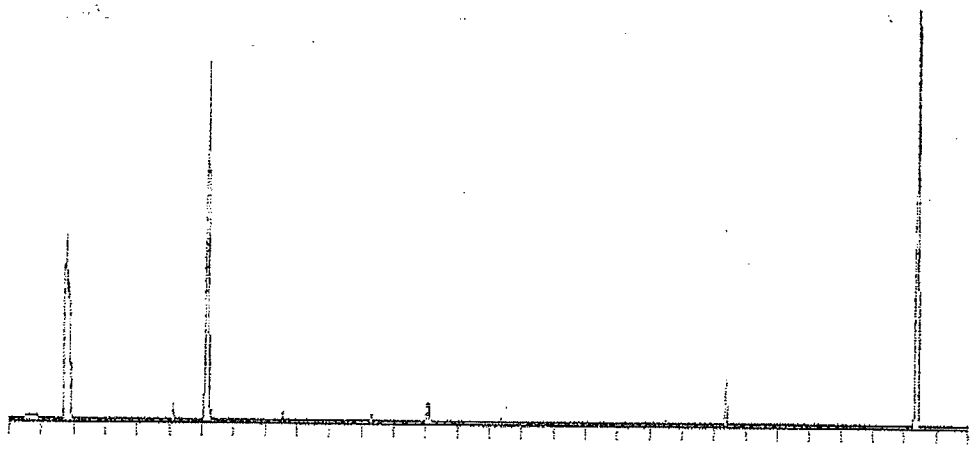
Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U



[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
85733 P/P Processed: 11-25-1997 01:47:50, segment 5, cycle 163
RAW DATA SAVED IN FILE D:NV14E163.PTS Second Channel Stored in D:CV14E163.PTS

***** EXTERNAL STANDARD TABLE *****

********** 11-25-1997 01:48:57 Version 5.1.5 **********

* Sample Name: 85733 P/P Data File: D:NV14E163 *
* Date: 11-25-1997 01:17:14 Method: M:APES-E 11-21-1997 22:31:52 # 393 *
* Interface: 2 Cycle#: 163 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

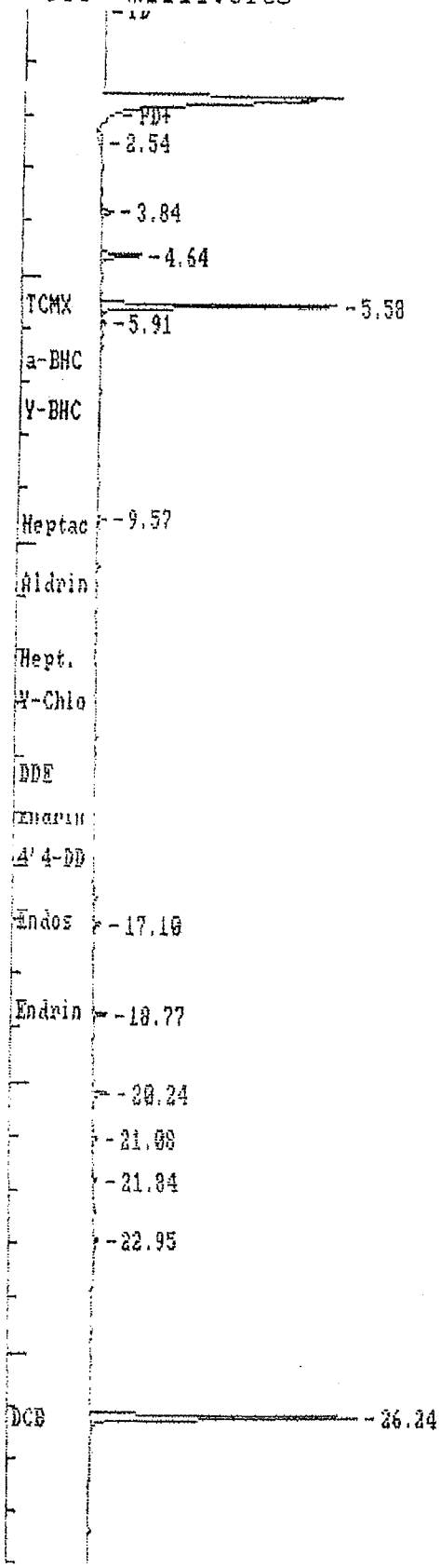
PK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.538		0.0000	0.0000%	27403	1275	21.5	1			1.0000E-09
2	3.841		0.0000	0.0000%	25024	4372	5.7	1			1.0000E-09
3	4.643		0.0001	0.0000%	73122	15011	4.9	1			1.0000E-09
4	5.578	TCMX	92.4121	45.0081%	408832	87727	4.7	2	0	.3201	2.2604E-04

7	17.101	OBJ	4.1948	2.0430%	13264	3055	4.3	1	0	-.3914	3.1626E-04
8	18.771	Endrin ket.	6.8797	3.3506%	19703	4816	4.1	1	0	.4484	3.4916E-04
9	20.240		0.0000	0.0000%	29178	6089	4.8	1			1.0000E-09
10	21.075		0.0000	0.0000%	6845	1727	4.0	1			1.0000E-09
11	21.844		0.0000	0.0000%	8509	1956	4.4	1			1.0000E-09
	22.946		0.0000	0.0000%	8219	1853	4.4	1			1.0000E-09
	26.236	DCB	98.9631	48.1985%	511342	98354	5.2	1	0	0	1.9354E-04

TOTAL AMOUNT = 205.3240

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E163.ATB
Data File = D:NV14E163.PTS Printed on 11-25-1997 at 01:49:21
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85734

Sample wt/vol: 990 (g/mL) mL Lab File ID: D:NV14E164

% Moisture N/A decanted: (Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

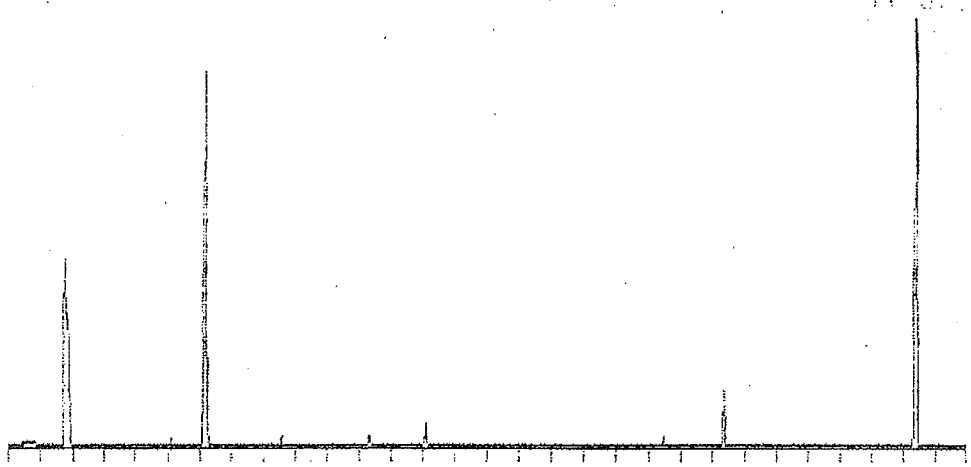
Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

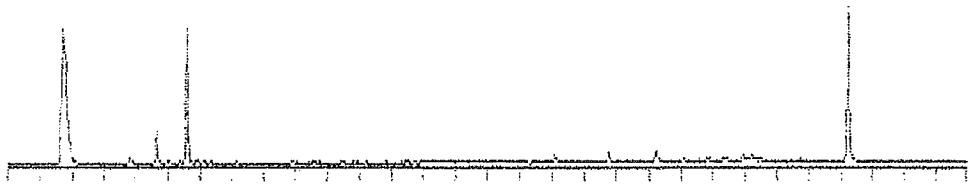
GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.05	
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

470



~ 0.05



[Interface 2] 0-30 Min Scale: 300 MV Ch.A, 300 Mv Ch.B
85734 P/P Processed: 11-25-1997 02:20:32, segment 6, cycle 164
RAW DATA SAVED IN FILE D:NV14E164.PTS Second Channel Stored in D:0V14E164.PTS

EXTERNAL STANDARD TABLE

********** 11-25-1997 02:21:39 Version 5.1.5 **********

* Sample Name: 85734 P/P Data File: D:NV14E164 *
* Date: 11-25-1997 01:49:55 Method: M:APES-E 11-21-1997 22:31:52 # 398 *
* Interface: 2 Cycle#: 164 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

****

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

****

Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

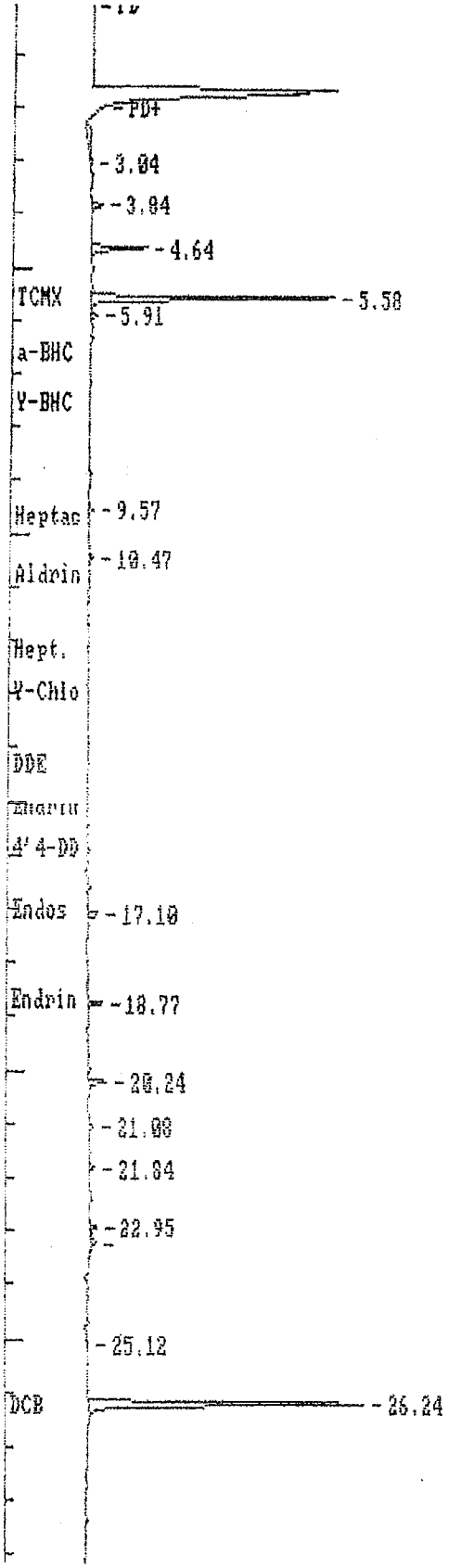
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC.	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.039		0.0001	0.0000%	52747	798	66.1	1			1.0000E-09
2	3.841		0.0000	0.0000%	25094	4294	5.8	1			1.0000E-09
3	4.643		0.0001	0.0000%	100354	20497	4.9	1			1.0000E-09

7	10.471	0.0000	0.0000%	6580	1619	4.1	1			1.0000E-09
8	17.101 DDT	7.5248	3.4895%	23793	3886	6.1	1	0	-.3914	3.1626E-04
9	18.771 Endrin ket.	7.4503	3.4550%	21338	5247	4.1	1	0	.4484	3.4916E-04
10	20.240	0.0000	0.0000%	32685	6754	4.8	1			1.0000E-09
11	21.075	0.0000	0.0000%	7482	1851	4.0	1			1.0000E-09
	21.844	0.0000	0.0000%	9528	2180	4.4	1			1.0000E-09
	22.946	0.0000	0.0000%	12117	2702	4.5	1			1.0000E-09
14	23.230	0.0000	0.0000%	9841	2125	4.6	1			1.0000E-09
15	25.117	0.0000	0.0000%	13913	697	19.9	1			1.0000E-09
16	26.236 DCB	102.5573	47.5597%	529914	102548	5.2	1	0	0	1.9354E-04

TOTAL AMOUNT = 215.6391

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E164.ATB
Data File = D:NV14E164.PTS Printed on 11-25-1997 at 02:22:03 481
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mV.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

********** 11-25-1997 02:22:12 Version 5.1.5 **********

* Sample Name: 85734 P/P Data File: D:0V14E164 *
* Date: 11-25-1997 01:49:55 Method: M:BPES-E 11-03-1997 18:46:51 # 389 *
* Interface: 2 Cycle#: 164 Operator JJK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

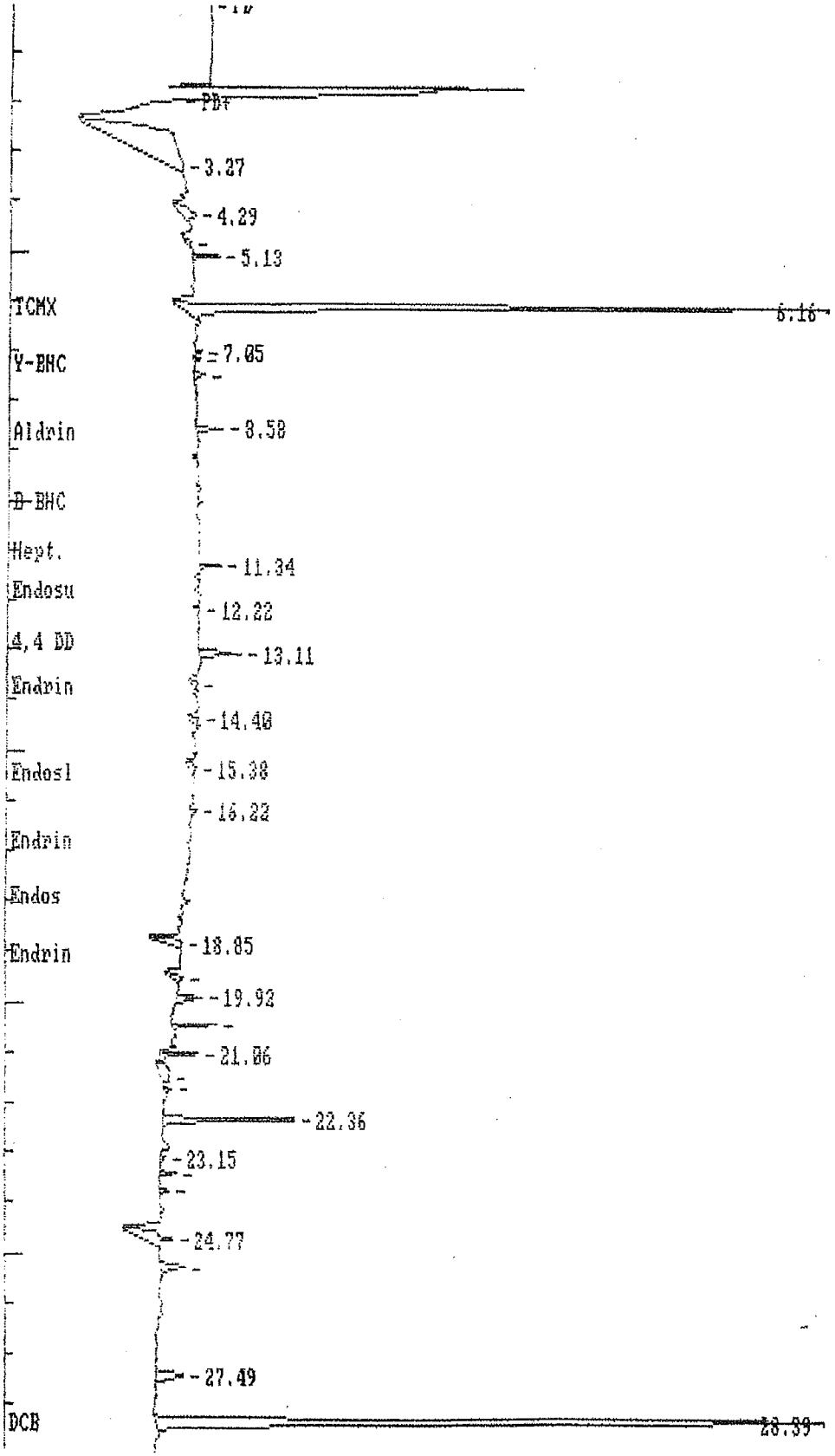
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.273		0.0001	0.0001%	895788	5218	171.7	1			1.0000E-09
2	4.292		0.0001	0.0000%	81041	5273	15.4	1			1.0000E-09
3	4.843		0.0000	0.0000%	8560	1507	5.7	1			1.0000E-09
4	5.127		0.0000	0.0000%	39671	11163	3.6	1			1.0000E-09
	6.162	TCMX	462.3661	50.9647%	1440270	262035	5.5	1	0	.5269	3.2103E-04
	7.047		0.0000	0.0000%	11920	3273	3.6	1			1.0000E-09
7	7.181	Y-BHC	4.3555	0.4801%	11455	2654	4.3	1	0	-.9243	3.8023E-04
8	7.498		0.0000	0.0000%	23266	4943	4.7	1			1.0000E-09
9	8.584	Aldrin	13.3526	1.4718%	40392	11193	3.6	1	0	-.1883	3.3058E-04
10	11.339		0.0000	0.0000%	37311	8830	4.2	1			1.0000E-09
11	12.224	Y-Chlordane	3.7004	0.4079%	13947	2017	6.9	1	0	.3696	2.6532E-04
12	13.109	Dieldrin	30.6035	3.3733%	91688	16745	5.5	1	0	.5093	3.3378E-04
13	13.694	Endrin	5.1036	0.5626%	13872	1899	7.3	1	0	0	3.6792E-04
14	14.395		0.0000	0.0000%	16277	3187	5.1	1			1.0000E-09
15	15.381	EndoslfII	9.4685	1.0437%	28813	2611	11.0	1	0	-.4292	3.2862E-04
16	16.216	4,4 DDT	6.4150	0.7071%	11643	2798	4.2	1	0	.9380	5.5096E-04
17	18.854	Endrin ket	18.6503	2.0558%	53750	4532	11.9	1	0	-.9649	3.4698E-04
18	19.539		0.0000	0.0000%	28075	3472	8.1	1			1.0000E-09
19	19.923	DDT 5.29	0.0001 0.05	0.0000%	58668	10674	5.5	1			1.0000E-09
20	20.491		0.0001	0.0000%	70166	18071	3.9	1			1.0000E-09
21	21.059		0.0001	0.0000%	75490	16117	4.7	1			1.0000E-09
22	21.310		0.0001	0.0000%	85546	3693	23.2	1			1.0000E-09
23	21.760		0.0000	0.0000%	13071	2839	4.6	1			1.0000E-09
24	22.361		0.0002	0.0000%	243964	52017	4.7	1			1.0000E-09
25	23.146		0.0000	0.0000%	11052	2104	5.3	1			1.0000E-09
26	23.447		0.0000	0.0000%	27023	6906	3.9	1			1.0000E-09
27	23.781		0.0000	0.0000%	18408	4085	4.5	1			1.0000E-09
28	24.766		0.0001	0.0000%	139188	9338	14.9	1			1.0000E-09
29	25.317		0.0001	0.0000%	62413	9581	6.5	1			1.0000E-09
	27.486		0.0001	0.0000%	106052	11162	9.5	1			1.0000E-09
	28.390	DCB	353.2137	38.9330%	1896389	307399	6.2	1	0	.1057	1.8625E-04
32	29.826		0.0001	0.0000%	114906	3249	35.4	1		-	1.0000E-09

TOTAL AMOUNT = 907.2282

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Areas, times, and heights stored in: D:0V14E164.ATB
Data File = D:0V14E164.PTS Printed on 11-25-1997 at 02:22:43
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mV.
Full Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-7

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85735

Sample wt/vol: 950 (g/mL) mL Lab File ID: D:NV14E165

% Moisture N/A decanted: (Y/N) N Date Received:

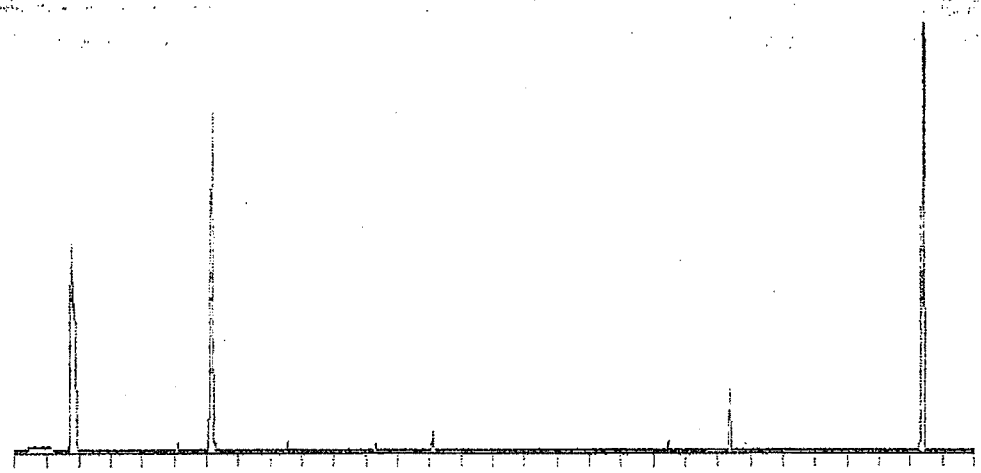
Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

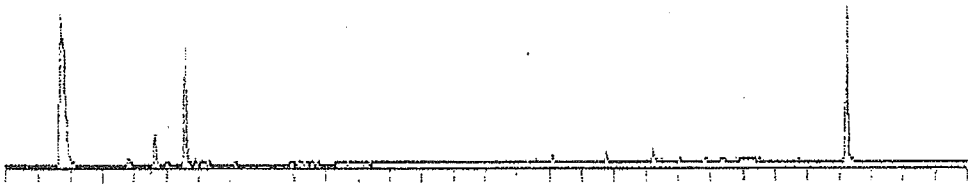
Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U





[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
85735 P/P Processed: 11-25-1997 02:53:08, segment 7, cycle 165
RAW DATA SAVED IN FILE D:NV14E165.PTS Second Channel Stored in D:OV14E165.PTS

EXTERNAL STANDARD TABLE

********** 11-25-1997 02:54:15 Version 5.1.5 **********

* Sample Name: 85735 P/P Data File: D:NV14E165 *
* Date: 11-25-1997 02:22:31 Method: M:APES-E 11-21-1997 22:31:52 # 398 *
* Interface: 2 Cycle#: 165 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.039		0.0001	0.0000%	52715	880	59.9	1			1.0000E-09
2	3.841		0.0000	0.0000%	23022	3996	5.8	1			1.0000E-09
3	4.643		0.0001	0.0001%	99036	20248	4.9	1			1.0000E-09
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	.3201	2.2604E-04

7	11.523	0.0000	0.0000%	6600	1426	4.6	1			1.0000E-09
8	16.616	0.0000	0.0000%	6081	1494	4.1	1			1.0000E-09
9	17.101 DAI	5.5723	2.8174%	17620	4119	4.3	1	0	-.3914	3.1626E-04
10	18.771 Endrin ket.	6.9598	3.5189%	19933	4918	4.1	1	0	.4484	3.4916E-04
11	20.240	0.0000	0.0000%	34451	7212	4.8	1			1.0000E-09
12	.075	0.0000	0.0000%	6836	1764	3.9	1			1.0000E-09
13	1.844	0.0000	0.0000%	8945	2057	4.3	1			1.0000E-09
14	22.946	0.0000	0.0000%	8751	1947	4.5	1			1.0000E-09
15	26.236 DCB	103.0818	52.1184%	532624	103005	5.2	1	0	0	1.9354E-04

TOTAL AMOUNT = 197.7841

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

7	11.523	0.0000	0.0000%	6600	1426	4.6	1			1.0000E-09
8	16.616	0.0000	0.0000%	6081	1494	4.1	1			1.0000E-09
9	17.101 DDT	5.5723	2.8174%	17620	4119	4.3	1	0	-.3914	3.1626E-04
10	18.771 Endrin ket.	6.9598	3.5189%	19933	4918	4.1	1	0	.4484	3.4916E-04
11	[illegible].240	0.0000	0.0000%	34451	7212	4.8	1			1.0000E-09
12	.075	0.0000	0.0000%	6836	1764	3.9	1			1.0000E-09
13	1.844	0.0000	0.0000%	8945	2057	4.3	1			1.0000E-09
14	22.946	0.0000	0.0000%	8751	1947	4.5	1			1.0000E-09
15	26.236 DCB	103.0818	52.1184%	532624	103005	5.2	1	0	0	1.9354E-04

TOTAL AMOUNT = 197.7841

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E165.ATB
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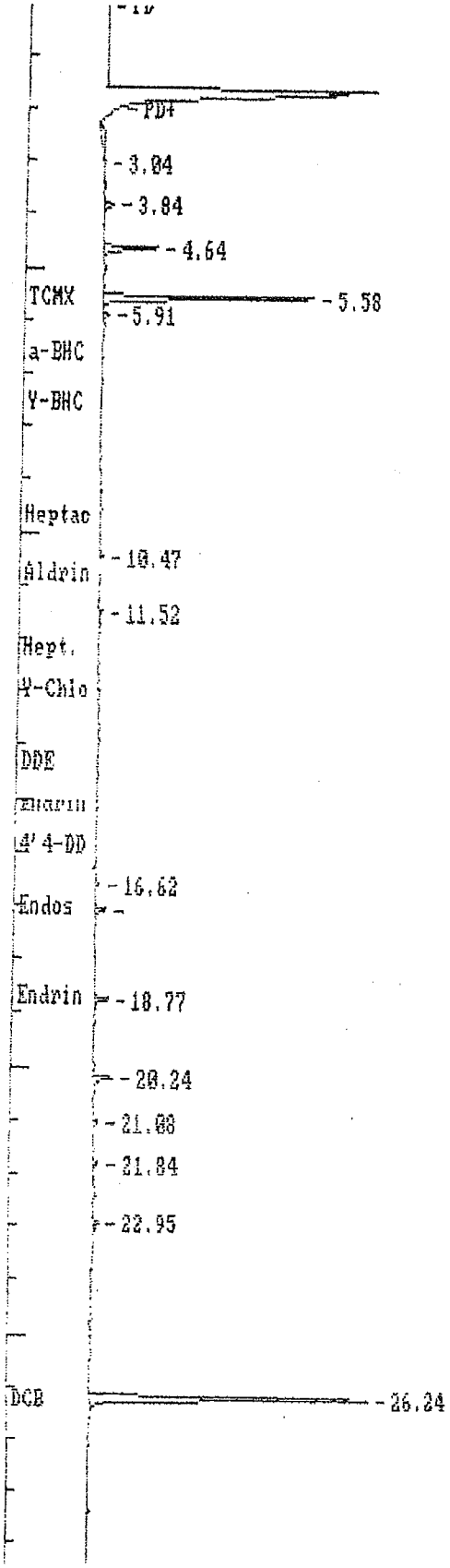
art time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv
ll Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-8

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85736

Sample wt/vol: 1000 (g/mL) mL Lab File ID: D:NV14E166

% Moisture N/A decanted: (Y/N) N Date Received:

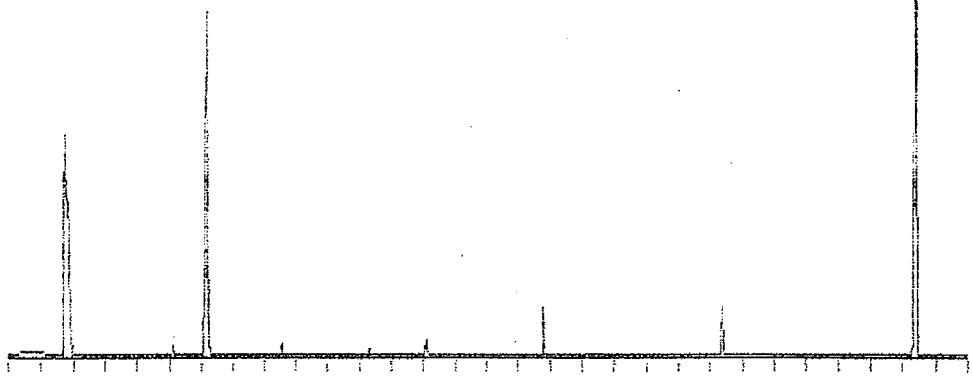
Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

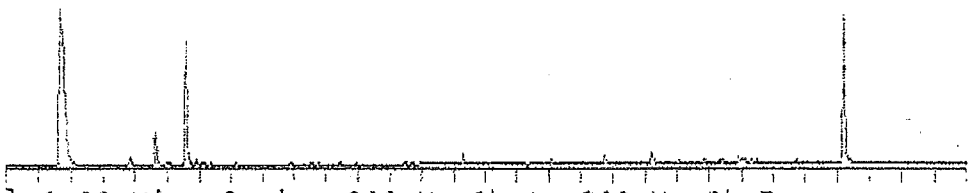
Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.06	
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U





[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
85736 P/P Processed: 11-25-1997 03:25:47, segment 8, cycle 166
RAW DATA SAVED IN FILE D:NV14E166.PTS Second Channel Stored in D:OV14E166.PTS

EXTERNAL STANDARD TABLE

11-25-1997 03:26:54 Version 5.1.5

Sample Name: 85736 P/P Data File: D:NV14E166

Date: 11-25-1997 02:55:11 Method: M:APES-E 11-21-1997 22:31:52 # 398

Interface: 2 Cycle#: 166 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

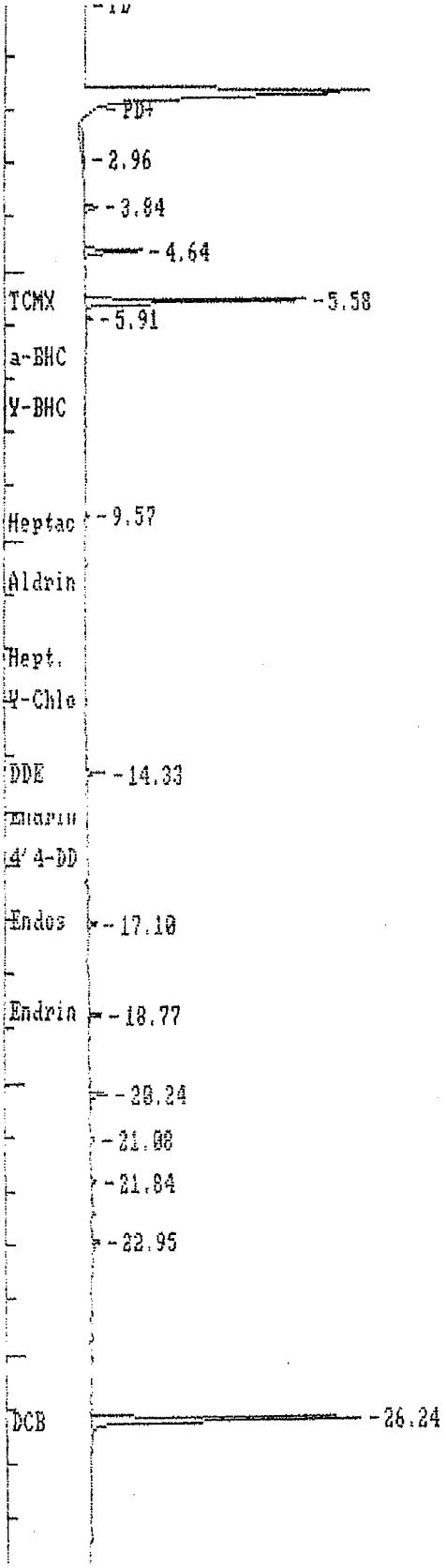
PK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET-TIME	CONC/AREA
1	2.956		0.0001	0.0000%	57205	1124	50.9	1			1.0000E-09
2	3.841		0.0000	0.0000%	29850	5075	5.9	1			1.0000E-09
3	4.643		0.0001	0.0001%	106442	21275	5.0	1			1.0000E-09
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	2.2604E-04

7	14.329	Dieldrin	5.8790	2.8784%	24739	6923	3.6 1	0	0	2.3764E-04
8	17.101	DDT	4.8893	2.3938%	15460	3405	4.5 1	0	-.3914	3.1626E-04
9	18.771	Endrin ket.	6.7460	3.3028%	19321	4787	4.0 1	0	.4484	3.4916E-04
10	20.240		0.0000	0.0000%	31864	6655	4.8 1			1.0000E-09
11	21.075		0.0000	0.0000%	7366	1756	4.2 1			1.0000E-09
12	21.844		0.0000	0.0000%	8826	2005	4.4 1			1.0000E-09
	22.946		0.0000	0.0000%	11568	2585	4.5 1			1.0000E-09
4	26.236	DCB	98.6183	48.2833%	509561	98996	5.1 1	0	0	1.9354E-04

TOTAL AMOUNT = 204.2492

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

reas, times, and heights stored in: D:NV14E166.ATB
a File = D:NV14E166.PTS Printed on 11-25-1997 at 03:27:18
art time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-25-1997 03:27:27 Version 5.1.5

* Sample Name: 85736 P/P
* Data File: D:0V14E166
* Date: 11-25-1997 02:55:11 Method: M:BPES-E 11-03-1997 18:46:51 # 389
* Interface: 2 Cycle#: 166 Operator JJK Channel#: 1 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.257		0.0010	0.0001%	950213	6784	140.1	1			1.0000E-09
2	4.259		0.0001	0.0000%	73759	4082	18.1	1			1.0000E-09
3	4.843		0.0000	0.0000%	10320	2113	4.9	1			1.0000E-09
4	5.127		0.0001	0.0000%	58742	13355	4.4	1			1.0000E-09
5	6.162	TCMX	442.7380	48.5279%	1379129	243029	5.7	1	0	.5269	3.2103E-04
	7.047		0.0000	0.0000%	36816	4635	7.9	2			1.0000E-09
	7.181	Y-BHC	5.0525	0.5538%	13288	3050	4.4	2	0	-.9243	3.8023E-04
8	7.515		0.0000	0.0000%	39628	6771	5.9	1			1.0000E-09
9	8.584	Aldrin	13.4076	1.4696%	40558	11806	3.4	1	0	-.1883	3.3058E-04
10	9.235		0.0000	0.0000%	26784	2121	12.6	1			1.0000E-09
11	11.339		0.0000	0.0000%	30540	7319	4.2	1			1.0000E-09
12	11.640	Endosulf I	6.2007	0.6796%	19414	1979	9.8	1	0	-1.413	3.1939E-04
13	13.126	Dieldrin	26.9239	2.9518%	80682	13849	5.8	1	0	.6378	3.3378E-04
14	14.398		0.0000	0.0000%	13074	3212	4.1	1			1.0000E-09
15	16.232	4,4 DDT	7.8656	0.8621%	14276	3057	4.7	1	0	1.342	5.5096E-04
16	16.817	~~Endrin ald~~ Dieldrin 7.7	51.4342	5.6376%	135220	38788	3.5	1	0	.1005	3.8037E-04
17	18.854	Endrin ket	18.2123	1.9962%	52488	4441	11.8	1	0	-.9649	3.4698E-04
18	19.539		0.0000	0.0000%	27654	3366	8.2	1			1.0000E-09
19	20.007		0.0000	0.0000%	17913	6255	2.9	1			1.0000E-09
20	20.491		0.0001	0.0000%	61728	15547	4.0	1			1.0000E-09
21	21.059		0.0000	0.0000%	46209	12597	3.7	1			1.0000E-09
22	22.361		0.0002	0.0000%	241355	50941	4.7	1			1.0000E-09
23	23.447		0.0000	0.0000%	25989	6273	4.1	1			1.0000E-09
24	23.731		0.0000	0.0000%	17504	3810	4.6	1			1.0000E-09
25	24.766		0.0001	0.0000%	83855	7272	11.5	1			1.0000E-09
26	27.488		0.0001	0.0000%	97391	10154	9.6	1			1.0000E-09
27	29.390	DCB	340.4949	37.3212%	1828117	294820	6.2	1	0	.1057	1.8625E-04
28	29.642		0.0000	0.0000%	21998	1715	12.8	1			1.0000E-09

TOTAL AMOUNT = 912.3374

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:0V14E166.ATB
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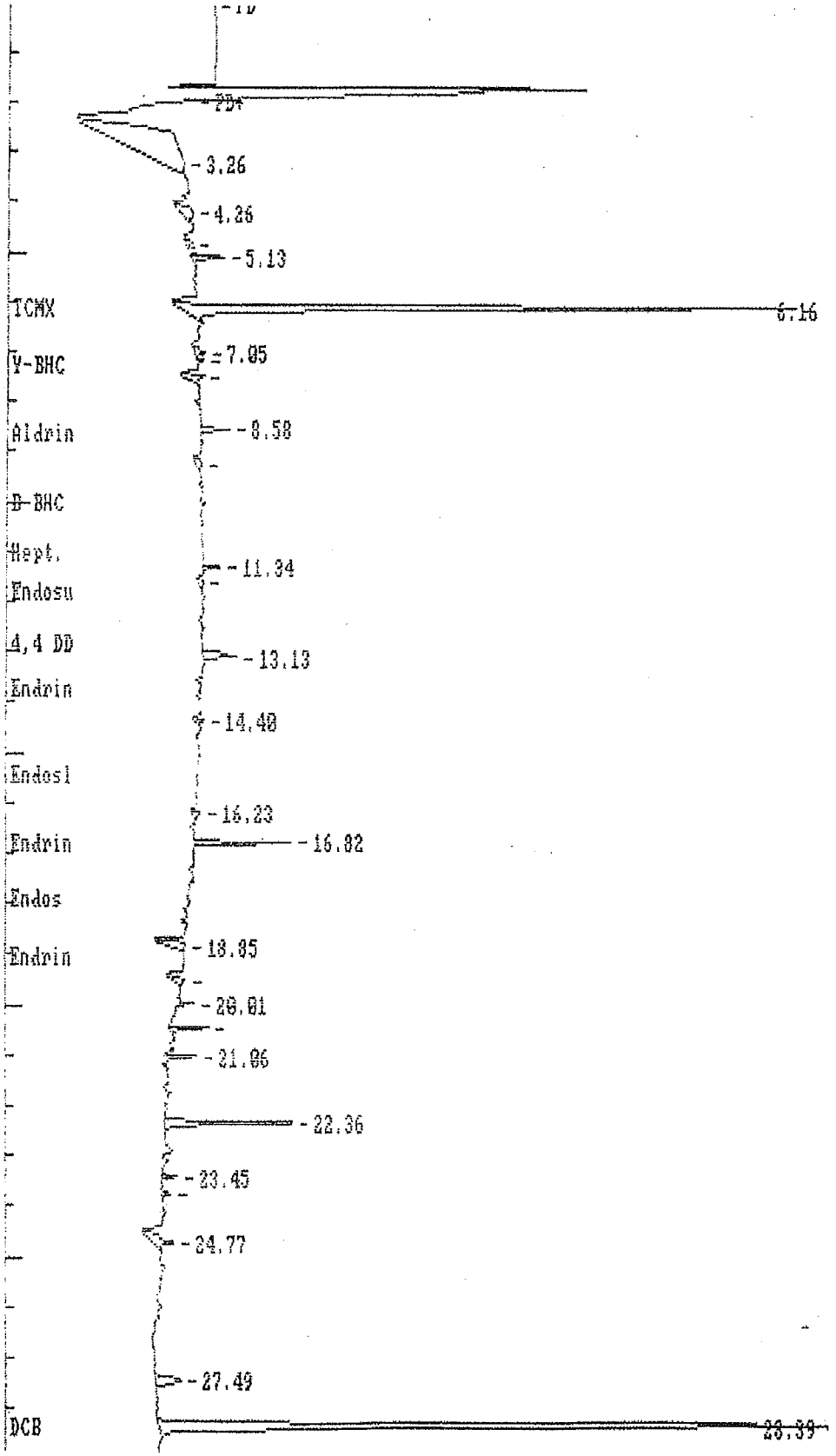
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85737

Sample wt/vol: 990 (g/mL) mL Lab File ID: D:NV14E167

% Moisture N/A decanted: (Y/N) N Date Received:

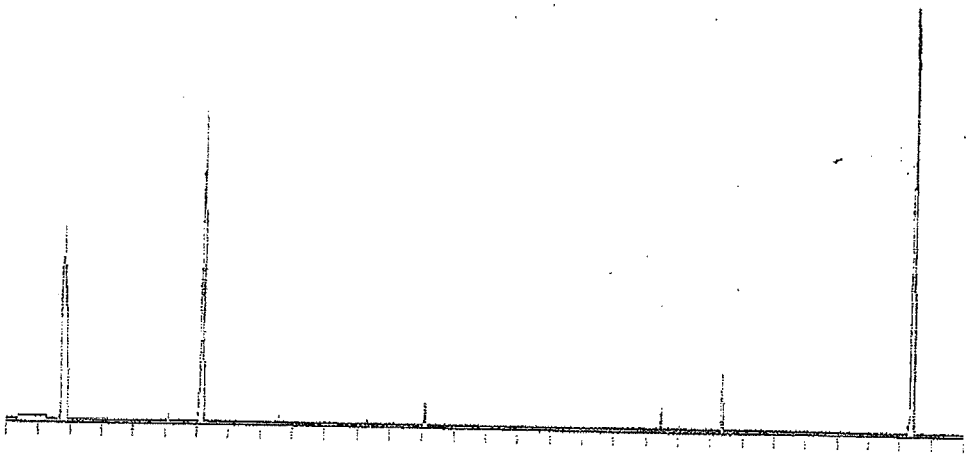
Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U



[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
85737 P/P Processed: 11-25-1997 03:58:25, segment 9, cycle 167
RAW DATA SAVED IN FILE D:NV14E167.PTS Second Channel Stored in D:OV14E167.PTS

***** EXTERNAL STANDARD TABLE *****

```
******************** 11-25-1997 03:59:33 Version 5.1.5 ********************
* Sample Name: 85737 P/P                                Data File: D:NV14E167   *
* Date: 11-25-1997 03:27:49 Method: M:APES-E  11-21-1997 22:31:52  #  398 *
* Interface: 2   Cycle#:  167  Operator JJK Channel#: 0    Vial#: N.A.    *
* Starting Peak Width:  10   Threshold: 20  Area Threshold: 2000          *
*************************************************************************
* Instrument Type: PE 8500                Column Type: RTX 5/1701          *
*              Solvent Description:                                       *
* Conditions:                                                             *
*            Detector 0:                        Detector 1: ECD            *
* Misc. Information:                                                      *
*************************************************************************
Starting Delay:    0.00                    Ending retention time:    30.00
Area reject:       2000                    One sample per    1.002 sec.
Amount injected:          1.00             Dilution factor:          1.00
Sample Weight:            1.00000
```

	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.538		0.0000	0.0000%	17971	940	19.1	1			1.0000E-09
2	3.841		0.0000	0.0000%	26600	4571	5.8	1			1.0000E-09
3	4.643		0.0001	0.0000%	95003	19400	4.9	1			1.0000E-09
4	5.578	TCMX	78.3849	39.9501%	346775	74477	4.7	2	0	.3201	2.2604E-04
5	5.912		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]

7	11.506	0.0000	0.0000%	7074	1575	4.5	1			1.0000E-09
8	16.616	0.0000	0.0000%	7962	1952	4.1	1			1.0000E-09
9	17.101 DBI	7.6254	3.8864%	24112	5814	4.1	1	0	-.3914	3.1626E-04
10	18.771 Endrin ket.	8.4386	4.3009%	24168	5945	4.1	1	0	.4484	3.4916E-04
	20.240	0.0000	0.0000%	34822	7222	4.8	1			1.0000E-09
	21.075	0.0000	0.0000%	8073	2104	3.8	1			1.0000E-09
13	21.844	0.0000	0.0000%	11154	2512	4.4	1			1.0000E-09
14	22.946	0.0000	0.0000%	8979	2053	4.4	1			1.0000E-09
15	26.236 DCB	101.7578	51.8625%	525782	101219	5.2	1	0	0	1.9354E-04

TOTAL AMOUNT = 196.2069

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E167.ATB
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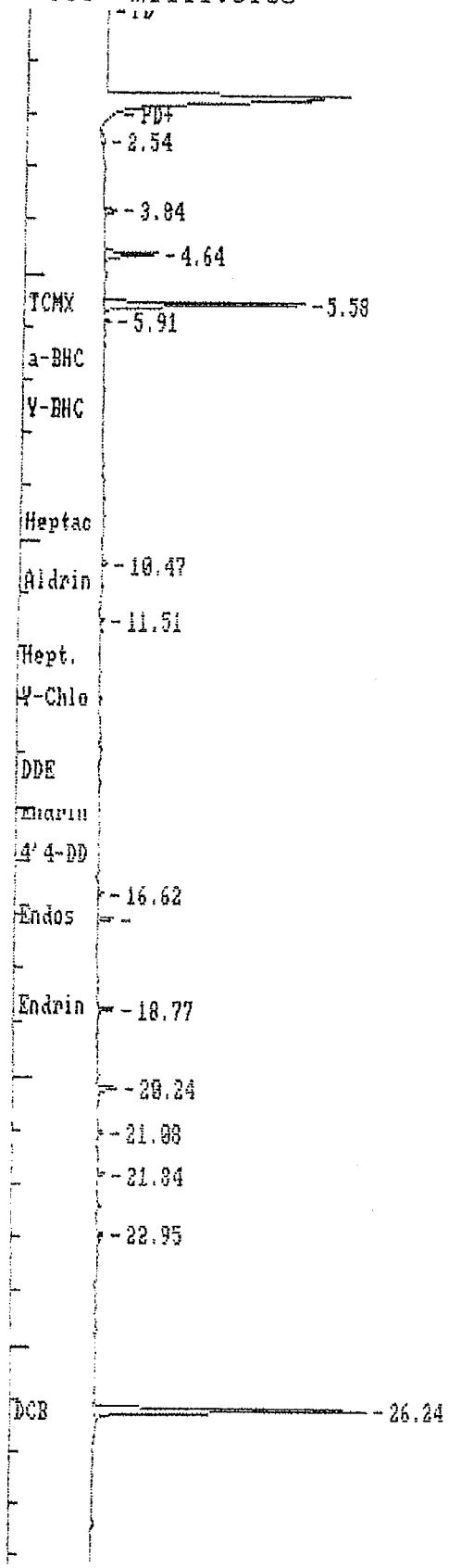
art time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
ull Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-98

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85738

Sample wt/vol: 990 (g/mL) mL Lab File ID: D:NV14E168

% Moisture N/A decanted: (Y/N) N Date Received:

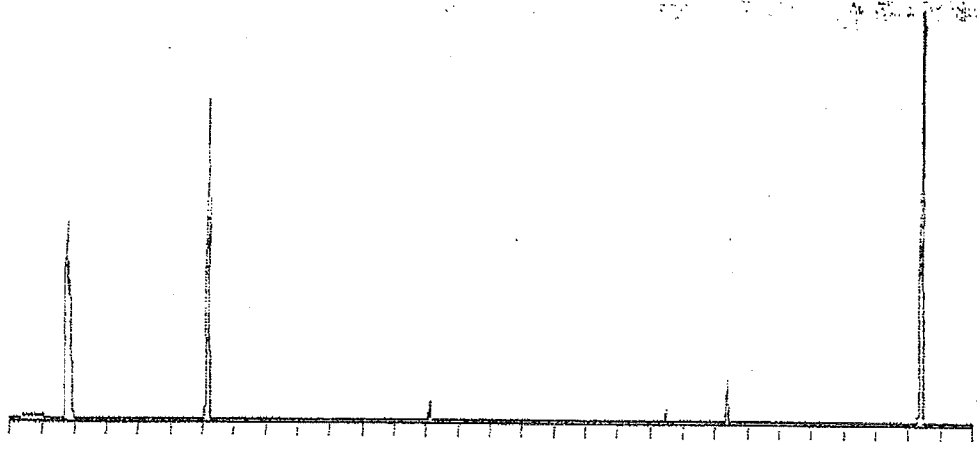
Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U



[Interfsce 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
85738 P/P Processed: 11-25-1997 04:31:06, segment 10, cycle 168
RAW DATA SAVED IN FILE D:NV14E168.PTS Second Channel Stored in D:OV14E168.PTS

EXTERNAL STANDARD TABLE

********** 11-25-1997 04:32:14 Version 5.1.5 **********
* Sample Name: 85738 P/P Data File: D:NV14E168 *
* Date: 11-25-1997 04:00:30 Method: M:APES-E 11-21-1997 22:31:52 # 398 *
* Interface: 2 Cycle#: 168 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *
****
* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

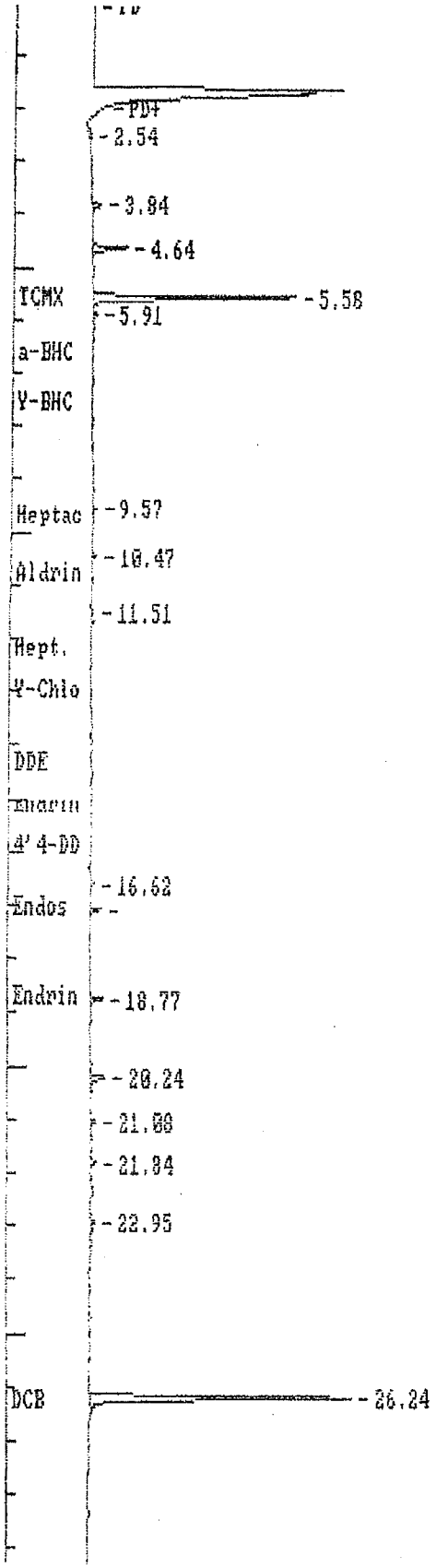
NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.538		0.0000	0.0000%	17440	934	18.7	1			1.0000E-09
2	3.841		0.0000	0.0000%	21682	3693	5.9	1			1.0000E-09
3	4.643		0.0001	0.0000%	64653	13147	4.9	1			1.0000E-09
4	5.578	TCMX	80.6009	42.0030%	356579	76358	4.7	2	0	.3201	2.2604E-04

7	10.471	0.0000	0.0000%	6031	1514	4.0	1			1.0000E-09
8	11.506	0.0000	0.0000%	5850	1306	4.5	1			1.0000E-09
9	16.616	0.0000	0.0000%	5700	1415	4.0	1			1.0000E-09
10	17.101 DOT	5.5302	2.8819%	17486	4192	4.2	1	0	-.3914	3.1626E-04
11	18.771 Endrin ket.	6.6316	3.4559%	18993	4677	4.1	1	0	-.4484	3.4916E-04
	20.240	0.0000	0.0000%	26872	5638	4.8	1			1.0000E-09
	21.075	0.0000	0.0000%	6134	1607	3.8	1			1.0000E-09
14	21.844	0.0000	0.0000%	7963	1820	4.4	1			1.0000E-09
15	22.946	0.0000	0.0000%	6215	1413	4.4	1			1.0000E-09
16	26.236 DCB	97.6239	50.8740%	504423	97917	5.2	1	0	0	1.9354E-04

TOTAL AMOUNT = 191.8935

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E168.ATB
Data File = D:NV14E168.PTS Printed on 11-25-1997 at 04:32:37
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Field Blank

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85739

Sample wt/vol: 940 (g/mL) mL Lab File ID: D:NV14E169

% Moisture N/A decanted: (Y/N) N Date Received:

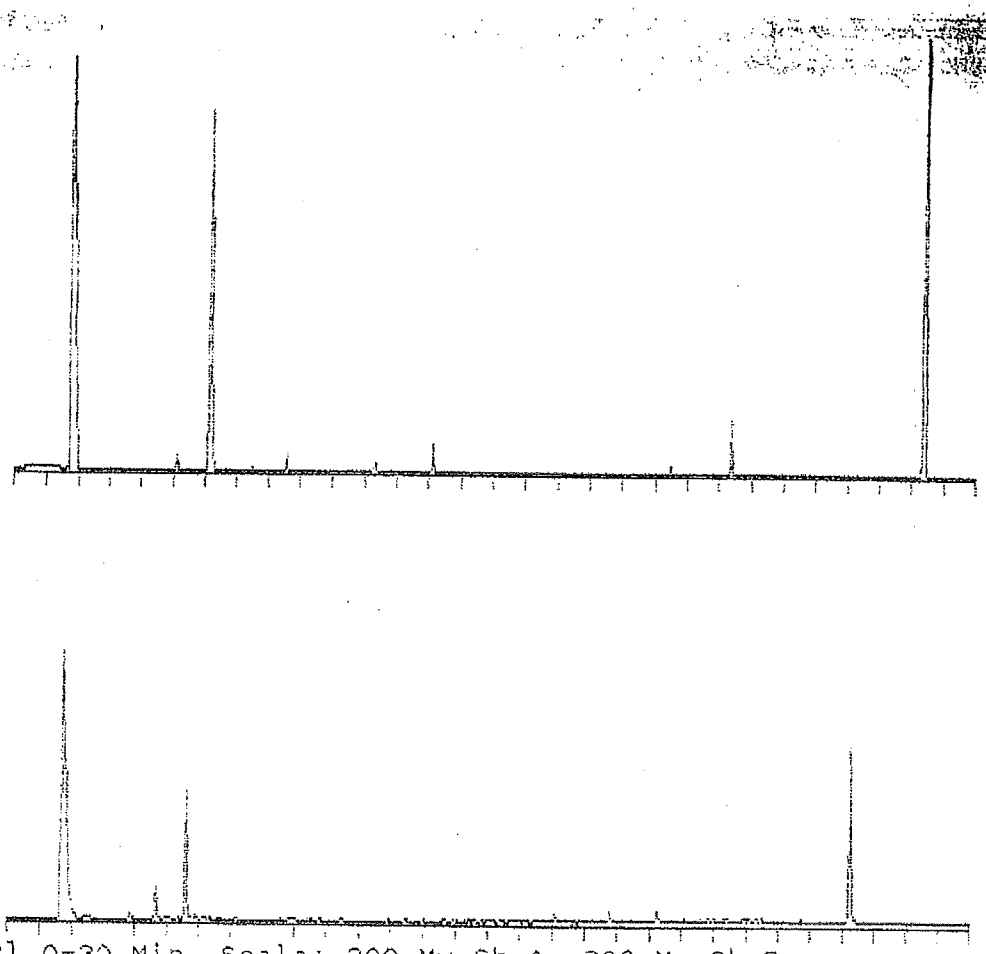
Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U



[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
85739 P/P Processed: 11-25-1997 05:03:45, segment 11, cycle 169
RAW DATA SAVED IN FILE D:NV14E169.PTS Second Channel Stored in D:CV14E169.PTS

EXTERNAL STANDARD TABLE

********** 11-25-1997 05:04:53 Version 5.1.5 **********

* Sample Name: 85739 P/P Data File: D:NV14E169 *
* Date: 11-25-1997 04:33:07 Method: M:APES-E 11-21-1997 22:31:52 # 398 *
* Interface: 2 Cycle#: 169 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

****

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

****

Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

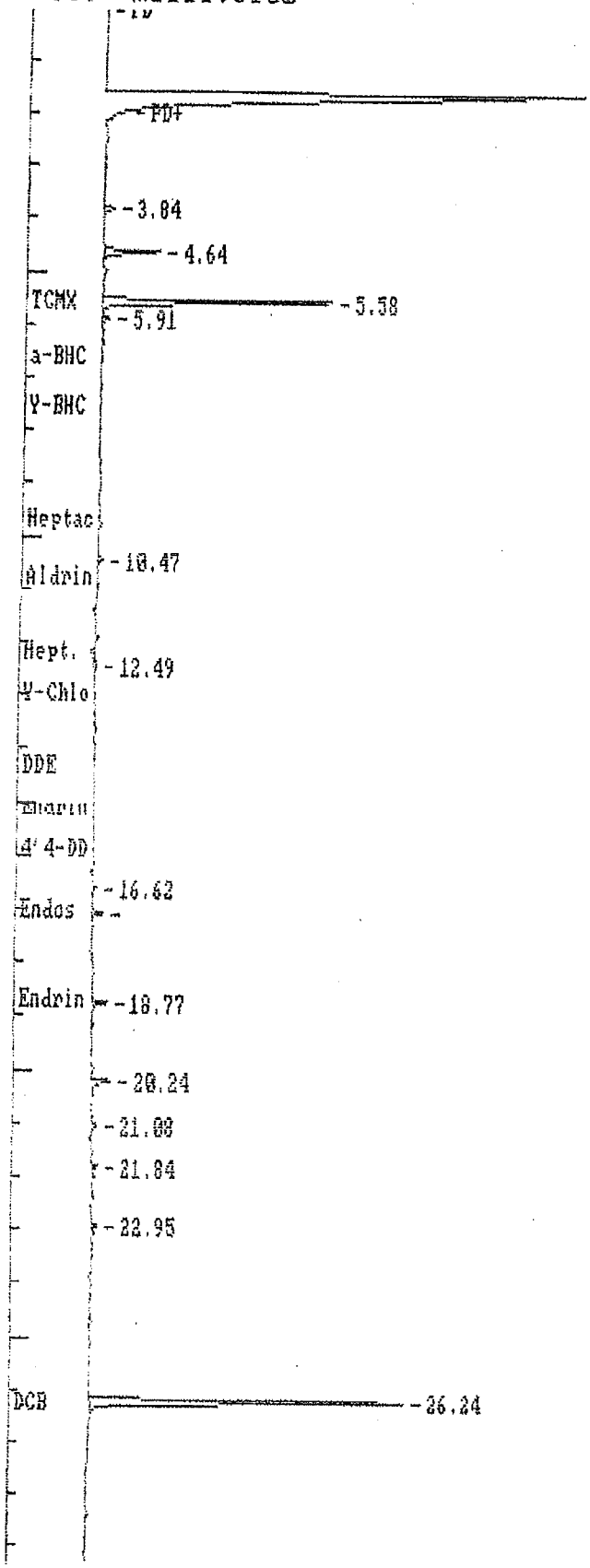
NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.841		0.0000	0.0000%	22346	3983	5.6	1			1.0000E-09
2	4.643		0.0001	0.0000%	102590	21035	4.9	1			1.0000E-09
3	5.578	TCMX	91.2055	41.0619%	403493	85551	4.7	2	0	.3201	2.2604E-04
4	5.912		0.0000	0.0000%	13370	3076	4.3	2			1.0000E-09

7	16.616	0.0000	0.0000%	5257	1428	3.7	1			1.0000E-09
8	17.101 DQI	5.7544	2.5907%	18195	4350	4.2	1	0	-.3914	3.1626E-04
9	18.771 Endrin ket.	7.7226	3.4768%	22118	5547	4.0	1	0	.4484	3.4916E-04
10	20.240	0.0000	0.0000%	34558	7103	4.9	1			1.0000E-09
11	21.075	0.0000	0.0000%	7823	1952	4.0	1			1.0000E-09
	21.844	0.0000	0.0000%	9989	2285	4.4	1			-1.0000E-09
13	22.946	0.0000	0.0000%	9153	2082	4.4	1			1.0000E-09
14	26.236 DCB	117.4344	52.8705%	606784	117062	5.2	1	0	0	1.9354E-04

TOTAL AMOUNT = 222.1172

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E169.ATB
Data File = D:NV14E169.PTS Printed on 11-25-1997 at 05:05:16
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mV.
Full Range: 300 millivolts



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-16

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 97-85741

Sample wt/vol: 950 (g/mL) mL Lab File ID: D:NV14E170

% Moisture N/A decanted: (Y/N) N Date Received:

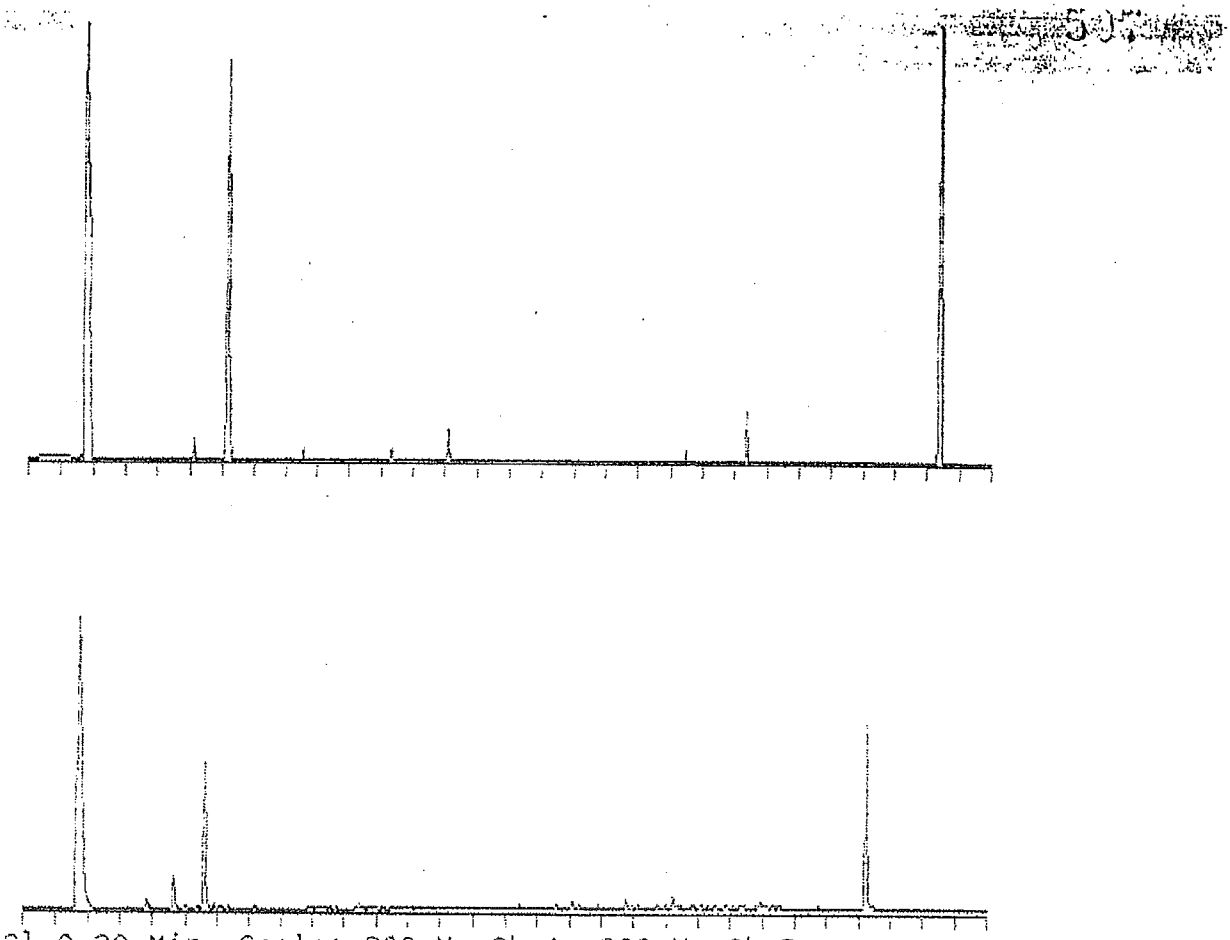
Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U



[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
85741 P/P Processed: 11-25-1997 05:36:24, segment 12, cycle 170
RAW DATA SAVED IN FILE D:NV14E170.PTS Second Channel Stored in D:OV14E170.PTS

EXTERNAL STANDARD TABLE

********** 11-25-1997 05:37:31 Version 5.1.5 **********

* Sample Name: 85741 P/P Data File: D:NV14E170 *
* Date: 11-25-1997 05:05:45 Method: M:APES-E 11-21-1997 22:31:52 # 398 *
* Interface: 2 Cycle#: 170 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

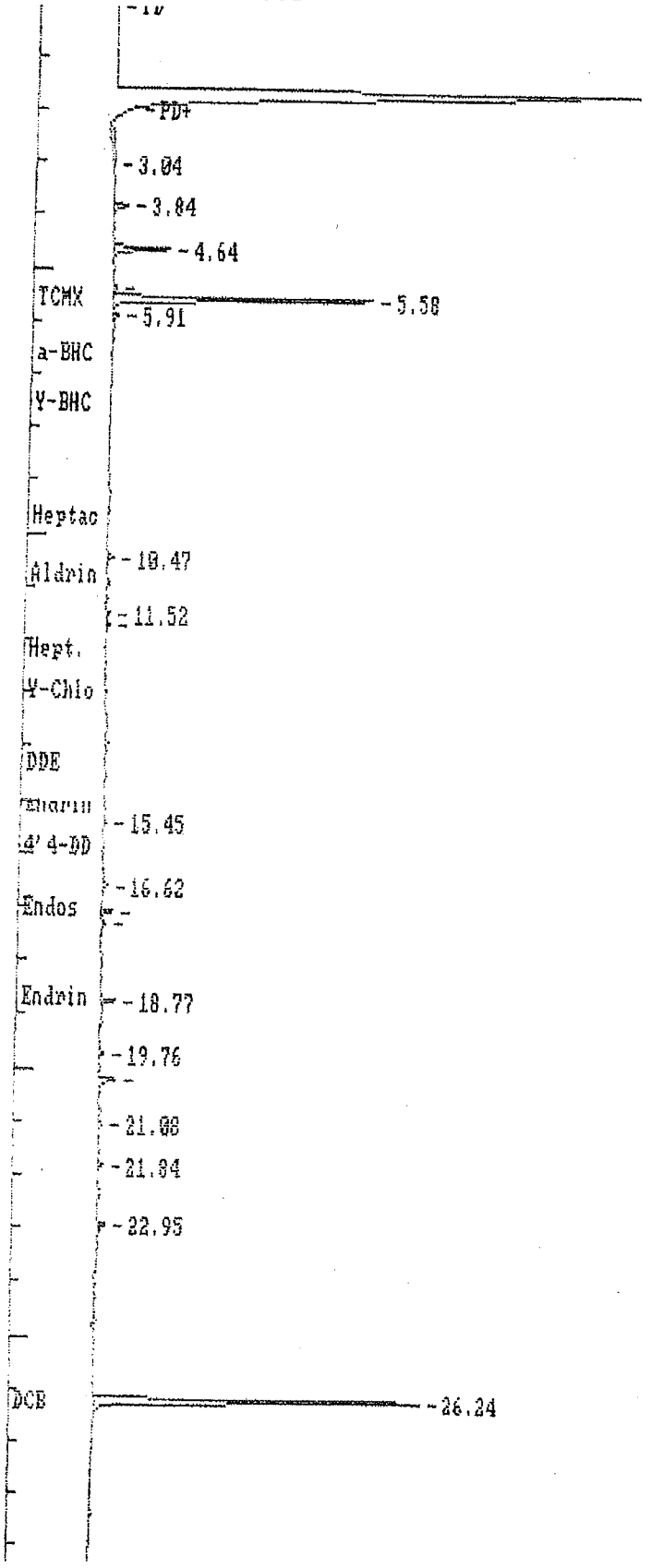
NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.039		0.0001	0.0000%	58260	878	66.4	1			1.0000E-09
2	3.841		0.0000	0.0000%	33052	5694	5.8	1			1.0000E-09
3	4.643		0.0001	0.0000%	106521	21454	5.0	1			1.0000E-09
4	5.394		0.0000	0.0000%	10553	1974	5.3	2			1.0000E-09

7	10.471	0.0000	0.0000%	10049	2480	4.1	1			1.0000E-09
8	11.523	0.0000	0.0000%	8828	1898	4.7	1			1.0000E-09
9	11.757	0.0000	0.0000%	6415	1461	4.4	1			1.0000E-09
10	15.447 Endoslf II	1.7292	0.7106%	5397	1346	4.0	1	0	0	3.2041E-04
11	16.616	0.0000	0.0000%	9823	2188	4.5	1			1.0000E-09
	17.101 DBI	6.3168	2.5961%	19974	4615	4.3	1	0	-.3914	3.1626E-04
	17.318	0.0000	0.0000%	8475	1726	4.9	1			1.0000E-09
14	18.771 Endrin ket.	7.5335	3.0961%	21576	5401	4.0	1	0	.4484	3.4916E-04
15	19.756	0.0000	0.0000%	7031	1989	3.5	1			1.0000E-09
16	20.240	0.0000	0.0000%	31533	6571	4.8	1			1.0000E-09
17	21.075	0.0000	0.0000%	8194	1765	4.6	1			1.0000E-09
18	21.844	0.0000	0.0000%	8681	2005	4.3	1			1.0000E-09
19	22.946	0.0000	0.0000%	13092	2903	4.5	1			1.0000E-09
20	26.236 DCB	122.8645	50.4940%	634841	121559	5.2	1	0	0	1.9354E-04

TOTAL AMOUNT = 243.3251

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Areas, times, and heights stored in: D:NV14E170.ATB
Data File = D:NV14E170.PTS Printed on 11-25-1997 at 05:37:55
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



2E

WATER PESTICIDE SURROGATE RECOVERY

515

Lab Name: EMSL ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

GC Column(1): DB-5 ID: 0.32 (mm) GC Column(2): DB-1701 ID: 0.32 (mm)

LAB SAMPLE ID.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
MB 452-3	36		117				0
97-85731	85		125				0
97-85732	72		114				0
97-85733	75		102				0
97-85734	78	92	105	110			0
97-85735	66		106				0
97-85736	70	89	101	106			0
97-85737	64		104				0
97-85738	65		100				0
97-85739	74		120				0
97-85741	85		126				0
97-85734MS	*		*				2
97-85734MSD	*		*				2

gatev. 4/1/97

	ADVISORY QC LIMITS
TXC = Tetrachloro-m-xylene	(30-150)
DCB = Decachlorobiphenyl	(30-150)

\# Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

4C

PESTICIDE METHOD BLANK SUMMARY

SAMPLE NO. 511

Lab Nam EMSL ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Lab Sample ID: MB 452-3 Lab File ID: D:NV14E172

Matrix: (soil/wate water Extraction: (SepF/Cont/ Cont

Sulfur Cleanup: (Y Y Date Extracte 11/24/97

Date Analyzed (1): 11/25/97 Date Analyzed _____

Time Analyzed (1): 6:11 Time Analyzed _____

Instrument ID (1): _____ Instrument ID _____

GC Column DB-5 D 0.32 (mm) GC Column DB-1701 D .32 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AN

	SAMPLE NO	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
#		97-85731	11/25/97	
#		97-85732	11/25/97	
#		97-85733	11/25/97	
#		97-85734	11/25/97	
#		97-85735	11/25/97	
#		97-85736	11/25/97	
#		97-85737	11/25/97	
#		97-85738	11/25/97	
#		97-85739	11/25/97	
#		97-85741	11/25/97	
#		85734MS	11/25/97	
#		85734MSD	11/25/97	
#				
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COMMENTS: _____

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

512

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: MB 11/24

Sample wt/vol: 1000 (g/mL) mL Lab File ID: D:NV14E172

% Moisture N/A decanted: (Y/N) N Date Received:

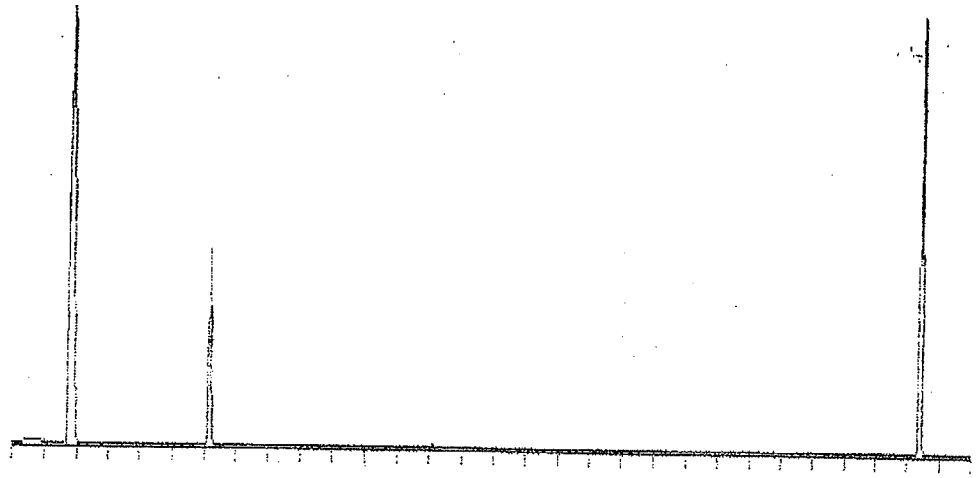
Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 11/24/97

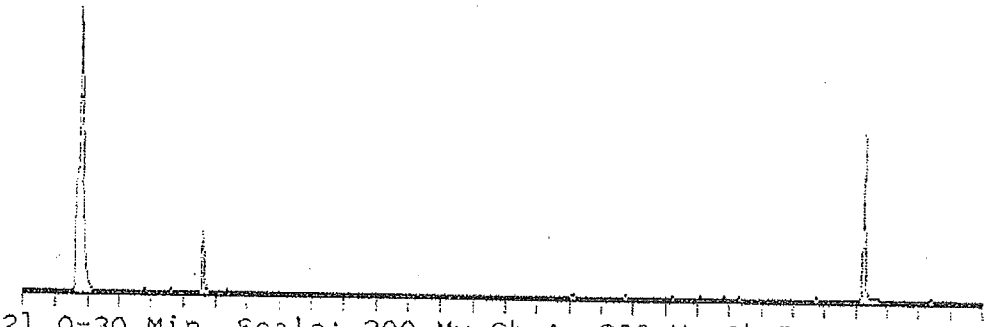
Concentrated Extract Volume: 10 (ml) Date Analyzed: 11/25/97

Injection Volume: 1 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.08	U
50-29-3	4,4'-DDT	0.04	U
72-43-5	Methoxychlor	0.2	U
53494-70-5	Endrin ketone	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.2	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U





[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.8
MB 11/24 P Processed: 11-25-1997 06:41:40, segment 14, cycle 172
End of sequence file reached at cycle 172
RAW DATA SAVED IN FILE D:NV14E172.PTS Second Channel Stored in D:OV14E172.PTS

EXTERNAL STANDARD TABLE

11-25-1997 06:42:47 Version 5.1.5

Sample Name: MB 11/24 P/P AQ
Data File: D:NV14E172
Date: 11-25-1997 06:11:03 Method: M:APES-E 11-21-1997 22:31:52 # 398
Interface: 2 Cycle#: 172 Operator JJK Channel#: 0 Vial#: N.A.
Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701
Solvent Description:
Conditions:
Detector 0: Detector 1: ECD
Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

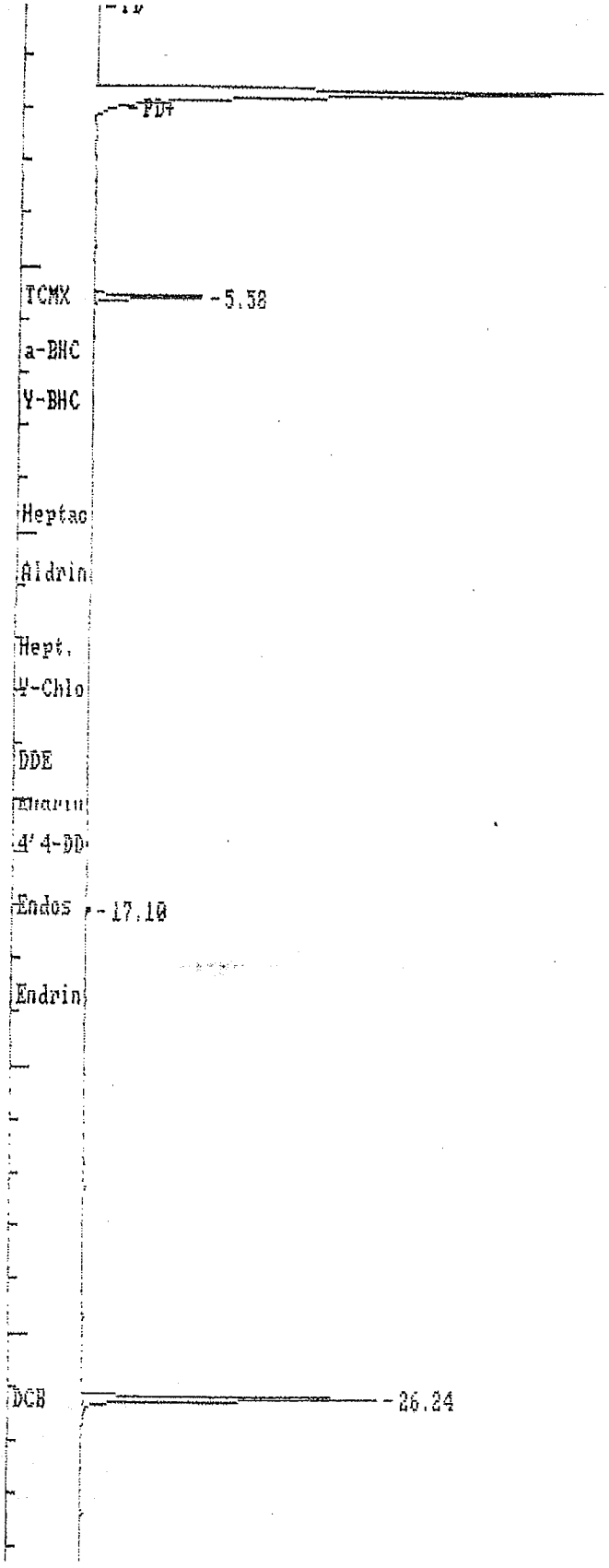
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.578	TCMX	44.1022	27.4738%	195108	40353	4.8	1	0	.3201	2.2604E-04
2	17.101	DDT	1.9463	1.2125%	6154	1378	4.5	1	0	-.3914	3.1626E-04
3	26.236	DC8	114.4760	71.3137%	591498	110391	5.4	1	0	0	1.9354E-04

GROUP NUMBER GROUP AMOUNT

Areas, times, and heights stored in: D:NV14E172.ATB
Data File = D:NV14E172.PTS Printed on 11-25-1997 at 06:43:10
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts

514



3E

ATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Na EMSL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - EPA Samp 97-85734

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATIO UG/L	MS % REC	QC. LIMITS REC.
gamma-BHC(Lind	0.400	U	0.316	79	56-123
Heptachlor	0.400	U	0.415	104	40-131
Aldrin	0.400	U	0.380	95	40-120
Dieldrin	0.400	U	0.386	96	52-126
Endrin	0.400	U	0.398	100	56-121
4,4'-DDT	0.400	0.053	0.405	88	38-127

COMPOUND	SPIKE ADDED UG/L	MSD NCENTRATI UG/L	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC(Lind	0.400	0.335	84	5.8	15	56-123
Heptachlor	0.400	0.425	106	2.4	20	40-131
Aldrin	0.400	0.385	96	1	22	40-120
Dieldrin	0.400	0.419	105	8.2	18	52-126
Endrin	0.400	0.393	98	1	21	56-121
4,4'-DDT	0.400	0.394	85	2.8	27	38-127

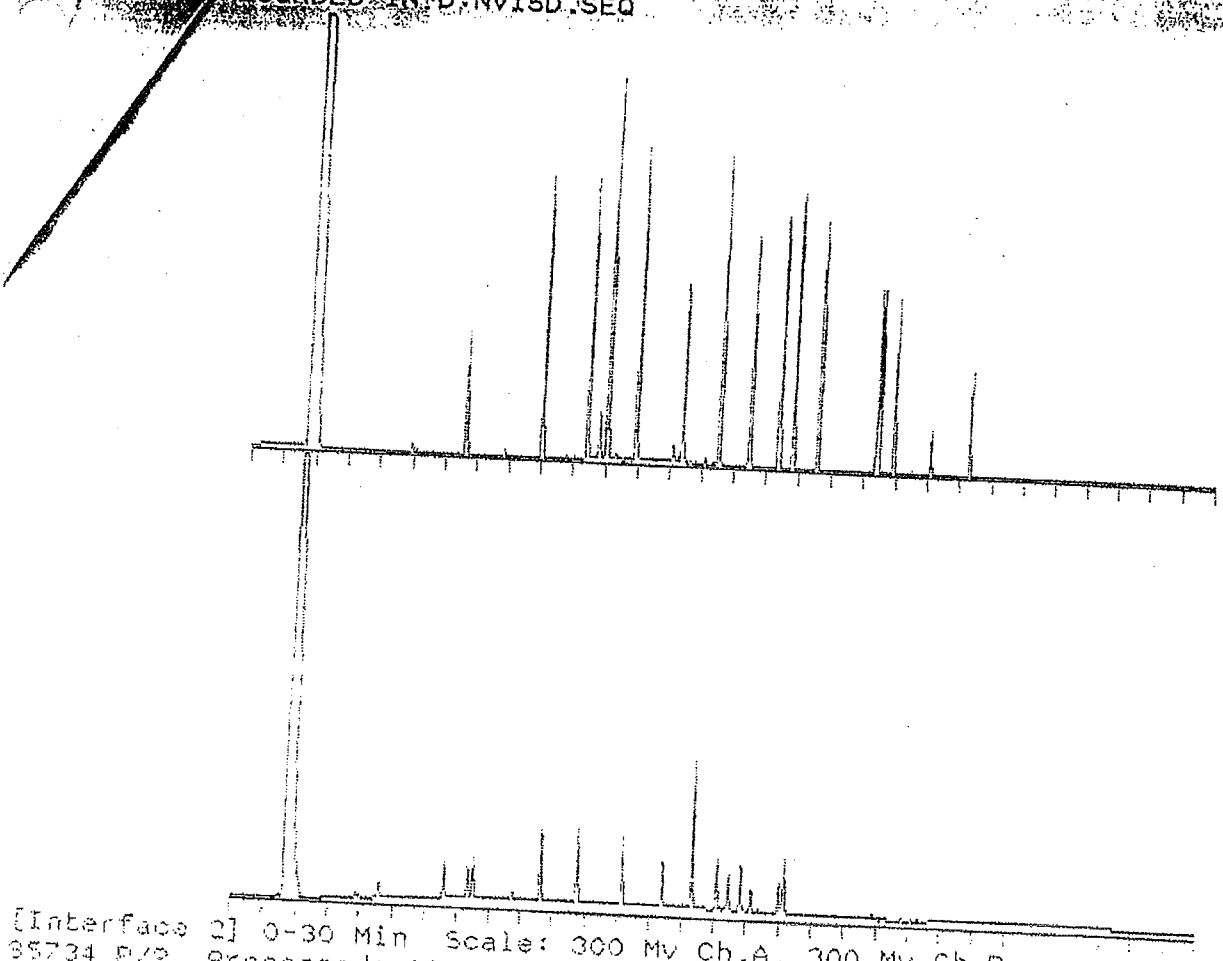
\# Column to be used to flag recovery and RPD values with an aster

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery 0 out of 12 outside limits

COMMENTS: _____

RECORDED IN D:NV15D.SEQ



[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
85734 P/P Processed: 11-25-1997 16:44:51, segment 3, cycle 176
RAW DATA SAVED IN FILE D:NV14E176.PT3 Second Channel Stored in D:OV14E176.PT3

EXTERNAL STANDARD TABLE

11-25-1997 16:45:57 Version 5.1.5

Sample Name: 85734 P/P MS
Date: 11-25-1997 16:14:13 Method: M:APES-E 11-25-1997 14:16:36 # 399
Data File: D:NV14E176
Interface: 2 Cycle#: 176 Operator JJK Channel#: 0 Vial#: N.A.
Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
Instrument Type: PE 8500 Column Type: RTX 5/1701
Solvent Description:
Conditions:
Detector 0:
Misc. Information: Detector 1: ECD

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

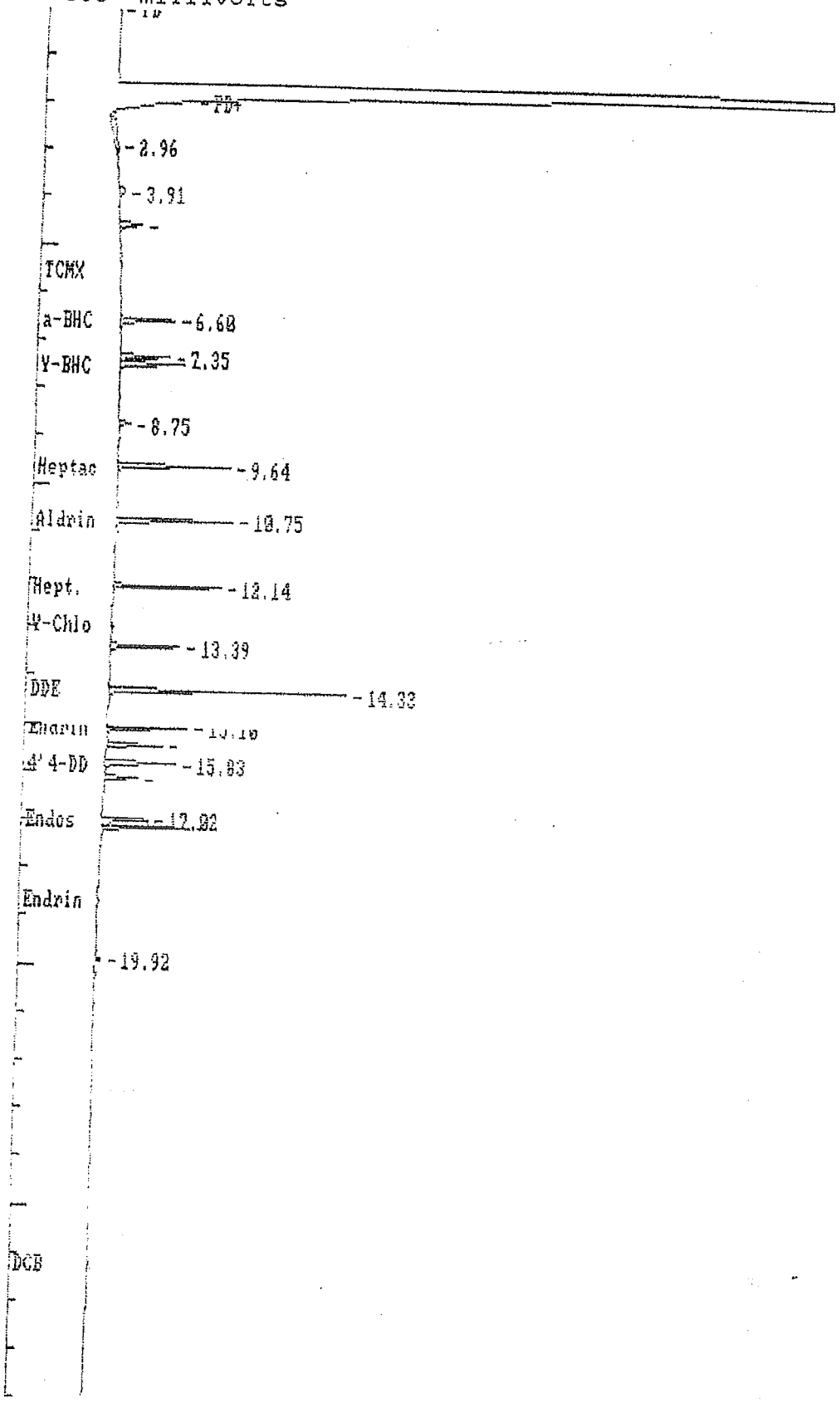
#	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.956		0.0001	0.0000%	66562	1136	58.6	1			
2	3.908		0.0000	0.0000%	26287	2625	10.0	1			1.0000E-09
3	4.576										1.0000E-09

6	7.498 Y-BHC	31.6083	6.1560%	102190	26649	3.8	2	0	.2318	3.8760E-04
7	8.751	0.0000	0.0000%	19668	4813	4.1	1		0	3.0931E-04
8	9.636 Heptachlor	41.4735	8.0774%	160337	46269	3.5	1	0	0	1.0000E-09
9	10.755 Aldrin	37.9561	7.3923%	170651	48172	3.5	1	0	0	2.5867E-04
10	12.141 Hept. epox.	36.7056	7.1488%	149538	44267	3.4	1	0	0	2.2242E-04
	13.393 Endosulfan I	26.7240	5.2048%	97703	28397	3.4	1	0	0	2.4546E-04
	14.329 Dieldrin	84.0566	16.3708%	353710	97549	3.6	1	0	0	2.7352E-04
13	15.097 Endrin	39.8269	7.7567%	116653	33090	3.5	1	0	0	2.3764E-04
14	15.464 Endoslf II	25.9605	5.0561%	81023	22775	3.6	1	0	0	3.4141E-04
15	15.832 4'4-DDD	37.6013	7.3232%	111375	29098	3.8	2	0	.1113	3.2041E-04
16	16.149 Endrin ald	17.3172	3.4116%	52552	13699	3.8	2	0	0	3.3761E-04
17	17.017 Endos sulf	26.8789	5.2349%	73226	18944	3.9	2	0	0	3.3333E-04
18	17.168 DDT	41.7616	8.1335%	132050	35697	3.7	2	0	0	3.6657E-04
19	19.923	0.0000	0.0000%	10952	2214	4.9	1		0	3.1626E-04
										1.0000E-09

TOTAL AMOUNT = 513.4535

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Areas, times, and heights stored in: D:NV14E176.ATB
Data File = D:NV14E176.PTS Printed on 11-25-1997 at 16:46:22
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-25-1997 22:03:00 Version 5.1.5

* Sample Name: 85734 P/P MS
* Date: 11-25-1997 16:14:13 Method: M:BPES-E 11-25-1997 20:41:01 # 393
* Interface: 2 Cycle#: 176 Operator JJK Channel#: 1 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000

Data File: D:OV14E176

* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0:
* Misc. Information: Detector 1: ECD

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

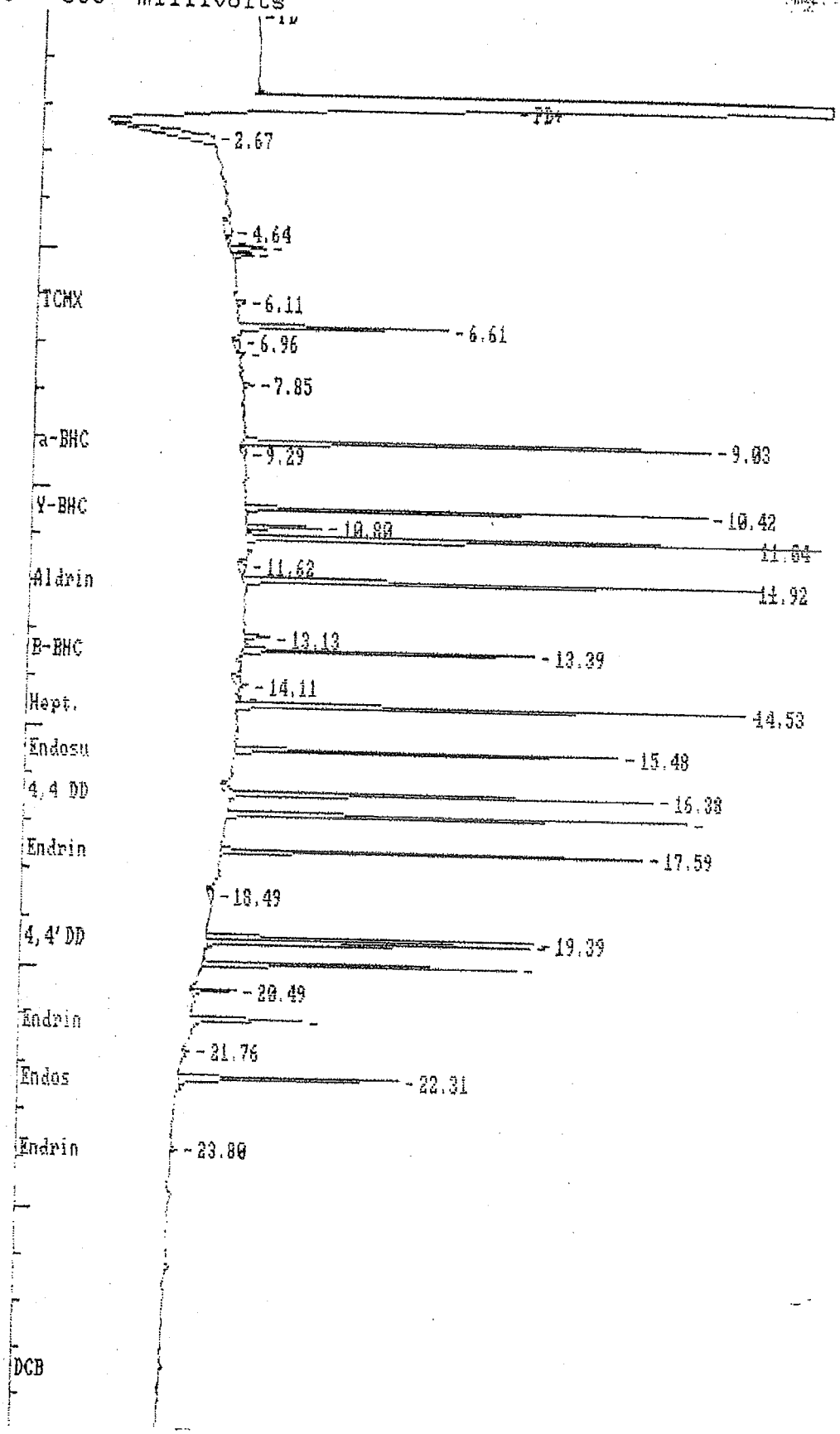
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.672		0.0002	0.0000%	210762	9420	22.4	1			1.0000E-09
2	4.543		0.0001	0.0000%	59236	3439	17.2	1			1.0000E-09
3	4.843		0.0000	0.0000%	10165	2222	4.6	2			1.0000E-09
4	4.977		0.0001	0.0000%	85616	15655	5.5	2			1.0000E-09
	5.127		0.0000	0.0000%	41538	8906	4.7	2			1.0000E-09
	6.112 TCMX		1.1438	0.2192%	18052	3713	4.9	1	0	-.2903	6.3638E-05
7	6.613		0.0004	0.0001%	350799	86940	4.0	1			1.0000E-09
8	6.964		0.0000	0.0000%	30480	2883	10.6	2			1.0000E-09
9	7.136		0.0000	0.0000%	13551	2732	5.0	2			1.0000E-09
10	7.849		0.0000	0.0000%	21049	4876	4.3	1			1.0000E-09
11	9.035 a-BHC		31.3544	6.9819%	686222	193671	3.5	1	0	0	4.5691E-05
12	9.285		0.0000	0.0000%	20143	1696	11.9	1			1.0000E-09
13	10.421 Y-BHC		31.9829	6.1019%	666333	190387	3.5	1	0	0	4.7998E-05
14	10.305		0.0001	0.0000%	124410	31914	3.9	2			1.0000E-09
15	11.039 Heptachlor		40.6265	7.7509%	985435	259509	3.8	2	0	.1515	4.1227E-05
16	11.623		0.0000	0.0000%	37894	3329	11.4	2			1.0000E-09
17	11.924 Aldrin		35.9217	6.8533%	794875	214148	3.7	2	0	0	4.5192E-05
18	13.126		0.0000	0.0000%	40367	10790	3.7	1			1.0000E-09
19	13.393 B-BHC		36.5976	6.9823%	417981	121330	3.4	1	0	0	8.7558E-05
20	14.111 D-BHC		2.6856	0.5124%	42586	5003	8.5	1	0	0	6.3064E-05
21	14.399		0.0000	0.0000%	11625	2489	4.7	2			1.0000E-09
22	14.529 Hept. epox.		36.6302	6.9891%	775524	210731	3.7	2	0	0	4.7237E-05
23	15.481 Endosulf I		27.2404	5.1971%	546143	158501	3.4	1	0	0	4.9878E-05
24	16.383 4,4 DDE		37.4072	7.1367%	666334	176594	3.8	1	0	0	5.6139E-05
25	16.834 Dieldrin		38.5860 96%	7.3616%	680464	190212	3.6	1	0	0	5.6705E-05
26	17.586 Endrin		41.6947	7.9547%	604239	174566	3.5	1	0	0	6.9004E-05
27	18.487		0.0000	0.0000%	27774	2172	12.8	1			1.0000E-09
28	19.389 4,4'DDD		38.2573	7.2989%	453043	136056	3.3	2	0	0	8.4445E-05
29	19.472 EndosulfII		30.1762	5.7572%	483814	134269	3.6	2	0	0	6.2371E-05
	19.923 4,4 DDT		40.4548 ~5.3%	7.7182%	443077	131073	3.4	1	0	0	9.0293E-05
	20.491		0.0001 35.2	0.0000%	79230	19031	4.2	1			1.0000E-09
	21.092 Endrin ald		18.6905 96%	3.5659%	187709	46588	4.0	1	0	0	9.9572E-05
	21.760		0.0000	0.0000%	8036	2457	3.3	1			1.0000E-09
34	22.311 Endos sulf		33.8316	6.4546%	380504	91862	4.1	1	0	0	8.8913E-05
35	23.797 Endrin ket		0.8594	0.1640%	10304	2680	3.8	1	0	0	8.3410E-05

TOTAL AMOUNT = 524.1499

GROUP AMOUNT GROUP PERCENT

Data File = D:0V14E176.PTS Printed on 11-25-1997 at 22:03:08
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mV.
Full Range: 300 millivolts



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QUENCE RECORDED IN D:NV14E.SEQ
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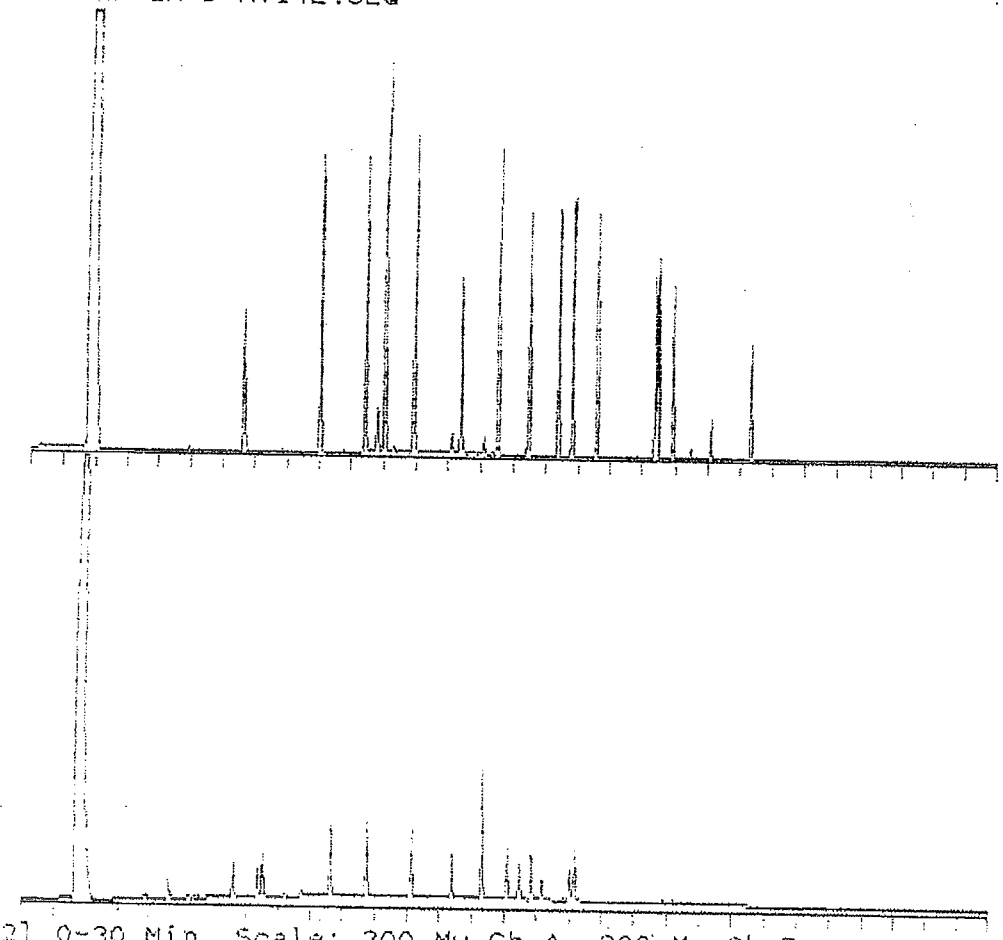
SEQUENCE RECORDED IN D:NV14E.SEQ
SEQUENCE RECORDED IN D:NV14E.SEQ



[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
85734 P/P Processed: 11-25-1997 17:17:04, segment 4, cycle 177
RAW DATA SAVED IN FILE D:NV14E177.PTS Second Channel Stored in D:0V14E177.PTS

EXTERNAL STANDARD TABLE

11-25-1997 17:18:11 Version 5.1.5

Sample Name: 85734 P/P MSD
Data File: D:NV14E177
Date: 11-25-1997 16:46:51 Method: M:APES-E 11-25-1997 14:16:36 # 399
Interface: 2 Cycle#: 177 Operator JJK Channel#: 0 Vial#: N.A.
Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701
Solvent Description:
Conditions:
Detector 0: Detector 1: ECD
Misc. Information:

arting Delay: 0.00
rea reject: 2000
mount injected: 1.00
Sample Weight: 1.00000

Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in	NORMALIZED	AREA/	REF	% DELTA

1	3.039	0.0001	0.0000%	63114	793	79.6	1			1.0000E-09
2	3.841	0.0000	0.0000%	22807	2782	8.2	1			1.0000E-09
3	4.576	0.0001	0.0000%	61489	11198	5.5	1			1.0000E-09
4	6.596 a-BHC	33.1843	6.4416%	101146	23704	4.3	1	0	.5104	3.2808E-04
5	7.331 B-BHC	33.5047	6.5038%	86442	19932	4.3	2	0	0	3.8760E-04
6	7.498 Y-BHC	33.5196	6.5066%	108369	28008	3.9	2	0	0	3.0931E-04
7	8.200 d-BHC	2.1259	0.4127%	4979	1269	3.9	1	0	0	4.2699E-04
8	8.751	0.0000	0.0000%	18110	4337	4.2	1			1.0000E-09
9	9.636 Heptachlor	42.5293	8.2556%	164418	46809	3.5	1	0	0	2.5867E-04
10	10.755 Aldrin	38.5216	7.4776%	173193	48933	3.5	1	0	0	2.2242E-04
11	12.141 Hept. epox.	36.5233	7.0897%	148796	43882	3.4	1	0	0	2.4546E-04
12	13.393 Endosulfan I	28.9906	5.6275%	105990	31064	3.4	1	0	0	2.7352E-04
13	14.329 Dieldrin	75.0277	14.5640%	315717	85662	3.7	1	0	0	2.3764E-04
14	15.097 Endrin	39.3332	7.6352%	115207	32862	3.5	1	0	0	3.4141E-04
15	15.464 Endoslf II	28.6111	5.5538%	89295	24675	3.6	1	0	.1113	3.2041E-04
16	15.832 4'4-DDD	37.1754	7.2163%	110114	28810	3.8	2	0	0	3.3761E-04
17	16.149 Endrin ald	15.8818	3.0829%	47645	12378	3.8	2	0	0	3.3333E-04
18	17.017 Endos sulf	27.3338	5.3059%	74567	20041	3.7	2	0	0	3.6657E-04
19	17.168 DDT	42.8966	8.3269%	135639	35462	3.8	2	0	0	3.1625E-04
20	19.906	0.0000	0.0000%	10157	2062	4.9	1			1.0000E-09
21	20.240	0.0000	0.0000%	8089	1911	4.2	1			1.0000E-09

TOTAL AMOUNT = 515.1591

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Areas, times, and heights stored in: D:NV14E177.ATB
Data File = D:NV14E177.PTS Printed on 11-25-1997 at 17:18:36
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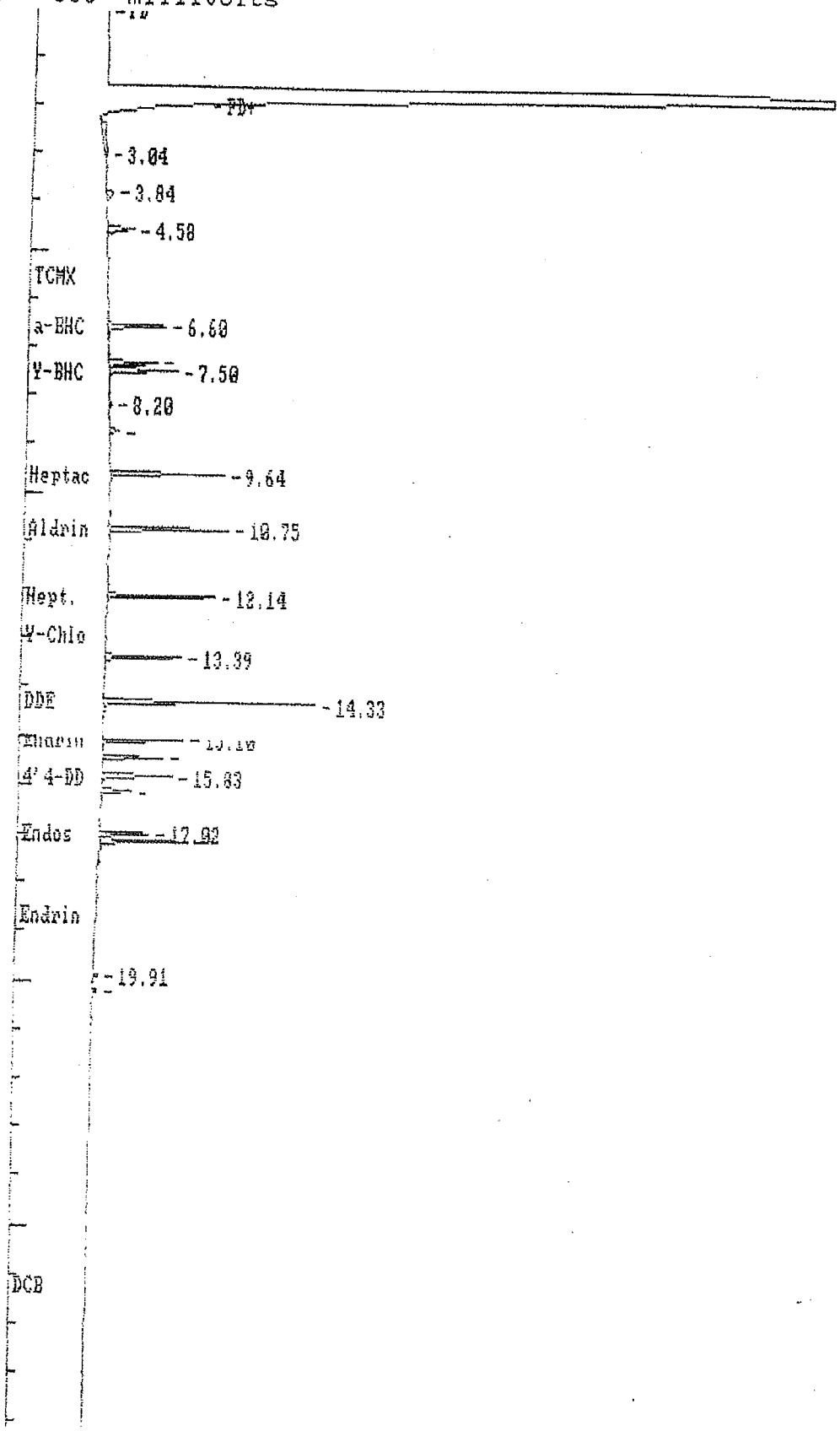
Full Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-25-1997 22:04:22 Version 5.1.5 **********

* Sample Name: 85734 P/P MSD Data File: D:OV14E177 *
* Date: 11-25-1997 16:46:51 Method: M:BPES-E 11-25-1997 20:41:01 # 393 *
* Interface: 2 Cycle#: 177 Operator JJK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000 *
* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.889		0.0004	0.0001%	404545	5133	78.8	1			1.0000E-09
2	4.643		0.0001	0.0000%	62890	3058	17.3	1			1.0000E-09
3	4.977		0.0001	0.0000%	80090	11560	6.9	2			1.0000E-09
4	5.127		0.0000	0.0000%	40043	8619	4.6	2			1.0000E-09
	6.112	TCMX	1.2293	0.2322%	19318	4062	4.8	1	0	-.2903	6.3638E-05
	6.613		0.0004	0.0001%	408166	100602	4.1	1			1.0000E-09
7	7.198		0.0000	0.0000%	10785	2357	4.6	1			1.0000E-09
8	7.849		0.0000	0.0000%	21060	4792	4.4	1			1.0000E-09
9	9.035	a-BHC	32.7604	6.1870%	716994	202434	3.5	1	0	0	4.5691E-05
10	10.421	Y-BHC	33.6921	6.3630%	701941	201919	3.5	1	0	0	4.7998E-05
11	10.305		0.0001	0.0000%	113896	28992	3.9	2			1.0000E-09
12	11.022	Heptachlor	40.3471	7.7143%	390738	264516	3.7	2	0	0	4.1327E-05
13	11.039		0.0000	0.0000%	9742	2253	4.3	1			1.0000E-09
14	11.924	Aldrin	35.8354	6.7678%	792966	215588	3.7	1	0	0	4.5192E-05
15	13.126		0.0000	0.0000%	43725	11387	3.8	1			1.0000E-09
16	13.393	B-BHC	34.6314	6.5404%	395525	118343	3.3	1	0	0	8.7558E-05
17	14.111	d-BHC	2.1399	0.4041%	33932	10617	3.2	1	0	0	6.3064E-05
18	14.395		0.0000	0.0000%	13897	2901	4.8	2			1.0000E-09
19	14.529	Hept. epox.	35.9945	6.7978%	762003	208822	3.6	2	0	0	4.7237E-05
20	15.481	Endosulf I	29.8102	5.4410%	577615	166465	3.5	1	0	0	4.9873E-05
21	16.383	4,4 DDE	34.2066	6.4602%	609321	169745	3.6	1	0	0	5.6139E-05
22	16.834	Dieldrin	41.8609	7.9095%	738570	186469	4.0	1	0	0	5.6705E-05
23	17.585	Endrin	40.4875	7.6464%	586745	170579	3.4	1	0	0	6.9004E-05
24	18.389	4,4'DDD	37.3318	7.0504%	442083	132154	3.3	2	0	0	8.4445E-05
25	19.472	Endosulfil	31.8719	6.0192%	511002	143374	3.6	2	0	0	6.2371E-05
26	19.923	4,4 DDT	39.4374	7.4480%	436809	126736	3.4	1	0	0	9.0285E-05
27	20.491		0.0001	0.0000%	79610	20181	3.9	1			1.0000E-09
28	21.092	Endrin ald	18.7705	3.5672%	168426	42019	4.0	1	0	0	9.9572E-05
29	21.760		0.0000	0.0000%	7821	2367	3.3	1			1.0000E-09
	22.311	Endos sulf	40.7666	7.6991%	458502	95976	4.8	1	0	0	8.8913E-05
	23.797	Endrin ket	0.8053	0.1521%	9655	2610	3.7	1	0	0	8.3410E-05

TOTAL AMOUNT = 529.5001

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E177.PTS Printed on 11-25-1997 at 22:04:31
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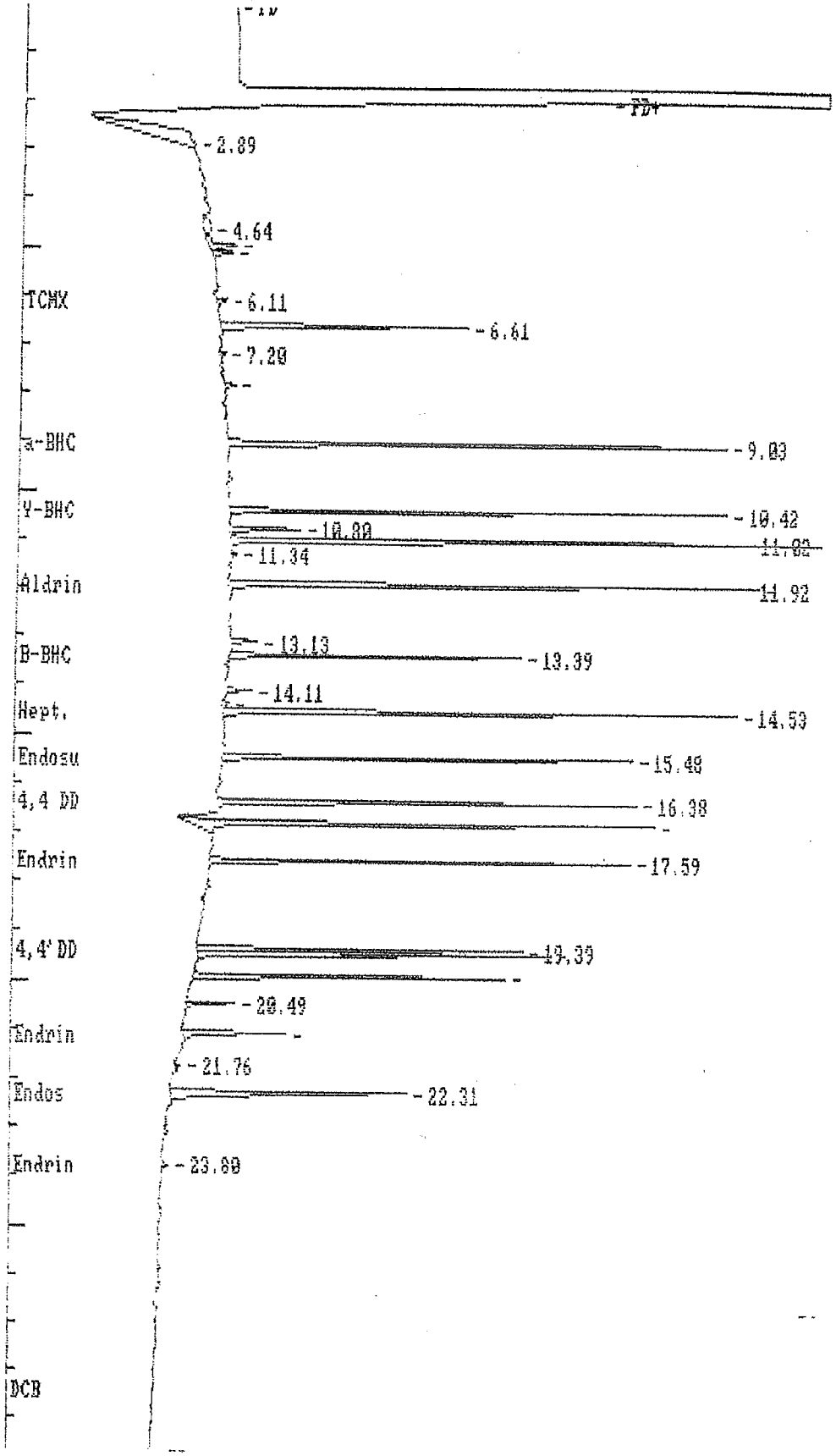


METALS DATA PACKAGE

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK British Airways

Project #: 97123007
Date Received: 11/18/97 15:00

The following results are for Silver

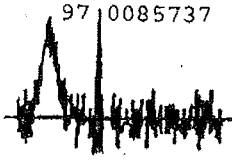
Lab #	Conc.	Unit	Client Designation
97 0085731	<0.050	mg/l	MW-2
97 0085732	<0.050	mg/l	MW-3
97 0085733	<0.050	mg/l	MW-5
97 0085734	<0.050	mg/l	MW-6
97 0085735	<0.050	mg/l	MW-7
97 0085736	<0.050	mg/l	MW-8
97 0085737	<0.050	mg/l	MW-9
97 0085738	<0.050	mg/l	MW-9A
97 0085739	<0.050	mg/l	Field Blank
97 0085741	<0.050	mg/l	MW-10

The following results are for Arsenic

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.0080	mg/l	MW-2
97 0085732	<0.0080	mg/l	MW-3
97 0085733	<0.0080	mg/l	MW-5
97 0085734	<0.0080	mg/l	MW-6
97 0085735	<0.0080	mg/l	MW-7
97 0085736	<0.0080	mg/l	MW-8
97 0085737	<0.0080	mg/l	MW-9
97 0085738	<0.0080	mg/l	MW-9A
97 0085739	<0.0080	mg/l	Field Blank
97 0085741	<0.0080	mg/l	MW-10

The following results are for Beryllium

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.010	mg/l	MW-2
97 0085732	<0.010	mg/l	MW-3
97 0085733	0.016	mg/l	MW-5
97 0085734	<0.010	mg/l	MW-6
97 0085735	<0.010	mg/l	MW-7
97 0085736	<0.010	mg/l	MW-8
97 0085737	<0.010	mg/l	MW-9



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Port Authority of NY & NJ
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97 0085738	<0.010	mg/l	MW-9A
97 0085739	<0.010	mg/l	Field Blank
97 0085741	<0.010	mg/l	MW-10

The following results are for Cadmium

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.020	mg/l	MW-2
97 0085732	<0.020	mg/l	MW-3
97 0085733	0.025	mg/l	MW-5
97 0085734	<0.020	mg/l	MW-6
97 0085735	<0.020	mg/l	MW-7
97 0085736	<0.020	mg/l	MW-8
97 0085737	<0.020	mg/l	MW-9
97 0085738	<0.020	mg/l	MW-9A
97 0085739	<0.020	mg/l	Field Blank
97 0085741	<0.020	mg/l	MW-10

The following results are for Chromium

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.050	mg/l	MW-2
97 0085732	<0.050	mg/l	MW-3
97 0085733	<0.050	mg/l	MW-5
97 0085734	<0.050	mg/l	MW-6
97 0085735	<0.050	mg/l	MW-7
97 0085736	<0.050	mg/l	MW-8
97 0085737	<0.050	mg/l	MW-9
97 0085738	<0.050	mg/l	MW-9A
97 0085739	<0.050	mg/l	Field Blank
97 0085741	<0.050	mg/l	MW-10

The following results are for Copper

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.050	mg/l	MW-2
97 0085732	<0.050	mg/l	MW-3
97 0085733	<0.050	mg/l	MW-5
97 0085734	<0.050	mg/l	MW-6

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Project #: 97123007
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Customer Project No. JFK British Airways

97 0085735	<0.050	mg/l	MW-7
97 0085736	<0.050	mg/l	MW-8
97 0085737	<0.050	mg/l	MW-9
97 0085738	<0.050	mg/l	MW-9A
97 0085739	<0.050	mg/l	Field Blank
97 0085741	<0.050	mg/l	MW-10

The following results are for Mercury

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.00020	mg/l	MW-2
97 0085732	<0.00020	mg/l	MW-3
97 0085733	<0.00020	mg/l	MW-5
97 0085734	<0.00020	mg/l	MW-6
97 0085735	<0.00020	mg/l	MW-7
97 0085736	<0.00020	mg/l	MW-8
97 0085737	<0.00020	mg/l	MW-9
97 0085738	<0.00020	mg/l	MW-9A
97 0085739	<0.00020	mg/l	Field Blank
97 0085741	<0.00020	mg/l	MW-10

The following results are for Nickel

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.050	mg/l	MW-2
97 0085732	<0.050	mg/l	MW-3
97 0085733	<0.050	mg/l	MW-5
97 0085734	<0.050	mg/l	MW-6
97 0085735	<0.050	mg/l	MW-7
97 0085736	<0.050	mg/l	MW-8
97 0085737	<0.050	mg/l	MW-9
97 0085738	<0.050	mg/l	MW-9A
97 0085739	<0.050	mg/l	Field Blank
97 0085741	<0.050	mg/l	MW-10

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK British Airways

Project #: 97123007
Date Received: 11/18/97 15:00

The following results are for Lead

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.0050	mg/l	MW-2
97 0085732	<0.0050	mg/l	MW-3
97 0085733	<0.0050	mg/l	MW-5
97 0085734	<0.0050	mg/l	MW-6
97 0085735	<0.0050	mg/l	MW-7
97 0085736	<0.0050	mg/l	MW-8
97 0085737	<0.0050	mg/l	MW-9
97 0085738	<0.0050	mg/l	MW-9A
97 0085739	<0.0050	mg/l	Field Blank
97 0085741	<0.0050	mg/l	MW-10

The following results are for Antimony

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.0050	mg/l	MW-2
97 0085732	<0.0050	mg/l	MW-3
97 0085733	<0.0050	mg/l	MW-5
97 0085734	<0.0050	mg/l	MW-6
97 0085735	<0.0050	mg/l	MW-7
97 0085736	<0.0050	mg/l	MW-8
97 0085737	<0.0050	mg/l	MW-9
97 0085738	<0.0050	mg/l	MW-9A
97 0085739	<0.0050	mg/l	Field Blank
97 0085741	<0.0050	mg/l	MW-10

The following results are for Selenium

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.0050	mg/l	MW-2
97 0085732	<0.0050	mg/l	MW-3
97 0085733	<0.0050	mg/l	MW-5
97 0085734	<0.0050	mg/l	MW-6
97 0085735	<0.0050	mg/l	MW-7
97 0085736	<0.0050	mg/l	MW-8
97 0085737	<0.0050	mg/l	MW-9

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397

Project #: 97123007
Date Received: 11/18/97 15:00

Customer Project No. JFK British Airways

97 0085738	<0.0050	mg/l	MW-9A
97 0085739	<0.0050	mg/l	Field Blank
97 0085741	<0.0050	mg/l	MW-10

The following results are for Thallium

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.0050	mg/l	MW-2
97 0085732	<0.0050	mg/l	MW-3
97 0085733	<0.0050	mg/l	MW-5
97 0085734	<0.0050	mg/l	MW-6
97 0085735	<0.0050	mg/l	MW-7
97 0085736	<0.0050	mg/l	MW-8
97 0085737	<0.0050	mg/l	MW-9
97 0085738	<0.0050	mg/l	MW-9A
97 0085739	<0.0050	mg/l	Field Blank
97 0085741	<0.0050	mg/l	MW-10

The following results are for Zinc

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.050	mg/l	MW-2
97 0085732	<0.050	mg/l	MW-3
97 0085733	0.064	mg/l	MW-5
97 0085734	<0.050	mg/l	MW-6
97 0085735	<0.050	mg/l	MW-7
97 0085736	<0.050	mg/l	MW-8
97 0085737	0.058	mg/l	MW-9
97 0085738	0.057	mg/l	MW-9A
97 0085739	<0.050	mg/l	Field Blank
97 0085741	<0.050	mg/l	MW-10

EMSL Anal I Services

Sample Digestion Chain of Custody

Digestion Date Begin: 11/19/97

Tech(s): TL

Matrix:	Aqueous	Soil	Sludge	Oil	Filter	Paintchips	Cassette	TCLP	Other:
	X								

Analysis: X ICP X GFAA

Batch Number: B656 Book: 277 Page: 5 Temp. (C) 95

#	EMSL Sample ID	Prep Amount Volume(ml)	Volume(ml)	Analysis Date/s Element(s) Required	Due
A10C	85731	50.00	50.00		
A11	85732	50.00	50.00		
A12	85733	50.00	50.00		
A13	85734	50.00	50.00		
A14	85735	50.00	50.00		
A15	85736	50.00	50.00		
A16	85737	50.00	50.00		
A17	85738	50.00	50.00		
A18	85739	50.00	50.00		
A19	85741	50.00	50.00		
A20	85742	50.00	50.00		
A21	85743	50.00	50.00		
A22					
A23					
A24					
A25					
A26					
A27					
A28					
A29					

#			Batch QC Provided: Initial Wt(g)/Vol(ml)	Final Vol(ml)
A2,3	2	Prep Blank	50	50
A4	1	Control #1 ICP	50	50
A6	1	Sample Dup	50	50
A7	1	Matrix Spike #1 ICP	50	50
A8	1	M.Spike DuP #1 ICP	50	50
A5	1	Control #2 GFAA	50	50
		SampleDup #2		
A9	1	Matrix Spike#2 GFAA	50	50
A10	1	M.Spike Dup#2 GFAA	50	50

Digestion Method:

	SW-846 3005		SW-846 3051
	SW-846 3010	X	DIG 200 for ICP/GFAA
	SW-846 3015		NIOSH
	SW-846 3020	Other:	
	SW-846 3040		
	SW-846 3050		

Amount Spike Added (ml)	Standard Serial ID	
0.5	ICP	109-23-D
0.5	GFAA	257-27-G

Lot # HNO3 Lot # HCL Lot # H2O2

Lot # 1+1HNO3 Lot # 1+1HCL

Relinquished By: Date: Received By: Date:

ICP Check Standard

Batch Number B656

Matrix: Aqueous

Analyte	ICV Result mg/l	True Conc mg/l	% Rec 90-110	ICB Result mg/l	CCV-1 Result mg/l	True Conc mg/l	% Rec 95-105	CCB-1 Result mg/l	CCV-F Result mg/l	True Conc mg/l	% Rec 90-110	CCB-F Result mg/l
Ag	0.514	0.5	103	< 0.050	0.514	0.5	103	< 0.050	0.517	0.5	103	< 0.050
Al		5.0		<		5.0		<		5.0		<
As		2.0		<		2.5		<		2.5		<
B		/	ERR	<		/	ERR	<		/	ERR	<
Ba		10.0		<		10.0		<		10.0		<
Be	0.208	0.2	104	< 0.010	0.263	0.25	105	< 0.010	0.255	0.25	102	< 0.010
Ca		25.0		<		25.0		<		25.0		<
Cd	0.495	0.5	99	< 0.020	0.514	0.5	103	< 0.020	0.498	0.5	100	< 0.020
Co		0.5		<		0.5		<		0.5		<
Cr	2.077	2.0	104	< 0.050	2.601	2.5	104	< 0.050	2.546	2.5	102	< 0.050
Cu	1.978	2.0	99	< 0.050	2.620	2.5	105	< 0.050	2.594	2.5	104	< 0.050
Fe		5.0		<		5.0		<		5.0		<
K		25.0		<		25.0		<		25.0		<
Mg		25.0		<		25.0		<		25.0		<
Mn		2.0		<		2.5		<		2.5		<
Mo		1.0		<		1.0		<		1.0		<
Na		25.0		<		25.0		<		25.0		<
Ni	2.067	2.0	103	< 0.050	2.544	2.5	102	< 0.050	2.507	2.5	100	< 0.050
Pb		10.0		<		10.0		<		10.0		<
Sb		2.0		<		2.5		<		2.5		<
Se		2.0		<		2.5		<		2.5		<
Si		/	ERR	<		/	ERR	<		/	ERR	<
Sn		/	ERR	<		/	ERR	<		/	ERR	<
Tl		2.0		<		2.5		<		2.5		<
Ti		2.0		<		2.5		<		2.5		<
V		0.5		<		0.5		<		0.5		<
Zn	2.065	2.0	103	< 0.050	2.561	2.5	102	< 0.050	2.520	2.5	101	< 0.050

ICP Interference Check Standard

EMSL Standard ID ICSAB-1 | Check Standard Source Spex
Batch # B656 | Matrix: Aqueous

Analyte	Control Limits Mean	Control Limits Std.Dev.	True Value mg/l	Initial Measured mg/l	% R	Final Measured mg/l	% R
Ag			1.0	0.959	95.9	0.952	95.2
Al			500.0				
As					ERR		ERR
B					ERR		ERR
Ba			0.5				
Be			0.5	0.520	104.0	0.507	101.3
Ca			500.0				
Cd			1.0	0.883	88.3	0.877	87.7
Co			0.5				
Cr			0.5	0.474	94.9	0.473	94.6
Cu			0.5	0.437	87.4	0.434	86.8
Fe			200.0				
K					ERR		ERR
Mg			500.0				
Mn			0.5				
Mo					ERR		ERR
Na					ERR		ERR
Ni			1.0	0.894	89.4	0.893	89.3
Pb			1.0				
Sb					ERR		ERR
Se					ERR		ERR
Si					ERR		ERR
Sn					ERR		ERR
Tl					ERR		ERR
Ti					ERR		ERR
V			0.5				
Zn			1.0	0.949	94.9	0.930	93.0

EMSL ... al Services

QC Sample 85731 Matrix: Aqueous Batch Numb. B656

	Blank/DL		Duplicate			Dilution		Spike								Control		
Analyte	Prep Blank mg/l	Detection Limit mg/l	Sample Result mg/l	Dup Samp Result mg/l	RPD %	1:5 Serial Dilution mg/l	% Diff.	True Conc mg/l	MS Result mg/l	% Rec 70-130	MSD Result mg/l	% Rec 70-130	RPD %	PostSpike Result mg/l	% Rec 85-115	Control Result mg/l	True Conc mg/l	% Rec 85-115
Ag	< 0.05	0.05	< 0.0500	< 0.0500		< 0.2500	400.00	0.1	0.0901	90	0.0867	87	3.8	0.0859	86	0.0989	0.1	99
Al	<				ERR		ERR	2					ERR				2	
As	<				ERR		ERR	2					ERR				2	
B	<				ERR		ERR			ERR		ERR	ERR		ERR			ERR
Ba	<				ERR		ERR	2					ERR				2	
Be	< 0.01	0.01	< 0.0100	< 0.0100		< 0.0500	400.00	0.05	0.0560	112	0.0553	111	1.3	0.0552	110	0.0519	0.05	104
Ca	<				ERR		ERR	20					ERR				20	
Cd	< 0.02	0.02	< 0.0200	< 0.0200		< 0.1000	400.00	0.2	0.1949	97	0.1971	99	1.1	0.1920	96	0.1981	0.2	99
Co	<				ERR		ERR	0.5					ERR				0.5	
Cr	< 0.05	0.05	< 0.0500	< 0.0500		< 0.2500	400.00	0.5	0.4747	95	0.4628	93	2.5	0.4912	98	0.5013	0.5	100
Cu	< 0.05	0.05	< 0.0500	< 0.0500		< 0.2500	400.00	0.5	0.4785	96	0.4553	91	5.0	0.4610	92	0.4913	0.5	98
Fe	<						ERR	2					ERR				2	
K	<				ERR		ERR	20					ERR				20	
Mg	<				ERR		ERR	20					ERR				20	
Mn	<						ERR	0.5					ERR				0.5	
Mo	<				ERR		ERR	0.5					ERR				0.5	
Na	<				ERR		ERR	20					ERR				20	
Ni	< 0.05	0.05	< 0.0500	< 0.0500		< 0.2500	400.00	0.5	0.5260	105	0.4929	99	6.5	0.4934	99	0.5227	0.5	105
Pb	<				ERR		ERR	2					ERR				2	
Sb	<				ERR		ERR	5					ERR				5	
Se	<				ERR		ERR	2					ERR				2	
Si	<				ERR		ERR			ERR		ERR	ERR		ERR			ERR
Sn	<				ERR		ERR			ERR		ERR	ERR		ERR			ERR
Tl	<				ERR		ERR	5					ERR				5	
Ti	<				ERR		ERR	2					ERR				2	
V	<				ERR		ERR	0.5					ERR				0.5	
Zn	< 0.05	0.05	< 0.0500	< 0.0500		< 0.2500	400.00	0.5	0.5316	106	0.5244	105	1.4	0.5719	114	0.5074	0.5	101

EMSL Analytical Services

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Graphite Furnace QC Results Report

Samples in batch:	
85731	85738
85732	85739
85733	85741
85734	85742
85735	85743
85736	
85737	

Batch Number B656

Matrix: Aqueous

Analyte	Analysis Date	ICV Result mg/l	True Conc mg/l	% Rec 90-110	ICB Result mg/l	CCV-1 Result mg/l	True Conc mg/l	% Rec 80-120	CCB-1 Result mg/l	CCV-F Result mg/l	True Conc mg/l	% Rec 80-120	CCB-F Result mg/l
As	11/25/97	0.040	0.040	101	< 0.0080	0.039	0.040	98	< 0.0080	0.039	0.040	97	< 0.0080
Se	11/20/97	0.018	0.020	90	< 0.0050	0.020	0.020	99	< 0.0050	0.019	0.020	93	< 0.0050
Pb	11/25/97	0.041	0.040	103	< 0.0050	0.041	0.040	102	< 0.0050	0.041	0.040	103	< 0.0050
Sb	11/22/97	0.020	0.020	98	< 0.0050	0.021	0.020	104	< 0.0050	0.021	0.020	105	< 0.0050
Tl	11/20/97	0.021	0.020	104	< 0.0050	0.021	0.020	103	< 0.0050	0.018	0.020	92	< 0.0050
Cd			0.002		0.0005		0.002		0.0005		0.002		0.0005

Comment:

NR = No Recovery

#1 = Matrix Interference

#2 = High Analyte

Graphite Furnace QC Results Report

Samples in batch:	
85731	85738
85732	85739
85733	85741
85734	85742
85735	85743
85736	
85737	

QC Sample 85731 Matrix: Aqueous Batch Numb. B656

		Blank/DL		Duplicate					Spike										Control		
Analyte	Analysis Date	Prep Blank mg/l	Detection Limit mg/l	Sample Result mg/l	Dup Samp Result mg/l	RPD %	1:5 Serial Dilution mg/l	% Diff.	MS Result mg/l	True Conc mg/l	% Rec 80-120	MSD Result mg/l	True Conc mg/l	% Rec 80-120	RPD %	1:5 PostSpk Result mg/l	True Conc mg/l	% Rec 85-115	Control Result mg/l	True Conc mg/l	% Rec 80-120
As	11/25/97	< 0.008	0.008	< 0.008	0.008		< 0.008		0.008	0.040	20	0.008	0.040	20		0.931	0.020	93	0.035	0.040	88
Se	11/20/97	< 0.005	0.005	< 0.005	< 0.005		< 0.005		0.009	0.020	43	0.009	0.020	47	4.4	0.086	0.020	86	0.019	0.020	96
Pb	11/25/97	< 0.005	0.005	< 0.005	< 0.005		< 0.005		0.005	0.020	25	0.005	0.020	25		0.102	0.020	102	0.020	0.020	102
Sb	11/22/97	< 0.005	0.005	< 0.005	< 0.005		< 0.005		0.019	0.020	93	0.019	0.020	94	1.0	0.023	0.021	108	0.021	0.020	103
Tl	11/20/97	< 0.005	0.005	< 0.005	< 0.005		< 0.005		0.019	0.020	96	0.019	0.020	93	1.5	0.019	0.020	97	0.019	0.020	96
Cd		0.001	0.001			ERR		ERR		0.002	-250		0.002	-250			0.002			0.002	

Comment:

NR = No Recovery

#1 = Matrix Interference

#2 = High Analyte

Mercury CVAA QC Results Report-Aqueous

Samples in batch:

85741	85733
85739	85732
85738	85731
85737	
85736	
85735	
85734	

Analyte	Analysis Date	ICV Result mg/l	True Conc mg/l	% Rec 90-110	ICB Result mg/l	CCV-1 Result mg/l	True Conc mg/l	% Rec 90-110	CCB-1 Result mg/l	CCV-F Result mg/l	True Conc mg/l	% Rec 90-110	CCB-F Result mg/l
Hg	11/19/97	0.00198	0.0020	99	< 0.00020	0.00191	0.0020	95	< 0.00020	0.00188	0.0020	94	< 0.00020

Comment:

NR = No Recovery

#1 = Matrix Interference

#2 = High Analyte

E. [illegible]lytical Services

Mercury CVAA QC Results Report-Aqueous

Samples in batch:

85741	85733
85739	85732
85738	85731
85737	
85736	
85735	
85734	

QC Sample 85741

		Blank/DL		Duplicate					Spike										Control		
Analyte	Analysis Date	Prep Blank mg/l	Detection Limit mg/l	Sample Result mg/l	Dup Samp Result mg/l	RPD %	1:5 Serial Dilution mg/l	% Diff.	MS Result mg/l	True Conc mg/l	% Rec 80-120	MSD Result mg/l	True Conc mg/l	% Rec 80-120	RPD %	1:5 PostSpk Result mg/l	True Conc mg/l	% Rec 85-115	Control Result mg/l	True Conc mg/l	% Rec 80-120
Hg	11/19/97	< 0.0002	0.0002	< 0.00020	< 0.00020		NA		0.00192	0.0020	96	0.00192	0.0020	96	0.2	NA	NA	NA	0.00194	0.0020	97

Comment:

NR = No Recovery

#1 = Matrix Interference

#2 = High Analyte

PETROLEUM HYDROCARBON DATA PACKAGE

511

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397
Customer Project No. JFK British Airways

Project #: 97123007
Date Received: 11/18/97 15:00

The following results are for Petroleum Hydrocarbons, Total (I.R)

Lab #	Conc.	Unit	Client Designation
97 0085731	<1.0	mg/l	MW-2
97 0085732	<1.0	mg/l	MW-3
97 0085733	<1.0	mg/l	MW-5
97 0085734	<1.0	mg/l	MW-6
97 0085735	<1.0	mg/l	MW-7
97 0085736	<1.0	mg/l	MW-8
97 0085737	<1.0	mg/l	MW-9
97 0085738	<1.0	mg/l	MW-9A
97 0085739	<1.0	mg/l	Field Blank
97 0085741	<1.0	mg/l	MW-10

EMSL

BLANKS

Lab Name: EMSL Analytical Contract: ____________

Lab Code: ________ Case No.: ________ AS No.: ________ SDG No.: ________

Preparation Blank Matrix (Soil/Water): Water

Preparation Blank Concentration Units (mg/l or mg/kg): mg/l

Analyte	Initial Calib. Blank (mg/l)	C	Continuing Calibration Blank (mg/l) 1	C	2	C	3	C	Preparation Blank	C	M
Total Petroleum Hydrocarbons									<1		

PETROLEUM HYDROCARBON MATRIX SPIKE RECOVERY

Lab Name: EMSL ANALYTICAL, INC.

Lab Code: _____

Lab Sample ID: _____97-85742_____

Concentration Units (mg/l or mg/kg dry weight): ___mg/l_____

Compound	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Total Petroleum Hydrocarbons	**80-120**	**2.35**		**0.22**		**2.49**	**86**		

*VALUES OUTSIDE OF QC LIMITS

Spike Recovery:____0_____ out of _____1_____ outside limits

COMMENTS:_____

EMSL

PETROLEUM HYDROCARBON RESULT/DUPLICATE RECOVERY

Lab Name: **EMSL ANALYTICAL, INC.**

Lab Code: _____

Lab Sample ID: ___97-85741_____

Parameter	Units	Sample Result	Conc. Duplicate	RPD %	QC Limits Recovery
Total Petroleum Hydrocarbons	**mg/l**	**<1**	**<1**	**NC**	**+/-20%**

* Values outside of QC limits.

RPD:___0_____ out of _____1_____ outside limits

Comments:_____

EMSL

PETROLEUM HYDROCARBON CONTROL RECOVERY

Lab Name: **EMSL ANALYTICAL, INC.**

Lab Code: _____

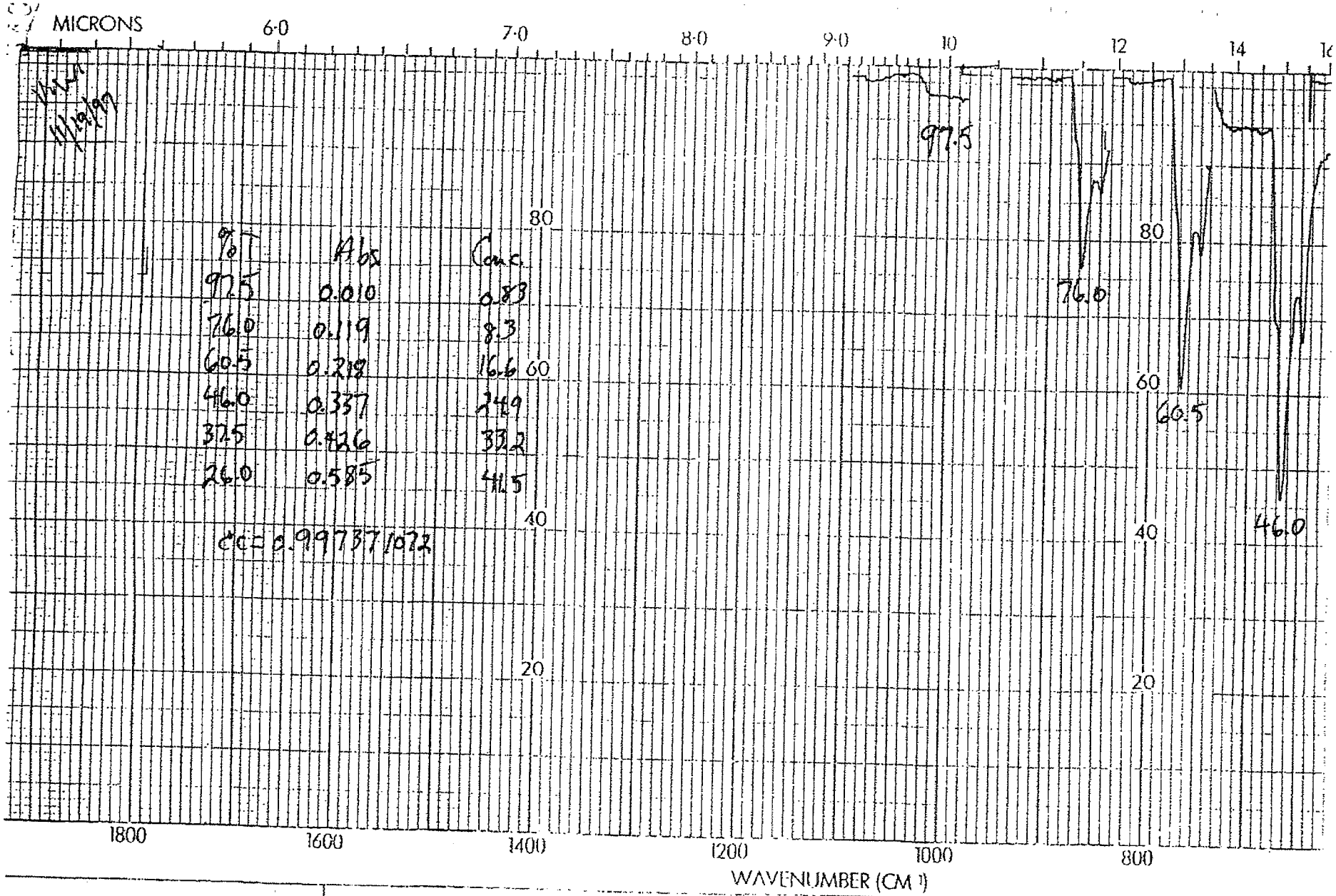
Lab Sample ID: _____**Control**_____

Compound	Control Actual Value mg	Control Theoretical Value, mg	% Recovery	QC Limits Recovery
Total Petroleum Hydrocarbons	**2.52**	**2.49**	**101**	**80-120**

* VALUES OUTSIDE OF QC LIMITS

Control Recovery: ____**0**_____ out of _____**1**_____ outside limits

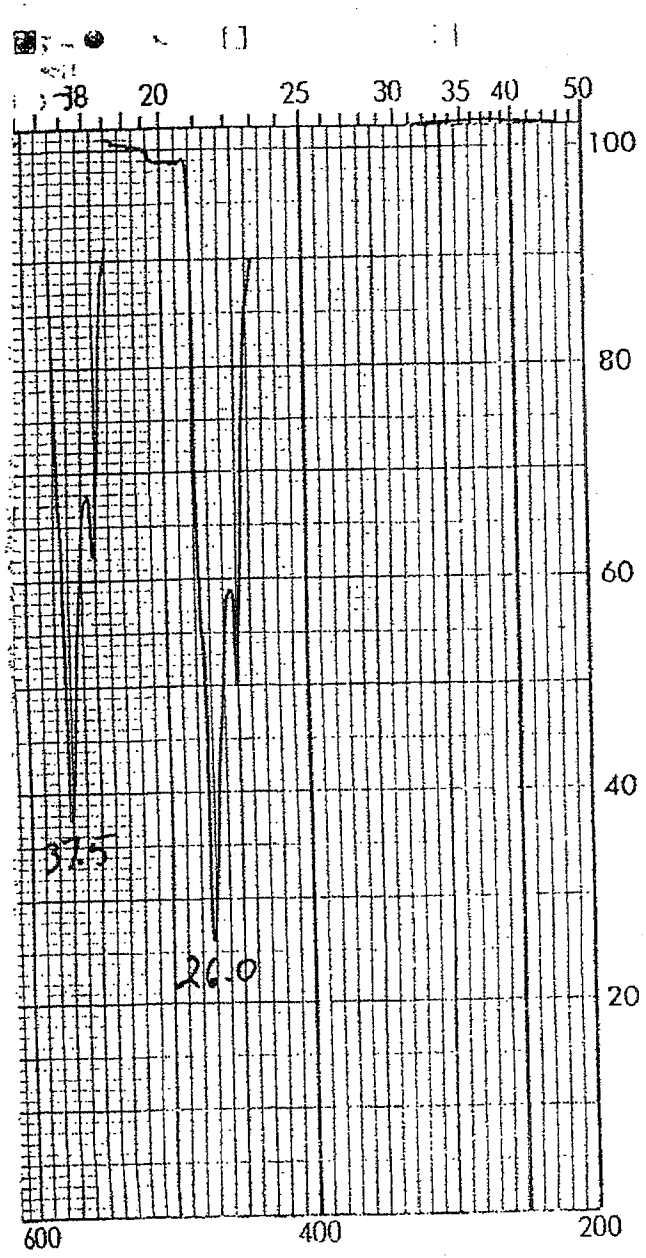
COMMENTS:_____



REMARKS

SCAN MODE

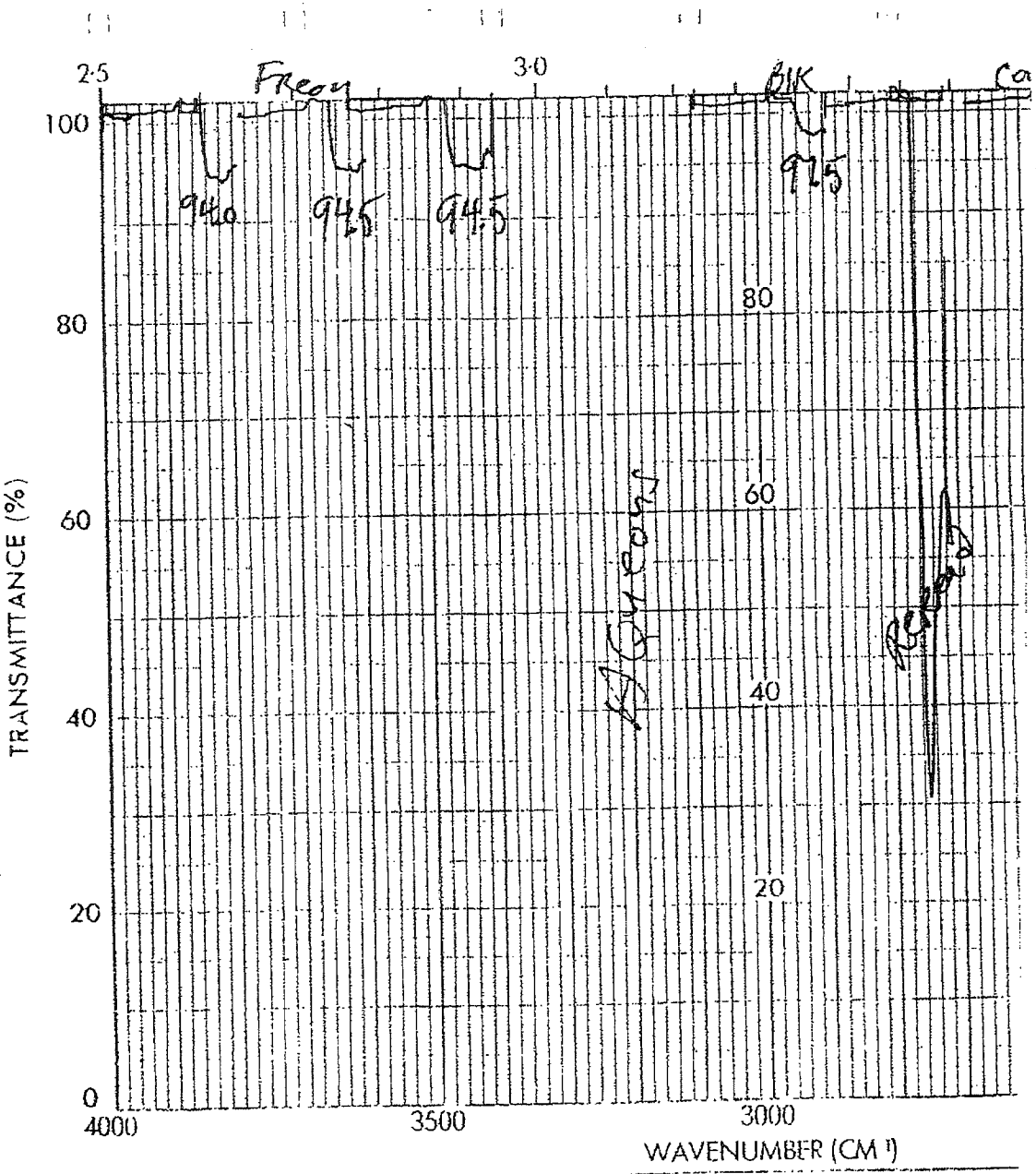
SLIT TIME CONSTANT



OPERATOR

DATE

No.



SAMPLE

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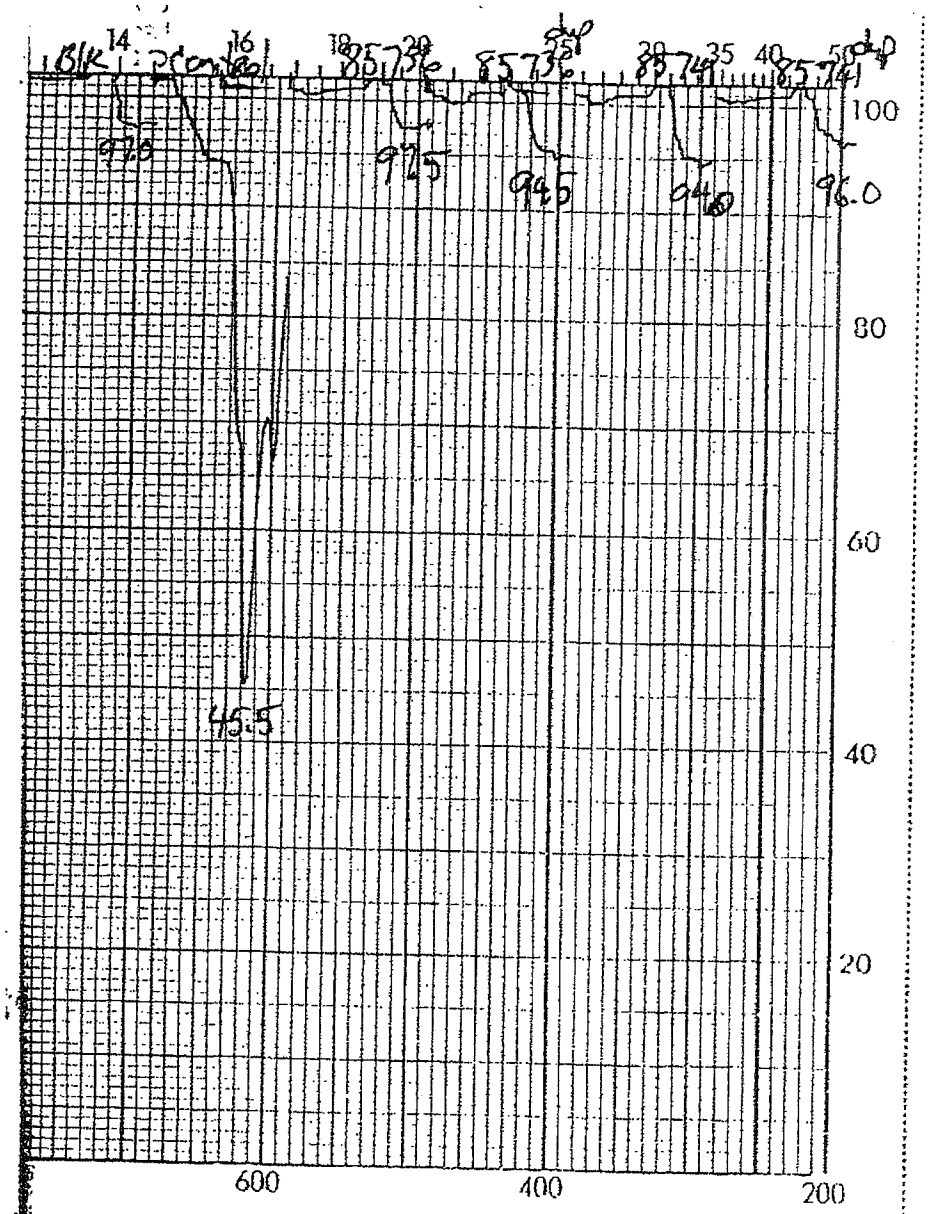
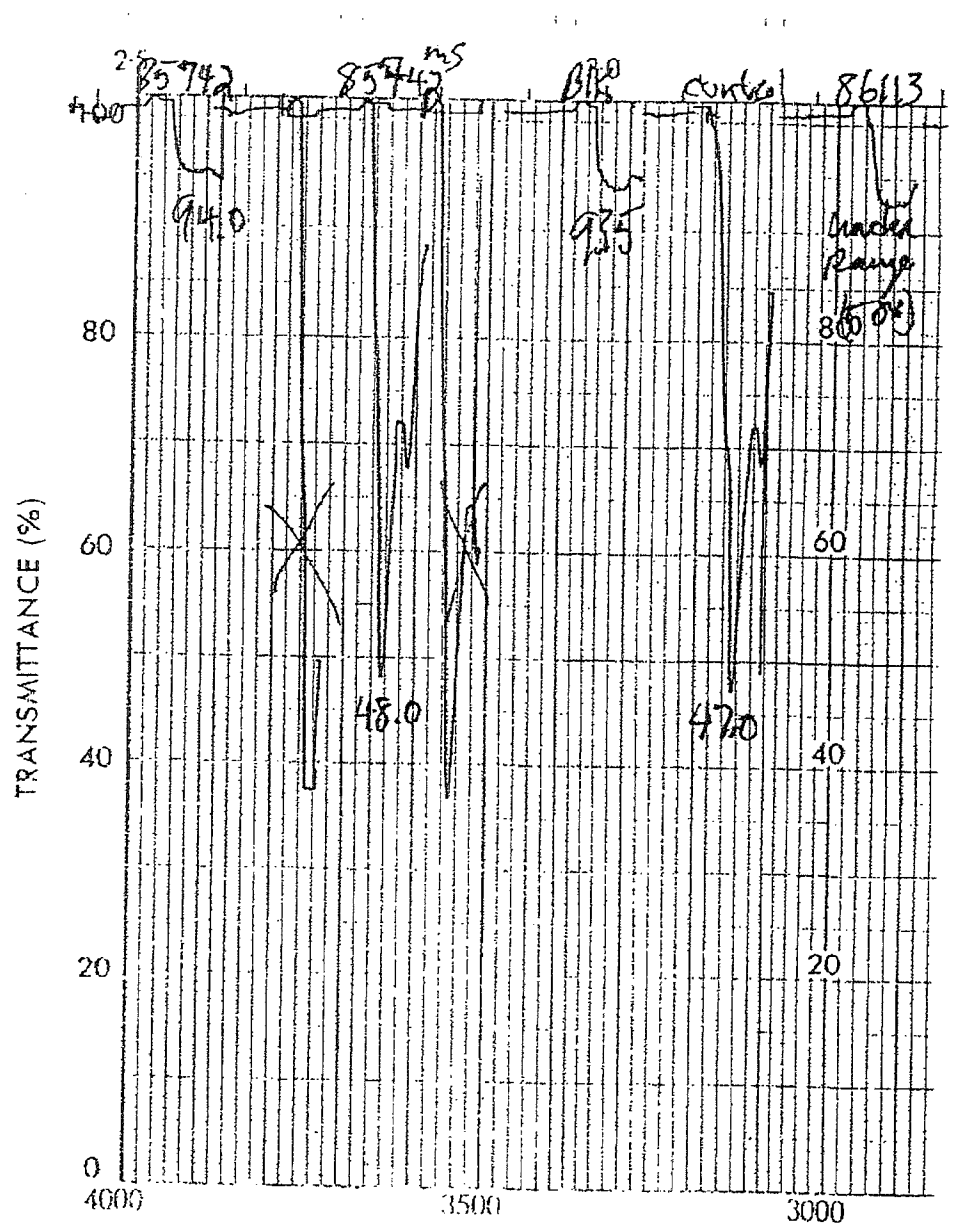
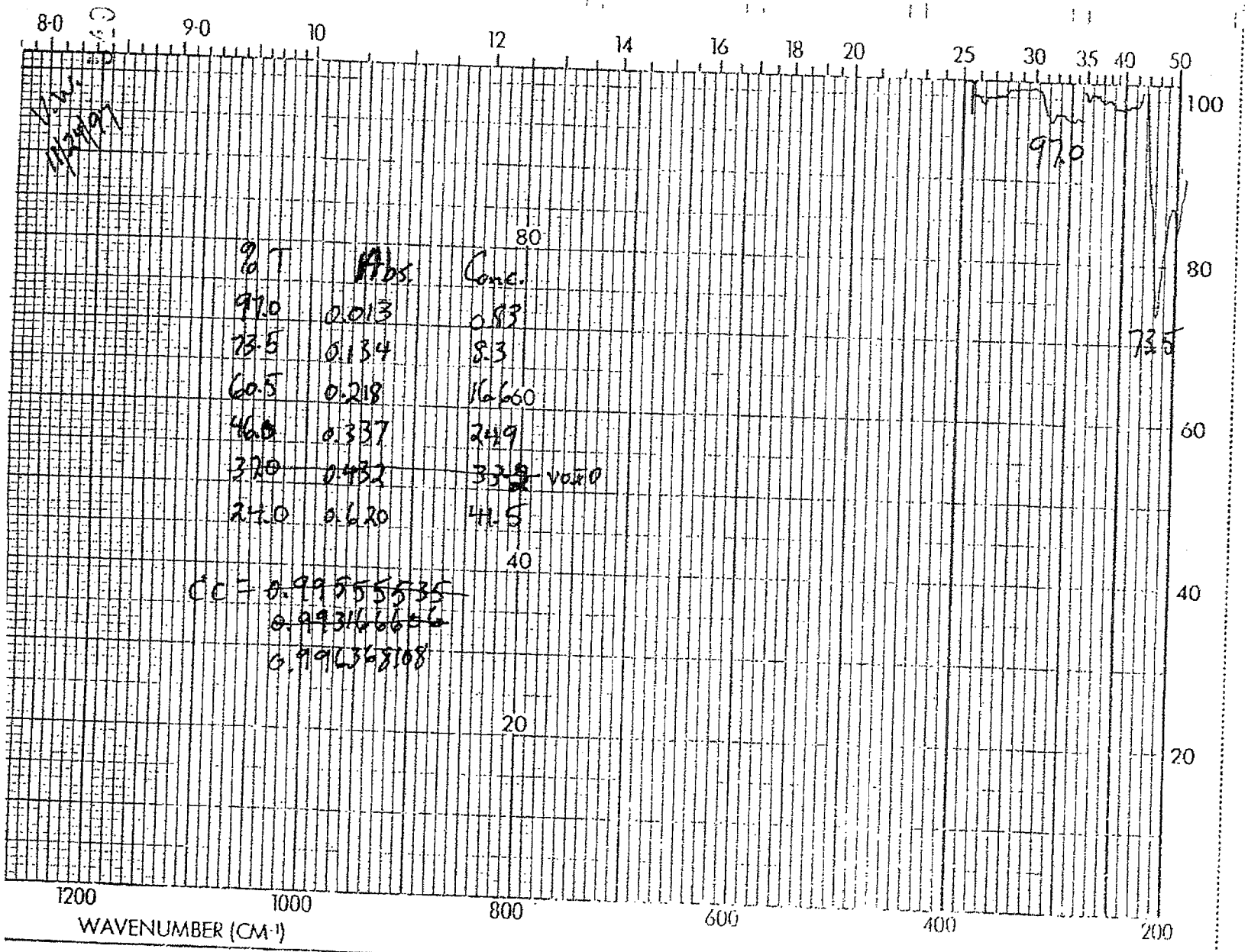
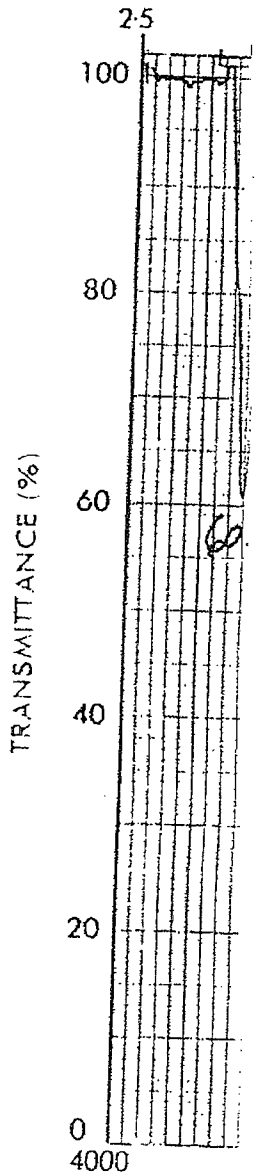


E CONSTANT	OPERATOR DATE
CONTROLS CORPORATION BUFFALO NEW YORK PR 5100-4367	REF No.



SAMPLE
ORIGIN

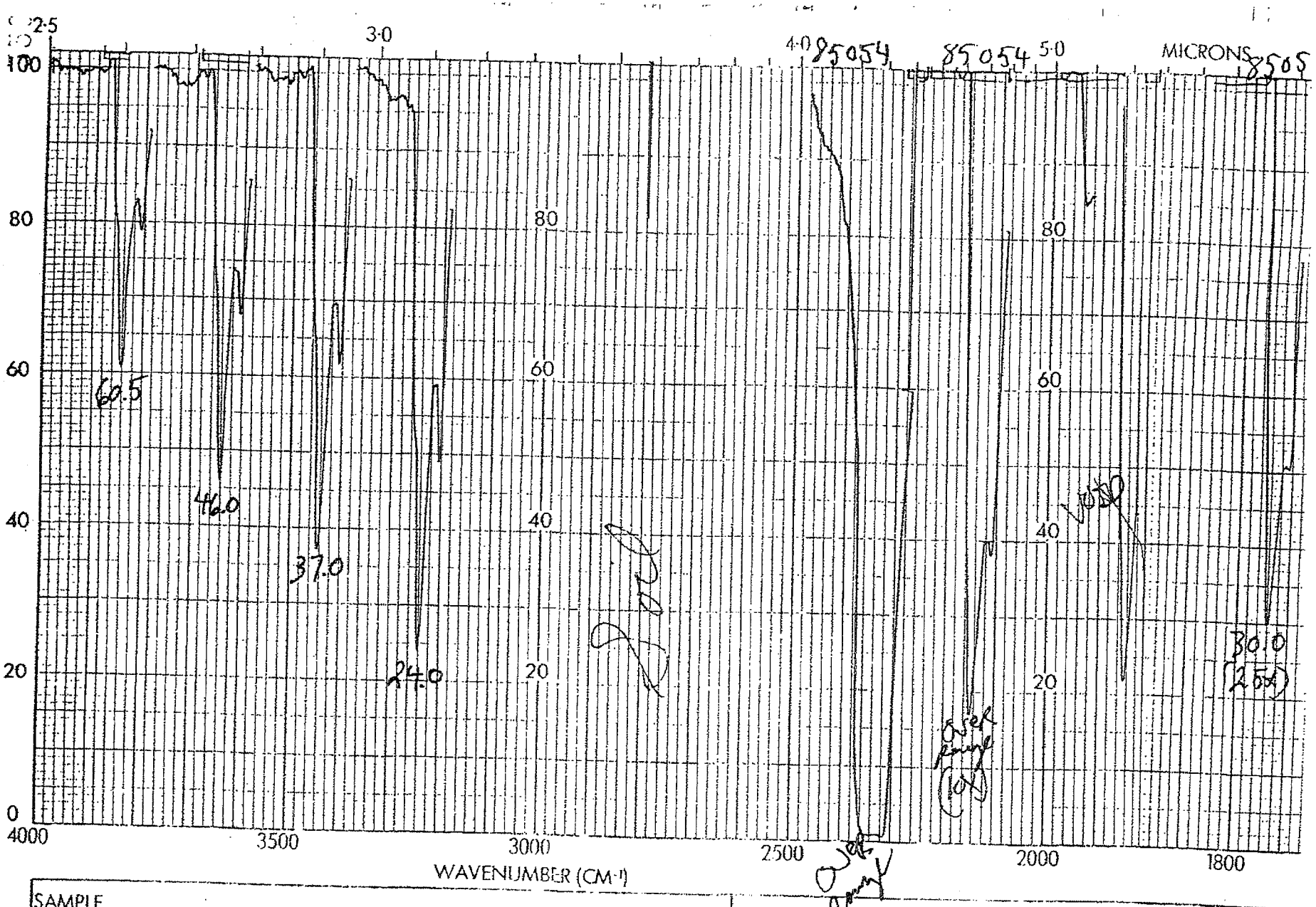


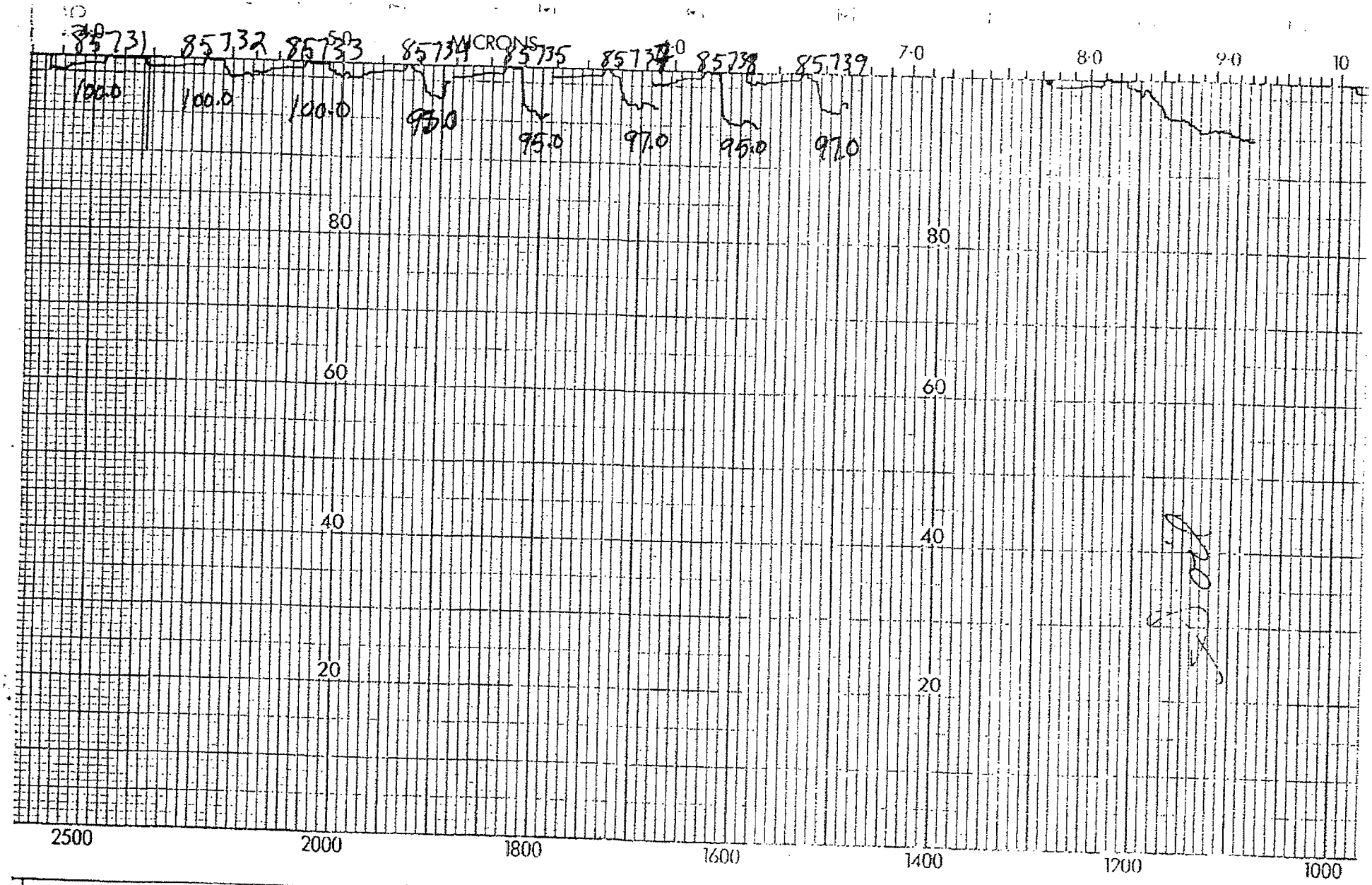


	SCAN MODE SLIT TIME CONSTANT	OPERATOR DATE
	GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK No. PR 5100-4367	REF No.

SAMPLE

ORIGIN


2·5
3·0
4·0
5·0
MICRONS
85054
85054
85054
100
80
60
40
20
0
TRANSMITTANCE (%)
60.5
46.0
37.0
24.0
30.0
(265)
4000
3500
3000
2500
2000
1800
WAVENUMBER (CM⁻¹)
SAMPLE
SOLVENT
CONCENTRATION
CELL PATH
REFERENCE



SOLVENT

CONCENTRATION

CELL PATH

REFEREN(

REMARKS

GENERAL CHEMISTRY ANALYSIS DATA PACKAGE

Attention: Dorian A. Bailey
Port Authority of NY & NJ
Engineering Department
241 Erie St., Room 234
Jersey City, NJ 07310-1397

Project #: 97123007
Date Received: 11/18/97 15:00

Customer Project No. JFK British Airways

The following results are for Phenolics as phenol

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.050	mg/l	MW-2
97 0085732	<0.050	mg/l	MW-3
97 0085733	<0.050	mg/l	MW-5
97 0085734	<0.050	mg/l	MW-6
97 0085735	<0.050	mg/l	MW-7
97 0085736	<0.050	mg/l	MW-8
97 0085737	<0.050	mg/l	MW-9
97 0085738	<0.050	mg/l	MW-9A
97 0085739	<0.050	mg/l	Field Blank
97 0085741	<0.050	mg/l	MW-10

The following results are for Total Cyanide

Lab #	Conc.	Unit	Client Designation
97 0085731	<0.010	mg/l	MW-2
97 0085732	<0.010	mg/l	MW-3
97 0085733	<0.010	mg/l	MW-5
97 0085734	<0.010	mg/l	MW-6
97 0085735	<0.010	mg/l	MW-7
97 0085736	<0.010	mg/l	MW-8
97 0085737	<0.010	mg/l	MW-9
97 0085738	<0.010	mg/l	MW-9A
97 0085739	<0.010	mg/l	Field Blank
97 0085741	<0.010	mg/l	MW-10

BLANKS

Lab Name: EMSL Analytical Contract: _____

Lab Code: _____ Case No.: _____ AS No.: _____ SDG No.: _____

Preparation Blank Matrix (Soil/Water): Water

Preparation Blank Concentration Units (ug/l or mg/kg): mg/l

Analyte	Initial Calib. Blank (ug/l)	C	Continuing Calibration Blank (ug/l) 1	C	2	C	3	C	Preparation Blank	C	M
Phenolics									**<0.05**		
Total Cyanide									**<0.01**		

SPIKE SAMPLE RECOVERY

Lab Name: **EMSL Analytical** Contract: _____ Lab Sample No.: **97-85739, 97-81282**

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): **Water** Level (low/med) : _____

% Solids for Sample: _____

Concentration Units (mg/l or mg/kg dry weight): **mg/l**

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Phenolics	**75-125**	**0.478**		**0**		**0.500**	**96.0**		
Total Cyanide	**75-125**	**0.370**		**0**		**0.400**	**93.0**		

Comments: _____

EMSL

DUPLICATES

Lab Name: **EMSL ANALYTICAL** Contract: _____ Lab Sample No.: **97-81187, 97-81279**

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): **Water** :Level (low/med.): _____

% Solids for Sample: _____ % Solids for Duplicate: _____

Concentration units (mg/l or mg/kg dry weight) **mg/l**

Analyte	Control Limit	Sample(S)	C	Duplicate(D)	C	RPD	Q	M
Phenolics	**+/-20%**	**5.20**		**5.37**		**3**		
Total Cyanide	**+/-20%**	**<0.01**		**<0.01**		**NC**		

LABORATORY CONTROL SAMPLE

Lab Name: **EMSL Analytical** Contract: _____

Lab Code: _____ Case No.: _____ SAS No: _____ SDG No: _____

Solid LCS Source: _____

Aqueous LCS Source: _____ Various _____

Analyte	Aqueous (mg/l)			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Phenolics	**0.500**	**0.472**	**94.4**				**80-120**	
Total Cyanide	**0.400**	**0.394**	**98.5**				**80-120**	

New Jersey Department of Environmental Protection
Division of Water Resources
Bureau of Underground Storage Tanks
CN-029, Trenton, New Jersey 08625

LABORATORY AUTHENTICATION STATEMENT

I certify under penalty of law, where applicable, this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18, 40 CFR Part 136 for Water and Wastewater Analyses and SW 846 for Solid Waste Analyses. I have personally examined and am familiar with the information contained in this report, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, complete, and meets the standards specified in N.J.A.C. 7:18, 40 CFR Part 136, and/or SW 846. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Laboratory Manager (as defined in N.J.A.C. 7:18)

PESTICIDE/PCB DATA PACKAGE

6E

PESTICIDE INITIAL CALIBRATION OF SINGLE COMPONENT ANALYTES

Lab Name: EMSL
Instrument ID: HP 5890
GC Column:DB-5 ID: 0.32 Date(s) Analyzed:11/18/97-11/19/97

CALIBRATION FACTORS

COMPOUND	1	2	3	4	5	MEAN	%RSD
alpha-BHC	2789.6	2716	2905	3254.275	3575.417	3048	12
beta-BHC	2495.2	2518.6	2532.5	2625.25	2728.2	2580	4
delta-BHC	2167.4	2212.8	2215.8	2405.35	2709.267	2342	10
gamma-BHC (Lindane)	2924.8	2857.6	3067.4	3447.825	3868.533	3233	13
Heptachlor	3844.8	3755.4	3792.6	3937.525	4000.15	3866	3
Aldrin	3855	3898.5	4162.25	4960.025	5602.367	4496	17
Heptachlor epoxide	3829	3780.2	3842.3	4280.25	4636.533	4074	9
Endosulfan I	3439.8	3313.8	3518.45	3888.95	4116.783	3656	9
Dieldrin	3413.8	3433.05	4053.05	4909.05	5231.117	4208	20
4,4'-DDE	4304.5	4504.4	4990.7	5798.275	6162.667	5152	16
Endrin	2774.9	2683.8	2816.35	3135.025	3235.333	2929	8
Endosulfan II	3029.3	2995.55	2996.425	3218.2	3363.1	3121	5
4,4'-DDD	2717.6	2732.6	2931.025	3175.088	3252.25	2962	8
Endosulfan sulfate	2502.8	2588.55	2627.775	2830.2	3088.4	2728	9
4,4'-DDT	2818.7	2759.95	3045.95	3463.65	3720.925	3162	13
Methoxychlor	1625.74	1566.28	1572.42	1532.318	1486.895	1557	3
Endrin ketone	2772	2875.65	2840.175	2897.013	2937.35	2864	2
Endrin aldehyde	2985.6	2967.45	2926.775	2968.263	3150.117	3000	3
alpha-Chlordane	4625.8	4622.2	4894.05	5571.825	6022.717	5147	12
gamma-Chlordane	4621.2	4606.4	4769.55	5337.275	5763	5019	10
Tetrachloro-m-xylene	4131.2	3970.1	4365.35	4753.475	4897.667	4424	9
Decachlorobiphenyl	5004	4880.75	4997.875	5384.925	5568.875	5167	6

6E

PESTICIDE INITIAL CALIBRATION OF SINGLE COMPONENT ANALYTES

Lab Name: EMSL
Instrument ID: HP 5890
GC Column:DB-1701 ID: 0.32 Date(s) Analyzed:11/18/97-11/19/97

CALIBRATION FACTORS

COMPOUND	1	2	3	4	5	MEAN	%RSD
alpha-BHC	25326.8	19152.7	20956.25	21802.3	22189.48	21886	10
beta-BHC	11683.2	11531.3	11424.3	11241.7	11222.37	11421	2
delta-BHC	14177.6	14814.1	15605.35	16619.08	18069.3	15857	10
gamma-BHC (Lindane)	22779.2	18567	20309.8	21112.38	21401.38	20834	7
Heptachlor	28037.2	22873.3	23865.3	23580.65	22921.48	24256	9
Aldrin	22949.6	21944.4	21751.3	21762.55	22233.67	22128	2
Heptachlor epoxide	22370.8	21475.3	21010.55	20661.13	20331.68	21170	4
Endosulfan I	22208.6	19305.2	19926.15	19662.65	19142.13	20049	6
Dieldrin	19068.2	16693.55	17638.78	17614.9	17160.67	17635	5
4,4'-DDE	18164.8	17622.8	17709.85	17859.3	17708	17813	1
Endrin	16290.7	14221.35	14262.98	14101.36	13585	14492	7
Endosulfan II	16182.1	16403.4	16094.6	15845.13	15641.13	16033	2
4,4'-DDD	12165.2	11405.45	11729.75	12006.34	11905.73	11842	2
Endosulfan sulfate	10382.7	11604.1	11115.6	11494.38	11638.84	11247	5
4,4'-DDT	11109	10176.9	10875.33	11469.83	11748.71	11076	5
Methoxychlor	6183.1	5527.82	5458.215	5149.038	4915.78	5447	9
Endrin ketone	11161.8	12004.5	12176.53	12265.54	12334.85	11989	4
Endrin aldehyde	9692.4	9791.4	9780.375	10004.61	10945.62	10043	5
alpha-Chlordane	23249.4	22220.8	22505.45	21971.53	22216.13	22433	2
gamma-Chlordane	22271.8	21621.5	21564.85	21389.88	21458.02	21661	2
Tetrachloro-m-xylene	18334.4	14333.2	15666.55	15346.43	14889.28	15714	10
Decachlorobiphenyl	22615.8	20939.85	20391.43	19674.45	18666.88	20458	7

***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 21:42:25 Version 5.1.5 **********

* Sample Name: INDA 5-50 UG/L Data File: D:NV14E68 *
* Date: 11-18-1997 21:50:33 Method: M:APES-E 11-21-1997 21:15:10 # 396 *
* Interface: 2 Cycle#: 68 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

****

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

****

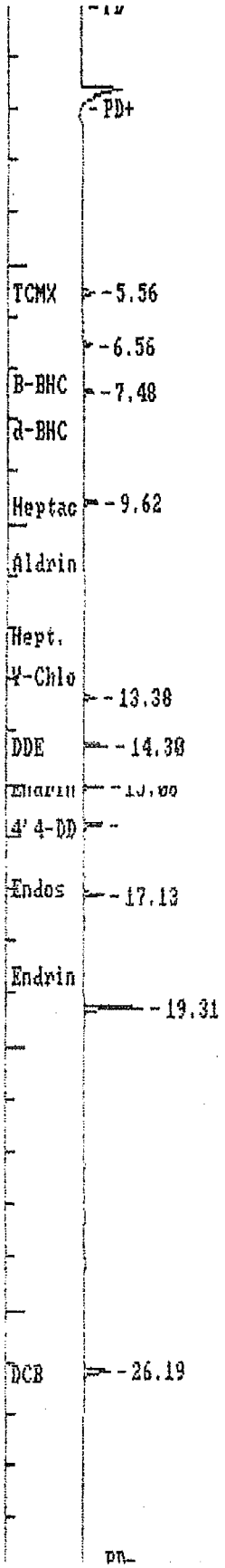
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.561	TCMX	4.6691	4.0618%	20656	4442	4.7	1	0	0	2.2604E-04
2	6.563	α-BHC	0.0000	0.0000%	13948	3339	4.2	1			1.9000E-09
3	7.482	Y-BHC	4.5234	3.9351%	14624	3710	3.9	1	0	-.2187	3.0931E-04
4	9.619	Heptachlor	4.9727	4.3259%	19224	5127	3.7	1	0	-.1743	2.5867E-04
5	13.377	Endosulfan I	4.7043	4.0924%	17199	4907	3.5	1	0	-.1217	2.7352E-04
6	14.295	~~BOE~~ Dieldrin	6.6261	5.7643%	34138	9444	3.6	1	0	-.1173	1.9410E-04
7	15.080	Endrin	9.4738	8.2416%	27749	7655	3.6	1	0	-.1119	3.4141E-04
8	15.798	4'4-DDD	9.1750	7.9816%	27176	6957	3.9	1	0	-.2134	3.3761E-04
9	17.134	DDT	8.9144	7.7549%	28187	7393	3.8	1	0	-.1968	3.1626E-04
10	19.305	Methoxychlor	52.2076	45.4173%	81287	22507	3.6	1	0	0	6.4226E-04
11	26.186	DCB	9.6846	8.4250%	50040	9659	5.2	1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 114.9510

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E68.PTS Printed on 11-21-1997 at 21:42:29
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
11 Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 21:43:08 Version 5.1.5 **********
* Sample Name: INDB 5-10 UG/L Data File: D:NV14E69 *
* Date: 11-18-1997 22:23:16 Method: M:APES-E 11-21-1997 21:15:10 # 396 *
* Interface: 2 Cycle#: 69 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *
****
* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *
****

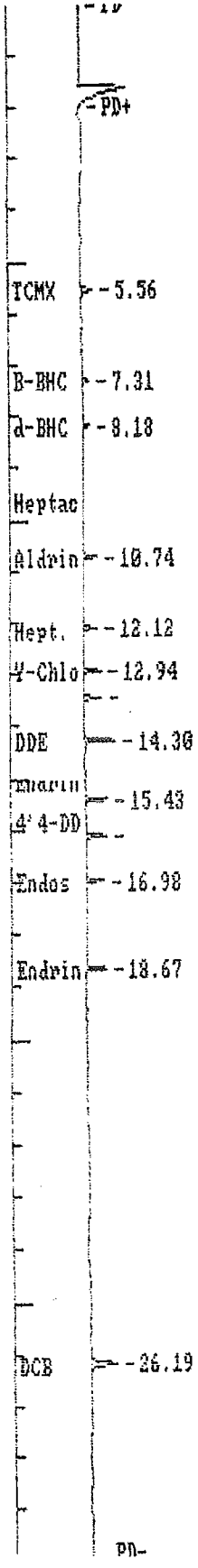
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.561	TCMX	4.8604	5.4505%	21502	4585	4.7	1	0	0	2.2604E-04
2	7.315	B-BHC	4.8356	5.4227%	12476	2984	4.2	1	0	-.2237	3.8760E-04
3	9.183	d-BHC	4.6271	5.1889%	10837	2683	4.0	1	0	-.2073	4.2699E-04
4	10.738	Aldrin	4.2871	4.8077%	19275	5369	3.6	1	0	-.1571	2.2242E-04
5	12.124	Hept. epox.	4.6992	5.2698%	19145	5336	3.6	1	0	-.1383	2.4546E-04
6	12.943	Y-Chlordane	4.6037	5.1627%	23106	6403	3.6	1	0	-.1273	1.9924E-04
7	13.477	a-Chlordane	4.4937	5.0393%	23129	6480	3.6	1	0	-.2450	1.9429E-04
8	14.295	DDE	8.3550	9.3694%	43045	11781	3.7	1	0	-.1173	1.9410E-04
9	15.431	Endoslf II	9.7063	10.8848%	30293	8547	3.5	1	0	-.1048	3.2041E-04
10	16.132	Endrin ald	9.9519	11.1602%	29856	8031	3.7	1	0	-.1040	3.3333E-04
11	16.984	Endos sulf	9.1745	10.2884%	25028	6924	3.6	1	0	-.1005	3.6657E-04
12	18.671	Endrin ket.	9.6797	10.8539%	27720	7473	3.7	1	0	0	3.4916E-04
13	26.186	DCB	9.8997	11.1016%	51152	9729	5.3	1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 89.1730

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E69.PTS Printed on 11-21-1997 at 21:43:20
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Cal Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 21:44:11 Version 5.1.5 **********

* Sample Name: INDA 10-100 UG/L Data File: D:NV14E70 *
* Date: 11-18-1997 22:55:56 Method: M:APES-E 11-21-1997 21:15:10 # 396 *
* Interface: 2 Cycle#: 70 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

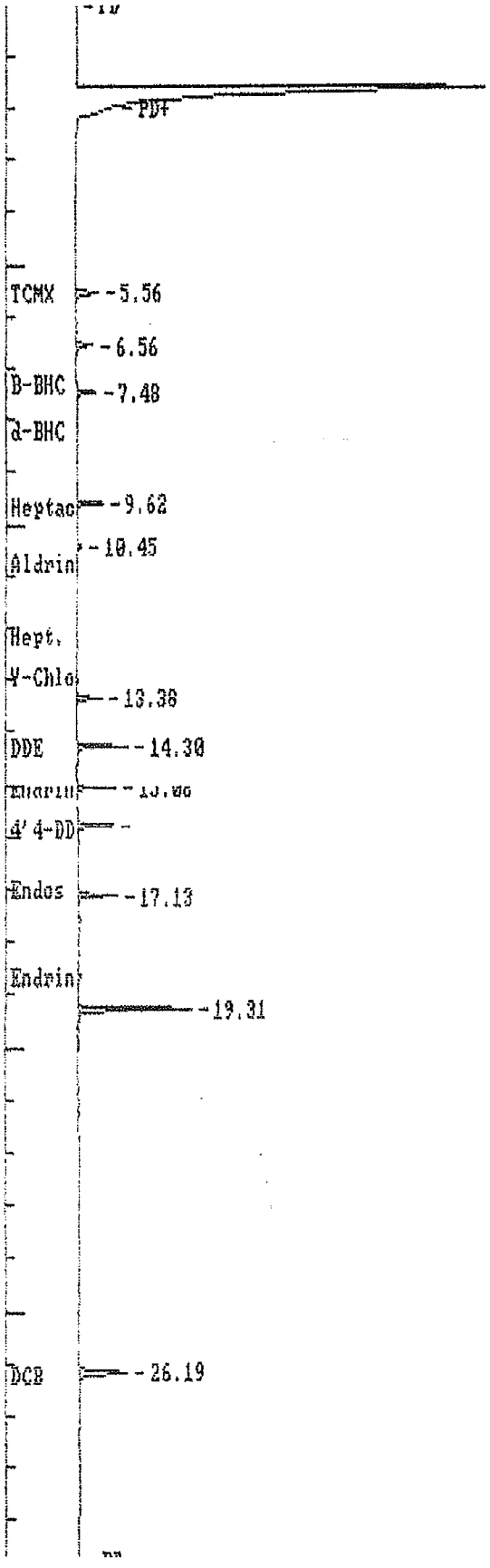
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.561	TCMX	8.9741	4.0127%	39701	8584	4.6	1	0	0	2.2604E-04
2	6.563	α-BHC	0.0000	0.0000%	27160	6576	4.1	1			1.0000E-09
3	7.482	Y-BHC	8.8387	3.9522%	28576	7357	3.9	1	0	-.2137	3.0931E-04
4	9.619	Heptachlor	9.7139	4.3436%	37554	9871	3.8	1	0	-.1743	2.5867E-04
5	10.454		0.0000	0.0000%	7116	1562	4.6	1			1.0000E-09
	13.377	Endosulfan I	9.0640	4.0530%	33138	9352	3.5	1	0	-.1217	2.7352E-04
7	14.295	~~DDE~~ Dieldrin	13.3270	5.9591%	68661	19113	3.6	1	0	-.1173	1.9410E-04
8	15.080	Endrin	18.3258	8.1943%	53676	14782	3.6	1	0	-.1119	3.4141E-04
9	15.798	4'4-DDD	18.4511	8.2504%	54652	13774	4.0	1	0	-.2134	3.3761E-04
10	17.134	DDT	17.4570	7.8059%	55199	14896	3.7	1	0	-.1968	3.1626E-04
11	19.305	Methoxychlor	100.5958	44.9813%	156628	42616	3.7	1	0	0	6.4226E-04
12	26.186	DCB	18.8929	8.4475%	97615	18262	5.3	1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 223.6393

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E70.PTS Printed on 11-21-1997 at 21:44:23
art time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
il Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 21:45:17 Version 5.1.5

Sample Name: INDB 10-20 UG/L Data File: D:NV14E71

Date: 11-18-1997 23:28:38 Method: M:APES-E 11-21-1997 21:15:10 # 396

Interface: 2 Cycle#: 71 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

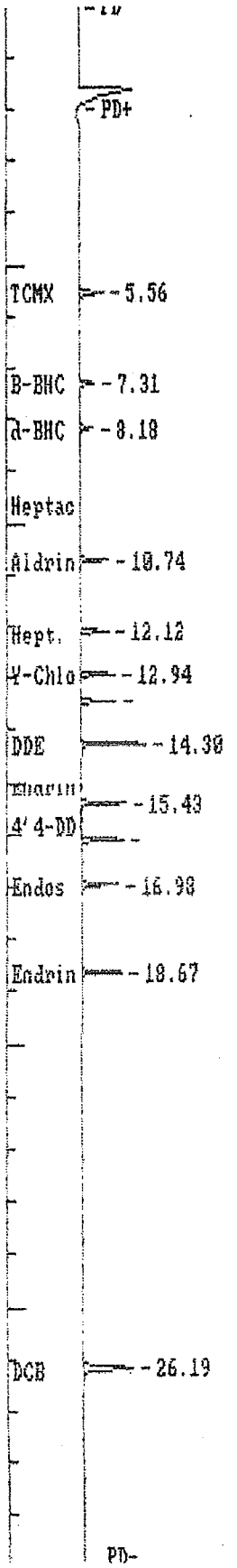
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.561	TCMX	9.7156	5.3847%	42982	9257	4.6	1	0	0	2.2604E-04
2	7.315	a-BHC	9.7519	5.4104%	25186	6039	4.2	1	0	-.2237	3.8760E-04
3	8.183	d-BHC	9.4484	5.2366%	22128	5469	4.0	1	0	-.2073	4.2699E-04
4	10.738	Aldrin	8.6719	4.8057%	38985	10946	3.6	1	0	-.1571	2.2242E-04
5	12.124	Hept. epox.	9.2790	5.1427%	37802	10501	3.6	1	0	-.1383	2.4546E-04
	12.943	Y-Chlordane	9.1779	5.0867%	46064	12921	3.6	1	0	-.1273	1.9924E-04
7	13.477	a-Chlordane	9.0580	5.0202%	46622	13235	3.5	1	0	-.2450	1.9429E-04
8	14.295	ODE	17.4860	9.6913%	90088	24783	3.6	1	0	-.1173	1.9410E-04
9	15.431	Endosulf II	19.1960	10.6390%	59911	17188	3.5	1	0	-.1048	3.2041E-04
10	16.132	Endrin ald	19.7832	10.9644%	59349	16086	3.7	1	0	-.1040	3.3333E-04
11	16.984	Endos sulf	18.9775	10.5181%	51771	14080	3.7	1	0	-.1005	3.6657E-04
12	18.671	Endrin ket.	20.0813	11.1297%	57513	15373	3.7	1	0	0	3.4916E-04
13	26.186	DCB	19.7943	10.9706%	102277	19027	5.4	1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 180.4302

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:NV14E71.PTS Printed on 11-21-1997 at 21:45:28
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 21:46:20 Version 5.1.5 **********

* Sample Name: INDA 20-200 UG/L Data File: D:NV14E72 *
* Date: 11-19-1997 00:01:18 Method: M:APES-E 11-21-1997 21:15:10 # 396 *
* Interface: 2 Cycle#: 72 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.388		0.0000	0.0000%	22283	1077	20.7	1			1.0000E-09
2	5.561	TCMX	19.7348	4.1855%	87307	18797	4.6	1	0	0	2.2604E-04
3	6.563	α-BHC	0.0001	0.0000%	58100	14223	4.1	1			1.0000E-09
4	7.482	Y-BHC	18.9757	4.0245%	61348	15557	3.9	1	0	-.2137	3.0931E-04
5	9.602	Heptachlor	19.6204	4.1612%	75852	19783	3.8	1	0	-.3476	2.5867E-04
6	13.377	Endosulfan I	19.2477	4.0822%	70369	19933	3.5	1	0	-.1217	2.7352E-04
7	14.295	~~DDE~~ Dieldrin	31.4677	6.6739%	162122	46498	3.5	1	0	-.1173	1.9410E-04
8	15.080	Endrin	38.4617	8.1572%	112654	31079	3.6	1	0	-.1119	3.4141E-04
9	15.798	4'4-DDD	39.5817	8.3947%	117241	29583	4.0	2	0	-.2134	3.3761E-04
10	16.132	Endrin ald	2.4488	0.5194%	7346	1848	4.0	2	0	-.1040	3.3333E-04
11	17.134	DDT	38.5320	8.1721%	121838	32847	3.7	1	0	-.1968	3.1625E-04
12	17.602		0.0000	0.0000%	8859	2136	4.1	1			1.0000E-09
13	18.871	Endrin ket.	2.7639	0.5862%	7916	2065	3.8	1	0	0	3.4916E-04
14	19.305	Methoxychlor	201.9806	42.8374%	314484	83786	3.8	1	0	0	6.4225E-04
15	26.202	DCB	38.6906	8.2058%	199915	36946	5.4	1	0	-.1436	1.9354E-04

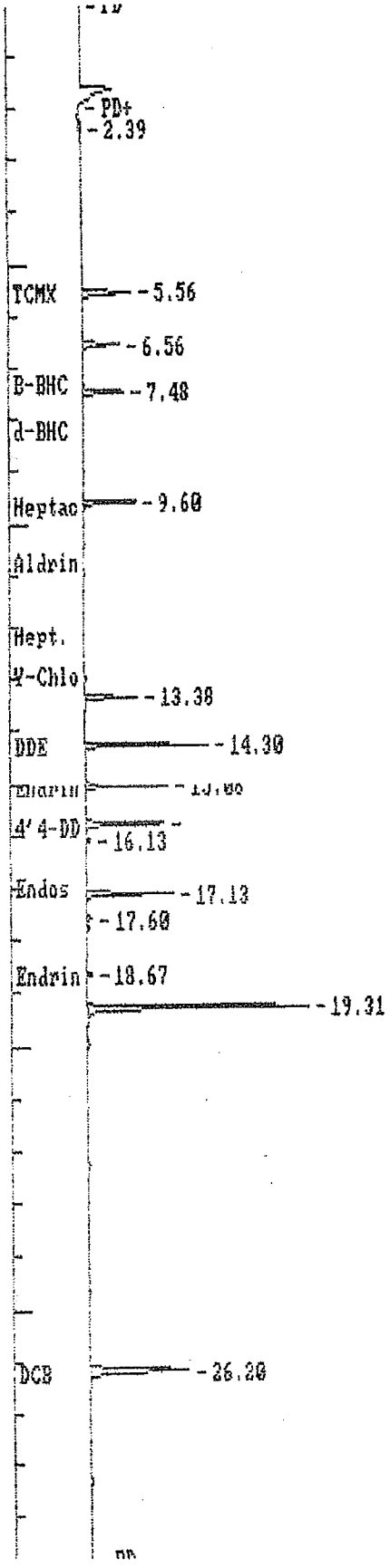
TOTAL AMOUNT = 471.5057

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E72.PTS Printed on 11-21-1997 at 21:46:32

Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.

Full Range: 300 millivolts



JJC

***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 21:47:30 Version 5.1.5 **********

* Sample Name: INDB 20-40 UG/L Data File: D:NV14E73 *
* Date: 11-19-1997 00:34:02 Method: M:APES-E 11-21-1997 21:15:10 # 396 *
* Interface: 2 Cycle#: 73 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.388		0.0000	0.0000%	25495	1133	22.5	1			1.0000E-09
2	4.576		0.0000	0.0000%	9105	1659	5.5	1			1.0000E-09
3	5.561	TCMX	19.9343	5.4172%	88190	18809	4.7	1	0	0	2.2604E-04
4	7.315	B-BHC	19.6316	5.3350%	50650	12109	4.2	1	0	-.2237	3.8760E-04
5	8.183	d-BHC	18.9225	5.1422%	44316	11190	4.0	1	0	-.2073	4.2699E-04
6	10.738	Aldrin	18.5154	5.0316%	83245	23949	3.5	1	0	-.1571	2.2242E-04
7	12.124	Hept. epox.	18.8626	5.1260%	76846	21968	3.5	1	0	-.1383	2.4546E-04
8	12.943	Y-Chlordane	19.0061	5.1650%	95391	27224	3.5	1	0	-.1273	1.9924E-04
9	13.477	a-Chlordane	19.0172	5.1680%	97881	27708	3.5	1	0	-.2450	1.9429E-04
10	14.295	DDE	38.7478	10.5298%	199628	56786	3.5	1	0	-.1173	1.9410E-04
11	15.431	Endoslf II	38.4033	10.4362%	119857	35159	3.4	1	0	-.1048	3.2041E-04
12	16.132	Endrin ald	39.0236	10.6048%	117071	31922	3.7	1	0	-.1040	3.3333E-04
13	16.984	Endos sulf	38.5303	10.4707%	105111	28667	3.7	1	0	-.1005	3.6657E-04
14	18.671	Endrin ket.	39.6672	10.7797%	113607	30620	3.7	1	0	0	3.4916E-04
15	26.186	DCB	39.7195	10.7939%	205231	38411	5.3	1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 367.9813

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

)ata File = D:NV14E73.PTS Printed on 11-21-1997 at 21:47:45 373
rt time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
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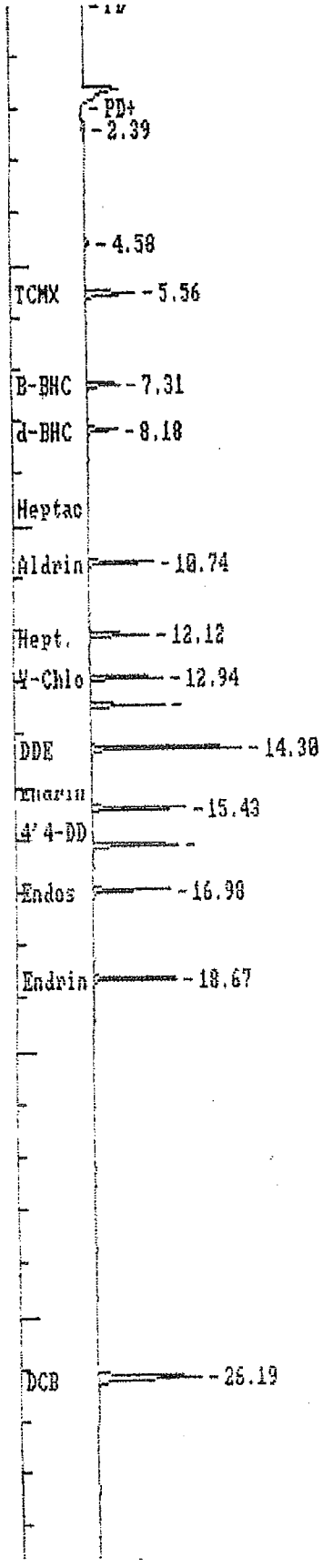


***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 21:48:40 Version 5.1.5 **********

* Sample Name: INDA 40-400 UG/L Data File: D:NV14E74 *
* Date: 11-19-1997 01:06:41 Method: M:APES-E 11-21-1997 21:15:10 # 396 *
* Interface: 2 Cycle#: 74 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

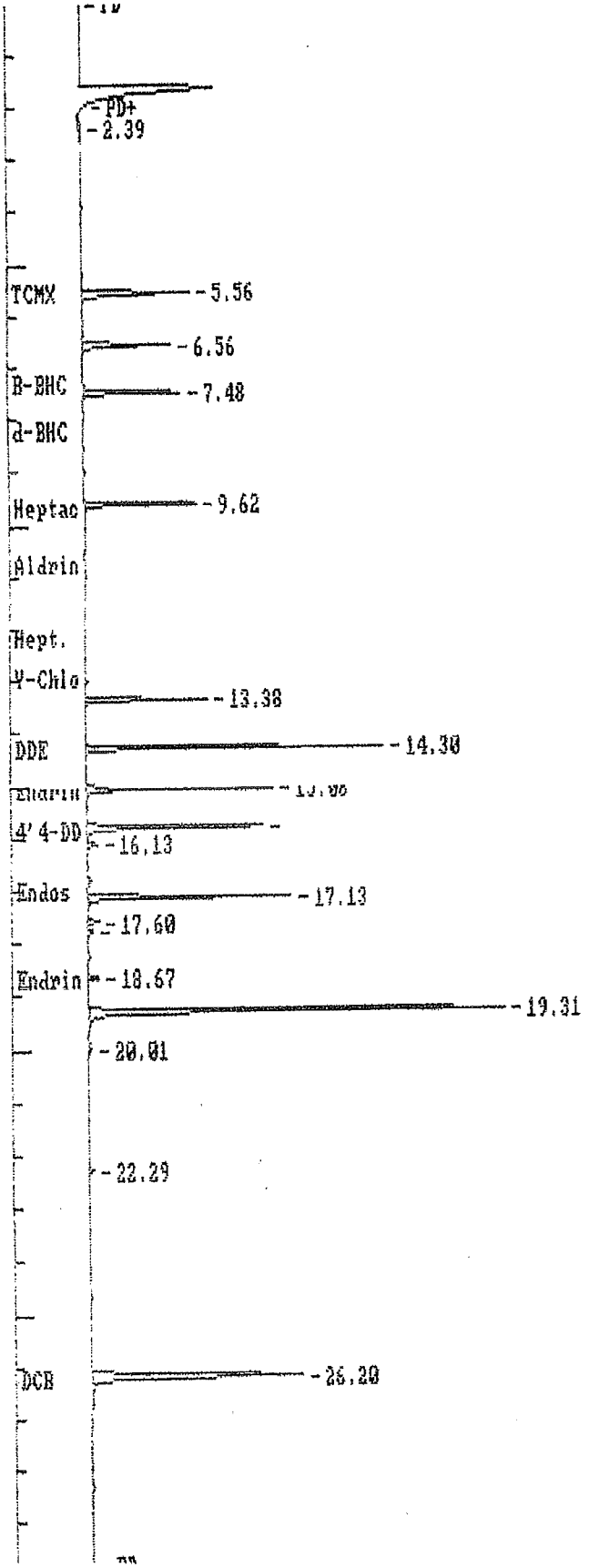
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.388		0.0000	0.0000%	24390	1138	21.4	1			1.0000E-09
2	5.561	TCMX	42.9789	4.3325%	190139	40949	4.6	1	0	0	2.2604E-04
3	6.563	α-BHC	0.0001	0.0000%	130171	33401	3.9	1			1.0000E-09
4	7.482	Y-BHC	42.6578	4.3001%	137913	36853	3.7	1	0	-.2187	3.0931E-04
5	9.619	Heptachlor	40.7400	4.1068%	157501	42296	3.7	1	0	-.1743	2.5867E-04
6	13.377	Endosulfan I	42.5487	4.2891%	155558	46277	3.4	1	0	-.1217	2.7352E-04
7	14.295	~~DDE~~ Dieldrin	76.2275	7.6841%	392724	113033	3.5	1	0	-.1173	1.9410E-04
8	15.080	Endrin	85.6271	8.6316%	250802	70865	3.5	1	0	-.1119	3.4141E-04
9	15.798	4'4-DDD	85.7554	8.6445%	254007	67182	3.8	2	0	-.2134	3.3761E-04
10	16.132	Endrin ald	5.3471	0.5390%	16041	3937	4.1	2	0	-.1040	3.3333E-04
11	17.134	DDT	87.6319	8.8337%	277092	77309	3.6	1	0	-.1968	3.1626E-04
12	17.602		0.0000	0.0000%	17697	4269	4.1	2			1.0000E-09
13	17.785		0.0000	0.0000%	9173	2122	4.3	2			1.0000E-09
14	18.671	Endrin ket.	5.4722	0.5516%	15672	4137	3.8	1	0	0	3.4916E-04
15	19.305	Methoxychlor	393.6589	39.6826%	612927	157281	3.9	1	0	0	6.4226E-04
16	20.007		0.0000	0.0000%	4984	1487	3.4	1			1.0000E-09
17	22.294		0.0000	0.0000%	6973	1775	3.9	1			1.0000E-09
18	26.202	DCB	83.3741	8.4045%	430794	79394	5.4	1	0	-.1436	1.9354E-04

TOTAL AMOUNT = 992.0196

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E74.PTS Printed on 11-21-1997 at 21:48:57
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 21:49:54 Version 5.1.5 **********

* Sample Name: INDB 40-80 UG/L Data File: D:NV14E75 *
* Date: 11-19-1997 01:39:23 Method: M:APES-E 11-21-1997 21:15:10 # 396 *
* Interface: 2 Cycle#: 75 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

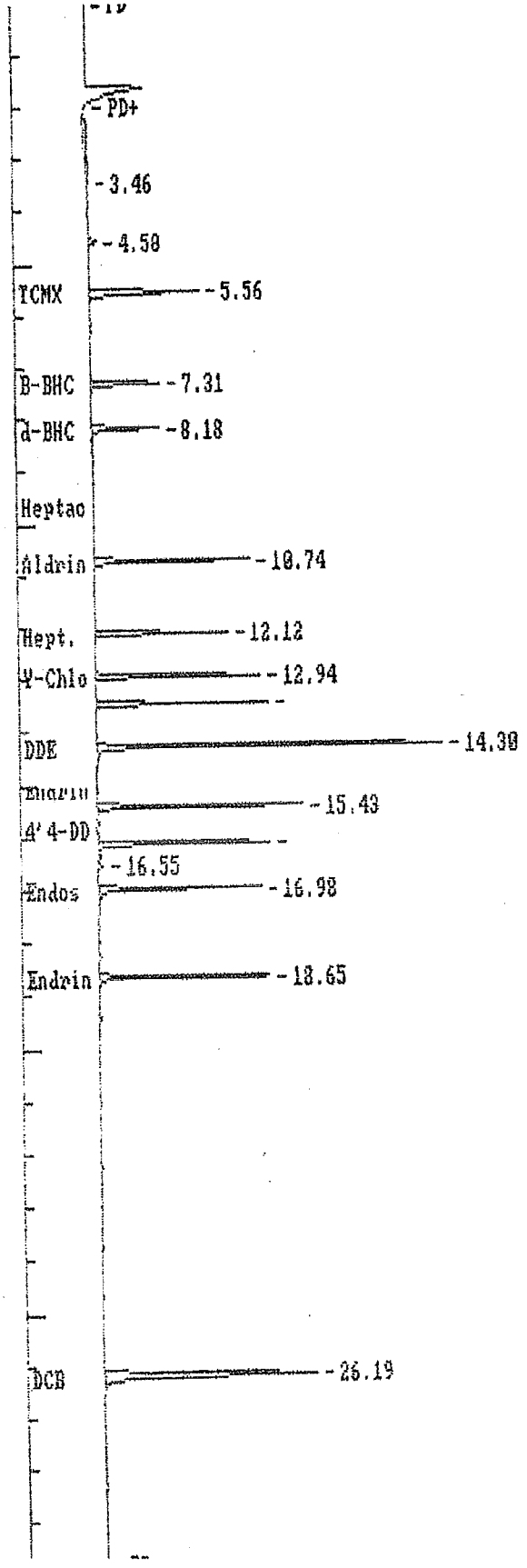
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.457		0.0001	0.0000%	69470	375	185.4	1			1.0000E-09
2	4.576		0.0000	0.0000%	16386	3012	5.4	1			1.0000E-09
3	5.561	TCMX	42.7911	5.3673%	189308	41574	4.6	1	0	0	2.2604E-04
4	7.315	B-BHC	40.7014	5.1052%	105010	26010	4.0	1	0	-.2237	3.8760E-04
5	8.183	d-BHC	41.0820	5.1529%	96214	25555	3.8	1	0	-.2073	4.2699E-04
6	10.738	Aldrin	44.1283	5.5350%	198401	59213	3.4	1	0	-.1571	2.2242E-04
7	12.124	Hept. epox.	42.0250	5.2712%	171210	50497	3.4	1	0	-.1383	2.4546E-04
8	12.943	Y-Chlordane	42.5366	5.3354%	213491	62439	3.4	1	0	-.1273	1.9924E-04
9	13.477	a-Chlordane	43.3016	5.4313%	222873	65013	3.4	1	0	-.2450	1.9429E-04
10	14.295	DDE	90.0003	11.2883%	463682	130800	3.5	1	0	-.1173	1.9410E-04
11	15.431	Endosif II	82.4915	10.3470%	257456	77753	3.3	1	0	-.1048	3.2041E-04
12	16.132	Endrin ald	79.1538	9.9283%	237461	65189	3.6	1	0	-.1040	3.3333E-04
13	16.550		0.0000	0.0000%	7597	1992	3.8	1			1.0000E-09
14	16.984	Endos sulf	82.9981	10.4105%	226419	61346	3.7	1	0	-.1005	3.6657E-04
15	18.654	Endrin ket.	80.9220	10.1501%	231761	64424	3.6	1	0	-.1771	3.4916E-04
16	26.186	DCB	85.1215	10.6768%	439823	80127	5.5	1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 797.2533

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:NV14E75.PTS Printed on 11-21-1997 at 21:50:20
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 21:51:08 Version 5.1.5 **********

* Sample Name: INDA 60-600 UG/L Data File: D:NV14E76 *
* Date: 11-19-1997 02:12:01 Method: M:APES-E 11-21-1997 21:15:10 # 396 *
* Interface: 2 Cycle#: 76 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

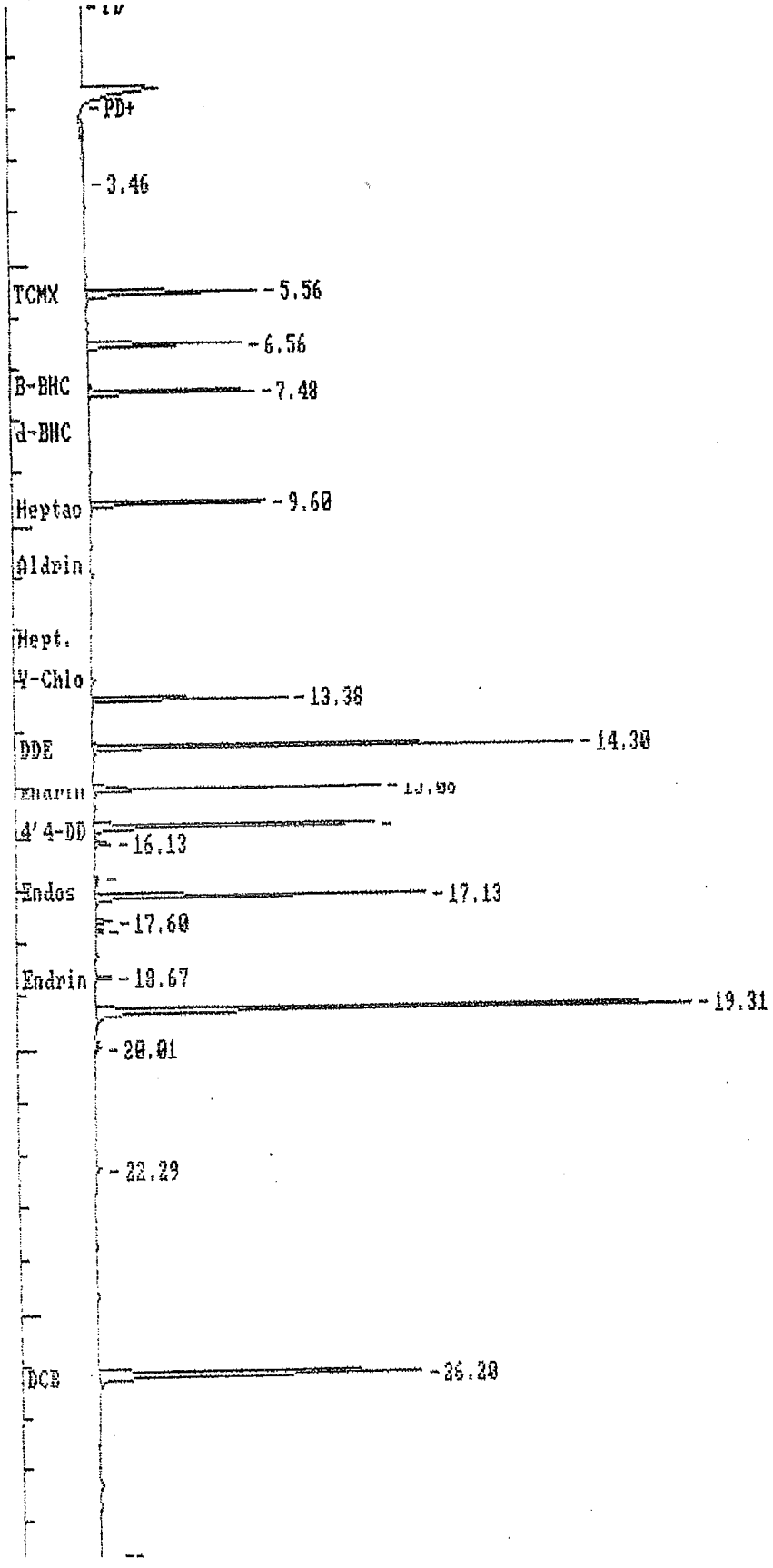
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.457		0.0001	0.0000%	71704	436	164.6	1			1.0000E-09
2	5.561	TCMX	66.4241	4.3857%	293860	64831	4.5	1	0	0	2.2604E-04
3	6.563	α-BHC	0.0002	0.0000%	214525	58673	3.7	1			1.0000E-09
4	7.482	Y-BHC	71.7947	4.7402%	232112	62935	3.7	1	0	-.2187	3.0931E-04
5	9.602	Heptachlor	62.0820	4.0990%	240009	66490	3.6	1	0	-.3476	2.5867E-04
6	13.377	Endosulfan I	67.5621	4.4608%	247007	73803	3.3	1	0	-.1217	2.7352E-04
7	14.295	~~DDE~~ Dieldrin	121.8429	8.0447%	627734	182226	3.4	1	0	-.1173	1.9410E-04
8	15.080	Endrin	132.5504	8.7516%	388240	108560	3.6	1	0	-.1119	3.4141E-04
9	15.798	4'4-DDD	131.7588	8.6994%	390270	106104	3.7	2	0	-.2134	3.3761E-04
10	16.132	Endrin ald	8.5020	0.5679%	25806	6303	4.1	2	0	-.1040	3.3333E-04
11	16.800		0.0000	0.0000%	4739	1498	3.2	1			1.0000E-09
12	17.134	DDT	141.2116	9.3235%	446511	124981	3.6	1	0	-.1968	3.1625E-04
13	17.602		0.0000	0.0000%	26132	6311	4.1	2			1.0000E-09
14	17.785		0.0000	0.0000%	11070	2519	4.4	2			1.0000E-09
15	18.671	Endrin ket.	8.4299	0.5566%	24143	6285	3.8	1	0	0	3.4916E-04
16	19.305	Methoxychlor	572.9844	37.8313%	892137	225582	4.0	1	0	0	6.4226E-04
17	20.007		0.0000	0.0000%	7422	2245	3.3	1			1.0000E-09
18	22.294		0.0000	0.0000%	9890	2479	4.0	1			1.0000E-09
19	26.202	DCB	129.3333	8.5392%	668265	121089	5.5	1	0	-.1436	1.9354E-04

TOTAL AMOUNT = 1514.5763

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:NV14E76.PTS Printed on 11-21-1997 at 21:51:40
rt time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
al Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 21:52:32 Version 5.1.5 **********

* Sample Name: INDB 60-120 UG/L Data File: D:NV14E77 *
* Date: 11-19-1997 02:44:44 Method: M:APES-E 11-21-1997 21:15:10 # 396 *
* Interface: 2 Cycle#: 77 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *

****

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

****

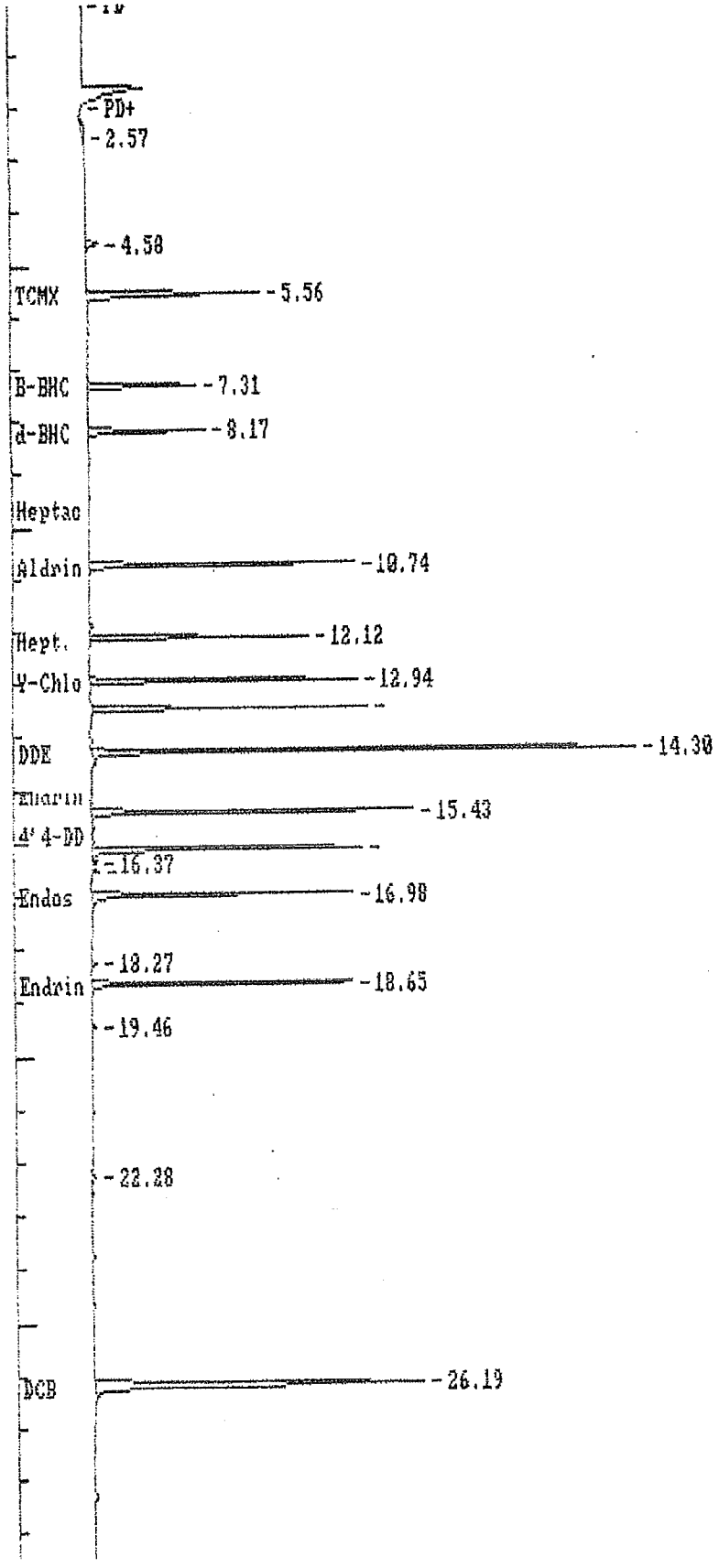
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.572		0.0000	0.0000%	28411	802	35.4	1			1.0000E-09
2	4.576		0.0000	0.0000%	24931	4561	5.5	1			1.0000E-09
3	5.561	TCMX	67.5944	5.2943%	299037	65528	4.6	1	0	0	2.2604E-04
4	7.315	B-BHC	63.4464	4.9694%	163692	40820	4.0	1	0	-.2237	3.8760E-04
	8.166	d-BHC	69.4090	5.4364%	162556	44186	3.7	1	0	-.4109	4.2699E-04
6	10.738	Aldrin	74.7648	5.8559%	336142	100417	3.3	1	0	-.1571	2.2243E-04
7	12.124	Hept. epox.	68.2848	5.3483%	278192	82621	3.4	1	0	-.1383	2.4546E-04
8	12.943	Y-Chlordane	68.8942	5.3961%	345780	101293	3.4	1	0	-.1273	1.9924E-04
9	13.477	a-Chlordane	70.2084	5.4990%	361363	104575	3.5	1	0	-.2450	1.9429E-04
10	14.295	ODE	143.5404	11.2427%	739520	204549	3.6	1	0	-.1173	1.9410E-04
11	15.431	Endoslf II	129.3084	10.1280%	403572	121998	3.3	1	0	-.1048	3.2041E-04
12	16.132	Endrin ald	126.0048	9.8692%	378014	102173	3.7	2	0	-.1040	3.3333E-04
13	16.366		0.0000	0.0000%	7190	1972	3.6	2			1.0000E-09
14	16.550		0.0000	0.0000%	11328	2947	3.8	2			1.0000E-09
15	16.984	Endos sulf	135.8534	10.6406%	370608	98451	3.8	1	0	-.1005	3.6657E-04
16	18.270		0.0000	0.0000%	8745	1819	4.8	1			1.0000E-09
17	18.654	Endrin ket.	123.0732	9.6396%	352482	98304	3.6	1	0	-.1771	3.4916E-04
18	19.455	Methoxychlor	3.6341	0.2846%	5658	1571	3.6	1	0	.6909	6.4226E-04
19	22.278		0.0000	0.0000%	5583	1458	3.8	1			1.0000E-09
20	26.186	DCB	132.7306	10.3960%	685819	124003	5.5	1	0	-.2073	1.9354E-04

TOTAL AMOUNT = 1276.7471

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

-ta File = D:NV14E77.PTS Printed on 11-21-1997 at 21:53:06
.rt time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



****** EXTERNAL STANDARD TABLE ******

********** 11-21-1997 22:00:51 Version 5.1.5 **********

* Sample Name: INDA 5-50 UG/L Data File: D:0V14E68 *

* Date: 11-18-1997 21:50:33 Method: M:BPES-E 11-21-1997 21:24:54 # 390 *

* Interface: 2 Cycle#: 68 Operator JJK Channel#: 1 Vial#: N.A. *

* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000 *

****

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *

* Solvent Description: *

* Conditions: *

* Detector 0: Detector 1: ECD *

* Misc. Information: *

****

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

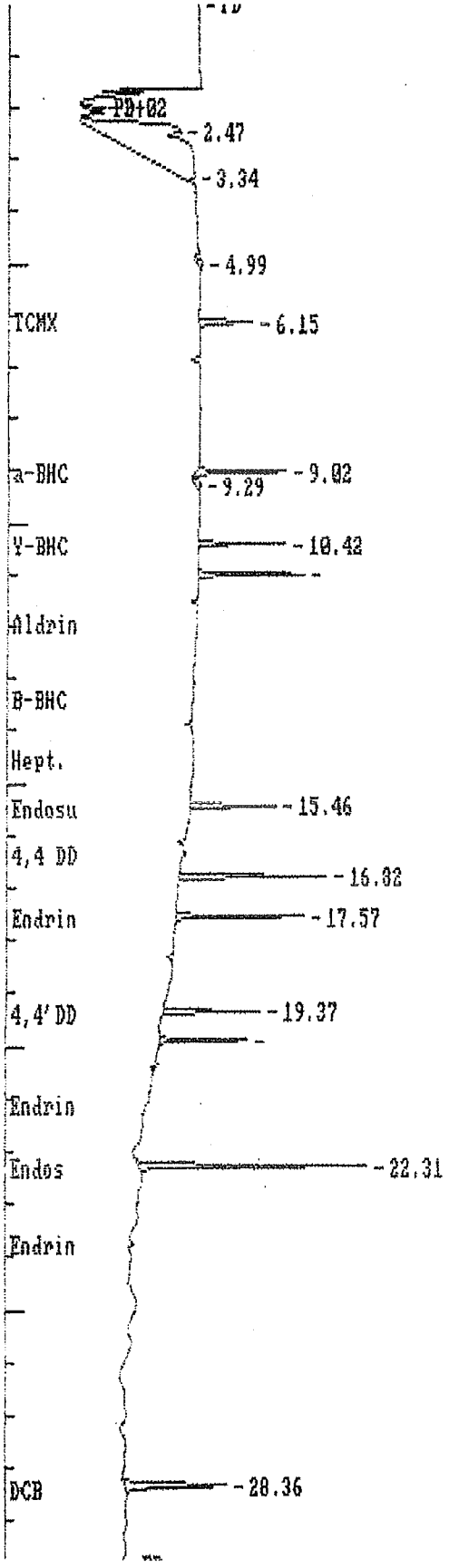
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	14968	4016	3.7	1			1.0000E-09
2	2.472		0.0005	0.0004%	459910	29474	15.6	3			1.0000E-09
3	3.340		0.0008	0.0007%	779760	4204	185.5	4			1.0000E-09
4	4.993		0.0000	0.0000%	13323	1872	7.1	1			1.0000E-09
5	6.146	TCMX	5.8338	5.3372%	91672	20901	4.4	1	0	.2544	6.3638E-05
6	9.018	a-BHC	5.7861	5.2935%	126634	34582	3.7	1	0	-.1881	4.5691E-05
7	9.285		0.0000	0.0000%	20190	1702	11.9	1			1.0000E-09
8	10.421	Y-BHC	5.4669	5.0015%	113896	33585	3.4	1	0	0	4.7998E-05
9	11.022	Heptachlor	5.7794	5.2874%	140186	40693	3.4	1	0	0	4.1227E-05
10	15.464	Endosulf I	5.5386	5.0671%	111043	32940	3.4	1	0	-.1085	4.9878E-05
11	16.817	Dieldrin	10.8127	9.8922%	190682	55685	3.4	1	0	0	5.6705E-05
12	17.568	Endrin	11.2418	10.2842%	162907	48600	3.4	1	0	0	6.9004E-05
13	19.372	4,4'DDD	10.2729	9.3984%	121652	37355	3.3	1	0	0	8.4445E-05
14	19.906	4,4 DDT	10.0298	9.1759%	111090	33150	3.4	1	0	0	9.0285E-05
15	22.311	~~Endos sulf~~ Methoxy	27.4878	25.1478%	309155	85358	3.6	1	0	0	8.8913E-05
16	28.357	DCB	11.0548	10.1137%	226158	38089	5.9	1	0	-.1176	4.8881E-05

TOTAL AMOUNT = 109.3051

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:OV14E68.PTS Printed on 11-21-1997 at 22:01:01
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 22:01:49 Version 5.1.5 **********

* Sample Name: INDB 5-10 UG/L Data File: D:OV14E69 *

* Date: 11-18-1997 22:23:16 Method: M:BPES-E 11-21-1997 21:24:54 # 390 *

* Interface: 2 Cycle#: 69 Operator JJK Channel#: 1 Vial#: N.A. *

* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000 *

****

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *

* Solvent Description: *

* Conditions: *

* Detector 0: Detector 1: ECD *

* Misc. Information: *

****

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

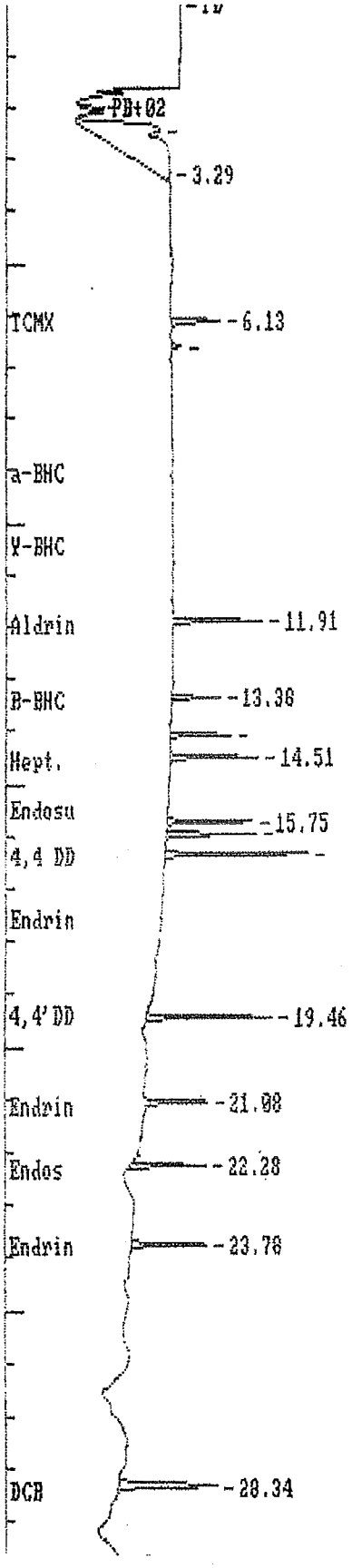
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	16571	4288	3.9	1			1.0000E-09
2	2.472		0.0004	0.0004%	389114	24941	15.6	3			1.0000E-09
3	3.290		0.0006	0.0007%	633829	4160	152.4	4			1.0000E-09
4	6.129	TCMX	5.4953	5.7358%	86353	19011	4.5	1	0	0	6.3638E-05
	6.613		0.0000	0.0000%	14651	3701	4.0	1			1.0000E-09
6	11.907	Aldrin	5.1856	5.4126%	114748	34063	3.4	1	0	-.1417	4.5192E-05
7	13.377	B-BHC	5.1148	5.3386%	58416	18334	3.2	1	0	-.1217	8.7558E-05
8	14.095	d-BHC	4.4705	4.6661%	70888	23158	3.1	1	0	-.1148	6.3064E-05
9	14.512	Hept. epox.	5.2836	5.5148%	111854	33587	3.3	1	0	-.1149	4.7237E-05
10	15.748	Y-Chlordane	5.1410	5.3660%	111359	32730	3.4	2	0	-.1072	4.6165E-05
11	15.982	a-Chlordane	5.1820	5.4087%	116247	34324	3.4	2	0	-.1068	4.4577E-05
12	16.366	4,4 DDE	10.1975	10.6437%	181648	54581	3.3	1	0	-.1037	5.6139E-05
13	19.455	EndosulfII	10.0930	10.5346%	161821	47836	3.4	1	0	0	6.2371E-05
14	21.075	Endrin ald	9.6509	10.0732%	96924	23936	4.0	1	0	0	9.9572E-05
15	22.278	Endos sulf	9.2315	9.6355%	103827	28988	3.6	1	0	-.1488	8.8913E-05
16	23.781	Endrin ket	9.8939	10.3269%	118618	28786	4.1	1	0	0	8.3410E-05
17	28.340	DCB	10.8670	11.3425%	222317	37359	6.0	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 95.8077

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:0V14E69.PTS Printed on 11-21-1997 at 22:02:15
art time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
11 Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 22:02:57 Version 5.1.5

* Sample Name: INDA 10-100 UG/L Data File: D:0V14E70
* Date: 11-18-1997 22:55:56 Method: M:8PES-E 11-21-1997 21:24:54 # 390
* Interface: 2 Cycle#: 70 Operator JJK Channel#: 1 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

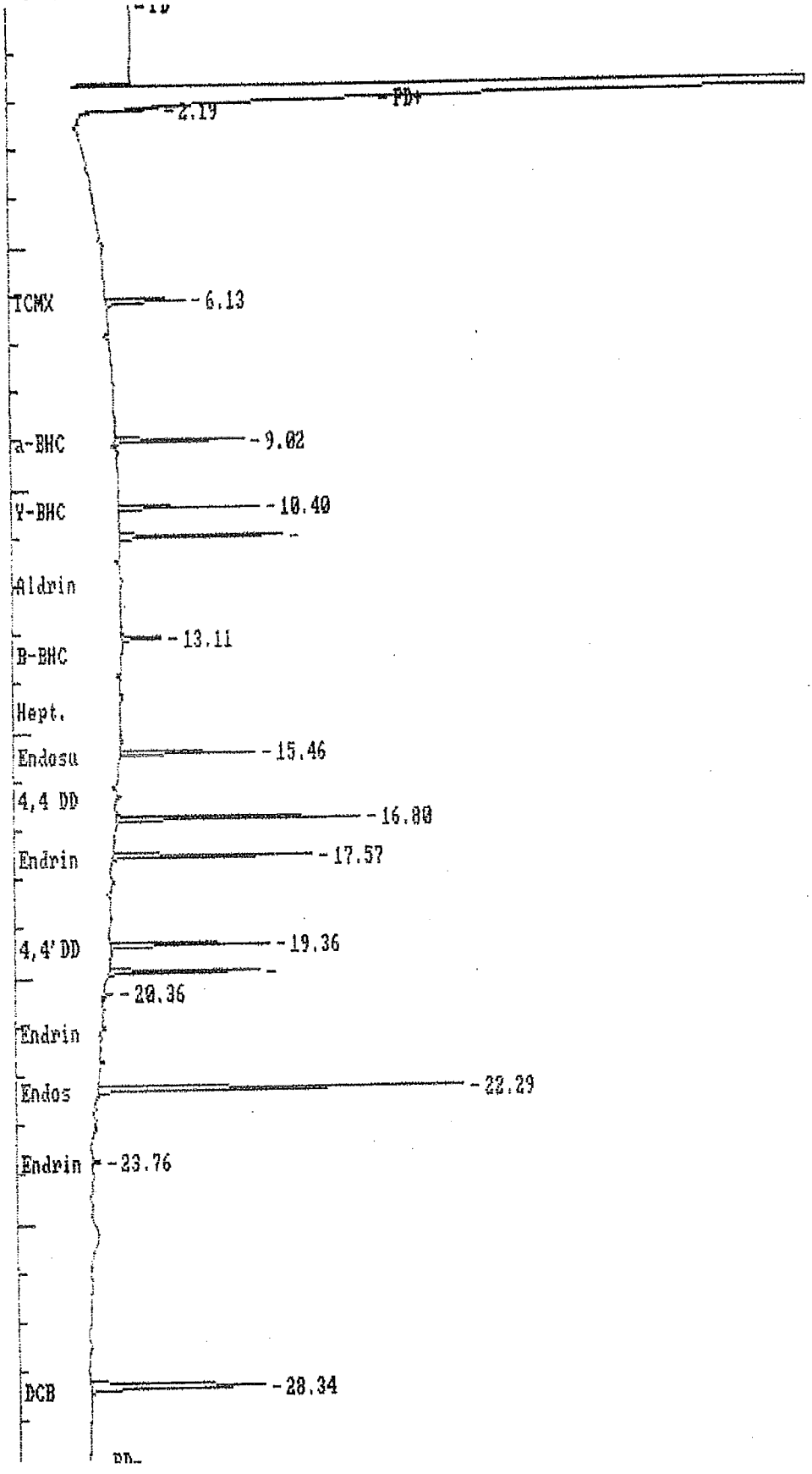
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.188		0.0000	0.0000%	35515	10677	3.3	1			1.0000E-09
2	6.129	TCMX	9.1213	4.7330%	143332	31849	4.5	1	0	0	6.3638E-05
3	9.018	a-BHC	8.7511	4.5409%	191527	53125	3.6	1	0	-.1881	4.5691E-05
4	10.404	Y-BHC	8.9119	4.6243%	185670	57058	3.3	1	0	-.1621	4.7996E-05
5	11.005	Heptachlor	9.4299	4.8932%	228733	66306	3.4	1	0	-.1515	4.1227E-05
6	13.109		0.0001	0.0000%	62071	15664	4.0	1			1.0000E-09
7	15.464	Endosulf I	9.6290	4.9965%	193052	54537	3.5	1	0	-.1085	4.9878E-05
8	16.800	Dieldrin	18.9323	9.8239%	333871	98458	3.4	1	0	0	5.6705E-05
9	17.568	Endrin	19.6265	10.1841%	284427	80379	3.5	1	0	0	6.9004E-05
10	19.355	4,4'DDD	19.2627	9.9954%	228109	64222	3.6	1	0	-.1738	8.4445E-05
11	19.906	4,4 DDT	18.3765	9.5355%	203538	60825	3.3	1	0	0	9.0285E-05
12	20.357		0.0000	0.0000%	10967	3846	2.9	1			1.0000E-09
13	22.294	~~Endos sulf~~ Methoxy	49.1493	25.5034%	552782	147668	3.7	1	0	0	8.8913E-05
14	23.764	~~Endrin ket~~	1.0546	0.5472%	12644	3104	4.1	1	0	-.1382	8.3410E-05
15	28.340	DCB	20.4711	10.6224%	418797	69624	6.0	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 192.7164

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:0V14E70.PTS Printed on 11-21-1997 at 22:03:28
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 22:04:12 Version 5.1.5

Sample Name: INDB 10-20 UG/L Data File: D:0V14E71

Date: 11-18-1997 23:28:38 Method: M:BPES-E 11-21-1997 21:24:54 # 390

Interface: 2 Cycle#: 71 Operator JJK Channel#: 1 Vial#: N.A.

Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

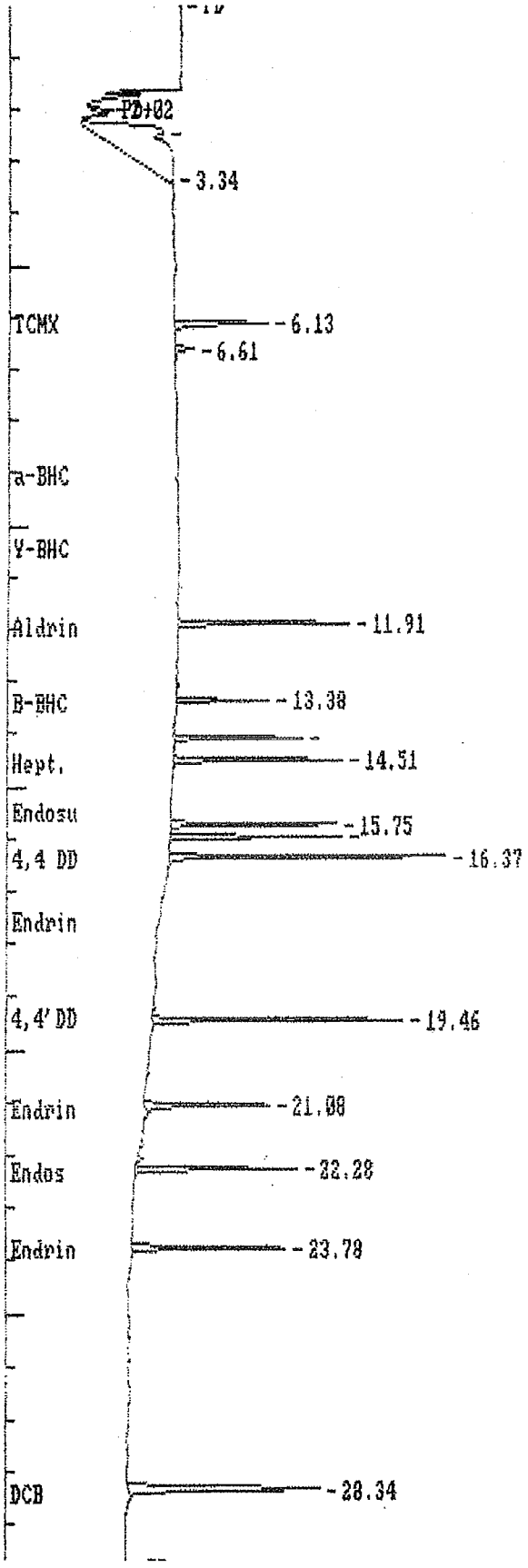
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	16303	4372	3.7	1			1.0000E-09
2	2.472		0.0004	0.0002%	379224	24201	15.7	3			1.0000E-09
3	3.340		0.0006	0.0003%	611446	2461	248.5	4			1.0000E-09
4	6.129	TCMX	10.2510	5.3578%	161084	36021	4.5	1	0	0	6.3638E-05
5	6.613		0.0000	0.0000%	28560	7191	4.0	1			1.0000E-09
6	11.907	Aldrin	9.9170	5.1833%	219444	65279	3.4	1	0	-.1417	4.5192E-05
7	13.377	B-BHC	10.0966	5.2771%	115313	35784	3.2	1	0	-.1217	8.7558E-05
8	14.095	d-BHC	9.3423	4.8829%	148141	48670	3.0	1	0	-.1148	6.3064E-05
9	14.512	Hept. epox.	10.1442	5.3020%	214753	63959	3.4	1	0	-.1149	4.7237E-05
10	15.748	Y-Chlordane	9.9817	5.2171%	216216	63256	3.4	2	0	-.1072	4.6166E-05
11	15.982	a-Chlordane	9.9054	5.1772%	222208	65512	3.4	2	0	-.1068	4.4577E-05
12	16.366	4,4 DDE	19.7864	10.3416%	352456	105025	3.4	1	0	-.1037	5.6139E-05
13	19.455	EndosIfII	20.4629	10.6948%	328068	94812	3.5	1	0	0	6.2371E-05
14	21.075	Endrin ald	19.4989	10.1914%	195828	47364	4.1	1	0	0	9.9572E-05
15	22.278	Endos sulf	20.6350	10.7852%	232082	61171	3.8	1	0	-.1488	8.8913E-05
16	23.781	Endrin ket	20.0258	10.4668%	240090	58267	4.1	1	0	0	8.3410E-05
17	28.340	DCB	21.2802	11.1224%	436351	71994	6.0	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 191.3277

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E71.PTS Printed on 11-21-1997 at 22:04:40
art time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
11 Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 22:05:36 Version 5.1.5

Data File: D:0V14E72

* Sample Name: INDA 20-200 UG/L
* Date: 11-19-1997 00:01:18 Method: M:BPES-E 11-21-1997 21:24:54 # 390
* Interface: 2 Cycle#: 72 Operator JJK Channel#: 1 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

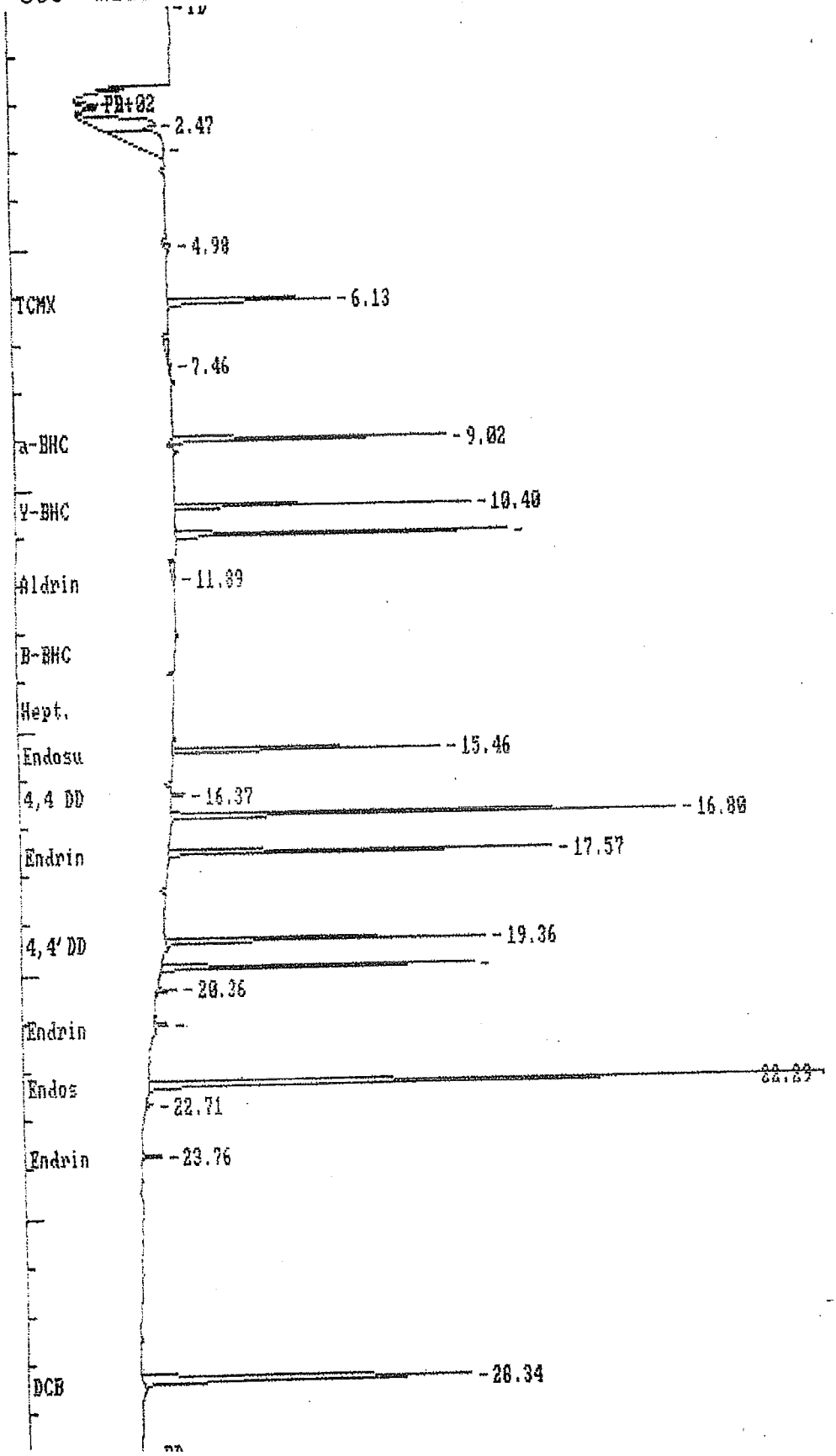
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	16893	4445	3.8	1			1.0000E-09
2	2.472		0.0004	0.0001%	361936	22940	15.8	2			1.0000E-09
3	2.989		0.0004	0.0001%	350561	5692	61.6	2			1.0000E-09
4	4.977		0.0000	0.0000%	13891	2437	5.7	1			1.0000E-09
5	6.129	TCMX	19.9396	4.9683%	313331	68119	4.6	1	0	0	6.3638E-05
6	7.465		0.0001	0.0000%	58008	1318	44.0	1			1.0000E-09
7	9.018	a-BHC	19.1504	4.7716%	419125	114106	3.7	1	0	-.1881	4.5691E-05
8	10.404	Y-BHC	19.4968	4.8579%	406196	121997	3.3	1	0	-.1621	4.7998E-05
9	11.905	Heptachlor	19.6778	4.9030%	477306	136682	3.5	1	0	-.1515	4.1227E-05
10	11.890	Aldrin	2.0438	0.5093%	45226	1177	38.4	1	0	-.2817	4.5192E-05
11	15.464	Endosulf I	19.8775	4.9528%	398523	110427	3.6	1	0	-.1085	4.9878E-05
12	16.366	4,4 DDE	1.0097	0.2516%	17986	5480	3.3	1	0	-.1037	5.6139E-05
13	16.800	Dieldrin	40.0086	9.9688%	705551	206131	3.4	1	0	0	5.6705E-05
14	17.568	Endrin	39.3678	9.8091%	570519	157254	3.6	1	0	0	6.9004E-05
15	19.355	4,4'DDD	39.6208	9.8722%	469190	131395	3.6	1	0	-.1738	8.4445E-05
16	19.906	4,4 DDT	39.2753	9.7861%	435013	127987	3.4	1	0	0	9.0285E-05
17	20.357		0.0000	0.0000%	26211	8321	3.2	1			1.0000E-09
18	21.075	Endrin ald	2.2441	0.5592%	22538	5707	3.9	1	0	0	9.9572E-05
19	22.294	~~Endos sulf~~ Methoxy	97.0608	24.1842%	1091643	279632	3.9	1	0	0	8.8913E-05
20	22.712		0.0000	0.0000%	10073	2791	3.6	1			1.0000E-09
21	23.764	Endrin ket	2.6951	0.6715%	32311	7785	4.2	1	0	-.1382	8.3412E-05
22	28.340	DCB	39.8698	9.9342%	815657	134114	6.1	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 401.3389

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E72.PTS Printed on 11-21-1997 at 22:06:04
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



EXTERNAL STANDARD TABLE

11-21-1997 22:07:23 Version 5.1.5

Sample Name: INDB 20-40 UG/L Data File: D:0V14E73

Date: 11-19-1997 00:34:02 Method: M:BPES-E 11-21-1997 21:24:54 # 390

Interface: 2 Cycle#: 73 Operator JJK Channel#: 1 Vial#: N.A.

Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

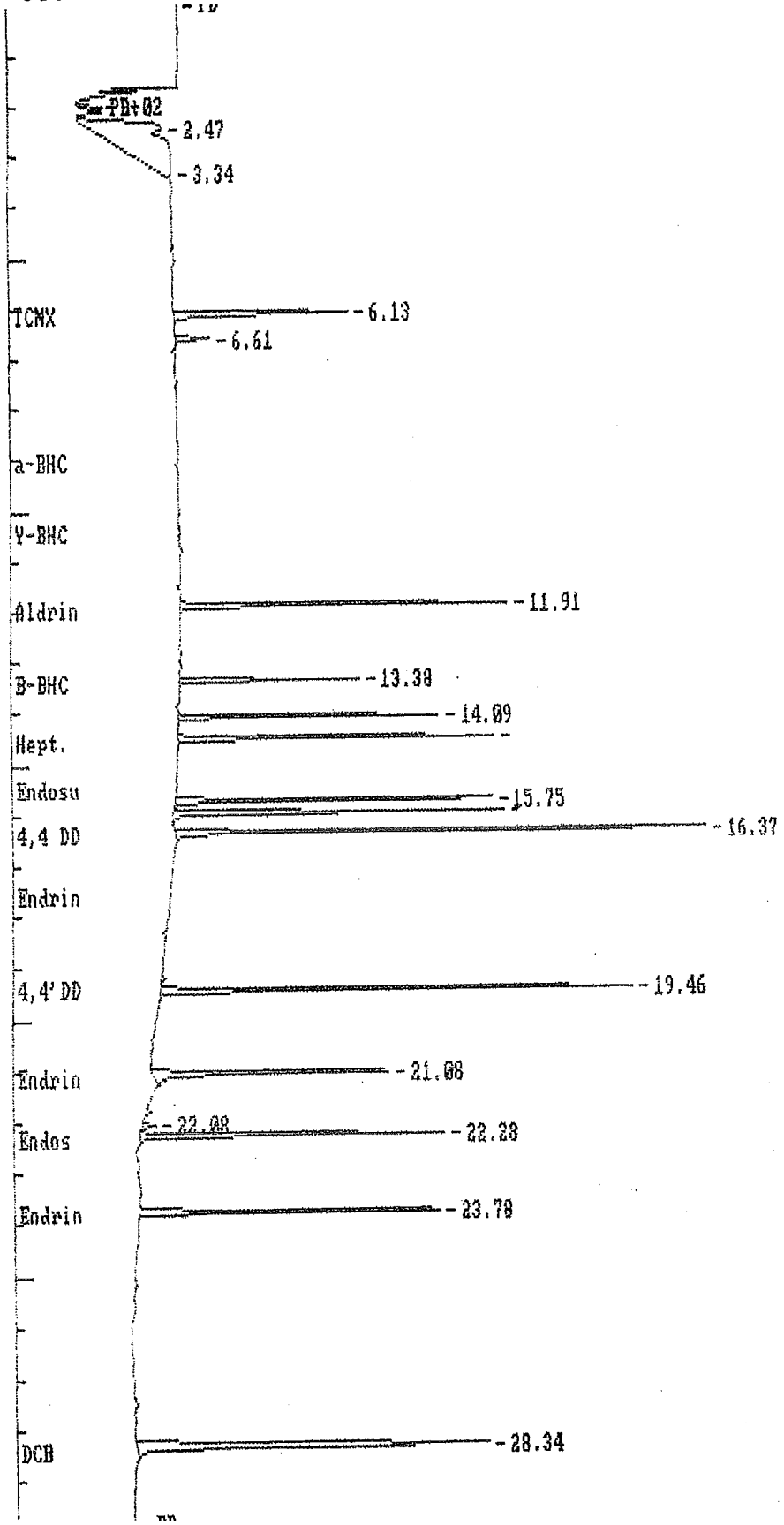
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	17042	4531	3.8	1			1.0000E-09
2	2.472		0.0004	0.0001%	399472	25534	15.6	3			1.0000E-09
3	3.340		0.0007	0.0002%	653635	3041	214.9	4			1.0000E-09
4	6.129	TCMX	20.1100	5.3081%	316009	68264	4.6	1	0	0	6.3636E-05
5	6.613		0.0001	0.0000%	56265	13856	4.1	1			1.0000E-09
6	11.907	Aldrin	19.6595	5.1892%	435026	127607	3.4	1	0	-.1417	4.5192E-05
7	13.377	B-BHC	20.0057	5.2806%	228486	69944	3.3	1	0	-.1217	8.7558E-05
8	14.095	d-BHC	19.6826	5.1953%	312107	101164	3.1	1	0	-.1148	6.3064E-05
9	14.512	Hept. epox.	19.8494	5.2393%	420211	122907	3.4	1	0	-.1149	4.7237E-05
10	15.748	Y-Chlordane	19.9112	5.2557%	431297	123248	3.5	2	0	-.1072	4.6166E-05
11	15.982	a-Chlordane	20.0646	5.2962%	450109	128444	3.5	2	0	-.1068	4.4577E-05
12	16.366	4,4 DDE	39.7684	10.4971%	708394	206541	3.4	1	0	-.1037	5.6139E-05
13	19.455	EndoslfII	40.1537	10.5988%	643784	183313	3.5	1	0	0	6.2371E-05
14	21.075	Endrin ald	38.9540	10.2821%	391215	91180	4.3	1	0	0	9.9572E-05
15	22.077		0.0000	0.0000%	21361	5483	3.9	1			1.0000E-09
16	22.278	Endos sulf	39.5327	10.4349%	444624	117795	3.8	1	0	-.1488	8.8913E-05
17	23.781	Endrin ket	40.6256	10.7234%	487061	115878	4.2	1	0	0	8.3410E-05
18	28.340	DCB	40.5333	10.6990%	829230	135649	6.1	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 378.8519

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E73.PTS Printed on 11-21-1997 at 22:07:33
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv
Full Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 22:08:43 Version 5.1.5 **********

* Sample Name: INDA 40-400 UG/L Data File: D:OV14E74 *
* Date: 11-19-1997 01:06:41 Method: M:BPES-E 11-21-1997 21:24:54 # 390 *
* Interface: 2 Cycle#: 74 Operator JJK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

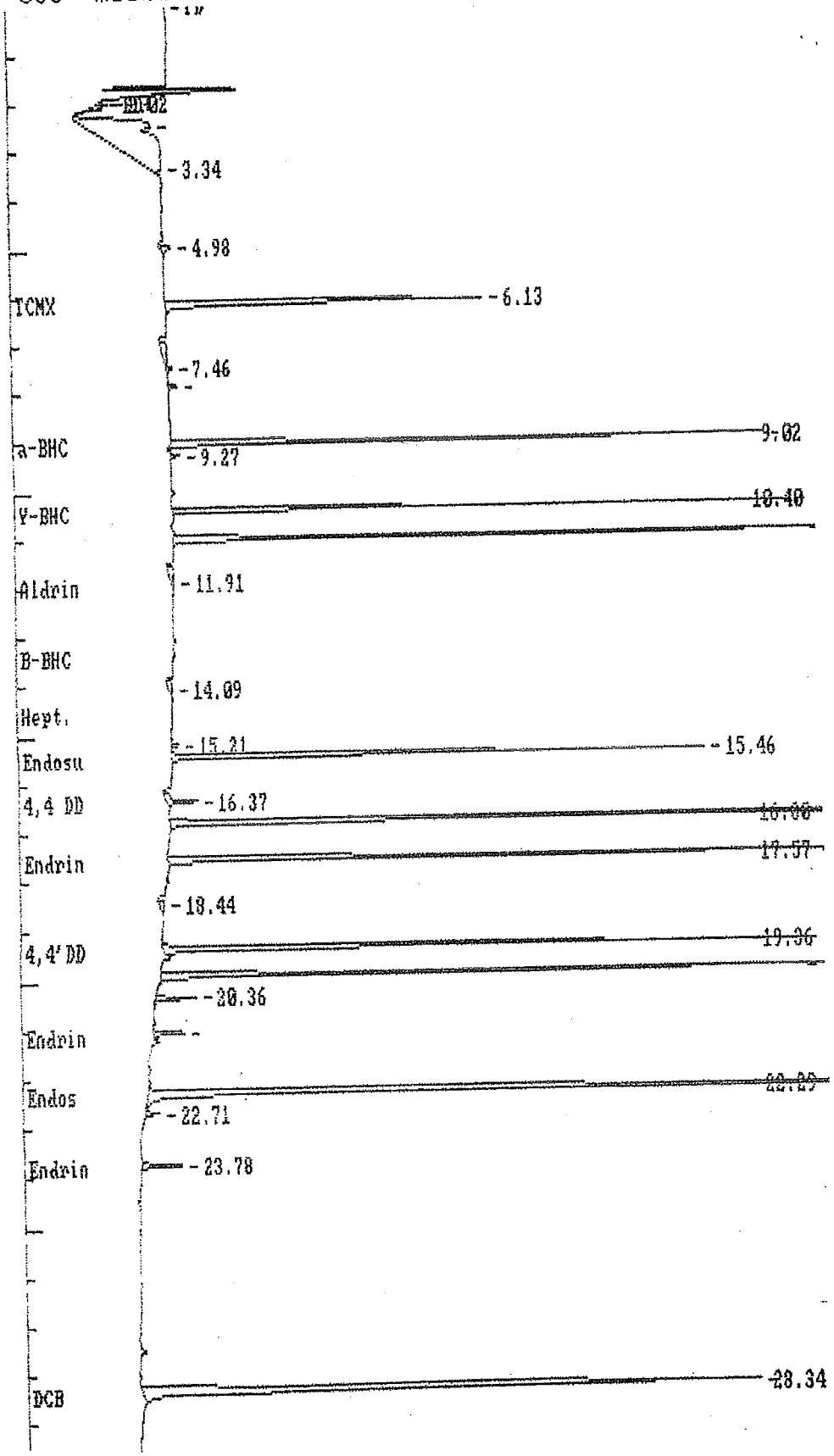
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	39557	5444	7.3	1			1.0000E-09
2	2.472		0.0004	0.0000%	384359	25118	15.3	3			1.0000E-09
3	3.340		0.0007	0.0001%	679057	4245	160.0	4			1.0000E-09
4	4.977		0.0000	0.0000%	21551	4011	5.4	1			1.0000E-09
5	6.129	TCMX	39.0643	4.9011%	613857	129881	4.7	1	0	0	6.3638E-05
6	7.465		0.0001	0.0000%	66849	2332	28.7	1			1.0000E-09
7	7.849		0.0000	0.0000%	14305	3647	3.9	1			1.0000E-09
8	9.018	a-BHC	39.8470	4.9993%	872092	242437	3.6	1	0	-.1881	4.5691E-05
9	9.268		0.0000	0.0000%	13864	3823	3.6	1			1.0000E-09
10	10.404	Y-BHC	40.5345	5.0856%	844495	251012	3.4	1	0	-.1621	4.7998E-05
11	11.005	Heptachlor	38.8863	4.8788%	943226	264593	3.6	1	0	-.1515	4.1227E-05
12	11.907	Aldrin	1.8744	0.2352%	41476	1072	38.7	1	0	-.1417	4.5192E-05
13	14.095	d-BHC	1.7213	0.2160%	27294	1435	19.0	1	0	-.1148	6.3064E-05
14	15.214		0.0000	0.0000%	10302	2986	3.4	1			1.0000E-09
15	15.464	Endosulf I	39.2292	4.9218%	786506	216660	3.6	1	0	-.1085	4.9878E-05
16	16.366	4,4 DDE	3.4857	0.4373%	62091	12433	5.0	1	0	-.1037	5.6139E-05
17	16.800	Dieldrin	79.9088	10.0256%	1409192	403194	3.5	1	0	0	5.6705E-05
18	17.568	Endrin	77.8436	9.7665%	1128109	310555	3.6	1	0	0	6.9004E-05
19	18.437		0.0000	0.0000%	22057	1885	11.7	1			1.0000E-09
20	19.355	4,4'DDD	81.1102	10.1764%	960507	263551	3.6	1	0	-.1738	8.4445E-05
21	19.906	4,4 DDT	82.8445	10.3940%	917586	268202	3.4	1	0	0	9.0285E-05
22	20.357		0.0001	0.0000%	55291	16880	3.3	1			1.0000E-09
23	21.075	Endrin ald	4.8756	0.6117%	48966	12454	3.9	1	0	0	9.9572E-05
24	22.294	~~Endos sulf~~ Methoxy	183.1257	22.9756%	2059615	516273	4.0	2	0	0	8.8913E-05
25	22.712		0.0000	0.0000%	20662	5948	3.5	2			1.0000E-09
26	23.781	Endrin ket	5.7558	0.7221%	69007	16392	4.2	1	0	0	8.3410E-05
27	28.340	DCB	76.9359	9.6527%	1573956	249638	6.3	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 797.0442

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:OV14E74.PTS Printed on 11-21-1997 at 22:08:57
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 22:10:25 Version 5.1.5 **********

* Sample Name: INDB 40-80 UG/L Data File: D:0V14E75 *
* Date: 11-19-1997 01:39:23 Method: M:BPES-E 11-21-1997 21:24:54 # 390 *
* Interface: 2 Cycle#: 75 Operator JJK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000 *

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

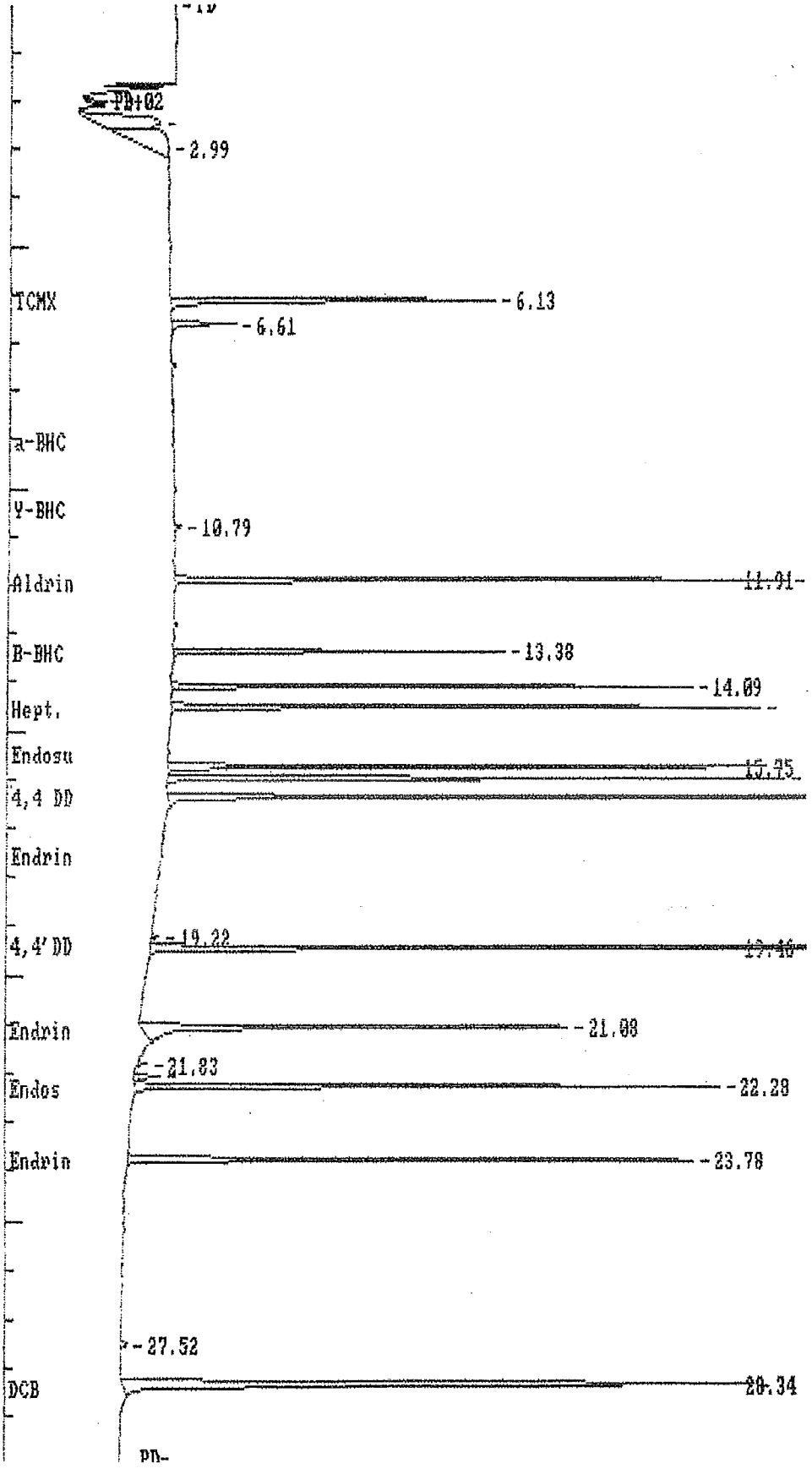
Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	17111	4822	3.5	1			1.0000E-09
2	2.472		0.0004	0.0000%	376786	23850	15.8	2			1.0000E-09
3	2.989		0.0004	0.0001%	393205	6806	57.8	2			1.0000E-09
4	6.129	TCMX	39.0731	5.1562%	613995	133600	4.6	1	0	0	6.3638E-05
5	6.613		0.0001	0.0000%	107002	26456	4.0	1			1.0000E-09
6	10.788		0.0000	0.0000%	12065	2549	4.7	1			1.0000E-09
7	11.907	Aldrin	39.3394	5.1913%	870502	252084	3.5	1	0	-.1417	4.5192E-05
8	13.377	B-BHC	39.3720	5.1956%	449668	135571	3.3	1	0	-.1217	8.7558E-05
9	14.095	d-BHC	41.9224	5.5322%	664763	213637	3.1	1	0	-.1148	6.3064E-05
10	14.512	Hept. epox.	39.0385	5.1516%	826445	241613	3.4	1	0	-.1149	4.7237E-05
11	15.748	Y-Chlordane	39.4993	5.2124%	855595	245568	3.5	2	0	-.1072	4.6166E-05
12	15.982	a-Chlordane	39.1771	5.1699%	878861	252879	3.5	2	0	-.1068	4.4577E-05
13	16.366	4,4 DDE	80.2079	10.5844%	1428744	408099	3.5	1	0	-.1037	5.6139E-05
14	19.222		0.0000	0.0000%	10689	3015	3.5	1			1.0000E-09
15	19.455	EndoslfII	79.0626	10.4333%	1267610	352293	3.6	1	0	0	6.2371E-05
16	21.075	Endrin ald	79.6942	10.5166%	800369	173145	4.6	1	0	0	9.9572E-05
17	21.827		0.0000	0.0000%	13324	4105	3.2	1			1.0000E-09
18	22.077		0.0000	0.0000%	46450	10781	4.3	2			1.0000E-09
19	22.278	Endos sulf	81.7596	10.7892%	919550	238824	3.9	2	0	-.1488	8.8913E-05
20	23.781	Endrin ket	81.8452	10.8005%	981243	230142	4.3	1	0	0	8.3410E-05
21	27.522		0.0000	0.0000%	11964	2270	5.3	1			1.0000E-09
22	29.340	DCB	77.8004	10.2667%	1591641	256780	6.2	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 757.7926

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Data File = D:OV14E75.PTS Printed on 11-21-1997 at 22:10:35
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
11 Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 22:11:57 Version 5.1.5 **********

* Sample Name: INDA 60-600 UG/L Data File: D:0V14E76 *
* Date: 11-19-1997 02:12:01 Method: M:BPES-E 11-21-1997 21:24:54 # 390 *
* Interface: 2 Cycle#: 76 Operator JJK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000 *

****

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *

****

Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	16370	4893	3.3	1			1.0000E-09
2	2.455		0.0004	0.0000%	394568	26550	14.9	3			1.0000E-09
3	3.340		0.0007	0.0001%	701033	4219	166.1	4			1.0000E-09
4	4.977		0.0000	0.0000%	27047	5102	5.3	1			1.0000E-09
5	6.129	TCMX	56.8510	4.8918%	893357	192169	4.6	1	0	0	6.3638E-05
6	7.465		0.0000	0.0000%	12192	3076	4.0	1			1.0000E-09
7	7.849		0.0000	0.0000%	19798	5131	3.9	1			1.0000E-09
8	9.018	a-BHC	60.8320	5.2344%	1331369	372577	3.6	1	0	-.1881	4.5691E-05
9	9.268		0.0000	0.0000%	20689	5915	3.5	1			1.0000E-09
10	10.404	Y-BHC	61.6340	5.3034%	1284083	381877	3.4	1	0	-.1621	4.7998E-05
11	11.005	Heptachlor	56.6989	4.8787%	1375289	385385	3.6	1	0	-.1515	4.1227E-05
12	11.673		0.0000	0.0000%	19986	1371	14.6	1			1.0000E-09
13	15.214		0.0000	0.0000%	14089	4050	3.5	1			1.0000E-09
14	15.464	Endosulf I	57.2860	4.9293%	1148528	313244	3.7	1	0	-.1085	4.9878E-05
15	16.366	4,4 DDE	2.8902	0.2487%	51484	15215	3.4	1	0	-.1037	5.6139E-05
16	16.800	Dieldrin	116.7723	10.0478%	2059280	578570	3.6	1	0	0	5.6705E-05
17	17.568	Endrin	112.4896	9.6793%	1630200	438063	3.7	1	0	0	6.9004E-05
18	19.355	4,4'DDD	120.6458	10.3811%	1428688	391761	3.6	1	0	-.1738	8.4445E-05
19	19.906	4,4 DDT	127.2883	10.9527%	1409845	401919	3.5	1	0	0	9.0285E-05
20	20.357		0.0001	0.0000%	84747	25348	3.3	1			1.0000E-09
21	21.075	Endrin ald	8.1212	0.6988%	81561	20484	4.0	1	0	0	9.9573E-05
22	22.294	~~Endos sulf~~ Methoxy	262.2448	22.5652%	2949468	724375	4.1	2	0	0	8.8913E-05
23	22.712		0.0000	0.0000%	33029	9286	3.6	2			1.0000E-09
24	23.764	Endrin ket	8.9145	0.7671%	106876	25478	4.2	1	0	-.1382	8.3410E-05
25	27.522		0.0000	0.0000%	17611	3369	5.2	1			1.0000E-09
26	28.340	OCB	109.4938	9.4215%	2240025	359907	6.2	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 1162.1639

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

***** EXTERNAL STANDARD TABLE *****

********** 11-21-1997 22:13:32 Version 5.1.5 **********

* Sample Name: INDB 60-120 UG/L Data File: D:0V14E77 *

* Date: 11-19-1997 02:44:44 Method: M:BPES-E 11-21-1997 21:24:54 # 390 *

* Interface: 2 Cycle#: 77 Operator JJK Channel#: 1 Vial#: N.A. *

* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000 *

****

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *

* Solvent Description: *

* Conditions: *

* Detector 0: Detector 1: ECD *

* Misc. Information: *

****

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

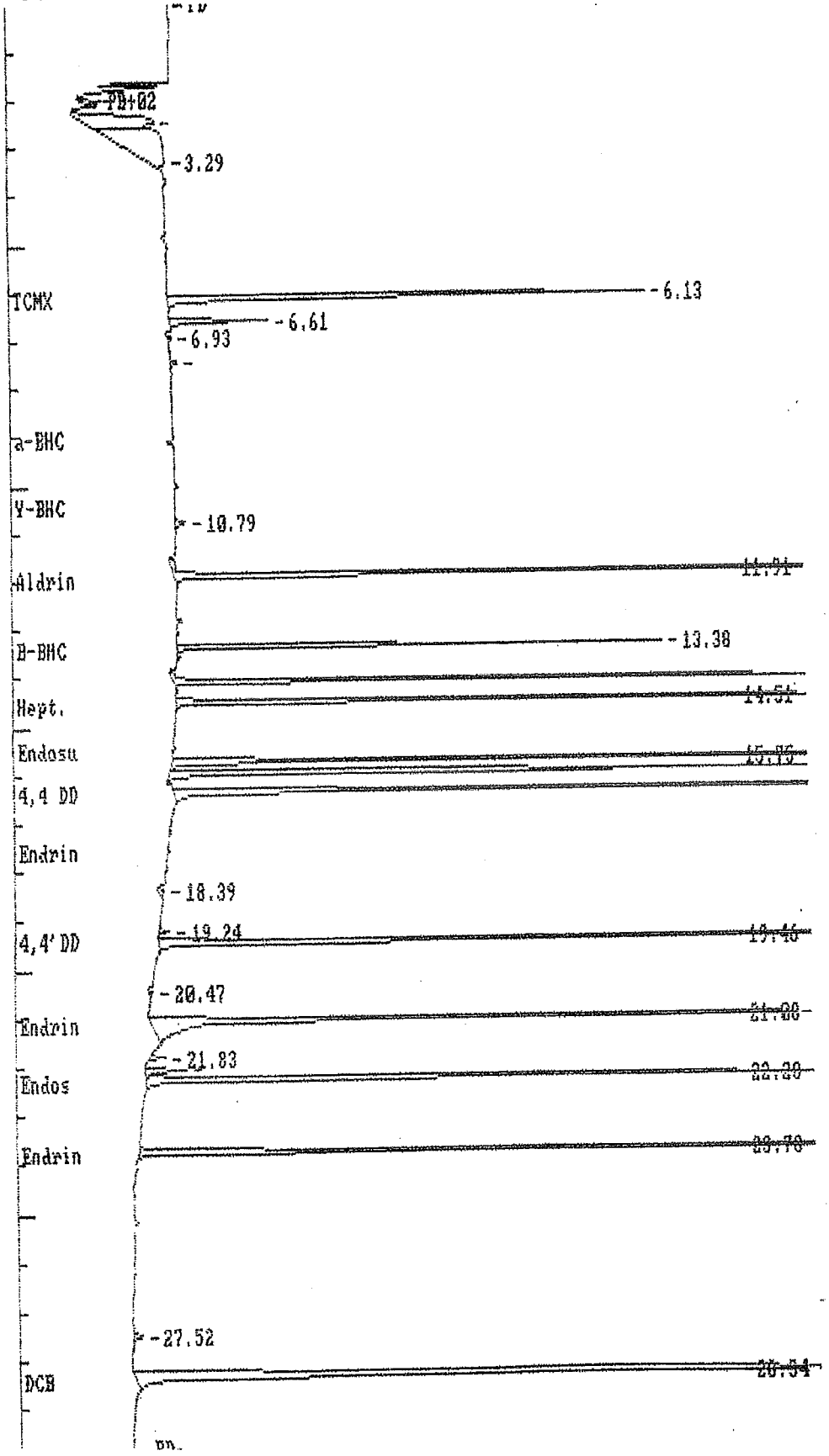
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.021		0.0000	0.0000%	16961	4797	3.5	1			1.0000E-09
2	2.455		0.0004	0.0000%	406431	26978	15.1	2			1.0000E-09
3	3.290		0.0007	0.0001%	704060	5717	123.1	2			1.0000E-09
4	6.129	TCMX	57.8924	5.0348%	909722	196226	4.6	1	0	0	6.3638E-05
5	6.613		0.0002	0.0000%	164060	40369	4.1	1			1.0000E-09
6	6.930		0.0000	0.0000%	10449	1814	5.8	1			1.0000E-09
7	7.465		0.0000	0.0000%	11209	2885	3.9	1			1.0000E-09
8	10.788		0.0000	0.0000%	19586	3989	4.9	1			1.0000E-09
9	11.907	Aldrin	60.2865	5.2430%	1334020	372741	3.6	1	0	-.1417	4.5192E-05
10	13.377	B-BHC	58.9565	5.1273%	673342	199399	3.4	1	0	-.1217	8.7558E-05
11	14.095	d-BHC	68.3709	5.9461%	1084158	337751	3.2	1	0	-.1148	6.3064E-05
12	14.512	Hept. epox.	57.6240	5.0115%	1219901	346593	3.5	1	0	-.1149	4.7237E-05
13	15.748	Y-Chlordane	59.4377	5.1692%	1287481	365639	3.5	2	0	-.1072	4.6166E-05
14	15.982	a-Chlordane	59.4200	5.1677%	1332968	374745	3.6	2	0	-.1068	4.4577E-05
15	16.366	4,4 DDE	119.2926	10.3747%	2124960	599317	3.5	1	0	-.1037	5.6139E-05
16	18.387		0.0000	0.0000%	10938	2040	5.4	1			1.0000E-09
17	19.238		0.0000	0.0000%	15897	4414	3.6	1			1.0000E-09
18	19.456	EndoslfII	117.0671	10.1811%	1876936	513730	3.7	1	0	0	6.2371E-05
19	20.474		0.0000	0.0000%	10491	1780	5.9	1			1.0000E-09
20	21.075	Endrin ald	130.7850	11.3741%	1313474	263703	5.0	1	0	0	9.9572E-05
21	21.827		0.0000	0.0000%	21848	6750	3.2	1			1.0000E-09
22	22.077		0.0001	0.0000%	72123	16656	4.3	2			1.0000E-09
23	22.278	Endos sulf	124.1808	10.7998%	1396661	358399	3.9	2	0	-.1488	8.8913E-05
24	23.781	Endrin ket	123.4617	10.7373%	1480182	340382	4.3	1	0	0	8.3410E-05
25	27.522		0.0000	0.0000%	18750	3583	5.2	1			1.0000E-09
26	28.340	DCB	113.0677	9.8333%	2313138	365739	6.3	1	0	-.1764	4.8881E-05

TOTAL AMOUNT = 1149.8442

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E77.PTS Printed on 11-21-1997 at 22:13:43
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



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EPA SAMPLE NO.

108

PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

Lab Name: FMSL Analytical Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Lab Sample ID : _____ Date(s) Analyzed: 11/22/97

Instrument ID (1): HP5890SII Instrument ID (2): _____

GC Column(1): DB-5 ID: 0.32 (mm) GC Column(2): DB-1701 ID: 0.32 (mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	Calib. Factor	Cont. Calib Factor	%D
Aroclor 1016	1	7.72	7.67	7.77	1408100	1398000	0.7
	2	8.30	8.25	8.35			
	3	9.14	9.09	9.19			
COLUMN 1	4	9.45	9.40	9.50			
	5	11.37	11.32	11.42			
(11/19/97)							
	1						
	2						
	3						
COLUMN 2	4						
	5						
Aroclor 1260	1	15.43	15.36	15.50	~~1408100~~ MJH 12/5/97	2323000	0.5
	2	16.30	16.23	16.37	2311900		
	3	18.74	18.67	18.81			
COLUMN 1	4	19.74	19.67	19.81			
	5	20.79	20.72	20.86			
(11/19/97)							
	1						
	2						
	3						
COLUMN 2	4						
	5						
Aroclor 1221	1	4.24	4.19	4.29	363133	352200	3
	2	6.11	6.06	6.16			
	3	6.38	6.33	6.43			
COLUMN 1	4	6.53	6.48	6.58			
	5	7.78	7.73	7.83			
(10/30/97)							
	1						
	2						
	3						
COLUMN 2	4						
	5						

E145

At least 3 peaks for each column are required for identification of multicomponent analytes

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FORM X PEST-2

E 4[illegible]

10B

PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

Lab Name: Fmsl Analytical Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Lab Sample ID : _____ Date(s) Analyzed: 11/22/97

Instrument ID (1): HP5890SII Instrument ID (2): _____

GC Column(1): DB-5 ID: 0.32 (mm) GC Column(2): DB-1701 ID: 0.32 (mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	Calib. Factor	Cont. Calib Factor	%D
Aroclor 1232	1	6.53	6.48	6.58	620093	683400	10
	2	7.72	7.67	7.77			
	3	8.30	8.25	8.35			
COLUMN 1	4	9.14	9.09	9.19			
	5	9.45	9.40	9.50			
(10/30/97)	1						
	2						
	3						
COLUMN 2	4						
	5						
Aroclor 1242	1	7.72	7.67	7.77	853700	937000	10
	2	8.28	8.23	8.33			
	3	8.83	8.78	8.88			
COLUMN 1	4	9.14	9.09	9.19			
	5	9.45	9.40	9.50			
(10/30/97)	1						
	2						
	3						
COLUMN 2	4						
	5						
Aroclor 1248	1	9.14	9.09	9.19	810000	923000	14
	2	9.45	9.40	9.57			
	3	10.96	10.91	11.01			
COLUMN 1	4	11.07	11.02	11.12			
	5	11.37	11.32	11.42			
(10/30/97)	1						
	2						
	3						
COLUMN 2	4						
	5						

E147

E148

E149

At least 3 peaks for each column are required for identification of multicomponent analytes

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FORM X PEST-2

E 490

108

PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

Lab Name: EMSL Analytical Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Lab Sample ID : _____ Date(s) Analyzed: 11/23/97

Instrument ID (1): HP5890SII Instrument ID (2): _____

GC Column(1): DB-5 ID: 0.32 (mm) GC Column(2): DB-1701 ID: 0.32 (mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	Calib. Factor	Cont. Calib Factor	%D
Aroclor 1254	1	12.29-.44	12.24	12.49	2052800	2240000	9
	2	13.26	13.21	13.31			
	3	14.55	14.50	14.60			
COLUMN 1	4	15.48	15.43	15.53			
	5	16.30-.42	16.25	16.47			
(10/29/97)	1						
	2						
	3						
COLUMN 2	4						
	5						
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

E150

At least 3 peaks for each column are required for identification of multicomponent analytes

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FORM X PEST-2

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EPA SAMPLE NO.

10B
PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

Lab Name: Emsl Analytical Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Lab Sample ID : _____ Date(s) Analyzed: 11/25/97

Instrument ID (1): HP5890SII Instrument ID (2): _____

GC Column(1): DB-5 ID: 0.32 (mm) GC Column(2): DB-1701 ID: 0.32 (mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	Calib. Factor	Cont. Calib Factor	%D
Aroclor 1016	1	7.72	7.67	7.77	1408100	1397000	1
	2	8.30	8.25	8.35			
	3	9.14	9.09	9.19			
COLUMN 1	4	9.45	9.40	9.50			
	5	11.37	11.32	11.42			
(11/19/97)							
	1						
	2						
	3						
COLUMN 2	4						
	5						
Aroclor 1260	1	15.43	15.36	15.50	~~1408100~~	2301000	0
	2	16.30	16.23	16.37	2311900		
	3	18.74	18.67	18.81	[illegible] 12/1/9		
COLUMN 1	4	19.74	19.67	19.81			
	5	20.79	20.72	20.86			
(11/19/97)							
	1						
	2						
	3						
COLUMN 2	4						
	5						
Aroclor 1221	1	4.24	4.19	4.29	363133		
	2	6.11	6.06	6.16			
	3	6.38	6.33	6.43			
COLUMN 1	4	6.53	6.48	6.58			
	5	7.78	7.73	7.83			
(10/30/97)							
	1						
	2						
	3						
COLUMN 2	4						
	5						

E171

At least 3 peaks for each column are required for identification of multicomponent analytes

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FORM X PEST-2

E 411

EPA SAMPLE NO.

108
PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

Lab Name: FMSL Analytical Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Lab Sample ID : _____ Date(s) Analyzed: 11/23/97

Instrument ID (1): HP5890SII Instrument ID (2): _____

GC Column(1): DB-5 ID: 0.32 (mm) GC Column(2): DB-1701 ID: 0.32 (mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	Calib. Factor	Cont. Calib Factor	%D
Chlordane	1	9.00	8.93	9.09	1683400	1744000	4
	2	12.94	12.87	13.01			
	3	13.48	13.41	13.55			
COLUMN 1	4	13.64	13.57	13.71			
(11/20/97)	5	16.20	16.13	16.27			
	1						
	2						
	3						
COLUMN 2	4						
	5						
Toxaphene	1	17.78	17.71	17.85	431207	412312	4
	2	18.27	18.20	18.34			
	3	18.52	18.45	18.59			
COLUMN 1	4	18.79	18.70	18.87			
(11/20/97)	5	20.16	20.09	20.23			
	1						
	2						
	3						
COLUMN 2	4						
	5						
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

E151

At least 3 peaks for each column are required for identification of multicomponent analytes

page __ of __

OLM02.0

FORM X PEST-2

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: EMSL
Instrument ID: HP 5890 Series II
GC Column:DB-5 ID: 0.32

Init. Calibration Date:11/19/97-11/20/97
Date Analyzed:11/24/97
Time Analyzed:2339

Lab File ID: D:NV14E160

INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
alpha-BHC	6.56	6.51	6.61	2905	2726	6.6-	6
gamma-BHC (Lindane)	7.48	7.43	7.53	3067	2894	7.50	6
Heptachlor	9.60	9.55	9.65	3793	4087	9.64	8
Endosulfan I	13.38	13.31	13.45	3518	3474	13.39	1
Dieldrin	14.30	14.23	14.37	4053	4027	14.33	1
Endrin	15.08	15.01	15.15	2816	2926	15.10	4
4,4'-DDD	15.80	15.73	15.87	2931	2731	15.83	7
4,4'-DDT	17.13	17.06	17.20	3046	3228	17.17	6
Methoxychlor	19.30	19.23	19.37	1572	1691	19.32	8
Tetrachloro-m-xylene	5.56	5.51	5.61	4365	4252	5.58	3
Decachlorobiphenyl	26.20	26.10	26.30	4998	5066	26.24	1

Date Analyzed:11/24/97
Time Analyzed:2306

Lab File ID: D:NV14E159

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
beta-BHC	7.32	7.27	7.37	2533	2440	7.33	4
delta-BHC	8.18	8.13	8.23	2216	2061	8.20	7
Aldrin	10.74	10.69	10.79	4162	4178	10.76	0
Heptachlor epoxide	12.12	12.05	12.19	3842	3942	12.14	3
4,4'-DDE	14.30	14.23	14.37	4991	5090	14.31	2
Endosulfan II	15.43	15.36	15.50	2996	3016	15.46	1
Endosulfan sulfate	16.98	16.91	17.05	2628	2646	17.02	1
Endrin ketone	18.67	18.60	18.74	2840	2779	18.69	2
Endrin aldehyde	16.13	16.06	16.20	2927	2925	16.15	0
alpha-Chlordane	13.48	13.41	13.55	4894	5070	13.51	4
gamma-Chlordane	12.94	12.87	13.01	4770	4962	12.96	4
Tetrachloro-m-xylene	5.56	5.51	5.61	4410	4316	5.58	2
Decachlorobiphenyl	26.19	26.09	26.29	5131	5132	26.24	0

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: EMSL
Instrument ID: HP 5890 Series II
GC Column:DB-1701 ID: 0.32

Init. Calibration Date:11/19/97-11/20/97
Date Analyzed:11/24/97
Time Analyzed:2339

Lab File ID:OV14E160

INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
alpha-BHC	9.02	8.97	9.07	20956	20842	9.04	1
gamma-BHC (Lindane)	10.40	10.35	10.45	20310	20152	10.42	1
Heptachlor	11.00	10.95	11.05	23865	24567	11.02	3
Endosulfan I	15.46	15.39	15.53	19928	20206	15.48	1
Dieldrin	16.80	16.73	16.87	17639	17743	16.83	1
Endrin	17.57	17.50	17.64	14263	14925	17.58	5
4,4'-DDD	19.36	19.29	19.43	11730	11209	19.39	4
4,4'-DDT	19.91	19.84	19.98	10875	11440	19.92	5
Methoxychlor	22.29	22.22	22.36	5458	5722	22.33	5
Tetrachloro-m-xylene	6.13	6.08	6.18	15667	15540	6.16	1
Decachlorobiphenyl	28.34	28.24	28.44	20391	20373	28.39	0

Date Analyzed:11/24/97
Time Analyzed:2306

Lab File ID:OV14E159

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
beta-BHC	13.38	13.33	13.43	11424	11329	13.39	1
delta-BHC	14.10	14.05	14.15	15605	18164	14.11	16
Aldrin	11.91	11.86	11.96	21751	21910	11.92	1
Heptachlor epoxide	14.51	14.44	14.58	21011	21364	14.53	2
4,4'-DDE	16.37	16.30	16.44	17710	19639	16.38	11
Endosulfan II	19.46	19.39	19.53	16095	16427	19.47	2
Endosulfan sulfate	22.28	22.21	22.35	11116	10975	22.31	1
Endrin ketone	23.78	23.71	23.85	12177	11979	23.80	2
Endrin aldehyde	21.08	21.01	21.15	9780	9814	21.09	0
alpha-Chlordane	15.98	15.91	16.05	22505	25194	16.00	12
gamma-Chlordane	15.75	15.68	15.82	21565	22617	15.78	5
Tetrachloro-m-xylene	6.13	6.08	6.18	15800	15787	6.16	0
Decachlorobiphenyl	28.34	28.24	28.44	20731	20491	28.39	1

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: EMSL
Instrument ID: HP 5890 Series II
GC Column:DB-5 ID: 0.32

Init. Calibration Date:11/19/97-11/20/97
Date Analyzed:11/25/97
Time Analyzed:1930

Lab File ID: D:NV14E182

INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
alpha-BHC	6.56	6.51	6.61	2905	2981	6.60	3
gamma-BHC (Lindane)	7.48	7.43	7.53	3067	3146	7.50	3
Heptachlor	9.60	9.55	9.65	3793	4068	9.64	7
Endosulfan I	13.38	13.31	13.45	3518	3626	13.39	3
Dieldrin	14.30	14.23	14.37	4053	4211	14.33	4
Endrin	15.08	15.01	15.15	2816	2778	15.10	1
4,4'-DDD	15.80	15.73	15.87	2931	2853	15.83	3
4,4'-DDT	17.13	17.06	17.20	3046	3382	17.17	11
Methoxychlor	19.30	19.23	19.37	1572	1643	19.32	4
Tetrachloro-m-xylene	5.56	5.51	5.61	4365	4659	5.58	7
Decachlorobiphenyl	26.20	26.10	26.30	4998	5080	26.24	2

Date Analyzed:11/25/97
Time Analyzed:1857

Lab File ID: D:NV14E181

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
beta-BHC	7.32	7.27	7.37	2533	2593	7.35	2
delta-BHC	8.18	8.13	8.23	2216	2218	8.20	0
Aldrin	10.74	10.69	10.79	4162	4360	10.76	5
Heptachlor epoxide	12.12	12.05	12.19	3842	3981	12.14	4
4,4'-DDE	14.30	14.23	14.37	4991	5059	14.31	1
Endosulfan II	15.43	15.36	15.50	2996	2963	15.46	1
Endosulfan sulfate	16.98	16.91	17.05	2628	2518	17.02	4
Endrin ketone	18.67	18.60	18.74	2840	2700	18.69	5
Endrin aldehyde	16.13	16.06	16.20	2927	2825	16.17	3
alpha-Chlordane	13.48	13.41	13.55	4894	5204	13.51	6
gamma-Chlordane	12.94	12.87	13.01	4770	5068	12.98	6
Tetrachloro-m-xylene	5.56	5.51	5.61	4410	4657	5.58	6
Decachlorobiphenyl	26.19	26.09	26.29	5131	5273	26.24	3

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

415

Lab Name: EMSL
Instrument ID: HP 5890 Series II
GC Column:DB-1701 ID: 0.32

Init. Calibration Date:11/19/97-11/20/97
Date Analyzed:11/25/97
Time Analyzed:1930

Lab File ID:OV14E182

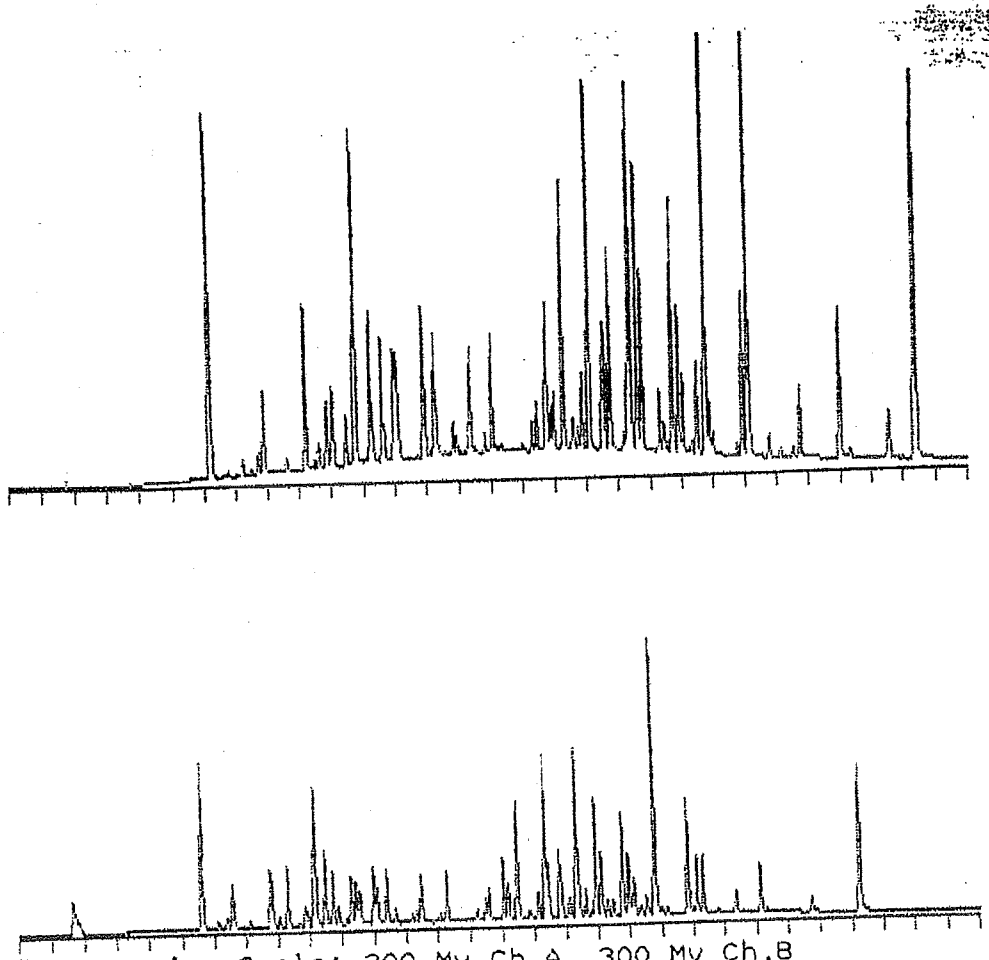
INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
alpha-BHC	9.02	8.97	9.07	20956	23457	9.04	12
gamma-BHC (Lindane)	10.40	10.35	10.45	20310	22956	10.42	13
Heptachlor	11.00	10.95	11.05	23865	27150	11.02	14
Endosulfan I	15.46	15.39	15.53	19926	22096	15.48	11
Dieldrin	16.80	16.73	16.87	17639	19450	16.83	10
Endrin	17.57	17.50	17.64	14263	15261	17.58	7
4,4'-DDD	19.36	19.29	19.43	11730	12045	19.39	3
4,4'-DDT	19.91	19.84	19.98	10875	12290	19.92	13
Methoxychlor	22.29	22.22	22.36	5458	6039	22.33	11
Tetrachloro-m-xylene	6.13	6.08	6.18	15667	17710	6.16	13
Decachlorobiphenyl	28.34	28.24	28.44	20391	21451	28.39	5

Date Analyzed:11/25/97
Time Analyzed:1857

Lab File ID:OV14E181

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	TO	INIT. CAL. FACTOR	CONT.CAL FACTOR	RT	%D
beta-BHC	13.38	13.33	13.43	11424	12358	13.39	8
delta-BHC	14.10	14.05	14.15	15605	16705	14.11	7
Aldrin	11.91	11.86	11.96	21751	24011	11.92	10
Heptachlor epoxide	14.51	14.44	14.58	21011	22949	14.53	9
4,4'-DDE	16.37	16.30	16.44	17710	18920	16.38	7
Endosulfan II	19.46	19.39	19.53	16095	16823	19.47	5
Endosulfan sulfate	22.28	22.21	22.35	11116	11528	22.31	4
Endrin ketone	23.78	23.71	23.85	12177	12495	23.80	3
Endrin aldehyde	21.08	21.01	21.15	9780	10040	21.09	3
alpha-Chlordane	15.98	15.91	16.05	22505	24432	16.00	9
gamma-Chlordane	15.75	15.68	15.82	21565	23379	15.78	8
Tetrachloro-m-xylene	6.13	6.08	6.18	15800	17536	6.16	11
Decachlorobiphenyl	28.34	28.24	28.44	20731	21369	28.39	3

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%.



[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1660 1PPM Processed: 11-22-1997 21:54:12, segment 1, cycle 145
RAW DATA SAVED IN FILE D:NV14E145.PTS Second Channel Stored in D:OV14E145.PTS

EXTERNAL STANDARD TABLE

11-22-1997 21:55:18 Version 5.1.5

Data File: D:NV14E145

* Sample Name: A1660 1PPM
* Date: 11-22-1997 21:23:32 Method: M:APES-E 11-21-1997 22:31:52 # 398
* Interface: 2 Cycle#: 145 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

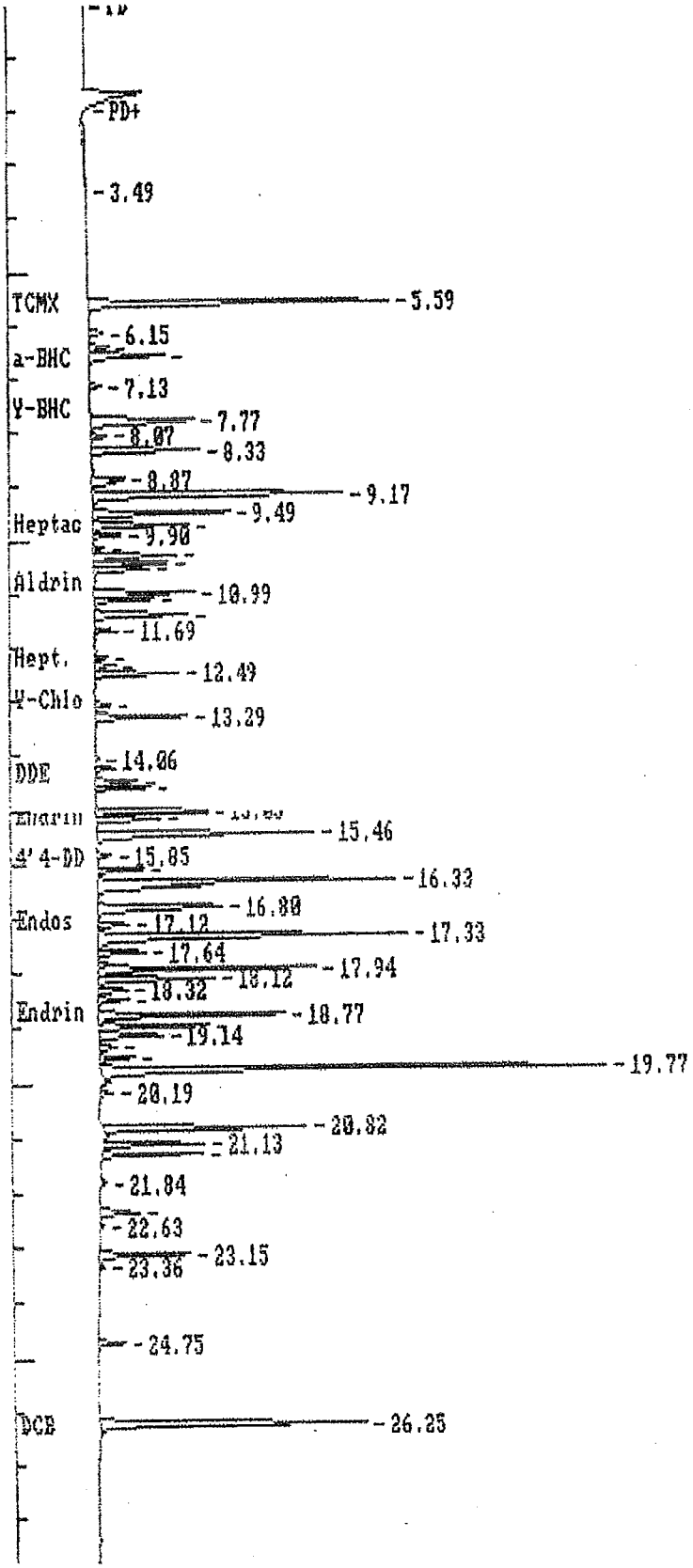
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.490		0.0001	0.0000%	66274	476	139.1	1			1.0000E-09
2	5.594	TCMX	122.2927	15.2593%	541023	110476	4.9	1	0	.6204	2.2604E-04
3	6.146		0.0000	0.0000%	27622	5215	5.3	2			1.0000E-09

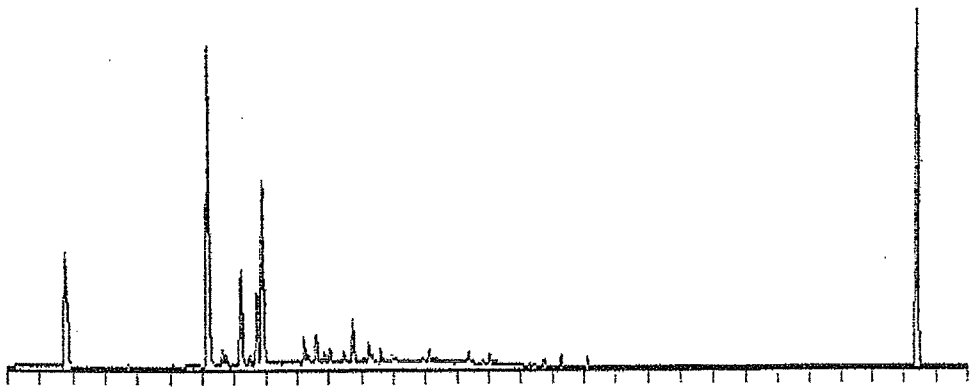
7	7.766	0.0003	0.0000%	281588	37526	7.5	1			1.0000E-09
8	8.066	0.0000	0.0000%	25104	5815	4.3	1			1.0000E-09
9	8.333 d-BHC	75.3248	9.3988%	176411	39906	4.4	1	0	1.625	4.2699E-04
10	8.868	0.0001	0.0000%	81798	12015	6.8	2			1.0000E-09
	9.168	0.0005	0.0001%	536285	92214	5.8	2			1.0000E-09
	9.486	0.0002	0.0000%	231582	50431	4.6	2			1.0000E-09
13	9.736 Heptachlor	39.5592	4.9361%	152936	34964	4.4	2	0	1.038	2.5867E-04
14	9.903	0.0000	0.0000%	43049	10481	4.1	2			1.0000E-09
15	10.170	0.0000	0.0000%	16664	4107	4.1	2			1.0000E-09
16	10.304	0.0001	0.0000%	130229	30458	4.3	2			1.0000E-09
17	10.438	0.0001	0.0000%	119920	27344	4.4	2			1.0000E-09
18	10.554 Aldrin	23.6239	2.9477%	106213	20556	5.2	2	0	-1.865	2.2242E-04
19	10.989	0.0002	0.0000%	157990	36647	4.3	2			1.0000E-09
20	11.105	0.0001	0.0000%	103058	22088	4.7	2			1.0000E-09
21	11.406	0.0002	0.0000%	172323	34162	5.0	2			1.0000E-09
22	11.690	0.0000	0.0000%	31431	8131	3.9	1			1.0000E-09
23	12.208 Hept. epox.	4.1515	0.5180%	16913	4631	3.7	2	0	.5493	2.4546E-04
24	12.341	0.0000	0.0000%	30333	7630	4.0	2			1.0000E-09
25	12.492	0.0001	0.0000%	133759	30689	4.4	2			1.0000E-09
26	13.093 Y-Chlordane	5.0983	0.6361%	25588	5724	4.5	2	0	1.032	1.9924E-04
27	13.293 Endosulfan I	39.7036	4.9541%	145157	33511	4.3	2	0	-.7451	2.7352E-04
28	14.061	0.0000	0.0000%	5868	1591	3.7	1			1.0000E-09
29	14.245 DDE	5.2266	0.6522%	26927	7195	3.7	1	0	-.4674	1.9410E-04
30	14.496	0.0001	0.0000%	60217	15471	3.9	2			1.0000E-09
31	14.596	0.0001	0.0000%	79286	19924	4.0	2			1.0000E-09
32	15.030 Endrin	56.1314	7.0039%	164409	40656	4.0	2	0	-.4437	3.4141E-04
33	15.197	0.0001	0.0000%	102048	23686	4.3	2			1.0000E-09
34	15.464 Endoslf II	116.3654	14.5197%	363176	79837	4.5	2	0	.1113	3.2041E-04
35	15.848 4'4-DDD	8.4172	1.0503%	24932	5305	4.7	1	0	.1029	3.3761E-04
36	16.115 Endrin ald	22.8798	2.8549%	68640	17028	4.0	2	0	-.2074	3.3333E-04
	16.333	0.0006	0.0001%	601879	108973	5.5	2			1.0000E-09
	16.800	0.0003	0.0000%	273549	45564	6.0	2			1.0000E-09
39	17.117 ODT	16.9036	2.1092%	53449	11560	4.6	2	0	-.2941	3.1626E-04
40	17.335	0.0006	0.0001%	572569	112817	5.1	2			1.0000E-09
41	17.635	0.0001	0.0000%	69054	17308	4.0	2			1.0000E-09
42	17.836	0.0000	0.0000%	14432	3736	3.9	2			1.0000E-09
43	17.936	0.0003	0.0000%	315450	79654	4.0	2			1.0000E-09
44	18.119	0.0002	0.0000%	166236	42341	3.9	2			1.0000E-09
45	18.320	0.0000	0.0000%	48545	10495	4.6	2			1.0000E-09
46	18.504	0.0000	0.0000%	43804	11058	4.0	2			1.0000E-09
47	18.771 Endrin ket.	100.1153	12.4920%	286730	68337	4.2	2	0	.4484	3.4916E-04
48	18.971	0.0002	0.0000%	163207	40151	4.1	2			1.0000E-09
49	19.138	0.0001	0.0000%	131629	23404	5.6	2			1.0000E-09
50	19.372 Methoxychlor	18.3760	2.2929%	28611	6288	4.6	2	0	.2587	6.4226E-04
51	19.539	0.0001	0.0000%	51488	12680	4.1	2			1.0000E-09
52	19.773	0.0007	0.0001%	740893	183618	4.0	1			1.0000E-09
53	20.190	0.0000	0.0000%	17454	4637	3.8	1			1.0000E-09
54	20.825	0.0003	0.0000%	329889	74462	4.4	1			1.0000E-09
55	21.125	0.0001	0.0000%	135132	36807	3.7	2			1.0000E-09
56	21.326	0.0002	0.0000%	154732	36784	4.2	2			1.0000E-09
57	21.844	0.0000	0.0000%	12383	2250	5.5	1			1.0000E-09
58	22.378	0.0001	0.0000%	72407	14719	4.9	2			1.0000E-09
59	22.629	0.0000	0.0000%	6308	1569	4.0	2			1.0000E-09
60	23.146	0.0001	0.0000%	142692	32998	4.3	3			1.0000E-09
61	23.363	0.0000	0.0000%	7716	1780	4.3	4			1.0000E-09
62	24.749	0.0000	0.0000%	43408	9442	4.6	1			1.0000E-09
	26.252 DCB	100.9322	12.5940%	521516	97239	5.4	1	0	0	1.9354E-04

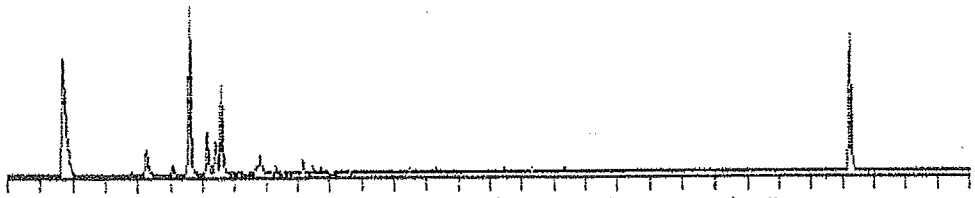
TOTAL AMOUNT = 801.4325

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Areas, times, and heights stored in: D:NV14E145.ATB
Data File = D:NV14E145.PTS Printed on 11-22-1997 at 21:55:46
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts







[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1221 2PPM Processed: 11-22-1997 22:26:53, segment 2, cycle 146
RAW DATA SAVED IN FILE D:NV14E146.PTS Second Channel Stored in D:OV14E146.PTS

EXTERNAL STANDARD TABLE

11-22-1997 22:27:58 Version 5.1.5

Sample Name: A1221 2PPM Data File: D:NV14E146

Date: 11-22-1997 21:56:16 Method: M:APES-E 11-21-1997 22:31:52 # 398

Interface: 2 Cycle#: 146 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.371		0.0000	0.0000%	18792	1105	17.0	1			1.0000E-09
2	4.275		0.0001	0.0000%	93468	15134	6.2	1			1.0000E-09
3	5.077		0.0000	0.0000%	27108	4723	5.7	1			1.0000E-09
4	5.594	TCMX	132.6106	36.4638%	586669	112187	5.2	1	0	.6204	2.2604E-04

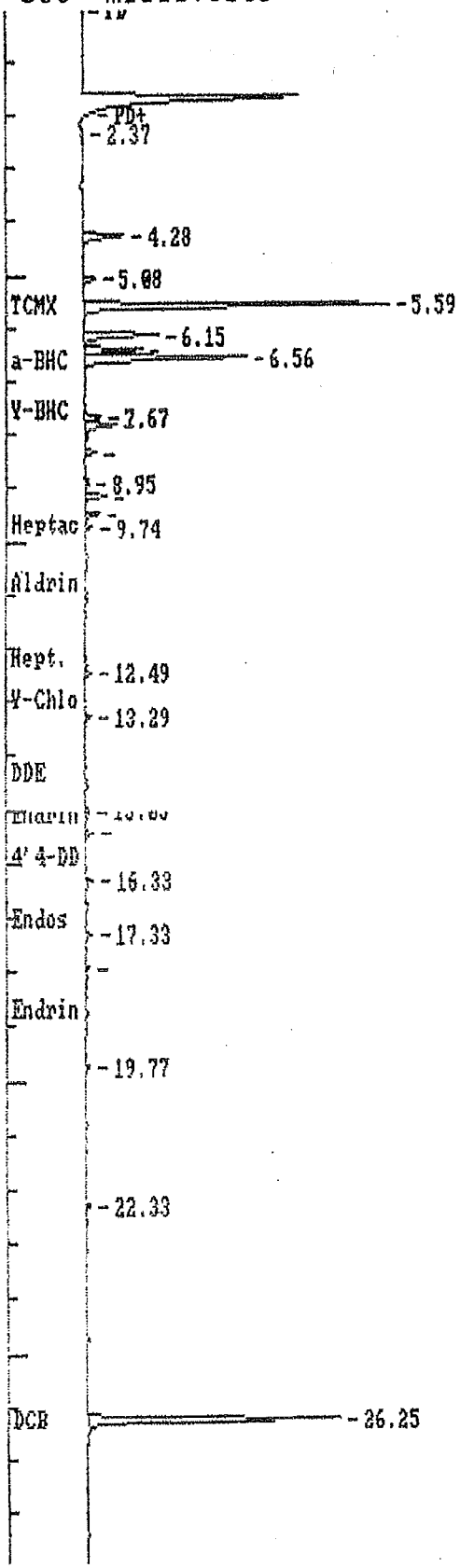
704400
10470

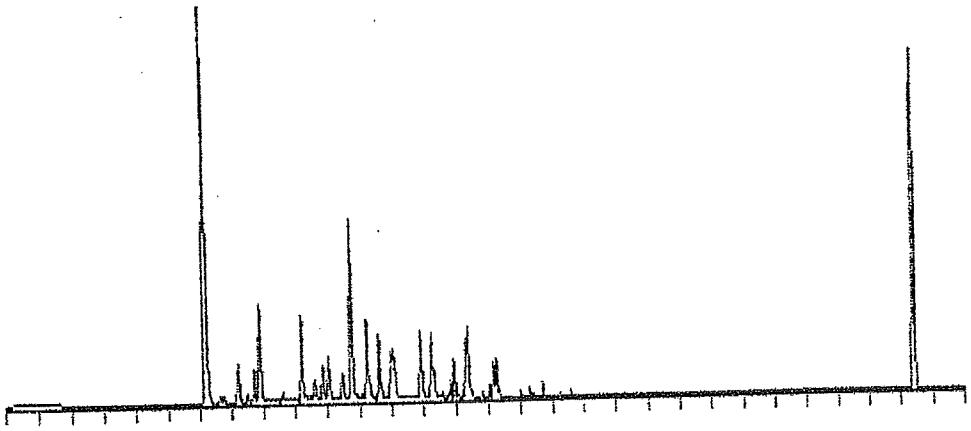
7	6.563 a-BHC	108.8788	29.9383%	331863	59861	5.5	2	0	0	3.2808E-04
8	7.665	0.0000	0.0000%	26082	5947	4.4	2			1.0000E-09
9	7.832	0.0001	0.0000%	78381	11581	6.8	2			1.0000E-09
10	8.333 d-BHC	8.4776	2.3311%	19855	4601	4.3	1	0	1.625	4.2699E-04
11	8.951	0.0000	0.0000%	12032	1573	7.6	1			1.0000E-09
12	9.168	0.0000	0.0000%	45091	8069	5.6	1			1.0000E-09
13	9.486	0.0000	0.0000%	23381	5254	4.5	2			1.0000E-09
14	9.736 Heptachlor	2.8927	0.7954%	11183	2775	4.0	2	0	1.038	2.5867E-04
15	12.492	0.0000	0.0000%	10186	2451	4.2	1			1.0000E-09
16	13.293 Endosulfan I	2.4664	0.6782%	9017	2241	4.0	1	0	-.7451	2.7352E-04
17	15.030 Endrin	2.0191	0.5552%	5914	1544	3.8	1	0	-.4437	3.4141E-04
18	15.464 Endoslf II	4.5605	1.2540%	14233	3200	4.4	1	0	.1113	3.2041E-04
19	16.333 Endrin ald	2.9559	0.8128%	8868	2552	3.5	1	0	1.136	3.3333E-04
20	17.335 DDT	2.9794	0.8192%	9421	2264	4.2	1	0	.9704	3.1626E-04
21	17.936	0.0000	0.0000%	4895	1352	3.6	1			1.0000E-09
22	19.773	0.0000	0.0000%	5774	1564	3.7	1			1.0000E-09
23	22.328	0.0000	0.0000%	5983	1504	4.0	1			1.0000E-09
24	26.252 DCB	95.8358	26.3519%	495183	91547	5.4	1	0	0	1.9354E-04

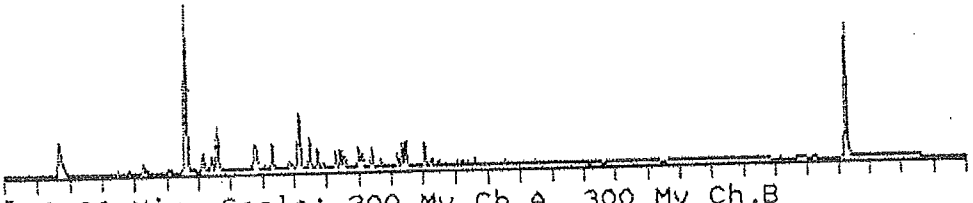
TOTAL AMOUNT = 363.6772

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

reas, times, and heights stored in: D:NV14E146.ATB
a File = D:NV14E146.PTS Printed on 11-22-1997 at 22:28:23
art time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts







[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1232 1PPM Processed: 11-22-1997 22:59:31, segment 3, cycle 147
RAW DATA SAVED IN FILE D:NV14E147.PTS Second Channel Stored in D:OV14E147.PTS

EXTERNAL STANDARD TABLE

11-22-1997 23:00:36 Version 5.1.5

Data File: D:NV14E147

Sample Name: A1232 1PPM

Date: 11-22-1997 22:28:55 Method: M:APES-E 11-21-1997 22:31:52 # 398

Interface: 2 Cycle#: 147 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
ple Weight: 1.00000

Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

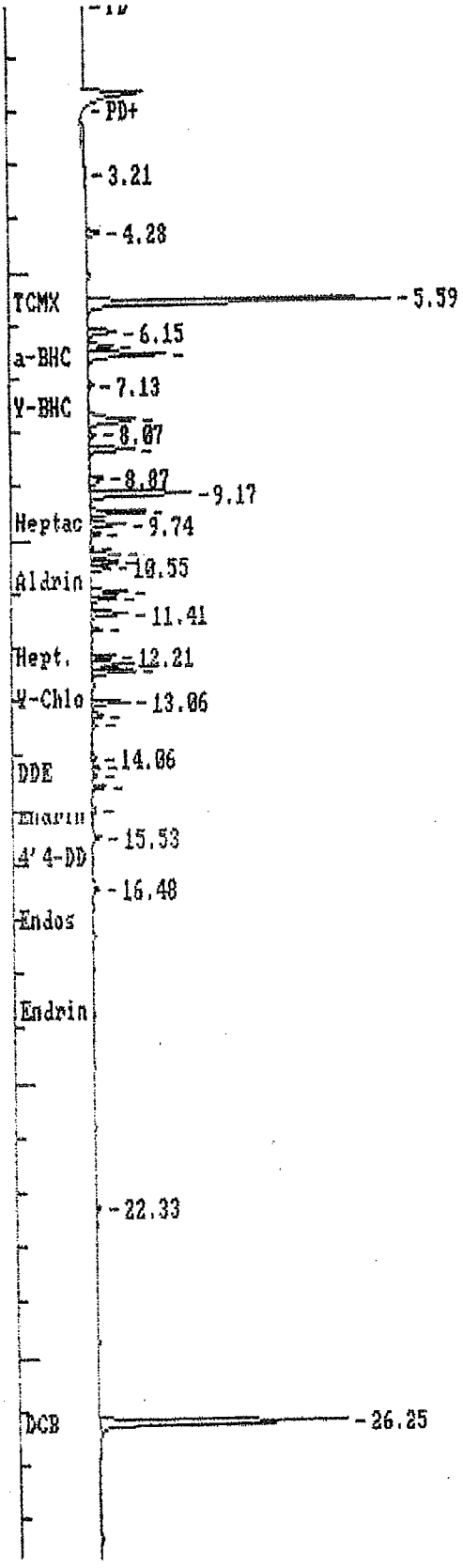
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.206		0.0001	0.0000%	67736	608	111.4	1			1.0000E-09
2	4.275		0.0000	0.0000%	29099	4820	6.0	1			1.0000E-09
			125.5075	35.2634%	555245	110871	5.0	1	0	.6204	2.2604E-04
											1.0000E-09

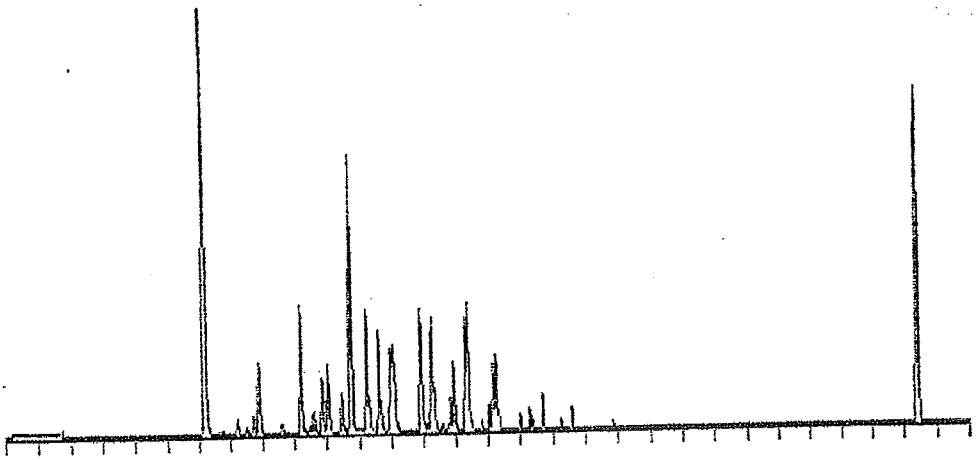
7	7.131		0.0000	0.0000%	8103	1771	4.6	1			1.0000E-09
8	7.766		0.0001	0.0000%	146075	16852	8.7	2			1.0000E-09
9	8.066		0.0000	0.0000%	11303	2475	4.6	2			1.0000E-09
10	8.333	d-BHC	31.2786	8.7882%	73254	16627	4.4	2	0	1.625	4.2699E-04
	8.868		0.0000	0.0000%	34266	4929	7.0	2			1.0000E-09
	9.168		0.0002	0.0001%	216219	36860	5.9	2			1.0000E-09
13	9.486		0.0001	0.0000%	95199	20279	4.7	2			1.0000E-09
14	9.736	Heptachlor	15.0973	4.2418%	58366	13036	4.5	2	0	1.038	2.5867E-04
15	9.903		0.0000	0.0000%	14770	3622	4.1	2			1.0000E-09
16	10.170		0.0000	0.0000%	5833	1447	4.0	2			1.0000E-09
17	10.304		0.0000	0.0000%	47354	11264	4.2	2			1.0000E-09
18	10.454		0.0000	0.0000%	44420	10067	4.4	2			1.0000E-09
19	10.554	Aldrin	8.2188	2.3092%	36952	7239	5.1	2	0	-1.865	2.2242E-04
20	10.989		0.0001	0.0000%	58958	13628	4.3	2			1.0000E-09
21	11.105		0.0000	0.0000%	48280	9558	5.1	2			1.0000E-09
22	11.406		0.0001	0.0000%	68533	13583	5.0	2			1.0000E-09
23	11.690		0.0000	0.0000%	16114	4111	3.9	1			1.0000E-09
24	12.208	Hept. epox.	8.2281	2.3118%	33521	8617	3.9	2	0	.5493	2.4546E-04
25	12.341		0.0001	0.0000%	64391	15466	4.2	2			1.0000E-09
26	12.475		0.0001	0.0000%	74732	16095	4.6	2			1.0000E-09
27	13.059	Y-Chlordane	12.2533	3.4428%	61499	13889	4.4	2	0	.7747	1.9924E-04
28	13.293		0.0000	0.0000%	24514	4078	6.0	2			1.0000E-09
29	13.477	a-Chlordane	1.8189	0.5110%	9362	2372	3.9	2	0	-.2450	1.9429E-04
30	14.061		0.0000	0.0000%	8278	2054	4.0	2			1.0000E-09
31	14.245	DDE	2.3769	0.6678%	12246	2991	4.1	2	0	-.4674	1.9410E-04
32	14.395	Dieldrin	1.7080	0.4799%	7187	1904	3.8	2	0	.4633	2.3764E-04
33	14.596		0.0000	0.0000%	20248	4889	4.1	1			1.0000E-09
34	14.997	Endrin	2.3139	0.6501%	6778	1553	4.4	1	0	-.6650	3.4141E-04
35	15.531	Endoslf II	3.3361	0.9373%	10412	2768	3.8	1	0	.5437	3.2041E-04
36	16.483		0.0000	0.0000%	9360	2170	4.3	1			1.0000E-09
	22.328		0.0000	0.0000%	5769	1454	4.0	1			1.0000E-09
	26.252	OCS	93.7179	26.3316%	484241	89325	5.4	1	0	0	1.9354E-04

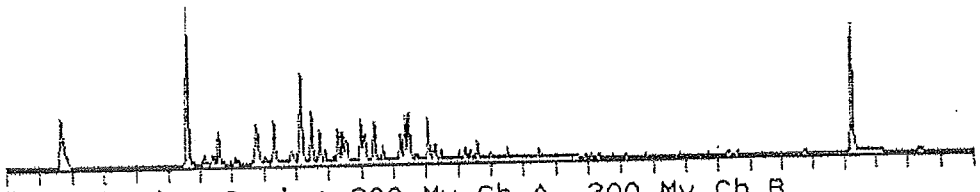
TOTAL AMOUNT = 355.9140

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Areas, times, and heights stored in: D:NV14E147.ATB
Data File = D:NV14E147.PTS Printed on 11-22-1997 at 23:01:03
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts







[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1242 1PPM Processed: 11-22-1997 23:32:15, segment 4, cycle 148
RAW DATA SAVED IN FILE D:NV14E148.PTS Second Channel Stored in D:OV14E148.PTS

****** EXTERNAL STANDARD TABLE ******
******************** 11-22-1997 23:33:20 Version 5.1.5 ********************
Data File: D:NV14E148
* Sample Name: A1242 1PPM
* Date: 11-22-1997 23:01:39 Method: M:APES-E 11-21-1997 22:31:52 # 398
* Interface: 2 Cycle#: 148 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
ple Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

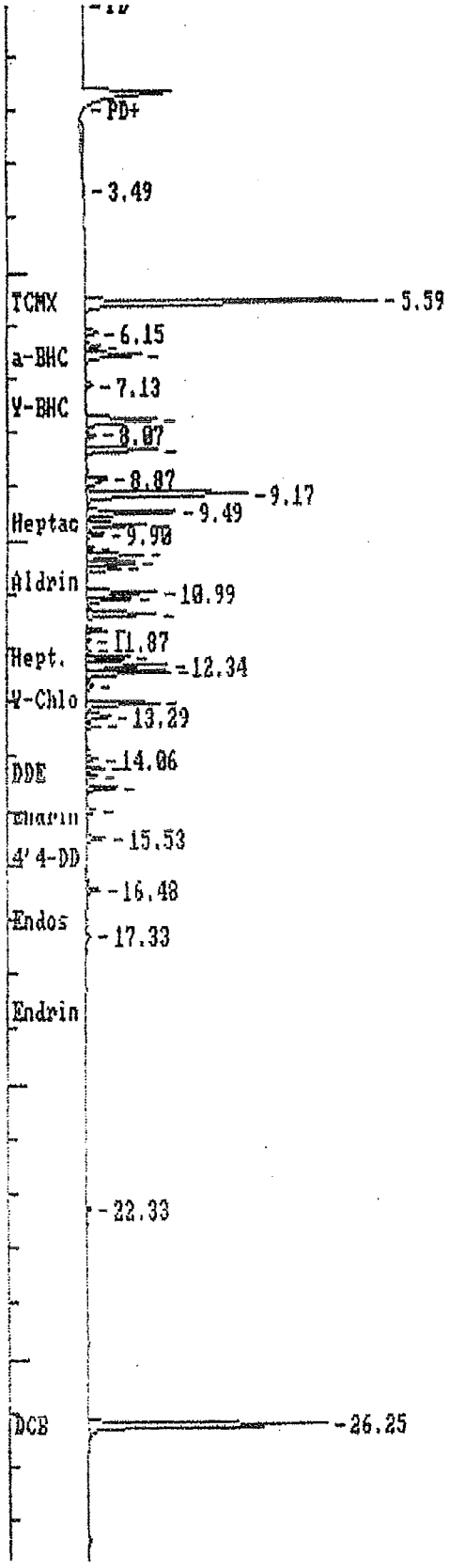
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.490		0.0001	0.0000%	69892	499	140.1	1			1.0000E-09
2	5.594	TCMX	121.1390	29.8442%	535919	106826	5.0	1	0	.6204	2.2604E-04
			0.0000	0.0000%	23865	4497	5.3	2			1.0000E-09
											1.0000E-09

7	7.766		0.0002	0.0000%	190465	25447	7.5	2			1.0000E-09
8	8.066		0.0000	0.0000%	15885	3647	4.4	2			1.0000E-09
9	8.333	d-BHC	50.2057	12.3689%	117582	26242	4.5	1	0	1.625	4.2699E-04
10	8.868		0.0001	0.0000%	53036	7667	6.9	2			1.0000E-09
	9.168		0.0004	0.0001%	350298	59022	5.9	2			1.0000E-09
	9.486		0.0002	0.0000%	152844	32298	4.7	2			1.0000E-09
13	9.736	Heptachlor	25.3843	6.2538%	98136	21767	4.5	2	0	1.038	2.5867E-04
14	9.903		0.0000	0.0000%	25681	6201	4.1	2			1.0000E-09
15	10.170		0.0000	0.0000%	9996	2600	3.8	2			1.0000E-09
16	10.304		0.0001	0.0000%	89062	20613	4.3	2			1.0000E-09
17	10.438		0.0001	0.0000%	78497	17764	4.4	2			1.0000E-09
18	10.554	Aldrin	14.3024	3.5236%	64304	12473	5.2	2	0	-1.865	2.2242E-04
19	10.989		0.0001	0.0000%	110627	25772	4.3	2			1.0000E-09
20	11.105		0.0001	0.0000%	82865	16481	5.0	2			1.0000E-09
21	11.406		0.0001	0.0000%	126462	24980	5.1	2			1.0000E-09
22	11.690		0.0000	0.0000%	30737	7761	4.0	1			1.0000E-09
23	11.874		0.0000	0.0000%	4924	1329	3.7	1			1.0000E-09
24	12.074		0.0000	0.0000%	5520	1514	3.6	2			1.0000E-09
25	12.208	Hept. epox.	15.3841	3.7901%	62675	15696	4.0	2	0	.5493	2.4546E-04
26	12.341		0.0001	0.0000%	124372	29412	4.2	2			1.0000E-09
27	12.475		0.0001	0.0000%	148400	30460	4.9	2			1.0000E-09
28	12.725		0.0000	0.0000%	13329	2416	5.5	2			1.0000E-09
29	13.059	Y-Chlordane	23.6478	5.8259%	118688	26571	4.5	2	0	.7747	1.9924E-04
30	13.293		0.0001	0.0000%	52820	8652	6.1	2			1.0000E-09
31	13.477	a-Chlordane	4.0000	0.9854%	20588	5056	4.1	2	0	-.2450	1.9429E-04
32	14.061		0.0000	0.0000%	18042	4443	4.1	2			1.0000E-09
33	14.245	DDE	5.2299	1.2885%	26945	6514	4.1	2	0	-.4674	1.9410E-04
34	14.395	Dieldrin	3.6801	0.9066%	15486	4004	3.9	2	0	.4633	2.3764E-04
35	14.596		0.0000	0.0000%	46388	10925	4.2	1			1.0000E-09
36	14.997	Endrin	4.5188	1.1133%	13235	3210	4.1	1	0	-.6650	3.4141E-04
	15.531	Endoslf II	10.2542	2.5263%	32003	6828	4.7	1	0	.5437	3.2041E-04
	16.483		0.0000	0.0000%	20594	4654	4.4	1			1.0000E-09
39	17.335	DDT	1.9237	0.4739%	6083	1510	4.0	1	0	.9704	3.1626E-04
40	22.328		0.0000	0.0000%	5487	1421	3.9	1			1.0000E-09
41	26.252	DCB	90.8488	22.3819%	469416	86295	5.4	1	0	0	1.9354E-04

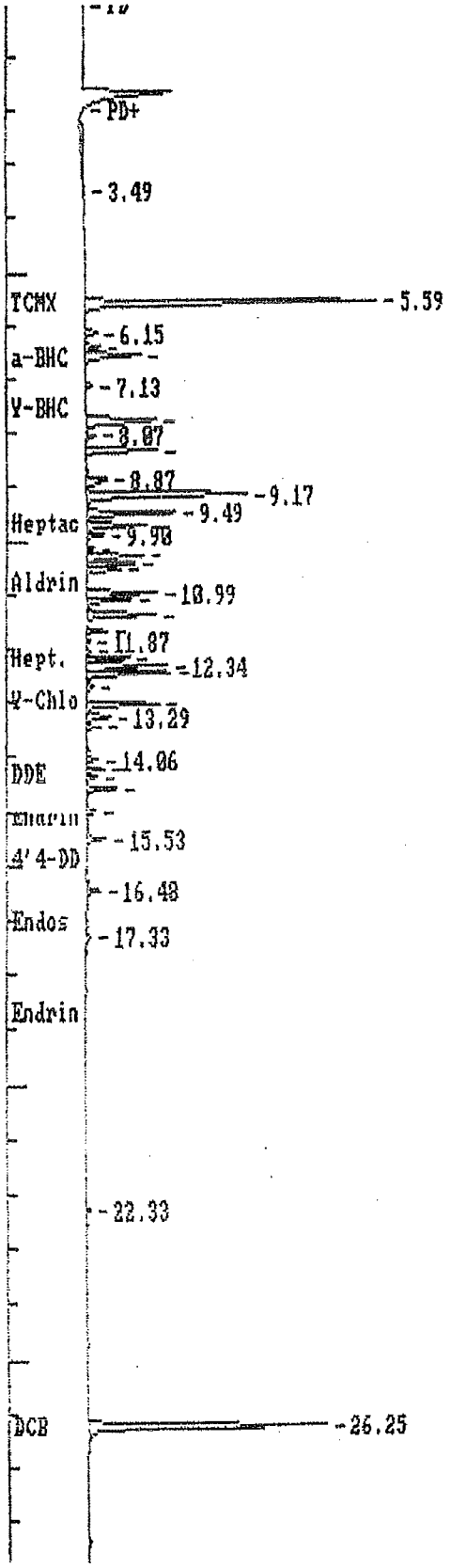
TOTAL AMOUNT = 405.9041

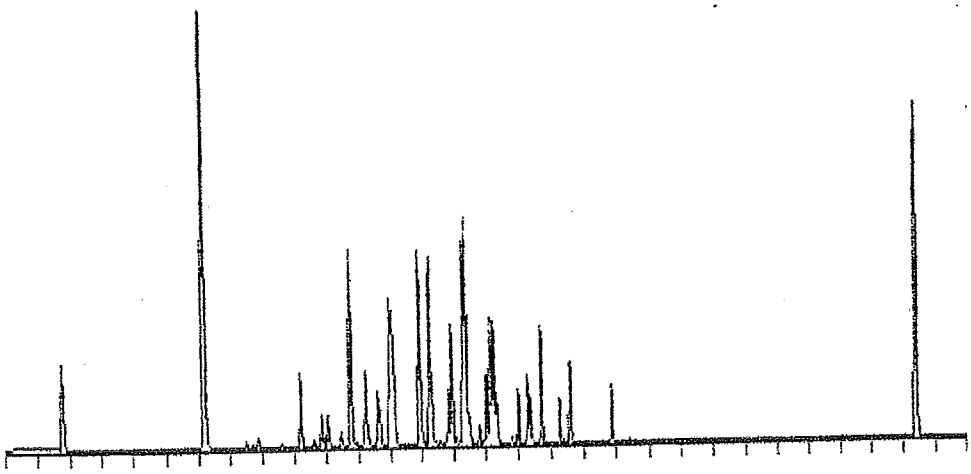
GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

eas, times, and heights stored in: D:NV14E148.ATB
a File = D:NV14E148.PTS Printed on 11-22-1997 at 23:33:47
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



Areas, times, and heights stored in: D:NV14E148.ATB
Data File = D:NV14E148.PTS Printed on 11-22-1997 at 23:33:47
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts





[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1248 1PPM Processed: 11-23-1997 00:05:41, segment 5, cycle 149
RAW DATA SAVED IN FILE D:NV14E149.PTS Second Channel Stored in D:OV14E149.PTS

EXTERNAL STANDARD TABLE

********** 11-23-1997 00:06:46 Version 5.1.5 **********
Data File: D:NV14E149
* Sample Name: A1248 1PPM
* Date: 11-22-1997 23:34:20 Method: M:APES-E 11-21-1997 22:31:52 # 398
* Interface: 2 Cycle#: 149 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

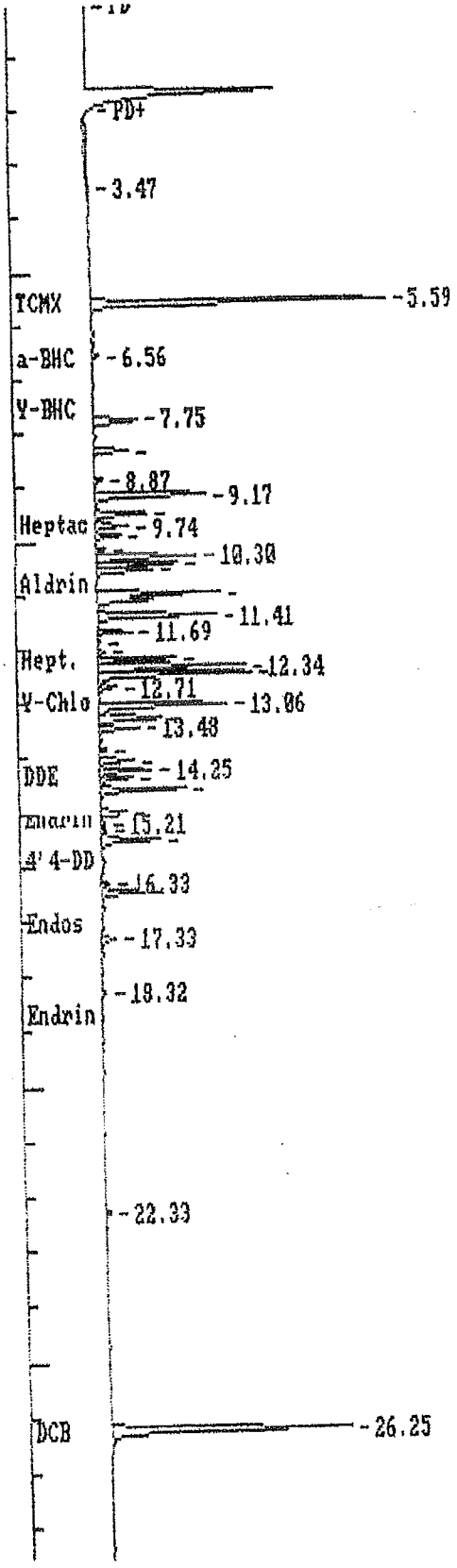
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
											1.0000E-09
1	3.474		0.0001	0.0000%	71027	529	134.2	1			2.2604E-04
2	5.594	TCMX	117.9686	26.6984%	521893	107386	4.9	1	0	.6204	3.2808E-04
3	6.569	a-BHC	3.9847	0.9018%	12145	2574	4.7	1	0	0	1.0000E-09

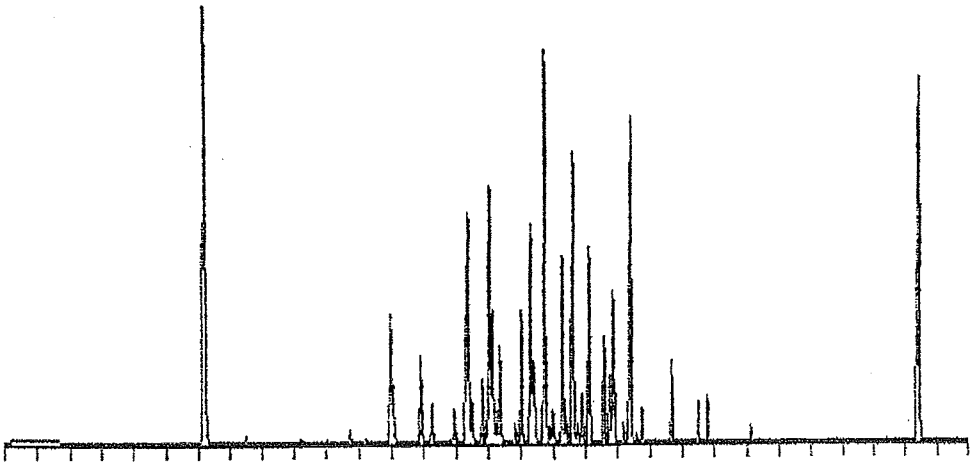
6	8.000		0.0000	0.0000%	16755	3080	5.4 1			1.0000E-09
7	9.168		0.0002	0.0001%	242365	40074	6.0 2			1.0000E-09
8	9.502		0.0001	0.0000%	93279	18804	5.0 2			1.0000E-09
9	9.736	Heptachlor	15.1025	3.4180%	58386	11989	4.9 2	0	1.038	2.5867E-04
	9.903		0.0000	0.0000%	37720	9010	4.2 2			1.0000E-09
	10.170		0.0000	0.0000%	14649	3744	3.9 2			1.0000E-09
	10.304		0.0002	0.0000%	158636	36024	4.4 2			1.0000E-09
13	10.438		0.0001	0.0000%	128014	29339	4.4 2			1.0000E-09
14	10.554	Aldrin	22.8259	5.1659%	102625	20236	5.1 2	0	-1.865	2.2242E-04
15	10.989		0.0003	0.0001%	276071	44474	6.2 1			1.0000E-09
16	11.406		0.0002	0.0000%	208570	42339	4.9 1			1.0000E-09
17	11.690		0.0000	0.0000%	47534	12151	3.9 1			1.0000E-09
18	11.874		0.0000	0.0000%	4707	1367	3.4 1			1.0000E-09
19	12.074		0.0000	0.0000%	9488	2672	3.6 2			1.0000E-09
20	12.208	Hept. epox.	27.7803	6.2872%	113177	28038	4.0 2	0	.5493	2.4546E-04
21	12.341		0.0002	0.0001%	225815	52897	4.3 2			1.0000E-09
22	12.475		0.0003	0.0001%	275367	55124	5.0 2			1.0000E-09
23	12.709		0.0000	0.0000%	29698	6539	4.5 2			1.0000E-09
24	13.059	Y-Chlordane	41.1327	9.3090%	206445	45882	4.5 2	0	.7747	1.9924E-04
25	13.293		0.0001	0.0000%	137126	22473	6.1 2			1.0000E-09
26	13.477	a-Chlordane	11.5558	2.6153%	59477	14276	4.2 2	0	-.2450	1.9429E-04
27	13.878		0.0000	0.0000%	9952	2733	3.6 1			1.0000E-09
28	14.061		0.0001	0.0000%	52574	12517	4.2 2			1.0000E-09
29	14.245	DDE	15.2038	3.4409%	78330	18524	4.2 2	0	-.4674	1.9410E-04
30	14.395	Dieldrin	11.6188	2.6295%	48892	11911	4.1 2	0	.4633	2.3764E-04
31	14.596		0.0001	0.0000%	127046	30552	4.2 2			1.0000E-09
32	14.997	Endrin	13.2939	3.0086%	38938	9283	4.2 2	0	-.6650	3.4141E-04
33	15.214		0.0000	0.0000%	8059	1557	5.2 2			1.0000E-09
34	15.347		0.0000	0.0000%	7754	2133	3.6 2			1.0000E-09
35	15.531	Endosif II	33.0695	7.4842%	103210	20994	4.9 2	0	.5437	3.2041E-04
36	16.333	Endrin ald	3.8055	0.8613%	11417	2939	3.9 2	0	1.136	3.3333E-04
	16.483		0.0001	0.0000%	75406	15611	4.8 2			1.0000E-09
38	17.335	DDT	7.9182	1.7920%	25037	5092	4.9 1	0	.9704	3.1626E-04
39	18.320	Endrin ket.	2.2790	0.5158%	6527	1536	4.2 1	0	-1.964	3.4916E-04
40	22.328		0.0000	0.0000%	5613	1411	4.0 1			1.0000E-09
41	26.252	DCB	90.6107	20.5068%	468186	86291	5.4 1	0	0	1.9354E-04

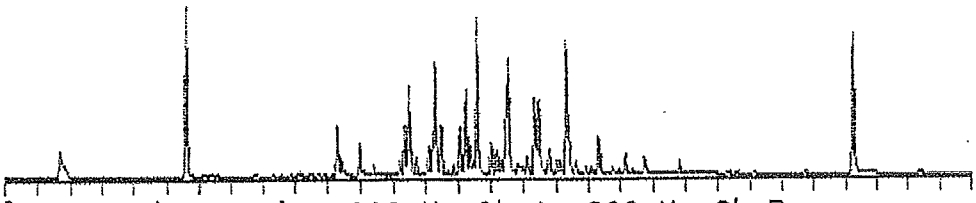
TOTAL AMOUNT = 441.3574

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E149.ATB
Data File = D:NV14E149.PTS Printed on 11-23-1997 at 00:07:12
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts







[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1254 1PPM Processed: 11-23-1997 00:39:52, segment 6, cycle 150
RAW DATA SAVED IN FILE D:NV14E150.PTS Second Channel Stored in D:OV14E150.PTS

EXTERNAL STANDARD TABLE

********** 11-23-1997 00:40:57 Version 5.1.5 **********
* Sample Name: A1254 1PPM Data File: D:NV14E150 *
* Date: 11-23-1997 00:07:05 Method: M:APES-E 11-21-1997 22:31:52 # 398 *
* Interface: 2 Cycle#: 150 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *
****
* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 30.00
Area reject: 2000 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.474		0.0001	0.0000%	67290	538	125.2	1			1.0000E-09
2	5.594	TCMX	123.4706	20.9050%	546234	114066	4.8	1	0	.6204	2.2604E-04
3	6.363		0.0000	0.0000%	5897	1274	4.6	1			1.0000E-09
											1.0000E-09

7	10.438		0.0001	0.0000%	54179	10229	5.3	2			1.0000E-09
8	10.989		0.0001	0.0000%	96704	21179	4.6	1			1.0000E-09
9	11.406		0.0000	0.0000%	35545	7899	4.5	1			1.0000E-09
10	11.690		0.0000	0.0000%	7189	1960	3.7	1			1.0000E-09
	12.208	Hept. epox.	8.4798	1.4357%	34547	8604	4.0	2	0	.5493	2.4546E-04
	12.341		0.0001	0.0000%	143148	32860	4.4	2			1.0000E-09
13	12.492		0.0003	0.0000%	264209	59872	4.4	2			1.0000E-09
14	12.709		0.0000	0.0000%	46136	10958	4.2	2			1.0000E-09
15	13.093	Y-Chlordane	18.5258	3.1366%	92981	19765	4.7	2	0	1.032	1.9924E-04
16	13.293		0.0004	0.0001%	398378	75041	5.3	2			1.0000E-09
17	13.477	a-Chlordane	27.3185	4.6253%	140609	33021	4.3	2	0	-.2450	1.9429E-04
18	13.711		0.0000	0.0000%	7068	1761	4.0	2			1.0000E-09
19	13.878		0.0000	0.0000%	22644	6044	3.7	2			1.0000E-09
20	14.061		0.0001	0.0000%	121591	29639	4.1	2			1.0000E-09
21	14.245	DDE	46.7566	7.9164%	240890	57245	4.2	2	0	-.4674	1.9410E-04
22	14.395	Dieldrin	16.9244	2.8655%	71218	19088	3.7	2	0	.4633	2.3764E-04
23	14.496		0.0000	0.0000%	32894	8561	3.8	2			1.0000E-09
24	14.596		0.0004	0.0001%	429007	103794	4.1	2			1.0000E-09
25	15.013	Endrin	32.2760	5.4647%	94536	19896	4.8	2	0	-.5544	3.4141E-04
26	15.197		0.0001	0.0000%	62128	12988	4.8	2			1.0000E-09
27	15.347		0.0000	0.0000%	29592	7048	4.2	2			1.0000E-09
28	15.531	Endoslf II	157.8585	26.7272%	492676	76186	6.5	2	0	.5437	3.2041E-04
29	15.832	4'4-DDD	7.7342	1.3095%	22909	4680	4.9	1	0	0	3.3761E-04
30	16.115	Endrin ald	12.4492	2.1078%	37348	9919	3.8	1	0	-.2074	3.3333E-04
31	16.333		0.0002	0.0000%	215505	51429	4.2	2			1.0000E-09
32	16.466		0.0003	0.0001%	297498	49464	6.0	2			1.0000E-09
33	16.800		0.0001	0.0000%	81446	17164	4.7	2			1.0000E-09
34	17.034	Endos sulf	10.6574	1.8044%	29073	7430	3.9	2	0	.1941	3.6657E-04
35	17.134	DDT	10.2158	1.7297%	32303	8056	4.0	2	0	-.1968	3.1626E-04
36	17.335		0.0005	0.0001%	456183	88031	5.2	2			1.0000E-09
	17.618		0.0000	0.0000%	38763	9066	4.3	2			1.0000E-09
	17.936		0.0000	0.0000%	13347	4019	3.3	1			1.0000E-09
39	18.119		0.0000	0.0000%	15373	4058	3.8	1			1.0000E-09
40	18.320		0.0001	0.0000%	110636	24667	4.5	1			1.0000E-09
41	18.771	Endrin ket.	8.5328	1.4447%	24438	5610	4.4	2	0	.4484	3.4916E-04
42	18.971		0.0000	0.0000%	13233	3559	3.7	2			1.0000E-09
43	19.172		0.0001	0.0000%	61424	12481	4.9	2			1.0000E-09
44	19.372	Methoxychlor	10.1037	1.7107%	15731	3182	4.9	2	0	.2587	6.4226E-04
45	19.773		0.0000	0.0000%	45239	11129	4.1	1			1.0000E-09
46	20.825		0.0000	0.0000%	39609	8820	4.5	1			1.0000E-09
47	22.328		0.0000	0.0000%	6596	1548	4.3	1			1.0000E-09
48	26.252	OCB	97.4564	16.5005%	503557	93007	5.4	1	0	0	1.9354E-04

TOTAL AMOUNT = 590.6278

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

***** EXTERNAL STANDARD TABLE *****

********** 11-23-1997 00:41:35 Version 5.1.5 **********

* Sample Name: A1254 1PPM Data File: D:\DV14E150 *

* Date: 11-23-1997 00:07:05 Method: M:\BPES-E 11-03-1997 18:46:51 # 389 *

* Interface: 2 Cycle#: 150 Operator JJK Channel#: 1 Vial#: N.A. *

* Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000 *

****

* Instrument Type: PE 8500 Column Type: RTX 5/1701 *

* Solvent Description: *

* Conditions: *

* Detector 0: Detector 1: ECD *

* Misc. Information: *

****

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

Sample Weight: 1.00000

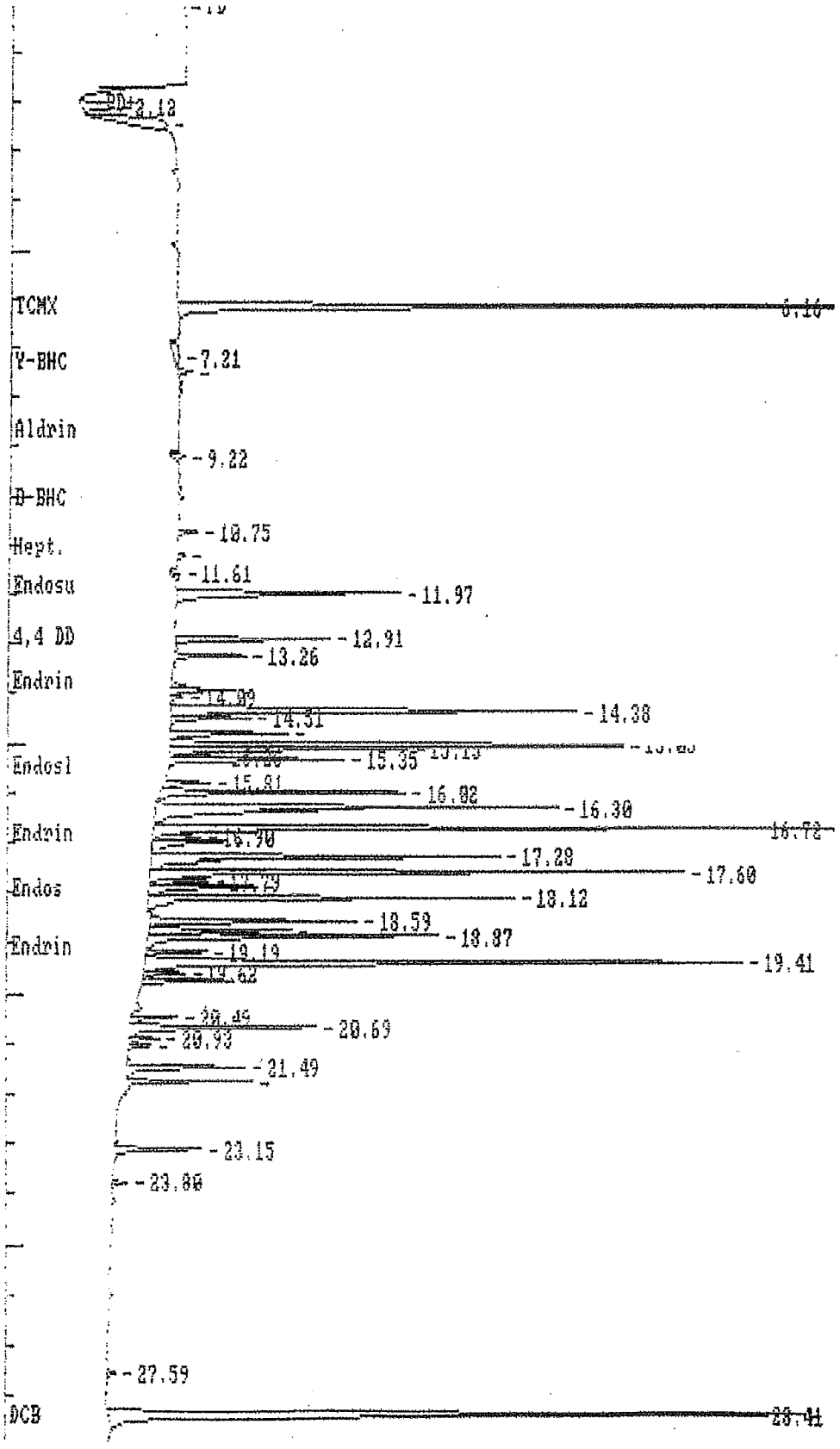
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.121		0.0001	0.0000%	113810	12350	9.2	1			1.0000E-09
2	2.439		0.0001	0.0000%	200687	8396	23.9	1			1.0000E-09
3	6.162	TCMX	499.7529	22.1362%	1556728	320464	4.9	1	0	.5269	3.2103E-04
4	7.214	Y-BHC	22.7543	1.0080%	53870	2261	26.5	2	0	-.4635	3.3023E-04
	7.498		0.0000	0.0000%	26104	5893	4.4	2			1.0000E-09
6	9.218		0.0000	0.0000%	23264	4742	4.9	1			1.0000E-09
7	10.755	d-BHC	18.7686	0.8313%	32357	7890	4.1	1	0	.7852	5.8005E-04
8	11.222		0.0000	0.0000%	14919	2930	5.1	1			1.0000E-09
9	11.606		0.0000	0.0000%	17510	3383	5.2	1			1.0000E-09
10	11.974	Y-Chlordane	124.7622	5.5263%	470229	88442	5.3	1	0	-1.099	2.6535E-04
11	12.309	4,4 DDE	98.9925	4.3848%	240453	61399	3.9	1	0	.3896	4.1159E-04
12	13.240		0.0001	0.0000%	108522	28629	3.8	1			1.0000E-09
13	13.661	Endrin	6.5611	0.2908%	17944	5559	3.2	1	0	1.213	3.6572E-04
14	13.961		0.0001	0.0000%	93920	26276	3.6	2			1.0000E-09
15	14.095		0.0000	0.0000%	22634	5213	4.3	2			1.0000E-09
16	14.379		0.0001	0.0000%	961441	159489	6.0	2			1.0000E-09
17	14.512		0.0001	0.0000%	125418	31662	4.0	2			1.0000E-09
18	14.830		0.0002	0.0000%	176849	47062	3.8	2			1.0000E-09
19	15.030		0.0007	0.0000%	740567	177826	4.2	2			1.0000E-09
20	15.147		0.0004	0.0000%	376660	93837	4.0	3			1.0000E-09
21	15.264		0.0001	0.0000%	51143	14782	3.5	4			1.0000E-09
22	15.347	Endosulfan I	90.7394	4.0192%	276113	63957	4.3	2	0	-.6434	3.2863E-04
23	15.819	4,4-DDD	49.7487	2.2032%	74121	18269	4.1	2	0	1.280	6.7103E-04
24	16.016	4,4 DDT	224.1573	9.9289%	476847	96570	4.9	2	0	-.3093	4.7010E-04
25	16.299		0.0001	0.0000%	937481	158174	5.9	2			1.0000E-09
26	16.717	Endrin ald	457.0219	20.2435%	1201511	277456	4.3	2	0	-.4958	3.8037E-04
27	16.900		0.0001	0.0000%	76864	17525	4.4	4			1.0000E-09
28	17.001		0.0001	0.0000%	134217	29886	4.5	4			1.0000E-09
29	17.284		0.0001	0.0000%	729219	136881	5.3	2			1.0000E-09
30	17.601		0.0001	0.0000%	920004	209447	4.4	3			1.0000E-09
31	17.785		0.0001	0.0000%	99328	21715	4.6	4			1.0000E-09
32	17.902	Endos sulf	196.1423	8.6913%	431173	43226	5.0	2	0	0	4.5491E-04
33	18.119		0.0006	0.0000%	617779	144000	4.3	2			1.0000E-09
34	18.587	Methoxychl	215.2229	9.5332%	326924	81229	4.0	2	0	1.088	6.5833E-04
35	18.771		0.0002	0.0000%	221630	56203	3.9	2			1.0000E-09
36	18.871		0.0006	0.0000%	555925	113996	4.9	2			1.0000E-09
37	19.199	Endrin ket	31.5797	1.3988%	91013	24229	3.8	2	0	.7894	3.4698E-04

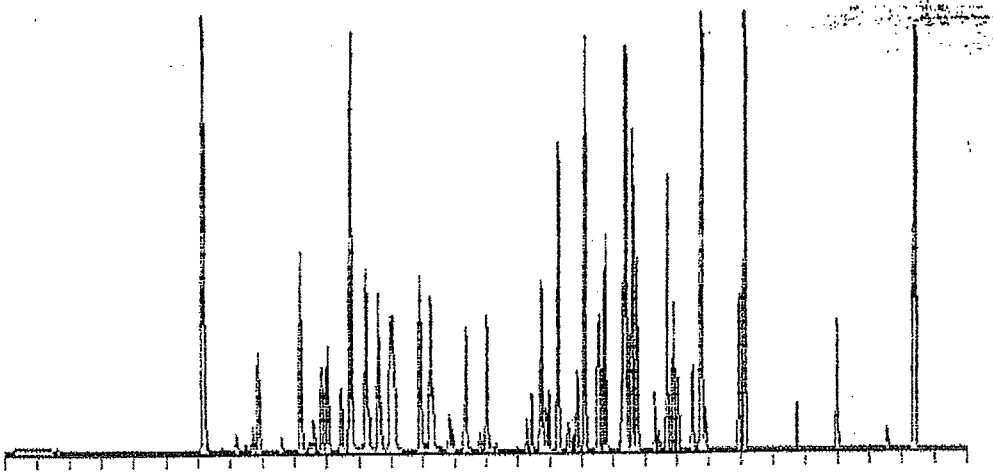
40	19.773	0.0001	0.0000%	140231	36444	3.8	2			1.0000E-09
41	20.491	0.0001	0.0000%	87053	18964	4.6	2			1.0000E-09
42	20.691	0.0003	0.0000%	343786	73623	4.7	2			1.0000E-09
[illegible]	20.925	0.0001	0.0000%	50382	12234	4.1	2			1.0000E-09
	21.059	0.0000	0.0000%	34452	9110	3.8	2			1.0000E-09
	21.493	0.0002	0.0000%	212246	47091	4.5	1			1.0000E-09
[illegible]	21.777	0.0002	0.0000%	185892	49725	3.7	1			1.0000E-09
47	23.146	0.0001	0.0000%	143658	34032	4.2	1			1.0000E-09
48	23.797	0.0000	0.0000%	25201	6143	4.1	1			1.0000E-09
49	27.588	0.0000	0.0000%	18884	3453	5.5	1			1.0000E-09
50	28.407 OC8	320.3422	14.1894%	1719917	272538	6.3	1	0	.1646	1.8625E-04

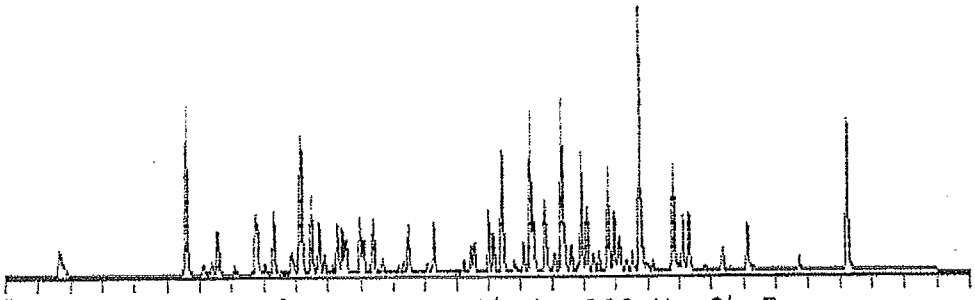
TOTAL AMOUNT = 2257.6199

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Areas, times, and heights stored in: D:0V14E150.ATB
Data File = D:0V14E150.PTS Printed on 11-23-1997 at 00:42:48
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts







[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
A1660 1PPM Processed: 11-25-1997 06:09:01, segment 13, cycle 171
RAW DATA SAVED IN FILE D:NV14E171.PTS Second Channel Stored in D:CV14E171.PTS

EXTERNAL STANDARD TABLE

********** 11-25-1997 06:10:08 Version 5.1.5 **********
* Sample Name: A1660 1PPM Data File: D:NV14E171 *
* Date: 11-25-1997 05:38:21 Method: M:APES-E 11-21-1997 22:31:52 # 398 *
* Interface: 2 Cycle#: 171 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *
****
* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *
****

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.578	TCMX	123.3153	15.7917%	545547	112470	4.9	1	0	.3201	2.2604E-04
2	6.129		0.0000	0.0000%	29159	5702	5.1	2			1.0000E-09
3	6.396		0.0000	0.0000%	36202	7229	5.0	2			1.0000E-09
4	6.563	a-BHC	46.5350	5.9592%	141839	28225	5.0	2	0	0	3.2808E-04

7	8.066	0.0000	0.0000%	26132	6099	4.3	2			1.0000E-09
8	8.317 d-BHC	75.2970	9.6425%	176345	41426	4.3	1	0	1.421	4.2699E-04
9	8.868	0.0001	0.0000%	81919	12370	6.6	2			1.0000E-09
10	9.152	0.0005	0.0001%	534001	91200	5.9	2			1.0000E-09
	9.486	0.0002	0.0000%	231424	50756	4.6	2			1.0000E-09
	9.719 Heptachlor	38.8392	4.9737%	150152	33368	4.5	2	0	.8655	2.5867E-04
	9.886	0.0000	0.0000%	43614	10374	4.2	2			1.0000E-09
14	10.154	0.0000	0.0000%	16710	4237	3.9	2			1.0000E-09
15	10.287	0.0001	0.0000%	128633	31468	4.1	2			1.0000E-09
16	10.438	0.0001	0.0000%	118531	28111	4.2	2			1.0000E-09
17	10.554 Aldrin	23.8780	3.0578%	107355	21052	5.1	2	0	-1.865	2.2242E-04
18	10.989	0.0002	0.0000%	166222	37570	4.4	2			1.0000E-09
19	11.105	0.0001	0.0000%	92667	21103	4.4	2			1.0000E-09
20	11.406	0.0002	0.0000%	170102	34478	4.9	2			1.0000E-09
21	11.690	0.0000	0.0000%	31366	8087	3.9	1			1.0000E-09
22	12.191 Hept. epox.	4.1777	0.5350%	17020	4401	3.9	2	0	.4118	2.4546E-04
23	12.325	0.0000	0.0000%	29563	7329	4.0	2			1.0000E-09
24	12.475	0.0001	0.0000%	132719	31071	4.3	2			1.0000E-09
25	13.076 Y-Chlordane	5.1139	0.6551%	25677	5684	4.5	2	0	.9036	1.9924E-04
26	13.276 Endosulfan I	39.6067	5.0720%	144802	32871	4.4	2	0	-.8698	2.7352E-04
27	14.045	0.0000	0.0000%	6082	1632	3.7	1			1.0000E-09
28	14.228 DDE	5.1920	0.6649%	26749	7055	3.8	1	0	-.5841	1.9410E-04
29	14.479	0.0001	0.0000%	59812	15881	3.8	2			1.0000E-09
30	14.596	0.0001	0.0000%	78497	18866	4.2	2			1.0000E-09
31	15.013	0.0002	0.0000%	162894	40363	4.0	2			1.0000E-09
32	15.180 Endrin	34.6319	4.4349%	101437	24237	4.2	2	0	.5517	3.4141E-04
33	15.447 Endosif II	114.0682	14.6075%	356007	81163	4.4	2	0	0	3.2041E-04
34	15.832 4'4-DDD	8.3731	1.0722%	24801	5530	4.5	1	0	0	3.3761E-04
35	16.115 Endrin ald	22.8452	2.9255%	68536	17824	3.8	2	0	-.2074	3.3333E-04
36	16.316	0.0006	0.0001%	596951	106957	5.6	2			1.0000E-09
37	16.783	0.0003	0.0000%	273350	46152	5.9	2			1.0000E-09
	17.101 DDT	17.3846	2.2263%	54970	11390	4.8	2	0	-.3914	3.1626E-04
39	17.318	0.0006	0.0001%	563659	115446	4.9	2			1.0000E-09
40	17.618	0.0001	0.0000%	71143	17133	4.2	2			1.0000E-09
41	17.819	0.0000	0.0000%	14710	3949	3.7	2			1.0000E-09
42	17.919	0.0003	0.0000%	314068	79391	4.0	2			1.0000E-09
43	18.103	0.0002	0.0000%	168435	42591	4.0	2			1.0000E-09
44	18.320	0.0000	0.0000%	49985	9995	5.0	2			1.0000E-09
45	18.487	0.0000	0.0000%	46063	11664	3.9	2			1.0000E-09
46	18.771 Endrin ket.	98.1748	12.5722%	281173	68991	4.1	2	0	.4484	3.4916E-04
47	18.955	0.0002	0.0000%	160479	38570	4.2	2			1.0000E-09
48	19.121	0.0001	0.0000%	131932	22191	5.9	2			1.0000E-09
49	19.355 Methoxychlor	19.9415	2.5537%	31049	6767	4.6	2	0	.1723	6.4226E-04
50	19.522	0.0001	0.0000%	51872	11671	4.4	2			1.0000E-09
51	19.756	0.0007	0.0001%	721655	177056	4.1	1			1.0000E-09
52	20.190	0.0000	0.0000%	17160	4878	3.5	1			1.0000E-09
53	20.825	0.0003	0.0000%	345208	70564	4.9	2			1.0000E-09
54	21.125	0.0001	0.0000%	142848	35834	4.0	2			1.0000E-09
55	21.309	0.0002	0.0000%	158046	38067	4.2	2			1.0000E-09
56	21.827	0.0000	0.0000%	12017	1831	6.6	1			1.0000E-09
57	22.378	0.0001	0.0000%	72637	14382	5.1	2			1.0000E-09
58	22.612	0.0000	0.0000%	6192	1603	3.9	2			1.0000E-09
59	23.146	0.0001	0.0000%	133087	31148	4.3	1			1.0000E-09
60	24.733	0.0000	0.0000%	43905	9154	4.8	1			1.0000E-09
61	26.236 DCB	103.5062	13.2549%	534817	101348	5.3	1	0	0	1.9354E-04

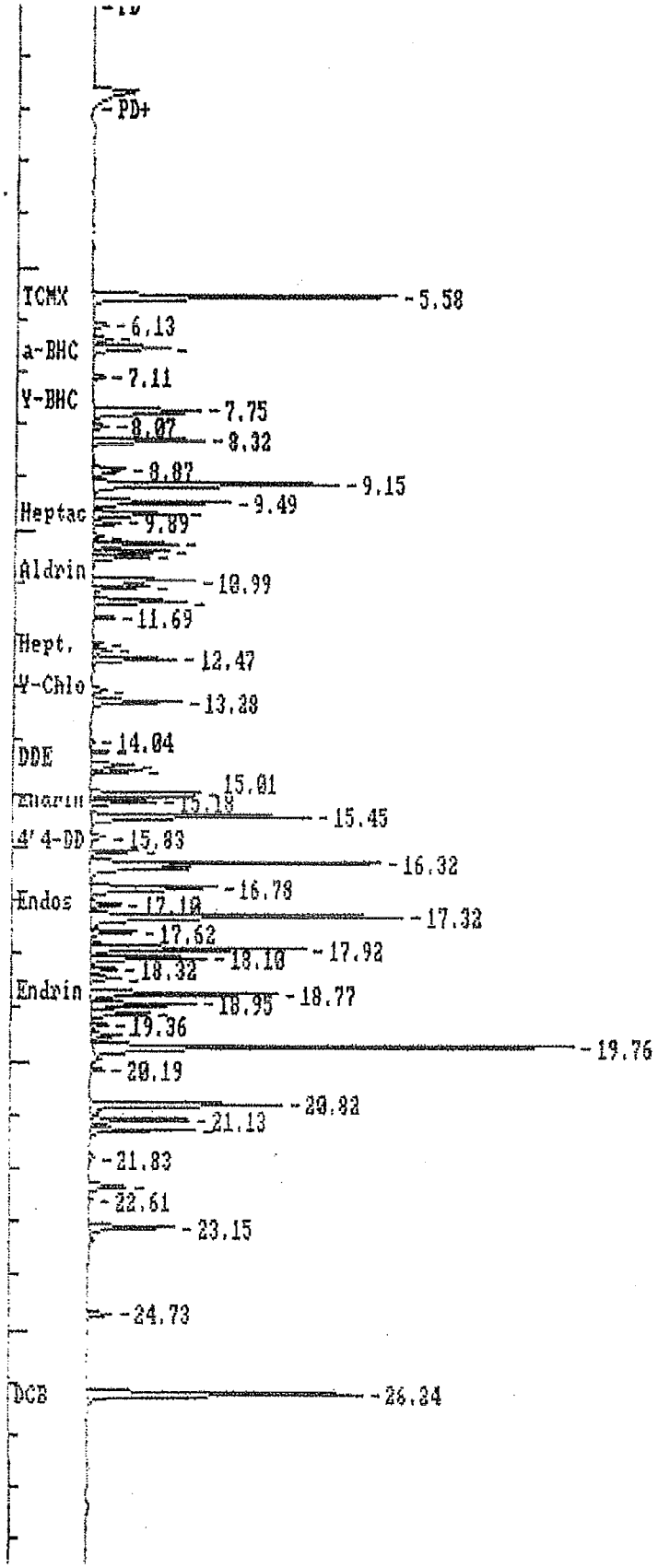
1397000
99%

2301000
100%

TOTAL AMOUNT = 780.8890

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E171.ATB
Data File = D:NV14E171.PTS Printed on 11-25-1997 at 06:10:36
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
CHLORDANE Processed: 11-23-1997 01:13:24, segment 7, cycle 151
RAW DATA SAVED IN FILE D:NV14E151.PTS Second Channel Stored in D:OV14E151.PTS

****** EXTERNAL STANDARD TABLE ******
******************* 11-23-1997 01:14:29 Version 5.1.5 *******************
Data File: D:NV14E151 *
* Sample Name: CHLORDANE 1PPM
* Date: 11-23-1997 00:39:45 Method: M:APES-E 11-21-1997 22:31:52 # 398 *
* Interface: 2 Cycle#: 151 Operator JJK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000 *
****
* Instrument Type: PE 8500 Column Type: RTX 5/1701 *
* Solvent Description: *
* Conditions: *
* Detector 0: Detector 1: ECD *
* Misc. Information: *
****

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000

Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

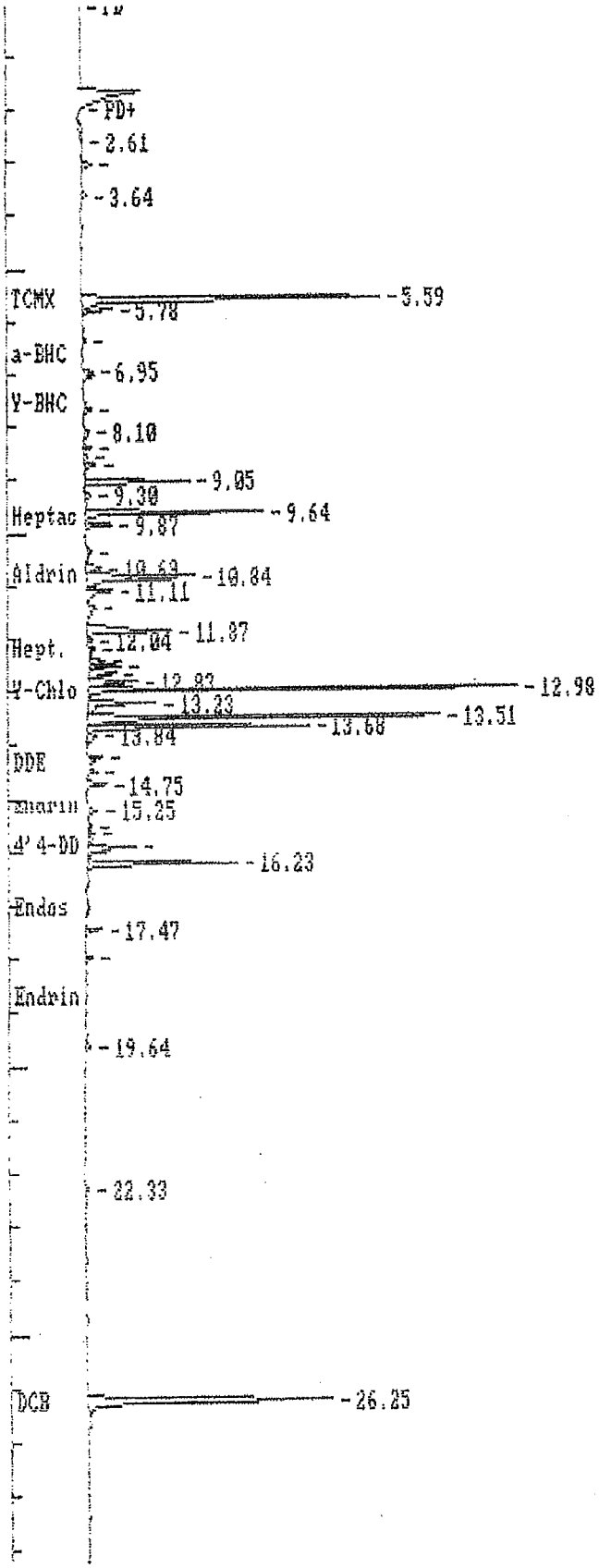
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.605		0.0000	0.0000%	25842	805	32.1	1			1.0000E-09
2	3.056		0.0000	0.0000%	20875	3550	5.9	1			1.0000E-09
3	3.641		0.0000	0.0000%	12530	2155	5.8	1			1.0000E-09
[illegible]	[illegible]	[illegible]	[illegible]	19.2030%	546525	111603	4.9	3	0	.6204	2.2604E-04

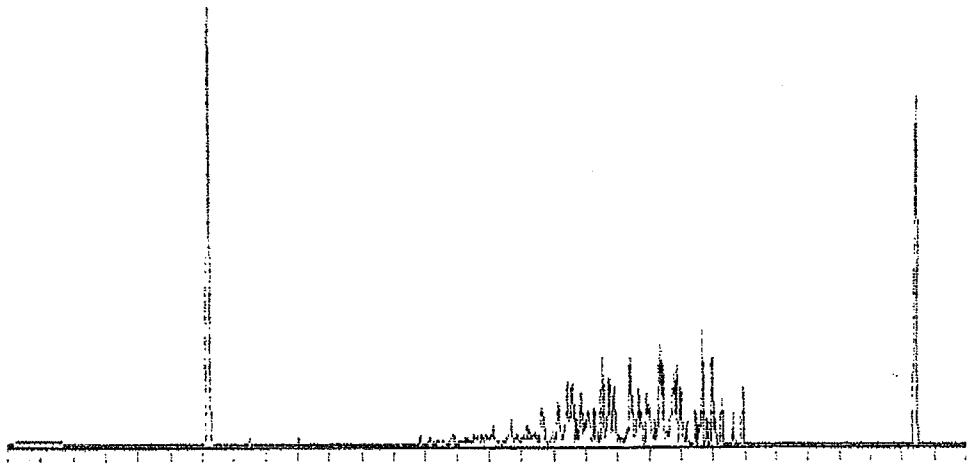
7	6.947	0.0000	0.0000%	9226	2707	3.4	1			1.0000E-09
8	7.665	0.0000	0.0000%	14693	3036	4.8	1			1.0000E-09
9	8.099 d-BHC	5.8496	0.9093%	13700	1941	7.1	1	0	-1.225	4.2699E-04
10	8.400	0.0000	0.0000%	12952	3264	4.0	1			1.0000E-09
11	8.567	0.0000	0.0000%	6485	1597	4.1	1			1.0000E-09
	8.734	0.0000	0.0000%	18772	4472	4.2	1			1.0000E-09
	9.051	0.0001	0.0000%	146557	39270	3.7	1			1.0000E-09
14	9.302	0.0000	0.0000%	9788	2229	4.4	1			1.0000E-09
15	9.636 Heptachlor	68.9472	10.7174%	266550	66698	4.0	2	0	0	2.5867E-04
16	9.870	0.0000	0.0000%	40524	9990	4.1	2			1.0000E-09
17	10.371	0.0000	0.0000%	14560	2344	6.2	1			1.0000E-09
18	10.688 Aldrin	6.6091	1.0273%	29714	5690	5.2	2	0	-.6229	2.2242E-04
19	10.838	0.0003	0.0000%	278847	40303	6.9	2			1.0000E-09
20	11.105	0.0000	0.0000%	49077	9624	5.1	2			1.0000E-09
21	11.439	0.0000	0.0000%	10781	2344	4.6	1			1.0000E-09
22	11.874	0.0002	0.0000%	162919	31529	5.2	1			1.0000E-09
23	12.041	0.0000	0.0000%	7105	2262	3.1	1			1.0000E-09
24	12.208 Hept. epox.	2.2988	0.3573%	9365	2616	3.6	1	0	.5493	2.4846E-04
25	12.425	0.0000	0.0000%	22744	5708	4.0	2			1.0000E-09
26	12.525	0.0000	0.0000%	40649	12097	3.4	2			1.0000E-09
27	12.659	0.0001	0.0000%	55885	10382	5.4	2			1.0000E-09
28	12.826	0.0001	0.0000%	77434	18369	4.2	2			1.0000E-09
29	12.976 Y-Chlordane	113.9846	17.7183%	572089	160649	3.6	2	0	.1304	1.9924E-04
30	13.226	0.0001	0.0000%	108617	25671	4.2	2			1.0000E-09
31	13.510 a-Chlordane	102.3861	15.9153%	526982	131921	4.0	2	0	0	1.9429E-04
32	13.677	0.0003	0.0000%	288750	83018	3.5	3			1.0000E-09
33	13.844	0.0000	0.0000%	28880	3883	7.4	4			1.0000E-09
34	14.228 DDE	3.3853	0.5262%	17441	5178	3.4	1	0	-.5841	1.9410E-04
35	14.512	0.0000	0.0000%	11719	3512	3.3	1			1.0000E-09
36	14.746	0.0002	0.0000%	38344	7319	5.2	1			1.0000E-09
37	15.247 Endrin	5.1133	0.7947%	14974	3448	4.3	1	0	.9942	3.4141E-04
	15.331 Endos'f II	2.1565	0.3352%	6730	1761	3.8	1	0	.5437	3.2041E-04
39	15.665	0.0000	0.0000%	8582	2720	3.2	1			1.0000E-09
40	15.932 4'4-DDD	28.3615	4.4087%	34007	18116	4.6	2	0	.6303	2.3761E-04
41	16.232 Endrin ald	69.6019	10.8192%	208806	55914	3.7	2	0	.5164	3.3333E-04
42	17.468 DDT	7.1121	1.1055%	22488	5998	3.7	1	0	1.748	3.1525E-04
43	17.986	0.0000	0.0000%	10956	2496	4.4	1			1.0000E-09
44	19.637 Methoxychlor	8.5894	1.3352%	13374	2256	5.9	1	0	1.641	6.4226E-04
45	22.328	0.0000	0.0000%	6309	1547	4.1	1			1.0000E-09
46	26.252 DCB	95.3846	14.8270%	492852	90700	5.4	1	0	0	1.9364E-04

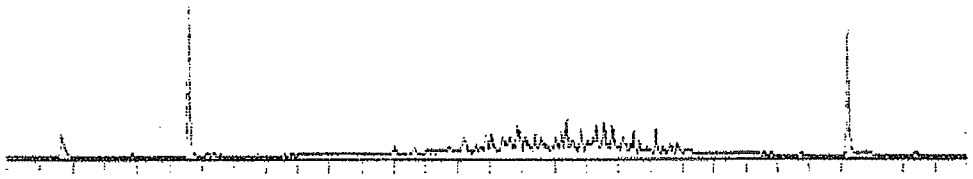
TOTAL AMOUNT = 643.3171

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Areas, times, and heights stored in: D:NV14E151.ATB
Data File = D:NV14E151.PTS Printed on 11-23-1997 at 01:14:56
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts







[Interface: 2] 0-20 Min Scale: 300 Mv Ch.A, 300 MV Ch.B
TOXAPHENE Processed: 11-23-1997 01:47:28, segment 8, cycle 152
End of sequence file reached at cycle# 152
RAW DATA SAVED IN FILE D:\NV14E152.RTS Second Channel Stored in D:\NV14E152.RT2

EXTERNAL STANDARD TABLE

11-23-1997 01:48:32 Version 5.1.5

Sample Name: TOXAPHENE 1PPM Data File: D:NV14E152

Date: 11-23-1997 01:12:27 Method: M:APES-E 11-21-1997 22:31:52 # 398

Interface: 2 Cycle#: 152 Operator JJK Channel#: 0 Vial#: N.A.

Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000

Instrument Type: PE AS11 Column Type: RTX 5.1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area Reject: 2000 One sample per 1.000 min.

Amount Injected: 1.00 Dilution Factor: 1.00

ISTD Weight: 1.0000

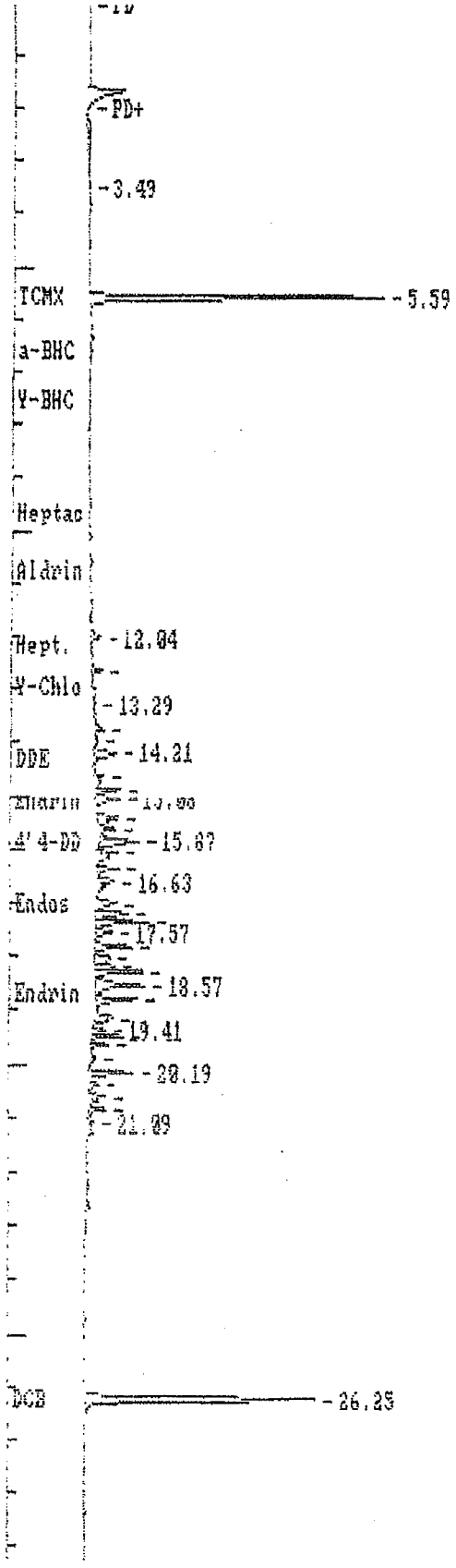
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.490		0.0001	0.0000%	65360	423	154.7	1			1.0000E-09
2	5.594	TCMX	121.8559	30.6759%	539091	110080	4.9	1	0	.6204	2.2604E-04
3	12.041	Hept. epox.	5.7833	1.4559%	23561	3633	6.5	1	0	-.8261	2.4546E-04

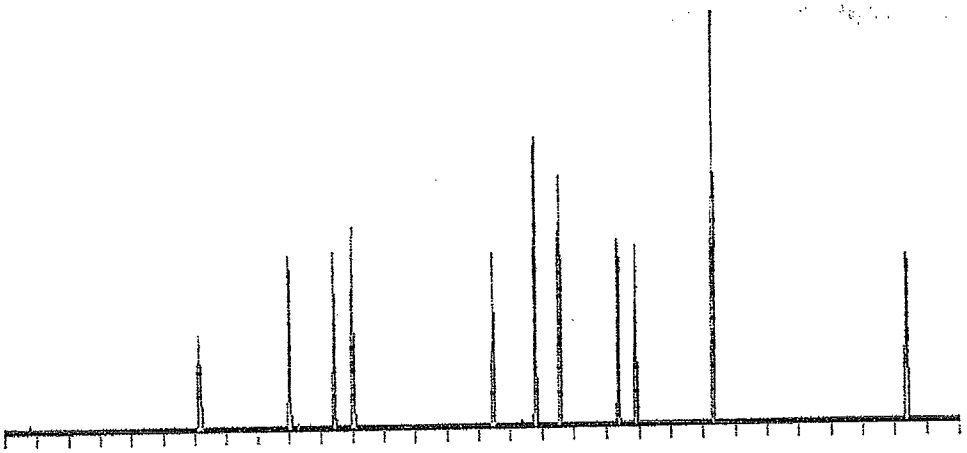
6	13.777		0.0000	0.0000%	15206	3157	4.8	1		1.0000E-09
7	13.995		0.0000	0.0000%	8526	1588	5.4	1		1.0000E-09
8	14.212	DDE	11.2736	2.8380%	58081	7996	7.3	1	0 -.7008	1.9410E-04
9	14.646		0.0000	0.0000%	32061	3715	8.6	2		1.0000E-09
10	14.913		0.0000	0.0000%	36485	9419	3.9	2		1.0000E-09
	15.080	Endrin	20.0929	5.0582%	58852	9125	6.4	2	0 -.1119	3.4141E-04
	15.431	Endoslf II	17.8055	4.4823%	55571	8151	6.8	2	0 -.1048	3.2041E-04
13	15.648		0.0000	0.0000%	33344	6066	5.5	2		1.0000E-09
14	15.865	4'4-DDD	28.7143	7.2285%	85052	14261	6.0	1	0 .2084	3.3751E-04
15	16.082	Endrin ald	6.4539	1.6247%	19362	5888	3.3	1	0 -.4142	3.3333E-04
16	16.399		0.0000	0.0000%	31498	8253	3.8	1		1.0000E-09
17	16.633		0.0000	0.0000%	29559	5194	5.7	1		1.0000E-09
18	17.034	Endos sulf	20.2537	5.0986%	55252	8173	6.8	2	0 .1941	3.6657E-04
19	17.218	DDT	21.1128	5.3149%	66759	12209	5.5	2	0 .2394	3.1626E-04
20	17.385		0.0001	0.0000%	95457	19987	4.8	2		1.0000E-09
21	17.568		0.0000	0.0000%	42101	6569	6.4	2		1.0000E-09
22	17.836		0.0001	0.0000%	70250 ✓	14051	5.0	2		1.0000E-09
23	18.053		0.0000	0.0000%	48166	6093	7.9	2		1.0000E-09
24	18.203		0.0000	0.0000%	35997	7514	4.8	2		1.0000E-09
25	18.320		0.0001	0.0000%	84605 ✓	18108	4.7	2		1.0000E-09
26	18.570	Endrin ket.	38.1131	9.5946%	109156 ✓	18215	6.0	2	0 -.6239	3.4916E-04
27	18.821		0.0001	0.0000%	75360 ✓	15459	4.9	1		1.0000E-09
28	19.172		0.0001	0.0000%	63949	7100	9.0	1		1.0000E-09
29	19.405	Methoxychlor	13.7330	3.4571%	21382	5127	4.2	2	0 .4316	6.4226E-04
30	19.506		0.0000	0.0000%	40069	12057	3.3	2		1.0000E-09
31	19.673		0.0000	0.0000%	26054	6656	3.9	1		1.0000E-09
32	19.923		0.0000	0.0000%	13340	2267	5.9	1		1.0000E-09
33	20.190		0.0001	0.0000%	72941 ✓	16687	4.4	1		1.0000E-09
34	20.391		0.0000	0.0000%	20834	3717	5.6	1		1.0000E-09
35	20.625		0.0000	0.0000%	17896	4914	3.6	1		1.0000E-09
36	20.858		0.0000	0.0000%	36205	6329	5.7	1		1.0000E-09
	21.092		0.0000	0.0000%	5531	1745	3.2	1		1.0000E-09
38	26.252	DCB	90.7306	22.8404%	468805	86129	5.4	1	0 0	1.9354E-04

TOTAL AMOUNT = 397.2369

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E152.ATB
Data File = D:NV14E152.PTS Printed on 11-23-1997 at 01:48:57
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts





[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
INDA 20-20 Processed: 11-25-1997 00:09:52, segment 2, cycle 160
RAW DATA SAVED IN FILE D:NV14E160.PTS Second Channel Stored in D:0V14E160.PTS

EXTERNAL STANDARD TABLE

********** 11-25-1997 00:10:58 Version 5.1.5 **********
Data File: D:NV14E160
* Sample Name: INDA 20-200
* Date: 11-24-1997 23:39:16 Method: M:APES-E 11-21-1997 22:31:52 # 398
* Interface: 2 Cycle#: 160 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
Sample Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

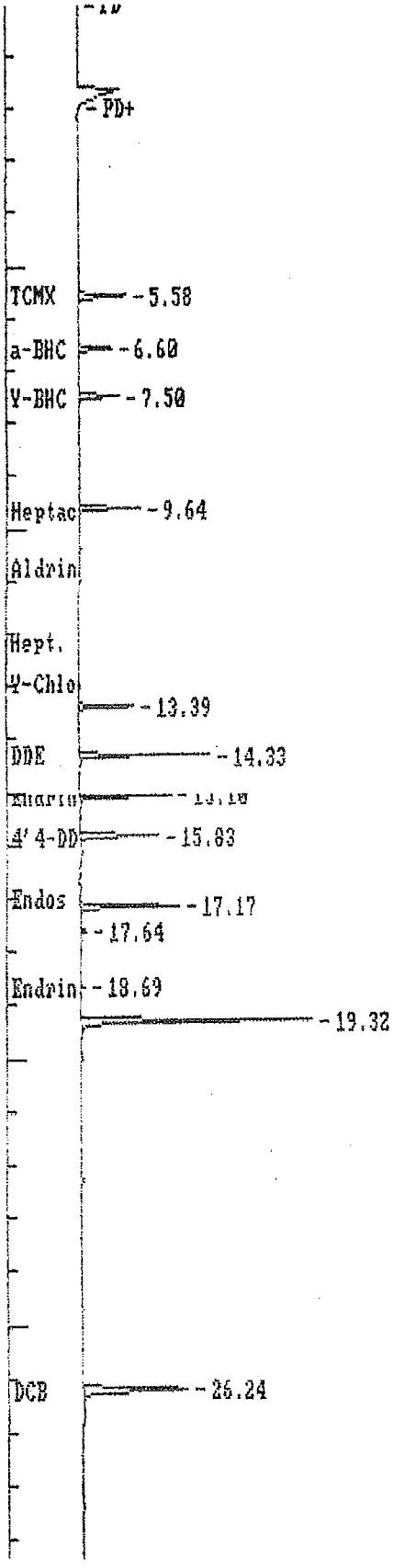
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	5.578	TCMX	19.2229	3.7730%	J 85042	17759	4.8	1	0	.3201	2.2604E-04
2	6.596	a-BHC	17.8856	3.5105%	J 54515	12460	4.4	1	0	.5104	3.2808E-04
3	7.498	Y-BHC	17.9027	3.5139%	J 57880	14899	3.9	1	0	0	3.0931E-04
			21.1410	4.1494%	J 81731	22631	3.6	1	0	0	2.5867E-04

7	15.097	Endrin	39.9545	7.8420%	J	117027	33706	3.5	1	0	0	3.4141E-04
8	15.832	4'4-DDD	36.8856	7.2397%	J	109255	28955	3.8	1	0	0	3.3761E-04
9	17.168	DDT	40.8321	8.0143%	J	129111	36736	3.5	1	0	0	3.1626E-04
10	17.635		0.0000	0.0000%		9132	2136	4.3	1			1.0000E-09
11	18.687	Endrin ket.	2.0087	0.3943%		5753	1563	3.7	1	0	0	3.4916E-04
	19.322	Methoxychlor	217.1554	42.6221%	J	338111	86159	3.9	1	0	0	6.4226E-04
	26.236	DCB	39.2188	7.6976%	J	202643	38404	5.3	1	0	0	1.9354E-04

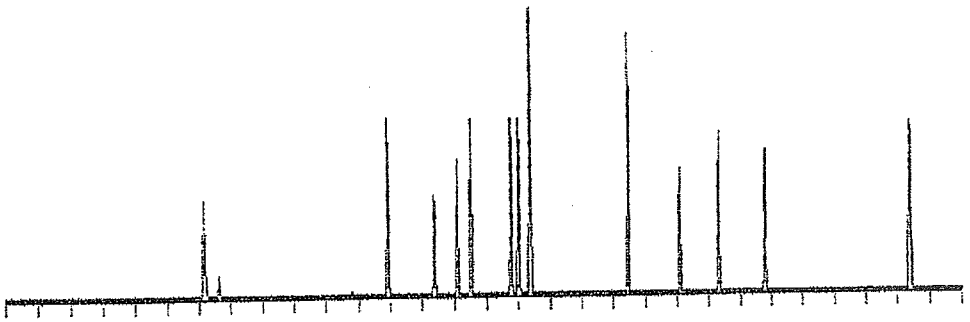
TOTAL AMOUNT = 509.4905

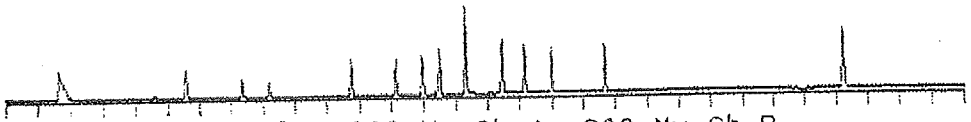
GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Areas, times, and heights stored in: D:NV14E160.ATB
Data File = D:NV14E160.PTS Printed on 11-25-1997 at 00:11:21
Start time: 0.00 min. Stop time: 30.00 min. Offset: 1 mv.
Full Range: 300 millivolts



SEQUENCE RECORDED IN D:NV14E.SEQ
QUENCE RECORDED IN D:NV14E.SEQ





[Interface 2] 0-30 Min Scale: 300 Mv Ch.A, 300 Mv Ch.B
IND8 20-40 Processed: 11-24-1997 23:37:12, segment 1, cycle 159
RAW DATA SAVED IN FILE D:NV14E159.PTS Second Channel Stored in D:OV14E159.PTS

EXTERNAL STANDARD TABLE

11-24-1997 23:38:17 Version 5.1.5

Data File: D:NV14E159

* Sample Name: IND8 20-40
* Date: 11-24-1997 23:06:37 Method: M:APES-E 11-21-1997 22:31:52 # 398
* Interface: 2 Cycle#: 159 Operator JJK Channel#: 0 Vial#: N.A.
* Starting Peak Width: 10 Threshold: 20 Area Threshold: 2000
* Instrument Type: PE 8500 Column Type: RTX 5/1701
* Solvent Description:
* Conditions:
* Detector 0: Detector 1: ECD
* Misc. Information:

Starting Delay: 0.00
Area reject: 2000
Amount injected: 1.00
mple Weight: 1.00000
Ending retention time: 30.00
One sample per 1.002 sec.
Dilution factor: 1.00

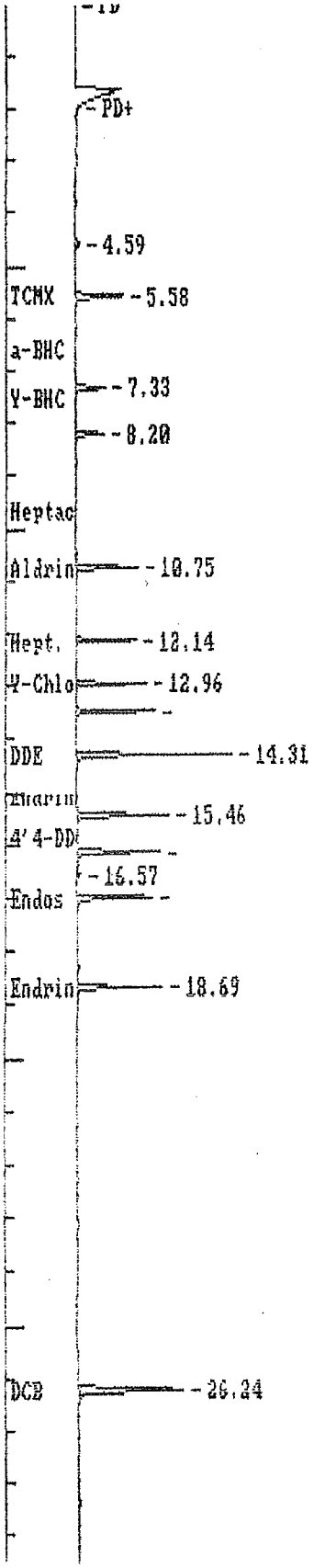
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	4.592		0.0000	0.0000%	9547	1706	5.6	1			1.0000E-09
2	5.578	TCMX	19.5102	5.3025%	86313	18062	4.8	1	0	.3201	2.2604E-04
3	7.331	R-BHC	18.9116	5.1398%	48792	11048	4.4	1	0	0	3.8760E-04

6	12.141	Hept. epox.	19.3536	5.2599%	J 78846	22617	3.5 1	0	0	1.9924E-04
7	12.959	Y-Chlordane	19.7713	5.3734%	J 99232	26250	3.8 1	0	0	1.9429E-04
8	13.510	a-Chlordane	19.7015	5.3545%	J 101403	29444	3.4 1	0	0	1.9410E-04
9	14.312	DDE	39.5212	10.7411%	J 203613	58299	3.5 1	0	0	1.9410E-04
10	15.464	Endosl f-II	38.6510	10.5046%	J 120630	34337	3.5 1	0	1113	3.2041E-04
	16.149	Endrin ald	39.0007	10.5996%	J 117002	30966	3.8 1	0	0	3.3333E-04
12	16.566		0.0000	0.0000%	5724	1524	3.8 1			1.0000E-09
13	17.017	Endos sulf	38.7970	10.5442%	J 105838	28145	3.8 1	0	0	3.6657E-04
14	18.687	Endrin ket.	38.8142	10.5489%	J 111164	31751	3.5 1	0	0	3.4916E-04
15	26.236	DCB	39.7305	10.7980%	J 205288	39085	5.3 1	0	0	1.9354E-04

TOTAL AMOUNT = 367.9450

GROUP NUMBER GROUP AMOUNT GROUP PERCENT

Areas, times, and heights stored in: D:NV14E159.ATB
Data File = D:NV14E159.PTS Printed on 11-24-1997 at 23:38:40
art time: 0.00 min. Stop time: 30.00 min. Offset: 1 mV
Full Range: 300 millivolts



***** EXTERNAL STANDARD TABLE *****

********** 11-25-1997 14:21:44 Version 5.1.5 **********

Sample Name: INDA 20-200 Data File: D:0V14E160

Date: 11-24-1997 23:39:16 Method: M:BPES-E 11-25-1997 14:16:47 # 392

Interface: 2 Cycle#: 160 Operator JJK Channel#: 1 Vial#: N.A.

Starting Peak Width: 10 Threshold: 50 Area Threshold: 2000

Instrument Type: PE 8500 Column Type: RTX 5/1701

Solvent Description:

Conditions:

Detector 0: Detector 1: ECD

Misc. Information:

Starting Delay: 0.00 Ending retention time: 30.00

Area reject: 2000 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

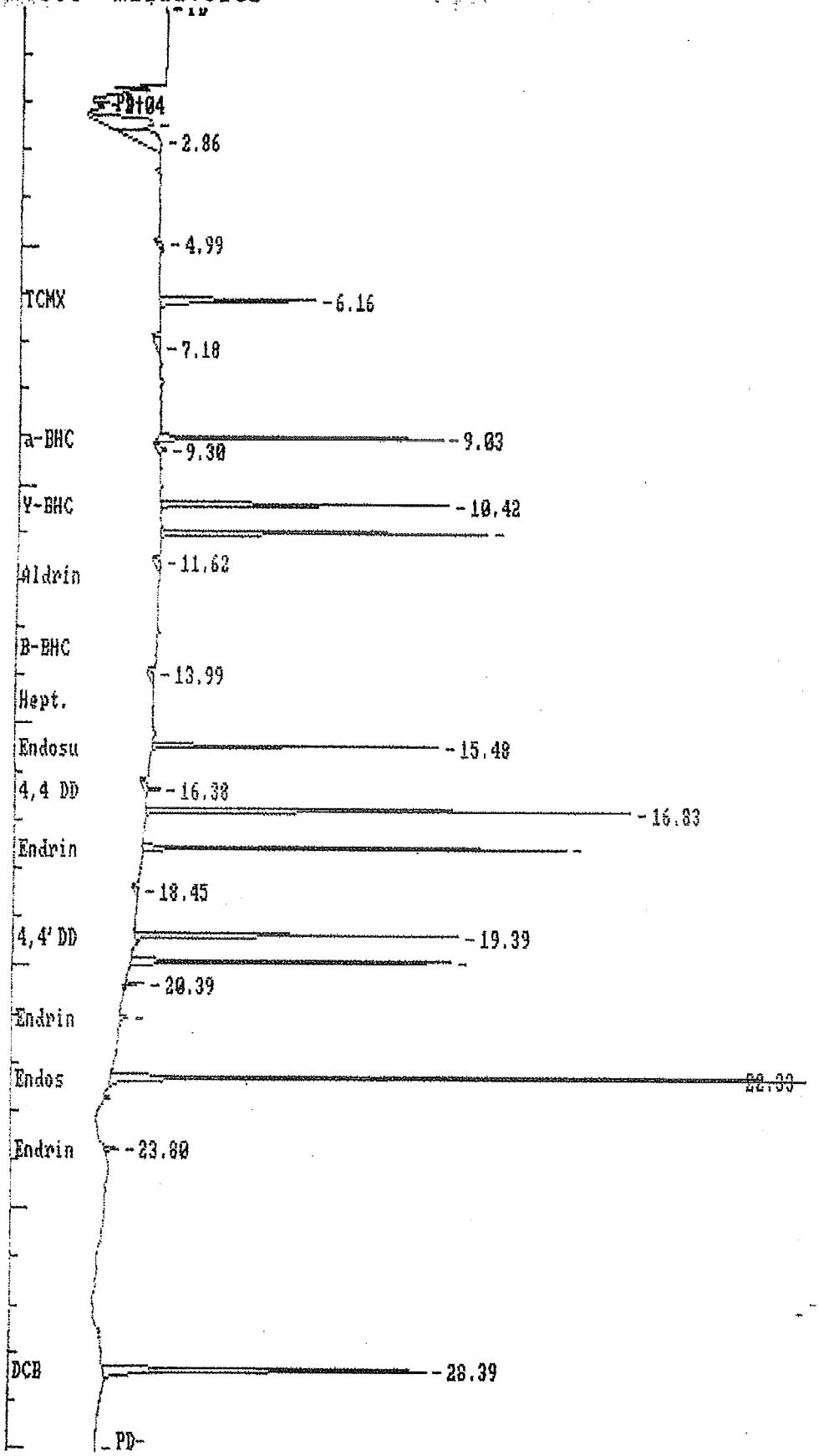
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in ppb	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	2.037		0.0000	0.0000%	10244	2756	3.7	1			1.0000E-09
2	2.472		0.0003	0.0001%	292841	18773	15.6	2			1.0000E-09
3	2.856		0.0002	0.0000%	241779	7729	31.3	2			1.0000E-09
4	4.993		0.0000	0.0000%	13052	2182	6.0	1			1.0000E-09
5	6.162	TCMX	19.7786	3.8271%	J 310800	64279	4.8	1	0	.5269	6.3638E-05
6	7.181		0.0000	0.0000%	45222	1443	31.3	1			1.0000E-09
	9.035	a-BHC	19.0456	3.6853%	J 416832	117321	3.6	1	0	0	4.5691E-05
8	9.302		0.0000	0.0000%	25098	2977	8.4	1			1.0000E-09
9	10.421	Y-BHC	19.3453	3.7433%	J 403040	118376	3.4	1	0	0	4.7998E-05
10	11.022	Heptachlor	20.2561	3.9195%	J 491332	134013	3.7	1	0	0	4.1227E-05
11	11.623		0.0000	0.0000%	26603	2549	10.4	1			1.0000E-09
12	13.995	d-BHC	1.5808	0.3059%	25067	2284	11.0	1	0	-.8248	6.3064E-05
13	15.481	Endosulf I	20.1565	3.9002%	J 404118	117294	3.4	1	0	0	4.9878E-05
14	16.383	4,4 DDE	2.4693	0.4778%	43985	6220	7.1	1	0	0	5.6139E-05
15	16.834	Dieldrin	40.2442	7.7872%	J 709706	198040	3.6	1	0	0	5.6705E-05
16	17.585	Endrin	41.1949	7.9711%	J 596996	172763	3.5	1	0	0	6.9004E-05
17	18.453		0.0000	0.0000%	25472	2060	12.4	1			1.0000E-09
18	19.389	4,4'DDD	37.8625	7.3263%	J 448368	132143	3.4	1	0	0	8.4445E-05
19	19.923	4,4 DDT	41.3159	7.9945%	J 457615	131060	3.5	1	0	0	9.0285E-05
20	20.391		0.0000	0.0000%	24096	8206	2.9	1			1.0000E-09
21	21.092	Endrin ald	1.4332	0.2773%	14394	3600	4.0	1	0	0	9.9572E-05
22	22.328	Methoxychl	210.0889	40.6517%	J 1144354	292594	3.9	1	0	0	1.8359E-04
23	23.797	Endrin ket	2.1956	0.4248%	26323	6139	4.3	1	0	0	8.3410E-05
24	28.390	DCB	39.8338	7.7078%	J 814921	132197	6.2	1	0	0	4.8881E-05

TOTAL AMOUNT = 516.8019

GROUP NUMBER	GROUP AMOUNT	GROUP PERCENT

Data File = D:OV14E160.PTS Printed on 11-25-1997 at 14:22:37
Start time: 0.00 min. Stop time: 30.03 min. Offset: 1 mv.
Full Range: 300 millivolts



LEASE AYC 325

JOHN F. KENNEDY INTERNATIONAL AIRPORT

THE PORT AUTHORITY OF NEW YORK & NEW JERSEY

AND

DELTA AIR LINES, INC.
(The Lessee)

DELI-A5/PA/9.94

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DELI-A5/PA/9.94

THIS AGREEMENT SHALL NOT BE BINDING UPON
THE PORT AUTHORITY UNTIL DULY EXECUTED BY
AN EXECUTIVE OFFICER THEREOF AND DELIVERED
TO THE LESSEE BY AN AUTHORIZED
REPRESENTATIVE OF THE PORT AUTHORITY

John F. Kennedy International Airport
Lease No. AYC-325

AGREEMENT OF LEASE

THIS AGREEMENT OF LEASE, made effective as of the first day of January, 1993, by and between THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY (hereinafter called "the Port Authority"), a body corporate and politic, established by Compact between the States of New Jersey and New York with the consent of the Congress of the United States of America, and having an office at One World Trade Center, in the Borough of Manhattan, City, County and State of New York, and DELTA AIR LINES, INC. (hereinafter called "the Lessee"), a corporation organized and existing under the laws of the State of Delaware, having an office and place of business at Properties Department-880, 1030 Delta Boulevard, Hartsfield Atlanta International Airport, Atlanta, Georgia 30320-6000, whose representative is John Boatright, its Director, Airport and Corporate Affairs.

WITNESSETH, That:

The Port Authority and the Lessee for and in consideration of the rents, covenants and mutual agreements hereinafter contained, hereby covenant and agree as follows:

Section 1. Letting

(a) The Port Authority hereby lets to the Lessee and the Lessee hereby hires and takes from the Port Authority at John F. Kennedy International Airport (sometimes hereinafter referred to as "the Airport") in the Borough of Queens, City and State of New York, (i) the land shown in stipple hatch and the land shown in diagonal hatch designated as Area No. 2 and Area No. 3 on the sketch attached hereto hereby made a part hereof and marked "Exhibit A" together with all buildings (including without limitation the building known as Building No. 54), improvements and structures located thereon, and together with the fixtures, improvements and other property of the Port Authority, if any, located therein, thereon or thereunder, the foregoing being hereinafter called "Area IA"; which Area IA has been used and occupied by the Lessee immediately prior to the effective date of

this Agreement under that certain separate Permit issued to the Lessee as the permittee thereunder, bearing Port Authority identification number AYC-174 (hereinafter referred to as the "Prior Permit") and (ii) the land shown in stipple and the land shown in diagonal hatch designated as Area No. 4 and Area No. 5 on Exhibit A together with all buildings (including without limitation the building known as Building No. 53), improvements and structures located thereon, and together with the fixtures, improvements, and other property of the Port Authority, if any, located therein, thereon or thereunder, the foregoing being hereinafter called "Area IB"; which Area IB has been used and occupied by the Lessee immediately prior to the effective date of this Agreement as sublessee under the Prior Sublease as defined in Section 86 hereof; and, with respect to both the foregoing (i) and (ii), all structures (including without limitation the elevated, enclosed bridge and its foundations, supports, utility systems, equipment and appurtenance, as shown specifically in hatch and in stipple on the Exhibit attached hereto, hereby made a part hereof and marked "Exhibit B"), improvements, additions, buildings and facilities located, constructed or installed or to be located, constructed or installed therein in Area IA and Area IB, thereon or thereunder, being hereinafter collectively referred to as "the premises". The parties acknowledge that the premises constitute nonresidential real property.

(b) Except to the extent required for the performance of any of the obligations of the Lessee hereunder nothing contained in this Agreement shall grant to the Lessee any rights whatsoever in the air space above the premises in excess of the limitations described on the Exhibit attached hereto, hereby made a part hereof and marked "Exhibit D".

(c) Subject only to the appropriate written concurrence of the tenants or users as set forth below in this paragraph (c), the strip of land lying along and within the westerly (directions set forth in this paragraph (c) are true) boundary line of the premises (which strip is shown in diagonal hatch and designated Area No. 2 on Exhibit A, together with the corresponding contiguous strip of land lying along and within the easterly boundary of space forming a part of the areas collectively known as Terminal No. 1 (Building No. 55) and immediately abutting on the westerly side of the premises (which strip is shown in cross-hatch and designated Area No. 1 on Exhibit A) shall be subject to a joint and mutual easement for a taxiway to be used jointly by the Lessee and the tenants, occupants and permittees of Terminal No. 1 or by any successors in interest of the Lessee or said persons or sublessees or other occupants or users who, pursuant to Port Authority permission, may occupy or use the premises herein or Terminal 1 and such rights of easement for such taxiway purposes shall continue during the effective periods of the respective agreements covering or which may cover the same.

(d) Subject only to the appropriate written concurrence of the tenants or users as set forth below in this paragraph (d), the strip of land lying along and within the easterly (directions set forth in this paragraph (d) are true) boundary line of the premises (which strip is shown in diagonal hatch and designated Area No. 5 on Exhibit A together with the corresponding contiguous strip of land lying along and within the westerly boundary of space forming a part of the areas collectively known as the West Wing Building and immediately abutting on the easterly side of the premises (which strip is shown in cross-hatch and designated Area No. 6 on Exhibit A) shall be subject to a joint and mutual easement for a taxiway to be used jointly by the Lessee and the tenants, occupants and permittees of the East and West Wing Buildings or the International Arrivals Building or by any successors in interest of the Lessee or said persons or sublessees or other occupants or the Lessee or said persons or sublessees or other occupants or users who, pursuant to Port Authority permission, may occupy or use the premises herein or the East and West Wing Buildings or the International Arrivals Building and such rights of easement for such taxiway purposes shall continue during the effective periods of the respective agreements covering or which may cover the same.

Section 2. Construction by the Lessee

(a) (1) The Lessee hereby agrees to design and construct at its sole cost and expense at the premises the "Phase I Construction Work" as hereinafter defined and the "Phase II Construction Work" as hereinafter defined, all of the foregoing, together with all necessary and appropriate work for the removal of all asbestos from the premises (if required by applicable federal, state or local laws, enactments, resolutions, rules or regulations or the Lessee on its own proposes asbestos removal from the premises, subject to this Agreement and the alteration application as approved by the Port Authority and the Port Authority approves the Lessee's alteration application covering such removal) in connection with, related or incidental to the construction work in accordance with, and without limiting, this Section 2 and Section 7 hereof including the handling, transporting to an off-airport site and disposal thereof in a long-term disposal facility all in a manner satisfactory to the Port Authority, and together with all necessary construction and relocation of paved areas, utility lines, pipes, mains, conduits and other improvements being herein collectively called "the construction work". It is expressly understood and agreed that each of the Phase I Construction Work and the Phase II Construction Work, and including without limitation, all of the work described in the foregoing sentence shall be and form a part of the construction work.

(2) The term "Phase I Construction Work" as used herein shall mean (i) the work described in Exhibit E attached hereto and hereby made a part hereof which is consented to by the Port Authority as hereinafter provided and is performed on or after

the effective date of the Lease, provided, however, that the Phase I Construction Work shall be deemed to include the work identified as and defined as "Sublessee's Flight Center Improvement Work" in the First Supplemental Agreement to Sublease as hereinafter defined which work is sometimes hereinafter referred to as "Lessee's Initial Flight Center Improvement Work" and further, provided, however, that work and labor and those materials which are personal property including without limitation that personal property title to which shall pass to the Port Authority upon the installation thereof as provided in Section 37 and Exhibit E of the Lease and work, labor and materials set forth in Item (iv) of paragraph (e) of Section 88 of the Lease title to which shall remain in the Lessee shall not be a part of the Phase I Construction Work and, (ii) in the event the amount of the Capital Investment (as defined in Section 88 of the Lease) made by the Lessee in connection with the Phase I Construction Work shall be less than (2.a.) then the Phase I Construction Work shall include such additional work for the construction of such other structures, improvements, additions, buildings and facilities necessary or appropriate to upgrade, modernize and increase the efficiency and utilization of the premises as may be consented to by the Port Authority as hereinafter provided. It is hereby understood that although not included as part of the Phase I Construction Work, the Capital Investment made in connection with the Phase I Construction Work shall include the amounts described in Items (iii) and (iv) of paragraph (e) of Section 88 of the Lease.

(3) Prior to its submission to the Port Authority of the Lessee's plans and specifications for the "Phase II Construction Work" (as hereinafter defined) the Lessee shall by not later than December 31, 2000 submit to the Port Authority for the Port Authority's consent the Lessee's comprehensive plan for a Capital Investment of not less than an amount equal to the difference obtained by subtracting the Phase I Capital Investment (as defined in Section 88) from the amount of (2.a.) for the construction of such structures, improvements, additions, buildings and facilities necessary or appropriate to upgrade, modernize and increase the efficiency and utilization of the premises. The work which the Lessee includes in such comprehensive plan which is consented to by the Port Authority and is commenced after the effective date of the Lease, is hereinafter called the "Phase II Construction Work", provided, however, that work, labor and materials set forth in Item (iv) of paragraph (e) of Section 88 of the Lease title to which shall remain in the Lessee shall not be a part of the Phase II Construction Work. Without limiting the terms and provisions of paragraph (a) of Section 88 of the Lease, the fact that the Lessee has submitted a comprehensive plan for the Phase II Construction Work which has been approved by the Port Authority shall not mean or be deemed to mean that the Lessee is obligated to perform the work described in such comprehensive plan. Further, it is hereby understood that although not included as part of the Phase II Construction Work, the Capital Investment made in connection with

the Phase II Construction Work shall include the amounts described in Item (iv) of paragraph (e) of Section 88 of the Lease.

(4) The Lessee shall keep the comprehensive plan for the Phase I Construction Work and the comprehensive plan for the Phase II Construction Work up to date and shall submit to the Port Authority for its prior approval any amendments, revisions or modifications thereto.

(5) Prior to the commencement of the Phase I Construction Work, the Lessee shall submit to the Port Authority for the Port Authority's approval complete plans and specifications therefor and prior to the commencement of the Phase II Construction Work, the Lessee shall submit to the Port Authority for the Port Authority's approval complete plans and specifications therefor. The Port Authority may refuse to grant approval, if, in its opinion, any of the construction work as set forth in said plans and specifications (all of which shall be in such detail as may reasonably permit the Port Authority to make a determination as to whether the requirements hereinafter referred to are met) shall:

(i) Be unsafe, unsound, hazardous or improper for the use and occupancy for which it is designed, or

(ii) Not comply with the Port Authority's requirements for harmony of external architecture of similar existing or future improvements at the Airport, or

(iii) Not comply with the Port Authority's requirements with respect to external and interior building materials and finishes of similar existing or future improvements at the Airport, or

(iv) Not provide for sufficient clearances for taxiways, runways and apron areas, or

(v) Be designed for use for purposes other than those authorized under the Agreement, or

(vi) Set forth ground elevations or heights other than those prescribed by the Port Authority, or

(vii) Not provide adequate and proper roadways and pedestrian circulation areas, or

(viii) Not comply with the building height limitations in connection with sight line requirements between the existing Control Tower and the public aircraft facilities at the Airport, or

(ix) Not comply with the provisions of the Basic Lease, including without limiting the generality thereof, the provisions of Section 21 of the Basic Lease providing that the Port

Authority will conform to the enactments, ordinances, resolutions and regulations of the City of New York and its various departments, boards and bureaus in regard to the construction and maintenance of buildings and structures and in regard to health and fire protection which would be applicable if the Port Authority were a private corporation to the extent that the Port Authority finds it practicable so to do, or

(x) Permit aircraft to overhang the boundary of the premises, except when entering or leaving the premises, or

(xi) Be in violation or contravention of any other provisions and terms of the Lease, or

(xii) Not comply with all applicable governmental laws, ordinances, enactments, resolutions, rules and orders, or

(xiii) Not comply with all applicable requirements of the National Board of Fire Underwriters and the Fire Insurance Rating Organization of New York, or

(xiv) Not comply with the Port Authority's requirements with respect to landscaping, or

(xv) Not comply with Port Authority's requirements and standards with respect to noise, air pollution, water pollution or other types of pollution, or

(xvi) Not comply with the construction limitations set forth in Exhibits A, A-1, A-2 and Exhibit D.

(b) All the construction work shall be done in accordance with the following terms and conditions:

(1) The Lessee hereby assumes the risk of loss or damage to all of the construction work prior to the completion thereof and the risk of loss or damage to all property of the Port Authority arising out of or in connection with the performance of the construction work. In the event of such loss or damage, the Lessee shall forthwith repair, replace and make good the construction work and the property of the Port Authority without cost or expense to the Port Authority. The Lessee shall itself and shall also require its contractors to indemnify and hold harmless the Port Authority, its Commissioners, officers, agents and employees from and against all claims and demands, just or unjust, of third persons (including employees, officers, and agents of the Port Authority) arising or alleged to arise out of the performance of the construction work and for all expenses incurred by it and by them in the defense, settlement or satisfaction thereof, including without limitation thereto, claims and demands for death, for personal injury or for property damage, direct or consequential, whether they arise from the acts or omissions of the Lessee, of any contractors of the Lessee, of the Port Authority, or of third

persons, or from acts of God or of the public enemy, or otherwise (including claims of the City of New York against the Port Authority pursuant to the provisions of the Basic Lease whereby the Port Authority has agreed to indemnify the City against claims), excepting only claims and demands which result solely from affirmative wilful acts done by the Port Authority, its Commissioners, officers, agents and employees with respect to the construction work, provided, however, that the Lessee shall not be required to indemnify the Port Authority where indemnity would be precluded pursuant to the provisions of Section 5-322.1 of the General Obligations Law of the State of New York.

If so directed, the Lessee shall at its own expense defend any suit based upon any such claim or demand (even if such suit, claim or demand is groundless, false or fraudulent), and in handling such it shall not, without obtaining express advance written permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority, or the provisions of any statutes respecting suits against the Port Authority.

(2) Prior to engaging or retaining an architect or architects for the construction work, the name or names of said architect or architects shall be submitted to the Port Authority for its approval. The Port Authority shall have the right to disapprove any architect who may be unacceptable to it. All the construction work shall be done in accordance with plans and specifications to be submitted to and approved by the Port Authority prior to the commencement of the construction work, and until such approval has been obtained the Lessee shall continue to resubmit plans and specifications as required. Upon approval of such plans and specifications by the Port Authority, the Lessee shall proceed diligently at its sole cost and expense to perform the construction work. All the construction work, including workmanship and materials, shall be of first class quality. The Lessee shall redo, replace or construct at its own cost and expense, any construction work not done in accordance with the approved plans and specifications, the provisions of this Section 2 or any further requirements of the Port Authority. The Lessee shall make a Capital Investment of not less than (2.a.)

with respect to the Phase I Construction Work and shall complete the Phase I Construction Work no later than December 31, 2000. Subject to the terms and provisions of Section 88, the Lessee shall make a Capital Investment of not less than an amount equal to the difference obtained by subtracting the Phase I Capital Investment from the amount of One Hundred Fifty Million Dollars and No Cents ($150,000,000.00) with respect to the Phase II Construction Work and shall complete the Phase II Construction Work no later than December 31, 2012.

(3) Prior to entering into a contract for any part of the construction work, the Lessee shall submit to the Port Authority for its approval the names of the contractors to whom the Lessee proposes to award said contracts. The Port Authority shall have the right to disapprove any contractor who may be unacceptable to it. The Lessee shall include in all such contracts such provisions and conditions as may be reasonably required by the Port Authority. Without limiting the generality of the foregoing all of the Lessee's construction contracts shall provide as follows: "If (i) the Contractor fails to perform any of his obligations under the Contract, including his obligation to the Lessee to pay any claims lawfully made against him by any materialman, subcontractor or workman or other third person which arises out of or in connection with the performance of the Contract or (ii) any claim (just or unjust) which arises out of or in connection with the Contract is made against the Lessee or (iii) any subcontractor under the Contract fails to pay any claims lawfully made against him by any materialman, subcontractor, workman or other third persons which arise out of or in connection with the Contract or if in the Lessee's opinion any of the aforesaid contingencies is likely to arise, then the Lessee shall have the right, in its discretion, to withhold out of any payment (final or otherwise and even though such payments have already been certified as due) such sums as the Lessee may deem amply to protect it against delay or loss or to assume the payment of just claims of third persons, and to apply such sums in such manner as the Lessee may deem proper to secure such protection or satisfy such claims. All sums so applied shall be deducted from the Contractor's compensation. Omission by the Lessee to withhold out of any payment, final or otherwise, a sum for any of the above contingencies, even though such contingency has occurred at the time of such payment, shall not be deemed to indicate that the Lessee does not intend to exercise its right with respect to such contingency. Neither the above provisions for rights of the Lessee to withhold and apply monies nor any exercise, or attempted exercise of, or omission to exercise such rights by the Lessee shall create any obligation of any kind to such materialmen, subcontractors, workmen or other third persons. Until actual payment is made to the Contractor, his right to any amount to be paid under the Contract (even though such amount has already been certified as due) shall be subordinate to the rights of the Lessee under this provision." The Lessee shall file with the Port Authority a copy of each of its contracts with its contractors prior to the start of the construction work covered by that contract.

(4) The Lessee shall furnish or require its architect to furnish a full time resident engineer during the construction work. The Lessee shall require certification by a licensed engineer of all pile driving data and of all controlled concrete work and such other certifications as may be requested by the Port Authority from time to time.

(5) As between the Lessee and the Port Authority, the Lessee agrees to be solely responsible for any plans and

specifications used by it and for any loss or damages resulting from the use thereof, notwithstanding the same have been approved by the Port Authority and notwithstanding the incorporation therein of Port Authority recommendations or requirements. Notwithstanding the requirement for approval by the Port Authority of the contracts to be entered into by the Lessee or the incorporation therein of Port Authority requirements or recommendations, and notwithstanding any rights the Port Authority may have reserved to itself hereunder, as between the Lessee and the Port Authority, the Port Authority shall have no liabilities or obligations of any kind to any contractors engaged by the Lessee or for any other matter in connection therewith and the Lessee hereby releases and discharges the Port Authority, its Commissioners, officers, representatives and employees of and from any and all liability, claims for damages or losses of any kind, whether legal or equitable, or from any action or cause of action arising or alleged to arise out of the performance of any of the construction work pursuant to the contracts between the Lessee and its contractors. Any warranties contained in any construction contract entered into by the Lessee for the performance of the construction work hereunder shall be for the benefit of the Port Authority as well as the Lessee, and the contracts shall so provide.

(6) The Port Authority shall have the right, through its duly designated representatives, to inspect the construction work and the plans and specifications thereof, at any and all reasonable times during the progress thereof and from time to time, in its discretion, to take samples and perform testing in any part of the construction work.

(7) The Lessee agrees that it shall deliver to the Port Authority two (2) sets of "as built" microfilm drawings of the construction work mounted on aperture cards, all of which shall conform to the specifications of the Port Authority (the receipt of a copy of said specifications prior to the execution of this Lease being hereby acknowledged by the Lessee), and the Lessee shall, during the term of this Lease, keep said drawings current showing thereon any changes or modifications which may be made. (No changes or modifications shall be made without prior Port Authority consent.)

(8) The Lessee shall, if requested by the Port Authority, take all reasonable measures to prevent erosion of the soil and the blowing of sand during the performance of the construction work, including but not limited to the fencing of the premises or portions thereof or other areas and the covering of open areas with asphaltic emulsion or similar materials as the Port Authority may direct.

(9) Any soil, dirt, sand or other matter (hereinafter in this subparagraph (9) collectively called "the matter") excavated by the Lessee during the course of the construction work shall be delivered and deposited by the Lessee at its expense to any location

on the Airport or to any location off the Airport within the Port of New York District as may be designated by the Port Authority, subject to and in accordance with the provisions of Section 83 (c)(2) of the Lease. The entire proceeds, if any, of the sale or other disposition of the matter shall belong to the Port Authority. Notwithstanding the foregoing the Port Authority may elect by prior written notice to the Lessee to waive any rights it may have as to all or portions of the matter in which event the Lessee at its expense shall dispose of the same without further instruction from the Port Authority, subject to and in accordance with Section 83 (c)(2) of the Lease.

(10) The Lessee shall pay or cause to be paid all claims lawfully made against it by its contractors, subcontractors, materialmen and workmen, and all claims lawfully made against it by other third persons arising out of or in connection with or because of the performance of the construction work, and shall cause its contractors and subcontractors to pay all such claims lawfully made against them, provided, however, that nothing herein contained shall be construed to limit the right of the Lessee to contest any claim of a contractor, subcontractor, materialman, workman and/or other person and no such claim shall be considered to be an obligation of the Lessee within the meaning of this Section unless and until the same shall have been finally adjudicated. The Lessee shall use its best efforts to resolve any such claims and shall keep the Port Authority fully informed of its actions with respect thereto.

(11) (i) The Lessee in its own name as insured and including the Port Authority as an additional insured shall procure and maintain Comprehensive General Liability Insurance, including but not limited to premises-operations, products liability, completed operations, explosion, collapse and underground property damages, personal injury and independent contractors, with a broad form of property damage endorsement, and with a contractual liability endorsement covering the obligations assumed by the Lessee pursuant to subparagraphs (1) and (5) of this paragraph (b), and Comprehensive Automobile Liability Insurance covering owned, non-owned and hired vehicles. The said Comprehensive General Liability Insurance policy shall have a limit of not less than $25,000,000 combined single limit per occurrence for bodily injury and property damage liability, and said Comprehensive Automobile Liability Insurance policy shall have a limit of not less than $25,000,000 combined single limit per accident for bodily injury and property damage liability.

Without limiting the provisions hereof, in the event the Lessee maintains the foregoing insurance in limits greater than aforesaid, the Port Authority shall be included therein as an additional insured to the full extent of all such insurance in accordance with all the terms and provisions hereof.

The foregoing shall be in addition to all policies of insurance otherwise required by this Agreement, or the

Lessee may provide such insurance by requiring each contractor engaged by it for the construction work to procure and maintain such insurance including such contractual liability endorsement, said insurance, whether procured by the Lessee or by a contractor engaged by it as aforesaid, not to contain any care, custody or control exclusions, and not to contain any exclusion for bodily injury to or sickness, disease or death of any employee of the Lessee or of any of its contractors which would conflict with or in any way impair coverage under the contractual liability endorsement. The said policy or policies of insurance shall also provide or contain an endorsement providing that the protections afforded the Lessee thereunder with respect to any claim or action against the Lessee by a third person shall pertain and apply with like effect with respect to any claim or action against the Lessee by the Port Authority, and shall also provide or contain an endorsement providing that the protections afforded the Port Authority thereunder with respect to any claim or action against the Port Authority by the Lessee or its contractor(s) shall be the same as the protections afforded the Lessee thereunder with respect to any claim or action against the Lessee by a third person as if the Port Authority were the named insured thereunder; but such provision or endorsement shall not limit, vary or affect the protections afforded the Port Authority thereunder as an additional insured.

(ii) The Lessee shall also procure and maintain in effect, or cause to be procured and maintained in effect Workers' Compensation Insurance and Employer's Liability Insurance in accordance with and as required by law.

(iii) The insurance required hereunder in this subparagraph (11) shall be maintained in effect during the performance of the construction work and shall be in compliance with and subject to the provisions of paragraph (e) of Section 16 of the Lease.

(12) The Lessee shall be under no obligation to reimburse the Port Authority for expenses incurred by the Port Authority in connection with its normal review and approval of the original plans and specifications submitted by the Lessee pursuant to this Section. The Lessee however agrees to pay to the Port Authority upon its demand the expenses incurred by the Port Authority in connection with any additional review for approval of any changes, modifications or revisions of the original plans and specifications which may be proposed by the Lessee for the Port Authority's approval. The expenses of the Port Authority for any such additional review and approval shall be computed on the basis of direct payroll time expended in connection therewith plus 100%. Wherever in this Lease reference is made to "direct payroll time" costs computed thereunder shall include a pro-rata share of the cost to the Port Authority of providing employee benefits, including, but not limited to, pensions, hospitalization, medical and life insurance, vacations and holidays. Such computations shall be in

accordance with the Port Authority's accounting principles as consistently applied prior to the execution of the Lease.

(13) The Lessee shall prior to the commencement of construction and at all times during construction submit to the Port Authority all engineering studies with respect to construction and samples of construction materials as may be required at anytime and from time to time by the Port Authority.

(14) The Lessee shall procure and maintain Builder's Risk (All Risk) Completed Value Insurance covering the construction work during the performance thereof including material delivered to the premises but not attached to the realty. Such insurance shall be in compliance with and subject to the applicable provisions of Section 12 of the Lease and shall name the Port Authority, the City of New York, the Lessee and its contractors and subcontractors as additional insureds and such policy shall provide that the loss shall be adjusted with and payable to the Lessee. Such proceeds shall be used by the Lessee for the repair, replacement or rebuilding of the construction work and any excess shall be paid over to the Port Authority. The policies or certificates representing insurance covered by this subparagraph (14) shall be delivered by the Lessee to the Port Authority at least thirty (30) days prior to the commencement of construction of the construction work, and each policy or certificate delivered shall bear the endorsement of or be accompanied by evidence of payment of the premium thereof and, also, a valid provision obligating the insurance company to furnish the Port Authority and the City of New York fifteen (15) days' advance notice of the cancellation, termination, change or modification of the insurance evidenced by said policy or certificate. Renewal policies or certificates shall be delivered to the Port Authority at least fifteen (15) days before the expiration of the insurance which such policies are to renew.

The insurance covered by this subparagraph (14) shall be written by companies approved by the Port Authority, the Port Authority covenanting and agreeing not to withhold its approval unreasonably. If at any time any of the insurance policies shall be or become unsatisfactory to the Port Authority as to the form or substance or if any of the carriers issuing such policies shall be or become unsatisfactory to the Port Authority, the Lessee shall promptly obtain a new and satisfactory policy in replacement, the Port Authority covenanting and agreeing not to act unreasonably hereunder. If at any time the Port Authority so requests, a certified copy of each of the said policies shall be delivered to the Port Authority.

(15) Upon the request of the Port Authority from time to time, the Lessee shall submit to the Port Authority its forecasts of the number of people who will be working at various times during the term of the Lease at the premises, the expected utility demands, noise profiles and such other information as the Port Authority may require. The Lessee shall continue to submit its latest forecasts

and such other information as may be reasonably required as aforesaid as the Port Authority shall from time to time and at any time request.

(16) The Lessee shall execute and submit for the Port Authority's approval a Construction Application or Applications in the form prescribed by the Port Authority covering the construction work or portions thereof. The Lessee shall comply with all the terms and provisions of the approved Construction Application. In the event of any inconsistency between the terms of any Construction Application and the terms of this Lease, the terms of this Lease shall prevail and control.

(17) Nothing contained in this Lease shall grant or be deemed to grant any contractor, architect, supplier, subcontractor or any other person engaged by the Lessee or any of its contractors in the performance of any part of the construction work any right of action or claim against the Port Authority, its Commissioners, officers, agents and employees with respect to any work any of them may do in connection with the construction work. Nothing contained in this Lease shall create or be deemed to create any relationship between the Port Authority and any such contractor, architect, supplier, subcontractor or any other person engaged by the Lessee or any of its contractors in the performance of any part of the construction work and the Port Authority shall not be responsible to any of the foregoing for any payments due or alleged to be due thereto for any work performed or materials purchased in connection with the construction work.

(18) (i) Without limiting any of the terms and conditions of the Lease, the Lessee understands and agrees that it shall put into effect prior to the commencement of any of the construction work an affirmative action program and Minority Business Enterprise (MBE) program and Women-owned Business Enterprise (WBE) program in accordance with the provisions of Schedule E, attached hereto (hereinafter "Schedule E"). The provisions of said Schedule E shall be applicable to the Lessee's contractor or contractors and subcontractors at any tier of construction as well as to the Lessee itself and the Lessee shall include the provisions of said Schedule E within all of its construction contracts so as to make said provisions and undertakings the direct obligation of the construction contractor or contractors and subcontractors at any tier of construction. The Lessee shall and shall require its said contractor, contractors and subcontractors to furnish to the Port Authority such data, including but not limited to compliance reports relating to the operation and implementation of the affirmative action, MBE and WBE programs called for hereunder as the Port Authority may request at any time and from time to time regarding the affirmative action, MBE and WBE programs of the Lessee and its contractor, contractors, and subcontractors at any tier of construction, and the Lessee shall and shall also require that its contractor, contractors and subcontractors at any tier of construction make and put into effect

such modifications and additions thereto as may be directed by the Port Authority pursuant to the provisions hereof and said Schedule E to effectuate the goals of affirmative action and MBE and WBE programs.

(ii) In addition to and without limiting any terms and provisions of this Lease, the Lessee shall provide in its contracts and all subcontracts covering the construction work or any portion thereof, that:

(aa) The contractor shall not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, and shall undertake or continue existing programs of affirmative action to ensure that minority group persons are afforded equal employment opportunity without discrimination. Such programs shall include, but not be limited to, recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, rates of pay or other forms of compensation, and selections for training or retraining, including apprenticeships and on-the-job training;

(bb) At the request of either the Port Authority or the Lessee, the contractor shall request such employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding and which is involved in the performance of the contract with the Lessee to furnish a written statement that such employment agency, labor union or representative shall not discriminate because of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will cooperate in the implementation of the contractor's obligations hereunder;

(cc) The contractor will state, in all solicitations or advertisements for employees placed by or on behalf of the contractor in the performance of the contract, that all qualified applicants will be afforded equal employment opportunity without discrimination because of race, creed, color, national origin, sex, age, disability or marital status;

(dd) The contractor will include the provisions of subparagraphs (aa) through (cc) of this paragraph in every subcontract or purchase order in such a manner that such provisions will be binding upon each subcontractor or vendor as to its work in connection with the contract;

(ee) "Contractor" as used herein shall include each contractor and subcontractor at any tier of construction.

(c) It is understood and agreed that the Phase I Construction Work and the Phase II Construction Work may or may not

be constructed concurrently. Accordingly, the required approval by the Port Authority of the Lessee's plans and specifications under paragraph (a) hereof may be given separately as to the Phase I Construction Work and the Phase II Construction Work. The Lessee may wish to commence construction of portions of the Phase I Construction Work prior to the approval by the Port Authority of its complete plans and specifications for the same as required in this Section 2 and may wish to commence construction of portions of the Phase II Construction Work prior to the approval by the Port Authority of its complete plans and specifications for the same as required in this Section 2 and if the Lessee does it shall submit a written request to the Port Authority setting forth the work it proposes to then do. The Port Authority shall have full and complete discretion as to whether or not to permit the Lessee to proceed with said work. If the Port Authority has no objection to the Lessee's proceeding with the work, it shall do so by writing a letter to the Lessee to such effect. If the Lessee performs the work covered by said letter, it agrees all such work shall be performed subject to and in accordance with all of the provisions of the approval letter and subject to and in accordance with the following terms and conditions:

(1) The performance by the Lessee of the work covered by any request as aforesaid will be at its sole risk and if for any reason the plans and specifications for the construction work are not approved by the Port Authority or if the approval thereof calls for modifications or changes in the work undertaken by the Lessee under any approval granted by the Port Authority pursuant to this paragraph (c), the Lessee will, as directed by the Port Authority, at its sole cost and expense, either restore the area affected to the condition existing prior to the commencement of any such work or make such modifications and changes in any such work as may be required by the Port Authority.

(2) Nothing contained in any approval hereunder shall constitute a determination or indication by the Port Authority that the Lessee has complied with the applicable governmental laws, ordinances, enactments, resolutions, rules and orders, including but not limited to those of the City of New York, which may pertain to the work to be performed.

(3) The approved work will be performed in accordance with and subject to the terms, indemnities and provisions of the Lease covering the construction work and with the terms and conditions of any Construction Application which the Port Authority may request the Lessee to submit even though such Construction Application may not have, at the time of the approval under this paragraph (c), been approved by the Port Authority.

(4) No work under any such approval shall affect or limit the obligations of the Lessee under all prior approvals with respect to its construction of the construction work.

(5) The Lessee shall comply with all requirements, stipulations and provisions as may be set forth in the letter of approval.

(6) In the event that the Lessee shall at any time during the construction of any portion of the construction work under the approval granted by the Port Authority pursuant to this paragraph (c) fail, in the opinion of the Resident Engineer of the Port Authority at the Airport, to comply with all of the provisions of the Lease with respect to the construction work, the Construction Application or the approval letter covering the same or be, in the opinion of the said Resident Engineer, in breach of any of the provisions of the Lease, the Construction Application or the approval letter covering the same, the Port Authority shall have the right, acting through said Resident Engineer, to cause the Lessee to cease all or such part of the construction work as is being performed in violation of the Lease, the Construction Application or the approval letter. Upon such written direction from the Resident Engineer, the Lessee shall promptly cease construction of the portion of the construction work specified. The Lessee shall thereupon submit to the Port Authority for its written approval the Lessee's proposal for making modifications, corrections or changes in or to the construction work that has been or is to be performed so that the same will comply with the provisions of this Lease, the Construction Application and the approval letter covering the construction work. The Lessee shall not commence construction of the portion of the construction work that has been halted until such written approval has been received.

(7) It is hereby expressly understood and agreed that the Resident Engineer mentioned in subparagraph (6) above does not have any authority to approve any plans and specifications of the Lessee with respect to the construction work, to approve the construction by the Lessee of any portion of the construction work or to agree to any variation by the Lessee from compliance with the terms of the Lease, or the Construction Application or the approval letter with respect to the construction work. Notwithstanding the foregoing, should the Resident Engineer give any directions or approvals with respect to the Lessee's performance of any portion of the construction work which are contrary to the provisions of the Lease, the Construction Application or the approval letter, said directions or approvals shall not affect the obligations of the Lessee as set forth herein nor release or relieve the Lessee from strict compliance therewith. It is hereby further understood and agreed that the Port Authority has no duty or obligation of any kind whatsoever to inspect or police the performance of the construction work by the Lessee and the rights granted to the Port Authority hereunder shall not create or be deemed to create such a duty or obligation. Accordingly, the fact that the Resident Engineer has not exercised the Port Authority's right to require the Lessee to cease its construction of all or any part of the construction work shall not be or be deemed to be an agreement or acknowledgment on the part of the Port Authority that the Lessee has in fact performed such

portion of the construction work in accordance with the terms of the Lease, the Construction Application or the approval letter nor shall such fact be or be deemed to be a waiver by the Port Authority from the requirement of strict compliance by the Lessee with the provisions of the Lease, the Construction Application and the approval letter with respect to the construction work.

(8) No prior approval of any work in connection with the construction work shall create or be deemed to create any obligation on the part of the Port Authority to permit subsequent work to be performed in connection therewith prior to the approval by the Port Authority of the Lessee's complete plans and specifications therefor.

(9) Without limiting the discretion of the Port Authority hereunder, the Port Authority hereby specifically advises the Lessee that even if the Port Authority hereafter in the exercise of its discretion wishes to grant approvals under this paragraph (c), it may be unable to do so, so as to permit the Lessee to continue work without interruption following its completion of the work covered by any prior approval hereunder. The Lessee hereby acknowledges that if it commences work pursuant to this paragraph (c) it shall do so with full knowledge that there may not be continuity by it in the performance of its construction work under the procedures of this paragraph (c).

(d) The Lessee shall give the Port Authority fifteen (15) days' notice prior to the commencement of construction. The Port Authority will assign to the construction work a full time field engineer or engineers. The Lessee shall pay to the Port Authority for the services of said engineer or engineers, the sum of (2.a.) for each day or part thereof that the engineer or engineers are so assigned during the 1993 calendar year; and the sum of for each day or part thereof that the engineer or engineers are so assigned during the calendar year 1994; and the sum of (2.a.) for each day or part thereof that the engineer or engineers are so assigned during the calendar year 1995; and for each and every calendar year thereafter, the rate that the Port Authority shall charge other Aircraft Operators at the Airport for the services of such engineer or engineers during such calendar year for each day or part thereof that the engineer or engineers are so assigned for such calendar year. In the event the said engineer or engineers are assigned for part of a day the aforesaid payment to be made by the Lessee shall be pro rated by multiplying the applicable dollar amount, as aforesaid, by a fraction the numerator of which shall be the number of hours of the day the engineer or engineers were so assigned and the denominator of which shall be eight. Nothing contained herein shall affect any of the provisions of paragraph (g) hereof or the rights of the Port Authority hereunder. This Agreement for the services of said field engineer may be revoked at any time by either party on thirty (30) days' written notice to the

other, but if revoked by the Lessee it shall continue during the period construction under any partial approvals pursuant to paragraph (c) hereof is performed.

(e) (1) The construction work shall be constructed in such a manner that there will be at all times a minimum of air pollution, water pollution or any other type of pollution and a minimum of noise emanating from, arising out of or resulting from the operation, use or maintenance of the premises by the Lessee and from the operations of the Lessee under this Agreement. Accordingly, and in addition to all other obligations imposed on the Lessee under this Agreement and without diminishing, limiting, modifying or affecting any of the same, the Lessee shall be obligated to construct as part of the construction work hereunder such structures, fences, equipment, devices and other facilities as may be necessary or appropriate to accomplish the foregoing and each of the foregoing shall be and become a part of the construction work hereunder.

(2) Notwithstanding the provisions of subparagraph (1) above and in addition thereto, the Port Authority hereby reserves the right from time to time and at any time during the term of the Lease to require the Lessee, subsequent to the completion of the construction work to design and construct at its sole cost and expense such further reasonable structures, fences, equipment, devices and other facilities as maybe necessary or appropriate to accomplish the objectives as set forth in the first sentence of subparagraph (1) hereof. All locations, the manner, type and method of construction and the size of any of the foregoing shall be determined by the Port Authority. The Lessee shall submit for Port Authority approval its plans and specifications covering the required work and upon receiving such approval shall proceed diligently to construct the same. All other provisions of this Section 2 with respect to the construction work shall apply and pertain with like effect to any work which the Lessee is obligated to perform pursuant to this paragraph (e) and upon completion of each portion of such work it shall be and become a part of the premises.

(f) Title to all the construction work shall pass to the City of New York as the same or any part thereof is erected, constructed or installed and the same except as set forth in paragraphs (i) and (j) hereof shall be and become a part of the premises hereunder.

(g) (1) (i) When the Phase I Construction Work is substantially completed and ready for use, the Lessee shall advise the Port Authority to such effect and shall deliver to the Port Authority a certificate by an authorized officer of the Lessee and also signed by the Lessee's licensed architect or engineer certifying that the Phase I Construction Work has been constructed in accordance with the approved plans and specifications and the provisions of the Lease and in compliance with all applicable laws,

ordinances and governmental rules, regulations and orders. Thereafter the Phase I Construction Work will be inspected by the Port Authority and if the same has been completed as certified by the Lessee and the Lessee's licensed architect or engineer, as aforesaid, a certificate to such effect shall be delivered to the Lessee, subject to the condition that all risks thereafter with respect to the construction and installation of the same and any liability therefor for negligence or other reason shall be borne by the Lessee. The Lessee shall not use or permit the use of the Phase I Construction Work for the purposes set forth in the Lease until such certificate is received from the Port Authority, and the Lessee shall not use or permit the use of the Phase I Construction Work or any portion thereof even if such certificate is received if the Port Authority states in any such certificate that the same cannot be used until other specified portions are completed.

(ii) In addition to and without affecting the obligations of the Lessee under the preceding subparagraph, when an integral and material portion of the Phase I Construction Work is substantially completed or is properly usable the Lessee may advise the Port Authority to such effect and may deliver to the Port Authority a certificate by an authorized officer of the Lessee and also signed by the Lessee's licensed architect or engineer certifying that such portion of the Phase I Construction Work has been constructed in accordance with the approved plans and specifications and the provisions of the Lease and in compliance with all applicable laws, ordinances and governmental rules, regulations and orders, and specifying that such portion of the Phase I Construction Work can be properly used even though the Phase I Construction Work has not been completed and that the Lessee desires such use. The Port Authority may in its sole discretion deliver a certificate to the Lessee with respect to each such portion of the Phase I Construction Work permitting the Lessee to use such portion thereof for the purposes set forth in the Lease. In such event the Lessee may use such portion subject to the condition that all risks thereafter with respect to the construction and installation of the same and any liability therefor for negligence or other reason shall be borne by the Lessee, and subject to the risks as set forth in paragraph (c) hereof in the event that the Port Authority shall not have then approved the complete plans and specifications for the Phase I Construction Work. Moreover, at any time prior to the issuance of the certificate required in subparagraph (i) above for the Phase I Construction Work, the Lessee shall promptly upon receipt of a written notice from the Port Authority cease its use of such portion of the Phase I Construction Work which it had been using pursuant to permission granted in this subparagraph (ii).

(2) (i) When the Phase II Construction Work is substantially completed and ready for use, the Lessee shall advise the Port Authority to such effect and shall deliver to the Port Authority a certificate by an authorized officer of the Lessee and also signed by the Lessee's licensed architect or engineer

certifying that the Phase II Construction Work has been constructed in accordance with the approved plans and specifications and the provisions of this Lease and in compliance with all applicable laws, ordinances and governmental rules, regulations and orders. Thereafter the Phase II Construction Work will be inspected by the Port Authority and if the same has been completed as certified by the Lessee and the Lessee's licensed architect or engineer, as aforesaid, a certificate to such effect shall be delivered to the Lessee, subject to the condition that all risks thereafter with respect to the construction and installation of the same and any liability therefor for negligence or other reason shall be borne by the Lessee. The Lessee shall not use or permit the use of the Phase II Construction Work for the purposes set forth in the Lease until such certificate is received from the Port Authority, and the Lessee shall not use or permit the use of the Phase II Construction Work or any portion thereof even if such certificate is received if the Port Authority states in any such certificate that the same cannot be used until other specified portions are completed.

(ii) In addition to and without affecting the obligations of the Lessee under the preceding subparagraph (i), when an integral and material portion of the Phase II Construction Work is substantially completed or is properly usable the Lessee may advise the Port Authority to such effect and may deliver to the Port Authority a certificate by an authorized officer of the Lessee and also signed by the Lessee's licensed architect or engineer certifying that such portion of the Phase II Construction Work has been constructed in accordance with the approved plans and specifications and the provisions of the Lease and in compliance with all applicable laws, ordinances and governmental rules, regulations and orders, and specifying that such portion of the Phase II Construction Work can be properly used even though the Phase II Construction Work has not been completed and that the Lessee desires such use. The Port Authority may in its sole discretion deliver a certificate to the Lessee with respect to each such portion of the Phase II Construction Work permitting the Lessee to use such portion thereof for the purposes set forth in the Lease. In such event the Lessee may use such portion subject to the condition that all risks thereafter with respect to the construction and installation of the same and any liability therefor for negligence or other reason shall be borne by the Lessee, and subject to the risks as set forth in paragraph (c) hereof in the event that the Port Authority shall not have then approved the complete plans and specifications for the Phase II Construction Work. Moreover, at any time prior to the issuance of the certificate required in subparagraph (i) above for the Phase II Construction Work, the Lessee shall promptly upon receipt of a written notice from the Port Authority cease its use of such portion of the Phase II Construction Work which it had been using pursuant to permission granted in this subparagraph (ii).

(3) The term "Phase I Completion Date" for the purposes of the Lease shall mean the date appearing on the

certificate issued by the Port Authority pursuant to subparagraph (1) (i) of this paragraph (g) after the substantial completion of the Phase I Construction Work and the term "Phase II Completion Date" for the purposes of the Lease shall mean the date appearing on the certificate issued by the Port Authority pursuant to subparagraph (2) (i) of this paragraph (g) after the substantial completion of the Phase II Construction Work.

(h) The Lessee acknowledges that it will be continuing its operations at the existing premises under the Lease during the period of time it is performing the construction work hereunder. The Lessee further acknowledges that this may involve among other things inconvenience, noise, dust, interference and disturbance to the Lessee in its operations at the premises as well as to its customers, patrons, invitees and employees and possibly other risks as well. The Lessee hereby expressly assumes all of the foregoing risks and agrees that there will be no reduction or abatement of any of the rentals, fees or charges payable by the Lessee under the Lease on account of its performance of the construction work and that the performance of the construction work shall not constitute an eviction or constructive eviction of the Lessee nor be grounds for any abatement of rents, fees or charges payable by the Lessee under the Lease nor give rise to or be the basis of any claim or demand by the Lessee against the Port Authority, its Commissioners, officers, employees or agents for damages, consequential or otherwise.

(i) The Lessee understands that there may be communications and utility lines and conduits located on or under the premises which do not, and may not in the future, serve the premises. The Lessee agrees at its sole cost and expense, if directed by the Port Authority so to do as appropriate or necessary to the construction work or arising therefrom, to relocate and reinstall such communications and utility lines and conduits on the premises or off the premises as directed by the Port Authority and to restore all affected areas (such work being hereinafter collectively called "the relocation work"). The Lessee shall perform the relocation work subject to and in accordance with all the terms and provisions of this Section 2 and the relocation work shall be and become a part of the construction work, it being understood, however, that the relocation work shall not be or become a part of the premises hereunder.

(j) The Port Authority shall have no responsibility for bringing to the premises any service lines for the supply of cold water, electric power, and sanitary and storm sewers, or any other utility or service lines, (said service lines and sanitary and storm sewers being hereinafter collectively referred to as the "utility service lines") except for the utility service lines that may be serving the premises at the time of the effective date of the Lease and any lines necessary or appropriate for the cogeneration system as stated in Section 53A. If the Lessee determines that it will require that additional utility service lines be brought to the

premises or that the capacity of one or more of the existing utility service lines serving the premises be greater than the capacity which existed at the effective date of the Lease, the Lessee shall submit to the Port Authority for the Port Authority's approval a Tenant Alteration Application covering the work to provide the additional utility service line capacity to the premises (hereinafter called the "off-site utility service line work") which work when and if approved by the Port Authority shall be performed by the Lessee at the Lessee's sole cost and expense in accordance with all the terms and provisions of Section 2 of the Lease provided, however, that the off-site utility service line work shall not be or become a part of the premises hereunder.

Section 3. Term

(a) The term of the letting under this Agreement shall commence on January 1, 1993.

(b) Unless sooner terminated, the term of the letting under this Agreement shall expire on November 30, 2015.

Section 3A. Effect of Extension of the Basic Lease

(a) Without limiting Sections 3, 36 and 40 hereof or any other term, provision, covenant and condition of this Agreement, the Port Authority, but only in the event there is a Basic Lease Extension Supplement (as hereinafter defined), hereby agrees to extend the term of the letting hereunder from the expiration date set forth in Section 3 hereof (November 30, 2015) to December 31, 2017, said date being herein referred to as the "Extension Date"; subject, however, to the following additional terms and conditions:

(1) The Lease shall immediately prior to the effective date of the Basic Lease Extension Supplement and immediately prior to the date of the Port Authority's execution and delivery of the Lease Supplement be in full force and effect;

(2) The Lessee immediately prior to the effective date of the Basic Lease Extension Supplement and immediately prior to the date of the Port Authority's execution and delivery of the Lease Supplement shall be in full compliance with all of the terms, provisions, covenants and conditions of this Agreement on its part to be kept, performed and observed and not be in default or breach of any of the same; or, to the extent the Lessee has been granted a period to cure such default or breach by paragraph (a) of Section 26 of the Lease prior to such default or breach giving rise to the right of the Port Authority to terminate the Lease, the Lessee shall be in the process of curing such default or breach in compliance with the terms and conditions of said paragraph (a);

(3) There shall not have occurred any event of termination under any term or provision of this Agreement including without limitation Sections 22, 23, 26, 49, 77 or 88 hereof;

(4) There shall not have occurred any assignment of the Lease under Section 24 hereof;

(5) The Lessee shall have completed the construction work and made the Capital Investment Amounts as defined in and in accordance with and at the times stated in Sections 2 and 88 of the Lease.

(6) The Lessee shall submit to the Port Authority such written representations, warranties and certifications, as may be reasonably requested by the Port Authority, which the Lessee shall then make as to each of the matters set forth in subparagraphs (1) through (5) above.

(7) (i) The Port Authority shall have no obligation whatsoever to the Lessee or to any other person or entity to extend the term of the letting hereunder to the Extension Date or to extend the term of the letting of the Basic Lease or to enter into the Lease Supplement unless the Basic Lease Extension Supplement is fully entered into and is in full force and effect prior to November 30, 2015.

(ii) As used herein the term "Basic Lease Extension Supplement" shall mean an agreement fully and duly executed by the Port Authority and the City of New York in a form satisfactory to the Port Authority and the City of New York and which has been fully and duly authorized by the Board of Commissioners of the Port Authority and with the approval of the authorized officials and entities of the City of New York and which supplements and amends the Basic Lease (as defined in Section 81 hereof) whereby the Basic Lease and the term of the letting thereunder is extended from December 31, 2015 to an expiration date occurring not earlier than December 31, 2017;

(8) If the term of the Lease and the letting thereunder is on a month-to-month periodical basis pursuant to Section 24 or Section 77 hereof immediately prior to the effective date of the Basic Lease Extension Supplement or immediately prior to the date of the Port Authority's execution and delivery of the Lease Supplement then the Lease and the term of the letting thereunder shall not be extended on a fixed term basis but shall continue on a month-to-month periodical basis (subject to said Section 24 or said Section 77, as applicable) but shall terminate and expire in any event

without notice to or from either party on the day preceding the expiration date of the Basic Lease as set forth in the Basic Lease Extension Supplement unless sooner terminated;

(9) If and only in the event there is a Basic Lease Extension Supplement, as aforesaid, the Extension Date of the term of the letting hereunder shall be set forth in a supplement to this Agreement prepared by the Port Authority and sent to the Lessee for execution by it; which supplement shall be effective as of the day preceding the expiration date of the term of the letting hereunder, as set forth in Section 3 hereof, and shall include such other additional terms and provisions as the Port Authority may determine appropriate; it being understood that such supplement shall not change the location or size of the premises or the rentals hereunder, provided, however, notwithstanding the foregoing such supplement may require the Lessee to pay to the Port Authority any or all of the Port Authority's increased costs under the Basic Lease Extension Supplement directly attributable or related to the premises hereunder, the Lease or the Lessee. Within thirty (30) days after the Port Authority has sent the said proposed supplement to the Lessee, the Lessee shall properly execute and return the said proposed supplement to the Port Authority for its execution and delivery. In the event the Lessee fails so to properly execute and return the said proposed supplement to the Port Authority then the Port Authority shall have no further obligation with respect to the proposed extension of the letting hereunder and there shall be no Extension Date. If the said supplement is fully executed and delivered by both the Port Authority and the Lessee, the same shall be deemed the "Lease Supplement" as such term is used herein;

(10) (i) Nothing herein shall impose or be deemed to impose any obligation, duty, responsibility or liability whatsoever on the Port Authority to enter into the Basic Lease Extension Supplement or to enter into, hold or continue any discussions or negotiations with the City of New York or any other person or entity with respect thereto or with respect to any extension of the Basic Lease. The Port Authority shall have full, complete and sole right and discretion to discuss, negotiate and to enter into or not enter into any agreement with the City of New York for the extension of the term of the Basic Lease and as to any and all of the terms and conditions of any such extension agreement, and neither this Section nor anything contained herein shall or shall be deemed to impair, limit or affect the said right and discretion of the Port Authority nor to grant to the Lessee or any other person or entity any

right, claim or remedy hereunder or otherwise with respect to the Basic Lease or any extension or non-extension of the term thereof or with respect to the extension of the term of this Agreement, except in accordance with the terms and provisions of this Section 3A in the event there is a Basic Lease Extension Supplement. The Lessee hereby expressly understands, acknowledges, agrees and accepts that the Port Authority hereby makes no promises, representations, assurances, agreements or commitments of any kind whatsoever that it will undertake or enter into any discussions, negotiations, or agreements with the City of New York or any other person or entity with respect to the extension of the Basic Lease.

(ii) This Lease including the Lease Supplement shall at all times be subject and subordinate to the Basic Lease (as the same may be amended, supplemented and extended including without limitation the Basic Lease Extension Supplement) and to any and all terms and provisions thereof which affect or may affect the terms and provisions of this Lease, as the same may be amended, supplemented or extended (including without limitation the Lease Supplement); it being understood and agreed that nothing in this subparagraph (ii) shall alter or affect or be deemed to have altered or affected the terms and conditions of Section 36 of the Lease.

(iii) It is expressly understood and agreed that the Port Authority shall have no obligation hereunder or otherwise to make any payment to the Lessee, including without limitation any payment of the Lessee's Unamortized Phase I Capital Investment or Unamortized Phase II Capital Investment, in the event for any reason there is no extension of the term of the letting hereunder beyond the expiration date set forth in Section 3 hereof, and that neither this Section nor anything contained herein nor any action taken or not taken hereunder or as a result hereof shall or shall be deemed to impose any such obligation on the Port Authority or to constitute any agreement, duty, responsibility or liability of the Port Authority for any such payment.

(b) Neither this Section 3A nor any action taken or not taken hereunder under this Section 3A or as a result hereof shall or shall be deemed to release or relieve the Lessee from any liability or obligation to the Port Authority or to waive, alter, limit or restrict any of the rights or remedies of the Port Authority in law or in equity.

Section 4. Rentals

I. (a) Ground Rentals: Area IA Ground Rental

(1) The term "Rental Commencement Date" shall mean the date of the commencement of the term of the letting under this Agreement as such date is set forth in paragraph (a) of Section 3 hereof.

(2) For the portion of the term of the letting hereunder commencing on the Rental Commencement Date to and including December 31, 1993, the Lessee hereby agrees to and shall pay to the Port Authority ground rental for Area IA (hereinafter referred to as the "Area IA Ground Rental"), at the annual rate of (2.a.)

(b) CPI Adjustments:

The following terms as used in this Section 4 shall have the respective meanings given below:

(1) "CPI" or "Consumer Price Index" shall mean the Consumer Price Index for all Urban Consumers, New York-Northern New Jersey, Long Island, NY- NJ-CT, (All Items unadjusted 1982-84=100) published by the Bureau of Labor Statistics of the United States Department of Labor.

(2) The Port Authority shall ascertain the CPI for the month in which the Rental Commencement Date occurs and for the month in which the first year anniversary of the Rental Commencement Date occurs and for the same calendar month in each year thereafter during the term of this Agreement after the same has been published, and the Port Authority shall also determine the annual percentage increase, if any, for each such twelve month period after the same has been published (hereinafter called "the annual CPI percentage increase").

(3) Effective on January 1, 1994, the Area IA Ground Rental set forth above in paragraph (a) of this subdivision I of this Section 4 shall be increased in accordance with the following computation: (i) the annual rental rate as set forth in said paragraph (a) shall be multiplied by a percentage composed of 1/2 of the annual CPI percentage increase, if any, for the latest twelve month period using the same calendar month in accordance with subparagraph (2) above plus (2.a.) ; and (ii) the annual rental rate as set forth in said paragraph (a) (2) shall be multiplied by (2.a.) ; and the greater of the two products so obtained by the calculations set forth in the foregoing clauses (i) and (ii) shall be and become the annual Area IA Ground Rental in effect for the annual period commencing on January 1, 1994 and ending on December 31, 1994.

(4) Effective on January 1, 1995 and thereafter on the first day of the month in each succeeding year during the term of the letting hereunder the Area IA Ground Rental set forth in paragraph (a) (2) of this subdivision I of this Section 4

shall be increased in accordance with the following computation: (i) the annual rental rate as set forth in said paragraph (a) as the same may have been last adjusted hereunder, shall be multiplied by a percentage composed of 1/2 of the annual CPI percentage increase, if any, as determined for the latest twelve month period using the same calendar month in accordance with subparagraph (2) above plus (2.a.) (ii) and the said annual rental rate as set forth in said paragraph (a) as the same may have been last adjusted hereunder shall be multiplied by (2.a.); and the greater of the two products so obtained by the calculations set forth in the foregoing clauses (i) and (ii) shall be and become the Area IA Ground Rental in effect for the annual period ending on the last day of the immediately succeeding twelfth month.

(5) In the event that the Consumer Price Index is not available for any specified month as hereinabove set forth within the time set forth for payment such index for the latest month then published shall be used to constitute the Consumer Price Index. In the event of the change of basis or the discontinuance of the publication by the United States Department of Labor of the Consumer Price Index such other appropriate index or indexes shall be substituted as may be agreed by the parties hereto as properly reflecting changes in the value of the current United States money in a manner similar to that established in the said indexes used in the latest adjustment. In the event of the failure of the parties to so agree, the Port Authority may select and use such index or indexes which have reasonably mirrored the Consumer Price Index for the preceding five years as it deems appropriate, provided, however, that the foregoing shall not preclude the Lessee from contesting the Port Authority's selection.

(6) In no event shall any Area IA Ground Rental rate established under this paragraph (b) be less than the Area IA Ground Rental rate it supersedes.

(c) Ground Rentals: Area IB Ground Rental

(1) For the portion of the term of the letting hereunder commencing on the Rental Commencement Date to and including April 30, 1998, the Lessee hereby agrees to and shall pay to the Port Authority ground rental for Area IB (hereinafter referred to as "Area IB Ground Rental") at the annual rate of

(2.a.)

(2) Effective on May 1, 1998 to and including December 31, 1998, the annual rate of the Area IB Ground Rental set forth in subparagraph (1) above shall be increased and shall equal the product produced by multiplying the exact number of acres (including fractional portions) of Area IB as measured by the Port Authority prior to the commencement date of the term of the letting hereunder as such date is set forth in Section 3 (a) hereof (48.3497 acres) times the 1998 Area IA Ground Rental Rate.

For purposes of the foregoing, the "1998 Area IA Ground Rental Rate" shall mean the annual per acre ground rental rate equal to the quotient resulting from dividing the annual Area IA Ground Rental in effect for the 1998 calendar year under and pursuant to subparagraph (4) of paragraph (b) above by the exact number of acres (including fractional portions) of Area IA as measured by the Port Authority prior to the commencement date of the term of the letting hereunder as such date is set forth in Section 3 (a) hereof (22.0652 acres).

(3) Effective on January 1, 1999 and thereafter on the first day of the month in each succeeding year during the term of the letting hereunder (as such term may be extended pursuant to and under Section 3A hereof) the Area IB Ground Rental set forth in paragraph (c)(2) of this Subdivision I of this Section 4 shall be increased in accordance with the following computation: (i) the annual rental rate of the Area IB Ground Rental as set forth in said paragraph (c)(2) as the same may have been last adjusted hereunder, shall be multiplied by a percentage composed of 1/2 of the annual CPI percentage increase, if any, as determined for the latest twelve month period using the same calendar month in accordance with subparagraph (2) of paragraph (b) above plus (2.a.); (ii) and the said annual rental rate as set forth in said paragraph (c)(2) as the same may have been last adjusted hereunder shall be multiplied by (2.a.) and the greater of the two products so obtained by the calculations set forth in the foregoing clauses (i) and (ii) shall be and become the Area IB Ground Rental in effect for the annual period ending on the last day of the immediately succeeding twelfth month.

(4) In the event that the Consumer Price Index is not available for any specified month as hereinabove set forth within the time set forth for payment such index for the latest month then published shall be used to constitute the Consumer Price Index. In the event of the change of basis or the discontinuance of the publication by the United States Department of Labor of the Consumer Price Index such other appropriate index or indexes shall be substituted as may be agreed by the parties hereto as properly reflecting changes in the value of the current United States money in a manner similar to that established in the said indexes used in the latest adjustment. In the event of the failure of the parties to so agree, the Port Authority may select and use such index or indexes which have reasonably mirrored the Consumer Price Index for the preceding five years as it deems appropriate, provided, however, that the foregoing shall not preclude the Lessee from contesting the Port Authority's selection.

(5) In no event shall any Area IB Ground Rental rate established under this paragraph (c) be less than the Area IB Ground Rental rate it supersedes.

(d) Ground Rentals: Time of Payments

The Area IA Ground Rental and the Area IB Ground Rental (collectively the "Ground Rentals") hereunder shall be payable by the Lessee in advance in equal monthly installments on the first day of the term of the letting (the Rental Commencement Date) and on the first day of each and every calendar month thereafter during the balance of the term of the letting. If the commencement date for the payment of Ground Rentals herein be other than the first day of the month, or if any installment of Ground Rentals payable hereunder shall be for less than a full calendar month, then the rental payment for the portion of the month for which said payment is due shall be the monthly installment prorated on a daily basis using the actual number of days in the said month.

(e) Ground Rentals: Abatement

In the event that the Lessee shall at any time by the provisions of this Agreement become entitled to an abatement of Ground Rentals, said abatement shall be computed as follows (it being understood that there shall be no abatement of Ground Rentals under the Lease for any portion of the premises or for any portion of the term except as specifically provided herein):

(i) For each square foot of land of Area IA as shown in stipple hatch and in diagonal hatch designated Area 2 and Area 3 on Exhibit A the use of which is denied to the Lessee as follows:

(1) For the portion of the term from the Rental Commencement Date through December 31, 1993 at the daily rate of $

(2) For the portion of the term from January 1, 1994 to November 30, 2015 at the daily rate of $ (2.a.) as appropriately adjusted to reflect any and all CPI Adjustments pursuant to paragraph (b) above.

(ii) For each square foot of land of Area IB as shown in stipple and in diagonal hatch designated Area 4 and Area 5 on Exhibit A the use of which is denied to the Lessee as follows:

(1) For the portion of the term from the Rental Commencement Date to April 30, 1998 at the daily rate of $ (2.a.)

(2) For the portion of the term from May 1, 1998 to December 31, 1998 at the daily rate equal to the amount resulting from the following calculation:

$$\text{Daily Rate} = \frac{\dfrac{\text{Area IA Ground Rental Rate}}{365}}{43{,}560}$$

(3) For the portion of the term from January 1, 1999 to November 30, 2015 (as such date may be extended pursuant to and under Section 3A hereof) at the daily rate equal to the amount of the daily rate calculated pursuant to item (2) of this clause (ii) as appropriately adjusted to reflect any and all CPI Adjustments pursuant to paragraph (c) above.

II. Facility Rentals

(a) Area IA Facility Rental

(1) For the portion of the term of the letting hereunder commencing on the Rental Commencement Date (as defined in paragraph (a)(1) of Subdivision I above) to and including December 31, 1997, the Lessee hereby agrees to and shall pay to the Port Authority a facility rental for Area IA (hereinafter referred to as "Area IA Facility Rental") at the annual rate of

(2.a.)

(2) For the portion of the term of the letting hereunder commencing on January 1, 1998 to and including December 31, 2002, the Lessee hereby agrees to and shall pay to the Port Authority Area IA Facility Rental at the annual rate of (2.a.)

);

(3) For the portion of the term of the letting hereunder commencing on January 1, 2003 to and including December 31, 2007, the Lessee hereby agrees to and shall pay to the Port Authority Area IA Facility Rental at the annual rate of (2.a.)

(4) For the portion of the term of the letting hereunder commencing on January 1, 2008 to and including December 31, 2012, the Lessee hereby agrees to and shall pay to the Port Authority Area IA Facility Rental at the annual rate of (2.a.)

(5) For the portion of the term of the letting hereunder commencing on January 1, 2013 to and including the expiration date of the letting hereunder (November 30, 2015 as such date may be extended pursuant to and under Section 3A hereof), the Lessee hereby agrees to and shall pay to the Port Authority Area IA Facility Rental at the annual rate of (2.a.)

(b) Area IB Facility Rental

(1) For the portion of the term of the letting hereunder commencing on the Rental Commencement Date (as defined in paragraph (a) (1) of Subdivision I hereof), to and including April 30, 1998 the Lessee hereby agrees to and shall pay to the Port Authority a facility rental for Area IB (hereinafter called "Area IB Facility Rental") at the annual rate of (2.a.)

it being understood and agreed that during the aforesaid portion of the term the Area IB Facility Rental applies only to that portion of Building 53 in Area IB as shown in stipple on Exhibit C attached hereto and hereby made a part hereof;

(2) For the portion of the term of the letting hereunder commencing on May 1, 1998 to and including December 31, 2002, the Lessee hereby agrees to and shall pay to the Port Authority Area IB Facility Rental at the annual rate of (2.a.)

(3) For the portion of the term of the letting commencing on January 1, 2003 to and including December 31, 2007, the Lessee hereby agrees to and shall pay to the Port Authority Area IB Facility Rental at the annual rate of (2.a.)

(4) For the portion of the term of the letting hereunder commencing on January 1, 2008 to and including December 31, 2012, the Lessee hereby agrees to and shall pay to the Port Authority Area IB Facility Rental at the annual rate of (2.a.)

(5) For the portion of the term of the letting hereunder commencing on January 1, 2013 to and including the expiration date of the term of the letting (November 30, 2015 as such date may be extended pursuant to and under Section 3A hereof), the Lessee hereby agrees to and shall pay to the Port Authority Area IB Facility Rental at the annual rate of (2.a.)

(c) Facility Rentals: Time of Payments

The Area IA Facility Rental and the Area IB Facility Rental (the "Facility Rentals") hereunder shall be payable by the Lessee in advance in equal monthly installments commencing on the Rental Commencement Date and on the first day of each and every calendar month thereafter during the balance of the term of the letting. If the commencement date for the

payment of Facility Rentals herein be other than the first day of the month, or if any installment of Facility Rentals payable hereunder shall be for less than a full calendar month, then the rental payment for the portion of the month for which said payment is due shall be the monthly installment prorated on a daily basis using the actual number of days in the said month.

(d) Facility Rentals: Abatement

In the event that the Lessee shall at any time by the provisions of this Agreement become entitled to an abatement of the Area IA Facility Rental or the Area IB Facility Rental, said abatement shall be computed as follows (it being understood that there shall be no abatement of Facility Rentals under the Lease for any portion of the premises or for any portion of the term except as specifically provided herein):

(i) As to the Area IA Facility Rental: for each square foot of interior building space in Building 54 in Area IA the use of which is denied to the Lessee as follows:

(1) For the portion of the term from the Rental Commencement Date through December 31, 1997 at the daily rate of $ (2.a.)

(2) For the portion of the term from January 1, 1998 through December 31, 2002 at the daily rate of $ (2.a.)

(3) For the portion of the term from January 1, 2003 through December 31, 2007 at the daily rate of $ (2.a.)

(4) For the portion of the term from January 1, 2008 through December 31, 2012 at the daily rate of $ (2.a.)

(5) For the portion of the term from January 1, 2013 through November 30, 2015 (as such date may be extended pursuant to and under Section 3A hereof) at the daily rate of $ (2.a.)

(ii) As to the Area IB Facility Rental: For each square foot of interior building space in Building 53 in Area IB the use of which is denied to the Lessee as follows provided, however that as to the portion of the term described in the following item (1) such abatement shall apply only to each square foot of interior building space in the portion of Building 53 as shown in stipple on Exhibit C:

(1) For the portion of the term from the Rental Commencement Date through April 30, 1998 at the daily rate of $ (2.a.)

(2) For the portion of the term from May 1, 1998 through December 31, 2002 at the daily rate of $ (2.a.)

(3) For the portion of the term from January 1, 2003 through December 31, 2007 at the daily rate of $ (2.a.)

(4) For the portion of the term from January 1, 2008 through December 31, 2012 at the daily rate of $ (2.a.)

(5) For the portion of the term from January 1, 2013 through November 30, 2015 (as such date may be extended pursuant to and under Section 3A hereof) at the daily rate of $ (2.a.)

III. Additional Facility Rentals

(A) First Additional Facility Rental: The Lessee shall pay to the Port Authority as First Additional Facility Rental under the Lease the amounts set forth in the Schedule attached hereto, hereby made a part hereof and marked "Schedule R-1R" such amounts to be paid by the Lessee to the Port Authority at the times and rates set forth in said Schedule R-1R.

The Port Authority and the Lessee expressly recognize and agree that the First Additional Facility Rental is based upon the Port Authority's Cost of the PBGC Assignment (as defined in the Prior Sublease as amended and supplemented by the First Supplemental Agreement to Sublease as defined in Section 86 hereof) plus the application of an agreed upon factor applied thereto. For purposes of the foregoing, the "Port Authority's Cost of the PBGC Assignment" shall have the same meaning as that set forth in the definition thereof in the Prior Sublease as amended and supplemented by the First Supplemental Agreement to Sublease (as defined in Section 86 hereof) and said definition is hereby incorporated herein by said reference.

(B) Second Additional Facility Rental: The Lessee shall pay to the Port Authority as Second Additional Facility Rental under the Lease the amounts set forth in the Schedule attached hereto, hereby made a part hereof and marked "Schedule R-2R" such amounts to be paid by the Lessee to the Port Authority at the times and rates set forth in said Schedule R-2R.

The Port Authority and the Lessee expressly recognize and agree that the Second Additional Facility Rental is based upon the "Cost of the Sublessee's Flight Center Improvement Work" as such term is set forth and defined in the Prior Sublease as amended and supplemented by the First Supplemental Agreement to Sublease as defined in Section 86 hereof, and said definition is hereby incorporated herein by said reference (i.e. the sum of $) (referred to in Schedule R-2R as the "Cost of the Lessee's Initial Flight Center Improvement Work) plus the application of an agreed upon factor applied thereto.

(C) Other Additional Facility Rentals

(1) Definitions

The following terms as used herein shall have the respective meanings given below:

(i) "Other Additional Facility Rental" shall mean an Additional Facility Rental payable by the Lessee to the Port Authority, pursuant to and calculated in accordance with the terms hereof, with respect to each Construction Payment Amount (as defined in Section 89 hereof), and each such Other Additional Facility Rental shall be in addition to all other rentals and payments to be paid by the Lessee hereunder, including without limitation the Facility Rentals, the First Additional Facility Rental and the Second Additional Facility Rental hereinabove set forth ; and the term "Other Additional Facility Rentals" shall mean the plural form of Other Additional Facility Rental and include one or more than one such Other Additional Facility Rental.

(ii) "Other Additional Facility Rental Commencement Date" shall mean, with respect to each Other Additional Facility Rental which is established on the basis of each Construction Payment Amount, the first day of the month immediately succeeding the month in which the Construction Payment Date (as defined in Section 89) applicable to such Construction Payment Amount occurs.

(iii) "Other Additional Facility Rental First Payment Period" or "First Payment Period" shall mean with respect to each Other Additional Facility Rental a period of twenty-four consecutive calendar months commencing on the Other Additional Facility Rental Commencement Date applicable to such Other Additional Facility Rental.

(iv) "Other Additional Facility Rental Second Payment Period" or "Second Payment Period" shall mean with respect to each Other Additional Facility Rental the period commencing on the first day of the twenty-fifth consecutive calendar month following the Other Additional Facility Rental Commencement Date applicable to such Other Additional Facility Rental and ending on December 31, 2007.

(v) "Other Additional Facility Rental Third Payment Period" or "Third Payment Period" shall mean with respect to each Other Additional Facility Rental the period commencing on January 1, 2008 and ending on November 30, 2015.

(vi) "Monthly Other Additional Facility Rental First Payment Period Factor" for each First Payment Period of each Other Additional Facility Rental shall mean the factor

or factors equivalent to the quotient resulting from dividing the "Fixed RBI Rate" (as hereinafter defined in item (ix) below) by 12.

(vii) "Monthly Other Additional Facility Rental Second Payment Period Factor" for each Second Payment Period of each Other Additional Facility Rental shall mean the factor or factors equivalent to the monthly percentage rate equal to the quotient resulting from dividing the sum of (x) the Fixed RBI Rate (as hereinafter defined in item (ix) below), and (y) one hundred fifty (150) basis points (that is 1.5%), by 12.

(viii) "Monthly Other Additional Facility Rental Third Payment Period Factor" for each Third Payment Period of each Other Additional Facility Rental shall mean the factor or factors derived in accordance herewith from time to time by the application of the following formula:

$$\frac{1}{\frac{1}{\frac{i}{12}} - \frac{1}{\frac{i}{12}\left(1 + \frac{i}{12}\right)^{t}}}$$

= Monthly Other Additional Facility Rental Third Payment Period Factor

Where t (a power) equals 120 and where i is an annual percentage rate equal to the sum of (x) the Fixed RBI Rate (as herein defined in item (ix) below), and (y) one hundred fifty (150) basis points (that is 1.5%).

(ix) "Fixed RBI Rate" as applicable to and determined for each Other Additional Facility Rental hereunder shall mean the percentage reported as the weekly index of the Bond Buyer Revenue Bond Index as reported in the publication "The Bond Buyer" during the calendar week immediately preceding the Construction Payment Date of the applicable Other Additional Facility Rental. In the event that the Bond Buyer or its weekly Bond Buyer Revenue Bond Index shall be discontinued during the term of this Agreement, a comparable substitute for such Index shall be mutually agreed upon in writing by the Lessee and the Port Authority within thirty (30) days after such discontinuance. In the event that the Lessee and the Port Authority shall fail to agree upon such a substitute within the time hereinabove specified then upon notice of either party such dispute shall be disposed of by arbitration in accordance with then existing rules of the American Arbitration Association or any successor association. One half of the cost of said arbitration shall be

borne by the Port Authority and the other half of said cost shall be borne by the Lessee.

(2) Computation and Payment of the Other Additional Facility Rentals

(a) With respect to each Construction Payment Amount (as defined in Section 89 hereof) the following shall apply:

Commencing on the Other Facility Rental Commencement Date as determined for each Other Additional Facility Rental as aforesaid, the Lessee shall pay to the Port Authority a rental with respect to each Construction Payment Amount (herein called Other Additional Facility Rental) and each such Other Additional Facility Rental shall be payable as follows:

(i) On the first day of each and every calendar month during each First Payment Period applicable to each Other Additional Facility Rental, the Lessee shall pay to the Port Authority as Other Additional Facility Rental an amount equal to the product obtained by multiplying the Monthly Other Additional Facility Rental First Payment Period Factor by the applicable Construction Payment Amount, as such Construction Payment Amount is determined with respect to the applicable Construction Payment made by the Port Authority to the Lessee in accordance with Section 89 hereof;

(ii) On the first day of each and every calendar month during each Second Payment Period applicable to each Other Additional Facility Rental the Lessee shall pay to the Port Authority as Other Additional Facility Rental an amount equal to the product obtained by (x) first multiplying 1.0304352 by the Construction Payment Amount used in the computation of the Other Additional Facility Rental under the foregoing item (i) of this subparagraph (a) and (y) by multiplying the product obtained under the foregoing clause (x) by the Monthly Other Additional Facility Rental Second Payment Period Factor;

(iii) On the first day of each and every calendar month during each Third Payment Period applicable to each Other Additional Facility Rental (excluding November 1, 2015) the Lessee shall pay to the Port Authority as Other Additional Facility Rental an amount equal to the product obtained by (x) first multiplying 1.0304352 by the Construction Payment Amount used in the computation of the Other Additional Facility Rental under the foregoing item (i) of this subparagraph (a) and (y) by multiplying the product obtained under the foregoing clause (x) by the Monthly Other Additional Facility Rental Third Payment Period Factor;

(iv) On November 1, 2015, the Lessee shall pay to the Port Authority a single final installment of each Other Additional Facility Rental hereunder, in such amount as shall be set forth in the applicable Other Additional Facility Rental Schedule referred to in subparagraph (c) below; it being expressly recognized and agreed that such final installment of each Other Additional Facility Rental shall be determined in the same manner as used to calculate the final payment amount set forth in Schedule R-2R attached hereto. It is recognized that in the event the term of the letting hereunder is extended pursuant to and in accordance with Section 3A hereof the Lease Supplement (as defined in said Section 3A) will contain appropriate provisions with respect to the said final installment payment of each Other Additional Facility Rental.

(b) It is expressly understood and agreed that the provisions of this Subdivision III of this Section 4 are intended to establish an Additional Facility Rental, each of which is denominated herein as an "Other Additional Facility Rental", with respect to each and every Construction Payment Amount (as defined in and determined in accordance with Section 89 hereof) and that each such Other Additional Facility Rental shall be subject to, computed under, and paid by the Lessee in accordance with the terms hereof and that each such Other Additional Facility Rental shall be at an annual rate equal to the product obtained by multiplying the monthly amount thereof by 12.

(c) It is further agreed, in addition to and without limiting any term or provision hereof, that as soon as practicable after each Construction Payment (as defined in Section 89 hereof) is made by the Port Authority, the Port Authority will prepare a Schedule setting forth, the actual dollar amounts of the Other Additional Facility Rental which is based on such Construction Payment, which Schedule shall be in the form of Schedule R-2R attached hereto, in accordance with the foregoing provisions of this Subdivision III of this Section 4 and which Schedule shall set forth the annual rental rates and the monthly installments of each such Other Additional Facility Rental. After the preparation of each such Schedule the Port Authority shall send a copy of the same to the Lessee and the Lessee shall, for identification purposes solely, initial a copy of the same and promptly return it to the Port Authority; provided, however, that nothing in this subparagraph (c) nor any failure of the Port Authority to send such Schedule, nor any failure by the Lessee to initial or return the same to the Port Authority, nor anything contained in such Schedule shall impair, release or relieve the Lessee from any of its obligations hereunder, including without limitation its obligations to pay all Other Additional Facility Rentals at the times, rates and amounts called for under this Subdivision III of this Section 4.

(d) In the event that a Port Authority audit shall disclose that the Lessee has expended in the Cost of the Phase I

Construction Work or the Cost of the Phase II Construction Work under Section 89 hereof amounts which total less than the total of all Construction Payments made to the Lessee hereunder up to the time of such audit then, upon demand of the Port Authority, the Lessee shall immediately pay to the Port Authority an amount equal to the difference between the amounts expended by the Lessee as disclosed by the Port Authority audit and the aforesaid amount of the total of all Construction Payments made to the Lessee and effective from and after such date of payment the Construction Payment Amount(s) shall be reduced by the amount of such payment and the Other Additional Facility Rental(s) applicable thereto and payable by the Lessee shall be adjusted appropriately hereunder.

(e) It is further understood and agreed that notwithstanding the provisions hereof with respect to the formula utilized in the determination of each Other Additional Facility Rental Third Payment Period Factor as set forth in paragraph (C) (1) (viii) above, nothing herein shall impair, alter, vary or affect Sections 3 and 3A hereof or imply or create an implication that there shall be any extension of the term of the letting hereunder beyond the expiration date set forth in Section 3 hereof.

(D) Additional Facility Rentals (other than the First Additional Facility Rental); Abatement

In the event that the Lessee shall at any time by the provisions of paragraph (b) of Section 75 of this Agreement become entitled to an abatement of Additional Facility Rentals (other than the First Additional Facility Rental), said abatement of Additional Facility Rentals (other than the First Additional Facility Rental) shall be made on an equitable basis giving effect to the amount and character of the portions of the premises the use of which is denied to the Lessee (but solely to the extent such portion of the premises used for the PDS as defined in Section 75 hereof does not exclusively serve the premises as described in and in accordance with said Section 75 (b) hereof) as compared with the entire premises, provided, however, that such abatement shall apply in any event only if and to the extent any such portion of the premises formed a part of the Phase I Construction Work or the Phase II Construction Work for which Port Authority Construction Payments were made pursuant to Section 89 hereof or for which Port Authority payments of the "Cost of the Sublessee's Flight Center Improvement Work" were made pursuant to the First Supplemental Agreement to Sublease, as described above; it being understood that there shall be no abatement of Additional Facility Rentals under this Lease for any portion of the premises or for any portion of the term except as specifically provided in this Agreement.

Section 5. Use of Premises

The Lessee, in connection with its business of transportation by aircraft, may use the premises for the following purposes and for activities reasonably required for such purposes and for such purposes and activities only:

(1) For the reservation of space and the sale of tickets for transportation on aircraft operated by the Lessee.

(2) For the reservation of space and the sale of tickets for transportation by other carriers but only as an incident to or in connection with transportation performed or to be performed by the Lessee or as an incident to or in connection with the cancellation of such transportation, or for the accommodation or convenience of the incoming or outbound passengers of the Lessee at the Airport. The occasional reservation of space and the sale of tickets for transportation by other carriers shall not be deemed to be prohibited by this provision.

(3) For the clearance, checking and rendering of service to passengers of the Lessee and for the furnishing of information service to such passengers and the general public.

(4) For providing rooms or space for the special handling of or the furnishing of special services to any of the passengers, guests, or invitees of the Lessee subject to the provisions of Section 66 hereof.

(5) For the handling of baggage of passengers of the Lessee including baggage and parcels such passengers decide to send as air cargo.

(6) For the handling of unclaimed baggage and lost and found articles.

(7) For the conduct of operations, traffic, communications, reservations and administrative office functions and activities in connection with air transportation performed by the Lessee.

(8) For the preparation, packaging and storage of food, beverages and commissary supplies to be consumed on aircraft operated by the Lessee.

(9) For the storage of repair parts, supplies and other personal property owned or leased by the Lessee, and for the performance of minor repairs to personal property of the Lessee.

(10) For the storage of such automotive fuel and lubricants as may be approved by the Port Authority.

(11) For the operation of a cafeteria for over-the-counter sales to officers and employees of the Lessee and their families and to occasional business guests of such officers and employees (other than passengers of the Lessee), of food, beverages and other merchandise normally sold in such an establishment at no profit to the Lessee and either directly by the Lessee or through a subsidiary of the Lessee or by an independent contractor of the Lessee who has received a permit from the Port Authority so to do.

(12) For use as crew quarters to be used by personnel of the Lessee during layovers between flights and for the establishment of lounges for employees of the Lessee.

(13) For the loading and unloading of passengers, baggage, mail, air cargo and commissary supplies, provided, however, that the use of the premises for the unloading and loading of passengers and their baggage from ground transportation vehicles shall be subject to limitation and restriction, from time to time, as set forth in Section 74 hereof.

(14) For the parking and storage of aircraft and ramp equipment operated by the Lessee.

(15) For the fueling and routine servicing of aircraft and ramp equipment operated by the Lessee and for the maintenance of said ramp equipment.

(16) For the performance of emergency or turn-around aircraft maintenance on aircraft operated by the Lessee.

(17) For the training of personnel employed or to be employed by any of the Lessee or other persons engaged in commercial transportation by aircraft, provided, that unless consented to by the Port Authority, the Lessee shall not engage in the training of persons employed by others or to be employed by others if the training of such persons is in competition with any concessionaire, permittee or licensee of the Port Authority at the Airport (other than another person engaged in the business of transportation by aircraft).

(18) For the temporary storage of baggage, mail and air cargo.

(19) For federal inspection services by federal agencies (if the United States Government makes the same available to the Lessee).

(20) With respect to the "Private Parking Facility" only, for the parking of automobiles operated by the Lessee and by the Lessee's employees, guests and in a limited number by its passengers and only in situations where the Lessee feels it must

accommodate such passengers therein. "Private Parking Facility" shall mean the private automobile parking facility located on the roof of Building No. 53 with capacity of not more than 51 automobiles.

(21) For automotive fuel facilities for the receipt, storage and dispensing of automotive fuel for automotive vehicles and equipment used by the Lessee in performing its operations authorized hereunder.

(22) For any other purpose or activity, in addition to those specified in this Section 5, for which the premises are expressly authorized to be used by any other provision of this Agreement.

The loading or unloading on the premises of any aircraft used principally for cargo is expressly prohibited.

Section 6. Ingress and Egress

(a) The Lessee, its officers, employees, customers, patrons, invitees, contractors, suppliers of material and furnishers of services, shall have the right of ingress and egress between the premises and city streets or public ways outside the Airport by means of existing roadways to be used in common with others having rights of passage within the Airport, provided, however, that the Port Authority may from time to time substitute other reasonably equivalent means of ingress and egress and provided, further, however, notwithstanding anything contained in the General Airport Agreement as defined in Section 81 hereof that the Lessee hereby expressly understands and agrees that the Lessee shall have no right of ingress and egress or access hereunder or otherwise for its employees, customers, patrons, invitees and their baggage between the premises and the city streets or public ways outside the Airport by means of any mode of transportation or any vehicle which may be limited or restricted in accordance with Section 74 hereof, it being understood that access to the premises for emergency response for reasons of safety or health shall not be deemed a breach hereof.

(b) The Lessee shall have the right of ingress and egress between the premises and the Public Landing Area at the Airport, by means of existing taxiways to be used in common with others having rights of passage thereon, provided, however, that the Port Authority may from time to time substitute other reasonably equivalent means of ingress and egress.

(c) The use of all roadways and taxiways shall be subject to the Rules and Regulations of the Port Authority which are now in effect or which may hereafter be promulgated for the safe and efficient operation of the Airport. In addition to the rights of closure granted above, the Port Authority may, at any time, temporarily or permanently close, or consent to or request the closing of, any such roadway, taxiway and any other area at

the Airport presently or hereafter used as such, so long as a means of ingress and egress reasonably equivalent to that provided in paragraphs (a) and (b) above remains available to the Lessee. The Lessee hereby releases and discharges the Port Authority its successors and assigns, of and from any and all claims, demands or causes of action which the Lessee may now or at any time hereafter have against any of the foregoing, arising or alleged to arise out of the closing of any street, roadway, taxiway or other area used as such whether within or outside the Airport, provided a reasonably equivalent means of ingress and egress is available. The Lessee shall not do or permit anything to be done which will interfere with the free access and passage of others to space adjacent to the premises or in any streets, ways and walks near the premises.

Section 7. Compliance with Governmental Requirements

(a) The Lessee shall comply with all laws and ordinances and governmental rules, regulations and orders now or at any time during the term of this Lease which as a matter of law are applicable to or which affect the operations of the Lessee at the premises hereunder and the Airport, and the Lessee shall, in accordance with and subject to the provisions of Section 45 hereof, make any and all structural and non-structural improvements, alterations or repairs of the premises that may be required at any time hereafter by any such present or future governmental law, rule, regulation, requirement, order or directive.

(b) The Lessee hereby agrees that it shall, at its own cost and expense, procure and obtain from all governmental authorities having jurisdiction over the operations of the Lessee hereunder and shall maintain in full force and effect throughout the term of this Agreement all licenses, certificates, permits or other authorization which may be necessary for the conduct of such operations. "Governmental authority" shall not be construed as intending to include The Port Authority of New York and New Jersey, the lessor under this Agreement.

(c) The obligation of the Lessee to comply with governmental requirements is provided herein for the purpose of assuring proper safeguards for the protection of persons and property on the premises. Such provision is not to be construed as a submission by the Port Authority to the application to itself of such requirements or any of them.

(d) Since the Port Authority has agreed in the Basic Lease to conform to the enactments, ordinances, resolutions and regulations of the City of New York and its various departments, boards and bureaus in regard to the construction and maintenance of buildings and structures and in regard to health and fire protection which would be applicable if the Port Authority were a private corporation to the extent that the Port Authority finds it practicable so to do, the Lessee shall comply with all such

enactments, ordinances, resolutions and regulations which would be applicable to its operations at the premises if the Port Authority were a private corporation except in cases where the Port Authority either notifies the Lessee that it need not comply with or directs it not to comply with any such enactments, ordinances, resolutions or regulations which are applicable only because of the Port Authority's agreement in the Basic Lease. The Lessee shall, for the Port Authority's information, deliver to the Port Authority promptly after receipt of any notice, warning, summons, or other legal process for the enforcement of any such enactment, ordinance, resolution or regulation a true copy of the same. Any direction by the Port Authority to the Lessee not to comply with any such enactment, ordinance, resolution or regulation shall be given only pursuant to a resolution duly adopted by the Board of Commissioners of the Port Authority or by an authorized committee of its Board and if any such direction is given by the Port Authority to the Lessee, the Port Authority to the extent that it may lawfully do so, shall indemnify and hold the Lessee harmless from and against all claims, actions, damages, liabilities, fines, penalties, costs and expenses suffered or incurred by the Lessee as a result of noncompliance with such enactment, ordinance, resolution or regulation.

In the event of compliance with any such enactment, ordinance, resolution or regulation on the part of the Lessee, acting in good faith, commenced after such delivery to the Port Authority but prior to the receipt by the Lessee of a written direction from the Port Authority not to comply (and thereafter discontinued) such compliance shall not constitute a breach of this Agreement, although the Port Authority thereafter directs the Lessee not to comply. Nothing herein contained shall release or discharge the Lessee from compliance with any other provision hereof respecting governmental requirements.

(e) The Lessee shall have such time within which to comply with the aforesaid laws, ordinances, rules and regulations as the authorities enforcing the same shall allow.

Section 8. Rules and Regulations

(a) The Lessee covenants and agrees to observe and obey (and to require its officers, employees, guests, invitees and those doing business with it to observe and obey) the existing Rules and Regulations of the Port Authority in effect as of the execution of this Agreement and such reasonable future Rules and Regulations and amendments and supplements to existing Rules and Regulations for the government of the conduct and operations of the Lessee and others on the premises as may from time to time during the letting be promulgated by the Port Authority for reasons of safety, health, noise, sanitation or good order. The obligation of the Lessee to require such observance and obedience on the part of its guests, invitees, and those doing business with it shall obtain only while such persons are on the premises.

The Port Authority agrees that except in cases of emergency, it will give notice to the Lessee of every such future rule or regulation adopted by it at least ten (10) days before the Lessee shall be required to comply therewith.

(b) The use by the Lessee and its officers, employees, guests, invitees, and those doing business with it, of the public aircraft facilities and any and all other portions of the Airport which it may be entitled to use under this Lease (other than space leased to the Lessee for its exclusive use) shall be subject to the Rules and Regulations of the Port Authority in effect as of the execution of this Agreement, and such reasonable future rules and regulations (including amendments and supplements to existing Rules and Regulations) as the Port Authority may from time to time promulgate in the public interest and in the interest of health, safety, noise, sanitation, good order and the economic and efficient operation of the Airport, including but not limited to, the number and type of aircraft which at any particular time may use the public aircraft facilities and the time or times when such aircraft may use the public aircraft facilities. Without limiting the foregoing, the Port Authority may take into account in adopting such Rules and Regulations the adequacy, capacity and suitability of (i) aircraft using the Airport, (ii) passenger handling facilities at the Airport including, but not limited to the Passenger Distribution System, as hereinafter defined, (iii) the public aircraft facilities at the Airport, (iv) the roadways and (v) the parking facilities. In the event the Port Authority promulgates rules and regulations pursuant to this paragraph (b), the Port Authority may devise and implement reasonable procedures governing the affected use of the public aircraft facilities, including but not limited to, allocations among Aircraft Operators at the Airport.

(c) If a copy of the Rules and Regulations is not attached, then the Port Authority will notify the Lessee thereof by delivery of a copy, or by making a copy available at the office of the Secretary of the Port Authority.

Section 9. Various Obligations of the Lessee

(a) The Lessee shall conduct its operations hereunder in an orderly and proper manner, considering the nature of such operations, so as not to annoy, disturb or be offensive to others at or off the Airport. The Lessee shall take all reasonable measures (1) to eliminate or reduce as low as possible vibrations tending to damage any equipment, structure, building or portion of a building which is on the premises, or is a part thereof, or is located elsewhere on or off the Airport; and (2) to keep the sound level of its operations as low as possible.

(b) The Lessee shall use its best efforts to conduct all operations at the premises in a safe and careful manner,

following in all respects the best practices of the air transportation industry in the United States.

(c) The Port Authority shall have the right to object to the Lessee regarding the conduct and demeanor of the employees of the Lessee whereupon the Lessee will take all steps reasonably necessary to remove the cause of the objection. If requested by the Port Authority the Lessee shall supply and shall require its employees to wear or carry badges or other suitable means of identification, which shall be subject to the prior and continuing approval of the General Manager of the Airport.

(d) The Lessee shall control all vehicular traffic on the roadways or other areas within the premises and shall take all precautions reasonably necessary to promote the safety of all persons. The Lessee shall employ such means as may be necessary to direct the movement of vehicular traffic within the premises to prevent traffic congestion on the public roadways leading to the premises.

(e) The Lessee shall remove from the Airport or otherwise dispose of in a manner approved by the General Manager of the Airport, all garbage, debris and other waste materials (whether liquid or solid) arising out of its occupancy or use of the premises or out of its operations at the Airport. Any such which may be temporarily stored in the open shall be kept in suitable garbage and waste receptacles, the same to be made of metal or other suitable material, and equipped with tightfitting covers, and to be of a design to safely and properly contain whatever material may be placed therein. The Lessee shall use extreme care when effecting removal of all such waste materials, and shall effect such removal at such times and by such means as first approved by the Port Authority. No such garbage, debris, or other waste materials shall be or be permitted to be thrown, discharged or deposited into or upon the waters at or bounding the Airport.

(f) From time to time and as often as reasonably required by the Port Authority, the Lessee shall conduct pressure, waterflow, and other appropriate tests of the fire extinguishing system and apparatus which constitute a part of the premises. The Lessee shall keep in proper functioning order all firefighting equipment on the premises and the Lessee shall at all times maintain on the premises adequate stocks of fresh, usable chemicals for use in such system and apparatus. The Lessee shall notify the Port Authority prior to conducting such tests. If requested by the Port Authority, the Lessee shall furnish the Port Authority with a copy of written reports of such tests.

(g) It is the intention of the parties hereto that noise caused by aircraft engine operations shall be held to a minimum considering the nature of the Lessee's operations at the premises. To this end the Lessee will conduct its operations in

such a manner as to keep the noise produced by aircraft engines to a minimum and where appropriate shall employ noise arresting and noise reducing devices that are suitable. Aircraft testing and aircraft runups will be conducted only in such areas as shall meet with the prior and continuing approval of the Port Authority. The obligations assumed by the Lessee under this paragraph (g) shall not diminish, limit, modify or affect all other obligations of the Lessee with respect to noise under this Agreement.

(h) In the use of the premises, the Lessee shall use its best efforts to minimize jet or prop blast interference to aircraft operating on or to buildings and structures now located on or which in the future may be located on areas adjacent to the premises. In the event the Port Authority determines at any time and from time to time that the Lessee has not so minimized the jet or prop blast interference, it may serve a notice to the Lessee to such effect and if the condition is not corrected to the satisfaction of the Port Authority within thirty days after the service of said notice, the Lessee hereby covenants and agrees to erect and maintain at its own expense such structure or structures as may be necessary to minimize the said jet or prop blast interference, subject, however, to the prior written approval of the Port Authority as to the type, manner and method of construction. The obligations assumed by the Lessee under this paragraph shall not diminish, limit, modify or affect all other obligations of the Lessee with respect to interference under this Agreement.

(i) The Lessee agrees that it will not erect, construct or maintain or otherwise create or continue any obstacle or so park or store, or permit or allow to be parked or stored, any aircraft or other object on the premises so as to create any obstacle that will hamper or interfere with the free, orderly, unobstructed and uninterrupted passage of vehicles, aircraft or of the wings or other integral part of aircraft of any type, nature or description, while such vehicle is operating or aircraft is taxiing or being transported or towed along any runways, taxiways and roads outside of and adjacent to the premises.

(j) In addition to compliance by the Lessee with all laws, ordinances, governmental rules, regulations and orders now or at any time in effect during the term of the letting hereunder which as a matter of law are applicable to the operation, use or maintenance by the Lessee of the premises or the operations of the Lessee under this Agreement (the foregoing not to be construed as a submission by the Port Authority to the application to itself of such requirements or any of them), the Lessee agrees that it shall exercise the highest degree of safety and care and shall conduct all its operations under the Agreement and shall operate, use and maintain the premises in accordance with the highest reasonable standards and in such manner that there will be at all times a minimum of air pollution, water

pollution or any other type of pollution and a minimum of noise emanating from, arising out of or resulting from the operation, use or maintenance of the premises by the Lessee and from the operations of the Lessee under this Agreement. The Port Authority hereby reserves the right from time to time and at any time during the term of the Lease to require the Lessee, and the Lessee agrees to design and construct at its sole cost and expense such reasonable structures, fences, equipment, devices and other facilities as may be necessary or appropriate to accomplish the objectives as set forth in the first sentence of this paragraph. All locations, the manner, type and method of construction and the size of any of the foregoing shall be determined by the Port Authority. The Lessee shall submit for Port Authority approval its plans and specifications covering the required work and upon receiving such approval shall proceed diligently to construct the same.

The obligations assumed by the Lessee under this paragraph (j) hereof shall continue throughout the term of this Lease and shall not be limited, affected, impaired or in any manner modified by the fact that the Port Authority shall have approved any Construction Application and supporting plans, specifications and contracts covering construction work and notwithstanding the incorporation therein of the Port Authority's recommendations or requirements and notwithstanding that the Port Authority may have at any time during the term of the Lease consented to or approved any particular procedure or method of operation which the Lessee may have proposed or the Port Authority may have itself prescribed the use of any procedure or method. The agreement of the Lessee to assume the obligations under this paragraph (j) is a special inducement and consideration to the Port Authority in entering into this Lease with the Lessee.

(k) The Lessee shall periodically inspect, clean out and maintain the oil separators serving the premises which are located on the premises and the oil separators located outside the premises if they exclusively serve the premises.

(l) The Lessee shall at all times during the term of this Agreement on a twenty-four hour basis maintain sufficient qualified personnel at the Airport or on call within 30 minutes, who shall be qualified to perform the maintenance obligations of the Lessee under this Agreement and particularly be able to respond to all emergencies.

Section 10. Prohibited Acts

(a) The Lessee shall commit no nuisance, waste or injury at the Airport, and shall not do or permit to be done anything which may result in the creation or commission or maintenance of such nuisance, waste or injury at the Airport.

(b) The Lessee shall not create nor permit to be caused or created at the Airport any obnoxious odors or smokes, or noxious gases or vapors. The creation of exhaust fumes by the operation of internal combustion engines or aircraft engines of other types, so long as such engines are maintained and are being operated in a proper manner, shall not be a violation of this paragraph (b).

(c) The Lessee shall not do or permit to be done anything which may interfere with the effectiveness or accessibility of the drainage and sewerage system, water system, communications system, electrical, fire protection system, sprinkler system, alarm system, fire hydrants and hoses, if any, or any other part of utility, electrical mechanical or other systems installed or located from time to time at the Airport.

(d) The Lessee shall not do or permit to be done any act or thing at the Airport (1) which will invalidate or conflict with any fire insurance, extended coverage or rental insurance policies covering the premises or any part thereof, or the Airport, or any part thereof, or (2) which may constitute an extra hazardous condition, so as to increase the risks normally attendant upon the operations permitted by this Agreement. The Lessee shall promptly observe, comply with and execute the provisions of any and all present and future rules and regulations, requirements, orders and directions of Insurance Services Office of New York and the National Fire Protection Association, or of any other board or organization exercising or which may exercise similar functions, which may pertain or apply to the operations of the Lessee at the Airport and the Lessee shall, subject to and in accordance with the provisions of Section 45 hereof, make any and all structural and non-structural improvements, alterations or repairs to the premises required at any time hereafter by any such present or future rule, regulation, requirement, order or direction. If by reason of any failure on the part of the Lessee to comply with the provisions of this paragraph any fire insurance rate, extended coverage or rental insurance rate on the premises or any part thereof, or on the Airport or any part thereof, shall at any time be higher than it would otherwise be if the premises were properly used for the purposes permitted by Section 5 hereof then the Lessee shall pay to the Port Authority, as an item of additional rental, that part of all insurance premiums paid by the Port Authority which shall have been charged because of such violation or failure by the Lessee.

(e) The Lessee shall not dispose of nor permit any one to dispose of any waste material taken from aircraft (whether liquids or solid) by means of the toilets, manholes, sanitary sewers or storm sewers in the premises except after treatment in installations or equipment included in plans and specifications submitted to and approved by the Port Authority.

(f) The Lessee shall not keep or store during any 24 hour period flammable liquids within any enclosed portion of the premises (other than in rooms or areas expressly constructed for the storage of such liquids) in excess of the Lessee's working requirements during the said 24 hour period. Any such liquids having a flash point of less than 110 degrees Fahrenheit shall be kept and stored in safety containers of a type approved by the Underwriters Laboratories or the Factory Mutual Insurance Association.

(g) (1) The Lessee shall prevent access by persons or vehicles (unless duly authorized by the Port Authority) to the Public Landing Area from the premises except for aircraft, which aircraft shall be equipped with radio receivers tuned to control tower frequencies and adequately manned in accordance with applicable Rules and Regulations. Such aircraft may be towed by a motor vehicle equipped with a radio receiver tuned to the appropriate control tower frequency and adequately manned or such other means as may be approved by the Port Authority. The Lessee shall control access by its aircraft passengers and patrons from and to aircraft ramp, apron and parking areas on the premises and shall maintain control of its passengers and patrons while they are upon said areas by proper measures to insure that the highest standards of safety are maintained.

(2) The Lessee shall furnish adequate security and guard service or such comparable means as approved by the Port Authority from time to time, on a 24 hour, seven day-a-week basis for the prevention of access to and control of persons on the aeronautical operations areas of the premises and the prevention of access to the Public Landing Area from the premises or other area(s) controlled by the Lessee. Without limiting the generality of Section 7 hereof, the Lessee acknowledges and agrees that it shall comply with all the requirements of FAR 107 and any succeeding or superseding regulations.

(h) The Lessee shall not use or permit the use of any structural supporting member of the building or roof or any part thereof for the storage of any material or equipment, or hoist, lift, move or support any material or equipment or other weight or load, by means of said trusses or structural supporting members, without prior approval of the Port Authority.

(i) The Lessee shall not overload any floor on the premises, and shall repair, replace or rebuild any floor, including supporting members, damaged by overloading. Nothing in this paragraph or elsewhere in this Agreement shall be or be construed to be a representation by the Port Authority of the weight any floor or paved area will bear.

(j) The Lessee shall not use any cleaning materials having a harmful corrosive effect on any part of the premises.

(k) The Lessee shall not fuel or defuel any equipment in the enclosed portions of the premises without prior approval of the General Manager of the Airport.

(l) The Lessee shall not start or operate any engine or any item of automotive equipment in any enclosed space at the Airport unless such space is adequately ventilated and unless such engine is equipped with a proper spark-arresting device which has been approved by the Port Authority.

(m) The Lessee shall not operate or cause to be operated aircraft engines in any areas of the premises other than for the purpose of taxiing or maneuvering aircraft to and from the premises or in connection with authorized aircraft maintenance on the premises. (The Lessee shall not perform any aircraft maintenance on the premises other than emergency or turn-around maintenance.)

(n) The Lessee shall not keep or store aviation fuel on the premises except that fueling equipment may be operated on the unenclosed portions of the premises in accordance with all the provisions of this Agreement and with the Port Authority Rules and Regulations pertaining thereto.

Section 11. Care, Maintenance, Rebuilding and Repair by the Lessee

(a) The Lessee shall repair, replace, rebuild and paint all or any part of the Airport which may be damaged or destroyed by the acts or omissions of the Lessee or by those of its officers or employees or of other persons on or at the premises with the consent of the Lessee.

(b) The Lessee shall, throughout the term of this Lease, assume the entire responsibility for, shall perform and shall relieve the Port Authority from all responsibility for all repair, replacement, rebuilding and maintenance whatsoever in the premises, whether such repair, replacement, rebuilding or maintenance be ordinary or extraordinary, partial or entire, inside or outside, foreseen or unforeseen, structural or otherwise, and without limiting the generality of the foregoing, the Lessee shall:

(1) Keep at all times in a clean and orderly condition and appearance, the premises and all the Lessee's fixtures, equipment and personal property which are located in any part of the premises which is open to or visible by the general public;

(2) Remove all snow and ice and perform all other activities and functions necessary or proper to make the premises available for use by the Lessee;

(3) Take good care of the premises and maintain the same at all times in good condition, except for reasonable wear and tear which does not adversely affect the efficient or the proper utilization thereof; including but not limited to painting (the exterior of the premises and areas visible to the general public to be painted only in colors which have been approved by the Port Authority); and make all repairs and replacements, and do all rebuilding, inside and outside, ordinary and extraordinary, partial and entire, foreseen and unforeseen, structural or otherwise, which repairs, rebuilding and replacements by the Lessee shall be in quality and class not inferior to the original in materials and workmanship; and to pay promptly the cost and expense of such repairs, replacements and maintenance;

(4) Provide and maintain all obstruction lights and similar devices on the premises, and provide and maintain all fire protection and safety equipment and all other equipment of every kind and nature required by any law, rule, ordinance, resolution or regulation of the type and nature described in Sections 7 and 8 of this Agreement. The Lessee shall enter into and keep in effect throughout the term of the Lease a contract or contracts with a central station alarm company acceptable to the Port Authority to provide continuous and automatic surveillance of the fire protection system on the premises. The Lessee shall insure that all fire alarm signals with respect to the premises shall also be transmitted to the Airport's police emergency alarm board or to such other location on the Airport as the General Manager of the Airport may direct. The Lessee's obligations hereunder shall in no way create any obligation whatsoever on the part of the Port Authority;

(5) Take such anti-erosion measures and maintain the landscaping at all times in good condition, including but not limited to periodic replanting, as the Port Authority may require, and perform and maintain such other landscaping with respect to all portions of the premises not paved or built upon, as the Port Authority may require;

(6) Be responsible for the maintenance and repair of all utility service lines, including but not limited to, service lines for the supply of water, electric power and telephone conduits and lines, sanitary sewers and storm sewers, located upon the premises or located adjacent to the premises and serving the premises exclusively.

(7) Be responsible for appropriate lighting of all ramp and apron areas and for the maintenance and repair of all access roadways, taxiways and ramp and apron areas located upon the premises or located adjacent to the premises and used by the Lessee exclusively.

(8) Repair any damage to the paving or other surface of the premises caused by any oil, gasoline, grease,

lubricants or other flammable liquids and substances having a corrosive or detrimental effect thereon.

(c) If the performance of any of the foregoing repair, maintenance, replacement, repainting or rebuilding obligations of the Lessee requires work to be performed near an active taxiway or where safety of operations is involved, the Lessee agrees that it will at its own expense, post guards at such locations to insure the safety of the work performed thereat.

(d) In the event the Lessee fails to commence so to maintain, clean, repair, replace, lamp, relamp, rebuild, paint repaint or to restore as required by this Agreement within a period of twenty (20) days after notice from the Port Authority so to do in the event that the said notice specifies that the required work to be accomplished by the Lessee includes maintenance or repair other than preventive maintenance, or within a period of one hundred eighty (180) days if the said notice specifies that the work to be accomplished by the Lessee involves preventive maintenance only, or fails diligently to continue to completion the cleaning, maintenance, repair, replacement, lamping and relamping, rebuilding, painting, repainting or restoration of all of the premises required to be repaired, replaced, rebuilt, painted, repainted or restored by the Lessee under the terms of this Agreement, the Port Authority may, at its option, and in addition to any other remedies which may be available to it, clean, maintain, repair, replace, lamp or relamp, rebuild, paint, repaint or restore all or any part of the premises included in the said notice, and the cost thereof shall be payable by the Lessee upon demand.

Section 12. Insurance

The Lessee shall, during the term of this Agreement, insure and keep insured to the extent of the full replacement value thereof, all buildings, structures, improvements, installations, facilities and fixtures now or in the future located on the premises against all risks of physical loss or damage (including, but not limited to flood and earthquake risks) if available, and if not available, then against such hazards and risks as may now or in the future be included under the Standard Form of Fire Insurance Policy of the State of New York and also against damage or loss by windstorm, cyclone, tornado, hail, explosion, riot, flood, earthquake, civil commotion, aircraft, vehicles and smoke, under the Standard Form of Fire Insurance Policy of New York and the form of extended coverage endorsement prescribed as of the effective date of the said insurance by the Rating Organization having jurisdiction, and, if the Port Authority so requests, also covering nuclear property losses and contamination hazards and risks if it becomes a reasonably available insurable risk in the commercial market, and boiler and machinery hazards and risks in a separate insurance policy or policies or as an additional coverage endorsement to the aforesaid policies in the form as may now or in the future be

prescribed as of the effective date of said insurance by the Rating Organization having jurisdiction and/or the Superintendent of Insurance of the State of New York and the Lessee shall furthermore provide additional insurance with respect to the premises covering any other peril of loss or damage that the Port Authority may at any time during the term of this Agreement cover by carrier or self-insurance covered by appropriate reserves at other locations at the Airport upon written notice to the Lessee to such effect.

The aforesaid insurance coverage and renewals thereof shall insure the Port Authority, the Lessee and the City of New York, as their interests may appear, and shall provide that the loss, if any, shall be adjusted with and payable to the Port Authority.

In the event the premises or any part thereof shall be damaged by any casualty against which insurance is carried pursuant to this Section 12, the Lessee shall promptly furnish to the Port Authority such information and data as may be necessary to enable the Port Authority to adjust the loss. The Port Authority shall consult with the Lessee in the adjustment of the loss.

The policies or certificates representing insurance covered by this Section shall be delivered by the Lessee to the Port Authority at least thirty (30) days prior to the commencement date of the term of the letting hereunder and each policy or certificate delivered shall bear the endorsement of or be accompanied by evidence of payment of the premium thereon, and also, a valid provision obligating the insurance company to furnish the Port Authority and the City of New York thirty (30) days' advance notice of the cancellation, termination, change or modification of the insurance evidenced by said policy or certificate. Renewal policies or certificates shall be delivered to the Port Authority at least thirty (30) days before the expiration of the insurance which such policies are to renew.

Regardless, however, of the persons whose interests are insured, the proceeds of all policies covered by this Section 12 shall be applied as provided in Section 13; and the word "insurance" and all other references to insurance in said Section 13 shall be construed to refer to the insurance which is the subject matter of this Section 12, and to refer to such insurance only.

The insurance covered by this Section 12 shall be written by companies approved by the Port Authority, the Port Authority covenanting and agreeing not to withhold its approval unreasonably. If at any time any of the insurance policies shall be or become unsatisfactory to the Port Authority as to form or substance or if any of the carriers issuing such policies shall be or become unsatisfactory to the Port Authority, the Lessee shall promptly obtain a new and satisfactory policy in

replacement, the Port Authority covenanting and agreeing not to act unreasonably hereunder. If the Port Authority at any time so requests, the Lessee shall make available to the Port Authority at a location in the Port of New York District, during normal business hours, the original or a certified copy of the entirety of each of the said policies and shall, upon request, deliver to the Port Authority a certified copy of such portions of said policies pertaining to the coverage hereunder as the Port Authority shall request.

Section 13. Damage to or Destruction of the Premises

(a) Removal Of Debris. If the premises, or any part thereof shall be damaged by fire, the elements, the public enemy or other casualty, the Lessee shall promptly remove all debris resulting from such damage from the premises, and to the extent, if any, that the removal of debris under such circumstances is covered by insurance, the proceeds thereof shall be made available to and be used by the Lessee for such purpose.

(b) Minor Damage. If the premises, or any part thereof, shall be damaged by fire, the elements, the public enemy or other casualty but not rendered untenantable or unusable for a period of ninety (90) days, the premises shall be repaired with due diligence in accordance with the plans and specifications for the premises as they existed prior to such damage by and at the expense of the Lessee and if such damage is covered by insurance, the proceeds thereof shall be made available to and be used by the Lessee for such repairs.

(c) Major Damage to or Destruction of the Premises. If the premises, or any part thereof shall be destroyed or so damaged by fire, the elements, the public enemy or other casualty as to be untenantable or unusable for ninety (90) days, or if within ninety (90) days after such damage or destruction the Lessee notifies the Port Authority in writing that in its opinion said premises will be untenantable or unusable for ninety (90) days then: The Lessee shall proceed with due diligence to make the necessary repairs or replacements to restore such premises in accordance with the plans and specifications for the premises as the same existed prior to such damage or destruction; or with the approval in writing of the Port Authority make such other repairs, replacements or changes as may be desired by the Lessee. If such destruction was covered by insurance, the proceeds thereof shall be made available to and used by the Lessee for such restoration.

(d) The obligation of the Lessee to repair or replace shall be limited to the amount of the insurance proceeds provided the Lessee has carried insurance to the extent and in accordance with Section 12 hereof. Any excess of the proceeds of insurance over the costs of the restoration shall be retained by the Port Authority.

(e) The parties hereby stipulate that neither the provisions of Section 227 of the Real Property Law of New York nor those of any other similar statute shall extend or apply to this Agreement.

Section 14. Assumption of Maintenance and Repair of the Premises by the Port Authority

Subdivision I. Defined Terms in this Section.

The following terms shall have the meanings stated in this Subdivision I for the purposes of this Section:

(a) "Assumable Maintenance and Repair" shall mean the obligation of the Lessee to clean, maintain, perform janitorial services and perform structural and non-structural improvements, repairs and rebuilding as such obligations are set forth in:

(i) paragraphs (a) and (b) of Section 11 hereof; and

(ii) Section 7 hereof insofar as laws, ordinances and governmental rules, regulations, orders, requirements and directions require structural and non-structural improvements, alterations or repairs of the premises; and

(b) The "Cost of Assumable Maintenance and Repair" shall, for each calendar year, consist of the sum of the Operation and Maintenance Cost and the Annual Capital Cost which shall both be determined as follows:

(i) The Port Authority will determine the total of all costs incurred or accrued during each calendar year in connection with the Assumable Maintenance and Repair in accordance with normal Port Authority accounting practice and as follows:

The Port Authority will apportion Assumable Maintenance and Repair performed between "Operation and Maintenance" and "Capital Work". The cost of Operation and Maintenance is hereinafter called the "Operation and Maintenance Cost" and the cost of the Capital Work is hereinafter called the "Capital Cost".

(ii) Operation and Maintenance Cost for each calendar year shall consist of the following expenditures for, in connection with, or related to Operation and Maintenance:

(1) On-the-job payroll costs of employees and supervisory personnel (including Airport supervisors, foremen and clerks) including, but not limited to, contributions to any retirement system or the cost of or participation in any pension plans or the like, social security, old age, survivor's, disability and unemployment insurance and other insurance costs,

sick leave pay, holiday, vacation, authorized absence and severance pay, other employee fringe benefits and any other payments made or costs incurred whether pursuant to law or by Port Authority policy to or with respect to said employees and personnel;

(2) The cost (including rental charges) of materials, equipment, supplies and utilities (including but not limited to, electricity, water and phone);

(3) Payments to contractors and any other third persons, firms or corporations for work performed or services rendered;

(4) The cost of any performance bond or bonds;

(5) The cost of insurance;

(6) Any other direct costs as charged under the Port Authority's normal accounting practice;

(7) Twenty-five percent (25%) of the sum of all of the foregoing items (1) through (6).

(iii) A. Capital Cost for each calendar year shall consist of the following expenditures, for, in connection with, or related to Capital Work;

(1) On-the-job payroll costs of employees and supervisory personnel (including Airport supervisors, foremen and clerks) including but not limited to, contributions to any retirement system or the cost of or participation in any pension plans or the like, social security, old age, survivor's, disability and unemployment insurance and other insurance costs, sick leave pay, holiday, vacation, authorized absence and severance pay, other employee fringe benefits and any other payments made or costs incurred whether pursuant to law or by Port Authority policy to or with respect to said employees and personnel;

(2) The cost (including rental charges) of materials, supplies, equipment and utilities (including but not limited to electricity, water and phone);

(3) Payments to contractors and any other third persons, firms or corporations for work performed or services rendered;

(4) The cost of any performance bond or bonds;

(5) The cost of any insurance;

(6) Payments to independent consultants, architects and engineers engaged or retained by the Port Authority;

(7) Any other direct costs as charged under the Port Authority's normal accounting practice;

(8) Ten percent (10%) of the sum of all the foregoing items (1) through (7);

(9) Financial Expense on the foregoing computed in accordance with Port Authority accounting practice;

B. "Annual Capital Cost" shall mean the total of all annual amounts based upon the amortization of the Capital Cost for each calendar year over the shorter of the weighted average period of the useful life of the Capital Work for each calendar year, or the remaining term of this Agreement as determined by the Port Authority. Each annual amount shall be determined on the basis of an equal annual payment method. The rate used in determining the Annual Capital Cost for all of the annual amounts shall be for each successive calendar year an annual percentage rate equal to the sum of (i) the average of all the weekly indices of the Bond Buyer Revenue Bond Index as reported in the publication "The Bond Buyer" for the 52-week period in the immediately preceding calendar year and (ii) three (3) percentage points. For purposes of example and illustration only, The Bond Buyer Revenue Bond Index for the week ending January 15, 1988 was 8.31% as set forth in the table entitled "Bond Buyer Indices" on page 30 of The Bond Buyer, Vol. 283 No. 230, New York, N.Y., dated January 15, 1988. In the event that The Bond Buyer or its weekly Bond Buyer Revenue Bond Index shall be discontinued prior to the commencement date of the term of the letting a comparable substitute for such Index shall be mutually agreed upon in writing by the Lessee and the Port Authority within thirty (30) days after discontinuance. In the event that the Port Authority and the Lessee shall fail to agree upon such a substitute within the time hereinabove specified then upon notice of either party such dispute shall be disposed of by arbitration in accordance with the then existing rules of the American Arbitration Association or any successor association. One half of the cost of said arbitration shall be borne by the Port Authority and the other half of said cost shall be borne by the Lessee.

Subdivision II. Commencement of Performance of Assumable Maintenance and Repair

The "Assumable Maintenance and Repair Effective Date" shall be the date, from time to time, determined as follows:

(i) The Port Authority may at any time and from time to time during the term of this Agreement advise the Lessee, by notice, of one or more deficiencies in the performance by the Lessee of the Assumable Maintenance and Repair, or in any portion, or

portions, thereof. Such notice shall specify the aforesaid deficiencies in reasonable detail. In such notice the Port Authority shall also advise the Lessee of what reasonable period of time shall be afforded the Lessee to cure such deficiencies and the Port Authority shall advise the Lessee therein when and where its representatives may meet with representatives of the Port Authority to discuss the foregoing. The Port Authority will consider the response, if any, of representatives of the Lessee, as given at the aforesaid meeting or during such period for a further response from the Lessee, as the Port Authority may, in its sole discretion, afford the Lessee. The Port Authority may, after the occurrence of the above, advise the Lessee, by notice, that it has elected not, at that time, to assume the performance of the Assumable Maintenance and Repair. The Port Authority, in its sole discretion, may condition such an election on such terms as it chooses to include in the notice, including the taking of certain remedial or other actions by the Lessee to the continuing satisfaction of the Port Authority. The fact that the Port Authority may previously have given a notice under this subparagraph but has subsequently elected on one or more occasions not to assume the performance of the Assumable Maintenance and Repair or having on one or more occasions assumed the Assumable Maintenance and Repair and thereafter returned the said obligations to the Lessee pursuant to the provisions hereof, shall not be deemed to limit the right of the Port Authority to, at any time, give another notice of one or more deficiencies pursuant to this subparagraph or notice pursuant to subparagraph (ii) below.

(ii) The Port Authority may at any time and from time to time during the term of this Agreement, but only after the issuance of a notice described above and giving the opportunity to cure as provided above, advise the Lessee, by notice, that commencing on a date to be specified in such notice, which shall be not less than ninety (90) days after the giving thereof, the Port Authority will perform the Assumable Maintenance and Repair. Such date as the same may be established from time to time shall be the "Assumable Maintenance and Repair Effective Date".

Subdivision III. Performance of the Assumable Maintenance and Repair

(a) The Port Authority shall perform the Assumable Maintenance and Repair from and after the Assumable Maintenance and Repair Effective Date with the Cost of Assumable Maintenance and Repair to be paid by the Lessee as provided in Subdivision IV below.

(b) The Lessee and the Port Authority each acknowledge and agree that the rights and obligations of the Port Authority and the Lessee hereunder are limited to the performance of all of the Assumable Maintenance and Repair by the Port Authority and not of particular portions thereof; provided, however, that the Port Authority in its sole and absolute discretion may elect to perform all of or portions of the Assumable Maintenance and Repair, and, if

portions, then such portions will be described in the notice (s) given under Subdivision II (ii) above.

(c) The Lessee shall give its full cooperation to the Port Authority so as to better enable the Port Authority and its contractors to perform the Assumable Maintenance and Repair and the Port Authority and its employees, agents and contractors shall have the right to enter the premises at all reasonable times to perform the Assumable Maintenance and Repair.

Subdivision IV. Payment for the Assumable Maintenance and Repair

The Cost of the Assumable Maintenance and Repair shall be payable by the Lessee from and after the Assumable Maintenance and Repair Effective Date as follows:

(a) The Port Authority shall establish monthly interim billing rates. Such billing rates shall be based upon determinations by the Port Authority of its estimate of the Cost of the Assumable Maintenance and Repair for the calendar year or; for the portion of the calendar year in which the Assumable Maintenance and Repair Effective Date, if less than a calendar year, shall occur or for the portion of the calendar year during which the term of this Agreement shall expire, if less than a calendar year. Such determinations shall be based upon the prior calendar year's experience, if any, and upon other such reasonable basis as the Port Authority shall select. The Port Authority may prospectively revise its billing rates during any calendar year. The Lessee shall pay current billings as they are received.

(b) As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the actual Cost of the Assumable Maintenance and Repair for the preceding calendar year and shall determine the amounts payable by the Lessee. In the event the Assumable Maintenance and Repair Date does not fall on the first day of a calendar year or in the event the term of this Agreement expires on a day other than the last day of a calendar year the Annual Capital Cost for said calendar year shall be prorated based on the number of days during said calendar year during which the Port Authority provides the Assumable Maintenance and Repair. Corrected billings based upon such determination shall thereupon be rendered by the Port Authority to the Lessee and if any monies are due to the Port Authority they shall be promptly paid by the Lessee and if any monies are due to the Lessee they shall be promptly credited to it.

Subdivision V. Limitation of Port Authority Obligations and No Waiver of Rights of Port Authority

(a) The right and obligation of the Port Authority to perform the Assumable Maintenance and Repair shall not release, waive or affect the obligations of the Lessee with respect thereto set forth in any provision of this Agreement, nor limit, waive or affect any rights of termination with respect thereto, including but

not limited to, the right of the Port Authority to terminate this Agreement, whether before or after the occurrence of the Assumable Maintenance and Repair Effective Date pursuant to Section 26 of this Agreement.

(b) The Port Authority shall not be obligated to the Lessee to furnish the Assumable Maintenance and Repair at any time while the Lessee shall be in default under this Agreement.

(c) No failure, delay or interruption in performing the Assumable Maintenance and Repair by the Port Authority shall be or be construed to be an eviction of the Lessee or grounds for the diminution or abatement of rentals, fees, or other charges, or (unless resulting from the negligence or wilful failure of the Port Authority) shall be grounds for termination of this Agreement by the Lessee pursuant to Section 49 hereof or for any claims by the Lessee for damages, consequential or otherwise.

(d) The Port Authority shall be under no obligation to perform the Assumable Maintenance and Repair if and to the extent that during any period such performance shall be prohibited, limited or rationed by any federal, state or municipal law, rule, regulation, requirement, order or direction and if the Port Authority deems it in the public interest to comply therewith, even though such law, rule, regulation, requirement, order or direction may not be mandatory on the Port Authority as a public agency. Furthermore, the obligation of the Port Authority to perform the Assumable Maintenance and Repair shall be deemed limited and modified during any period that repair or rebuilding of the premises is required pursuant to Section 11 or Section 13 hereof.

Subdivision VI. Return of the Assumable Maintenance and Repair to the Lessee

At any time and from time to time after the Port Authority may have exercised its rights under Subdivision II (ii)) to perform the Assumable Maintenance and Repair the Port Authority shall have the right, upon written notice to the Lessee, to return the obligation to perform the Assumable Maintenance and Repair to the Lessee commencing on a date to be specified in such notice which date shall be not less than thirty (30) nor more than ninety (90) days from the giving of such notice. Such date shall be "the Return Date of the Assumable Maintenance and Repair". From and after the Return Date of the Assumable Maintenance and Repair the Lessee shall perform the Assumable Maintenance pursuant to and in accordance with all the terms and provisions of the Lease including, but not limited to, this Section 14.

From and after the Return Date of the Assumable Maintenance and Repair the Lessee shall continue to pay the cost of Assumable Maintenance and Repair, it being understood, that nothing herein shall release or be deemed to release the Lessee from the payment to the Port Authority of the cost of Assumable Maintenance and Repair including that portion thereof consisting of the Annual Capital Cost

in accordance with Subdivision IV hereof arising prior to the Return Date of the Assumable Maintenance and Repair; nor shall anything herein require the Port Authority to make any calculation or determination with respect to the cost of Assumable Maintenance and Repair prior to the time specified therefor in Subdivision IV hereof.

Section 15. Joint Periodic Condition Survey

In addition to and without limiting Sections 7 through 14 and Sections 18, 19, 21, 33, and 83 hereof or any other term, provision, covenant or condition of this Agreement, the Lessee and the Port Authority hereby agree that, in addition to any other inspection of the premises which may be made under any other Section of this Agreement or otherwise, a Condition Survey (as hereinafter defined) of the premises shall be conducted by the Contractor (as hereinafter defined) at each of the time periods specified below subject to and in accordance with the following terms and conditions:

(a) As used herein the following terms shall have the following meanings:

(1) "Condition Survey" shall mean an inspection by the Contractor of the premises, including without limitation the then current state of cleaning, maintenance, janitorial services, painting, structural and nonstructural conditions, surface and subsurface conditions, environmental conditions, lighting of building areas, ramp and apron areas, and the condition of utilities and utility systems, fire-fighting and fire protection equipment and systems, communications and communications systems, antipollution systems and devices, fuel facilities and systems, and the Lessee's fixtures, equipment and personal property, and also including the items mentioned or covered by Sections 7 through 14, 18, 21, 33 and 83 hereof;

(2) "Contract" and "Condition Survey Contract" shall mean and refer to a contract awarded to a contractor, or entered into between the Port Authority and a contractor, for the performance by such contractor of a Condition Survey at any of the applicable times as specified in subparagraph (b) hereof;

(3) "Contractor" shall mean and refer to the contractor to whom the Contract is awarded by the Port Authority, or with whom the Port Authority enters into a Contract, for a Condition Survey which contractor shall be a reputable engineering firm, licensed or authorized to do business in the State of New York;

(4) "Costs of the Condition Survey" shall mean and include with respect to each Condition Survey all sums paid and expenses incurred by the Port Authority, including all interest, costs, damages and penalties, in accordance with the provisions of Section 19 hereof, and including without limitation, with

respect to each Contract, all amounts paid or to be paid to the Contractor under the terms of its Contract for, relating to or in connection with Condition Survey work to be performed under the Contract;

(5) "Contract Condition Survey Report" and "Report" shall mean the report prepared by the Contractor under its Contract after its completion of the Condition Survey work under its Contract including without limitation any and all recommendations for repair, maintenance, rebuilding and cleaning of all items or areas covered by the Condition Survey;

(6) "Report Date" shall mean the date of the Port Authority's written notice to the Lessee by which the Port Authority delivers to the Lessee the Report prepared by the Contractor after its completion of the Condition Survey under its Contract including without limitation any and all recommendations for repair, maintenance, rebuilding and cleaning of items or areas covered by the Condition Survey; as such Date is set forth in said written notice signed by the Director of the Aviation Department of the Port Authority.

(b) No earlier than sixty (60) days preceding the expiration of each period consisting of five (5) consecutive years occurring during the term of this Lease, beginning with the first such five-year period which commences on the commencement date of the letting hereunder (as set forth in Section 3 hereof), and no earlier than sixty (60) days preceding the last day of the month which constitutes the twelfth month preceding the expiration date of the term of the letting under this Agreement, so that there shall be a Condition Survey (including all or particular portions of the items described in subparagraph (a) (1) above), the Port Authority shall advise the Lessee of the proposed Condition Survey (including all or particular portions of the items described in subparagraph (a) (1) above) and of a proposed contract including the name of the proposed contractor who will perform said Condition Survey and including the proposed scope of the proposed contract (including all or portions of the items described in subparagraph (a) (1) above) and the proposed fee structure of the proposed contract. Within thirty (30) days after the Port Authority's notice to the Lessee, the Lessee shall advise the Port Authority in writing of its concurrence or objection to the proposed contract. In the event the Lessee fails to respond during the said time period said nonresponse shall be deemed a concurrence and the Port Authority shall proceed with the said contract for purposes of performing a Condition Survey (including all or particular portions of the items described in subparagraph (a)(1) above. In the event the Lessee notifies the Port Authority of its objections to the proposed contract or contractor the parties hereby agree to consult with each other in good faith to resolve such dispute. If such resolution is not reached within a reasonable period of time not to exceed thirty (30) days, then the Port Authority, if it so elects, shall make a determination as to the issue or issues in dispute. The parties

hereby agree that the Port Authority's determination of said issues, including the Contract and the Contractor shall be final.

(c) It is hereby expressly understood and agreed that the selection of each Contractor for the purposes of a Condition Survey and including the award of any contract to such contractor shall be subject to and consistent with the Port Authority's policies and practices for the selection and award of similar contracts and the Port Authority shall have as full a right to require the use of competitive bidding and award, or other basis of award, for any such contract as if the work on such contract were being performed solely for the Port Authority; and further that the Contract shall contain terms and conditions which are standard to Port Authority contracts or consistent with such standard provisions.

(d) (1) With respect to each Condition Survey, all Costs of the Condition Survey shall be shared equally between the Port Authority and the Lessee. Accordingly, the Lessee hereby agrees to pay to the Port Authority fifty percent (50%) of the Costs of the Condition Survey with respect to each Condition Survey as follows:

The Lessee shall pay to or reimburse the Port Authority for the Costs of the Condition Survey as follows: The Port Authority shall after the completion of the Condition Survey work under a Contract and if it elects, also from time to time during the course of the performance of the Condition Survey work under such Contract, submit to the Lessee a certificate or certificates setting forth the Costs of the Condition Survey at the date of each such certificate. Within thirty (30) days after the delivery of each such certificate, the Lessee shall pay to the Port Authority an amount representing fifty percent (50%) of said Costs of the Condition Survey as such amount is set forth in said certificate. Each such certificate shall specify whether the amount thereunder has theretofore been paid by the Port Authority or is due and payable to the Contractor and shall also not require payment by the Lessee of amounts previously paid by the Lessee under a prior certificate covering the same Condition Survey work. Upon its final determination of the Costs of the Condition Survey, the Port Authority shall submit to the Lessee a certificate marked "Final" setting forth the final determination of the Costs of the Condition Survey with respect to each Contract, and the Lessee shall and hereby agrees to pay to the Port Authority within thirty (30) days of such certificate an amount representing fifty percent (50%) of said Costs of the Condition Survey as such amount is set forth in said certificate; provided, however, that neither the foregoing nor any certificate delivered by the Port Authority, nor any payment made by the Lessee shall waive, affect, or impair any right of the Port Authority of review and audit with respect to the Costs of the Condition Survey and with respect to each Contract and provided, further, however, that in the event any such review or audit by the Port Authority requires an adjustment of the Costs of the Condition Survey the Lessee shall be promptly credited with or shall promptly pay to the Port Authority all amounts required by such adjustment.

(2) Any and all amounts required to be paid by the Lessee hereunder may be added to any installment of rent thereafter due hereunder and each and every part of the same shall be and become additional rent, recoverable by the Port Authority in the same manner and with like remedies as if it were part of the rent as set forth in Section 4 hereof.

(e) The Lessee hereby agrees to and shall commence within ninety (90) days after the Report Date all items and all action required or recommended to be taken as set forth in each Contract Condition Survey Report that are necessary or required to meet the Lessee's maintenance or repair or any other of its obligations, duties or responsibilities under this Agreement and the written notice of the Port Authority delivering said Report, unless the Port Authority expressly advises the Lessee to the contrary as to any particular item(s), and the Lessee shall diligently continue the same to completion; provided, however, that any and all items, action or work related to or affecting or involving fire safety, health, structural integrity, life safety, security and other emergency response systems shall be promptly commenced.

(f) The Lessee hereby agrees that the Contractor shall have all rights of entry to the premises during all reasonable times as appropriate or required to perform or complete the Condition Survey and the Report under the applicable Contract.

(g) It is expressly understood and agreed that neither the provisions hereof nor any of the rights of the Port Authority hereunder nor any of the obligations of the Port Authority hereunder, nor the obligation of the Lessee to so perform and complete such work, nor any failure of the parties to select a contractor for the purposes hereunder, nor any failure of any Contractor to perform and complete a Contract, nor any failure by the Lessee or the Port Authority to pay the Costs of the Condition Survey with respect to any Contract, or any portion thereof, shall or shall be deemed to release, waive, affect, restrict or impair any of the obligations duties, responsibilities or liabilities of the Lessee under any term, provision, covenant or condition of this Agreement nor to limit, waive, affect, restrict or impair any right or remedy of the Port Authority, or any right or rights of termination of the Port Authority with respect thereto, including but not limited to the right of the Port Authority to terminate this Agreement whether before or after the Report Date or any of the rights of the Port Authority under and as set forth in Sections 11 (d), 14, 19 and 21 hereof. Without limiting the foregoing, it is expressly understood and agreed that the Lessee shall not on the basis of the provisions of this Section postpone or delay any action, maintenance, rebuilding or repair or other item or thing required to be taken by the Lessee under any other section of this Agreement.

(h) Notwithstanding anything to the contrary, the Port Authority shall have the right, exercisable in its sole and complete discretion, to exclude from the scope of a Condition Survey with

respect to any Contract those items covered by Section 14 hereof for or during such period or periods, if any, when the Port Authority has elected to exercise its rights under Section 14 hereof to perform the Assumable Maintenance and Repair.

Section 16. Indemnity and Liability Insurance

(a) The Lessee shall indemnify and hold harmless the Port Authority, its Commissioners, officers, employees and representatives, from and against (and shall reimburse the Port Authority for the Port Authority's costs and expenses including reasonable legal expenses incurred in connection with the defense of) all claims and demands of third persons including, but not limited to, claims and demands for death or personal injuries, or for property damages arising out of a breach or default of any term or provision of this Agreement by the Lessee or out of the use or occupancy of the premises by the Lessee or by others with its consent or out of any other acts or omissions of the Lessee or its officers and employees, guests, invitees and business visitors of the Lessee on the premises or arising out of the acts or omissions of the Lessee or its officers and employees elsewhere at the Airport (excepting only claims and demands arising from the sole negligence of the Port Authority); including claims and demands of the City of New York, from which the Port Authority derives its rights in the Airport, for indemnification, arising by operation of law or through agreement of the Port Authority with the said City.

(b) If so directed, the Lessee shall at its own expense defend any suit based upon any such claim or demand (even if such claim or demand is groundless, false or fraudulent), and in handling such it shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority, or the provisions of any statutes respecting suits against the Port Authority.

(c) In addition to the obligations set forth in paragraph (a) of this Section and all other insurance required under this Agreement, the Lessee during the term of this Agreement in its own name as insured and including the Port Authority as an additional insured shall maintain and pay the premiums on a policy or policies of Comprehensive General Liability insurance, including premises-operations, products liability, liquor liability, completed operations, and covering bodily injury, including death, and property damage liability, broadened to include or equivalent separate policies covering aircraft liability and airport operator's liability under an airport liability policy, none of the foregoing to contain care, custody or control exclusions, and providing for coverage in the limits set forth below, and Comprehensive Automobile Liability Insurance covering owned, non-owned and hired vehicles and automatic coverage for newly acquired vehicles and providing for coverage in the limits set forth below. The said Comprehensive

General Liability insurance policy shall have a limit of not less than $100,000,000 combined single limit per occurrence for bodily injury and property damage liability. The said Comprehensive Automobile Liability insurance shall have a limit of not less than $25,000,000 combined single limit per accident for bodily injury and property damage liability. All of the said policy or policies of insurance shall also provide or contain an endorsement providing that the protections afforded the Lessee thereunder with respect to any claim or action against the Lessee by a third person shall pertain and apply with like effect with respect to any claim or action against the Lessee by the Port Authority and shall also provide or contain an endorsement providing that the protections afforded the Port Authority thereunder and with respect to any claim or action against the Port Authority by the Lessee shall be the same as the protections afforded the Lessee thereunder with respect to any claim or action against the Lessee by a third person as if the Port Authority were the named insured thereunder but such endorsement shall not limit, vary, change, or affect the protection afforded the Port Authority thereunder as an additional insured. The said policy or policies of insurance shall also provide or contain a contractual liability endorsement covering the obligations assumed by the Lessee under paragraph (a) hereof.

Notwithstanding the foregoing, it is specifically understood and agreed that the Port Authority shall have the right upon notice to the Lessee given from time to time and at any time to require the Lessee to increase any or all of the foregoing limits to reasonably commercial amounts and the Lessee shall promptly comply therewith and shall promptly submit a certificate or certificates evidencing the same to the Port Authority.

(d) Without limiting the provisions hereof, in the event the Lessee maintains the foregoing insurance in limits greater than aforesaid, the Port Authority shall be included therein as an additional insured to the full extent of all such insurance in accordance with all the terms and provisions hereof.

(e) As to the insurance required by the provisions of this Section and as to the insurance covered by the provisions of Section 2, hereof, a certified copy of the policies or a certificate or certificates or binders, evidencing the existence thereof, or binders, shall be delivered by the Lessee to the Port Authority at least thirty (30) days prior to the commencement date of the letting. Each policy, certificate or binder delivered as aforesaid shall bear the endorsement of or be accompanied by evidence of payment of the premium thereon. In the event a binder is delivered, it shall be replaced within thirty (30) days by a certified copy of the policy or a certificate. Each such copy or certificate shall contain a valid provision or endorsement that the policy may not be cancelled, terminated, changed or modified without giving thirty (30) days' written advance notice thereof to the Port Authority. Each such copy or certificate shall contain an additional endorsement providing that the insurance carrier shall not, without obtaining express advance permission from the General Counsel of the

Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provisions of any statutes respecting suits against the Port Authority. Any renewal policy shall be delivered to the Port Authority at least thirty (30) days prior to the expiration of each expiring policy, except for any policy expiring after the date of expiration of the term of this Agreement. The aforesaid insurance shall be written by a company or companies approved by the Port Authority, the Port Authority agreeing not to withhold its approval unreasonably. If at any time any of the insurance policies shall be or become unsatisfactory to the Port Authority as to the form or substance or if any of the carriers issuing such policies shall be or become unsatisfactory to the Port Authority, the Lessee shall promptly obtain a new and satisfactory policy in replacement, the Port Authority covenanting and agreeing not to act unreasonably hereunder. If the Port Authority at any time so requests, the Lessee shall make available to the Port Authority at a location in the Port of New York District, during normal business hours, the original or a certified copy of the entirety of each of the said policies and shall, upon request, deliver to the Port Authority a certified copy of such portions of said policies pertaining to the coverage hereunder as the Port Authority shall request.

Section 17. Signs

(a) Except with the prior written approval of the Port Authority, the Lessee shall not erect, maintain or display any signs or any advertising at or on the exterior parts of the premises or in the premises so as to be visible from outside the premises or at or on any other portion of the Airport outside the premises. Interior signs affecting public safety and security shall be in accordance with established Port Authority standards.

(b) Upon the expiration or termination of the letting, the Lessee shall remove, obliterate or paint out, as the Port Authority may direct, any and all signs and advertising on the premises or elsewhere on the Airport and in connection therewith shall restore the portion of the premises and the Airport affected by such signs or advertising to the same condition as existing prior to the installation of such signs and advertising. In the event of a failure on the part of the Lessee so to remove, obliterate or paint out each and every such sign or advertising and so to restore the premises and the Airport, the Port Authority may perform the necessary work and the Lessee shall pay the cost thereof to the Port Authority on demand.

Section 18. Obstruction Lights

The Lessee shall furnish such obstruction lights as the Port Authority shall direct, of the type and design approved by the Port Authority, and shall install said lights in the locations on the premises designated by the Port Authority and shall maintain

them in first class operating condition at all times. The Lessee shall furnish and install the bulbs and furnish the electricity necessary for the operation of said lights, and shall operate the same in accordance with the directions of the Port Authority. The Port Authority hereby directs that all said obstruction lights shall, until further notice be operated daily for a period commencing thirty (30) minutes before sunset and ending thirty (30) minutes after sunrise (as sunset and sunrise may vary from day to day throughout the year) and for such other periods as may be directed or requested by the control tower at the Airport.

Section 19. Additional Rent and Charges

If the Port Authority is required or elects to pay the sum or sums or incurs any obligations or expense by reason of the failure, neglect or refusal of the Lessee to perform or fulfill any one or more of the conditions, covenants or agreements contained in this Agreement or as a result of an act or omission of the Lessee contrary to the said conditions, covenants and agreements, the Lessee agrees to pay the sum or sums so paid or the expense so incurred including all the interest, costs, damages and penalties, and the same may be added to any installment of rent thereafter due hereunder, and each every part of the same shall be and become additional rent, recoverable by the Port Authority in the same manner and with like remedies as if it were originally a part of the rent as set forth in Section 4 hereof.

Section 20. Late Charges

If the Lessee should fail to pay any amount required to be paid by the Lessee under this Agreement when due to the Port Authority, including without limitation any payment of Ground Rentals, Facility Rentals or Additional Facility Rentals or other rental or other fees or any payment of utility or other charges or if any such amount is found to be due as the result of an audit, then, in such event, the Port Authority may impose (by statement, bill or otherwise) a late charge with respect to each such unpaid amount for each late charge period (hereinbelow described) during the entirety of which such amount remains unpaid, each such late charge not to exceed an amount equal to eight tenths of one percent of such unpaid amount for each late charge period. There shall be twenty-four late charge periods on a calendar year basis; each late charge period shall be for a period of at least fifteen (15) calendar days except one late charge period each calendar year may be for a period of less than fifteen (but not less than thirteen) calendar days. Without limiting the generality of the foregoing, late charge periods in the case of amounts found to have been owing to the Port Authority as the result of Port Authority audit findings shall consist of each late charge period following the date the unpaid amount should have been paid under this Agreement. Each late charge shall be payable immediately upon demand made at any time therefor by the Port Authority. No acceptance by the Port Authority of payment of any unpaid amount or of any unpaid late charge amount shall be deemed a waiver of the right of the Port Authority of

payment of any late charge or late charges payable under the provisions of this Section with respect to such unpaid amount. Each late charge shall be and become additional rent, recoverable by the Port Authority in the same manner and with like remedies as if it were originally a part of the rentals. Nothing in this Section is intended to, or shall be deemed to, affect, alter, modify or diminish in any way (i) any rights of the Port Authority under this Agreement, including without limitation the Port Authority's rights to terminate set forth in Section 26 of this Agreement or (ii) any obligations of the Lessee under this Agreement. In the event that any late charge imposed pursuant to this Section shall exceed a legal maximum such late charges payable under this Agreement shall be payable instead at such legal maximum.

Section 21. Rights of Entry Reserved

(a) The Port Authority, by its officers, employees, agents, representatives and contractors shall have the right at all reasonable times to enter upon the premises for the purpose of inspecting the same, for observing the performance by the Lessee of its obligations under this Agreement, and for the doing of any act or thing which the Port Authority may be obligated or have the right to do under this Agreement.

(b) Without limiting the generality of the foregoing, the Port Authority, by its officers, employees, agents, representatives, and contractors, and furnishers of utilities and other services, shall have the right, for its own benefit, for the benefit of the Lessee, or for the benefit of others than the Lessee at the Airport, to maintain existing and future utility, mechanical, electrical and other systems and to enter upon the premises at all reasonable times to make such repairs, replacements or alterations as may, in the opinion of the Port Authority, be deemed necessary or advisable and, from time to time, to construct or install over, in or under the premises new systems or parts thereof, and to use the premises for access to other parts of the Airport otherwise not conveniently accessible; provided, however, that in the exercise of such rights of access, repair, alteration or new construction the Port Authority shall not unreasonably interfere with the use and occupancy of the premises by the Lessee.

(c) Further, without limiting the generality of this Section, the Port Authority, by its officers, employees, agents, representatives and contractors and furnishers of service shall have the right, for its own benefit, for the benefit of the Lessee, or for the benefit of others than the Lessee at the Airport to maintain the portions of the Distribution Portion of the Underground Fuel Distribution System, as defined in Section 81 hereof, located under or on the premises and to enter upon the premises at all times to make such repairs, replacements or alterations to the Distribution Portion of the Underground Fuel Distribution System as may, in the opinion of the Port Authority, be deemed necessary or desirable and, from time to time to construct or install over, in or under the premises additions or extensions to said Distribution Portion of the

Underground Fuel Distribution System; provided however, that in the exercise of such rights of access, repair, alteration or new construction the Port Authority shall not unreasonably interfere with the use and occupancy of the premises by the Lessee pursuant to the provisions of this Agreement.

Neither the Distribution Portion of the said Underground Fuel Distribution System nor any part thereof shall be or be deemed to be a part of the premises under the Lease.

(d) In the event that any property of the Lessee shall obstruct the access of the Port Authority, its employees, agents or contractors to any of the existing or future utility, mechanical, electrical and other systems and thus shall interfere with the inspection, maintenance or repair of any such system, the Lessee shall move such property, as directed by the Port Authority, in order that access may be had to the system or part thereof for its inspection, maintenance or repair, and, if the Lessee shall fail to so move such property after direction from the Port Authority to do so, the Port Authority may move it and the Lessee hereby agrees to pay the cost of such moving upon demand.

(e) Nothing in this Section shall or shall be construed to impose upon the Port Authority any obligations so to construct or maintain or to make repairs, replacements, alterations or additions, or shall create any liability for any failure so to do. The Lessee is and shall be in exclusive control and possession of the premises and the Port Authority shall not in any event be liable for any injury or damage to any property or to any person happening on or about the premises nor for any injury or damage to the premises or to any property of the Lessee or of any other person located in or thereon (other than those occasioned by the affirmative acts of the Port Authority, its employees, agents and representatives).

(f) At any time and from time to time during ordinary business hours within the six (6) months next preceding the expiration of the letting, the Port Authority, for and by its agents and employees, whether or not accompanied by prospective lessees, occupiers or users of the premises, shall have the right to enter thereon for the purpose of exhibiting and viewing all parts of the same, and during such six month period the Port Authority may place and maintain on the premises the usual "To Let" signs, which signs the Lessee shall permit to remain without molestation.

(g) If, during the last month of the letting, the Lessee shall have removed all or substantially all its property from the premises, the Port Authority may immediately enter and alter, renovate and redecorate the premises.

(h) The exercise of any or all of the foregoing rights by the Port Authority or others shall not be or be construed to be an eviction of the Lessee and shall not be made the grounds for any abatement of rental nor (unless resulting from affirmative acts of

the Port Authority, its employees, agents and representatives) any claim or demand for damages, consequential or otherwise.

Section 22. Condemnation

(a) Definitions

As used in this Section the phrase, "temporary interest," when used with reference to real property, shall mean an interest in such real property entitling the owner of such interest to the possession of such property (whether or not such interest includes or is coextensive with an interest of the Lessee therein under this Agreement), for an indefinite term or for a term terminable at will or at sufferance or for a term measured by a war or an emergency or other contingency or for a fixed term expiring prior to the expiration date of this Lease; and the phrase "permanent interest", when used with reference to real property, shall mean an interest in such real property entitling the owner of such interest to possession thereof, other than a temporary interest as above defined, including among others a fee simple and an interest for a term of years expiring on or after the expiration date of this Agreement.

As used in this Section with reference to any premises or facilities leased to the Lessee for its exclusive use or with reference to the Public Landing Area, the phrase "a material part" shall mean such a part of the said premises or said Public Landing Area that the Lessee cannot continue to carry on its normal operations at the Airport without using such part.

(b) Condemnation or Taking of a Permanent Interest in All or any part of the premises or All or a Material Part of the Public Landing Area.

Upon the acquisition by condemnation or the exercise of the power of eminent domain by any body having a superior power of eminent domain of a permanent interest in all or any part of the premises or of a permanent interest in all or a material part of the Public Landing Area (any such acquisition under this Section 22 hereinafter referred to as a "taking"), the Port Authority shall purchase from the Lessee, and the Lessee shall sell to the Port Authority, the Lessee's leasehold interest (excluding any personal property whatsoever) in the premises except that in the event of a taking of less than all of the said premises, the Port Authority shall purchase and the Lessee shall sell only so much of the Lessee's leasehold interest in the premises as are taken. The sole and entire consideration to be paid by the Port Authority to the Lessee shall be an amount equal to the Unamortized Phase I Capital Investment and Unamortized Phase II Capital Investment (as defined in Section 81 hereof), if any, of the Lessee in the premises or, in the event of a taking of less than all of the said premises, an amount equal to the Unamortized Phase I Capital Investment and Unamortized Phase II Capital Investment (as defined in Section 81 hereof), if any, of the Lessee in so much of the premises as are

taken. However, the Port Authority shall purchase and the Lessee shall sell only if the consideration paid by the Port Authority therefor will constitute "unamortized Port Authority funds other than bond proceeds or Federal or State grants expended for capital improvements at the municipal air terminals," within the meaning of said phrase as used in Section 23, I, D of the Basic Lease or if an amount not less than such consideration can otherwise be retained by the Port Authority (and not be required to be paid to the City of New York) out of the damages or award in respect to such taking without violation of any obligation of the Port Authority to the City of New York under the Basic Lease. Such purchase and sale shall take effect as of the date upon which such body having superior power of eminent domain obtains possession of any such permanent interest in the demised premises or in the Public Landing Area, as the case may be, and in that event, the Lessee (except with respect to its personal property), shall not have any claim or right to claim or be entitled to any portion of the amount which may be awarded as damages or paid as a result of such taking, and all rights to damages, if any, of the Lessee (except for damages to its personal property) by reason thereof are hereby assigned to the Port Authority.

If however, the amount to be paid by the Port Authority (the Unamortized Phase I Capital Investment and the Unamortized Phase II Capital Investment, as defined in Section 81 hereof, if any, of the Lessee in the premises) for such leasehold interest will not constitute "unamortized Port Authority funds other than bond proceeds or Federal or State grants, expended for capital improvements at the municipal air terminals," within the meaning of said phrase as used in Section 23, I, D of the Basic Lease or if an amount not less than such consideration cannot otherwise be retained by the Port Authority (and not be required to be paid to the City of New York) out of the damages or award in respect to such taking without violation of any obligation of the Port Authority to the City of New York under the Basic Lease, then the aforesaid agreement to purchase and sell said leasehold interest shall be null and void; and in any such event, the Lessee shall have the right to appear and file its claim for damages in the condemnation or eminent domain proceedings, to participate in any and all hearings, trials and appeals therein, and to receive such amount as it may lawfully be entitled to receive as damages or payment as a result of such taking, because of its leasehold interest in the premises, up to but not in excess of an amount equal to the Unamortized Phase I Capital Investment and the Unamortized Phase II Capital Investment (as defined in Section 81 hereof), if any, of the Lessee in the premises. The Port Authority and the Lessee hereby agree that as full and final settlement of any sum that may be due as rent or otherwise for the balance of the term of this Lease, the Lessee will pay to the Port Authority the excess, if any, which the Lessee may be entitled to receive over the foregoing sum. If there be no excess, any sum that may be due as rent or otherwise for the balance of the term of this Lease shall abate.

In the event of the taking of all of the premises and if the Lessee has no Unamortized Phase I Capital Investment or Unamortized Phase II Capital Investment (as defined in Section 81 hereof) in the premises at the time of the taking, then the aforesaid agreement to purchase and sell said leasehold interest shall be null and void; and in that event, this Lease and all rights granted by this Lease to the Lessee to use or occupy the premises for its exclusive use or for its use in common with others at the Airport and all rights, privileges, duties and obligations of the parties in connection therewith or arising thereunder shall terminate as of the date of the taking, and in that event, the Lessee (except with respect to its personal property) shall not have any claim or right to claim or be entitled or paid as a result of such taking, and all rights to damages, if any, of the Lessee (except for damages to its personal property) by reason thereof are hereby assigned to the Port Authority.

In the event that the taking covers only a material part of the premises, then the Lessee and the Port Authority shall each have an option exercisable by notice given within thirty (30) days after the effective date of such taking to terminate the letting hereunder with respect to the premises not taken, as of the date of such taking and such termination shall be effective as if the date of such taking were the original date of expiration hereof. If the Port Authority exercises this option, it shall purchase from the Lessee the Lessee's leasehold interest (excluding any personal property whatsoever) in the premises not taken for a consideration equal to the Unamortized Phase I Capital Investment and the Unamortized Phase II Capital Investment (as defined in Section 81 hereof), if any, of the Lessee in the premises not taken. If the letting of the entire premises is not terminated, the settlement or abatement of rentals after the date possession is taken by the body having a superior power of eminent domain shall be in accordance with Section 4 hereof.

(c) Condemnation or Taking of a Permanent Interest in Less Than a Material Part of the Public Landing Area.

Upon the acquisition by condemnation or the exercise of the power of eminent domain by a body having a superior power of eminent domain of a permanent interest in less than a material part of the Public Landing Area, the Port Authority and the Lessee each shall have the right to appear and file claims for damages, to the extent of their respective interests, in the condemnation or eminent domain proceedings, to participate in any and all hearings, trials and appeals therein, and receive and retain such amount as they may lawfully be entitled to receive as damages or payment as a result of such taking. However, if at the time of such taking the Lessee has no Unamortized Phase I Capital Investment or Unamortized Phase II Capital Investment (as defined in Section 81 hereof) in the premises, in that event, the Lessee (except with respect to its personal property) shall not have any claim or right to claim or be entitled to any portion of the amount which may be awarded as

damages or paid as a result of such taking, and all rights to damages, if any, of the Lessee (except for damages to its personal property) by reason thereof are hereby assigned to the Port Authority.

(d) Condemnation or Taking of a Temporary Interest in All or Any Part of the Premises or All or a Material Part of the Public Landing Area.

Upon the acquisition by condemnation or the exercise of the power of eminent domain by a body having a superior power of eminent domain of a temporary interest in all or any part of the premises or of a temporary interest in all or a material part of the Public Landing Area, there shall be no abatement of any rental payable by the Lessee to the Port Authority under the provisions of the Agreement but the Lessee shall have the right to claim and in the event of an award thereof shall be entitled to retain the amount which may be awarded as damages or paid as a result of the condemnation or other taking of such temporary interest, provided, that the Lessee shall be obligated to pay over to the Port Authority all such payments as may be made to the Lessee as damages or in satisfaction of such claim, after deduction of (a) reasonable expenses incurred by the Lessee in the prosecution of such claim; (b) an amount equal to the Unamortized Phase I Capital Investment and the Unamortized Phase II Capital Investment (as defined in Section 81 hereof), if any, of the Lessee in the premises, or in the event of a taking of less than all of the said premises, an amount equal to such Unamortized Phase I Capital Investment and Unamortized Phase II Capital Investment in the premises as are taken, to the extent in either case that the same is to be amortized over the period of the taking; and (c) the then present capitalized value of the Lessee's obligation for rentals thereafter payable during the period of the taking in respect to the demised premises, or, in the event of a taking of less than all of the said premises, in respect to the premises so taken.

In the event that the taking covers a material part but less than all of the premises, then the Lessee and the Port Authority shall each have an option, exercisable by notice given within thirty (30) days after the effective date of such taking, to suspend the term of the letting of such of the premises as are not so taken during the period of the taking, and, in that event, the rentals for such premises shall abate for the period of the suspension. If the Port Authority exercises the option, it shall purchase from the Lessee the Lessee's leasehold interest (excluding any personal property whatsoever) in the premises not taken for the period of suspension for a consideration equal to the Unamortized Phase I Capital Investment and Unamortized Phase II Capital Investment (as defined in Section 81 hereof), if any, of the Lessee in such premises which is to be amortized over the period of such suspension.

(e) Condemnation or Taking of a Temporary Interest in Less Than a Material Part of the Public

Landing Area.

Upon the acquisition by condemnation or the exercise of the power of eminent domain by a body having a superior power of eminent domain of a temporary interest in less than a material part of the Public Landing Area, the Lessee shall not have any claim or right to claim or be entitled to any portion of the amount which may be awarded as damages or paid as a result of such condemnation or taking, and all rights to damages, if any, of the Lessee, including consequential damages, by reason of such condemnation or taking, are hereby assigned to the Port Authority.

Section 23. Right of Termination/Security Deposit Requirements - Securities Ownership

(a) The occurrence of the events in either subparagraph (i) or (ii) of this paragraph shall be and shall be deemed an event of termination (hereinafter a "Change in Control Termination Right Event") under Section 26 of the Lease, and upon the occurrence of any such Change in Control Termination Right Event or at any time thereafter during the continuance thereof (subject to paragraph (h) below) the Port Authority shall have the right to terminate the Lease and the letting hereunder pursuant to the provisions of said Section 26, provided, however, that the provisions of Section 30 hereof shall not apply to such termination (except that this proviso shall not be deemed to release or relieve the Lessee from any of its obligations arising or accruing on or prior to such termination):

(i) After the effective date of this Agreement, any individual, corporation, partnership or other entity (but excluding a Holding Company, as defined in subparagraph (f) below, any Subsidiary or any employee benefit plan sponsored or maintained by any such Holding Company, the Lessee or any Subsidiary, including any trustee of such plan acting as trustee of such plan or other person or entity organized, appointed or established to act as fiduciary for such plan pursuant to the terms of such plan and also excluding a beneficial owner who qualifies to file, and has properly and lawfully filed, a schedule 13G pursuant to and under Rule 13d-1(b)(1) of the Exchange Act (a "Schedule 13G owner") so long as such person continues to qualify under the Exchange Act as a Schedule 13G owner), shall become, directly or indirectly, a beneficial owner (as described below) of more than 50% of the outstanding Voting Securities of the Lessee (hereinafter a "Change in Control Event") which shall result in a detectible decrease in the amount of, and a change in, the nature of the Lessee's scheduled passenger aircraft operations at the Airport; unless the Port Authority shall have given its prior written consent thereto;

(ii) After the effective date of this Agreement, a Holding Company or a Subsidiary shall become the beneficial owner of more than 50% of the outstanding Voting Securities of the Lessee (hereinafter also a "Change in Control Event"), which has the effect of causing this Lease to become the only asset or

a significantly greater portion of the assets of the Lessee than immediately prior to such Change in Control Event; unless the Port Authority shall have given its prior written consent thereto.

(b) The foregoing rights of termination shall be in addition to all other rights of termination the Port Authority has under this Agreement and the failure of the Port Authority to exercise any right of termination under this Section at any time in which it may have such right shall, subject to paragraph (h) below, not affect, waive or limit its right to exercise said right of termination at any subsequent time.

(c) (1) The Lessee represents and warrants to the Port Authority, knowing that the Port Authority is relying on the accuracy of such representations and warranties, that, as of March 31, 1994, it is a corporation organized and existing under the laws of the State of Delaware, and has issued and has outstanding or reserved 87,167,156 Voting Securities which constitute all of its outstanding Voting Securities.

(d) The phrase "beneficial owner" shall have the meaning as defined in Rule 13d-3 of the Securities Exchange Act of 1934, as amended from time to time (herein sometimes referred to as the "Exchange Act").

(e) The term "Voting Security" or "Voting Securities" shall include any stock (other than the Lessee's treasury stock held, owned and controlled by the Lessee), bond or other obligation of a corporation the holder of which has any voting rights including but not limited to the right to vote for the election of members of the board of directors of said corporation and shall include any security convertible into a voting security and any right, option or warrant to purchase a voting security.

(f) For purposes of this Section 23, "Holding Company" shall mean a corporation or other entity properly formed under law of any State or territory of the United States or of the District of Columbia for the lawful purpose of beneficially owning more than 50% of the outstanding Voting Securities of the Lessee if the stockholders of the Lessee immediately prior to such transaction obtain substantially the same proportionate ownership interests in such corporation or other entity immediately after such transaction as they had in the Lessee immediately prior to such transaction.

(g) "Subsidiary" shall mean any corporation (other than a Holding Company, or if none exists, the Lessee) in an unbroken chain of corporations beginning with a Holding Company, or if none exists, the Lessee, if each of the corporations (other than the last corporation in the unbroken chain) owns 50% or more of the total outstanding voting securities in one of the other corporations in the chain.

(h) (1) The Lessee hereby expressly covenants, agrees, represents and warrants to the Port Authority that the Lessee, to enable the Port Authority to exercise its rights under this Section 23, shall act in good faith and shall, within sixty (60) days after occurrence of a Change in Control Event under subparagraphs (a)(i) or (ii) above, provide to the Port Authority all information, documentation and materials, including without limitation, any and all filings with the United States Securities Exchange Commission, necessary or appropriate, or as may be reasonably requested by the Port Authority that are necessary or appropriate for the Port Authority to exercise its right(s) of termination, should it so elect, within the time period specified in subparagraph (3) below of this subparagraph (h). Notwithstanding the foregoing, the Lessee shall have no obligation to provide to the Port Authority any privileged or confidential information, documentation or materials that have not been provided to all of the Lessee's major creditors, except if and to the extent such information is already in or becomes part of the public domain.

(2) Without limiting the foregoing, the Lessee further covenants, agrees, represents and warrants to the Port Authority that the Lessee shall within thirty (30) days after the occurrence of a Change in Control Event, give the Port Authority written notice thereof.

(3) In the event, and upon and subject to the condition, that the Lessee shall have fully complied with subparagraphs (h)(1) and (2) above, the right of termination provided hereunder to the Port Authority with respect to any Change in Control Termination Right Event shall obtain and extend for a period of no longer than one year from the date of the related Change in Control Event; provided, however, that said time limitation shall not apply where the Lessee has, for any reason whatsoever, failed or refused to provide the information and other matters described in subparagraph (1) above or the written notice required under subparagraph (2) above.

(i) The above provisions of this Section 23 shall not limit the Lessee's limited right of assignment provided in paragraph (a) of Section 25 hereof and said limited right of assignment under Section 25(a) exercised in accordance therewith and subject thereto shall not be deemed an event of termination under this Section 23.

(h) (1) For purposes of this Section 23 the term "Section 23 Security Deposit Requirement Event" shall mean:

After the effective date of this Agreement, any individual, corporation, partnership or other entity (but excluding a Holding Company as defined above, any Subsidiary or any employee benefit plan sponsored or maintained by any such Holding Company, the Lessee or any Subsidiary including any trustee of such plan acting as trustee of such plan or other person or entity organized, appointed or established to act as fiduciary for such plan pursuant to the terms of such plans and

also excluding a beneficial owner who qualifies to file, and has properly and lawfully filed, a schedule 13G pursuant to and under Rule 13d-1(b)(1) of the Exchange Act (a "Schedule 13G owner") so long as such person continues to qualify under the Exchange Act as a Schedule 13G owner), shall become, directly or indirectly, a beneficial owner (as described above) of 25% or more of the outstanding Voting Securities of the Lessee.

(2) Upon any occurrence (and as to each such occurrence) of a Section 23 Security Deposit Requirement Event, the following provisions shall automatically, and without any further notice from or action by the Port Authority, become operative and in full force and effect and the Lessee shall and hereby agrees to fully comply thereunder:

"Section 23A. Security Deposit

(a) Upon any occurrence of a Section 23 Security Deposit Requirement Event as defined in Section 23 hereof, the Lessee shall deposit with the Port Authority (and shall keep deposited throughout the term of this Lease) either the sum equivalent to a total of one month's installment of all rentals then payable under Section 4 hereof in cash, or bonds of the United States of America, or of The Port Authority of New York and New Jersey, or of the States of New York or New Jersey having a market value of that amount, as security for the full, faithful and prompt performance of and compliance with, on the part of the Lessee, all of the provisions, terms and conditions of this Lease on its part to be fulfilled, kept, performed or observed. Bonds qualifying for deposit hereunder shall be in bearer form but if bonds of that issue were offered only in registered form, then the Lessee may deposit such bond or bonds in registered form, provided, however, that the Port Authority shall be under no obligation to accept such deposit of a bond in registered form unless such bond has been re-registered in the name of the Port Authority (the expense of such re-registration to be borne by the Lessee) in a manner satisfactory to the Port Authority. The Lessee may request the Port Authority to accept a registered bond in the Lessee's name and if acceptable to the Port Authority the Lessee shall deposit such bond together with a bond power (and such other instruments or other documents as the Port Authority may require) in form and substance satisfactory to the Port Authority. In the event the deposit is returned to the Lessee, any expenses incurred by the Port Authority in re-registering a bond to the name of the Lessee shall be borne by the Lessee. In addition to any and all other remedies available to it, the Port Authority shall have the right, at its option, at any time and from time to time, with or without notice to use the said deposit or any part thereof in whole or partial satisfaction of any of its claims or demands against the Lessee. There shall be no obligation on the Port Authority to exercise such right and neither the existence of such right nor the holding of the deposit itself shall cure any default or breach of this Agreement on the part of the Lessee.

In the event that the Port Authority shall at any time or times so use the deposit, or any part thereof, or if bonds shall have been deposited and the market value thereof shall have declined below the above-mentioned amount, the Lessee shall on demand of the Port Authority and within two (2) days thereafter, deposit with the Port Authority additional cash or bonds so as to maintain the deposit at all times to the full amount above stated, and such additional deposits shall be subject to all the conditions of this Section 23A. After the expiration or earlier termination of the letting under this Agreement (or any extension thereof) and upon condition that the Lessee shall then be in no wise in default under any part of this Agreement, and upon written request therefor by the Lessee, the Port Authority will return the said deposit to the Lessee less the amount of any and all unpaid claims and demands (including estimated damages) of the Port Authority by reason of any default or breach by the Lessee of this Agreement or any part thereof. The Lessee agrees that it will not assign or encumber the said deposit and any such assignment or encumbrance shall be void as to the Port Authority. The Lessee may collect or receive annually any interest or income earned on bonds and interest paid on cash deposited in interest-bearing bank accounts less any part thereof or amount which the Port Authority is or may hereafter be entitled or authorized by law to retain or to charge in connection therewith, whether as or in lieu of an administrative expense or custodial charge, or otherwise, provided, however, that the Port Authority shall not be obligated by this provision to place or to keep cash deposited hereunder in interest-bearing bank accounts. Without limiting the foregoing provisions of this Section 23A with respect to any bonds deposited by the Lessee, the Port Authority shall have the right, in order to satisfy any of its claims or demands against the Lessee, to sell the same in whole or in part, at any time and from time to time, with or without prior notice, at public or private sale, all as determined by the Port Authority together with the right to purchase the same at such sale free of any claims, equities or rights of redemption of the Lessee. The Lessee hereby waives any right to participate therein or any right to prior notice or demand of the amount or amounts of the Port Authority's claims or demands against the Lessee. The proceeds of any such sale shall be applied by the Port Authority first to the costs and expenses of the sale (including but not limited to any advertising or commission expenses) and then to the amounts due the Port Authority from the Lessee. Any balance remaining shall be retained in cash toward bringing the security deposit to the sum specified above provided that this shall not relieve the Lessee from maintaining the deposit in the full amount stated above.

(b) In satisfaction of the security deposit required by this Section 23A, the Lessee may, at its option, cause to be delivered to the Port Authority as security for the full, faithful and prompt performance of and compliance with, on the part of the Lessee, all of the provisions, terms and conditions

of this Agreement of Lease on its part to be fulfilled, kept, performed or observed, a clean, irrevocable letter of credit issued to and in favor of the Port Authority, by a banking institution having its main office within the Port of New York District and acceptable to the Port Authority, payable in the Port of New York District, in the amount of the sum equivalent to the total of one month's installment of all rentals then payable under Section 4 hereof and in such form and content which shall have been approved in advance by the Port Authority, and which letter of credit (which may be periodically renewable) shall ultimately expire no later than a date six months after the expiration, termination or revocation of this Agreement. In addition to any and all other remedies available to it, the Port Authority shall have the right, at its option, at any time and from time to time, with or without notice to draw upon the said letter of credit or any part thereof in whole or partial satisfaction of any of its claims or demands against the Lessee. There shall be no obligation on the Port Authority to exercise such right and neither the existence of such right nor the holding of a letter of credit shall cure any default or breach of this Agreement on the part of the Lessee. If requested by the Port Authority, the said letter of credit shall be accompanied by a letter expressing the opinion of counsel for the banking institution that the issuance of the said clean, irrevocable letter of credit is an appropriate and valid exercise by the banking institution of the corporate power conferred upon it by law. If at any time and from time to time during the term of this Agreement, including any extension, a payment is made to the Port Authority under any letter of credit running in its favor as provided in this Section 23A, the Lessee shall cause to be delivered to the Port Authority on demand from time to time and at any time made, cash or an additional clean, irrevocable letter of credit satisfactory to and issued in favor of the Port Authority by a banking institution satisfactory to the Port Authority, the form and content of which letter of credit shall have been approved by the Port Authority and which, if required by the Port Authority, shall be accompanied by an opinion of counsel as aforesaid and in such an amount so that at all times during the term of this Agreement, the Port Authority shall have clean, irrevocable letters of credit or cash adding up to a total amount of the sum equivalent to the total of one month's installment of all rentals then payable under Section 4 hereof. If at any time any bank shall fail to make payment to the Port Authority in accordance with any letter of credit issued by any such bank in favor of the Port Authority as herein provided, the Lessee shall cause to be delivered to the Port Authority, on demand, cash or another clean, irrevocable letter of credit satisfactory to the Port Authority and issued by another banking institution in favor of the Port Authority and satisfactory to it, the form and content of which letter of credit shall have been approved by the Port Authority and which, if requested by the Port Authority, shall be accompanied by an opinion of counsel as aforesaid, in an amount equal to the amount of the original letter of credit. Notwithstanding

anything hereinabove provided, any failure of any banking institution issuing a letter of credit in favor of the Port Authority to make payments as provided in the said letter of credit shall, after failure of the Lessee to make such payment upon demand therefor by the Port Authority, be and be deemed a breach of this Agreement by the Lessee. No action by the Port Authority pursuant to the terms of any letter of credit, or receipt by the Port Authority of funds from any bank issuing any such letter of credit, shall be or be deemed to be a waiver of any default by the Lessee under the terms of this Agreement and all remedies of this Agreement and of the Port Authority consequent upon such default shall not be affected by the existence of a recourse to any such letter of credit. In the event more than one form of security shall be available to the Port Authority hereunder, use, in accordance with this Section 23A, of either cash or other security deposited by the Lessee or a letter or letters of credit delivered to the Port Authority hereunder in lieu thereof shall be at the sole and complete discretion of the Port Authority.

(c) For purposes of this Section, the Lessee hereby certifies to the Port Authority that its Federal Employer tax identification number is 58-0218548."

Section 24. Trust Indenture

In the event that the Port Authority is of the opinion that it is advisable due to statutory changes (occurring after the execution of this Agreement) in the laws of the United States of America regarding bankruptcy and insolvency, which changes materially lessen or limit the rights or remedies of a landlord should a tenant under a lease of non-residential real property become a debtor pursuant to the aforesaid laws, (such changes being hereinafter called "Adverse Changes in Landlord Rights"), the Port Authority and the Lessee agree that this Agreement, as the same may have been theretofore amended or supplemented and as then amended by a Supplement to be prepared by the Port Authority and executed promptly by the Lessee and the Trust (described below) and delivered to the Port Authority for its prompt execution, shall be assigned to a Trust, created as provided herein. The Trust shall be created by a Trust Indenture to be prepared by the Port Authority and executed by the Port Authority and the Lessee. The Port Authority and the Lessee hereby agree to each act in good faith with respect to mutually agreeing upon the terms and conditions of said Trust Indenture, said Supplement, any Supplemental Agreement referred to hereinbelow and the Sublease referred to hereinbelow in order to carry out the intent of this provision. The Trust would be under the voting control of the trustee designated by the Lessee, unless and until Triggering Events, as defined in Exhibit X occurred, in which event voting control would shift to the trustee designated by the Port Authority. The occurrence of such Triggering Events would be as certified by the independent trustee jointly designated by the Port Authority and the Lessee. The Port Authority agrees that it will simultaneously with the assignment of this Agreement, as the

same may have been theretofore amended or supplemented, to the Trust, consent to the Trust entering into a sublease with the Trust as landlord and the Lessee, as sublessee, provided however that such sublease shall be a month-to-month periodical tenancy terminable in accordance with law on the basis of the nature of said month-to-month periodical tenancy by the Lessee, sublessee, or the trustee for the Trust, as landlord, and the Trust Indenture shall provide for the same. If four consecutive calendar quarters shall elapse after voting control of the Trust shifted to the trustee designated by the Port Authority and (i) the Trustee designated by the Port Authority shall not have, by notice, advised the Lessee that it may no longer occupy the premises as a month-to-month periodical tenant pursuant to the aforesaid sublease and the Lessee in fact is so occupying and (ii) none of the aforesaid Triggering Events shall have occurred within said four consecutive calendar quarters or continued to occur or shall have again occurred, the Port Authority will, at the request of the Lessee prepare a Supplemental Agreement to be executed by the Trust and the Lessee promptly, and delivered to the Port Authority for its prompt execution reassigning this Agreement to the Lessee. If the Trust becomes the assignee of this agreement as provided above, and there are further changes in Landlord Rights such that the rights and remedies of a landlord, as aforesaid, are restored, the Port Authority shall prepare and tender to the Lessee and the Trust a Supplemental Agreement to be executed and delivered by each of them promptly and returned to the Port Authority for its prompt execution, reassigning this Agreement, as the same may have been theretofore amended or supplemented, to the Lessee.

Section 25. Assignment and Sublease

(a) The Lessee covenants and agrees that it will not sell, convey, transfer, mortgage, pledge or assign this Agreement or any part thereof, or any rights created thereby or the letting thereunder or any part thereof without the prior written consent of the Port Authority; provided, however, that this Agreement may be assigned in its entirety without such consent to any successor in interest of the Lessee which is or is to be a Scheduled Aircraft Operator, and with or into which the Lessee may merge or consolidate, or which may succeed to the assets of the Lessee or the major portion of its assets related to its air transportation system, but in any such event, such assignment shall not take effect before the assignee is actually engaged in the business of scheduled transportation by aircraft; provided, further, that such successor entity or purchaser executes and delivers to the Port Authority an instrument in a form satisfactory to the Port Authority assuming the obligations of the Lessee as if it were the original tenant hereunder.

(b) The Lessee shall not sublet the premises or any part thereof, without the prior written consent of the Port Authority; provided, however, that if any of the events set forth in Section 49 (a)(1) hereof shall occur, the Lessee may sublet the entire premises or assign this Agreement, with the consent of the Port Authority

thereto not to be unreasonably withheld if the sublessee or assignee is a Scheduled Aircraft Operator.

(c) If without the prior written consent of the Port Authority, the Lessee assigns, sells, conveys, transfers, mortgages, pledges or sublets in violation of paragraph (a) or (b) of this Section or if the premises are occupied by anybody other than the Lessee, the Port Authority may collect rent from any assignee, sublessee or anyone who claims a right under this Agreement or letting or who occupies the premises, and the Port Authority shall apply the net amount collected to the rental herein reserved; but no such collection shall be deemed a waiver by the Port Authority of the covenants contained in paragraph (a) and (b) of this Section or an acceptance by the Port Authority of any such assignee, sublessee, claimant or occupant as Lessee, nor a release of the Lessee by the Port Authority from the further performance by the Lessee of the covenants contained herein.

(d) Any consent granted by the Port Authority pursuant to the provisions hereof shall not be construed or deemed to release, relieve or discharge any succeeding assignee, successor or transferee of the Lessee or any other person claiming any right, title or interest in this Agreement from the requirement of obtaining the prior written consent of the Port Authority in the event it wishes to sell, convey, transfer, mortgage, pledge, sublet or assign this Agreement or any part thereof, or any rights created thereby or the letting hereunder or any part thereof; and such assignee, successor or transferee or other person claiming any right, title or interest in this Agreement shall not sell, convey, transfer, mortgage, pledge, sublet or assign this Agreement or any part thereof, or any rights created thereby or the letting thereunder or any part thereof without such prior written consent of the Port Authority.

(e) The Lessee shall not use or permit any person to use the premises or any portion thereof for any purpose other than the purposes stated in Section 5 hereof. Except as provided in this Agreement or otherwise permitted in writing by the Port Authority, the Lessee shall not permit the premises to be used or occupied by any person other than its own officers, employees, passengers, contractors and representatives.

(f) The Port Authority shall not assign or otherwise transfer this Lease or any of its rights hereunder (i) to any private person unless such private person at the time of such assignment or transfer assumes the obligations of the Port Authority under this Lease; or (ii) to the City of New York unless the City of New York at the time of such assignment or transfer assumes the obligations of the Port Authority under this Lease.

Section 26. Termination by the Port Authority

(a) If any one or more of the following events shall occur, that is to say:

(1) The Lessee shall become insolvent or shall take the benefit of any present or future insolvency statute, or shall make a general assignment for the benefit of creditors, or file a voluntary petition in bankruptcy or a petition or answer seeking an arrangement or its reorganization or the readjustment of its indebtedness under the federal bankruptcy laws or under any other law or statute of the United States or of any state thereof, or consent to the appointment of a receiver, trustee, or liquidator of all or substantially all of its property; or

(2) By order or decree of a court the Lessee shall be adjudged a bankrupt or an order shall be made approving a petition filed by any of its creditors, seeking its reorganization or the readjustment of its indebtedness under the federal bankruptcy laws or under any law or statute of the United States or of any state thereof provided that if any such judgment or order is stayed or vacated within sixty (60) days after the entry thereof, any notice of termination shall be and become null, void and of no effect; or

(3) By or pursuant to, or under authority of any legislative act, resolution or rule, or any order or decree of any court or governmental board, agency or officer having jurisdiction, a receiver, trustee, or liquidator shall take possession or control of all or substantially all of the property of the Lessee, and such possession or control shall continue in effect for a period of sixty (60) days; or

(4) The Lessee shall voluntary abandon, desert or vacate the premises or discontinue its operations at the premises, or after exhausting or abandoning any right of further appeal, the Lessee shall be prevented for a period of thirty (30) days by action of any governmental agency other than the Port Authority having jurisdiction thereof, from conducting its operations at the Airport, regardless of the fault of the Lessee; or

(5) Any lien is filed against the premises because of any act or omission of the Lessee and shall not be removed, discharged or bonded within thirty (30) days after the Lessee has received notice thereof; or

(6) Except as otherwise provided in Section 24 or paragraph (a) of Section 25 hereof, the letting hereunder or the interest or estate of the Lessee under this Agreement shall be transferred directly by the Lessee or shall pass to or devolve upon, by operation of law or otherwise, any other person, firm or corporation; or

(7) A petition under any part of the federal bankruptcy laws or an action under any present or future insolvency law or statute shall be filed against the Lessee and shall not be dismissed within sixty (60) days after the filing thereof; or

(8) Except as otherwise provided in paragraph (a) of Section 25 hereof, the Lessee, if a corporation, shall, without the prior written approval of the Port Authority, become possessor or merged corporation in a merger, a constituent corporation in a consolidation, or a corporation in dissolution; or

(9) The Lessee shall fail duly and punctually to pay the rentals or fees or to make any other payment required hereunder when due to the Port Authority and shall continue in its failure to pay rentals or fees or to make any other payment required hereunder for a period of twenty (20) days after receipt of written notice by it from the Port Authority to make such payment; or

(10) The Lessee shall fail to keep, perform and observe each and every other promise, covenant and agreement set forth in this Agreement on its part to be kept, performed, or observed, within thirty (30) days after receipt of notice of default thereunder from the Port Authority (except where fulfillment of its obligation requires activity over a period of time, and the Lessee shall have commenced to perform whatever may be required for fulfillment within thirty (30) days after receipt of written notice and continues such performance without interruption except for causes beyond its control);

then upon the occurrence of any such event or at any time thereafter during the continuance thereof, the Port Authority may upon twenty (20) days' notice terminate the rights of the Lessee hereunder and the letting, such termination to be effective upon the date specified in such notice. Such right of termination and the exercise thereof shall be and operate as a conditional limitation.

(b) No acceptance by the Port Authority of rentals, fees, charges or other payments in whole or in part for any period or periods after a default of any of the terms, covenants and conditions hereof to be performed, kept or observed by the Lessee shall be deemed a waiver of any right on the part of the Port Authority to terminate the letting.

(c) No waiver by the Port Authority of any default on the part of the Lessee in performance of any of the terms, covenants or conditions hereof to be performed, kept or observed by the Lessee shall be or be construed to be a waiver by the Port Authority of any other or subsequent default in performance of any of the said terms, covenants and conditions.

(d) The rights of termination described above shall be in addition to any other rights of termination provided in this Agreement and in addition to any rights and remedies that the Port Authority would have at law or in equity consequent upon any breach of this Agreement by the Lessee, and the exercise by the Port Authority of any right of termination shall be without prejudice to any other such rights and remedies.

Section 27. Additional Rights of the Port Authority to Direct the Use of Portions of the Premises by Other Scheduled Airlines

(a) It is hereby agreed that for the purpose of this Section 27 the term "the Lessee's Commencement Basic Schedules" shall be and mean a "revenue seats daily average" (as said term is defined in paragraph (e) hereof) for the premises of (2.a.)

(b) Commencing with calendar year 1994 and for each and every calendar year thereafter, the Port Authority may ascertain the revenue seats daily average of the Lessee for the Airport for the preceding calendar year in accordance with the provisions of paragraph (e) hereof, which revenue seats daily average shall be the Lessee's Basic Schedules for the preceding calendar year and shall be referred to as such. Thus, for example, in the case of the first calculation which would be based on the calendar year 1993 experience, said revenue seats daily average for the premises shall be called the "Lessee's Basic Schedules for 1993".

(c) Without limiting or affecting the provisions of Section 25 hereof, as of January 1, 1994 and as of January 1 of each succeeding calendar year (i) in the event that the Lessee's Basic Schedules for the immediately preceding calendar year for the Airport are less than (2.a.) of the Lessee's Commencement Basic Schedules or (ii) in the event that because of reasons beyond the control of the Lessee the Lessee's Basic Schedules for the immediately preceding two calendar years are less than (2.a.) of the Lessee's Commencement Basic Schedules, then in either of such events and without limiting each and every other right the Port Authority has under this Agreement or otherwise, the Port Authority shall have the right, upon six (6) months' written notice to the Lessee, to require the Lessee and the Lessee hereby agrees to make available accommodations (as hereinafter defined) at the premises as directed by the Port Authority in the amount and to the extent set forth in paragraph (f) hereof to Scheduled Aircraft Operators (as said term is defined in Section 81 hereof) and also including Scheduled Commuter Aircraft Operators selected by the Lessee (hereinafter in this Section 27 collectively called "the Scheduled Aircraft Operators"). The Lessee shall make such accommodations available from time to time during the entire period commencing on the effective date set forth in the aforesaid notice and ending on the earlier of: (i) when the Lessee's Basic Schedules for a calendar year, determined in accordance with the foregoing shall have been (2.a.)) or more of the Lessee's Commencement Basic Schedules or (ii) sixty (60) days in advance of the effective date of any published flight schedules that will result in the Lessee's Basic Schedules on the effective date of said published flight schedules equalling or exceeding (2.a.) of the Lessee's Commencement Basic Schedules (hereinafter called "a period of underutilization"). The term "accommodations" as used in this Section 27 shall mean aircraft ramp and gate position capacity and related passenger terminal facilities including, but not limited to passenger ticketing, passenger check-

in, baggage handling and flight information systems, passenger lounge and waiting areas and appropriate signage and public identification. Such accommodations may be accomplished by the Lessee by making available and providing non-exclusive use of gate positions and other related facilities to Scheduled Aircraft Operators pursuant to handling agreements (as defined in Section 81 hereof) between the Lessee and any such Scheduled Aircraft Operator (hereinafter called "the Handled Airline"). Each such handling agreement shall be subject to the prior and continuing approval of the Port Authority and the execution among the Port Authority, the Lessee, and the Handled Airline of a form of consent agreement prepared by the Port Authority. Moreover, and without limiting the foregoing, the Lessee will at all times keep the Port Authority informed and advised and will consult with the Port Authority from time to time as to all aspects of its accommodation of Scheduled Aircraft Operators hereunder.

It is understood furthermore that the accommodation contemplated hereunder may involve the use of subleases of exclusive areas of the premises in addition to or in lieu of handling agreements. Any sublease with a Scheduled Aircraft Operator (hereinafter called a "Sublessee Airline") will similarly be subject to the prior and continuing approval of the Port Authority and the execution of a consent agreement prepared by the Port Authority, and executed by the Port Authority, the Lessee and the Sublessee Airline. Nothing contained herein shall in any way affect the discretion of the Port Authority in granting or withholding its consent to a handling agreement or a sublease with a Sublessee Airline, proposed by the Lessee or directed by the Port Authority whether or not during a period of underutilization, and such consent may contain such terms and conditions including but not limited to such financial or other conditions which may include a fixed charge or a charge based upon a percentage of the Lessee's gross receipts arising therefrom, as the Port Authority may, at that time, elect, and all provisions of the Lease requiring the prior written consent or approval of the Port Authority shall in no way be waived, impaired, limited or affected.

Notwithstanding anything to the contrary contained herein the Lessee understands and agrees that the Lessee shall not perform any services and functions pursuant to any handling agreement or sublease with a Handled Airline or a Sublessee Airline with respect to which the Port Authority has specifically withheld consent and approval in the consent agreement to such handling agreement or sublease. The Handled Airline and the Sublessee Airline may either perform said services and functions themselves or use the services of the authorized service organization, including but not limited to in-flight caterers and ramp handlers performing such services or functions at the Airport. The Lessee however may make the necessary arrangements with the authorized service organization performing such services and functions at the Airport to have such services and functions performed for the Handled Airline or the Sublessee Airline.

Without limiting any term or provision of the Lease, the Lessee shall, with respect to each sublease and ground handling agreement, as aforesaid, maintain in accordance with accepted accounting practice for at least four years and if it expires or terminates during such four year period then at least one year after the applicable expiration or termination date of each handling agreement and of such sublease during the term of the Lease or after the expiration or termination of the Lease, (unless they are material to litigation initiated within that time in which event they shall be preserved until final determination of the controversy) records and books of account recording all transactions, at through or in anywise connected with the handling agreements and subleases and shall use and maintain such systems for recording transactions under or in connection with the handling agreements and subleases all to the end that accurate and complete records of gross receipts be maintained including identification of the gross receipts of the Lessee pertaining to any particular handling agreement, sublease or other agreement, all of the foregoing to be kept at all times in the Port of New York District, or, on the condition that the Lessee shall pay to the Port Authority all travel costs and expenses determined by the Port Authority for Port Authority auditors and other representatives in connection with any audit at locations outside the Port of New York District, the Lessee may maintain said records and books of account and make them available to the Port Authority at the Lessee's offices at 1030 Delta Boulevard, Hartsfield Atlanta International Airport, Atlanta, Georgia 30320-6000.

Without limiting any term, or provision of the Lease, the Lessee shall permit in ordinary business hours during the term of this Agreement and for one year thereafter and during such further period as is mentioned in the preceding paragraph, the examination, inspection and audit by the officers, employees and representatives of the Port Authority of such books of account and systems mentioned above and also any records and books of account, and systems of any company which is owned or controlled by the Lessee if said company performs services, similar to those performed by the Lessee anywhere in the Port of New York District. The Lessee shall furnish to the Port Authority from time to time (but not more often than once a month) statements of the Lessee setting forth its gross receipts as required hereunder, and such further itemization, details and information pertaining to the handling agreements and subleases as the Port Authority may from time to time reasonably request.

The Lessee agrees that all handling agreements and subleases shall be at reasonable and at not discriminatory rates, fees and charges which shall be based upon the recovery by the Lessee of a pro rata share of the Lessee's costs of (i) operation and maintenance of the premises, (ii) the services provided to the Handled Airline or the Sublessee Airline and (iii) the Lessee's investment in the premises not otherwise included in the above and (iv) the Lessee's reasonable overhead (including reasonable charges

for administration) provided, however, that it is understood and agreed that the following shall not be a reason for the Lessee to refuse a sublease or handling agreement or to impose any unreasonable conditions or limitations on operations in connection therewith under this Section 27: (aa) possible or potential labor disharmony with a Handled Airline or sublessee, (bb) compatibility of schedules and operations between the Lessee or another user or occupant of the premises and a Handled Airline or sublessee, or (cc) competitive nature of the routes, schedules or type of air transportation service to be provided by a Handled Airline or sublessee, provided, further, however, that with respect to item (aa) above if, after notice from the Port Authority to provide accommodations to a specific Scheduled Aircraft Operator, the Lessee shall, in good faith, believe that the operations of such specific Scheduled Aircraft Operator on the premises would cause significant, immediate and unremediable labor disharmony which would seriously affect the operations of the Lessee on the premises then, upon request by the Lessee to the Port Authority setting forth in specific detail satisfactory to the Port Authority the nature of the anticipated labor disharmony and requesting that the Lessee not be obligated under this Section to provide accommodations for such specific Scheduled Aircraft Operator, the Port Authority shall, in good faith, consider the Lessee's request and if the Port Authority finds that the labor disharmony described by the Lessee is reasonably likely to result if the Lessee were to provide accommodations to such Scheduled Aircraft Operator on the premises then the Port Authority shall notify the Lessee that the Port Authority's direction to provide accommodations to such Scheduled Aircraft Operator is rescinded. The Lessee's obligation to provide accommodations to Scheduled Aircraft Operators shall be effective on the date set forth in a notice from the Port Authority to such effect, as aforesaid. Upon such notice the Lessee shall use its best efforts to secure an arrangement with a Scheduled Aircraft Operator as directed by the Port Authority for accommodations in the premises and shall in good faith negotiate with any such Scheduled Aircraft Operator as the Port Authority shall direct for accommodations in the premises, all in accordance herewith.

The Port Authority shall give thirty (30) days' prior notice of its intention to give the notice set forth above and it is expressly agreed that the Port Authority shall not exercise the aforesaid right with respect to any portion or portions of the premises if and for which the Lessee has submitted to the Port Authority definite plans for the utilization of said portion or portions of the premises by the Lessee provided the Lessee in fact commences such use of said portion or portions of the premises within thirty (30) days after the submission of the said plans.

(d) The failure of the Port Authority to exercise its rights under this Section during any year in which it may have such a right, shall not affect, waive or limit its right to exercise said rights in any subsequent year.

(e) In the event the Port Authority decides to ascertain the revenue seats daily average for the premises for the preceding calendar year it shall do so as follows: based upon the Official Airline Guide (herein called "the Guide") the Port Authority shall ascertain the total number of revenue seats that can be accommodated on the aircraft equipment scheduled to be used by the Lessee on its published aircraft arrivals at the Airport as set forth in the Guide during two specified calendar weeks (Sunday through Saturday), the first of which weeks is the one during which falls the fifteenth (15th) day of April of the prior calendar year and the second being the one during which falls the fifteenth (15th) day of October of the said prior calendar year, and shall total the said number of revenue seats which are hereinafter called "the total revenue seats" of the Lessee. In determining the total revenue seats of the Lessee, the total revenue seats as defined above of those Handled Airlines and Sublessee Airlines (as defined in Section 81 hereof), if any, of the Lessee who are Handled Airlines and Sublessee Airlines as of the date of such determination shall be included.

In making said determination, the Port Authority shall use the most recent configurations as shall be supplied by the Lessee with respect to the number of revenue seats that can be accommodated on the particular aircraft equipment scheduled to be used by the Lessee at the Airport. The total revenue seats of the Lessee shall then be divided by fourteen, the resulting quotient being herein called "the revenue seats daily average".

In the event the Official Airline Guide shall no longer be published or shall not be available then the parties agree that the Port Authority shall have the right to use any other successor or similar publication or the actual aircraft arrivals at the Airport as determined by reports to the Port Authority and records of the Lessee and other Scheduled Aircraft Operators, tower logs and other suitable records and information.

(f)

Percentage of the Lessee's Schedules as Compared to the Lessee's Commencement Basic Schedules	Daily Turnaround Flights Which May be Required at the Premises	Exclusive Gate Sublease Arrangements Which May be Required at the Premises
		or
		or
		or
		or
(2.a.)		or
		or
		or
		or

Section 28. Right of Re-Entry

The Port Authority shall, as an additional remedy upon the giving of a notice of termination as provided in Section 26 or other Section hereof, have the right to re-enter the premises and every part thereof upon the effective date of termination without further notice of any kind, and may regain and resume possession either with or without the institution of summary or any other legal proceedings or otherwise. Such re-entry, or regaining or resumption of possession, however, shall not in any manner affect, alter or diminish any of the obligations of the Lessee under this Agreement, and shall in no event constitute an acceptance of surrender.

Section 29. Waiver of Redemption

The Lessee hereby waives any and all rights to recover or regain possession of the premises and all rights of redemption, granted by or under any present or future law in the event it is lawfully evicted or dispossessed for any cause, or in the event the Port Authority obtains possession of the premises in any lawful manner.

Section 30. Survival of the Obligations of the Lessee

(a) In the event that the letting shall have been terminated in accordance with a notice of termination as provided in Section 26 hereof, or the interest of the Lessee cancelled pursuant thereto, or in the event that the Port Authority has re-entered, regained or resumed possession of the premises in accordance with the provisions of Section 28 hereof, all the obligations of the Lessee under this Agreement shall survive such termination or cancellation, or re-entry, regaining or resumption of possession and shall remain in full force and effect for the full term of the letting under this Agreement, and the amount or amounts of damages or deficiency shall become due and payable to the Port Authority to the same extent, at the same time or times and in the same manner as if no termination, cancellation, re-entry, regaining or resumption of possession had taken place. The Port Authority may maintain separate actions each month to recover the damage or deficiency then due or at its option and at any time may sue to recover the full deficiency less the proper discount, for the entire unexpired term.

(b) The amount of damages for the period of time subsequent to termination or cancellation (or re-entry, regaining or resumption of possession) on account of the Lessee's rental obligations, shall be the sum of the following:

(1) On account of the Lessee's annual Ground Rentals obligation, the amount of the total of all annual Ground Rentals, less the amount attributable to the installments of said annual Ground Rentals payable prior to the effective date of termination except that the credit to be allowed for the amount attributable to the installment payable on the first day of the month in which the termination is effective shall be prorated for the part of the month

the letting remains in effect, on the basis of the actual number of days in the month; and

(2) On account of the Lessee's annual Facility Rentals obligation, the amount of the total of all annual Facility Rentals, less the amount attributable to the installments of said annual Facility Rentals payable prior to the effective date of termination except that the credit to be allowed for the amount attributable to the installment payable on the first day of the month in which the termination is effective shall be prorated for the part of the month the letting remains in effect, on the basis of the actual number of days in the month; and

(3) On account of the Lessee's annual Additional Facility Rentals obligation, the amount of the total of all annual Additional Facility Rentals, less the amount attributable to the installments of said annual Additional Facility Rentals payable prior to the effective date of termination except that the credit to be allowed for the amount attributable to the installment payable on the first day of the month in which the termination is effective shall be prorated for the part of the month the letting remains in effect, on the basis of the actual number of days in the month; and

(4) On account of the Lessee's obligations to pay the Cost of Assumable Maintenance and Repair set forth in Section 14 hereof, an amount equal to the total sum of the Capital Cost under Section 14 hereof less the amount thereof payable prior to the effective date of termination, except that the credit to be allowed for the amount attributable to the installment payable on the first day of the month in which the termination is effective shall be prorated for the part of the month the letting remains in effect or the actual number of days in such month.

(5) An amount equal to all expenses reasonably incurred by the Port Authority in connection with regaining possession and restoring and reletting the demised premises, for legal expenses, putting the premises in order including, without limitation, cleaning, decorating and restoring (on failure of the Lessee to restore), maintenance and brokerage fees.

(c) Without limiting any of the foregoing, the Port Authority may at any time bring an action to recover all the damages as set forth above not previously recovered in separate actions, or it may bring separate actions to recover the items of damages set forth in subparagraphs (1) through (5) of paragraph (b) above and separate actions periodically to recover from time to time only such portion of the damages set forth in subparagraphs (1), (2) and (3) of paragraph (b) above as would have accrued as rentals up to the time of the action if there had been no termination or cancellation. In any such action the Lessee shall be allowed a credit against its survived damages obligations equal to the amounts which the Port Authority shall have actually received from any tenant, licensee, permittee or other occupier of the premises or a part thereof during the period for which damages are sought, and if recovery is sought

for a period subsequent to the date of suit a credit equal to the market rental value of the premises during such period (discounted to reflect the then present value thereof). If at the time of such action the Port Authority has used and occupied or relet the premises, the rental for the premises obtained through such use and occupancy or releting shall be deemed to be the market rental value of the premises or be deemed to be the basis for computing such market rental value if less than the entire premises were used or occupied or relet. In no event shall any credit allowed to the Lessee against its damages for any period exceed the then present value of the annual rentals which would have been payable under this Agreement during such period if a termination or cancellation had not taken place.

(d) In addition to and without limiting the foregoing or any other right, claim or remedy of the Port Authority, in the event this Lease shall be terminated pursuant to Section 26 hereof and the Lessee shall not have completed the construction work, as defined in Section 2 hereof, or any portion thereof within the time period specified in Section 2 (b) (2) hereof, the Lessee shall and hereby agrees to pay to the Port Authority any and all amounts, costs or expenses, of any type whatsoever, paid or incurred by the Port Authority by reason of the failure of the Lessee so to complete the construction work, or any portion thereof, including all interest costs, damages, losses, and penalties, and all of the same shall also be deemed treated as survived damages hereunder in addition to the foregoing.

Section 31. Releting by the Port Authority

The Port Authority upon termination or cancellation pursuant to Section 26 hereof, or upon any re-entry, regaining or resumption of possession pursuant to Section 28 hereof, may occupy the premises or may relet the premises, and shall have the right to permit any person, firm or corporation to enter upon the premises and use the same. Such releting may be of part only of the premises or a part thereof together with other space, and for a period of time the same as or different from the balance of the term hereunder remaining, and on the terms and conditions the same as or different from those set forth in this Agreement. The Port Authority shall also, upon termination or cancellation pursuant to the said Section 26, or upon its re-entry, regaining or resumption of possession pursuant to the said Section 28, have the right to repair or to make structural or other changes in the premises including changes which alter the character of the premises and the suitability thereof for the purpose of the Lessee under this Agreement, without affecting, altering or diminishing the obligations of the Lessee hereunder. In the event either of any releting or of any actual use and occupancy by the Port Authority (the mere right of the Port Authority to use and occupy not being sufficient however) there shall be credited to the account of the Lessee against its survived obligations under Section 30 hereof any net amount remaining after deducting from the amount actually received from any lessee, licensee, permittee or other occupier in

connection with the use of the said premises or portion thereof during the balance of the letting as the same is originally stated in this Agreement, or from the market value of the occupancy of such portion of the premises as the Port Authority may during such period actually use and occupy, all expenses, costs and disbursements incurred or paid by the Port Authority in connection therewith. No such reletting shall be or be construed to be an acceptance of a surrender.

Section 32. Remedies to be Non-Exclusive

All remedies provided in this Agreement shall be deemed cumulative and additional and not in lieu of or exclusive of each other or of any other remedy available to the Port Authority or to the Lessee at law or in equity, and the exercise of any remedy, or the existence herein of other remedies or indemnities shall not prevent the exercise of any other remedy.

Section 33. Surrender

The Lessee covenants and agrees to yield and deliver peaceably to the Port Authority possession of the premises on the date of cessation of the letting, whether such cessation be by termination, expiration or otherwise, promptly and in good condition, reasonable wear arising from the use of the premises to the extent such use is permitted elsewhere in this Agreement, excepted.

Section 34. Acceptance of Surrender of Lease

No agreement of surrender or to accept a surrender shall be valid unless and until the same shall have been reduced to writing and signed by the duly authorized representatives of the Port Authority and of the Lessee. Except as expressly provided in this Section, neither the doing of, nor any omission to do, any act or thing, by any of the officers, agents or employees of the Port Authority, shall be deemed an acceptance of a surrender of the letting or of this Agreement.

Section 35. Books and Records

(a) In addition to and without limiting any other term or provision of this Agreement, the Lessee shall keep in an office or offices in the Port of New York District, appropriate books and records showing (i) all matters with respect to the costs of the construction work (ii) the date and hour of each take-off or departure from the Airport of each aircraft operated by the Lessee and the date and hour of the landing by such aircraft next preceding each take-off or departure, (iii) all matters which it is required to certify to the Port Authority pursuant to this Lease and (iv) any other matter concerning the Lessee's operations at the Airport with respect to which the Port Authority may reasonably need information to fulfill its obligations or exercise its rights under this Lease whether or not of the type enumerated above in this Section 35 and

whether or not an express obligation to keep books and records with regard thereto is expressly set forth elsewhere in this Lease; provided, however, on the condition that the Lessee shall pay to the Port Authority all travel costs and expenses as determined by the Port Authority for Port Authority auditors and other representatives in connection with any audit at locations outside the Port of New York District, the Lessee may maintain said records and books and make them available to the Port Authority at the Lessee's office at 1030 Delta Boulevard, Hartsfield Atlanta International Airport, Atlanta, Georgia 30320. The Lessee shall not be obligated to preserve any such records for more than four (4) years unless they are material to litigation initiated within that time, in which event they shall be preserved until the final determination of the controversy. The Port Authority shall have the right upon prior notice to inspect such books and records during regular business hours.

(b) Without limiting the foregoing, the Lessee shall maintain, for a period in accordance with accepted accounting practice, for at least four (4) years during the term of the letting hereunder and for one (1) year after the expiration or earlier termination of this Lease unless they are material to litigation initiated within that time in which event they shall be preserved until the final determination of the controversy, records and books of account recording all transactions of the Lessee at, through, or in anywise connected with in-flight meals and ramp service including without limitation all payments by the Lessee to its independent contractors which furnish in-flight meals or any portion thereof, or ramp service, to the Lessee at or in connection with the Airport, which records and books of account shall be kept at all times within the Port of New York District and the Lessee shall permit during ordinary business hours during the term of the letting, for one year thereafter, and during such further period as mentioned above, the examination and audit by officers, employees and representatives of the Port Authority of such records and books of account; provided, however, on the condition that the Lessee shall pay to the Port Authority all travel costs and expenses as determined by the Port Authority for Port Authority auditors and other representatives in connection with any audit at locations outside the Port of New York District, the Lessee may maintain said records and books and make them available to the Port Authority at the Lessee's office at 1030 Delta Boulevard, Hartsfield Atlanta International Airport, Atlanta, Georgia 30320.

(c) If and when service segment data now or formerly supplied by the Lessee to the Department of Transportation pursuant to Economic Regulation 586 or schedule T-9 traffic data, are no longer available to the Port Authority from a government source, the Lessee will provide the following data to the Port Authority, on request, for each of its non-stop city-pair markets involving the Port District: total scheduled flights operated, seats available, revenue passengers carried and similar data for charter flights. The Lessee shall see that such data shall be provided to the Port Authority, on request, by its sublessees and Handled Airlines, if

any. The Lessee and its Handled Airlines, if any, shall furnish said data for each month of operations within thirty (30) days after the end of such month.

Section 36. Effect of Basic Lease

(a) This Agreement and the letting hereunder shall, in any event, terminate with the termination or expiration of the Basic Lease with the City of New York which covers the premises, such termination to be effective on such date and to have the same effect as if the term of the letting had on that date expired. The rights of the Port Authority in the premises are those granted to it by the Basic Lease, and no greater rights are granted or intended to be granted to the Lessee than the Port Authority has power thereunder to grant.

(b) The Port Authority covenants that, during the term of this Agreement, the Port Authority will not take any action which would amount to or have the effect of cancelling, surrendering or terminating the Basic Lease prior to the date specified in the Basic Lease for its expiration insofar as such surrender, cancellation or termination would in any manner deprive the Lessee of any of its rights, licenses or privileges under this Agreement.

(c) Nothing herein contained shall prevent the Port Authority from entering into an agreement with The City of New York pursuant to which the Basic Lease is surrendered, cancelled or terminated provided that The City of New York, at the time of such agreement, assumes the obligations of the Port Authority under this Agreement.

(d) Nothing contained in this Agreement shall be deemed a waiver by the Lessee of any of its rights, licenses or privileges under this Agreement in the event that the City Lease should be surrendered, cancelled or terminated prior to the date specified in the City Lease for its expiration.

Section 37. Removal of Property

All personal property (including trade fixtures) removable without material damage to the premises, which are installed by the Lessee in or on the premises leased to the Lessee pursuant to the Agreement, shall be deemed to be and remain the property of the Lessee. All such property, provided the Lessee shall install suitable replacements therefor if such personal property is necessary to operate the premises in accordance with the terms and provisions hereof in accordance with the best practices of the air transportation industry, may at the Lessee's option be removed by the Lessee from the premises at any time during the term of this Lease. Furthermore, all such property of the Lessee shall, unless otherwise agreed in writing by the parties hereto, be removed by the Lessee on or before the expiration or other termination of the term of the Lease. If the Lessee shall fail to remove its property on or before the termination or expiration of this Agreement, the Port

Authority may remove such property to a public warehouse for deposit or retain the same in its own possession, and sell the same at public auction, the proceeds of which shall be applied first to the expenses of removal, storage and sale, second to any sums owed by the Lessee to the Port Authority, with any balance remaining to be paid to the Lessee; if the expenses of such removal, storage and sale shall exceed the proceeds of sale, the Lessee shall pay such excess to the Port Authority upon demand. Notwithstanding the foregoing, the Lessee shall not remove the personal property starred and underlined in Exhibit E attached hereto and installed in connection with the Phase I Construction Work performed pursuant to Section 2 hereof title to which, as hereby agreed, shall pass to the Port Authority upon the installation thereof.

Section 38. Purchase of Property

The Port Authority shall have the option from time to time exercisable by notice to the Lessee effective on the expiration or earlier termination of the letting of the premises hereunder, or any part thereof, to purchase all, or such part as the Port Authority elects, of the Lessee's personal property (including trade fixtures but excluding ground vehicles and aircraft) including without limiting the generality of the foregoing any system for handling baggage, any counters, and any passenger loading bridges, as and to the extent any of the foregoing are personal property, which may at the time of the giving of such notice have been installed or placed on the premises. In the event the Port Authority exercises its option to make a purchase, the Port Authority shall pay to the Lessee a sum equal to the reasonable market value of the personal property (including trade fixtures) purchased. The Lessee hereby agrees that on the effective date of the purchase and sale none of the aforesaid items shall be subject to any lien, security interest or other encumbrance, and upon request of the Port Authority the Lessee will execute a bill of sale or such other document of conveyance as the Port Authority may request to transfer title to the aforesaid items to the Port Authority (including a warranty of title to the Port Authority) and the Port Authority shall pay the purchase price. The Lessee shall not be obligated to give any warranty other than the aforesaid warranty of title; provided, however, that the Lessee shall transfer or cause to be transferred to the Port Authority any and all third party warranties (including without limitation manufacturer's warranty) with respect to such property. Further, the Lessee shall from time to time execute such other documentation as the Port Authority may reasonably require and prepare evidencing the option of the Port Authority, as herein provided, to purchase the aforesaid personal property; the Port Authority and the Lessee hereby agreeing to act in good faith with respect to said documentation.

Section 39. Brokerage

The Lessee represents and warrants that no broker has been concerned on its behalf in the negotiation of this Agreement and that there is no broker who is or may be entitled to be paid a

commission in connection therewith. The Lessee shall indemnify and save harmless the Port Authority of and from any claim for commission or brokerage made by any and all persons, firms or corporations whatsoever for services rendered to the Lessee in connection with the negotiation and execution of this Agreement. The foregoing representations, warranties and provisions of this Section shall not apply to any broker employed by the Port Authority.

Section 40. Limitation of Rights and Privileges Granted

(a) No greater rights or privileges with respect to the use of the premises or any part thereof are granted or intended to be granted to the Lessee by this Agreement, or by any provision thereof, than the rights and privileges expressly and specifically granted hereby.

(b) The premises are let to the Lessee and the Lessee takes the same subject to all the following: (i) easements, restrictions, reservations, covenants and agreements, if any, to which the premises may be subject, and rights of the public in and to any public street; (ii) rights, if any, of any enterprise, public or private which is engaged in furnishing heating, lighting, power, telegraph, telephone, steam, or transportation services and of the City and State of New York; (iii) permits, licenses, regulations and restrictions, if any, of the United States, the City of New York or State of New York, or other governmental authority; (iv) all of the rights, liabilities, obligations, occupancies and encumbrances, if any, arising out of the Prior Agreements (as defined in Section 86 hereof).

(c) The Lessee acknowledges that it has not relied upon any representation or statement of the Port Authority or its Commissioners, officers, employees or agents as to the condition of the premises or the suitability thereof for the operations permitted on the premises by this Agreement. Without limiting any obligation of the Lessee to commence operations hereunder at the time and in the manner stated elsewhere in this Agreement, the Lessee agrees that no portion of the premises will be used initially or at any time during the letting which is in a condition unsafe or improper for the conduct of the operations permitted hereunder so that there is possibility of injury or damage to life or property. The Lessee shall take possession of the premises in the condition they are in as of the commencement of the term of the letting hereunder. The Lessee hereby further acknowledges that it has during the term of the Prior Sublease and during the period of the permission of the Prior Permit performed repairs and construction and installed improvements on the premises, title to all of which (other than the Lessee's personal property) it is hereby agreed has vested in the City of New York. In the event that as of the commencement of the term of the letting under this Lease, the Lessee shall not have kept any or all of the foregoing in good condition as required of the Lessee in its capacity as sublessee under the Prior Sublease and as

permittee under the Prior Permit, the Lessee shall place and keep the same in good condition as required under this Lease.

Any liabilities or obligations of the Lessee which by the terms of the Prior Lease or the Prior Sublease or the Prior Permit, or letter agreements or permits thereunder to make alterations, mature at the expiration or termination of said lease, sublease or permit shall be deemed to survive and mature at the expiration or earlier termination of this Lease.

Section 41. Notices

Except where expressly required or permitted herein to be oral, all notices, directions, requests, consents and approvals required to be given to or by either party shall be in writing, and all such notices and requests shall be personally delivered to the duly designated officer or representative of such party or delivered to the offices of such officer or representative during regular business hours, or forwarded to him or to the party at such address by registered or certified mail. The Lessee shall from time to time designate in writing an office within the Port of New York District and an officer or representative whose regular place of business is at such office upon whom notices and requests may be served. Until further notice, the Port Authority hereby designates its Executive Director as its representative upon whom notices and requests may be served, and the Port Authority designates its office at One World Trade Center, New York, New York, 10048 as its office where notices and requests may be served; and the Lessee hereby designates its Manager, JFK Station as its representative upon whom notices and requests may be served, and the Lessee hereby designates its office at Delta Flight Center, Building No. 53, John F. Kennedy International Airport, Jamaica New York 11430 as its office where notices and requests may be served. If mailed, the notices herein required to be served shall be deemed effective and served as of the date of the registered or certified mailing thereof. The Port Authority shall, for informational purposes only, send a copy of such notices to the Lessee's offices at 1030 Delta Boulevard, Hartsfield Atlanta International Airport, Atlanta, Georgia 30320 att: Director, Airport and Corporate Affairs, provided, however, that any failure on the part of the Port Authority to send the informational copy shall not be and shall not be deemed to be a breach of this Agreement nor shall any such failure impair or affect the validity of the notice actually given.

Section 42. Facilities Non-Discrimination

(a) Without limiting the generality of any of the provisions of the Agreement, the Lessee, for itself, its successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree as a covenant running with the land that (1) no person on the grounds of race, color, sex, creed, or national origin shall be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of the premises, and the exercise of any privilege under this Agreement, (2) that in the construction of any improvements on,

over, or under the premises and the furnishing of services thereon, no person on the grounds of race, color, creed, national origin, or sex shall be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the Lessee shall use the premises in compliance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the Department of Transportation-Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended, and any other present or future laws, rules, regulations, orders or directions of the United States of America with respect thereto which from time to time may be applicable to the Lessee's operations at the Airport whether by reason of agreement between the Port Authority and the United States Government or otherwise.

(b) The Lessee shall include the provisions of paragraph (a) of this Section in every agreement or concession it may make pursuant to which any person or persons, other than the Lessee, operates any facility at the Airport providing services to the public and shall also include therein a provision granting the Port Authority a right to take such action as the United States may direct to enforce such provisions.

(c) The Lessee's noncompliance with the provisions of this Section shall constitute a material breach of this Agreement. In the event of the breach by the Lessee of any of the above non-discrimination provisions the Port Authority may take any appropriate action to enforce compliance; or in the event such non-compliance shall continue for a period of twenty (20) days after receipt of written notice from the Port Authority, the Port Authority shall have the right to terminate this Agreement and the letting hereunder with the same force and effect as a termination under the Section of this Agreement providing for termination for default by the Lessee in the performance or observance of any other term or provision of this Agreement, or may pursue such other remedies as may be provided by law; and as to any or all of the foregoing, the Port Authority may take such action as the United States may direct.

(d) The Lessee shall indemnify and hold harmless the Port Authority from any claims and demands of third persons including the United States of America resulting from the Lessee's noncompliance with any of the provisions of this Section and the Lessee shall reimburse the Port Authority for any loss or expense incurred by reason of such noncompliance.

(e) Nothing contained in this Section shall grant or shall be deemed to grant to the Lessee the right to transfer or assign this Agreement, to make any agreement or concession of the type mentioned in paragraph (b) hereof, or any right to perform any construction on the premises.

Section 43. Affirmative Action

In addition to and without limiting the provisions of Section 42 and Schedule E hereof or any other term or provision of this Agreement, the Lessee assures that it will undertake an affirmative action program as required by 14 CFR Part 152, Subpart E, to insure that no person on the grounds of race, creed, color, national origin, or sex be excluded from participating in any employment activities covered in 14 CFR Part 152, Subpart E. The Lessee assures that no person shall be excluded on these grounds from participating in or receiving the services or benefits of any program or activity covered by this subpart. The Lessee assures that it will require that its covered suborganizations provide assurances to the Lessee that they will require assurances from their suborganizations, as required by 14 CFR Part 152, Subpart E, to the same effect.

Section 44. The Lessee's Ongoing Affirmative Action Equal Opportunity Commitment

(a) In addition to and without limiting any other term or provision of this Agreement, the Lessee shall not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status and shall undertake or continue existing programs of affirmative action to ensure that minority group persons and women are afforded equal employment opportunity without discrimination. Such programs shall include, but not be limited to, recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, rates of pay or other forms of compensation, and selections for training or retraining, including apprenticeship and on-the-job training.

(b) In addition to and without limiting the foregoing, and without limiting the provisions of Sections 42 and 43 and Schedule E hereof or any other term or provision of this Agreement, it is hereby agreed that the Lessee in connection with its continuing operation, maintenance and repair of the premises, or any portion thereof, and in connection with every award or agreement for concessions or consumer services at the Airport, shall throughout the term of the letting hereunder commit itself to and use good faith efforts to implement an extensive program of Affirmative Action, including specific affirmative action steps to be taken by the Lessee, to ensure maximum opportunities for employment and contracting by minorities and women. In meeting the said commitment the Lessee agrees to submit its said extensive Affirmative Action program, including the specific affirmative action steps to be taken by the Lessee to meet its aforesaid commitment, within six (6) months after the execution of this Agreement to the Port Authority for its review and approval. The Lessee shall incorporate in its said program such revisions and changes which the Port Authority initially or from time to time may reasonably require. The Lessee throughout the term of the letting hereunder shall document its efforts in implementing the said program, shall keep the Port

Authority fully advised of the Lessee's progress in implementing the said program and shall supply to the Port Authority such information, data and documentation with respect thereto as the Port Authority may from time to time and at any time request, including but not limited to annual reports.

(c) (1) "Minority" as used herein shall be as defined in paragraph II(c) of Part I of Schedule E.

(2) "Minority Business Enterprise" (MBE) as used herein shall have the meaning as defined in the first paragraph of Part II of Schedule E.

(3) "Women-owned Business Enterprise" (WBE) as used herein shall have the meaning as defined in the first paragraph of Part II of Schedule E.

(4) Good faith efforts to include meaningful participation by MBEs and WBEs shall include at least the following:

(i) Dividing the work to be subcontracted into smaller portions where feasible.

(ii) Actively and affirmatively soliciting bids for subcontracts from MBEs and WBEs, including circulation of solicitations to minority and female contractor associations. The Lessee shall maintain records detailing the efforts made to provide for meaningful MBE and WBE participation as called for in paragraph (b) above, including the names and addresses of all MBEs and WBEs contacted and, if any such MBE or WBE is not selected as a joint venturer or subcontractor, the reason for such decision.

(iii) Making plans and specifications for prospective work available to MBEs and WBEs in sufficient time for review.

(iv) Utilizing the list of eligible MBEs and WBEs maintained by the Port Authority or seeking minorities and women from other sources for the purpose of soliciting bids for subcontractors.

(v) Encouraging the formation of joint ventures, partnerships or other similar arrangements among subcontractors, where appropriate, to insure that the Lessee will meet its obligations hereunder.

(vi) Insuring that provision is made to provide progress payments to MBEs and WBEs on a timely basis.

(vii) Submitting quarterly reports to the Port Authority (Office of Business and Job Opportunity) detailing its compliance with the provisions hereof.

(d) The Lessee's non-compliance with the provisions of this Section shall constitute a material breach of this Agreement. In the event of the breach by the Lessee of any of the above provisions the Port Authority may take any appropriate action to enforce compliance; or in the event such non-compliance shall continue for a period of twenty (20) days after receipt of written notice from the Port Authority (except where fulfillment of its obligations hereunder requires activity over a period of time and the Lessee shall commence to perform whatever may be required for fulfillment within twenty (20) days after the receipt of notice and continues such performance without interruption, except for causes beyond its control), the Port Authority shall have the right to terminate this Agreement and the letting hereunder with the same force and effect as a termination under the Section of this Agreement providing for termination for default by the Lessee in the performance or observance of any other term or provision of this Agreement, or may pursue such other remedies as may be provided by law.

(e) In the implementation of this Section, the Port Authority may consider compliance by the Lessee with the provisions of any federal, state or local law concerning affirmative action equal employment opportunity which are at least equal to the requirements of this Section, as effectuating the provisions of this Section. If the Port Authority determines that by virtue of such compliance with the provisions of any such federal, state or local law that the provisions hereof duplicate or conflict with such law the Port Authority may waive the applicability of the provisions of this Section to the extent that such duplication or conflict exists.

(f) Nothing herein provided shall be construed as a limitation upon the application of any laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents.

(g) Nothing in this Section 44 shall grant or be deemed to grant to the Lessee the right to make any agreement or award for concessions or consumer services at the Airport.

Section 45. Other Construction by the Lessee

(a) Except as otherwise expressly provided in Section 2 hereof, the Lessee shall not erect any structures, make any improvements or do any construction on the premises or alter, modify, or make additions, improvements or repairs to or replacements of any structure existing at the commencement of the term of the letting hereunder or built at any time during the letting, or install any fixture (other than trade fixtures, removable without material damage to the premises, any such damage to be immediately repaired by the Lessee) without the prior written approval of the Port Authority and in the event any construction, improvement, alteration, modification, repair, replacement or addition is made without such approval, then upon reasonable notice

so to do, the Lessee will remove the same, or at the option of the Port Authority cause the same to be changed to the satisfaction of the Port Authority. In case of any failure on the part of the Lessee to comply with such notice, the Port Authority may effect the removal or change and the Lessee shall pay the cost thereof to the Port Authority.

(b) Without limiting the generality of the foregoing paragraph the Lessee acknowledges and agrees that any Notes and associated reference lines set forth on Exhibit A, A-1 or A-2 to the Lease shall not constitute or be deemed to constitute or imply that approval of the Port Authority will be granted to any proposed construction by the Lessee nor shall the same grant or be deemed to grant any right or permission to the Lessee now or in the future to erect any structures, make any improvements or do any other construction work in the premises, including but not limited to repairs to or replacements of, any structure now existing or built at any time during the letting or install any fixtures on the premises, including but not limited to paving, and that the provisions of the foregoing paragraph of this Section shall be read and construed as if there were no Notes and associated reference lines on said Exhibits and that any which were placed on such Exhibits are solely and exclusively for the benefit of the Port Authority.

(c) Notwithstanding the obligation of maintenance imposed upon the Lessee by the provisions of Section 14 hereof, the Lessee shall not make any repairs or replacements (except emergency repairs or replacements) unless and until it has first obtained an approved Port Authority Alteration Application for such repairs or replacements which shall then be performed in full accordance with the terms of said Alteration Application.

Section 46. Place of Payments

All payments required of the Lessee by this Agreement shall be made to the Port Authority, P.O. Box 17309, Newark, New Jersey 07194, or to such other address, office or location as may be substituted therefor by the Port Authority by notice to the Lessee from time to time.

Section 47. Construction and Application of Terms

(a) The section and paragraph headings, if any, in this Agreement, are inserted only as a matter of convenience and for reference and in no way define, limit or describe the scope or intent of any provision hereof.

(b) The terms, provisions and obligations contained in the Exhibits and Schedules attached hereto, whether there set out in full or as amendments of, or supplements to provisions elsewhere in the Agreement stated, shall have the same force and effect as if herein set forth in full.

Section 48. Non-liability of Individuals

No Commissioner, director, officer, agent or employee of either party shall be charged personally or held contractually liable by or to the other party under any term or provision of this Agreement or of any supplement, modification or amendment to this Agreement or because of any breach or alleged breach thereof, or because of its or their execution or attempted execution.

Section 49. Termination by the Lessee

(a) If any one or more of the following events shall occur:

(1) If the Lessee shall be prevented from operating its air transportation system to and from the Airport by reason of its inability to use a substantial part or all of the runways and taxiways, as hereinafter defined:

(i) for a period of longer than thirty (30) consecutive days, resulting from any condition of the Airport not due to the fault of the Lessee; or

(ii) for a period of longer than ninety (90) consecutive days, resulting from a permanent injunction issued by any court of competent jurisdiction; or

(iii) for a period of longer than ninety (90) consecutive days, resulting from any order, rule or regulation of the Federal Aviation Administration, or other governmental agency having jurisdiction over the operations of the Lessee with which the Lessee is unable to comply at reasonable cost or expense; or

(2) The Port Authority shall fail to perform any of its obligations under this Lease within twenty (20) days after receipt of notice of default thereunder from the Lessee (except where fulfillment of its obligation requires activity over a period of time and the Port Authority shall commence to perform whatever may be required for fulfillment within twenty (20) days after the receipt of notice and continues such performance without interruption, except for causes beyond its control);

then upon the occurrence of any such event or at any time thereafter during the continuance of the condition, the Lessee may by twenty (20) days' notice terminate the letting, such termination to be effective upon the date set forth in such notice and to have the same effect as if the term of the letting had on that date expired. No waiver by the Lessee of any default on the part of the Port Authority in performance of any of the terms, covenants or conditions hereof to be performed, kept or observed by the Port Authority shall be or be construed to be a waiver by the Lessee of any other or subsequent default in performance of any of the said terms, covenants and conditions.

(b) The payment of rentals fees, charges or other payments by the Lessee for the period or periods after the Lessee shall have a right to terminate under this Section but before any such default of the Port Authority has been cured, shall not be or be construed to be a waiver by the Lessee of any such right of termination.

(c) The rights of termination described above shall be in addition to any other rights of termination provided in this Agreement and in addition to any rights and remedies that the Lessee would have at law or in equity consequent upon any breach of this Agreement by the Port Authority, and the exercise by the Lessee of any right of termination shall be without prejudice to any other such rights and remedies.

Section 50. Effect of Termination by the Lessee

(a) If the Lessee terminates the letting pursuant to the provisions of Section 49 (a) (1) then the Port Authority may at its option, pay to the Lessee the Unamortized Phase I Capital Investment and Unamortized Phase II Capital Investment (as defined in Section 81 hereof), if any, of the Lessee in the premises. Such option shall be evidenced by notice in writing to the Lessee by the Port Authority within sixty (60) days after the Lessee has given notice of termination. The failure of the Port Authority to exercise the said option will impose no obligation upon it to relet the premises.

(b) If the Lessee terminates the letting pursuant to the provisions of Section 49 (a) (2) then the Port Authority may, at its option, pay to the Lessee the sum of the Unamortized Phase I Capital Investment and the Unamortized Phase II Capital Investment (as defined in Section 81 hereof), if any, of the Lessee in the premises. Such option shall be evidenced by notice in writing to the Lessee by the Port Authority within sixty (60) days after the Lessee has given notice of termination. If the Port Authority fails to exercise such option, then the Port Authority shall use its best efforts to relet the premises.

(c) If the Port Authority relets the premises prior to the date upon which this Lease would have expired but for such termination, then the net rent paid by the new tenant to the Port Authority (after deducting any costs or expenses incurred by the Port Authority in securing said new tenant and in complying with the terms of the lease to such tenant, including but not limited to costs of alteration and decoration of such premises, in the event of termination pursuant to the provisions of Section 49 (a) (1), and after deducting any costs or expenses incurred by the Port Authority for the maintenance of said premises or for services furnished to the new tenant and after deducting the amounts which would have been payable as rent by the Lessee but for such termination) shall be paid over by the Port Authority to the Lessee until said amounts paid over equal the Unamortized Phase I Capital Investment and the Unamortized Phase II Capital Investment (as defined in Section 81

hereof) of the Lessee in the premises as of the date of termination. The obligation of the Port Authority to pay over to the Lessee any net rent received from such new tenant shall endure only while such new tenant continues to pay rent and occupy such premises, and only until the Unamortized Phase I Capital Investment and the Unamortized Phase II Capital Investment (as defined in Section 81 hereof) of the Lessee in such premises is amortized, and in no event is such obligation to pay over to endure beyond the date upon which this Lease would have expired but for such termination.

Section 51. Abatement

If the Port Authority shall, for safety or other reasons, prohibit the use of the Public Landing Area at the Airport or of any substantial part thereof for foreign or domestic scheduled air transport operations for a period covering more than sixty (60) consecutive days and the Lessee shall thereby be prevented from conducting those operations at the Airport enumerated in Section 5 hereof, then upon the occurrence of such event, the Lessee at its option shall be entitled to abatement of rental during such period of prohibition and prevention. In the event that the Lessee shall exercise such option the Lessee shall be deemed to have released and discharged the Port Authority of and from all claims and rights which the Lessee may have hereunder arising out of or consequent upon such closing and the subsequent interrupted use of such Public Landing Area or part thereof during the period of prohibition.

Section 52. Services to the Lessee

(a) The Port Authority shall sell, furnish and supply to the Lessee for use on the premises and the Lessee agrees to take from the Port Authority and pay for electricity of the same voltage, phase and cycle as supplied to the premises by the public utility in the vicinity, but limited, however, to serve (i) with respect to Area IA of the premises a maximum of 3,000 KVA installed transformer capacity, (ii) and with respect to Area IB of the premises a maximum of 12,000 KVA installed transformer capacity, and as to (i) and (ii) at the same charge which would be made by such public utility for the same quantity under the same conditions and in the same service classification but in no event less than an amount that would reimburse the Port Authority for its costs of obtaining and supplying electricity to the Lessee hereunder; charges shall be payable by the Lessee when billed and the quantity of electricity consumed shall be measured by the meter or meters installed for the purpose; provided, however, that if for any reason, any meter or meters fail to record the consumption of electricity, the consumption during the period such meter or meters are out of service will be considered to be the same as the consumption for a like period either immediately before or after the interruption as elected by the Port Authority. The Port Authority shall not discontinue the supply of electricity except upon fifteen (15) days' notice to the Lessee and unless a supply of electricity of the same voltage, phase and cycle (subject to the KVA limitation aforesaid) shall be available from another supplier and upon any such

discontinuance the Lessee shall be at liberty to contract or otherwise arrange for the supply of such current after the expiration of said fifteen (15) days from any other person, firm or corporation. The Port Authority shall install the appropriate meters.

(b) The Port Authority agrees to sell, furnish and supply to the Lessee for use on the premises cold water (of the character furnished by the City of New York) in reasonable quantities through existing pipes, mains and fittings and the Lessee agrees to take such water from the Port Authority and to pay the Port Authority therefor an amount equal to that which would be charged by the municipality or other supplier of the same (whether or not representing a charge for water or other services measured by water consumption) for the same quantity, used under the same conditions and in the same service classification plus the cost to the Port Authority of supplying such water which shall not be less than ten percent (10%) nor in excess of fifty percent (50%) of the amount charged, but in no event less than an amount that would reimburse the Port Authority for its costs of obtaining and supplying water to the Lessee hereunder. The charge therefor shall be payable by the Lessee when billed and the quantity of water consumed shall be measured by the meter or meters installed for the purpose; provided, however, that if for any reason, any meter or meters fail to record the consumption of water, the consumption during the period such meter or meters are out of service will be considered to be the same as the consumption for a like period immediately before or after the interruption, as elected by the Port Authority. The Port Authority shall install the appropriate meters. In the event meters are not installed to measure the consumption of water under high pressure, the quantity of such water used by the Lessee will be based upon equitable estimates of consumption, which estimates shall be deemed binding on the Lessee.

(c) The Lessee shall pay to the Port Authority such of the existing and future charges for sewerage services furnished by the City of New York as are presently or may hereafter be imposed or assessed against the Port Authority in respect of the Lessee's premises or the use and occupancy thereof. In the event that the City or the State of New York is now furnishing services with or without charge therefor, which are beneficial to the Lessee in its use and occupancy of the premises, and shall hereafter impose charges or increase existing charges for such services, the Lessee agrees to pay to the Port Authority such of the charges or the increase in charges as may be imposed or assessed against the Port Authority in respect of the Lessee's premises or its use and occupancy thereof.

(d) If and in the event the Port Authority shall provide extermination service for the enclosed areas of the premises, the Lessee agrees to utilize the same and to pay its pro rata share of the reasonable cost thereof upon demand. This paragraph does not impose any obligation on the Port Authority to furnish such service.

(e) The Port Authority shall not be obligated to perform or furnish any other services whatsoever in connection with the premises or any services at any time while the Lessee shall be in default hereunder after the period, if any, herein granted to cure such default shall have expired.

(f) The Port Authority shall be under no obligation to supply services if and to the extent and during any period that the supplying of any such service or the use of any component necessary therefor shall be prohibited or rationed by any federal, state or municipal law, rule, regulation, requirement, order or direction and if the Port Authority deems it in the public interest to comply therewith, even though such law, rule, regulation, requirement, order or direction may not be mandatory on the Port Authority as a public agency.

(g) No failure, delay or interruption in supplying agreed services (whether or not a separate charge is made therefor) shall be or be construed to be an eviction of the Lessee or grounds for any diminution or abatement of rental, or (unless resulting from the negligence or wilful failure of the Port Authority) shall be grounds for any claim by the Lessee for damages, consequential or otherwise.

Section 53. The Central Heating and Refrigeration Facility

(a) The Port Authority heretofore designed, constructed and installed at the Airport certain installations consisting of an L" shaped one story building, two fuel storage spheres, an eleven cell cooling tower array, sixteen absorption refrigeration units, six high temperature hot water generators, a closed loop distribution system including underground lines, meters, heat exchangers and appropriate and related lines, pipes, mains, motors, pumps, ducts, fixtures, transformers, cables, manholes, wires, conduits, machinery, devices, equipment, structures and facilities and such utility, mechanical, pump, sewer, telephone, water, electrical, fire alarm, fire protection, gas and other systems, all as are appropriate or necessary for the manufacture, production and distribution of high temperature hot water and chilled water. The Port Authority thereafter embarked on a program for the expansion and rehabilitation of the foregoing which program consisted generally of the design, construction and installation of an expansion of the existing building, two additional new cells to the existing cooling tower cell array and a complete upgrading of the existing cells, the installation of a centrifugal refrigeration unit, the construction of new and the replacement of existing high temperature hot water lines and chilled water lines with lines of greater capacity, the enlargement of the fire alarm and telephone systems, the extension of the pump system, together with such appropriate meters, heat exchangers, lines, pipes, mains, motors, pumps, devices, fixtures, transformers, cables, manholes, wires, conduits, machinery, devices, equipment, structures and facilities as were necessary or appropriate, as well as necessary and appropriate changes to the utility, mechanical, sewer, telephone, water, electrical, fire alarm, fire protection, gas and other

systems now part of the Facility, all of the foregoing being sometimes herein collectively in this Section and for the purposes of this Section only called "The Central Heating and Refrigeration Facility" or the "Facility".

(b) The Port Authority has entered into agreements consisting of an Energy Purchase Agreement, dated as of April 28, 1993, of a Construction and Operations Agreement dated as of April 28, 1993, and an Agreement of Lease, dated as of April 28, 1993, (hereinafter as the same may be supplemented, amended and extended from time to time collectively and individually called the "*Cogeneration Agreement*") with KIAC Partners, a New York General Partnership (hereinafter called "KIAC"), for the construction, installation and operation of a cogeneration facility at the Airport which will include portions of the Central Heating and Refrigeration Facility, as set forth above, now operated at the Airport, which cogeneration facility will, from and after the date of its "Commercial Operation" as such term is defined in the Cogeneration Agreement, produce electricity, hot water and chilled water, as the terms hot water and chilled water are defined below, and which cogeneration facility is hereinafter called the "Cogeneration Facility". Effective May 4, 1993, and while the construction of the Cogeneration Facility proceeds, KIAC will operate the Facility on behalf of the Port Authority to produce hot water and chilled water, as such terms are defined below, and the following shall be and continue in effect with respect to the sale, furnishing and supply of hot water and chilled water by the Port Authority to the Lessee.

(c) The Port Authority agrees to sell, furnish and supply to the Lessee in reasonable quantities for use on the premises, high temperature hot water (hereinafter called "hot water") by a closed loop system to be converted for heating use, for kitchen service, for snow melting and for heating aircraft, and chilled water (hereinafter called "chilled water") for air conditioning (excluding use for air conditioning aircraft, said exclusion not to imply any broadening of permitted uses), and the Lessee agrees to take such hot water and chilled water from the Port Authority and to pay the Port Authority therefor at the times and in the manner hereinafter provided. The Lessee shall pay to the Port Authority for hot water its pro rata share of the Annual Hot Water Facility Cost as hereinafter defined and the Lessee shall pay to the Port Authority for chilled water its pro rata share of the Annual Chilled Water Facility Cost as hereinafter defined. The Lessee's pro rata share of the Annual Hot Water Facility Cost shall be determined by multiplying the Annual Hot Water Facility Cost for each calendar year by a fraction, the numerator of which shall be the total number of BTUs of heat drawn from the hot water lines serving the premises during said calendar year, and the denominator of which shall be the Annual Total Hot Water Reading as hereinafter defined for said calendar year. The Lessee's pro rata share of the Annual Chilled Water Facility Cost shall be determined by multiplying the Annual Chilled Water Facility Cost for each calendar year by a fraction, the numerator of which shall be the total number of BTUs absorbed by the chilled water lines serving the premises during said calendar

year, and the denominator of which shall be the Annual Total Chilled Water Reading as hereinafter defined for said calendar year.

(d) (i) The Annual Total Facility Cost for the portion of the calendar year commencing on May 4, 1993, and ending on December 31, 1993, shall consist of the sum of the following:

(1) The amount of interest payable by the Port Authority to KIAC pursuant to the Cogeneration Agreement and determined at the rate or rates provided for in the Cogeneration Agreement on a principal amount of (2.a.)

(2) The amount of interest payable by the Port Authority from and after June 15, 1992, to KIAC pursuant to the Cogeneration Agreement for expenditures for capital improvements that are useable and useful and that have the potential to provide both an immediate benefit to the operation of the Facility prior to Commercial Operation and would provide a continuing and significant benefit to the operation of the Cogeneration Facility after Commercial Operation;

(3) The Annual Facility Operating and Maintenance Charge as defined in paragraph (g) hereof, appropriately prorated.

(ii) The Annual Total Facility Cost for the calendar year commencing on January 1, 1994, and ending on December 31, 1994, shall consist of the sum of the following:

(1) The amount of interest payable by the Port Authority to KIAC pursuant to the Cogeneration Agreement and determined at the rate or rates provided for in the Cogeneration Agreement on (A) a principal amount of (2.a.) for the portion of such calendar year commencing on January 1, 1994, and ending on May 3, 1994, plus (B) a principal amount of (2.a.) for the portion of such calendar year commencing on May 4, 1994, and ending on December 31, 1994;

(2) The amount of interest payable by the Port Authority to KIAC pursuant to the Cogeneration Agreement for expenditures for capital improvements that are useable and useful and that have the potential to provide both an immediate benefit to the operation of the Facility prior to Commercial Operation and would provide a continuing and significant benefit to the operation of the Cogeneration Facility after Commercial Operation;

(3) The Annual Facility Operating and Maintenance Charge as defined in paragraph (g) hereof.

(iii) The Annual Total Facility Cost for the calendar year commencing on January 1, 1995, and ending on December 31, 1995, shall consist of the sum of the following:

(1) The amount of interest payable by the Port Authority to KIAC pursuant to the Cogeneration Agreement and determined at the rate or rates provided for in the Cogeneration Agreement on (A) a principal amount of (2.a.) for the portion of such calendar year commencing on January 1, 1995, and ending on May 3, 1995, plus (B) a principal amount of (2.a.) for the portion of such calendar year commencing on May 4, 1995, and ending on December 31, 1995;

(2) The amount of interest payable by the Port Authority to KIAC pursuant to the Cogeneration Agreement for expenditures for capital improvements that are useable and useful and that have the potential to provide both an immediate benefit to the operation of the Facility prior to Commercial Operation and would provide a continuing and significant benefit to the operation of the Cogeneration Facility after Commercial Operation;

(3) The Annual Facility Operating and Maintenance Charge as defined in paragraph (g) hereof.

(iv) The Annual Total Facility Cost for each year commencing on and after January 1, 1996, shall consist of the sum of the following:

(1) The amount of interest payable by the Port Authority to KIAC pursuant to the Cogeneration Agreement and determined at the rate or rates provided for in the Cogeneration Agreement on a principal amount of (2.a.)

(2) The amount of interest payable by the Port Authority to KIAC pursuant to the Cogeneration Agreement for expenditures for capital improvements that are useable and useful and that have the potential to provide both an immediate benefit to the operation of the Facility prior to Commercial Operation and would provide a continuing and significant benefit to the operation of the Cogeneration Facility after Commercial Operation;

(3) The Annual Facility Operating and Maintenance Charge as defined in paragraph (g) hereof.

(e) (i) The Annual Hot Water Facility Cost shall be 27.8% of the Annual Total Facility Cost.

(ii) The Annual Chilled Water Facility Cost shall be 72.2% of the Annual Total Facility Cost.

(f) (i) The total amount of BTUs of heat drawn during each calendar year from the hot water lines emanating from the Facility as measured by the meters installed at all the terminals, facilities, structures and buildings at the Airport, but only within the Central Terminal Area as defined in Section 74 hereof, including the premises but excluding Buildings 181, 182 and 184, receiving such hot water from the Facility shall be ascertained for each calendar year and is hereinafter called the "Annual Total Hot Water Reading" and the total amount of BTUs absorbed during each calendar year by the chilled water lines emanating from the Facility as measured by the meters installed at all the terminals, facilities, structures and buildings at the Airport, but only within the Central Terminal Area as defined in Section 74 hereof, including the premises but excluding Buildings 181, 182 and 184, receiving such chilled water from the Facility shall be ascertained for each calendar year and is hereinafter called the "Annual Total Chilled Water Reading". The Port Authority has installed or will install and maintain all appropriate meters and heat exchangers including those in the premises.

(ii) If any meter or meters fail to record the amount of consumption, the amount of consumption during the period such meter or meters are out of service will be considered to be the same as the consumption for a like period either immediately before or after the interruption, as elected by the Port Authority. In making meter readings and ascertaining consumption for each calendar year, in addition to all readings to be taken during the calendar year, readings shall be taken as soon as practicable to the beginning of each calendar year or at the end of each calendar year.

(g) The service of the Port Authority in furnishing, supplying, activating, cleaning, testing, providing, maintaining, repairing, servicing and operating the Facility and the hot water and chilled water emanating therefrom is hereinafter called the "Facility Service". The Cogeneration Agreement provides that KIAC shall furnish most aspects of the Facility Service to the Port Authority. The Annual Facility Operating and Maintenance Charge shall mean the cost to the Port Authority of the Facility Service for each calendar year. Without limiting the generality of the provisions of this paragraph the said cost to the Port Authority shall include, but not be limited to, the Port Authority's payments to KIAC for the provision of the Facility Service. Said Cost shall be determined in accordance with the Port Authority's normal accounting practice and shall consist of the following:

(i) The cost of all fuel, water, electricity and any other utilities and components used, consumed or employed. The cost of water shall include the cost to the Port Authority of sewage and other services based upon water charges or consumption. In the event furthermore that the City or State of New York is now furnishing services with or without charge therefor which in any way affect the Facility Service, and shall hereinafter impose charges or increase existing charges for such services, the said charges or

increase in charges as may be imposed or assessed against the Port Authority shall be deemed a part of the cost under this item (i);

(ii) On-the-job payroll costs of employees and supervisory personnel (including Facility supervisors, foremen and clerks) working in the Facility Service, including but not limited to contributions to any retirement system or the cost of or participation in any pension plans or the like, social security, old age, survivors, disability and unemployment insurance and other insurance costs, sick leave pay, holiday, vacation, authorized absence and severance pay, other employee fringe benefits and any other payments made or costs incurred whether pursuant to law or by Port Authority policy to or with respect to said employees and personnel;

(iii) The cost (including rental charges) of materials, equipment, machinery and supplies used and the cost of maintaining, cleaning, repairing and servicing the same;

(iv) (1) Payments to contractors and any other third persons, firms or corporations for the performance of services;

(2) Payments to KIAC by the Port Authority under the Cogeneration Agreement in connection with the Facility Service;

(v) Payments of premiums (or to the extent of self-insurance an amount equivalent to what the premiums would have been) for insurance on the Facility and the Facility Service, including without limitation thereto, fire and extended coverage, workmen's compensation and comprehensive general liability;

(vi) Any other direct costs as charged under the Port Authority's normal accounting practice;

(vii) Fifteen percent of the sum of all of the foregoing items (i) through (vi);

(viii) (1) There shall be deducted from item (vii) hereof an amount as hereinafter defined and herein called the "utility credit".

(2) The utility credit shall mean the amount of or fifteen percent (15%) of the sum of the "electricity credit", the "gas credit" and the "fuel oil credit" all as hereinafter defined, whichever is less.

(3) The electricity credit shall be an amount determined by dividing the amount paid by the Port Authority for the fuel adjustment factor portion of electricity covered by item (i) hereof by the total number of kilowatt hours (KWH) of electricity covered by said item (i) hereof, and subtracting from the quotient obtained thereby the amount of $ per KWH, and multiplying the

resulting difference or $0.01710 per KWH, whichever is less, by the total KWH of electricity covered by item (i) hereof.

(4) The gas credit shall be an amount determined by dividing the amount paid by the Port Authority for illuminating gas covered by item (i) hereof by the total number of thousands of cubic feet (MCF) of illuminating gas covered by said item (i) hereof, and subtracting from the quotient obtained thereby the amount of , and multiplying the resulting difference or , whichever is less, by the total MCF of illuminating gas covered by item (i) hereof.

(5) The fuel oil credit shall be an amount determined by dividing the amount paid by the Port Authority for fuel oil covered by item (i) hereof by the total number of gallons of fuel oil covered by said item (i) hereof, and subtracting from the quotient obtained thereby the amount of er gallon, and multiplying the resulting difference or per gallon, whichever is less, by the total gallons of fuel oil covered by item (i) hereof.

(h) The Port Authority shall not be obligated to the Lessee to furnish the services covered by paragraph (c) hereof at any time while the Lessee shall be in default hereunder after the period, if any, herein granted to cure such default shall have expired. The Port Authority shall be under no obligation to provide said services, if and to the extent and during any period that the supplying of such services or the use of any component necessary therefore shall be prohibited or rationed by any federal, state or municipal, law, rule, regulation, requirement, order or direction and if the Port Authority deems it in the public interest to comply therewith, even though such law, rule, regulation, requirement, order or direction may not be mandatory on the Port Authority as a public agency, nor shall the Port Authority be under any obligation to provide such services if and to the extent and during any period that the same are curtailed or stopped because of the need to repair, replace, rebuild or alter the Facility. The services covered by paragraph (c) with respect to the construction work shall commence as of the time the Lessee performs the necessary portion of the said work pertaining thereto and has received the certificate of the Port Authority pertaining to each such portion of the said work pursuant to Section 2 hereof.

(i) No failure, delay or interruption in supplying said services shall be or be construed to be an eviction of the Lessee or grounds for the diminution or abatement of rentals, fees or other charges, or (unless resulting from the negligence or wilful failure of the Port Authority) shall be grounds for any claims by the Lessee for damages, consequential or otherwise.

(j) The amounts payable to the Port Authority pursuant to paragraph (c) hereof are for each calendar year, but in the event the term of this Agreement expires on a day other than the last day of a calendar year, then in each such event the amounts payable to

the Port Authority pursuant to paragraph (c) hereof shall, for the year during which each such event occurs, be for such portion of said year during which the Port Authority provides hot water and chilled water pursuant to paragraph (c) hereof. In determining said amounts, the Annual Total Facility Cost, the Annual Hot Water Facility Cost, the Annual Chilled Water Facility Cost, the Annual Total Hot Water Reading, the Annual Total Chilled Water Reading and the readings of BTUs of heat drawn and of BTUs absorbed in the premises shall be computed, determined and ascertained for each calendar year (or portion thereof in the event mentioned in the first sentence hereof) of the term of this Agreement. Notwithstanding the foregoing and for current monthly or other periodic billing purposes as shall from time to time be selected by the Port Authority, the Port Authority shall establish for each calendar year estimated interim rates for hot water based upon BTUs of heat drawn from the hot water lines emanating from the Facility and estimated interim rates for chilled water based upon BTUs absorbed by the chilled water lines emanating from the Facility. Such estimated rates shall be based upon the Annual Chilled Water Facility Cost, the Annual Hot Water Facility Cost, the Annual Total Hot Water Reading and the Annual Total Chilled Water Reading for the previous calendar year and upon estimated changes in the same or upon such other reasonable basis as the Port Authority may determine. The Lessee shall pay current billings as they are received. Said billings shall be based upon the interim rates and upon the total number of BTUs of heat drawn from the hot water lines serving the premises and the total number of BTUs absorbed by the chilled water lines serving the premises. Said readings shall be measured by the meters serving the premises as described in paragraph (f) hereof. The provisions of subparagraph (ii) of said paragraph (f) shall apply and pertain as well for current billing purposes.

(k) As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the Annual Hot Water Facility Cost and the Annual Chilled Water Facility Cost for the preceding calendar year and shall determine the amounts payable by the Lessee in accordance with the provisions of paragraph (c) hereof. Corrected billings based upon such determination shall thereupon be rendered by the Port Authority to the Lessee and if any monies are due to the Port Authority they shall be promptly paid by the Lessee and if any monies are due to the Lessee they shall be promptly credited to it. In the event the term of this Agreement expires or is sooner terminated on a date other than the last day of a calendar year, the Port Authority shall have no obligation to immediately make the computations as hereinabove provided which would determine the amounts payable by the Lessee in accordance with paragraph (c) hereof for the period during said year when this Agreement was in effect. Said computation shall be made subsequent to the end of the calendar year as hereinabove provided, and if any monies are due to the Port Authority they shall be paid by the Lessee promptly and if any monies are due to the Lessee they shall be promptly paid to it by the Port Authority less such amounts, if any, then owing and due to the Port Authority from the Lessee.

(l) Notwithstanding anything contained in this Section, the Port Authority's obligation to provide hot water and chilled water to the premises shall be limited by the safe and efficient operating capacity of the Facility.

(m) The Lessee has installed or shall install all machinery, equipment and facilities required to be installed in the premises in order to utilize said high temperature hot water and chilled water and has tied into or shall tie into the Facility at the mechanical equipment rooms on the premises. The Lessee hereby agrees that the Port Authority and KIAC and the contractors or suppliers of either of them shall have the right to enter upon the premises to install, operate and maintain the facilities to bring hot water and chilled water to the rooms.

(n) The Port Authority shall keep in an office or offices within the Port of New York District such books, records and accounts as may be necessary or appropriate to record the items and transactions affecting the computation of payments to be made by the Lessee under this Section. The Lessee or its designated representative shall have the right to examine the books and records of the Port Authority during regular business hours in connection with or in respect to any cost incurred, charged, allocated or prorated to the construction, operation or maintenance of the Central Heating and Refrigeration Facility to the extent that such affect the computation of such payments by the Lessee, it being understood that the Lessee shall have no right to inspect such parts thereof as pertain to any cost or expense which is part of the cost of administration and overhead which is covered by item (vii) of paragraph (g) of this Section.

(o) In the event of the termination of the Cogeneration Agreement, if the facilities at the Airport therefor are, in the opinion of the Port Authority, economically operable, the Port Authority, itself or pursuant to agreement with a contractor or permittee, shall supply hot water and chilled water to the premises and the Lessee shall take and pay therefor with the Annual Facility Operating and Maintenance Charge therefor to be the amount that would reimburse the Port Authority for its capital and operating costs in connection therewith determined in accordance with the Port Authority's normal accounting practice.

Section 53A. Cogeneration Facility

Effective on a date to be stated in a notice from the Port Authority to the Lessee, the foregoing provisions of Section 53 of this Agreement shall be deemed deleted therefrom (this deletion not to affect or limit the obligation of the Lessee to pay all sums due under the said superseded Section 53 prior to the aforesaid effective date) and the following shall be deemed inserted in lieu thereof:

"Section 53. Hot Water and Chilled Water Requirements

(a) (i) The Port Authority has entered into agreements consisting of an Energy Purchase Agreement dated as of April 28, 1993, a Construction and Operations Agreement, dated as of April 28, 1993, and an Agreement of Lease, dated as of April 28, 1993, (hereinafter as the same may be supplemented, amended and extended from time to time collectively and individually called the "Cogeneration Agreement") with KIAC Partners, a New York General Partnership (hereinafter called "KIAC"), for the construction, installation and operation of a cogeneration facility at the Airport which will include portions of the Central Heating and Refrigeration Facility previously operated by the Port Authority at the Airport and which cogeneration facility will produce electricity, hot water (hereinafter called "Hot Water") and chilled water (hereinafter called "Chilled Water") and which cogeneration facility is hereinafter called the "Cogeneration Facility". The Cogeneration Facility shall include a thermal distribution system (the "TDS") including distribution lines extending to the premises as provided in paragraph (f) below.

(ii) The Lessee acknowledges that it has received a copy of the Cogeneration Agreement and agrees that the supply by KIAC of Hot Water and Chilled Water to the premises is subject to all of the terms and provisions of the Cogeneration Agreement. The Lessee agrees that the Port Authority may grant waivers, consents and approvals to KIAC from time to time and the Port Authority and KIAC may supplement, amend or extend the Cogeneration Agreement, except to the extent provided in paragraph (i) below, from time to time and that the Lessee shall be subject to any such waivers, consents and approvals and supplements, amendments, and extensions as part of the Cogeneration Agreement. Copies of any such supplements, amendments and extensions will be made available to the Lessee upon request by the Lessee therefor.

(b) (i) The Cogeneration Agreement provides, among other things, that the Port Authority will purchase from KIAC for resale to the Lessee, and the Lessee hereby agrees that it will accept and purchase from the Port Authority from and after the date stated in a notice from the Port Authority (the "Cogeneration Effective Date"), subject to all of the terms and conditions of the Cogeneration Agreement, for use on the premises, to the extent the same is delivered by KIAC to the Port Authority and by the Port Authority to the Lessee, all of the Lessee's requirements at the premises for Hot Water and Chilled Water (excluding requirements exclusively for aircraft and loading bridges leading to aircraft); and the Lessee hereby agrees to pay the Port Authority therefor as follows:

(1) The Lessee acknowledges and agrees that the charge to the Lessee by the Port Authority for the Lessee's consumption of Hot Water and Chilled Water at the premises and Chilled Water makeup water and chemical treatment of makeup water (due to system leakage at the premises or otherwise) shall be the sum of (A) the amount payable by the Port Authority to KIAC therefor

pursuant to the Cogeneration Agreement, plus (B) Five Percent (5%) of the foregoing and plus (C) all applicable taxes.

(2) The Lessee acknowledges that pursuant to the Cogeneration Agreement KIAC will furnish the Port Authority with measurements of the Lessee's consumption of (A) Hot Water based upon energy drawn by the Lessee from KIAC's Hot Water distribution lines, (B) Chilled Water based upon the energy absorbed from the Lessee by KIAC's Chilled Water distribution lines and (C) Chilled Water makeup water and chemical treatment of makeup water consumed on the premises, and the Lessee agrees that the provisions of the Cogeneration Agreement with respect to the accuracy of such measurements, the redetermination of such measurements in the event of inaccurate registration by metering devices, and the use of estimates in the event of the failure of such metering devices shall all be applicable to the Lessee under this Agreement as though set forth in full herein.

(3) The Lessee acknowledges that the Cogeneration Agreement provides that KIAC shall provide estimated bills to the Port Authority for consumption of Hot Water and Chilled Water on a monthly basis commencing approximately ten (10) days after the Cogeneration Effective Date for the first calendar month or portion thereof and on or about the tenth day of the month for each calendar month thereafter. KIAC is then to render a final bill with respect to each estimated bill approximately ten (10) days after the conclusion of the said month together with the estimated bill for the then current month.

(4) Notwithstanding such arrangement between KIAC and the Port Authority, the Port Authority shall, with respect to each calendar year or fraction thereof, establish estimated unit rates, subject to change from time to time by the Port Authority, for the consumption on the premises of Hot Water and Chilled Water and shall render an estimated bill to the Lessee for the Lessee's consumption at such estimated rates monthly on the last day of the calendar month following each full or partial calendar month during the term hereof after the Cogeneration Effective Date which bill shall be payable on receipt.

(5) As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the amounts payable by the Lessee in accordance with the provisions of subparagraphs (1), (2) and (3) of this paragraph (b). A corrected billing based upon such determination shall thereupon be rendered by the Port Authority to the Lessee and if any monies are due to the Port Authority they shall be promptly paid by the Lessee and if any monies are due to the Lessee they shall be credited to it. In the event the term of this Agreement expires or is sooner terminated on a date other than the last day of a calendar year, the Port Authority shall have no obligation to immediately make the computations as hereinabove provided which would determine the amounts payable by the Lessee in accordance with subparagraphs (1), (2) and (3) of this paragraph (b) for the period during said year

when this Agreement was in effect. In the event this Agreement expires on a day other than the last day of a calendar month and the actual consumption of and charges to the Lessee for such portion of the calendar month are not available, the charge to the Lessee shall be equitably prorated. Said computations shall be made subsequent to the end of the calendar year as hereinabove provided, and if any monies are due to the Port Authority they shall be paid by the Lessee and if any monies are due to the Lessee they shall be paid to it by the Port Authority less such amounts, if any, then due and owing to the Port Authority from the Lessee.

(6) The Port Authority shall render a bill to the Lessee from time to time for the Lessee's Chilled Water distribution gallonage which shall be payable upon receipt. The charge therefor shall be based on KIAC's charge to the Port Authority for makeup water and chemical treatment of makeup water and shall be determined in accordance with subparagraphs (1) and (2) of this paragraph (b).

(7) In the event that the Lessee disputes any item of an estimated or final bill, the Lessee shall promptly pay the bill in full and the Port Authority shall make any necessary adjustments only after resolution of such dispute.

(ii) The Lessee agrees that in order that KIAC or any successor thereto may maintain the status of the Cogeneration Facility as a "qualifying cogeneration facility" under applicable Federal laws, rules and regulations ("QF Status") including the Public Utility Regulatory Policies Act of 1978 as the same may be amended and any successor statute thereto, the Lessee shall, at all times it is operating the premises for the purposes permitted in this Agreement, purchase from the Port Authority and use on an annual basis a minimum amount of thermal energy contained in Hot Water and Chilled Water produced by use of steam from the Cogeneration Facility equivalent to the lesser of (1) an amount that, together with all thermal energy contained in Hot Water and Chilled Water purchased and used by the Port Authority and all other lessees of premises in the Central Terminal Area, is sufficient to maintain the QF status of the Cogeneration Facility and (2) the product of (x) 167,379 mmBTUs of thermal energy, which is one-third of the use of thermal energy contained in Hot Water and Chilled Water in the Central Terminal Area of the Port Authority and the lessees of premises in the Central Terminal Area in the year ended December 31, 1989, and (y) a fraction, the numerator of which is the amount of the Lessee's use of thermal energy contained in Hot Water and Chilled Water at the premises in the most recent complete calendar year preceding the applicable date of determination and the denominator of which is the amount of all use in the Central Terminal Area of thermal energy contained in Hot Water and Chilled Water in such calendar year.

(iii) It is agreed that during or subsequent to the expiration of this Agreement no charge to or payment by the Lessee with respect to Hot Water, Chilled Water or Chilled Water distribution gallonage shall be included in, affect, or change in

any way the calculation and determination of Port Authority costs or charges under any other agreement between the Lessee and the Port Authority at the Airport and any such Port Authority cost or charge shall be calculated and determined as if no charge to or payment by the Lessee with respect to Hot Water or Chilled Water had been incurred.

(c) THE LESSEE HEREBY WAIVES AND RELINQUISHES for itself, its successors and assigns any right it may have, and further agrees that it, its successors and assigns shall have no right, to manufacture or produce, to cause to be manufactured or produced, or to purchase or receive from any third party, Hot Water or Chilled Water for use on the premises or to use any other manner of air cooling or air heating at the premises (except for space heating or air conditioning of aircraft and loading bridges leading to aircraft) except to purchase, receive and use Hot Water and Chilled Water from the Port Authority pursuant to this Agreement.

(d) There shall be no obligation to the Lessee by either KIAC or the Port Authority to furnish the goods and services covered by this Section at any time (i) while any component necessary therefor shall be prohibited or rationed by any federal, state or municipal, law, rule, regulation, requirement, order or direction or while the Port Authority deems it in the public interest to comply therewith even though such law, rule, regulation, requirement, order or direction may not be mandatory on the Port Authority as a public agency, (ii) while the same are curtailed or stopped because of the need to repair, replace, rebuild or alter the Cogeneration Facility, (iii) during the continuance of any event of Force Majeure, as such term is defined in the Cogeneration Agreement or (iv) that the Lessee shall be in default under this Agreement after the period, if any, herein granted to cure such default shall have expired. No failure, delay or interruption in supplying said goods and services shall be or be construed to be an eviction of the Lessee or grounds for the diminution or abatement of rentals, fees or other charges, nor shall any such failure, delay or interruption be grounds for any claim, direct or indirect, by the Lessee for damages, consequential or otherwise, against the Port Authority. In the event of the failure of KIAC to supply Hot Water or Chilled Water to the premises as provided in the Cogeneration Agreement, which failure KIAC shall not either correct or be diligently pursuing the correction of, within the period provided for the same in the Cogeneration Agreement, the Port Authority shall direct KIAC to take corrective action as provided in the Cogeneration Agreement.

(e) Without limiting any other provision of this Section, any supply of Hot Water or Chilled Water to the premises from the Cogeneration Facility shall be limited by the safe and efficient operating capacity of the Cogeneration Facility as determined by KIAC and as approved by the Port Authority.

(f) (i) The Lessee has installed or shall install all machinery, equipment and facilities required to be installed in the premises in order to utilize Hot Water and Chilled Water to be

distributed and has tied into or shall tie into the TDS at the heat exchangers, heretofore installed by the Port Authority or to be installed by KIAC, in the mechanical equipment rooms constructed by the Lessee on the premises.

(ii) The Lessee hereby agrees that the Port Authority, KIAC and the contractors or suppliers of either of them each shall have the right, subject to and as provided in Section 21 hereof, to enter upon the premises to install, operate and maintain any part of the Cogeneration Facility located thereon including but not limited to the aforesaid TDS and heat exchangers.

(g) In the event the Cogeneration Agreement is terminated and the facilities for the production of Hot Water and Chilled Water at the Airport exist and are, in the opinion of the Port Authority, economically operable, the Port Authority itself or pursuant to agreement with a contractor or permittee shall supply Hot Water and Chilled Water to the premises and the Lessee shall take and pay therefor at the same charge to the Lessee which would be applicable as if the Cogeneration Agreement had been in full force and effect, provided, however, that notwithstanding any other provision of this Section, the charge therefor to the Lessee shall in no event be less than an amount that would reimburse the Port Authority for its capital and operating costs in connection therewith determined in accordance with the Port Authority's normal accounting practice and provided, further, that if the Port Authority should itself supply, or enter into any agreement with a contractor or permittee to supply, Hot Water and Chilled Water to the premises at a lower capital and operating cost to the Port Authority than that equivalent to the charges to the Lessee which would have been applicable under the Cogeneration Agreement, such charges therefore to the Lessee shall be appropriately adjusted. In addition, the Port Authority may, in its discretion, make or consent to arrangements on one or more occasions with a third party or parties to succeed to KIAC's operation of all or any part of the Cogeneration Facility and the Lessee shall continue to be obligated to purchase Hot Water and Chilled Water from the Port Authority pursuant to this Agreement, at the rates provided for in the Cogeneration Agreement.

(h) Neither the Port Authority nor KIAC shall have any liability to the Lessee for any facilities installed by the Lessee on the premises in connection with the use of Hot Water and Chilled Water hereunder or for any investment made in connection with the use of Hot Water and Chilled Water.

(i) The Port Authority shall have the right to grant waivers, consents and approvals with respect to the Cogeneration Agreement and to enter into amendments, supplements or extensions of the Cogeneration Agreement with KIAC or any similar agreement with any successor operator of the Cogeneration Facility or other provider of Hot Water and Chilled Water at the Airport provided, however, that, except as otherwise provided by law, the Port Authority will not enter into any amendment, supplement or extension

of the Cogeneration Agreement which will result in a change in the formula used to calculate the Hot Water and Chilled Water rates payable by the Lessee which change results (i) in Hot Water and Chilled Water rates per unit consumed payable by users, including the Lessee, which vary depending on the volume of Hot Water or Chilled Water consumed by users, including the Lessee, or (ii), in an increase in the rates payable by users, including the Lessee, pursuant to such formula (the Lessee hereby acknowledging that such formula may, according to its terms, provide for such rates to be adjusted from time to time) without (x) providing the lessees of premises in the central Terminal Area that purchased and used Hot Water and Chilled Water during the last full calendar year preceding the effective date of such amendment, supplement or extension with detailed information respecting the proposed amendment, supplement or extension and discussing the same with such lessees and (y) the consent of the lessees (including the Port Authority as and to the extent that the Port Authority uses Hot Water and Chilled Water) of premises that purchased and used at least Fifty-one percent (51%) of the aggregate Hot Water and Chilled Water purchased and used in the Central Terminal Area during the last full calendar year preceding the effective date of such amendment, supplement or extension and (z), in the event the Port Authority itself purchased and used at least Fifty-one percent (51%) of the aggregate Hot Water and Chilled Water, as aforesaid, obtaining the consent of one or more other such Central Terminal Area lessees."

Section 54. Public Parking Facility

(a) The Public Parking Facility (hereinafter in this Section called ("the Facility") shall include only the portion of the surface of the roof of Building No. 53 in Area IB (hereinafter in this Section the "Area IB Terminal Building") upon which the actual public parking area is located, the vehicular ramps between the roof of the Area IB Terminal Building and the next lower level, the stairway and stairwell between the roof of the Area IB Terminal Building and the next lower level, all roadways and pedestrian circulation areas on said roof excluding any which may be in the Private Parking Facility, the structure housing the elevator serving said roof, other structures erected on said roof for use in connection with the operation of the Facility, and appropriate fencing, lighting and such other equipment, installations and improvements (other than those to be provided by the Port Authority pursuant to paragraph (c) hereof). The structural supporting frame of the Area IB Terminal Building, the roof (other than outer surface thereof) and all other structural members of the Area IB Terminal Building shall not be or be deemed to be a part of the Facility and shall be deemed to be a part of the Area IB Terminal Building.

(b) The Facility shall be operated as a motor vehicle parking facility to be made available to the general public and others. The Lessee, its passengers, patrons, employees and business guests shall have no priority of any kind and no rights of any kind to the use of the Facility greater than those of the general public. The Facility shall be operated by a contractor, selected from time

to time and at any time, by the Port Authority (hereinafter called "the Parking Contractor"). The Port Authority reserves the right, but shall have no obligation of any kind, to operate the Facility itself. The Port Authority shall have full, sole and absolute determination as to the rates to be charged at the Facility, the operation of the Facility, the number and size of spaces, the location and number of the entrances and of the exit lanes, the hours and times of operation, the security procedures therefor, the need or desirability of installing new or additional equipment or new construction, and any and all other matters pertaining to the Facility and the operation thereof. The Port Authority agrees that the rates to be charged for parking at the Facility shall be structured so as to encourage short term parking and to discourage long term parking at the Facility. As of the effective date of this Agreement, long term parking shall be deemed to mean consecutive parking in excess of four hours. The Port Authority reserves the right from time to time during the term of the Agreement to change the definition of long term parking. All revenues of whatever kind or nature arising out of or in any way connected with the Facility or the operation thereof shall belong to and be retained by the Port Authority.

The Port Authority shall endeavor to keep the Facility open and available for use by the general public. It is, however, hereby expressly agreed to by the Lessee that the Port Authority shall not be obligated or liable to the Lessee in any manner whatsoever in the event the Facility for any reason whatsoever is not open for such use for any period or periods during the term of this Agreement, unless the same shall be due to a deliberate, affirmative policy of the Port Authority and the Port Authority has not rectified such policy within a reasonable time after receipt of notice so to do from the Lessee, except for causes or conditions or circumstances beyond the control of the Port Authority.

(c) The Port Authority shall have the right to install or cause to be installed at the Facility all equipment, machinery and devices pertaining to the collection of charges from patrons of the Facility, any and all equipment located in the structure or structures at the Facility where personnel of the Parking Contractor and/or the Port Authority may be stationed, and any and all other equipment, machinery and devices which the Port Authority shall from time to time during the term of the Lease deem necessary or desirable for or in connection with the operation of the Facility, other than those required to be furnished or supplied by the Lessee. The Port Authority shall have the right to install and maintain all appropriate lines and conduits over, in or under the premises if connections to any of the foregoing are necessary and desirable to locations off the premises. All of the foregoing is in this Section referred to as "the Equipment". Notwithstanding anything contained in this Lease, the Equipment shall not be or be deemed to be a part of the premises and the Lessee shall have no rights of any kind with respect to the same.

(d) The Lessee hereby grants to the Port Authority, its employees, representatives, agents, contractors, suppliers of material and furnishers of services, and to all members of the general public and others who wish to use the Facility, the full and absolute right at any and all times, during the hours of operation to use such portions of the circulation areas of Area IB, the elevators in Area IB serving the Facility, and any other portions of the premises as may be necessary or appropriate for the purpose of ingress to and egress from the Facility. The Lessee hereby agrees at its sole cost and expense to promptly remove all snow, ice and sleet and to promptly perform all other activities and functions as may be necessary or proper to keep said portions of the said circulation areas, said elevators and other parts of the premises open and available at all times for such purpose of ingress and egress.

(e) The Lessee shall:

(1) Keep the Facility at all times in a clean and orderly condition and appearance;

(2) Remove all snow, ice and sleet from the Facility;

(3) Take good care of the Facility and maintain the same at all times in good condition, perform all necessary preventive maintenance, including but not limited to painting (only in colors which have been approved by the Port Authority); and make all repairs and replacements, and do all rebuilding and repaving, which repairs, rebuilding, repaving and replacements by the Lessee shall be in quality and class not inferior to the original in materials and workmanship;

(4) Remove from the Airport or otherwise dispose of a in a manner approved by the General Manager of the Airport all garbage, debris, and other waste materials (whether solid or liquid) arising out of its obligations hereunder at the Facility;

(5) Perform such other operations and provide such other services with respect to the Facility not otherwise required of the Lessee under other provisions of this Lease as the Port Authority from time to time may direct;

(6) Supply such quantities of electricity, water, heat and any other utility to the Facility as the Port Authority may from time to time direct, and

(7) Perform such security operations as shall be necessary or appropriate for the Lessee and/or its contractor to comply with all Port Authority requirements for the security of the Facility including without limitation providing security personnel to secure and patrol the Facility and security equipment, including the operation and maintenance thereof as the Port Authority may from time to time direct.

All obligations as set forth in this paragraph (e) to be performed by the Lessee at the Facility shall be hereinafter referred to in this Section as "the Lessee's Facility Obligations". All other obligations the Lessee has with respect to the Facility under any other term, condition, covenant or provision of the Lease shall not be a part of the Lessee's Facility Obligations, but nothing herein contained shall be deemed to limit, affect or release the Lessee from the performance of such obligations.

(f) The Lessee's Facility Obligations shall be performed in such manner, to such standards and at such times as the Port Authority at any time and from time to time during the term of the Lease shall determine. In the event the Lessee fails to perform any part of the Lessee's Facility Obligations or fails to perform the same in a manner satisfactory to the Port Authority, the Port Authority may, at its option, and in addition to any other remedies which may be available to it, perform itself or cause to be performed by third parties all or any portion of the Lessee's Facility Obligations, and the cost thereof as determined by the Port Authority's normal accounting practice shall be payable by the Lessee to the Port Authority on demand. The Port Authority may at any time and from time to time reimpose upon the Lessee its obligation to perform all or such portion of the Lessee's Facility Obligations which the Port Authority had at any time itself undertaken or caused to be performed by third parties.

(g) (1) The term "Lessee's Annual Operating Cost" shall mean an agreed upon sum determined as hereinafter provided and shall represent the Lessee's cost for performing all of the Lessee's Facility Obligations for an annual period, (as hereinafter defined) except those covered by subparagraphs (5), (6) and (7) of paragraph (e) hereof and except for Major Maintenance as hereinafter defined. The Lessee's Annual Operating Cost for the first annual period shall mean the sum of $40,000. Before the commencement of the second annual period and before the commencement of the fifth, eighth, eleventh, fourteenth, seventeenth, and twentieth year annual periods and before the twenty third annual period if there is an extension of the term hereunder pursuant to Section 3A hereof, the Port Authority and the Lessee shall determine the amount which shall constitute Lessee's Annual Operating Cost for the next three annual periods. It is hereby understood and agreed that it is the intention of the parties hereto that the Lessee shall perform the Lessee's Facility Obligations hereunder during the term of this Lease and that the only reason for providing for mutual determination of the Lessee's Annual Operating Cost as aforesaid for each three-year period is the uncertainty at the commencement of the term of the Lease of the amount which would properly constitute the Lessee's actual cost for performing the Lessee's Facility Obligations for the entire term of the Lease. In determining the Lessee's Annual Operating Cost for each three year period, the parties shall seek to determine the Lessee's actual cost of performing the Lessee's Facility Obligations for such three year period, which cost shall be deemed to mean only the Lessee's on-the-job payroll cost, the cost of materials, equipment and supplies

and/or payments to independent third party contractors in the performance of the Lessee's Facility Obligations. There shall also be taken into account the fact that some of the Lessees's Facility Obligations serve and benefit the Private Parking Facility as well. The Lessee shall initially submit a proposal as to what it believes the Lessee's Annual Operating Cost should be. This proposal shall be based upon the audited and verified costs the Lessee has incurred for the preceding three annual periods (or the first annual period only in the case of the first proposal), and true and valid projections of the same shall be the basis of the mutual determination of the Lessee's Annual Operating Cost for the next three annual periods.

The Lessee and the Port Authority hereby agree to negotiate in good faith in arriving upon a mutually agreed upon amount to constitute the Lessee's Annual Operating Cost for each such three year period and also hereby agree that such agreed upon amount of the Lessee's Annual Operating Cost for each such three year period shall be set forth in writing signed by the Lessee and the Port Authority.

In the event the parties shall have failed to arrive upon agreement on the amount which should be the Lessee's Annual Operating Cost prior to the commencement of the annual period to which it would be applicable, the Lessee shall continue to perform the Lessee's Facility Obligations hereunder, unless and until the Port Authority exercises its rights under paragraph (i) hereof and the Lessee shall continue to be paid for the performance of the Lessee's Facility Obligations on the basis of the Lessee's Annual Operating Cost for the preceding annual period, which payments shall be retroactively adjusted at such time as the parties shall have agreed on the amount of the applicable Lessee's Annual Operating Cost, but if no such agreement is reached, no adjustment will be made.

(2) Major Maintenance shall be deemed to mean an instance where the Lessee is required to perform an item of repair, of replacement, of painting, or repaving or of rebuilding on the Facility pursuant to the provisions of subparagraph (3) of paragraph (e) hereof, where the Lessee's cost of such item shall exceed $700.00. The Lessee's cost as used herein shall be deemed to mean only the Lessee's on-the-job payroll cost, the cost of material, equipment and supplies and payments to independent third party contractors, and taking into account the fact that the item of Major Maintenance may serve or benefit the Private Parking Facility as well. In the event that the performance of an item of Major Maintenance is required of the Lessee pursuant to subparagraph (3) of paragraph (e) hereof, or in the event operations or services are required of the Lessee pursuant to subparagraph (5) of paragraph (e) hereof, the same shall not be performed by the Lessee unless prior to the commencement of performance the Port Authority and the Lessee have agreed upon the amount to be paid by the Port Authority to the Lessee for the same. The Lessee and the Port Authority hereby agree

to negotiate in good faith in arriving upon such mutually agreed upon price.

The Port Authority may, at its option and without any obligation so to do, from time to time during the term of the Agreement, perform itself or cause to be performed by third parties any item of Major Maintenance and any operation or service of the type covered by subparagraph (5) of paragraph (e) hereof.

(3) The term "Major Maintenance Price" shall mean the amount agreed upon between the Port Authority and the Lessee to be paid by the Port Authority for an item of Major Maintenance.

(4) The term "Subparagraph (5) Price" shall mean the amount agreed upon by the Port Authority and the Lessee to be paid to the Lessee for a service or operation to be provided by the Lessee under subparagraph (5) of paragraph (e) hereof.

(5) The term "Utility Cost" shall mean the cost to be determined by agreement from time to time of the parties during the term hereof with respect to any utility actually supplied and paid for by the Lessee to the Facility based on estimates of consumption and cost, and taking into account the fact that the utility may serve or benefit the Private Parking Facility as well.

All of the amounts payable by the Port Authority to the Lessee under this paragraph (g) are hereinafter collectively called "the Lessee's Charges". They shall be set forth in the statement of the Lessee covered by subparagraph (1) of paragraph (h) as incurred for the preceding month, and with respect to the Lessee's Annual Operating Cost, one-twelfth of the same shall be so included and shall be called the "Lessee's Monthly Operating Cost".

(h) (1) On or before the twentieth day of the month following the effective date of this Agreement and on or before twentieth day of each and every month thereafter during the term of this Agreement, including the month following the expiration or earlier termination of said term, the Lessee shall submit to the Port Authority a detailed statement setting forth the Lessee's Charges for the preceding calendar month and such other additional information the Port Authority may from time to time require pertaining to the Lessee's Facility Obligations for the preceding calendar month.

(2) The Lessee shall submit to the Port Authority not later than thirty (30) days after the end of each annual period a cumulative detailed statement setting forth the matters required to be set forth under subparagraph (1) above for said annual period.

(3) The Lessee shall submit to the Port Authority not later than thirty (30) days after the end of each annual period and not later than three months before the end of an annual period when the Lessee's Annual Operating Cost for the succeeding annual period is to be determined in accordance with paragraph (g) hereof a

cumulative detailed statement setting forth the amount of the Lessee's actual cost in performing the Lessee's Facility Obligations as defined in paragraph (g) (1) for the preceding annual period or the preceding nine months as the case may be.

(4) All statements required hereunder shall be prepared in accordance with sound accounting practice acceptable to the Port Authority. In addition the annual statements required under subparagraphs (2) and (3) hereof shall be certified by a fiscal officer of the Lessee. Each statement shall be subject to verification and audit by the Port Authority. No payments or credits made or given by the Port Authority shall be deemed to be final until the statement upon which the payment or credit is based has been approved by the Port Authority. However, no payment or credit, final or otherwise, shall operate to release the Lessee from any of its obligations under this Lease. The Lessee shall permit, in ordinary business hours for a period of 4 years during the term of this Agreement, and for one year thereafter, the examination and audit by the officers, employees and representatives of the Port Authority or such records and books of account and also any records and books of account of any company which is owned or controlled by the Lessee or which owns or controls the Lessee, if said company performs services similar to those performed by the Lessee anywhere in the Port of New York District.

(i) In the event and for whatever reason the parties have failed to agree upon the amount to constitute the Lessee's Annual Operating Cost prior to the commencement of an annual period where agreement on the amount is applicable, the Port Authority shall have the right upon at least 30 days' prior written notice to the Lessee to terminate the performance by the Lessee of the Lessee's Facility Obligations under this Section 54 and from and after the effective date stated in said notice the Lessee shall no longer perform the Lessee's Facility Obligations. If the parties have not reached agreement by the expiration of six months after the commencement of an annual period in which a determination of the Lessee's Annual Operating Cost is applicable, and if the Port Authority had not terminated the Lessee's Facility Obligations as hereinabove provided, then the provisions of this Section 54 covering the performance by the Lessee of the Lessee's Facility Obligations shall cease and terminate as of such date.

In the event of termination or cessation as aforesaid the Port Authority shall have the right by itself or by a third party contractor to perform any and all services including but not limited to the Lessee's Facility Obligations which it shall deem necessary or desirable in connection with the operation of the Facility. Termination or cessation of the Lessee's Facility Obligations shall not release or relieve the Lessee from any other obligations it has under the Lease which may affect or pertain to the Facility. Notwithstanding the foregoing the Lessee shall continue to provide to the Port Authority the utilities covered by subparagraph (5) of paragraph (e) hereof, to be paid for as provided in subparagraph (5) of paragraph (g) hereof.

Termination or cessation hereunder shall not be deemed to waive any other rights or remedies which may be available to the Port Authority either at law or in equity arising out of the fact that the parties failed to agree on the amount of the Lessee's Annual Operating Cost.

Payments to the Lessee for the portion of the annual period in which termination or cessation takes place as aforesaid shall be made on the basis of the Lessee's Annual Operating Cost for the preceding annual period. Thereafter the Lessee shall pay to the Port Authority its proper share of the cost to the Port Authority of performing the Lessee Facility Obligations and any other operations and services it may perform or provide as and to the extent that the same serve or benefit the Private Parking Facility. The cost to the Port Authority shall be determined in accordance with its normal accounting practice and payments shall be paid by the Lessee as billed by the Port Authority.

(j) The Port Authority shall pay to the Lessee or at its option credit against the rental obligations of the Lessee hereunder within fifteen (15) days after the receipt of the Lessee's statement submitted in accordance with subparagraph (1) of paragraph (h) hereof, an amount equal to the Lessee's Charges for the month for which said statement is rendered.

(k) The term "Annual Period" as used in this Section shall mean the period of twelve months commencing upon the effective date of this Agreement and each period of twelve months thereafter commencing on the anniversaries of said effective date, provided, however, that if the effective date is other than the first day of a month the first annual period following the effective date shall include the portion of the month subsequent to the effective date plus the succeeding twelve months and each succeeding "annual period" shall commence on the anniversaries of the beginning of the first full 12-month period. In the event the term of the Lease expires on a date other than the date of the expiration of an annual period, the number of months in said annual period shall constitute the full annual period.

(l) In the event that the Lessee does not perform the Lessee's Facility Obligations for any period or periods during the term of this Agreement and for any reason whatsoever including without limitation thereto the performance of the same by the Port Authority or the fact that the Facility shall not be open or available for use by the public, then and without limiting any other remedies which may be available to the Port Authority the Lessee's Monthly Operating Cost shall not be payable for the period of the failure of performance. If such failure to perform is for a period less than a month, the Lessee's Monthly Operating Cost shall be reduced by applying thereto a fraction, the numerator of which shall be the number of days in said calendar month during which the Lessee performed the Lessee's Facility Obligations and the denominator of which shall be the actual number of days in said month. The Lessee

shall not perform the Lessee's Facility Obligations during any period the Facility is not open for use, unless and to the extent that it is directed so to do by the Port Authority, and in such event if all the Lessee's Facility Obligations are performed the total of the Lessee's Monthly Operating Cost shall be payable and if less than all are performed the amount to be paid by the Port Authority to the Lessee shall be subject to agreement of the parties taking into account the provisions of paragraph (g) hereof. It is hereby recognized that the Facility was closed during the period commencing February 26, 1993 through September 28, 1993 and that the Facility was re-opened for use on September 29, 1993.

(m) The Lessee shall not enter into any contract with any independent third party for the performance of any of the Lessee's Facility Obligations without the prior written consent of the Port Authority.

(n) The Lessee shall not assign to any third party the Lessee's rights to the payment of any monies under this Section 54 and any such assignment shall be void as to the Port Authority.

Section 55. Consumer Services

The Lessee acknowledges that various portions of the premises have been and will be utilized for consumer services and said portions which have received and will receive the concurrence of the Lessee and the Port Authority, as hereinafter provided, are herein referred to as "the concession areas". Without limiting the provisions of Section 44 hereof, the Lessee shall develop a comprehensive plan for consumer services, including but not limited to the locations of existing and future concession areas, the amount of services to be provided of the types hereinafter set forth in Sections 56, 57, 58, 59, 60, 61 and 62 hereof, and the types and amounts of any consumer services proposed under Section 63, and the Lessee agrees that it will at all times throughout the term of the Lease keep said comprehensive plan updated and that said updated plan shall be submitted to and be subject to the continuing approval of the Port Authority. The Port Authority shall furnish to the Lessee guidelines to be utilized by the Lessee with respect to all matters affecting consumer services in the concession areas including the Lessee's comprehensive plan.

After approval by the Port Authority of the Lessee's comprehensive plan for consumer services the Lessee shall enter into negotiations or go out for bid, as the circumstances dictate, with respect to the selection of proposed new operators and new agreements with the same. At all times during the negotiation and award procedure the Lessee shall consult with the Port Authority as to all aspects of the proposed arrangements including but not limited to the proposed operators and the financial terms thereof. As hereinafter provided the Lessee will be entering into a direct contract with each new operator but said operator must also enter into an appropriate agreement with the Port Authority. The Lessee shall not finalize negotiations with any operator and shall not

execute any agreement with any proposed operator until it has received notification from the Port Authority that said arrangement is acceptable to the Port Authority and until said operator has indicated that it is prepared to enter into the appropriate contractual agreement with the Port Authority. The foregoing procedure will be followed throughout the term of the Lease. It is expressly understood and agreed that the provisions of this Section shall not limit or be deemed to limit the provisions of Section 44 hereof and the Lessee's on-going affirmative action commitment with respect to the consumer services awards and agreements provided for herein. Without limiting any of the foregoing or any other term or provision of this Agreement, the Lessee understands and agrees that the Lessee's comprehensive plan for consumer services shall comply with the Disadvantaged Business Enterprises requirements of the Federal Aviation Administration and also the requirements of the Port Authority with respect to making contract opportunities available to Disadvantaged Business Enterprises.

Section 56. Restaurants and Bars

The Lessee may select and thereafter enter into an agreement with one or more qualified Restaurant Operators (each such Restaurant Operator being hereinafter referred to in this Section as "the Restaurant Operator") authorizing the Restaurant Operator to operate in the premises facilities for the sale of food, alcoholic and non-alcoholic beverages and similar items for consumption in the premises (hereinafter called "the Restaurant Service") provided, however, that prior to any such selection and prior to the entering by the Lessee into any such agreement with the Restaurant Operator, said Restaurant Operator shall obtain a permit from the Port Authority authorizing such Restaurant Operator to operate the Restaurant Service in a portion of the premises hereunder. Prior to the issuance of any such permit, the proposed Restaurant Operator may be required to submit to the Port Authority evidence satisfactory to the Port Authority of its qualifications, the scope of its proposed operations and the standards of service it will provide. Any such permit will provide that the Restaurant Operator will conduct its operations at the premises in a first-class manner in accordance with the best practices in the industry and shall comply with maximum Port Authority standards with respect to service, health, sanitary and safety measures. The permit will not be revoked without cause by the Port Authority without the prior consent of the Lessee. In the event of any inconsistencies between the terms of the permit and the terms of the agreement between the Lessee and the Restaurant Operator, the terms of the permit shall control and prevail. Without limiting the foregoing, it is agreed that prior to the issuance of the permit the Port Authority shall make a copy of the same available to the Lessee and that upon the execution of the permit by the proposed Restaurant Operator the same shall be consented to in writing by the Lessee.

The agreement between the Lessee and the Restaurant Operator shall cover the arrangements for the space to be used in the Restaurant Service within the premises including the amount,

type and location of the space. The Lessee will bring to the perimeter of the space to be occupied by the Restaurant Operator pipes, wires and conduits for the supply of electricity, gas and water, together with the necessary steam and waste lines for use in connection with the Restaurant Service and shall provide said utilities to the Restaurant Operator. Said agreement will also provide that the Restaurant Operator will furnish and install at its own expense all necessary fixtures, furniture and personal property required in connection with the Restaurant Service and that the Restaurant Operator may be required to perform all work necessary or required to finish off the space, including the finishing of the floors and ceilings from the structural slab and the walls from the rough partitions.

The agreement between the Restaurant Operator and the Port Authority will contain appropriate provisions permitting cancellation of such agreement on short notice in the event the service of the Restaurant Operator is unsatisfactory to the Lessee. In the event of such cancellation the Lessee agrees to reimburse the Restaurant Operator for its unamortized investment in the fixtures, equipment, furniture and personal property furnished in connection with the operation, and the unamortized cost of the work performed in finishing off the space and title to such fixtures, equipment, furniture and personal property shall thereupon vest in the Lessee, provided, however, that where such agreement is cancelled expressly on the basis of the failure of the Restaurant Operator to keep, perform or observe any of the terms and provisions of said agreement in its part to be kept, performed or observed or on the basis of one or more event or events of default of the Restaurant Operator as specified in said agreement such provision for Lessee reimbursement is not to obtain or apply.

The agreement between the Lessee and the Restaurant Operator shall not call for any fixed rental or fee but shall provide that the Restaurant Operator shall pay a percentage fee based upon the gross receipts of the Restaurant Operator from the sale of food, alcoholic and non-alcoholic beverages, which fee shall be subject to the prior written approval of the Port Authority and shall be incorporated into the permit to be issued by the Port Authority. There shall be no other payments by the Restaurant Operator to the Lessee except for appropriate payments for any utilities which may be furnished to the Restaurant Operator by the Lessee, it being understood, however, that the foregoing shall not preclude the Lessee from furnishing services to the Restaurant Operator, such as janitorial and garbage removal services, and from receiving payments from the Restaurant Operator for such services provided the same are covered by appropriate written agreements duly entered into between the Lessee and the Restaurant Operator including the charges therefor, and that the Lessee hereby agrees to provide the Port Authority with any and all agreements covering any such services promptly and upon the receipt of a request therefor from the Port Authority. It is hereby understood and agreed that 80% of the percentage fee payable by the Restaurant Operator shall be paid by the Restaurant Operator to the Lessee and 20% of the percentage fee

construction cost of the premises, and an appropriate allocation of the cost of providing and maintaining public areas within the premises. For the purpose of determining the aforesaid costs the premises shall be considered as a single entity and a single rental rate shall be established for all areas of the premises based thereon. The amount of the basic rental to be paid by the vendor shall be agreed upon between the Port Authority and the Lessee, when the costs aforementioned are determined or can be reasonably estimated provided, however, in no event shall such basic rental be computed at a rate in excess of the Consumer Service Maximum Basic Rental Rate as defined in Section 81 hereof.

The contract shall further provide that the vendor shall pay an amount equal to a percentage of the vendor's gross premiums from the sale of such insurance, less the amount of any basic rental paid by the vendor.

It is hereby understood and agreed that all of the basic rental and 50% of the percentage fee payable by the insurance vendor shall be paid by the insurance vendor to the Lessee and 50% of the percentage fee payable by the insurance vendor shall be paid by the insurance vendor to the Port Authority. The rental and fees payable hereunder shall be paid in the manner, under the conditions, and at the times provided in Section 65 hereof.

The contract with the insurance vendor will provide that: (a) if the Lessee so requests, the vendor shall provide a general information service to the public; and (b) the vendor shall not be required to provide a counter for the sale of insurance if, in its opinion, there will be insufficient patronage to support such a counter; and (c) the vendor shall not be required to continue to provide at any designated location vending machines for the sale of insurance when the gross premiums from any such machines at any such location is less than $200 per month, provided, however, if twenty-four (24) hour counter coverage is not provided there shall be at least one machine in the premises; and (d) the provisions of insurance policies and the minimum coverage offered shall be acceptable to the Lessee.

The location of insurance counters and insurance vending machines shall be determined by the Lessee. The vendor will furnish and install at its expense all necessary fixtures, machines, counters and equipment required in connection with its operation. The Lessee shall provide the necessary wires and conduits for the supply of electricity for use in connection with the vendor's operation. The Lessee shall not require unreasonably frequent moves of insurance counters and insurance vending machines hereunder.

Section 59. Newsstands

(a) The Lessee may select and thereafter enter into an agreement or agreements with a qualified newsstand operator or operators authorizing such operators to operate newsstands in the premises for the sale at retail of such of the following items as

may be approved by the Port Authority: newspapers, magazines, cigarettes, cigars and other tobacco supplies, candy, chewing gum, playing cards and paperbound books, small novelty gift items, and such other items as may be approved by the Port Authority from time to time, provided, however, that prior to any selection and prior to the entering by the Lessee into any such agreement with any such newsstand operator, each such newsstand operator obtains a permit from the Port Authority authorizing said newsstand operator to operate the newsstand in a portion of the premises hereunder. Prior to the issuance of any such permit, the proposed newsstand operator may be required to submit to the Port Authority evidence satisfactory to the Port Authority of its qualifications, the scope of its proposed operations and the standards of service it will provide. Any such permit will provide that the newsstand operator will conduct its operations at the premises in a first-class manner in accordance with the best practices in the industry and shall comply with maximum Port Authority standards with respect to service, health, sanitary and safety measures. The permit will not be revoked without cause by the Port Authority without the prior consent of the Lessee. In the event of any inconsistencies between the terms of the permit and the terms of the agreement between the Lessee and the newsstand operator, the terms of the permit shall control and be prevailing. Without limiting the foregoing, it is agreed that prior to the issuance of the permit the Port Authority shall make a copy of the same available to the Lessee and that upon the execution of the permit by the proposed newsstand operator the same shall be subscribed to by the Lessee. The Port Authority shall require such operator or operators to sell at retail from its or their locations, such other items or furnish such other services as may be approved by the Port Authority and as are requested by the Lessee.

(b) The agreement between the newsstand operator or operators and the Port Authority shall provide that each such operator shall pay to the Lessee a basic rental for the space occupied by such operator in the premises in connection with the operation of the newsstand. The basic rental will be based upon the cost to the Lessee of providing such space to the operator. In determining the cost to the Lessee there shall be considered the construction cost of the premises and an appropriate allocation of the cost of providing and maintaining public areas within the premises. For the purpose of determining the aforesaid costs the premises shall be considered as a single entity and a single basic rental rate shall be established for all areas of the premises based thereon. The amount of the basic rental to be paid by the operator shall be agreed upon between the Port Authority and the Lessee, when the costs aforementioned are determined or can be reasonably estimated, provided, however, in no event shall such basic rental be computed at a rate in excess of the Consumer Service Maximum Basic Rental Rate as defined in Section 81 hereof. The Lessee shall furnish without additional charge, a reasonable amount of storage space for the use of the newsstand operator.

DL gets basic rental

DL furnishes storage space free

(c) The agreement with the newsstand operator or operators shall further provide that the operator will pay to the Port Authority a percentage fee of the gross receipts derived by the newsstand operator from all sales made by the newsstand operator less the amount of the basic rental paid by the newsstand operator to the Lessee, the amount of said percentage fee payable to the Port Authority up to the amount of the basic rental being herein called "the basic rental equivalent".

(d) The agreement with the newsstand operator shall provide furthermore that the newsstand operator shall pay directly to the Port Authority and to the Lessee the excess, if any, of the percentage fee remaining after the newsstand operator has paid to the Port Authority the basic rental equivalent, said excess to be divided equally between the Lessee and the Port Authority. Both the agreement between the Lessee and the newsstand operator and the permit to be issued by the Port Authority shall have provisions covering the percentage fee in accordance with this Section and without limiting the generality of any other provision of this Section, the permit shall control as to the manner, conditions and terms of payment.

(e) The agreement with the newsstand operator or operators will further provide that the newsstand operator will be permitted to sell at retail only such merchandise as is normally sold at newsstands in operation at Port Authority Airports together with such other merchandise as may be requested by the Lessee, if authorized by the Port Authority. The contract shall further provide that no merchandise objectionable to the Lessee or the Port Authority shall be sold.

(f) The location of newsstands for the use of the newsstand operators shall be determined by the Lessee subject to the approval of the Port Authority and in accordance with the Lessee's comprehensive plan. The said agreement between the newsstand operator and the Lessee shall provide that the newsstand operator will furnish and install at its expense all necessary trade fixtures, stands, counters and equipment required in connection with its operation. The Lessee shall perform all construction work necessary to accommodate such installations including the necessary wires and conduits for the supply of electricity and shall supply the same including the supply of electricity for use in connection with the operation of the newsstand or newsstands at no cost to the newsstand operator or to the Port Authority. In addition to other rights of termination or revocation that may be contained in said agreement between the newsstand operator and the Lessee, the said agreement may contain appropriate provisions permitting cancellation of the agreement by the Lessee on short notice in the event the newsstand service provided by the newsstand operator is unsatisfactory to the Lessee. In the event of such termination or revocation, the Lessee agrees to reimburse the newsstand operator for its unamortized investment in the fixtures, equipment, stands, counters and equipment furnished in connection with the operation, and the unamortized cost of the construction work performed to

accommodate such installations, and title to such fixtures, stands, counters and equipment furnished in connection with the newsstand operation shall thereupon vest in the Lessee; provided, however, that where such agreement is cancelled expressly on the basis of the failure of the newsstand operator to keep, perform or observe any of the terms and provisions of said agreement in its part to be kept, performed or observed or on the basis of one or more event or events of default of the newsstand operator as specified in said agreement such provision for Lessee reimbursement is not to obtain or apply.

Section 60. Duty-Free Shops

(a) The Lessee may select and thereafter enter into an agreement with one or more qualified persons, firms or corporations (each such person, firm or corporation being hereinafter referred to as "the Duty-Free Shop Operator") authorizing such Duty-Free Shop Operator to operate a shop in the premises for the sale at retail of in-bond liquors, in-bond cigarettes, cigars and other in-bond tobacco products, and other in-bond items, (hereinafter called "the Duty-Free Shop"), provided, however, that prior to any such selection and prior to the entering by the Lessee into any such agreement with the Duty-Free Shop Operator, said Duty-Free Shop Operator obtains a permit from the Port Authority authorizing such Duty-Free Shop Operator to operate the Duty-Free Shop in a portion of the premises hereunder. Prior to the issuance of any such permit, the proposed Duty-Free Shop Operator may be required to submit to the Port Authority evidence satisfactory to the Port Authority of its qualifications, the scope of its proposed operations and the standards of service it will provide. Any such permit will provide that the Duty-Free Shop Operator will conduct its operations at the premises in a first-class manner in accordance with the best practices in the industry and shall comply with maximum Port Authority standards with respect to service, health, sanitary and safety measures. The permit will not be revoked without cause by the Port Authority without the prior consent of the Lessee. In the event of any inconsistencies between the terms of the permit and the terms of the agreement between the Lessee and the Duty-Free Shop Operator, the terms of the permit shall control and be prevailing. Without limiting the foregoing, it is agreed that prior to the issuance of the permit the Port Authority shall make a copy of the same available to the Lessee and that upon the execution of the permit by the proposed Duty-Free Shop Operator the same shall be subscribed to by the Lessee.

(b) The Lessee agrees and the agreement between the Lessee and the Duty-Free Shop Operator shall provide that the Lessee will furnish to the Duty-Free Shop Operator sufficient and suitable space for conducting and carrying on its aforesaid operation. The Lessee agrees that it shall perform all work necessary or required to finish off the space, including the finishing of the floors and ceilings from the structural slab and the walls from the rough partitions, the decor and color scheme to be subject to the approval of the Port Authority. In addition, the Lessee shall construct in the portion of the premises designated by the Port Authority a

storage area for the storage of the aforesaid in-bond items to be sold by the Duty-Free Shop Operator (said storage area being herein called "the Duty-Free Distribution Center"). The Lessee shall proceed diligently to construct and install those portion of pipes wires and conduits in the manner and to the locations as shall be shown in detail on the Lessee's plans and specifications to be submitted to and approved by the Port Authority for the supply of such utilities and services including without limitation thereto those portions of the electrical, heating and air-conditioning equipment required by the Duty-Free Shop Operator in its operations in the Duty-Free Shop and the Duty-Free Distribution Center. The Lessee shall supply said utilities and services to the Duty-Free Shop Operator without charge to the Duty-Free Shop Operator or the Port Authority.

lessee supplies utilities w/o charge

(c) The agreement between the Lessee and the Duty-Free Shop Operator shall not call for any fixed rental or fee but shall provide that the Duty-Free Shop Operator shall pay a percentage fee subject to appropriate minimum amounts based upon the gross receipts of the Duty-Free Shop Operator from the sale of in-bond liquors, in-bond cigarettes, cigars and other in-bond tobacco products and other in-bond items, which fee shall be subject to the prior written approval of the Port Authority and shall be incorporated into the permit to be issued by the Port Authority. There shall be no other payments by the Duty-Free Shop Operator to the Lessee except other than as provided herein. It is hereby understood and agreed that 50% of the percentage fee payable by the Duty-Free Shop Operator shall be paid by the Duty-Free Shop Operator to the Lessee and 50% of the percentage fee payable by the Duty-Free Shop Operator shall be paid by the Duty-Free Shop Operator to the Port Authority. Both the agreement between the Lessee and the Duty-Free Shop Operator and the permit to be issued by the Port Authority shall have provisions covering the fee in accordance with this Section and, without limiting the generality of any other provision of this Section, the permit shall control as to the manner, conditions and terms of payment.

(d) The agreement between the Duty-Free Shop Operator and the Lessee will provide that the Duty-Free Shop Operator will furnish at its expense all necessary trade fixtures, equipment furniture and personal property required in connection with the efficient and satisfactory operation of the Duty-Free Shop and the Duty-Free Distribution Center. The decor and color scheme of the facilities to be operated by the Duty-Free Shop Operator and the location of fixtures therein shall be subject to the prior and continuing approval of the Port Authority. In addition to other rights of termination or revocation that may be contained in said agreement between the Duty-Free Shop Operator and the Lessee, said agreement may contain appropriate provisions permitting cancellation of the agreement by the Lessee on short notice in the event the Duty-Free Shop provided by the Duty-Free Shop Operator is unsatisfactory to the Lessee.

Section 61. Foreign Currency Exchange

(a) The Lessee may select and thereafter enter into agreements with qualified persons, firms or corporations (which persons, firms or corporations are hereinafter referred to as "the Currency Exchange Operator") authorizing the Currency Exchange Operator to operate an establishment in the premises for the exchange, purchase and sale of domestic and foreign currencies (hereinafter called "the Foreign Currency Exchange Service") provided, however, that prior to any such selection and prior to the entering by the Lessee into any such agreement with the Currency Exchange Operator, said Currency Exchange Operator obtains a permit from the Port Authority authorizing such Currency Exchange Operator to operate the Foreign Currency Exchange Service in a portion of the premises hereunder. Prior to the issuance of any such permit, the proposed Currency Exchange Operator may be required to submit to the Port Authority evidence satisfactory to the Port Authority of its qualifications, the scope of its proposed operations and the standards of service it will provide. Any such permit will provide that the Currency Exchange Operator will conduct its operations at the premises in a first-class manner in accordance with the best practices in the industry and shall comply with maximum Port Authority standards with respect to service. The permit will not be revoked without cause by the Port Authority without the prior consent of the Lessee. In the event of any inconsistencies between the terms of the permit and the terms of the agreement between the Lessee and the Currency Exchange Operator, the terms of the permit shall control and be prevailing. Without limiting the foregoing, it is agreed that prior to the issuance of the permit the Port Authority shall make a copy of the same available to the Lessee and that upon the execution of the permit by the proposed Currency Exchange Operator the same shall be subscribed to by the Lessee.

(b) The Lessee agrees and the agreement between the Lessee and the Currency Exchange Operator shall provide that the Lessee will furnish to the Currency Exchange Operator sufficient and suitable space for conducting and carrying on its aforesaid operation. The Lessee agrees that it shall perform all work necessary or required to finish off the space, including the finishing of the floors and ceilings from the structural slab and the walls from the rough partitions, the decor and color scheme to be subject to the approval of the Port Authority. The Lessee shall supply said utilities and services to the Currency Exchange Operator without charge to the Currency Exchange Operator or the Port Authority.

(c) The agreement between the Lessee and the Currency Exchange Operator shall not call for any fixed rental or fee but shall provide that the Currency Exchange Operator shall pay a percentage fee based upon the gross receipts of the Currency Exchange Operator, which fee shall be subject to the prior written approval of the Port Authority and shall be incorporated into the permit to be issued by the Port Authority. There shall be no other payments by the Currency Exchange Operator to the Lessee except

other than as provided herein. It is hereby understood and agreed that 50% of the percentage fee payable by the Currency Exchange Operator shall be paid by the Currency Exchange Operator to the Lessee and 50% of the percentage fee payable by the Currency Exchange Operator shall be paid by the Currency Exchange Operator to the Port Authority. Both the agreement between the Lessee and the Currency Exchange Operator and the permit to be issued by the Port Authority shall have provisions covering the fee in accordance with this Section and, without limiting the generality of any other provision of this Section, the permit shall control as to the manner, conditions and terms of payment.

(d) The agreement between the Currency Exchange Operator and the Lessee will provide that the Currency Exchange Operator will furnish at its expense all necessary trade fixtures, equipment furniture and personal property required in connection with the efficient and satisfactory operation of the Foreign Currency Exchange Service. The decor and color scheme of the facilities to be operated by the Currency Exchange Operator and the location of fixtures therein shall be subject to the prior and continuing approval of the Port Authority. In addition to other rights of termination or revocation that may be contained in said agreement between the Currency Exchange Operator and the Lessee, said agreement may contain appropriate provisions permitting cancellation of the agreement by the Lessee on short notice in the event the Foreign Currency Exchange Service provided by the Currency Exchange Operator is unsatisfactory to the Lessee.

Section 62. Retail Banking

(a) The Lessee may select and thereafter enter into agreements with qualified persons, firms or corporations (which persons, firms or corporations are hereinafter referred to as "the Retail Bank Operator") authorizing such Retail Bank Operator to operate a service consisting of the maintaining of accounts, receipt and disbursement of funds and including automatic teller machine service and foreign currency exchange, sale and purchase (hereinafter called "the Retail Banking Service") in the premises, provided, however, that prior to any such selection and prior to the entering by the Lessee into any such agreement with the Retail Bank Operator, said Retail Bank Operator obtains a permit from the Port Authority authorizing such Retail Bank Operator to operate the Retail Banking Service in a portion of the premises hereunder. Prior to the issuance of any such permit, the proposed Retail Bank Operator may be required to submit to the Port Authority evidence satisfactory to the Port Authority of its qualifications, the scope of its proposed operations and the standards of service it will provide. Any such permit will provide that the Retail Bank Operator will conduct its operations at the premises in a first-class manner in accordance with the best practices in the industry and shall comply with maximum Port Authority standards with respect to service. The permit will not be revoked without cause by the Port Authority without the prior consent of the Lessee. In the event of any inconsistencies between the terms of the permit and the terms of

payable by the Restaurant Operator shall be paid by the Restaurant Operator to the Port Authority. Both the agreement between the Lessee and the Restaurant Operator and the permit to be issued by the Port Authority shall have provisions covering the fee in accordance with this Section and, without limiting the generality of any other provision of this Section, the permit shall control as to the manner, conditions and terms of payment.

In the event the Restaurant Operator is the same person providing in-flight meal and employee food service to the Lessee and is a wholly owned subsidiary of the Lessee, the fees to be paid by the Restaurant Operator shall apply only to the gross receipts of the Restaurant Operator from the sale of food, alcoholic and non-alcoholic beverages at retail for consumption on the premises, and the Port Authority shall determine the percentage fee to be paid by the Restaurant Operator.

Section 57. Vending Machines, Public Telephones, Advertising Displays

If requested by the Lessee the Port Authority, by itself or through contractors, lessees, or permittees, shall install and maintain in the premises vending machines, public telephones, and advertising displays, at such locations and to such extent as requested by the Lessee. The Lessee shall provide the necessary wires and conduits for the supply of electricity for such machines and displays.

The Port Authority shall require its contractors, lessees, or permittees to pay a fee, which may be a percentage fee subject to a minimum amount, based upon the gross receipts received from such vending machines, public telephones, and advertising displays or a fixed fee.

The Port Authority shall pay the Lessee an annual fee equivalent to 80% of the fee collected by the Port Authority from its contractors, lessees, or permittees aforementioned. The fees payable hereunder shall be paid in the same manner, under the conditions and at the times, provided in Section 65 hereof.

This vendor pays to PA who pays DL ith share

Section 58. Insurance Covering Air Transportation

The Port Authority may enter into contracts or agreements with qualified insurance vendors requiring such vendors to sell or arrange for the sale, at the premises, of insurance covering air transportation, of such types and coverages as may be required by the Lessee.

The contract between the insurance vendor and the Port Authority shall provide that such vendor shall pay a basic rental for the space occupied by such vendor in the premises in connection with the sale of such insurance. The basic rental will be based upon the cost to the Lessee of providing such space to the vendor. In determining the cost to the Lessee there shall be considered the

the agreement between the Lessee and the Retail Bank Operator, the terms of the permit shall control and be prevailing. Without limiting the foregoing, it is agreed that prior to the issuance of the permit the Port Authority shall make a copy of the same available to the Lessee and that upon the execution of the permit by the proposed Retail Bank Operator the same shall be subscribed to by the Lessee.

(b) The Lessee agrees and the agreement between the Lessee and the Retail Bank Operator shall provide that the Lessee will furnish to the Retail Bank Operator sufficient and suitable space for conducting and carrying on its aforesaid operation. The Lessee agrees that it shall perform all work necessary or required to finish off the space, including the finishing of the floors and ceilings from the structural slab and the walls from the rough partitions, the decor and color scheme to be subject to the approval of the Port Authority. The Lessee shall supply said utilities and services to the Retail Bank Operator without charge to the Retail Bank Operator or the Port Authority.

(c) The agreement between the Lessee and the Retail Bank Operator shall provide that the Retail Bank Operator shall pay a basic fixed rental for the space occupied by such operator, which rental shall be subject to the prior written approval of the Port Authority and shall be incorporated into the permit to be issued by the Port Authority. There shall be no other payments by the Retail Bank Operator to the Lessee except as provided herein. It is hereby understood and agreed that 50% of the rental payable by the Retail Bank Operator shall be paid by the Retail Bank Operator to the Lessee and 50% of the rental payable by the Retail Bank Operator shall be paid by the Retail Bank Operator to the Port Authority. Both the agreement between the Lessee and the Retail Bank Operator and the agreement to be issued by the Port Authority shall have provisions covering the rental in accordance with this Section and, without limiting the generality of any other provision of this Section, the agreement shall control as to the manner, conditions and terms of payment.

(d) The agreement between the Retail Bank Operator and the Lessee will provide that the Retail Bank Operator will furnish at its expense all necessary trade fixtures, equipment furniture and personal property required in connection with the efficient and satisfactory operation of the Retail Banking Service. The decor and color scheme of the facilities to be operated by the Retail Bank Operator and the location of fixtures therein shall be subject to the prior and continuing approval of the Port Authority.

Section 63. Other Consumer Services

(a) If the Lessee requests that additional consumer services be provided in the premises for the sale of other items or the furnishing of other services the Port Authority will endeavor to secure a qualified tenant, permittee or licensee (hereinafter referred to as the "Operator"), to furnish such consumer services

and shall enter into contracts or agreements with such Operator requiring it to furnish the items or services to the extent required by the Lessee.

(b) The contract between the Operator and the Port Authority shall provide that such Operator shall pay a basic rental for the space occupied by such Operator in the premises in connection with the furnishing of the consumer services. The basic rental will be based upon the cost to the Lessee of providing such space to the Operator. In determining the cost to the Lessee there shall be considered the construction cost of the premises and the cost of operation and maintenance of the premises. The amount of the basic rental to be paid by the Operator shall be agreed upon between the Port Authority and the Lessee.

(c) The contract shall further provide that the Operator shall pay to the Port Authority a percentage fee based upon the gross receipts of such Operator from the operation of such consumer service, less the amount of any basic rental paid by the Operator.

(d) The Operator shall pay to the Lessee the amount of the basic rental. If the percentage fee actually paid to the Port Authority exceeds the amount of the basic rental, the Port Authority shall retain the percentage fee up to the amount of the basic rental. The excess, if any, remaining shall be divided equally between the Port Authority and the Lessee. The rental and fees payable hereunder shall be paid in the same manner, under the conditions, and at the times provided in Section 65 hereof.

(e) The Operator will furnish and install at its expense all necessary fixtures, stands, counters and equipment required in connection with its operation and all construction work necessary to accommodate such installations.

(f) In the event the Port Authority is unable to secure a qualified tenant, permittee or licensee to provide the consumer services requested by the Lessee, in accordance with the terms and conditions set forth in this Section, the Lessee may make its own arrangements with a tenant, permittee or licensee of its own choice, subject to the Port Authority's approval of such tenant, permittee or licensee. Such approval may include limitations as to the scope of the activities of such tenant, permittee or licensee in the light of the availability of similar services in the Central Terminal Area.

(g) The Lessee understands and agrees that it may not itself nor will the Port Authority install or cause to be installed coin-operated lockers on the premises.

Section 64. Subletting of the Premises for Consumer Services

Irrespective of whether the Persons selected in accordance with this Agreement to furnish the Consumer Services set forth in Sections 56, 57, 58, 59, 60, 61, 62 and 63 hereof have contracts

with or are contractors or permittees of the Port Authority, the Lessee may require that such Persons enter into separate agreements or subleases with the Lessee as a condition precedent to the occupancy of space within and the operation of such establishments upon the Lessee's premises, provided, however, that all such Persons must have first obtained a permit from the Port Authority authorizing them to operate such establishments. The terms and provisions of the said agreements or subleases shall not be inconsistent with the terms of this Agreement except that the same may provide for cancellation by the Lessee on short notice in the event the services furnished by such Persons are unsatisfactory to the Lessee.

Prior to the issuance of any of the aforementioned permits, such Persons may be required to submit to the Port Authority evidence satisfactory to the Port Authority of their qualifications, the scope of their proposed operations and the standards of service they will provide. Any such permits will provide that such Persons will conduct their operations thereunder in a first class manner in accordance with the best practices in the industry and shall comply with the maximum Port Authority standards with respect to service, health, sanitary and safety measures. Such Persons shall be required to pay to the Port Authority a fee but such fee shall not in any event exceed the fees or charges that would be retained by the Port Authority if their respective establishments were operated by regular Operators of the Port Authority.

Section 65. Obligations in Connection with Consumer Services Agreements

The Port Authority shall administer all contracts and agreements with its tenants, licensees or permittees furnishing consumer services at the premises. All such contracts and agreements shall contain provisions, among others, providing that such tenant, licensee or permittee shall:

(a) Take all reasonable measures in every proper manner to maintain, develop and increase the business conducted by it at the premises;

(b) Not divert or cause or allow to be diverted any business from the premises;

(c) Maintain in accordance with accepted accounting practice, records and books of account recording all transactions at, through or in anywise connected with the premises, which records and books of account shall be kept at all times within the Port of New York District and permit, in ordinary business hours during such time, the examination and audit by the officers, employees and representatives of the Port Authority of such records and books of account;

Area IA and within Area IB (each such counter being hereinafter called "the Consolidated Counter") to be operated by the Port Authority or its contractors.

(2) The Lessee agrees to provide access to and from the public ways outside the premises to the Port Authority, its employees and its contractors and the ground transportation patrons and other users of the Consolidated Counter; to permit use of such portions of the public pedestrian circulation areas of the premises as may reasonably be required for the operation of the counter and the accommodation of the users thereof; and to permit the installation of such telephone and other communication lines, cables and conduits on and across the premises as may be required for the operation of the Consolidated Counter. The Lessee acknowledges and agrees that the Consolidated Counter shall at all times be a part of the premises under the Lease and subject to all the terms and provisions thereof including, but not limited to indemnity, the payment of rentals, repair and maintenance. The Lessee shall, at its sole cost and expense, supply all utilities necessary for the operation of the Consolidated Counter including but not limited to heat, light, ventilation, air conditioning and electricity on a 24 hour 7 day a week basis. The Lessee shall not be required to provide telephone service to the Consolidated Counter hereunder.

(3) The Port Authority shall have the right at any time, without cause, on 180 days notice to the Lessee to terminate and discontinue the operation of the Consolidated Counter and from and after the effective date stated in said notice the operation of the Consolidated Counter shall terminate and cease and the provisions of this paragraph (b) shall be null, void and of no further force and effect and the provisions of paragraph (a) of the Lease and the Lessee's obligations as set forth therein with respect to limousine, bus, car rental and other ground transportation operators shall be deemed reinstated and in full force and effect.

Section 68. Observation Deck

In the event the Lessee provides an Observation Deck in connection with the Lessee's operations under the Lease at the premises and such Deck is open to the public generally the Lessee shall charge a fee for admission upon such Observation Deck. Such fee shall be established by the Port Authority which shall be uniform throughout the Airport. The Lessee shall pay to the Port Authority a percentage fee equal to 30% of the gross receipts received by the Lessee from the operation of the Observation Deck.

Section 69. Force Majeure

Neither the Port Authority nor the Lessee shall be deemed to be in violation of this Agreement if it is prevented from performing any of its obligations hereunder by reason of strikes, boycotts, labor disputes, embargoes, shortages of material, acts of God, acts of the public enemy, acts of superior governmental authority, weather conditions, tides, riots, rebellion, sabotage or

any other circumstances for which it is not responsible and which are not within its control; provided, however, that this provision shall not apply to failures by the Lessee to pay the rentals specified in Section 4 and shall not apply to any other charges or money payments; and, provided, further, that this provision shall not prevent either party from exercising its right of termination under Sections 23, 26, 49, 75 and 77 hereof, and shall not prevent the Lessee from exercising its right to an abatement of basic rental under Sections 4 and 51 hereof.

Section 70. Federal Inspection

The Lessee has advised the Port Authority that it intends to make available to the United States a portion or portions of the premises for the inspection of the Lessee's passengers and their baggage by the United States for United States customs, immigration, public health and other governmental purposes, if the United States will accept and use the same. The Port Authority shall have no obligation or responsibility of any kind with respect to the foregoing or the arrangements that must be made by the Lessee with the United States and any agencies thereof having jurisdiction.

Section 71. Rotary Wing and Tilt-Rotor Operations

The Lessee hereby acknowledges that the Lease does not grant to it any right and the Lessee does not have any right to use or permit the use of any portion of the premises for the landing or taking off of helicopters, rotary wing, tilt-rotor or other similar aircraft. In the event that the Port Authority determines that approval for such use will be given at any time hereafter, the same shall be granted only in accordance with such terms and conditions, including but not limited to fees, charges and rights of user, as the Port Authority may set forth in a supplement to the Lease, which is duly executed by the Lessee and the Port Authority.

Section 72. Ground Transportation

(a) The Lessee may arrange for the transportation to and from the Airport of its employees and their baggage (and such employees and baggage only) either directly or by contract with a surface carrier or carriers (hereinafter called "the Employee Surface Carrier or Carriers") of its choice, provided, that such Employee Surface Carrier or Carriers are at all times Ground Carrier Permittees of the Port Authority as defined in paragraph (b) hereof and provided, further, that ten percent (10%) or such lesser percentage as may be set pursuant to paragraph (e) hereof of the gross receipts received from the ground transportation of employees and their baggage by the Employee Surface Carrier providing such service, or by the Lessee, including all advertising and any other revenues of any type arising out of or in connection with said service (excluding only local, state and federal transportation taxes which are separately stated to and paid by the passengers and are directly payable to the taxing authority by the Lessee or by the Employee Surface Carrier) shall be paid to the Port Authority. No

fee shall be paid by the Lessee to the Port Authority in connection with the ground transportation of employees and their baggage if the Lessee operates the service itself and if the Lessee makes no charge to its employees and their baggage therefor.

(b) As of the Commencement Date as defined in paragraph (c) hereof, the Port Authority shall endeavor to issue permits to at least 12 qualified surface carriers (herein called "the Ground Carrier Permittees") which Permits shall grant to said Ground Carrier Permittees the privilege of providing a service for the transportation to and from the Airport of employees and their baggage of all Aircraft Operators at the Airport. Each Permit shall provide that the Port Authority shall have the right at any time to revoke the Permit granted to any Ground Carrier Permittee with or without cause and regardless of whether any such Permittee is an Employee Surface Carrier of the Lessee and regardless of any agreement between the Lessee and its Employee Surface Carrier. Without limiting the foregoing right, if the Ground Carrier Permittee selected by the Lessee shall at any time fail to pay the Port Authority ten percent (10%) or such other percentage of its gross receipts as established pursuant to paragraph (e) hereof as required under the Permit, the Port Authority shall have the right in addition to all other rights and remedies, to deny such Permittee entrance upon the Airport for the purpose of transporting employees and their baggage as aforesaid to and from the Airport and the Lessee shall no longer use the same.

In the event that there should at any time during the term of this Lease be less than 12 Ground Carrier Permittees in operation at the Airport the Lessee shall have the right to engage an Employee Surface Carrier of its choice to provide the service set forth in paragraph (a) hereof, subject, however, to the prior and continuing approval of the Port Authority, and provided that such Employee Surface Carrier agrees to become a Permittee of the Port Authority and to pay a percentage of its gross receipts to the Port Authority in accordance with paragraphs (a) and (e) hereof and only for so long as such Permittee observes and complies with the terms of its Permit, it being understood that said Employee Surface Carrier may be restricted to serving the Lessee at the Airport. At such time thereafter as there is in operation at the Airport at least 12 Ground Carrier Permittees, the Permit with the said Employee Surface Carrier may be revoked by the Port Authority and the Lessee shall thereupon select an Employee Surface Carrier from the Ground Carrier Permittees of the Port Authority. Nothing contained hereunder shall be deemed to preclude the Port Authority from issuing from time to time during the term of the Lease Permits to more than 12 Ground Carrier Permittees. The Permits with the Ground Carrier Permittees may contain privileges other than those set forth in the first subparagraph of this paragraph (b), including but not limited to the privilege to transport passengers and baggage of Aircraft Operators. All Permits shall contain such terms or provisions as the Port Authority may deem from time to time necessary or desirable.

(c) The Port Authority hereby states its intention to attempt to incorporate, into all existing leases and into all new leases with all Scheduled Aircraft Operators covering passenger terminal facilities within the Central Terminal Area, provisions having the same effect as the provisions of paragraphs (a) and (b) hereof. The term "Commencement Date" as used in this Section shall mean the date specified in a written notice from the Port Authority served upon the Lessee and upon all Scheduled Aircraft Operators who are lessees of passenger terminal facilities within the Central Terminal Area, it being understood that such notice shall not be served unless and until all said Scheduled Aircraft Operators have executed agreements with the Port Authority incorporating provisions having the same effect as the provisions of paragraphs (a) and (b) hereof into their leases with the Port Authority covering passenger terminal facilities within the Central Terminal Area. The provisions of this Section other than the foregoing provisions of this paragraph (c) shall be applicable as well to Aircraft Operators who may be occupying space within the Central Terminal Area pursuant to a sublease, subuse or handling agreement with any Unit Terminal Lessee or with any East or West Wing Building Lessee (the foregoing not to waive the requirement for Port Authority consent) as said lessees are defined in Section 74 of the Lease.

(d) For the period prior to the Commencement Date hereunder, the following provisions of this paragraph (d) shall be in effect in lieu of the provisions of paragraph (a) hereof:

The Lessee may arrange for the transportation to and from the Airport of passengers, employees and baggage (and such passengers, employees and baggage only) either directly or by contract with a surface carrier or carriers (hereinafter called "Passenger Surface Carrier or Carriers") of its choice, subject, however, to the prior and continuing approval of the Port Authority and provided, that such Passenger Surface Carrier or Carriers agree to become Permittees of the Port Authority and provided, further, that ten percent (10%) or such lesser percentage as may be set pursuant to paragraph (e) hereof of the gross receipts received from the ground transportation of passengers, employees and baggage by the Passenger Surface Carrier providing such service or by the Lessee, including all advertising and any other revenues of any type arising out of or in connection with said service (excluding only local, state and federal transportation taxes which are separately stated to and paid by and are directly payable to the taxing authority by the Lessee or by the Passenger Surface Carrier) shall be paid to the Port Authority. If the Passenger Surface Carrier designated by the Lessee shall at any time fail to pay to the Port Authority ten percent (10%) or such lesser percentage as may be set pursuant to paragraph (e) hereof of its gross receipts as aforesaid when billed therefor by the Port Authority, the Port Authority shall have the right to deny such carrier entrance upon the Airport for the purpose of transporting passengers, employees and baggage as aforesaid to and from the Airport and the Lessee shall no longer use the same. No fee shall be paid by the Lessee to the Port Authority in connection with the ground transportation of officers and

employees of the Lessee if the Lessee operates the service itself and if the Lessee makes no charge to its employees and officers therefor. The occasional non-recurring employment by the Lessee of a surface carrier who is not a Permittee of the Port Authority shall not be deemed to be a breach of this Section by the Lessee; the foregoing, however, shall not affect the right of the Port Authority to the percentage fee with respect to such surface carrier.

For the period subsequent to the Commencement Date hereunder, the foregoing provisions of this paragraph (d) shall continue in effect with respect to passengers and their baggage only of the Lessee and wherever the phrase "passengers, employees and baggage" appears in the foregoing provisions it shall be deemed amended to read "passengers and their baggage".

(e) It is recognized that the Port Authority has established a five percent fee with respect to the service covered by paragraphs (a) and (d) hereof in lieu of the ten percent fee therein stated. It is hereby specifically understood and agreed that the fact that said fee is presently five percent shall not constitute a waiver by the Port Authority of its right to impose a percentage fee of ten percent as provided in paragraphs (a) and (d). It is hereby specifically agreed that the Port Authority shall have the right at any time and from time to time during the term of this Lease to revise the percentage fee it shall charge the Ground Carrier Permittees, other permittees and the Lessee as provided in paragraphs (a) and (d) hereof but in no event shall said fee be greater than ten percent. The Port Authority shall notify the Lessee of any such revision.

(f) The Lessee may arrange for the transportation to and from the Airport of freight and other cargo of the Lessee either directly or by contract with the surface carrier or carriers of its choice. No Permit or fee shall be required of the Lessee or its contractor for the picking up from or the delivery to of freight or other cargo from or to the Lessee. No fee shall be paid to the Port Authority by the Lessee or its contractor for the privilege of transporting freight or cargo of the Lessee on the surface as aforesaid. If such contractor of the Lessee enters into a Lease or other agreement with the Port Authority for space and/or privileges at the Airport, the rent or other compensation payable to the Port Authority shall not be measured by the amount of freight or other cargo of the Lessee transported on the surface by such contractor.

(g) The right of the Lessee to arrange transportation to and from the Airport of airline passengers as hereinabove provided shall not be construed as being applicable to any establishment or operation by the Lessee of facilities outside the Airport for the handling of airline passengers of the Lessee arriving at or departing from the Airport.

As used in this Section 72, reference to passengers, baggage, freight or other cargo of the Lessee shall be construed to

mean persons, baggage, freight or cargo transported or to be transported on aircraft of the Lessee.

The Ground Carrier Permittee of the Lessee's choice, its Passengers Surface Carrier or any other contractor used by it shall not solicit business on the public areas of the Airport and the Lessee shall prohibit any such activity on the premises or on any other area at the Airport occupied by the Lessee. The use, at any time, either on the premises or elsewhere on the Airport of hand or standard megaphones, loudspeakers or any electric, electronic or other amplifying devices is hereby expressly prohibited and any advertising or signs shall be subject to continuing Port Authority approval.

(h) Effective as of January 1, 1972, the provisions of this Section 72 superseded the provisions of Section 4.11 of Title IV of the General Airport Agreement, as defined elsewhere in this Agreement and from and after said date said provisions of said Section 4.11 of Title IV were no longer of any force or effect.

Section 73. The Original Premises Use Agreements

It is recognized that the Lessee has entered into certain various agreements with subtenants, licensees and other persons covering the occupancy of the space or providing for the furnishing of services in the premises pursuant to the provisions of the Prior Sublease and of the Prior Permit, as applicable, and that the Port Authority has approved or consented to the same, all of the foregoing as to which Port Authority approval or consent has been given, being hereinafter called "the Lessee's use agreements". The Port Authority has no objection to the continuance in effect under the Lease of all of the Lessee's use agreements.

The parties agree that appropriate documents will be prepared and executed, if the same are deemed by the Port Authority to be necessary or desirable, recognizing the continuance under this Lease of the Lessee's use agreements, subject to the existing terms of such agreements and the Port Authority's consent to or approval thereof including but not limited to termination and revocation rights as provided therein.

Section 74. Ground Transportation Within the Central Terminal Area

(a) The Port Authority has established at the Airport a Central Terminal Area generally as described in Exhibit S, attached hereto and hereby made a part hereof. If at any time and from time to time during the term of the Lease, the Port Authority substantially revises the Central Terminal Area, it shall thereafter forward to the Lessee a revised Exhibit showing the revised Central Terminal Area which revised Exhibit shall replace Exhibit S and shall become a part of the Lease.

(b) The Lessee hereby agrees that it will not directly, indirectly or by arrangement with any independent third party, operate any surface vehicles for the transportation of its airline passengers to or from the premises and the various other passenger terminal facilities or other locations within the Central Terminal Area. The prohibition hereinabove set forth in this paragraph (b) shall be effective as of the commencement date of the Lease and shall continue thereafter during the term of the Lease, but such prohibition shall be in effect only during such periods as there is in operation at the Airport a CTA ground transportation service as hereinafter defined to be provided by an independent third party contractor. The CTA ground transportation service shall consist of the following: a ground transportation service for the transportation of airline passengers and other persons between the various passenger terminal facilities, including the premises, within the Central Terminal Area including the service of transporting a group of passengers where the Aircraft Operator must accommodate the group as a whole (hereinafter called "the CTA omnibus service") and a ground transportation service for the transportation of passengers of Aircraft Operators within the Central Terminal Area, but only when a passenger is disabled, the passenger must take a direct connection and where time is critical, and in the very limited instance where an Aircraft Operator must accommodate a particular passenger, the foregoing service being hereinafter called "the CTA supplementary service". It is understood furthermore that, notwithstanding the prohibition hereinabove set forth in this paragraph (b), the Lessee may directly, indirectly or by arrangement with an independent third party, operate surface vehicles for the transportation of its passengers to or from the premises and such passenger terminal facility of the Lessee, if any, located outside the Central Terminal Area, provided, that the Lessee has the prior and continuing approval of the Port Authority to operate such passenger terminal facility outside the Central Terminal Area, that the aforesaid service shall not serve any passenger terminal facility or location within the Central Terminal Area other than the premises and that if the Lessee utilizes a third party to provide the service, said third party shall be subject to the prior and continuing approval of the Port Authority, shall agree to become a permittee of the Port Authority and shall pay the percentage of its gross receipts to the Port Authority with respect to said service as specified in said permit and shall comply with all the terms and conditions of its permit.

Nothing contained in this paragraph (b) or paragraph (c) hereof shall impose or be construed as imposing an obligation on the Port Authority to operate or cause to be operated the CTA ground transportation service for the transportation of passengers and other persons between the various passenger terminal facilities, including the premises, within the Central Terminal Area.

(c) (1) (i) It is hereby agreed that it is in the best interests of the Port Authority and all Participants as hereinafter defined that the CTA omnibus service be a good, proper and efficient

service, able to adequately, timely and properly handle the ground transportation needs of airline passengers and other persons between the various passenger terminal facilities including the premises within the Central Terminal Area. The parties recognize furthermore that the CTA supplementary service should be a service that would transport those persons authorized to be carried thereon in an adequate, proper and timely manner so as to meet their flight connections.

(ii) The Port Authority agrees that it shall meet and consult from time to time with the Participants with respect to the procedures, schedules, fares, prices and operations of the CTA omnibus service and shall, except in case of emergency, give the Participants prior written notice of any substantive changes with respect thereto. Notwithstanding the foregoing, it is hereby understood and agreed that the procedures, schedules, fares, prices, operations and other matters affecting the CTA omnibus service shall be determined by the Port Authority.

(iii) The Port Authority agrees that it shall meet and consult from time to time with the Participants with respect to the procedures, schedules, fares, prices and operations of the CTA supplementary service. Before adopting any initial procedures or schedules covering the operation of the CTA supplementary service and before putting into effect any modifications to any procedures or schedules then in effect with respect to the CTA supplementary service, except in case of emergency, the Port Authority shall submit the initial or the changed procedures and schedules (hereinafter called the "submissions") to the Participants for their approval. If Participants representing more than fifty percent (50%) of the effective published passenger flight schedules to and from the Airport of all Participants for the calendar year prior to the year in which the submissions are made to the Participants for their approval, approve the same, the submissions shall be deemed to be approved for all purposes hereunder and said approval shall be deemed binding as well upon all other Aircraft Operators who may use or pay for the CTA supplementary service, notwithstanding the fact that said submissions had not been submitted to them for their approval. Notwithstanding anything herein provided and without limiting the provisions of paragraph (b) hereof, it is hereby understood and agreed that the Port Authority shall have no obligation hereunder to itself operate the CTA ground transportation service nor any obligation to operate said service through an independent contractor unless and until the submissions with respect to the CTA supplementary service submitted as aforesaid to the Participants have been approved by the Participants in accordance with the foregoing provisions. The failure of any Participant to disapprove the submission within twenty (20) days after its submission to it for approval shall constitute such Participant's approval hereunder to said submissions.

(iv) It is hereby understood and agreed that the amount to be charged for the CTA supplementary service shall

consist of an initial price and, if the Port Authority so elects from time to time during the term of the Lease, an excess price. The initial price shall be based upon the cost of the CTA supplementary service. The Lessee shall pay to the Port Authority as and representing the initial price its pro rata share of the cost to the Port Authority of providing the CTA supplementary service. The Lessee's pro rata share of the cost to the Port Authority of providing the CTA supplementary service shall be that proportion of said cost as the number of passengers of the Lessee who actually used the CTA supplementary service bears to the total number of passengers using the CTA supplementary service. Except as provided in the last subparagraph of subparagraph (v) hereof, there will be no charge to the Lessee of either an initial price or an excess price if the Lessee does not have any passengers using the CTA supplementary service.

(v) The initial price payable to the Port Authority pursuant to subparagraph (iv) hereof is for each calendar year, but in the event the Commencement Date as defined in paragraph (d) hereof falls on a day other than the first day of a calendar year or in the event the term of the Lease expires or the provisions covering the CTA transportation services are terminated on a day other than the last day of a calendar year, then in any such event the initial price payable to the Port Authority pursuant to subparagraph (iv) hereof shall, for the year during which such event occurs, be for such portion of said year during which the Port Authority provides the CTA supplementary service. In determining the initial price, the cost of the CTA supplementary service shall be computed, determined and ascertained for each calendar year (or portion thereof upon the occurrence of any of the events mentioned in the first sentence hereof) of the term of this Lease subsequent to the aforesaid Commencement Date.

Notwithstanding the foregoing and for current monthly or other periodical billing purposes as may from time to time be selected by the Port Authority, the Port Authority shall establish interim billing rates to cover the initial price for the CTA supplementary service. Such billing rates shall be based on determinations by the Port Authority of its estimate of the cost of the CTA supplementary service for the calendar year and the number of passengers to be using the CTA supplementary service for said calendar year. Such determinations shall be based upon the prior calendar year's experience, if any, and upon such other reasonable basis as the Port Authority may determine. The Port Authority may prospectively revise its billing rates during any calendar year. On the 20th day of each calendar month following the month upon which the Commencement Date hereunder falls and on the 20th day of each and every calendar month thereafter the Lessee shall pay to the Port Authority the amount due as the initial price for the preceding calendar month, which shall be determined by multiplying the interim billing rate per passenger for the initial price established by the Port Authority as aforesaid by the number of passengers of the Lessee carried on the CTA supplementary service for the previous calendar month.

As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the cost of the CTA supplementary service and the initial price payable therefore. Corrected billings based upon such determination shall thereupon be rendered by the Port Authority and if any monies are due to the Port Authority they shall be promptly paid by the Lessee and if any monies are due to the Lessee they shall be promptly credited to it.

In the event and only in the event that the CTA supplementary service for all or any portion of a calendar year has been provided by the Port Authority but there has been no use thereof by any of the Participants, then the initial price and the excess price shall be payable by all Participants and each Participant's share shall be based on the number of passengers on its outbound and inbound aircraft at the Airport compared to the total number of passengers on all inbound and outbound aircraft using the Airport of all Participants. The Port Authority agrees that, if as of the commencement of any calendar year there appears to be no use by the Participants of the CTA supplementary service, it will use all reasonable efforts to limit its payments to the contractor for the CTA supplementary service for such period where there appears to be no use.

(vi) The Port Authority shall have full discretion in awarding a contract for the CTA ground transportation service and may award the same to a contractor who has not proposed the lowest price for the CTA supplementary service or the CTA omnibus service. As stated in subparagraph (iv) hereof the Port Authority shall have the right to charge the Lessee, in addition to the initial price for the CTA supplementary service, an additional amount herein called "the excess price", which amount shall be applied to offset any deficit in the CTA omnibus service.

The amount representing the excess price shall be an amount payable only by the Lessee if it uses the CTA supplementary service and shall be an amount fixed for each passenger using the CTA supplementary service. The Port Authority shall advise the Participants prior to the beginning of each calendar year of the amount per passenger which shall constitute the excess price for said calendar year. On the 20th day of the calendar month following the month upon which the Commencement Date hereunder falls and on the 20th day of each and every calendar month thereafter the Lessee shall pay to the Port Authority the amount due as the excess price for the preceding calendar month, which shall be determined by multiplying the amount per passenger for the excess price established by the Port Authority as aforesaid by the number of the Lessee's passengers carried on the CTA supplementary service for the previous calendar month. As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the cost of the CTA omnibus service for said calendar year. If there is no deficit or if the deficit is less than the amount received by the Port Authority from users of the CTA omnibus

service, then the total amount of the excess price if there is no deficit or the amount of the excess price which is over and above any deficit on the CTA omnibus service shall be refunded or credited to the Participants based on the portion of each Participant's payments of the excess price for said calendar year as compared to the total amount received as the excess price from all Participants. In determining whether or not there is a deficit or in determining the amount of the deficit, revenues from the CTA omnibus service shall be deemed to be 87.5% of the cost of the CTA omnibus service whether or not the revenues actually received add up to 87.5%, but if said revenues exceed 87.5% of the cost, the actual amount of revenues received shall be used.

(vii) The Port Authority shall determine for each calendar year (or portion thereof, where applicable) the cost to the Port Authority of providing the CTA omnibus service and the cost to the Port Authority of providing the CTA supplementary service. Each such cost shall be determined in accordance with the Port Authority's normal accounting practice and shall consist of those of the following items, which are applicable to each such service:

(a) All payments made by the Port Authority to the independent contractor for providing the CTA supplementary service or the CTA omnibus service, as the case may be (it being understood that the Port Authority shall not impose any percentage charge or fee on the contractor for such services);

(b) On-the-job payroll costs of Port Authority employees working in any aspect of the CTA supplementary service or the CTA omnibus service, as the case may be, including but not limited to contributions to any retirement system or the cost of participation in any pension plans or the like, social security, old age, survivors, disability and employment insurance and other insurance costs, sick leave pay, holiday, vacation, authorized absence and severance pay, other employee fringe benefits and any other payments made or costs incurred whether pursuant to law or by Port Authority policy to or with respect to said employees;

(c) The cost (including rental charges) to the Port Authority of providing space, equipment, materials, facilities or services to or in connection with the CTA omnibus service or the CTA supplementary service, as the case may be;

(d) Payments or premiums (or to the extent of self-insurance an amount equivalent to what the premiums would have been) for insurance with respect to the CTA omnibus service or the CTA supplementary service, as the case may be, including without limitation thereto, fire and extended coverage, workmen's compensation and comprehensive general liability;

(e) Other direct costs as charged under the Port Authority's normal accounting practice;

(f) With respect to the CTA omnibus service, ten percent (10%) of the amounts paid to the contractor providing said service under item (a) hereof and with respect to the CTA supplementary service, twenty percent (20%) of the amount paid to the contractor providing said service under item (a) hereof.

In the event that any specific cost incurred or any specific amount expended for any of the items hereinabove set forth covers both the CTA omnibus service and the CTA supplementary service, then the Port Authority shall divide and allocate any such cost or amount as between the CTA omnibus service and the CTA supplementary service in accordance with its normal accounting principles.

(2) If at any time during the term of the Lease the Port Authority receives a written notice from the East and West Wing Building Lessees (as hereinafter defined) representing more than thirty percent (30%) of the effective published passenger flight schedules to and from the Airport of all the East and West Wing Building Lessees for the calendar year prior to the year during which the notice was given, or if the Port Authority receives a written notice from Unit Terminal Lessees (as hereinafter defined) representing more than thirty percent (30%) of the effective published passenger flight schedules to and from the Airport of all Unit Terminal Lessees for the calendar year prior to the year during which the notice is given, which notice shall be either (i) to the effect that the service being provided by the contractor furnishing the CTA ground transportation service does not satisfy the standards set forth in item (i) of subparagraph (1) hereof and specifying whether it is the CTA omnibus service or the CTA supplementary service, or both, which is at fault, and further specifying the nature and extent of the failure or (ii) to the effect that the Participants serving the notice are dissatisfied for any reason with the service, the Port Authority shall endeavor in the case of item (i) above to rectify the conditions complained of either by the existing contractor doing so or by engaging a new contractor to provide the CTA ground transportation service or by a combination of both.

(3) If the Port Authority receives, by a date no earlier than one hundred twenty (120) days and no later than one hundred eighty (180) days after its receipt of either notice covered by subparagraph (2) hereof, a written notice from the East and West Wing Building Lessees representing more than fifty percent (50%) of the effective published passenger flight schedules to and from the Airport of all East and West Wing Building Lessees for the year prior to the year during which the notice is given or if the Port Authority receives a written notice during the period described above from Unit Terminal Lessees representing more than fifty percent (50%) of the effective published passenger flight schedules

to and from the Airport of all the Unit Terminal Lessees for the year prior to the year during which the notice is given, which notice is to the effect that the Participants sending the notice continue to be dissatisfied with the CTA ground transportation service whether provided by the old contractor, or if said contractor has been replaced, by the new contractor, then the Port Authority agrees that, effective no later than sixty (60) days after its receipt of said notice (said date to be established by written notice to the Participants) the provisions of this Section covering the CTA ground transportation service shall be terminated and shall no longer be in effect and from and after said date the Lessee shall have the right directly or by arrangement with an independent third party to operate surface vehicles for the transportation of its passengers to and from the premises and the various other passenger terminal facilities or other locations within the Central Terminal Area, provided, however, that the same shall be used exclusively for the transportation of the Lessee's disabled passengers, passengers who must make a direct connection and where time is critical, in the very limited instances where the Lessee must accommodate particular passengers, and for the transportation of passengers travelling as a group where the Lessee must accommodate the group as a whole, it being understood that the foregoing limitation on the right of the Lessee shall be in effect only during such periods as there is in operation at the Airport a CTA omnibus service as defined in paragraph (b) hereof (the Port Authority having no obligation so to do), excluding the transportation of passengers travelling as a group, and provided, however, that if the Lessee utilizes a third party to provide said service, that said third party shall be subject to the prior and continuing approval of the Port Authority, shall agree to become a permittee of the Port Authority and shall pay the percentage of its gross receipts to the Port Authority with respect to its service as specified in said permit and shall comply with all the terms and conditions of its permit.

(d) (1) The Port Authority hereby states its intention to attempt to incorporate into all new leases and into all existing leases which may not already include the same with all Scheduled Aircraft Operators covering passenger terminal facilities within the Central Terminal Area provisions having the same effect as the provisions of this Section. The term "the Participants" shall mean all Scheduled Aircraft Operators (including the Lessee) who have executed leases with the Port Authority covering passenger terminal facilities within the Central Terminal Area which contain provisions having the same effect as the provisions of this Section or who have executed agreements with the Port Authority incorporating into their leases with the Port Authority covering passenger terminal facilities within the Central Terminal Area premises having the same effect as the provisions of this Section.

For the purposes of this Section, the term "Unit Terminal Lessees" shall mean all Participants other than the East and West Wing Building Lessees. The term "East and West Wing Building Lessees" shall mean those foreign flag Scheduled Aircraft Operators

who shall have entered into long term leases with the Port Authority covering space in the East or West Wing Buildings.

(2) All Aircraft Operators who may be occupying space within the Central Terminal Area pursuant to a sublease, subuse or handling agreement with any Unit Terminal Lessee or with any East or West Wing Building Lessee (the foregoing not to waive the requirement for Port Authority consent) shall be obligated to comply with all obligations of this Section which are applicable to the Participants, but said Aircraft Operators shall not be or be deemed to be Participants within the meaning of subparagraph (1) of this paragraph (d) or be or be deemed to be an East or West Wing Building Lessee or a Unit Terminal Lessee within the meaning of subparagraphs (2) and (3) of paragraph (c) hereof, but their activities, operations and payments hereunder shall be deemed to be those of the Participants whose space they are using.

(e) The agreement by the Lessee under paragraph (b) hereof as well as the agreement by the Lessee under paragraph (c)(3) hereof, in the event the provisions covering the CTA transportation service are terminated and are no longer in effect, are of the essence of this Section and the Lessee agrees that the Port Authority shall be entitled to a decree against the Lessee requiring the specific performance thereof in any court of equity having jurisdiction. The aforesaid remedy shall not constitute the exclusive or sole remedy which may be available to the Port Authority hereunder in the event the Lessee breaches its agreement.

The Lessee understands and acknowledges that the provisions of this Section 74 have been in effect in the Central Terminal Area of the Airport under the Prior Lease and the Prior Sublease and the Prior Permit as defined in Section 1 and Section 86 hereof. The Lessee and the Port Authority understand and agree that the foregoing provisions of this Section represent the agreement reached under the Prior Lease and the Prior Sublease and the Prior Permit between the parties thereto and each acknowledges that in actual operation the ground transportation services actually provided at the Airport pursuant thereto have, by mutual agreement and request of the parties, from time to time, not conformed in particular respects to the provisions hereof. Nothing contained herein, nor the execution of this Agreement, shall grant or be deemed to grant or confer on either party a retroactive right or claim that any provision hereof, or of the Prior Lease and the Prior Sublease and the Prior Permit, has been breached, nor shall either party claim the inclusion of these provisions herein, nor the execution of this Agreement, has created or affirmed such right, nor shall any rights of the parties hereunder be deemed waived or limited thereby.

Section 75. Future Airport Transportation Facilities and Operations - Use of Portions of the Premises

(a) The Lessee understands that the Port Authority presently is planning to construct certain ground transportation facilities at the Airport including, but not limited to, a Passenger

Distribution System ("PDS"). It is presently contemplated that the PDS will generally consist of a transportation system circulating around the Central Terminal Area of the Airport (as generally shown on Exhibit S of the Lease and herein called "the CTA"), generally aligned along the roadway frontage of the passenger terminal buildings and with stations to serve the passenger terminal buildings in the CTA at various locations. At the discretion of the Port Authority, stations may be located to serve one or more passenger terminal buildings in the CTA or an area of the CTA. The PDS may be linked to another transit system or other transit systems serving Airport parking areas, rent-a-car facilities, other areas of the Airport and an Airport access transit system. Pedestrian access between the PDS stations and the passenger terminal buildings will be provided as part of the PDS. Vertical circulation areas, if needed, including stairs, escalators, ramps and elevators at the passenger terminal building on the premises will be the responsibility of the Lessee and shall be appropriate to the operation of the PDS. The Port Authority expects to commence planning and design for the PDS and upon completion of such planning and design, to implement the construction of the PDS and after the completion of such construction, to maintain and operate the PDS for the accommodation and transportation of persons desiring to use the same, and their baggage. The Port Authority will keep the Lessee advised from time to time of the progress of the planning, design and construction of the PDS, particularly as it relates to the premises hereunder. The Lessee acknowledges and agrees that the PDS will be a benefit and enhancement to the Airport and to the Lessee's operations thereon; the foregoing not to be construed or imply that the Lessee hereby agrees to the cost, method of financing or repayment of the costs associated with the construction and operation of the PDS.

(b) The Lessee understands that the construction and operation of the PDS may require the location on the premises of a passenger station in Area IA or Area IB or both (including pedestrian access between it and each passenger terminal building) and, in addition, may require the use of a portion or portions of the premises for and in connection with the construction, maintenance or operation of other portions of the PDS. The Lessee agrees that it shall make available to the Port Authority upon demand such portion or portions of the premises for use for or in connection with the construction, maintenance and operation of the PDS for such purposes as may be reasonably required or be appropriate therefor and, where such portion of the PDS exclusively serves the premises, the same shall be made available by the Lessee without abatement of rental or charges hereunder or any payments by the Port Authority to the Lessee therefor. Where such portion of the PDS does not exclusively serve the premises then the applicable Facility Rental (the Area IA Facility Rental, the Area IB Facility Rental and the Additional Facility Rentals (other than the First Additional Facility Rental), as the case may be) hereunder shall be abated in accordance with the rental abatement provisions of Section 4 of this Lease.

(c) The Lessee understands that the Port Authority considers the construction, operation and maintenance of the PDS of the utmost importance to the efficient operation of the Airport and to the fulfillment of the Port Authority's governmental function to provide, maintain, develop and operate the Airport; that the efficient use and operation of the PDS will require that the Lessee in the operation and use of its passenger terminal facilities under this Lease shall utilize and cooperate in the operation of the PDS to the end that the PDS shall be utilized to the fullest extent possible so that its advantages and efficiencies can be fully realized; and that the Port Authority does not by this Lease Agreement intend to enter into any agreement, understanding or commitment which will interfere with, limit, restrict, hinder or prevent in any way the development construction, maintenance, operation or efficient use of the PDS.

(d) The Lessee also understands and acknowledges that the cost of planning, design, construction, maintenance and operation of the PDS will be accorded the same cost recovery treatment as the similar elements of the Air Terminal Highway System is accorded in the General Airport Agreement (as defined in Section 81 of the Lease) for calculation of the flight fees under the General Airport agreement and the same cost recovery treatment as the Air Terminal Highway System is accorded for the calculation of other fees and charges under other existing agreements and policies at the Airport, and under any agreements which may be entered into in the future including agreements to replace such existing agreement(s) or the General Airport Agreement.

(e) The Port Authority has also advised the Lessee that it is the intention of the Port Authority that with respect to the maintenance, operation, use and payment for the PDS all aircraft operators at the Airport which are similarly situated will be treated in a similar manner including the treatment of the cost, if any, of each in connecting its airport terminal facility to the PDS.

(f) Without limiting any other provisions of this Section the Lessee understands and agrees that changes and modifications to certain provisions of the Lease including, but not limited to, Section 6 (Ingress and Egress), and Section 74 (Ground Transportation Within the Central Terminal Area) and Section 76 (Restrictions on Use of Passenger Terminal Frontage Roadways - Use of Airport Taxi Dispatchers - addition of Roadway Area to the Premises) may be required or appropriate to conform the provisions of these Sections to the operation of the PDS and the Lessee agrees upon the presentation to it of a form of supplemental agreement to this Lease which includes such modifications it will execute and return the same to the Port Authority. The Port Authority and the Lessee agree that each will consult with the other, from time to time, and will provide information to the other in good faith, from time to time, with respect to the study, planning, design, construction, maintenance and operation of the PDS and its interconnection with the Lessee's passenger terminal facilities at the premises. Notwithstanding anything in this Agreement to the

contrary, the Lessee does not consent or otherwise agree to, and does not waive any right it may have to challenge, the use of passenger facility charges or any other charge or fee directly or indirectly to Lessee or Lessee's passengers to pay for any costs of any transit system, or portion thereof, which is off the Airport.

Section 76. Restrictions on Use of Passenger Terminal Frontage Roadways - Use of Airport Taxi Dispatchers - Addition of Roadway Area to the Premises

(a) The Lessee understands that the Port Authority presently has in effect and has planned various physical improvements and policies concerning and affecting the use of vehicular roadways in the Central Terminal Area of the Airport (as generally shown on Exhibit S) for the limitation and control of traffic thereon including the limitation and control of vehicular traffic on the premises and vehicular traffic moving between the Air Terminal Highways, as designated from time to time by the Port Authority in the Central Terminal Area of the Airport, and the vehicular roadways on the premises connecting to the said Air Terminal Highways. These improvements and policies, both in existence and planned, generally include the following:

(1) Restrictions on the use of roadways in the Central Terminal Area as set forth in Section 74 (Ground Transportation In The Central Terminal Area) and Section 72 (Ground Transportation) of the Lease.

(2) The use of Airport Taxi Dispatching Services (as generally set forth in paragraph (b) hereof) where the Port Authority, either itself or through its contractor, utilizes at passenger terminals under the control of the Port Authority and makes available to passenger terminals at the Airport operated by others, the services of a Taxi Dispatcher to assist in the expeditious and orderly flow of taxicabs to and from passenger terminals at the Airport.

(3) The planning, development and implementation of a central taxi holding and dispatching system for the Airport to be used in conjunction with the use of Taxi Dispatchers at the passenger terminals at the Airport.

(4) The designation of specified portions of the vehicular roadways on the premises for limited use exclusively by certain types of ground transportation vehicles and/or certain types of ground transportation carriers for the loading and unloading of passengers and their baggage.

(b) The Lessee agrees to restrict from the premises during the time period or time periods, as may be specified by the Port Authority from time to time (each such period being herein referred to as a "Taxi Dispatcher Period" or "TDP"), all taxicabs except those taxicabs which are discharging passengers at the premises and those taxicabs which are requested by a Taxi Dispatcher stationed on

the premises and dispatched through the airport central taxi holding and dispatching facility (herein called "the Airport Central Taxi Stack") to the premises. Further, during any TDP the Lessee agrees to take and accept from the Port Authority, and permit the stationing at an appropriate location or locations on the premises, of a Taxi Dispatcher or Taxi Dispatchers and the establishment of a taxicab waiting line on the premises of such number of vehicles as shall be specified by the Port Authority from time to time. A Taxi Dispatcher or Taxi Dispatchers when located on the premises shall provide the sole and exclusive dispatch of taxicabs to the Lessee's passengers and others desiring the use of a taxicab from the premises and shall perform such other duties and functions in connection therewith as may be specified by the Port Authority from time to time. The Lessee agrees to permit the installation on the premises by the Port Authority of such fixtures, equipment and improvements including, but not limited to, a taxi dispatcher shelter, telephone, radio transceiver and transponder receiving device as may be necessary or reasonably desired by the Port Authority in connection with the activities and operations of the Taxi Dispatchers. The Lessee understands and agrees that all expenses of the Port Authority associated with the implementation and operation of the Taxi Dispatchers on the Airport including, but not limited to, the Taxi Dispatchers on the premises and the construction, maintenance and operation of the Airport Central Taxi Stack shall be included in and payable through the aircraft flight fees at the Airport and will be accorded the same cost recovery treatment as the Air Terminal Highway System is accorded for such purposes under the General Airport Agreement and the calculation of other fees and charges under other existing agreements and policies at the Airport, and under any agreements which may be entered into and any policies which may be implemented, in the future, including agreements and policies to replace such existing agreements and policies or the General Airport Agreement.

(c) In connection with and furtherance of the Port Authority's policies concerning ground transportation on the Airport, the operation of the Ground Transportation Counter as set forth in Section 67, the operation of Taxi Dispatchers and the Airport Central Taxi Stack as set forth in this Section 76, and the provisions governing Ground Transportation Within The Central Terminal Area as set forth in Section 74, the Lessee hereby agrees that, from time to time, the Port Authority may designate and specify areas of roadways and curbs located on the premises, for the purpose of segregated and exclusive use by separate categories of vehicles, including but not limited to buses, taxicabs, private automobiles and other vehicles, and use by separate categories of ground transportation carriers, (including but not limited to Port Authority permittees), as may be designated by the Port Authority, from time to time, for the purpose of loading and unloading passengers and their baggage. The Lessee shall prohibit the operation of all other types of vehicular traffic on the roadways on the premises used for the loading and unloading of passengers and their baggage and shall prohibit parking or stopping except in the areas designated as aforesaid. Designated areas shall be clearly

indicated by the Lessee by appropriate signing and marking on the premises as shall be directed or approved from time to time by the Port Authority. The Lessee shall permit the installation on the premises by the Port Authority of such fixtures, equipment and improvements, including, but not limited to transponder receiving devices and other vehicular tracking and monitoring devices; and the Lessee shall, through the use of appropriate and sufficient means including, but not limited to, removing unauthorized parked vehicles from the premises, security guards and other personnel stationed on the premises in the area of the said roadways, require that the limitations and restrictions established hereunder by the Port Authority on the use of the said roadways are complied with and enforced on a 24-hour basis, during any TDP and at other times as may be directed by the Port Authority.

(d) The Lessee understands that the Port Authority considers the provisions of this Section 76 and the use of the Lessee's passenger terminal roadway areas of the utmost importance to the efficient operation of the Air Terminal Highway System on the Airport and to the fulfillment of the Port Authority's governmental function to provide, maintain, develop, and operate the Airport; that the efficient use and operation of the Air Terminal Highway System requires that the Lessee, in the operation and use of its passenger terminal facilities under this Lease shall utilize and cooperate fully in all respects in the operation and implementation of the provisions of this Section 76 to the end that the Air Terminal Highway System, including ingress thereto and egress therefrom, will operate in the most efficient manner; and that the Port Authority does not by this Lease Agreement intend to enter into any agreement, understanding, or commitment which will interfere with, limit, restrict, hinder, or prevent in any way, the efficient development, implementation and operation of the Air Terminal Highway System and the rights and discretion of the Port Authority with respect thereto.

(e) (1) Effective as of the date to be set forth in a notice from the Port Authority to the Lessee the Lessee shall lease from the Port Authority and the Port Authority shall lease to the Lessee the portion of the Air Terminal Highway System as shall be generally shown on a sketch attached to said notice together with such structures, buildings, additions, fixtures, improvements and other property of the Port Authority, if any, located therein, thereon or thereunder (all of the foregoing being sometimes herein referred to as the "Additional Roadway Frontage") which portion of the Air Terminal Highway System effective from and after the effective date set forth in the aforesaid notice to be given by the Port Authority to the Lessee, shall cease to be a portion of the Air Terminal Highway System and shall be and become a part of the premises under the Lease subject to and in accordance with all of the terms, conditions and provisions thereof.

(2) The notice referred to in subparagraph (1) above may also have a sketch or other description attached thereto which shall show the specific dimensions of the Additional Roadway

Frontage and said notice shall also set forth the increase in rental under the Lease (herein called the "Additional Roadway Frontage Rental") which the Lessee hereby agrees to pay to the Port Authority on account of the addition of the Additional Roadway Frontage. The Additional Roadway Frontage Rental shall be calculated by multiplying the acreage (as determined to the nearest 100 place decimal) of the Additional Roadway Frontage by the annual rental rates then in effect for the Area IA Ground Rental and the Area IB Ground Rental; and the Additional Roadway Frontage Rental shall be subject to the same increases at the times and using the same method set forth in Section 4 I (b) hereof covering CPI adjustments.

The Lessee understands and agrees that the Additional Roadway Frontage shall be improved with roadways and other improvements when made a part of the premises and that the cost of the Port Authority in performing such roadway construction and improvement work, notwithstanding its addition to the premises, shall be treated as work done on the Air Terminal Highway System and will be accorded the same accounting cost recovery treatment as if such work were done on and continued to be a part of the Air Terminal Highway System for the calculation of flight fees under the General Airport Agreement and other agreements and policies at the Airport, and under any agreements which may be entered into or policies which may be implemented in the future including agreements and policies to replace such existing agreements and policies or the General Airport Agreement.

Section 77. Lessee's Financial Condition - Limitation of Lease Term - Triggering Events

I. If any one or more of the Triggering Events listed in Exhibit X, annexed hereto and hereby made a part hereof, shall occur, then, ten (10) days following the occurrence of any such Triggering Event, the term of this Agreement and the letting hereunder shall be deemed terminated, and the Lessee shall thereafter be a hold-over tenant, on a month-to-month periodical basis, of the Port Authority. Termination hereunder shall be and operate as a conditional limitation. In the event any court of competent jurisdiction shall not give full and complete effect to this termination provision and its operation as a conditional limitation, the Lessee and the Port Authority agree, as a condition of this Agreement, and not merely as a covenant, that this Agreement and the stated term of the letting hereunder shall nonetheless, from and after the effective date of termination provided above, be deemed to have expired.

II. (a) The Lessee agrees that:

(1) There shall be an annual meeting (from time to time such meeting may be held at a greater time interval at the sole discretion of the Port Authority) between representatives of the Port Authority and the Chief Financial Officer of the Lessee or, at the election of the Lessee, a responsible corporate financial officer of the Lessee to review the financial performance of the

Lessee including, but not limited to, the information supplied in accordance with paragraph (2) below.

(2) The Lessee shall deliver to the Port Authority, as soon as available, but not later than ninety (90) days after the close of each fiscal quarter copies of all material and information provided or made available to shareholders generally and/or all major creditors of the Lessee, including but not limited to the following:

(i) Financial data including monthly operating statements, changes in bank credit lines and debt obligations, cash flow projections compared with required debt service payments and United States Securities and Exchange Commission filings (including without limitation 8K, 10K and 10-Q filings) and shareholder reports.

(ii) Traffic data including passengers, aircraft movements, available seat miles and revenue passenger miles.

(iii) Performance indicators including load factors, break-even load factors, yield per revenue passenger mile and cost per available seat mile.

Notwithstanding the foregoing, the Lessee shall have no obligation hereunder to provide to the Port Authority any privileged or confidential information, documentation or material that has been provided to any person who has an obligation not to disclose such information, documentation or material pursuant to a confidential agreement or applicable law, except if and to the extent such information is already in or becomes part of the public domain.

(b) The Lessee shall submit to the Port Authority a statement at any time during the term of the letting signed by a responsible financial officer of the Lessee notifying the Port Authority that a Triggering Event or Triggering Events listed in Exhibit X has or have occurred as of the date of such notice and the date of the occurrence thereof, provided, however, that failure to give any such notice shall not affect the occurrence of any Triggering Event or the consequences thereof hereunder.

III. If the Lessee has, by notice, advised the Port Authority that it reasonably believes that any of the Triggering Events which are listed in Exhibit X hereof and constitute events which would result in termination (if the Port Authority were to activate the same by the giving of the notice or notices as specified in Exhibit X) pursuant to this Section 77 either are anticipated to occur within forty-five (45) days of said notice, or has or have already occurred, or if in fact any Triggering Event or Triggering Events has or have occurred, or the Port Authority believes that the same has or have occurred without receipt of any notice from the Lessee, as aforesaid, then:

(a) the Lessee may, at any time prior to the termination of the letting, by notice, request that the Port Authority waive the occurrence of one or more of the Triggering Events, and the effect thereof hereunder, for a period of time to be determined by the Port Authority and to be contained in a letter agreement to be prepared by the Port Authority and executed by the Port Authority, which shall be effective upon its execution by the Lessee; or

(b) the Port Authority may, at any time prior to the termination of the letting, in its sole discretion and without a prior request from the Lessee, waive the occurrence of one or more of the Triggering Events, and the effect thereof hereunder, for a period of time to be determined by the Port Authority and to be set forth in a notice from the Port Authority to the Lessee. Service of a notice hereunder shall not in and of itself imply or be deemed to imply that a Triggering Event has occurred.

The Port Authority shall have no obligation to take either of the above two actions in this Part III.

IV. Although it is hereby specifically acknowledged and agreed that the aforesaid month-to-month periodical tenancy, if any should occur hereunder, is terminable by either party in accordance with law and that the following provision shall have no effect whatsoever on the right of either party to so terminate, it is further understood that if 4 consecutive calendar quarters have elapsed after a Triggering Event has occurred during which time the Lessee is in occupancy of the premises as a month-to-month tenant, and during such period none of the Triggering Events listed in Exhibit X have occurred or continue to occur, the Lessee is not in default in the payment of rental or any other provision of its month-to-month tenancy and neither the Port Authority nor the Lessee has terminated the month-to-month tenancy by notice to the other, then upon request by either party to the other, the parties will enter into a Supplementary Agreement to be prepared by the Port Authority and to be promptly executed by the parties hereto which would provide for the re-establishment of a tenancy between the Port Authority and the Lessee on a fixed term basis in accordance with all of the terms and provisions of this Lease, and upon said execution the Lease, as the same may theretofore have been supplemented and amended, shall have the fixed term stated in Section 3 hereof.

Section 78. Requesting Airlines at the Airport

(a) If a Scheduled Aircraft Operator (hereinafter called a "Requesting Airline") advises the Lessee that it would like to be accommodated by the Lessee at the premises, the Lessee in furtherance of the public interest of having the premises fully and most effectively utilized shall use its best efforts to accommodate the request of said Requesting Airline. If the Lessee fails to reach agreement with said Requesting Airline for its accommodation, the Lessee shall advise the Port Authority to such effect. Thereafter, the Port Authority shall make a determination as to whether the Lessee should accommodate the Requesting Airline as

Section 81. Definitions

The following terms, when used in this Agreement, shall, unless the context shall require otherwise, have the respective meanings given below.

(a) "Agreement" shall mean this agreement of lease.

(b) "Aircraft Operator" shall mean (a) a Person owning one or more aircraft which are not leased or chartered to any other person for operation, and (b) a Person to whom one or more aircraft are leased or chartered for operation whether the aircraft so owned, leased or chartered are military or non-military, or are used for private business, pleasure or governmental business, or for carrier or non-carrier operations, or for scheduled or non-scheduled operations or otherwise. Said phrase shall not mean the pilot of an aircraft unless he is also the owner or lessee thereof or a Person to whom it is chartered.

(c) "Airport" shall mean the land and premises in the City of New York, in the County of Queens and State of New York, which are shown in green upon the Exhibit attached to the Basic Lease between The City of New York and the Port Authority referred to in subdivision (b) below, said Exhibit being marked "Map II", and lands contiguous thereto which may have been heretofore or may hereafter be acquired by the Port Authority to use for air terminal purposes.

(d) "Basic Lease" shall mean the agreement between The City of New York and the Port Authority dated April 17, 1947, as the same from time to time may have been or may be supplemented or amended. Said agreement dated April 17, 1947, has been recorded in the Office of the Register of The City of New York, County of Queens, on May 22, 1947, in Liber 5402 of Conveyances, at pages 319, et seq.

(e) "Civil Aircraft Operator" shall mean a Person engaged in civil transportation by aircraft or otherwise operating aircraft for civilian purposes, whether governmental or private. If any such Person is also engaged in the operation of aircraft for military, naval or air force purposes, he shall be deemed to be a Civil Aircraft Operator only to the extent that he engages in the operation of aircraft for civilian purposes.

(f) "Consumer Service Maximum Basic Rental" shall mean the amount of per square foot subject to adjustment based upon changes in the Consumer Price Index as set forth in paragraph (b) of Subdivision I of Section 4 in the same manner as adjustments are made to the Lessee's rental obligations in said Subdivision I of Section 4 in said paragraph (b).

(g) "Distribution Portion of the Underground Fuel System" shall have the meaning set forth in the General Airport Agreement.

(h) "General Airport Agreement" shall mean those certain agreements each entitled "John F. Kennedy International Airport Airline Lease" dated as of January 1, 1953 (as the same has been extended, supplemented and amended) between the Port Authority and various airlines and which govern the rights, privilege, duties and obligations of and between the parties thereto with respect to the Airport.

(i) "General Manager of the Airport" shall mean the person or persons from time to time designated by the Port Authority to exercise the powers and functions vested in the said General Manager by this Agreement; but until further notice from the Port Authority to the Lessee it shall mean the General Manager (or the temporary or acting General Manager) of the Airport for the time being, or his duly designated representative or representatives.

(j) "Governmental Authority", "Governmental Board", "Governmental Agency" shall mean federal, state, municipal and other governmental authorities, boards and agencies of any state, nation or government, except that it shall not be construed to include The Port Authority of New York and New Jersey, the lessor under this Lease.

(k) "gross receipts" shall mean and include all monies paid or payable to the Operator for sales made and for services rendered at or from the premises, regardless of when or where the order therefor is received, and outside the premises, if the order therefor is received at the premises, and any other revenues of any type arising out of or in connection with the Operator's operations at the premises, provided, however, that any taxes or other governmental charges imposed by law which are separately stated to and paid by a customer and directly payable to the taxing authority by the Operator, shall be excluded therefrom.

(l) "Handled Airlines" shall mean the Requesting Airlines, as defined in Section 78 hereof, or any other Scheduled Aircraft Operator who is operating at the Airport pursuant to accommodations provided by a Lessee, whether by sublease, handling agreement, or a combination of both, which agreement has been consented to by the Port Authority and in which consent the Port Authority has designated said Operator a Handled Airline.

(m) "In-flight meals" as used in the air transportation industry and in this Lease is a word of art and includes food, beverages, snacks, non-reusable supplies, materials, dry goods and all services rendered in connection therewith.

(n) "Lease" or "this Agreement of Lease" shall mean this agreement of lease.

(o) "Letting" shall mean the letting under this Agreement for the original term stated herein, and shall include any extension thereof.

(p) "Person" shall mean not only a natural person, corporation or other legal entity, but also two or more natural persons, corporations or other legal entities acting jointly as a firm, partnership, unincorporated association, consortium, joint adventurers or otherwise.

(q) "Premises" shall mean and include the land, the buildings, structures and other improvements located or to be located or to be constructed therein or thereon, the equipment permanently affixed or permanently located therein, such as electrical, plumbing, sprinkler fire protection and fire alarm, heating, steam, sewage, drainage, refrigerating, communications, gas and other systems, and their pipes, wires, mains, lines, tubes, conduits, equipment and fixtures, and all paving, drains, culverts, ditches and catchbasins.

(r) "Public Landing Area" shall mean the area of land at the Airport including runways, taxiways and the areas between and adjacent to runways and taxiways, designated and made available from time to time by the Port Authority for the landing and taking off of aircraft.

(s) "Public Ramp and Apron Area" shall mean the area adjacent to the Public Landing Area designated and made available from time to time by the Port Authority for common use for the loading or unloading of passengers or cargo to or from aircraft using the Public Landing Area.

(t) "Runways" (including approaches thereto) shall mean the portion of the Airport used for the purpose of the landing and taking off of aircraft.

(u) "Scheduled Aircraft Operator" shall mean a Civil Aircraft Operator engaged in transportation by aircraft operated wholly or in part on regular flights to and from the Airport in accordance with published schedules; but so long as the Federal Aviation Act of 1958, or any similar federal statute providing for the issuance of Foreign Air Carrier Permits or Certificates of Public Convenience and Necessity or substantially similar permits or certificates, is in effect, no person shall be deemed to be a Scheduled Aircraft Operator within the meaning of this Lease unless he also holds such a permit or certificate.

(v) "Taxiways" shall mean the portion of the Airport used for the purpose of the ground movement of aircraft to, from and between the runways, the public ramp and apron area, the aircraft parking and storage space and other portions of the Airport (not including, however, any taxiways, the exclusive use of which is granted to the Lessee or any other person by lease, permit or otherwise.)

(w) (1) "Unamortized Phase I Capital Investment" shall mean for purposes of this Lease, the amount of the Lessee's investment in the premises arising out of the performance by the

Lessee of the Phase I Construction Work (as more fully described below) pursuant to and as set forth in and defined in Section 2 after deduction therefrom of an amount equivalent to an allowance for depreciation and amortization; such allowance to be computed on a straight-line basis from the earlier of the Phase I Completion Date (as defined in Section 2 (g) (3) of the Lease) to the end of the average useful life thereof (as determined under generally accepted United States accounting principles) or November 30, 2015, whichever is the shorter. For purposes hereof, the calculation of the Unamortized Phase I Capital Investment of the Lessee shall be based on, and shall not exceed, the amount of (2.a.)

The foregoing computation to be made shall not take into consideration the effect of accelerated amortization, if any, granted to or taken by the Lessee on its books or otherwise under the provisions of Section 168(a) of Title 26 USCA or similar legislation hereafter enacted.

For purposes of this subparagraph (w) (1) the Lessee's Phase I Cost shall be the lesser of (2.a.) or an amount equal to the sum of: (i) the amounts paid by the Lessee to independent contractors for work actually performed and labor and materials actually furnished, inclusive of sales, use and like taxes where applicable with respect to the completed Phase I Construction Work; (ii) the payments made and expenses incurred by the Lessee, in connection with such construction, for engineering, architectural, professional and consulting services, and the supervision of construction, provided, however, that such payments and expenses pursuant to this subdivision (ii) shall not exceed twelve per cent (12%) of the amounts described in subdivision (i); and (iii) the amounts paid by the Lessee to independent contractors for the personal property starred and underlined in Exhibit E and installed in connection with the Phase I Construction Work and to which title has passed to the Port Authority inclusive of sales, use and like taxes where applicable; in each case, as the above-mentioned amounts, payments and expenses are evidenced, from time to time, by certificates of a responsible fiscal officer of the Lessee, sworn to before a notary public and delivered to the Port Authority, which certificates shall (a) set forth, in reasonable detail, the amounts paid to specified independent contractors, the payments made to other specified persons and the other expenses incurred by the Lessee, which have not previously been reported in certificates delivered to the Port Authority, (b) have attached thereto reproduction copies or duplicate originals of the invoices of such independent contractors and other persons acknowledging the receipt by them of such amounts and payments, and (c) certify that the amounts, payments and expenses therein set forth constitute portions of the Lessee's Phase I Cost for the purposes of this Lease; all of the foregoing items being herein called "the Lessee's Phase I Cost".

For purposes of this Agreement, the Lessee's investment in the premises arising out of the performance by the Lessee of the

Phase I Construction Work shall mean such amount, if any, by which the Lessee's Phase I Cost exceeds the sum of (i) the total of all Construction Payments (as defined in Section 89 hereof) made by the Port Authority to the Lessee under said Section 89 for Phase I Construction Work plus (ii) the total of all Area IA Restoration Work Payments (as defined in Section 90 hereof) made by the Port Authority under said Section 90. In no event shall the Lessee's Phase I Cost or the Lessee's Unamortized Phase I Capital Investment include any amounts paid for or in connection with any equipment, trade fixtures or other personal property of the Lessee.

All records of the Lessee with respect to the foregoing shall be kept at all times within the Port of New York District for a period of two (2) years after the final costs of all the Phase I Construction Work have been submitted by the Lessee to the Port Authority or the end of the term of the letting under the Agreement, whichever is later, and shall be subject to the audit and inspection of the Port Authority, its representatives and employees; provided, however, on the condition that the Lessee shall pay to the Port Authority all travel costs and expenses as determined by the Port Authority for Port Authority auditors and other representatives in connection with any audit at locations outside the Port of New York District, the Lessee may maintain said records and books and make them available to the Port Authority at the Lessee's office at 1030 Delta Boulevard, Hartsfield Atlanta International Airport, Atlanta, Georgia 30320.

(2) "Unamortized Phase II Capital Investment" shall mean for purposes of this Lease, the amount of the Lessee's investment in the premises arising out of the performance by the Lessee of the Phase II Construction Work (as more fully described below) pursuant to and as set forth in and defined in Section 2 after deduction therefrom of an amount equivalent to an allowance for depreciation and amortization; such allowance to be computed on a straight-line basis from the earlier of the Phase II Completion Date (as defined in Section 2 (g) (3) of the Lease) to the end of the average useful life thereof (as determined under generally accepted United States accounting principles) or November 30, 2015, whichever is the shorter. For purposes hereof, the calculation of the Unamortized Phase II Capital Investment of the Lessee shall be based on, and shall not exceed, the amount of (2.a.)

The foregoing computation to be made shall not take into consideration the effect of accelerated amortization, if any, granted to or taken by the Lessee on its books or otherwise under the provisions of Section 168(a) of Title 26 USCA or similar legislation hereafter enacted.

For purposes of this subparagraph (w) (2) the Lessee's Phase II Cost shall be the lesser of (2.a.)
or an amount equal to the sum of: (i) the amounts paid by the Lessee to independent contractors for work actually performed and labor and materials actually furnished,

inclusive of sales, use and like taxes where applicable with respect to the completed Phase II Construction Work; (ii) the payments made and expenses incurred by the Lessee, in connection with such construction, for engineering, architectural, professional and consulting services, and the supervision of construction, provided, however, that such payments and expenses pursuant to this subdivision (ii) shall not exceed)f the amounts described in subdivision (i); in each case, as the above-mentioned amounts, payments and expenses are evidenced, from time to time, by certificates of a responsible fiscal officer of the Lessee, sworn to before a notary public and delivered to the Port Authority, which certificates shall (a) set forth, in reasonable detail, the amounts paid to specified independent contractors, the payments made to other specified persons and the other expenses incurred by the Lessee, which have not previously been reported in certificates delivered to the Port Authority, (b) have attached thereto reproduction copies or duplicate originals of the invoices of such independent contractors and other persons acknowledging the receipt by them of such amounts and payments, and (c) certify that the amounts, payments and expenses therein set forth constitute portions of the Lessee's Phase II Cost for the purposes of this Lease; all of the foregoing items being herein called "the Lessee's Phase II Cost".

For purposes of this Agreement, the Lessee's investment in the premises arising out of the performance by the Lessee of the Phase II Construction Work shall mean such amount, if any, by which the Lessee's Phase II Cost exceeds the sum of (i) the total of all Construction Payments (as defined in Section 89 hereof) made by the Port Authority to the Lessee under said Section 89 for Phase II Construction Work plus (ii) the total of all Area IA Restoration Work Payments (as defined in Section 90 hereof) made by the Port Authority under said Section 90. In no event shall the Lessee's Phase II Cost or the Lessee's Unamortized Phase II Capital Investment include any amounts paid for or in connection with any equipment, trade fixtures or other personal property of the Lessee.

All records of the Lessee with respect to the foregoing shall be kept at all times within the Port of New York District for a period of two (2) years after the final costs of all the Phase II Construction Work have been submitted by the Lessee to the Port Authority or the end of the term of the letting under the Agreement, whichever is later, and shall be subject to the audit and inspection of the Port Authority, its representatives and employees; provided, however, on the condition that the Lessee shall pay to the Port Authority all travel costs and expenses as determined by the Port Authority for Port Authority auditors and other representatives in connection with any audit at locations outside the Port of New York District, the Lessee may maintain said records and books and make them available to the Port Authority at the Lessee's office at 1030 Delta Boulevard, Hartsfield Atlanta International Airport, Atlanta, Georgia 30320.

Section 82. In-Flight Meals

(1) If the Lessee desires to prepare, for its exclusive use, in-flight meals (as defined in Section 81 hereof) for consumption by passengers and crew on board aircraft operated by the Lessee and to deliver such meals to such aircraft it shall have the right to do so, individually or through a contractor of its own choice (which contractor shall not be another person engaged in the business of transportation by aircraft). If the Lessee does so directly, it shall do so only on space located outside the Central Terminal Area (as defined in Section 81 hereof). The foregoing, however, shall create no obligation of the part of the Port Authority to provide such space and shall in no way be deemed a commitment by the Port Authority that any such space shall be available. If the Lessee chooses to use an independent contractor, such contractor shall be a regular In-Flight Meal Operator by which is meant an operator authorized by the Port Authority to provide in-flight meals to Aircraft Operators at the Airport unless, in the opinion of the Lessee, all regular In-Flight Meal Operators are unsatisfactory to the Lessee, in which case the Lessee may employ any other contractor (other than another person engaged in the business of transportation by aircraft), satisfactory to the Port Authority, who will accept a permit from the Port Authority on the same terms and conditions including the same rates, fees or charges as imposed upon and required of the Port Authority's In-Flight Meal Operators.

(2) The Lessee shall have the further right, either directly or through an independent contractor of its choice, satisfactory to the Port Authority, or by arrangements, jointly with one or more other users at the Airport, to employ a contractor, satisfactory to the Port Authority, to prepare outside the Airport and to deliver at the Airport to aircraft operated by the Lessee, in-flight meals for consumption by passengers and crew on board such aircraft, provided, however, that if the Lessee employs a contractor either alone, or, by arrangement, jointly with one or more other users at the Airport for the preparation, outside the Airport, of in-flight meals, then the Lessee shall cause such contractor to pay to the Port Authority the rate or rates which would be payable to the Port Authority by a regular Port Authority permittee for the off-Airport preparation or delivery, or both, of such in-flight meals to aircraft for consumption by passengers and crews on board such aircraft.

(3) (i) The Lessee has advised that it may use more that one independent contractor to furnish its "in-flight meals" at the Airport but may not wish to have all of said contractors become permittees of the Port Authority under permits which require, as aforesaid, the permittees to pay fees at the rates imposed on the Port Authority's In-Flight Meal Operators upon gross receipts based on amounts the Lessee pays said contractors.

(ii) Should the Lessee elect not to have all its independent contractors be Port Authority permittees as aforesaid, it shall serve a written notice on the Port Authority to such effect which notice shall state that it elects the method of additional payment as hereinafter set forth and thereupon the Port Authority shall consent thereto provided that, in addition to the amounts payable to the Port Authority under paragraphs (1) and (2) above, the Lessee shall pay and the Lessee hereby agrees to pay to the Port Authority an amount determined by applying the rates referred to in subparagraph (i) above to the amounts payable by the Lessee to said independent contractors for "in-flight meals" or any part thereof delivered to the Lessee's aircraft at the Airport (whether such delivery be by said independent contractor, the Lessee or another). The foregoing payments by the Lessee shall be made monthly on the 20th day of the month commencing with the first month immediately following the Lessee's notice and continuing each month thereafter up to an including the 20th day of the month following the expiration date hereof. The Lessee at any time on at least thirty (30) days' prior written notice to the Port Authority may change from its selection above and the Lessee may at any time advise the Port Authority that this paragraph (3) no longer applies to it based upon its representation, that it then shall make, that all payments made by it for in-flight meals as said term is defined above shall be made to its contractors who are permittees of the Port Authority as "*In-Flight Meal Operators*".

(iii) It is hereby expressly recognized that the procedures allowed under this paragraph (3) are not included within the contemplation of the provisions of paragraphs (1) and (2) above and that the inclusion of the same within this paragraph (3) shall not constitute or be deemed to constitute any concession or agreement by the Port Authority that said procedures are not in violation of paragraphs (1) and (2) hereof.

Section 83. Certain Environmental Testing and Clean-Up Obligations

(a) (1) Attached hereto, hereby made a part hereof is an exhibit marked "Exhibit Y" which consists of (i) a "Terminal 1-A Environmental Investigation-Summary Report-December 1992" and including its appendices and its compilation of reports and tests results of soil and water samples taken on various dates in September 1992 and October 1992 (as set forth in Exhibit Y) from a total of seventeen (17) borings including seventeen (17) wells made on Area IA setting forth the levels of specified chemicals and chemical compounds in the soil and aquifer of Area IA all as more specifically named and set forth in Exhibit Y, (ii) a "Terminal 1-A Environmental Investigation Summary October 1993" including its compilation of reports and tests results of soil samples taken on various dates in February 1993, March 1993 and April 1993 from various locations on Area IA, and of water samples taken from hydropunches at various locations on Area IA on various dates in March, 1993, April, 1993 and June, 1993 and of water samples taken on various dates in June 1993 and July 1993 from a total of 26 wells at various locations on Area IA, and, as to the said soil and water

samples setting forth levels of specified chemicals and chemical compounds in the soil and aquifer of Area IA all as more specifically named and set forth in Exhibit Y, and (iii) a "Terminal 1A Environmental Investigation Summary June, 1994" including individual data tables (marked as: "Terminal 1A Site Investigation Groundwater Sampling Results (PPB) Monitoring Wells"; "Terminal 1A Site Investigation Groundwater Sampling Results (PPB) 'B' Aquifer Hydropunches"; "Terminal 1A Site Investigation Groundwater Sampling Results (PPB) 'A' Aquifer Hydropunches"); "Terminal 1A Site Investigation Free Product Summary"); "Groundwater Analyses-Hydropunch-Delta-JFK Airport-Building 1A"; and "Groundwater Analyses-Monitoring Wells-Delta-JFK Airport-Building 1A"; all with respect to specified chemicals and chemical compounds comprising the test results of groundwater samples from monitoring wells, and from hydropunches, and test results of free product thickness sampling from monitoring wells, with such testing and sampling taken on various dates in February, 1994 March, 1994 and in April, 1994 at various locations from Area IA and with said chemicals and chemical compounds and the said monitoring wells, hydropunches and locations as more fully set forth in said Terminal 1A Environmental Investigation Summary June, 1994 and the sketch attached thereto, forming a part thereof and marked "Terminal 1A Site Map"; all of the aforesaid items mentioned in the foregoing (i), (ii) and (iii) for which the said samples were tested as set forth in Exhibit Y are hereinafter collectively referred to as the "Analyzed Items".

(2) The said reports and test results described in subparagraph (1) above and as applied by the methodology set forth in paragraph (b) below for the establishment of the levels of the Analyzed Items for all portions of the premises are hereinafter called the "Initial Existing Condition".

(3) Without limiting or impairing any of the terms and provisions hereof, it is recognized that the testing and sampling procedures utilized by the Port Authority and the Lessee in obtaining the results set forth in the Terminal 1A Environmental Investigation Summary June, 1994 included (i)giving the Lessee at least 48 hours prior notice of all testing and sampling; (ii) giving the Lessee and its representatives the right to attend all testing and sampling; (iii) splitting all samples as taken at Area 1A and providing one half of each sample to the Lessee. In addition, the Port Authority and the Lessee each selected one or more independent laboratories to perform analytical services in connection with the investigations reflected therein with the following arrangement: (v) all costs, expenses and fees incurred by any laboratory chosen by a party hereto have and shall be borne by that party; (w) among other services, the Port Authority and the Lessee each had its samples analyzed by one or more of the laboratories selected by it as provided herein; (x) if the results of the laboratory analysis of a particular split sample was not substantially the same, a new split sample was taken, split and analyzed in accordance with the provisions in this Section; and (y) if the results of the new split sample were not substantially the same, and the parties hereto could not agree on which result was correct, the highest chemical

constituent value of the three with the closest chemical constituent values were used for the purposes of establishing the Initial Existing Condition and an average of the chemical constituent values of the three samples shall be used for all other purposes.

The foregoing procedures specified herein shall be used in all future testing and sampling with the respect to Area 1A to the extent the parties hereto have hereby agreed or are required by federal or state regulatory authorities having juristiction over such matters.

(4) (i) If after any remediation performed on Area IA, whether by the Lessee, the Port Authority or a third party(ies), the Port Authority shall sample and test the soil and aquifer of Area IA or portions thereof and shall set forth the results of such tests in a report (it being understood however that the Port Authority shall not have any obligation hereunder to perform such sampling and testing or to set forth the results thereof in a report), upon delivery of such report and test results to the Lessee, such report and test results shall supersede Exhibit Y or the applicable portions thereof if the test results and report are of Analyzed Items which have been previously tested and the results thereof reported in Exhibit Y and the existing and new test results are from samples taken from the same well or a new well or boring which is immediately adjacent to such well or boring and shall supplement Exhibit Y or the applicable portions thereof if the test results and report would not supersede any test results and reports in Exhibit Y as aforesaid, and the results of such report setting forth the levels of the Analyzed Items in the soil and aquifer of Area IA together with those portions of Exhibit Y which have not been superseded, as applied by the methodology set forth in paragraph (b) below for the establishment of the level of the Analyzed Items for all portions of Area IA shall thereafter upon such delivery to the Lessee be and be deemed to be a "Succeeding Existing Condition" under this Section 83; provided, however, and notwithstanding the foregoing, in no event shall the level of any Analyzed Items in any Succeeding Existing Condition be above the lower of the level for such Analyzed Item as set forth in the Initial Existing Condition or (ii) the lowest level to which such Analyzed Item has been remediated as shown in a Succeeding Existing Condition.

(ii) With respect to such post-remediation testing and sampling of Area IA, the Port Authority will provide to the Lessee a copy of any report of such post-remediation testing and sampling required by the New York State Department of Environmental Protection (the "NYSDEC") and submitted to the NYSDEC by the Port Authority.

(iii) The Initial Existing Condition as superseded and supplemented by each Succeeding Existing Condition is hereinafter called the "Existing Condition". The Existing Condition shall be, for the purposes of this Lease, the level of the Analyzed Items in

the soil and aquifer in Area IA provided, however, and notwithstanding the foregoing, in no event shall the level of any Analyzed Item in any Existing Condition be above the lower of (i) the level for such Analyzed Item as set forth in the Initial Existing Condition or (ii) the lowest level to which such Analyzed Item has been remediated as shown in a Succeeding Existing Condition.

(b) The level of an Analyzed Item for any Existing Condition at any location in Area IA shall be the level of that Analyzed Item as shown in the reports and test results constituting such Existing Condition taken from samples at the well or boring located on Area IA nearest to such location.

(c) (1) The Lessee and the Port Authority agree as between themselves, and notwithstanding any other evidence to the contrary, that the levels of the Analyzed Items in the soil and aquifer of the premises as the date of the execution of this Agreement by the Lessee, shall be and shall be deemed as set forth in Exhibit Y and only as set forth in Exhibit Y. Without limiting the generality of Section 40 (c) of the Lease, the Lessee agrees to accept Area IA with the Initial Existing Condition.

(2) In addition to and without limiting the foregoing or any other term or provision of this Lease, including without limitation Sections 2, 7, 8, 9, 10, 11 and 90 hereof, it is expressly understood and agreed that the proper handling, delivery, treatment, storage, transportation, disposal, and depositing (all of the foregoing being hereinafter collectively referred to as "Disposal"), whether on or off the Airport, of any matter (as defined in Section 2 (b)(9) hereof) excavated, disturbed or removed by the Lessee (or by any contractor or contractors of the Lessee) at or from the premises including without limitation Area IA (or other area of the Airport) at any time or times, including without limitation any and all remediation and Disposal of said matter and any and all other remediation, Disposal and clean up (whether soil, aquifer or otherwise) necessary, required or appropriate as a result of, caused by, incidental to or triggered by such excavation, disturbance or removal of the matter or arising therefrom, and the taking or doing of any and all other action or actions necessary, required or appropriate in connection therewith, shall be the sole and complete responsibility of the Lessee, including without limitation all costs and expenses thereof and any and all claims, penalties or other expenses relating thereto. The foregoing obligations of the Lessee shall obtain and apply with full force and effect irrespective of the nature or source of any contaminant, pollutant, chemical, waste or other substance or whether any of the same is an Analyzed Item or whether any of the same is at a level or levels above or below the level or levels of the Existing Condition or whether there has or has not been any increase in such level or levels. The Lessee shall perform all of the foregoing in accordance with and subject to all the terms, provisions, covenants and conditions of this Lease including without limitation Sections 2, 7, 8, 9, 10, 11 and 90 hereof. All of the foregoing responsibilities

and obligations of the Lessee set forth in this subparagraph (2) are herein called "the Lessee's Disturbed Matter Obligations".

(3) The Lessee's Disturbed Matter Obligations shall not include the following:

(i) Contamination of soil and ground water, if any, caused by the acts or omissions of the Port Authority subsequent to the execution date of this Agreement;

(ii) Contamination of soil and ground water, if any, caused by the flow of ground water from outside the premises or the leaching of contaminants from outside the premises.

(4) The Lessee shall have no obligation under this Lease with respect to the Existing Condition (other than the obligations described in the foregoing subparagraph (2) and the other obligations described herein in this Section and except as provided in subparagraph (5) below) including but not limited to any obligation to remediate the Existing Condition, or to pay any claim, penalty or expense with respect thereto (including any which relate to other premises allegedly affected by the Existing Condition or the spread of such contaminants from the premises), provided, however, if any of the levels of the Analyzed Items, or any of them, in the soil or the aquifer of Area IA shall increase above the Existing Condition then the Lessee shall have such obligations with respect to such increase to the extent required by and in accordance with the terms and conditions of the Lease, provided, further, however, if such increase is caused by the flow of ground water from outside the premises or the leaching of contaminants from outside the premises or by the acts or omissions of the Port Authority, then the Lessee shall have no such additional obligations with respect to such increase.

(5) The Lessee acknowledges that it has been in occupancy of Area IA under the Prior Permit prior to the execution of this Lease, and in addition to and without limiting any term or provision hereof or of the Prior Permit, it is expressly understood and agreed that, notwithstanding anything to the contrary herein, the Lessee shall be responsible for remediation of the Initial Existing Condition to the extent that the Initial Existing Condition was caused by the acts or omissions of the Lessee or by the acts or omissions of any subusers or others who occupied Area IA or any other portion of the premises with the permission of the Lessee and which acts or omissions of such subusers or others occurred during the period which such subusers or others occupied Area IA or any other portion of the premises with the permission of the Lessee and provided, further, neither any remediation of the Initial Existing Condition by the Port Authority nor the establishment of a Succeeding Existing Condition as a result of any such remediation, as above provided, shall release or relieve the Lessee from its said responsibility. The Lessee hereby represents to the Port Authority that none of the activities the Lessee conducted on Area IA prior to

the execution of this Lease contributed to the Initial Existing Condition and that to its knowledge during such period the Lessee did not cause or contribute to the Initial Existing Condition.

(d) It is hereby recognized by the parties hereto that as a result of the reporting of the Initial Existing Condition to the NYSDEC, the NYSDEC will require remediation of the Initial Existing Condition including all appropriate borings and wells required for said remediation, and further that the Lessee shall not be responsible hereunder for such remediation of the Initial Existing Condition (other than as expressly provided herein including without limitation in paragraph (e) below, so required by the NYSDEC including any further remediation required by the NYSDEC as a result of the NYSDEC's lowering the clean-up level for any Analyzed Item below the clean-up level required by the NYSDEC for the remediation of the Initial Existing Condition.

(e) The Port Authority and the Lessee acknowledge and agree that prior to the execution of this Lease the nine (9) underground storage tanks in Area IA were removed therefrom by the Port Authority. Without limiting the generality of the provisions of Section 24 of the Lease the Port Authority and its designees shall have the right but not the obligation to enter upon the premises upon forty-eight (48) hours' notice to the Lessee to conduct testing and related activities from the existing wells made by the borings referred to in paragraph (a) above, to make additional wells and borings and to conduct testing and related activities therefrom and to perform such activities as shall be necessary to remediate the Existing Condition including but not limited to conducting pumping operations from the wells made by borings referred to in paragraph (a) above and this paragraph (e). In the exercise of the foregoing rights the Port Authority and its designees shall not unreasonably interfere with the use and occupancy of the premises by the Lessee.

(f) Without limiting the generality of the provisions of Section 11 of the Lease, the Lessee agrees to protect and maintain the wells made by the borings referred to in paragraphs (a) and (e) above and shall repair any damage thereto not caused by the activities of the Port Authority or its designee(s), if any, pursuant to paragraphs (a), (d) and (e) above.

(g) The Port Authority acknowledges to the Lessee that the Lessee shall have no responsibilities or obligations whatsoever with respect to the tanks mentioned in paragraph (e) above (other than as provided in subparagraphs (2) and (5) of paragraph (c) hereof) and agrees with the Lessee that the Port Authority will comply with applicable laws, ordinances and regulations, if any, with respect to said tanks.

(h) The Lessee's duties, responsibilities, liabilities and obligations and the Port Authority's rights and remedies with respect to Area IB (as defined in Section 1 of the Lease) of the

premises shall not be or be deemed to have been affected by this Section 83.

(i) Nothing in this Section 83 shall limit, modify or otherwise alter the rights and remedies which the Port Authority or the Lessee may have against third parties at law, equity or otherwise.

Section 84. [Section 84 is Intentionally Omitted]

Section 85. Quiet Enjoyment

The Port Authority covenants and agrees that as long as it remains the lessee of the Airport under the Basic Lease the Lessee, upon paying of all rentals hereunder and performing all the terms, covenants, conditions and provisions of this Agreement on its part to be kept, performed or observed, shall and may peacefully and quietly have and enjoy the premises free of any act or acts of the Port Authority except as expressly agreed upon in this Agreement.

Section 86. Area IB Prior Agreements

(a) It is recognized, as aforesaid in Section 1 hereof, that the Lessee immediately prior to the effective date of this Agreement was in possession and use of the premises under the Prior Lease (Area IB hereunder) as sublessee under the Prior Sublease and, further, (i) that the Prior Lease (i.e. that certain agreement of lease dated January 1, 1970 as supplemented and amended and identified by Port Authority lease No. AYA-385) was entered into originally between the Port Authority and Pan American World Airways, Inc. ("Pan Am"); and (ii) that pursuant to an Assignment and Assumption of Lease dated as of August 11, 1989 Pan Am with the consent of the Port Authority assigned all of its right, title and interest in the Prior Lease to Mellon Bank, N.A. (hereinafter in this Section called "the Trustee") as trustee for certain Pan Am pension plans; (iii) that the Trustee, as sublessor subleased the premises under the Prior Lease to Pan Am pursuant to a sublease agreement dated as of August 11, 1989 ("the Sublease"); (iv) that the Assignment and the Sublease were consented to by the Port Authority in an Acknowledgment and Consent to Assignment and Sublease dated August 11, 1989; (v) that a certain letter agreement dated November 19, 1991 was entered into by and among the Trustee, Pan Am, the Port Authority and the Lessee ("the November 19, 1991 letter agreement") which has attached thereto an Exhibit A consisting of that certain stipulation filed with the United States Bankruptcy Court of the Southern District of New York ("the Bankruptcy Court") on November 4, 1991, and approved by the Bankruptcy Court on November 19, 1991 whereby the Bankruptcy Court approved the simultaneous assumption by Pan Am of the Sublease and the assignment thereof to the Lessee as sublessee under the said Sublease and an Exhibit B consisting of a certain letter agreement dated November 1, 1991 by and among Bear Sterns Fiduciary Services, Inc. and the Lessee (referred to as "the Delta Letter Agreement); (vi) that Pan Am simultaneously assumed and, with the consent of the

Port Authority, assigned the Sublease to the Lessee (as sublessee under the said Sublease) in the November 19, 1991 letter agreement and the Lessee accepted said assignment of the Sublease (to the extent said Sublease was amended by the said stipulation, the said consent, the November 19, 1991 letter agreement and the Delta Letter Agreement) and assumed Pan Am's obligations thereunder; (vii) that pursuant to an Assignment and Assumption of Lease made as of December 31, 1992 the Trustee, as assignor, quitclaimed, remised, released, assigned and transferred the Prior Lease and all its right, title and interest in and to the Prior Lease and the Sublease, as amended, to the Pension Benefit Guaranty Corporation (herein referred to as the "PBGC") as therein more fully described; (viii) that pursuant to an Assignment and Assumption of Lease made as of December 31, 1992 the PBGC, as assignor, assigned, conveyed and transferred the Prior Lease and the sublessor's interest under the Sublease, as amended, to the Port Authority (the "PBGC Assignment") as therein more fully described; (ix) that notwithstanding the PBGC Assignment and the transfer thereunder of the Prior Lease and the lessee's interest under the Prior Lease to the Port Authority, there occurred, and shall occur, no merger of the Port Authority's interest as lessor under the Prior Lease and as lessee under the Prior Lease by virtue of said PBGC Assignment or otherwise, and the Prior Lease remained in effect and the Sublease also remained in effect with the Port Authority as sublessor thereunder and the Lessee hereunder as sublessee thereunder; and (x) that the Port Authority and the Lessee as sublessee under the Sublease, as amended, simultaneously entered into a document entitled "First Supplemental Agreement to Sublease with Delta Air Lines, Inc." made as of December 31, 1992, whereby the Sublease, as amended, was further amended pursuant to the provisions thereof. The term "Prior Sublease" as used in this Agreement shall mean the Sublease including all amendments thereto as aforesaid.

For purposes hereof the term "Area IB Prior Agreements" shall mean and include the agreements and documents mentioned in this paragraph (a), all as more fully described in the aforesaid "First Supplemental Agreement to Sublease with Delta Air Lines, Inc."; it being understood that the foregoing recital and definition of the Area IB Prior Agreements is intended solely as a general description of the same and not to restrict, impair or affect the scope, validity or effectiveness of the same or any of them.

(b) Without limiting Sections 40 or 54 hereof or any other term or provision of this Agreement, it is hereby recognized that the Lessee, effective as of the effective date of this Agreement, shall, in accordance with and subject to the terms, provisions, covenants and conditions hereof, have its right, title and interest in and to the Lease and the premises hereunder under this Agreement, and that the Prior Lease and the Prior Sublease and the Prior Permit shall be deemed terminated by this Agreement; it being understood and agreed, without limiting any other term or provision of this Agreement, that said termination of the Prior Lease and the Prior Sublease and the Prior Permit shall not release or relieve the Lessee of any of its obligations, duties and liabilities thereunder

with respect to matters arising or accruing on or prior to effective date of this Agreement; and further, that that said termination shall not affect or impair the definitions of the terms "Cost of the Sublessee Flight Center Improvement Work" and "Port Authority's Cost of the PBGC Assignment" as incorporated into this Agreement pursuant to Section 4 III (A) and (B) hereof. Further, it is specifically acknowledged and agreed that, except as expressly provided herein, neither this Agreement nor anything contained herein nor said termination of the Prior Lease and the Prior Sublease shall or shall be deemed to impair, limit or reduce the obligations of the Lessee or any other person, entity or party under the Prior Agreements, including without limitation the obligation to indemnify and hold the Port Authority harmless, or to release or relieve the Lessee from any of the same; and, it is further acknowledged and agreed that the obligations of the Lessee to bear, assume, defend, pay, protect, indemnify and hold the Port Authority harmless from "Losses" as defined and more fully described and set forth in Paragraph 4 of the aforesaid "First Supplemental Agreement to Sublease with Delta Air Lines, Inc." shall in any event be deemed to survive and to continue to apply and obtain with full force and effect with respect to the matters specifically covered thereunder after the execution, delivery and effectiveness of this Agreement and separately and independently of this Agreement. Neither this Agreement nor anything contained herein shall be deemed to grant to the Lessee or to any other party or person or entity any rights or claims, legal or equitable, under the Area IB Prior Agreements to the premises or the Lease or against the Port Authority. The Lessee acknowledges and agrees that, effective on the effective date of this Agreement, it does not and shall not have any rights to use or occupy Area IB or the premises hereunder other than as granted hereunder under, and pursuant and subject to, this Agreement, notwithstanding anything in the Prior Agreements to the contrary.

(c) The term "Prior Agreements" as used in this Agreement shall mean the Area IB Prior Agreements and the Prior Permit (as defined in Section 1(a) hereof).

Section 87. Lessee's Service Standards

Subject to and without limiting or affecting any other term or provision of the Lease, the Lessee agrees to provide services at the premises for the benefit of the traveling public in a manner consistent with generally accepted airline industry standards for airport terminals and will cooperate with the Port Authority and other airlines serving the traveling public at the Airport in maintaining these standards through organized airport service improvement working groups.

Section 88. Lessee's Capital Investment and Port Authority's Additional Rights of Termination

(a) As part of the consideration to the Port Authority in entering into the Lease the Lessee agrees (i) to make a Capital Investment, as hereinafter defined, at the premises by December 31, 2000 (including without limitation submitting to the Port Authority

the certifications and supporting materials therefor as set forth in paragraph (e) below) of not less than (2.a.)
(which Capital Investment is hereinafter called "the Phase I Capital Investment") and to complete the Phase I Construction Work by December 31, 2000 unless otherwise expressly agreed to by the Port Authority and the Lessee in writing signed by the Director of Aviation of the Port Authority and the authorized representative of the Lessee and (ii) to make an additional total Capital Investment (hereinafter called "the Phase II Capital Investment") at the premises of not less than an amount equal to the difference obtained by subtracting the amount of the Phase I Capital Investment from the amount of (2.a.)
(including without limitation submitting to the Port Authority the certifications and supporting materials therefor as set forth in paragraph (e) below) by December 31, 2012 and to complete the Phase II Construction Work by December 31, 2012 unless otherwise expressly agreed to by the Port Authority and the Lessee in writing signed by the Director of Aviation of the Port Authority and the Lessee's authorized representative.

(b) In the event that (i) the Lessee shall not have completed the Phase I Capital Investment, including without limitation submitting to the Port Authority the certifications and supporting materials therefor as set forth in paragraph (e) below, by December 31, 2000 or (ii) the Lessee shall not have completed the Phase I Construction Work by December 31, 2000, then upon the occurrence of either or both of the foregoing events in (i) and (ii) above or at any time thereafter for so long as the Lessee shall not have completed the Phase I Capital Investment and shall not have completed the Phase I Construction Work, the Port Authority may, in addition to and without limiting any other right or remedy of the Port Authority, upon thirty (30) days' notice to the Lessee terminate the term of the Lease and the letting thereunder with respect (i) all or such portion or portions of Area IA or (ii) with respect to all or such portions of Area IB, or both (i) and (ii), as shall be set forth in the Port Authority's said notice of termination to the Lessee, the letting as to all or such portions of Area IA and Area IB shall be deemed terminated and the Lessee shall thereafter be a holdover tenant, on a month to month periodical basis of the Port Authority of such portion or portions of Area IA and Area IB.

(c) Without limiting and in addition to any other right or remedy of the Port Authority, including without limitation the termination rights of the Port Authority in paragraph (b) above, in the event that (i) the Lessee shall not have completed both the Phase II Construction Work and the Phase II Capital Investment, including without limitation submitting to the Port Authority the certifications and supporting materials therefor as set forth in paragraph (e) below, by December 31, 2012; and (ii) thereafter the Port Authority shall have notified the Lessee that it shall terminate the term of the letting with respect to all or a portion or portions of Area IA and Area IB of the premises; and (iii) the Lessee, within 365 days after receipt of notice given by the Port

Authority to the Lessee pursuant to (ii) above, shall not have made a total Capital Investment at the premises of at least (2.a.) (which shall include the Phase I Capital Investment) and shall not have completed the Phase II Construction Work, then upon the occurrence of all the foregoing events in (i), (ii) and (iii) from time to time and at any time thereafter for so long as the Lessee shall not have made a total Capital Investment of at least (2.a.) at the premises and shall not have completed the Phase II Construction Work, the Port Authority may upon thirty (30) days' notice to the Lessee terminate the term of the Lease and the letting thereunder with respect to all or such portion or portions of Area IA and Area IB as shall be set forth in the Port Authority's said notice(s) of termination to the Lessee, the letting as to all or such portion or portions of Area IA and Area IB shall be deemed terminated and the Lessee shall thereafter be a holdover tenant, on a month-to-month periodical basis, of the Port Authority of such portion or portions of Area IA and Area IB.

(d) In the event that the month-to-month periodical tenancy of all or a portion or portions of Area IA or Area IB described in paragraph (c) above shall be terminated, this Agreement and the letting as to all other portions of the premises shall continue in full force and effect. In the event that the month-to-month periodical tenancy of all or a portion or portions of Area IA and Area IB described in paragraph (c) above shall be terminated, the rentals payable by the Lessee to the Port Authority shall, from and after the effective date of such termination, be abated in accordance with Section 4 of the Lease.

(e) As used in this Lease the Lessee's "Capital Investment" shall mean:

(i) the amounts paid by the Lessee to independent contractors for work actually performed and labor and materials actually furnished inclusive of sales, use and like taxes where applicable, from and after the effective date of this Lease, in connection with the construction work (as defined in Section 2 of the Lease);

(ii) the payments made and expenses incurred by the Lessee, in connection with such construction work, for engineering, architectural, professional and consulting services, and the supervision of construction, inclusive of sales, use and like taxes where applicable, it being understood that payments under this Item (ii) shall not exceed (2.a.) of the sum of the amounts described in Item (i) above and Item (iii) below;

(iii) with respect to the Phase I Construction Work only, the amounts paid by the Lessee to independent contractors for the personal property starred and underlined on Exhibit E of the Lease and installed in connection with the Phase I Construction Work and to which title has passed to the Port Authority inclusive of sales, use and like taxes where applicable; and

(iv) the amounts paid by the Lessee to independent contractors for work actually performed and labor and materials actually furnished for the installation and purchase of ticket counters, lounge seating, office furniture, computer equipment and other new furniture and equipment, title to which shall be and remain in the Lessee, which is installed and purchased in connection with the work performed and labor and materials furnished in Item (i) above inclusive of sales, use and like taxes where applicable, it being understood that the amounts under this Item (iv) shall not exceed three percent (3%) of the sum of the amounts and payments described in Item (i), Item (ii), and Item (iii) above and this Item (iv);

(v) with respect to the Phase I Construction Work only, the "Cost of the Sublessee's Flight Center Improvement Work" as such term is defined in Section 4 III(B) hereof (i.e. the sum of (2.a.) ;

and, further, in each case, as the aforementioned amounts and payments are evidenced, from time to time, by certificates of a responsible fiscal officer of the Lessee, sworn to before a notary public and delivered to the Port Authority, which certificates shall (a) set forth, in reasonable detail, the amounts paid to specified independent contractors, the payments made to other specified persons and the other expenses incurred by the Lessee, which have not previously been reported in certificates delivered to the Port Authority, (b) have attached thereto reproduction copies or duplicate originals of the invoices of such independent contractors and other persons acknowledging the receipt by them of such amounts and payments, and (c) certify that the amounts and payments therein set forth constitute the Lessee's Capital Investment arising out of the performance of the construction work. The Lessee shall keep a separate accounting of the Lessee's Capital Investment which accounting shall be kept at all times within the Port of New York District for a period of two (2) years after the final costs of all the construction work have been submitted by the Lessee to the Port Authority or the end of the term of the letting, whichever is later, and shall be subject to the audit and inspection of the Port Authority, its representatives and employees; provided, however, on the condition that the Lessee shall pay to the Port Authority all travel costs and expenses as determined by the Port Authority for Port Authority auditors and other representatives in connection with any audit at locations outside the Port of New York District, the Lessee may maintain said records and books and make them available to the Port Authority at the Lessee's office at 1030 Delta Boulevard, Hartsfield Atlanta International Airport, Atlanta, Georgia 30320.

(f) The Lessee, within ninety (90) days after the installation thereof, shall deliver to the Port Authority a bill of sale for each item of personal property underlined and starred in Exhibit E of the Lease and installed in the premises in connection with the Phase I Construction Work, showing ownership of such personal property in the Port Authority and identifying the same by

serial number or other similar identification number or other appropriate means of identification.

Section 89. Port Authority Construction Payments

(a) Definitions:

The following terms as used in this Agreement shall have the respective meanings given below:

(1) Each payment made by the Port Authority to the Lessee pursuant to paragraph (b) of this Section 89 is referred to herein as a "Construction Payment". The date of each payment by the Port Authority of a Construction Payment is herein referred to as a "Construction Payment Date".

(2) The term "Construction Payment Amount" shall mean the amount determined with respect to each Construction Payment paid by the Port Authority to the Lessee pursuant to paragraph (b) hereof, which amount shall be equal to such Construction Payment plus the Accrued Amount applicable to that Construction Payment as set forth in subparagraph (3) hereof.

(3) The term "the Accrued Amount" shall mean with respect to each Construction Payment (as hereinabove defined) the daily amounts, calculated daily and equal to the product obtained by multiplying the Accrued Amount Factor (as herein defined) by the Construction Payment for each day (including the Construction Payment Date) during the portion of the month from the Construction Payment Date of such Construction Payment to and including the day preceding the Other Additional Facility Rental Commencement Date for the Other Additional Facility Rental applicable to such Construction Payment Amount.

(4) The term "Accrued Amount Factor" shall mean with respect to the Accrued Amount of each Construction Payment Amount the quotient resulting from dividing "Fixed RBI Rate" (as defined in Section 4 III (C) (1) (ix)) by 365.

(5) The term "Final Date" as used herein shall, with respect to the Phase I Construction Work, mean the earlier occurring of (i) the last day of the twelfth month after that month in which the certificate of the Lessee pursuant to subparagraph (1) (i) of paragraph (g) of Section 2 of the Lease is delivered to the Port Authority or (ii) December 31, 2000; and with respect to the Phase II Construction Work shall mean the earlier occurring of (x) the last day of the twelfth month after that month in which the certificate of the Lessee pursuant to subparagraph (2) (i) of paragraph (g) of Section 2 of the Lease is delivered to the Port Authority or (y) December 31, 2000.

(6) The term the "Cost of the Phase I Construction Work" shall mean the sum of the following actually paid by the

Lessee to the extent that the inclusion of the same is permitted by sound accounting practices consistently applied:

(i) amounts actually paid and costs incurred by the Lessee to independent contractors for work actually performed and labor and materials actually furnished in connection with the construction of the Phase I Construction Work;

(ii) amounts actually paid and costs incurred by the Lessee in connection with the Phase I Construction Work for engineering, architectural, professional and consulting services and supervision of construction provided, however, payments under this item (ii) shall not exceed twelve percent (12%) of the amounts paid under item (i) above;

(iii) amounts actually paid by the Lessee for premiums on the Comprehensive General Liability and Comprehensive Automobile Liability insurance policies required under paragraph (b) 11 of Section 2 hereunder (excluding Workers Compensation and Employers Liability Insurance) to the extent, and only if, said insurance is project specific to the Phase I Construction Work hereunder and is not provided and maintained by any of the Lessee's contractors.

Amounts actually paid by the Lessee as set forth in items (i), (ii) and (iii) above shall be included in the Cost of the Phase I Construction Work only to the extent that the inclusion of the same is permitted by sound accounting practices consistently applied. Additionally, the Cost of the Phase I Construction Work shall include only that work performed by the Lessee in accordance with all the terms and provisions of (x) this Lease, (y) the final Construction Application(s) (including the final plans and specifications) as approved by the Port Authority pursuant to subparagraph (5) of paragraph (a) of Section 2 hereof and (z) the approval letter covering the work, if any, performed pursuant to paragraph (c) of Section 2 hereof and the Cost of the Phase I Construction Work shall not include either the Cost of the Phase I Construction Work which although performed pursuant to an approved plan or specification is not incorporated in the final plans and specifications as approved by the Port Authority or the cost of altering such Phase I Construction Work. In no event shall the cost of altering such Phase I Construction Work include any amounts paid for or in connection with any trade fixtures or other personal property of the Lessee other than as expressly provided for in Section 2 hereof. The Cost of the Phase I Construction Work shall not include any cost or work for which the Lessee receives a payment or credit under Section 90 hereof.

(7) The term the "Cost of the Phase II Construction Work" shall mean the sum of the following actually paid by the Lessee to the extent that the inclusion of the same is permitted by sound accounting practices consistently applied:

(i) amounts actually paid and costs incurred by the Lessee to independent contractors for work actually performed and labor and materials actually furnished in connection with the construction of the Phase II Construction Work;

(ii) amounts actually paid and costs incurred by the Lessee in connection with the Phase II construction work for engineering, architectural, professional and consulting services and supervision of construction provided, however, payments under this item (ii) shall not exceed twelve percent (12%) of the amounts paid under item (i) above;

(iii) amounts actually paid by the Lessee for premiums on the Comprehensive General Liability and Comprehensive Automobile Liability insurance policies required under paragraph (b) 11 of Section 2 hereunder (excluding Workers Compensation and Employers Liability Insurance) to the extent, and only if, said insurance is project specific to the Phase II Construction Work hereunder and is not provided and maintained by any of the Lessee's contractors.

Amounts actually paid by the Lessee as set forth in items (i), (ii) and (iii) above shall be included in the Cost of the Phase II Construction Work only to the extent that the inclusion of the same is permitted by sound accounting practices consistently applied. Additionally, the Cost of the Phase II Construction Work shall include only that work performed by the Lessee in accordance with all the terms and provisions of (x) this Lease, (y) the final Construction Application (s) (including the final plans and specifications) as approved by the Port Authority pursuant to subparagraph (5) of paragraph (a) of Section 2 hereof and (z) the approval letter covering the work, if any, performed pursuant to paragraph (c) of Section 2 hereof and the Cost of Phase II Construction Work which although performed pursuant to an approved plan or specification is not incorporated in the final plans and specifications as approved by the Port Authority or the cost of altering such Phase Construction Work. In no event shall the cost of altering such Phase II Construction Work include any amounts paid for or in connection with any trade fixtures or other personal property of the Lessee other than as expressly provided for in Section 2 thereof. The Cost of the Phase II Construction Work shall not include any cost or work for which the Lessee receives a payment or credit under Section 90 hereof.

(8) "Calendar Year Quarter" shall mean each of the 4 three-month periods occurring in a calendar year such that each of the following three-month periods shall constitute a Calendar Year Quarter: (i) January 1 through March 31; (ii) April 1 through June 30; (iii) July 1 through September 30 and (iv) October 1 through December 31.

(9) "Cost of the Construction Work" shall mean and include the Cost of the Phase I Construction and the Cost of the Phase II Construction Work.

(b) (1) The Port Authority shall make reimbursement payments to the Lessee for the Cost of the Phase I Construction Work, and the Cost of the Phase II Construction Work as follows:

(i) With respect to the Phase I Construction Work: On or before the last day of the Calendar Year Quarter in which complete execution and delivery of this Agreement occurs and on or before the last day of each Calendar Year Quarter thereafter up to and including the last day of the Calendar Year Quarter in which the last certificate described hereunder is delivered to the Port Authority by the Lessee, the Lessee shall deliver to the Port Authority a certificate which shall be signed by a responsible fiscal officer of the Lessee, sworn to before a notary public, and shall set forth the items specified in this subparagraph (b). The Lessee shall submit a certificate, as aforesaid, to the Port Authority no more frequently than once during each Calendar Year Quarter. Each certificate shall set forth a representation by the Lessee that the Lessee will apply the Construction Payment only to the Cost of the Phase I Construction Work and for no other purpose whatsoever. Each certificate shall certify the sum of: (x) the amounts of payments actually made by the Lessee to its independent contractors for work actually performed and labor and materials actually furnished for the Phase I Construction Work; (y) the amounts of payments actually made by the Lessee in connection with the Phase I Construction Work for engineering, architectural, professional, consulting services and supervision of construction, (it being understood that payments under this item (y) shall not exceed of the amounts paid under item (x) above and shall only apply to payments not included in a prior certificate, provided, however, that the said limitation shall not apply to payments made by the Lessee to limit the reimbursement to the Lessee in the early stages of construction); (z) amounts actually paid by the Lessee for premiums on the Comprehensive General Liability and Comprehensive Automobile Liability insurance policies required under paragraph (b) 11 of Section 2 hereunder (excluding Workers Compensation and Employers Liability Insurance) to the extent, and only if, said insurance is project specific to the Phase I Construction Work hereunder and is not provided and maintained by any of the Lessee's contractors. Any payment by the Port Authority which may exceed the limitation set forth in (y) above shall be promptly refunded to the Port Authority upon demand. Each such certificate shall also: (aa) set forth, in reasonable detail, the amounts actually paid to specified independent

contractors and the amounts paid to other specified persons and third parties which have not previously been reported in certificates delivered to the Port Authority; (bb) have attached thereto reproduction copies or duplicate originals of the invoices of such independent contractors and other persons, and an acknowledgment by such independent contractors and other persons of the receipt by them of such amounts and payments or which have attached thereto true and complete copies of the Lessee's cancelled checks (copies of front and back) by which it has made and said contractors and other persons have received such payments, which checks have been honored, paid and cancelled by payment by the drawee bank upon which such checks are drawn and which have been legibly and appropriately marked by said bank to show such payment by it and which checks further clearly show (including by appropriate endorsement thereof) receipt of such payments by said independent contractors and said other persons and identify the full names of said contractors and said other persons as well as the invoices covered by such payments; (cc) certify that the amounts, payments and expenses therein set forth constitute portions of the Cost of the Phase I Construction Work; and (dd) contain the Lessee's certification that the work for which payment is requested has been accomplished, that the amounts requested have been paid to the Lessee's contractors, and, subject to the concurrence of the Port Authority, that said work is in place and has a value of not less than the amount requested to be paid by the Port Authority as a Construction Payment. Each such certificate shall also set forth the total cumulative payments made by the Lessee as aforesaid from the commencement of such Phase I Construction Work to the date of the certificate, and each such certificate shall also contain a certification by the Lessee that each portion of the Phase I Construction Work covered by said certificate has been performed in accordance with the terms of the Lease.

In addition to the foregoing and in addition to any and all other information required to be submitted pursuant to the Lease, the Lessee shall furnish to the Port Authority information concerning cost and timing of construction of the Phase I Construction Work as may be requested by the Port Authority from time to time including but not limited to, the following:

(i) The Lessee's original detailed cost projections for the entire Phase I Construction Work, accompanied by a certification signed by an independent engineering consultant, to the effect that the cost projections submitted by the Lessee are accurate, and that the same represent a reasonable price for the work in question;

(ii) Reports of the full-time resident engineer hired by the Lessee's architect pursuant to subparagraph (4) of paragraph (b) of Section 2 of the Lease, and reports of the Lessee's Chief Architect, which reports or log must contain reports as to activity conducted in connection with the Phase I

Construction Work for each and every day that such activity occurred from the commencement of the work to the date of submission;

(iii) A certification signed by the Lessee's architect or architects certifying the value of work in place, both on and off the site (if any); and

(iv) Accurate, readable and complete copies of all change orders, extra work authorizations, design change authorizations and purchase orders in connection with the Phase I Construction Work.

(ii) With respect to the Phase II Construction Work: On or before the last day of the Calendar Year Quarter in which occurs the date of the Port Authority's consent to the Lessee's comprehensive plans for the Phase II Construction Work pursuant to Section (c) (3) hereof and on or before the last day of each Calendar Year Quarter thereafter up to and including the last day of the Calendar Year Quarter in which the last certificate described hereunder is delivered to the Port Authority by the Lessee, the Lessee shall deliver to the Port Authority a certificate which shall be signed by a responsible fiscal officer of the Lessee, sworn to before a notary public, and shall set forth the items specified in this subparagraph (b). The Lessee shall submit a certificate, as aforesaid, to the Port Authority no more frequently than once during each Calendar Year Quarter. Each certificate shall set forth a representation by the Lessee that the Lessee will apply the Construction Payment only to the Cost of the Phase II Construction Work and for no other purpose whatsoever. Each certificate shall certify the sum of: (x) the amounts of payments actually made by the Lessee to its independent contractors for work actually performed and labor and materials actually furnished for the Phase II Construction Work; (y) the amounts of payments actually made by the Lessee in connection with the Phase II Construction Work for engineering, architectural, professional, consulting services and supervision of construction, (it being understood that payments under this item (y) shall not exceed twelve percent (12%) of the amounts paid under item (x) above and shall only apply to payments not included in a prior certificate, provided, however, that the said 12% limitation shall not apply to payments made by the Lessee to limit the reimbursement to the Lessee in the early stages of construction); (z) amounts actually paid by the Lessee for premiums on the Comprehensive General Liability and Comprehensive Automobile Liability insurance policies required under paragraph (b) 11 of Section 2 hereunder (excluding Workers Compensation and Employers Liability Insurance) to the extent, and only if, said insurance is project specific to the Phase I Construction Work hereunder and is not provided and maintained by any of the Lessee's contractors. Any payment by the Port Authority which may exceed the limitation set forth in (y) above shall be promptly refunded to the Port Authority upon demand. Each such certificate shall also: (aa) set forth, in reasonable detail, the amounts paid to specified independent contractors and the amounts paid to other specified persons and

third parties which have not previously been reported in certificates delivered to the Port Authority; (bb) have attached thereto reproduction copies or duplicate originals of the invoices of such independent contractors and other persons, and an acknowledgment by such independent contractors and other persons of the receipt by them of such amounts and payments or which have attached thereto true and complete copies of the Lessee's cancelled checks (copies of front and back) by which it has made and said contractors and other persons have received such payments, which checks have been honored, paid and cancelled by payment by the drawee bank upon which such checks are drawn and which have been legibly and appropriately marked by said bank to show such payment by it and which checks further clearly show (including by appropriate endorsement thereof) receipt of such payments by said independent contractors and said other persons and identify the full names of said contractors and said other persons as well as the invoices covered by such payments; (cc) certify that the amounts, payments and expenses therein set forth constitute portions of the Cost of the Phase II Construction Work; and (dd) contain the Lessee's certification that the work for which payment is requested has been accomplished, that the amounts requested have been paid to the Lessee's contractors, and, subject to the concurrence of the Port Authority, that said work is in place and has a value of not less than the amount requested to be paid by the Port Authority as a Construction Payment. Each such certificate shall also set forth the total cumulative payments made by the Lessee as aforesaid from the commencement of such Phase II Construction Work to the date of the certificate, and each such certificate shall also contain a certification by the Lessee that each portion of the Phase II Construction Work covered by said certificate has been performed in accordance with the terms of the Lease.

In addition to the foregoing and in addition to any and all other information required to be submitted pursuant to the Lease, the Lessee shall furnish to the Port Authority information concerning cost and timing of construction of the Phase II Construction Work as may be requested by the Port Authority from time to time including but not limited to, the following:

(i) The Lessee's original detailed cost projections for the entire Phase II Construction Work, accompanied by a certification signed by an independent engineering consultant, to the effect that the cost projections submitted by the Lessee are accurate, and that the same represent a reasonable price for the work in question;

(ii) Reports of the full-time resident engineer hired by the Lessee's architect pursuant to subparagraph (4) of paragraph (b) of Section 2 of the Lease, and reports of the Lessee's Chief Architect, which reports or log must contain reports as to activity conducted in connection with the Phase II Construction Work for each and every day that such

activity occurred from the commencement of the work to the date of submission;

(iii) A certification signed by the Lessee's architect or architects certifying the value of work in place, both on and off the site (if any); and

(iv) Accurate, readable and complete copies of all change orders, extra work authorizations, design change authorizations and purchase orders in connection with the Phase II Construction Work.

(2) Within sixty (60) days after the delivery of a duly submitted certificate by the Lessee, as aforesaid, the Port Authority shall pay to the Lessee the amounts paid by the Lessee during the period covered by such certificate, as certified in such certificate (but only to the extent that such amounts or any portion thereof have not theretofore been included in a Construction Payment) provided, however, in the event the Lease is not in full force and effect, or if the Lessee shall be under a notice of termination of the Lease, or in default under any term or provision thereof, the Port Authority shall have the right, in its discretion, to withhold the payment of any Construction Payment to the Lessee, provided, further, no payment or withholding of a Construction Payment shall be or be deemed to be a waiver of any rights of the Port Authority with respect to the termination of the Lease, or to a default by the Lessee under any term or provision thereof, or to the withholding or payment of future Construction Payments, or with respect to any determination as to the usability of any item of work as aforesaid. It is hereby understood and agreed that nothing in this Section 89 shall be or be deemed to be for the benefit of any contractor of the Lessee. It is further understood that at the election of the Port Authority no payment will be made if the Port Authority's inspection or audit does not substantiate the contents of any of said certificates and until such matters have been resolved to the satisfaction of the Port Authority, but the Port Authority shall have no obligation to conduct any such inspection or audit at such time. The certificate shall also contain such further information and documentation with respect to the Lessee's costs as the Port Authority may from time to time require, which information, documentation and certification shall be given on such forms as may be adopted by the Port Authority.

(3) The Lessee shall mark as "Final" its final certificate covering the Phase I Construction Work and its final certificate covering the Phase II Construction Work. The Lessee shall not submit any certificate for the Cost of the Phase I Construction Work or the Cost of the Phase II Construction work later than the applicable Final Date as defined in paragraph (a) (5) hereof. After submitting the said Final Certificate for the Phase I Construction Work the Lessee shall submit no further certificate for the Phase I Construction Work hereunder; and after submitting the said final Certificate for the Phase II Construction Work the Lessee shall submit no further certificate for the Phase II Construction Work hereunder.

(iii) It is hereby acknowledged that prior to the execution of this Agreement, the Port Authority paid to the Lessee and the Lessee received from the Port Authority the "Cost of the Sublessee's Flight Center Improvement Work" (in the sum of as such term is set forth and defined in the Area IB Prior Agreements, specifically the First Supplemental Agreement to Sublease, and that the Lessee shall ensure, and hereby represents and warrants to the Port Authority, that it shall not submit any requests for reimbursement payments which would result in a duplicative payment for work forming a part of the aforesaid "Cost".

(c) If for any reason, including but not limited to circumstances arising out of work performed pursuant to paragraph (c) of Section 2 hereof or as the result of a redesign of the construction work (as defined in Section 2 (a) hereof) or any portion thereof by the Lessee, the construction of the construction work or any portion thereof is not performed in accordance with the terms and provisions of (i) this Lease, (ii) the Construction Application (including the final plans and specifications) as finally approved by the Port Authority pursuant to paragraph (f) of Section 2 hereof, it is understood and agreed that the Port Authority shall not be obligated to make any Construction Payments nor shall the Construction Payment Amounts include any amount for such work or any costs in connection with the removal, restoration, modification, correction or change required to cause such work to comply with such terms and provisions, and in the event that the Port Authority shall have made a Construction Payment for such work, the Port Authority shall have the right to withhold and credit future Construction Payments against any such amount or upon demand of the Port Authority, the Lessee shall pay to the Port Authority the amount of any such Construction Payment or portion thereof covering such work.

(d) The entire obligation of the Port Authority under the Lease for the Cost of the Construction Work shall be limited as follows:

(1) The Port Authority's obligation under the Lease for the Cost of the Construction Work shall be limited to a total sum of (2.a.) for construction work for which certificates are properly submitted under paragraph (b) above not later than December 31, 1994. For purposes of the foregoing limitation, the payment previously made to the Lessee by the Port Authority under the Prior Agreements as and for the "Cost of the Sublessee's Flight Center Improvement Work" (as aforesaid) which is also referred to as the "Lessee's Initial Flight Center Improvement Work" (as defined in Section 4. III. (B) hereof) in the amount of (2.a.) shall be deemed included in, and applied toward, the aforesaid limitation of (2.a.)

(2) Except as expressly as set forth in subparagraph (1) above with respect to the dollar and time

limitations stated therein and subject to subparagraphs (3) and (4) below, the Port Authority's obligation hereunder to make Construction Payments to the Lessee shall obtain and apply if and only if on the date each such Construction Payment would be made under paragraph (b) above the Lessee's debt (as defined below) is rated by both rating agencies (as defined below) at or above investment grade (as defined below); it being specifically understood and agreed that if, and for so long as, and at any and all times during which, the Lessee's debt (as defined below) as determined by one or by both of the rating agencies (as defined below) is rated below investment grade (as defined below), the Port Authority shall have no obligation (other than as set forth in subparagraph (1) of this paragraph (d) and subject thereto) to make any Construction Payment(s) to the Lessee or for any cost or Cost of the Construction Work or any portion thereof, provided, however, that the Port Authority shall have the right, exercisable at its sole option and its sole and complete discretion, to make a Construction Payment or Construction Payments to the Lessee during any such time or times, subject to and in accordance with this Section 89. Without limiting the foregoing, and in order to enable the Port Authority to make its said election to make a Construction Payment or Construction Payments to the Lessee as provided under this Section 89, the Lessee shall and hereby agrees to fully comply with the provisions of this Section 89, in particular paragraph (b) hereof, notwithstanding the rating of its debt at any such time or times; it being further specifically understood and agreed, as aforesaid, that the Lessee shall have no right to receive a Construction Payment or Construction Payments (other than as expressly provided in subparagraph (1) of this paragraph (d) unless the Lessee's debt, at the time the Construction Payment would otherwise be made under this Section 89, is rated by both of the rating agencies at or above investment grade. For purposes hereof, the term "debt" shall mean, at any date, any and all obligations of the Lessee evidenced by debentures which are considered or known as senior unsecured long-term debentures; the term "grade" shall mean that evaluation of the quality of the debt of the Lessee as determined by a rating agency (as hereinafter defined); the term "rating agency" shall mean Standard & Poor's or Moody's or, in the event of the cessation of business of either, another nationally recognized rating agency firm or firms which is in the business of evaluating the degree of financial risk associated with debt securities and makes such information available to the investment community and as may be designated as a rating agency at any such time during the term of this Agreement by the Port Authority; the term "investment grade" shall mean a grade of "BBB-" or higher by Standard & Poor's or "Baa3" or higher by Moody's or such other designation that a rating agency may use publicly in the future to designate the relative investment qualities of debt securities and to differentiate between those investments that are investment grade and those that are not.

(3) Without limiting the foregoing, it is understood and agreed that in any event (including without limitation the election by the Port Authority to make Construction Payment(s) to the Lessee while the Lessee's debt is rated below investment grade in accordance with subparagraph (2) above) the entire total of Construction Payments shall not exceed a total amount of (2.a.) which total amount shall also include the "Cost of the Sublessee's Flight Center Improvement Work" as such term is set forth and defined in the Area IB Prior Agreements, specifically the First Supplemental Agreement to Sublease, and the amounts which the Port Authority, at its option, as aforesaid, elects to make as Construction Payments to the Lessee in accordance with subparagraph (2) above, and all other amounts paid by the Port Authority as Construction Payments under this Section 89.

(4) In addition to and without limiting any of the foregoing provisions, the entire obligation of the Port Authority for the Cost of the Construction Work under the Lease shall be limited in time to construction work covered by certificates of the Lessee submitted in accordance with paragraph (b) of this Section 89 no later than December 31, 1994 with respect to the dollar limitation set forth in subparagraph (1) above and otherwise no later than the applicable Final Date under subparagraph (5) of paragraph (a) above and in no event later than December 31, 2000. Without limiting the foregoing or any other term, provision, covenant or condition of this Agreement, it is understood and agreed that said date of December 31, 2000 shall not be extended and no Construction Payments made beyond said date unless such extension is set forth in a written supplemental agreement to this Agreement fully executed and delivered by the parties hereto which supplemental agreement, if the Port Authority in its sole discretion elects to enter into the same, would set forth the extended date as shall be determined by the Port Authority in its sole discretion and the terms and conditions applicable to such extension including without limitation the appropriate revisions to Section 4 hereof, and unless the Port Authority in its sole discretion has prior thereto determined that Port Authority funds are properly available for Construction Payments during such extension; the foregoing shall not create or be construed as creating any agreement or commitment to enter into such supplemental agreement or any inference or implication that there shall be such a supplemental agreement.

(e) The Lessee shall promptly submit to the Port Authority further information, including but not limited to its estimate of the amounts and times of the various payments it will be making connection with the Cost of the Phase I Construction Work and the Cost of the Phase II Construction Work as the Port Authority may from time to time, and at any time, request, and shall be available itself or cause its architect or engineer to be available for

consultation in connection with payment certificates submitted pursuant to paragraph (b) of this Section.

(f) In addition to and without limiting any other term or provision of this Lease, the Port Authority shall have the right at any time and from time to time by its agents, employees and representatives to audit and inspect during regular business hours the books, records and other data of the Lessee relating to the Cost of the Construction Work, or any part thereof, including without limitation any and all contracts covering or relating to the construction work or any portion thereof, any and all invoices covering or relating to the construction work or any portion thereof and the actual, original cancelled checks of the Lessee, or microfiche copies (front and back) of said checks as supplied to the Lessee by the drawee bank(s), covering the construction work or any portion thereof or any invoice or invoices with respect thereto; it being expressly agreed and understood that the Port Authority shall not be bound by any prior audit conducted by it. The Lessee agrees to keep such books, records and other data within the Port of New York District, or, on the condition that the Lessee shall pay to the Port Authority all travel costs and expenses determined by the Port Authority for Port Authority auditors and other representatives in connection with any audit at locations outside the Port of New York District, the Lessee may maintain said records and books of account and make them available to the Port Authority at the Lessee's offices in 1030 Delta Boulevard, Hartsfield Atlanta International Airport, Atlanta, Georgia 30320, but the Lessee shall not be required to maintain any such books, records and other data for more than four (4) years after the Lessee has delivered the applicable certificate marked "Final" called for under paragraph (b) (3) above.

(g) If the Lessee has included in any portion of the Cost of the Construction Work any item as having been incurred, but which in the opinion of the Port Authority was not so incurred, or which in the opinion of the Port Authority if so incurred is not an item properly chargeable to such element of cost under sound accounting practice, or does not represent an appropriate division of the costs of a particular contract which are required to be designated according to time of performance or delivery, and the parties have been unable to resolve their differences within 90 days after Port Authority gave its notice objecting to the same, the Port Authority's decision as to the nature of the item of construction cost shall be final; provided, however, that if and to the extent an item disallowed by the Port Authority in accordance with the foregoing and therefore not reimbursable to the Lessee under this Section 89 is nevertheless eligible for treatment as Lessee Capital Investment under the terms of Section 88 hereof then such item may be so treated pursuant to said Section 88 hereof.

Section 90. Area IA Restoration Work/Payments

(a) It is recognized that the Port Authority has heretofore received from Northwest Airlines, Inc. (hereinafter "Northwest") a payment in the amount of (2.a.)

in settlement of Northwest's restoration obligations from its prior use and occupancy of Area IA under its prior lease agreement with the Port Authority, and that the Port Authority and the Lessee have agreed that said amount less certain Port Authority costs, as hereinbelow described, is to be made available for reimbursement to the Lessee for the Cost of the Lessee's Area IA Restoration Work (as hereinafter defined). Accordingly, for the purposes hereof the following terms shall have the following meanings:

(1) "Restoration Amount" shall, subject to paragraph (i) below, mean the amount of (2.a.)

which amount constitutes the difference after subtracting from the aforesaid (2.a.) the Port Authority's costs for or in connection with the removal of certain transformers from Area IA which removal costs equal the sum of (2.a.)

(2) "Area IA Restoration Work" shall consist generally of work (other than the construction work under Section 2 hereof) for the repair, rehabilitation and refurbishment of Area IA covering the conditions reported in the "Prior Condition Survey Report" (as defined below); as and to the extent all of said work is or shall be set forth in Alteration Applications, and the plans and specifications forming a part thereof, submitted or which shall be submitted by the Lessee to the Port Authority and as and when the same have been approved by the Port Authority, including without limitation Alteration Application Y-6519 (roof replacement) and Y-6530 (restroom renovation) mentioned in the Prior Letter Agreement as described and defined in paragraph (i) below; all of said Alteration Applications being herein collectively called the "Alteration Applications".

(3) "Cost of the Lessee's Area IA Restoration Work" shall mean the sum of the following actually paid by the Lessee to the extent that the inclusion of the same is permitted by sound accounting practices consistently applied:

(i) amounts actually paid and costs incurred by the Lessee to independent contractors for work actually performed and labor and materials actually furnished in connection with the Area IA Restoration Work;

(ii) amounts actually paid and costs incurred by the Lessee in connection with the Area IA Restoration Work for engineering, architectural, professional and consulting services and supervision of construction provided, however, payments under this item (ii) shall not exceed ten percent (10%) of the amounts paid under item (i) above.

Amounts actually paid by the Lessee as set forth in items (i) and (ii) above shall be included in the Cost of the Lessee's Area IA Restoration Work only to the extent that the inclusion of the same is permitted by sound accounting practices consistently applied. Additionally, the Cost of the Lessee's Area IA Restoration Work shall include only that work performed by the Lessee in accordance with all the terms and provisions of (x) this Lease, (y) the Alteration Applications (including the final plans and specifications forming a part thereof) as approved by the Port Authority and (z) the Prior Letter Agreement with respect to the amount covered thereunder (as described in paragraph (i) below) and the Cost of the Lessee's Area IA Restoration Work shall in no event include any amounts paid for or in connection with any trade fixtures or other personal property of the Lessee. Further, the Cost of the Lessee's Area IA Restoration Work shall not include the Cost of the Construction Work, as defined in Section 89 hereof, or any portion thereof, nor any cost or work for which the Lessee receives a payment from the Port Authority under Section 89 hereof.

(4) "Prior Condition Survey Report" shall mean that certain condition survey report of Area IA by the Eggers Group, PC. which the Port Authority caused to be conducted in August 1988 as revised in February 15, 1989 which reported the condition of Area IA with respect to the prior use and occupancy thereof by Northwest Airlines, Inc., which report has heretofore been supplied to the Lessee.

(5) Each payment made by the Port Authority to the Lessee pursuant to paragraph (c) of this Section 90 is referred to herein as an "Area IA Restoration Work Payment".

(b) The Lessee hereby agrees to and shall perform the Area IA Restoration Work and further agrees that the Area IA Restoration Work shall be performed by the Lessee in accordance with the terms and conditions of this Lease, the Alteration Applications and the final plans and specifications forming a part thereof as the same have been or shall have been approved by the Port Authority, and subject to any and all conditions which may be imposed by the General Manager of the Port Authority. Without limiting the foregoing and notwithstanding that the Area IA Restoration Work shall not be or form part of the construction work under Section 2 hereof, it is specifically understood and agreed that the Area IA Restoration Work shall be performed by the Lessee in accordance with all applicable terms, conditions and provisions of Section 2 hereof as if said term, conditions and provisions were fully set forth in this Section 90, including Items (i) through (xvi) of paragraph (a)(5), paragraph (b) (other than the last sentence of subparagraph (2) thereof) and paragraphs (e), (f), (g), (h), (i), and (j) of said Section 2 hereof and Schedule E attached hereto, and references therein in said paragraphs of said Section 2 hereof to construction

work shall, for the purposes of this Section 90, be deemed to refer to the Area IA Restoration Work.

(c) (1) The Port Authority shall make reimbursement payments (the Area IA Restoration Work Payments) to the Lessee for the Cost of the Lessee's Area IA Restoration Work as follows:

On the twentieth day of the calendar month following the month in which the complete execution and delivery of this Agreement occurs and on or before the twentieth day of each calendar month thereafter up to and including the calendar month in which the last certificate described hereunder is delivered to the Port Authority by the Lessee, the Lessee shall deliver to the Port Authority a certificate which shall be signed by a responsible fiscal officer of the Lessee, sworn to before a notary public, and shall set forth the items specified in this paragraph (c). Each certificate shall set forth a representation by the Lessee that the Lessee will apply the Area IA Restoration Work Payment only to the Cost of the Lessee's Area IA Restoration Work and for no other purpose whatsoever. Each certificate shall certify the sum of: (i) the amounts of actual payments made by the Lessee to its independent contractors for work actually performed and labor and materials actually furnished for the Area IA Restoration Work; (ii) the amounts of payments actually made by the Lessee in connection with the Area IA Restoration Work for engineering, architectural, professional, consulting services and supervision of construction, (it being understood that payments under this item (ii) shall not exceed ten percent (10%) of the amounts paid under item (i) above and shall only apply to payments not included in a prior certificate. Any payment by the Port Authority which may exceed the limitation set forth in (i) above shall be promptly refunded to the Port Authority upon demand. Each such certificate shall also: (aa) set forth, in reasonable detail, the amounts paid to specified independent contractors and the amounts paid to other specified persons and third parties which have not previously been reported in certificates delivered to the Port Authority; (bb) have attached thereto reproduction copies or duplicate originals of the invoices of such independent contractors and other persons and an acknowledgment by such independent contractors and other persons of the receipt by them of such amounts and payments or which have attached thereto true and complete copies of the Lessee's cancelled checks (copies of front and back) by which it has made and said contractors and other persons have received such payments, which checks have been honored, paid and cancelled by payment by the drawee bank upon which such checks are drawn and which have been legibly and appropriately marked by said bank to show such payment by it and which checks further clearly show (including by appropriate endorsement thereof) receipt of such payments by said independent contractors and said other persons and identify the full names of said contractors and said other persons as well as the invoices covered by such payments; (cc) certify that the amounts, payments and expenses therein set

forth constitute portions of the Cost of the Lessee's Area IA Restoration Work; and (dd) contain the Lessee's certification that the work for which payment is requested has been accomplished, that the amounts requested have been paid to the Lessee's contractors, and, subject to the concurrence of the Port Authority, that said work is in place and has a value of not less than the amount requested to be paid by the Port Authority as an Area IA Restoration Work Payment. Each such certificate shall also set forth the total cumulative payments made by the Lessee as aforesaid from the commencement of such Area IA Restoration Work to the date of the certificate, and each such certificate shall also contain a certification by the Lessee that each portion of the Area IA Restoration Work covered by said certificate has been performed in accordance with the terms of the Lease. Each such certificate shall also contain the Lessee's certification that the work covered by such certificate does not constitute part of the construction work under Section 2 hereof and that the costs of the work covered by such certificate are not included in the Cost of the Construction Work under Section 89 hereof.

(2) Within sixty (60) days after the delivery to the Port Authority of a duly submitted certificate by the Lessee, as aforesaid, the Port Authority shall pay to the Lessee as an Area IA Restoration Work Payment the amounts paid by the Lessee during the period covered by such certificate, as certified in such certificate (but only to the extent that such amounts or any portion thereof have not theretofore been included in an Area IA Restoration Work Payment) provided, however, in the event the Lease is not in full force and effect, or if the Lessee shall be under a notice of termination of the Lease, or in default under any term or provision thereof, the Port Authority shall have the right, in its discretion, to withhold the payment of any Area IA Restoration Work Payment to the Lessee, provided, further, no payment or withholding of an Area IA Restoration Work Payment shall be or be deemed to be a waiver of any rights of the Port Authority with respect to the termination of the Lease, or to a default by the Lessee under any term or provision thereof, or to the withholding or payment of future Area IA Restoration Work Payments. It is hereby understood and agreed that nothing in this Section 90 shall be or be deemed to be for the benefit of any contractor of the Lessee. It is further understood that at the election of the Port Authority no payment will be made if the Port Authority's inspection or audit does not substantiate the contents of any of said certificates and until such matters have been resolved to the satisfaction of the Port Authority, but the Port Authority shall have no obligation to conduct any such inspection or audit at such time. The certificate shall also contain such further information and documentation with respect to the Lessee's costs as the Port Authority may from time to time require, which information, documentation and certification shall be given on such forms as may be adopted by the Port Authority.

(3) The Lessee shall mark as "Final" its final certificate covering the Area IA Restoration Work. The Lessee shall

not submit any certificate for the Cost of the Area IA Restoration Work after submitting the said final certificate.

(d) If for any reason, including but not limited to circumstances arising out of or as the result of a redesign of the Area IA Restoration Work or any portion thereof by the Lessee, the construction of the Area IA Restoration work or any portion thereof is not performed in accordance with the terms and provisions of (i) this Lease, (ii) the Alteration Application (including the final plans and specifications forming a part thereof) as finally approved by the Port Authority, it is understood and agreed that the Port Authority shall not be obligated to make any Area IA Restoration Work Payments for any such noncomplying work nor shall any Area IA Restoration Work Payment include any amount for such work or any costs in connection with the removal, restoration, modification, correction or change required to cause such work to comply with such terms and provisions, and in the event that the Port Authority shall have made an Area IA Restoration Work Payment for such work, the Port Authority shall have the right to withhold and credit future Area IA Restoration Work Payments against any such amount or upon demand of the Port Authority, the Lessee shall pay to the Port Authority the amount of any such Area IA Restoration Work Payment or portion thereof covering such work.

(e) The entire obligation of the Port Authority under the Lease for the Cost of the Lessee's Area IA Restoration Work shall be limited in amount to the Restoration Amount (as hereinabove defined and subject to paragraph (i) below) to be paid to the Lessee pursuant to certificates of the Lessee submitted in accordance with paragraph (c) above.

(f) The Lessee shall promptly submit to the Port Authority further information, including but not limited to its estimate of the amounts and times of the various payments it will be making connection with the Cost of the Lessee's Area IA Restoration Work as the Port Authority may from time to time, and at any time, request, and shall be available itself or cause its architect or engineer to be available for consultation in connection with payment certificates submitted pursuant to paragraph (c) of this Section.

(g) Without limiting any other provision of this Lease, the Port Authority shall have the right at any time and from time to time by its agents, employees and representatives to audit and inspect during regular business hours the books, records and other data of the Lessee relating to the Cost of the Lessee's Area IA Restoration Work, or any part thereof, relating to the Cost of Construction Work, or any part thereof, including without limitation any and all contracts covering or relating to the construction work or any portion thereof, any and all invoices covering or relating to the construction work or any portion thereof and the actual, original cancelled checks of the Lessee, or microfiche copies (front and back) of said checks as supplied to the Lessee by the drawee bank(s), covering the construction work or any portion thereof or any invoice or invoices with respect thereto; it being understood

that the Port Authority shall not be bound by any prior audit conducted by it. The Lessee agrees to keep such books, records and other data within the Port of New York District, or, on the condition that the Lessee shall pay to the Port Authority all travel costs and expenses determined by the Port Authority for Port Authority auditors and other representatives in connection with any audit at locations outside the Port of New York District, the Lessee may maintain said records and books of account and make them available to the Port Authority at the Lessee's offices at 1030 Delta Boulevard, Hartsfield Atlanta International Airport, Atlanta, Georgia 30320, but the Lessee shall not be required to maintain any such books, records and other data for more than four (4) years after the Lessee has delivered the applicable certificate marked "Final" called for under paragraph (c) (3) above.

(h) (1) If the Lessee has included in any portion of the Cost of the Lessee's Area IA Restoration Work any item as having been incurred, but which in the opinion of the Port Authority was not so incurred, or which in the opinion of the Port Authority if so incurred is not an item properly chargeable to such element of cost under sound accounting practice, or does not represent an appropriate division of the costs of a particular contract which are required to be designated according to time of performance or delivery, and the parties have been unable to resolve their differences within 90 days after Port Authority gave its notice objecting to the same, the Port Authority's decision as to the nature of the item of construction cost shall be final; provided, however, that if and to the extent an item disallowed by the Port Authority in accordance with the foregoing and therefore not reimbursable to the Lessee under this Section 90 is nevertheless eligible for treatment as Lessee Capital Inverstment under the terms of Section 88 hereof then such item may be so treated pursuant to said said Section 88 hereof.

(2) The Lessee shall ensure that it properly segregates the Cost of the Lessee's Area IA Restoration Work from the Cost of the Construction Work (as defined in Section 89 hereof) and in the event any contract or item of work includes parts of both Area IA Restoration Work and the construction work under Section 2 hereof, the Lessee shall, in accordance with sound accounting practices, ensure that there shall be a proper allocation and apportionment of the costs of such work so that the costs thereof which cover or apply to the Area IA Restoration Work are allocated to the Cost of the Area IA Restoration Work and the costs thereof which cover or apply to the construction work under Section 2 hereof are allocated to the Cost of the Construction Work as defined in Section 89 hereof.

(i) It is hereby expressly acknowledged that prior to the execution of this Agreement the Port Authority and the Lessee entered into a letter agreement dated May 19, 1993 (herein referred to as the "Prior Letter Agreement") covering the reimbursement payment by the Port Authority from the Restoration Amount for certain Area IA Restoration Work (described and defined in the Prior

Letter Agreement as the "Permittee's Space Improvement Work") and pursuant to which the Port Authority paid to the Lessee and the Lessee received from the Port Authority the sum of $802,821.52 from the Restoration Amount.

Section 91. General Airport Agreement

It is recognized that the General Airport Agreement, as defined in Section 81 hereof, and the principles and formula set forth therein for the calculation of flight fees, including the costs recovery accounting principles, have by agreement or policy been the basis for determining flight fees payable by various aircraft operators at the Airport in addition to the aircraft operators who are the actual signatory lessees to the General Airport Agreement. In the event of the expiration and non-extension or non-renewal of the General Airport Agreement, the same formula, accounting principles and costs recovery methodology now set forth in the General Airport Agreement for the calculation of flight fees shall continue to be utilized for the calculation of flight fees at the Airport for the Lessee until such time as the General Airport Agreement is formally replaced by a new agreement or agreements or by a new policy or policies. The Port Authority has advised the Lessee that it is the intention of the Port Authority that with respect to the formula, accounting principles and the costs recovery methodology for the calculation of flight fees upon the expiration and non-extension or non-renewal of the General Airport Agreement all aircraft operators at the Airport which are similarly situated will be treated in a similar manner.

Section 92. The Lessee's Master Plan for the Premises

During the calendar years 1994, and 1999 the Lessee shall submit to the Port Authority for the Port Authority's information and review, the Lessee's Master Plan for the premises which Master Plan shall include but not be limited to the Lessee's utilization, marketing, development and construction plans for the premises for the next five years and shall include on or before October 31, 1999 the Lessee's comprehensive plan for the Phase II Construction Work. The Lessee shall meet with the Port Authority as requested by the Port Authority to discuss and review the Lessee's Master Plan and shall provide to the Port Authority upon request such plans, information and data as the Port Authority shall reasonably request in connection with its review of the Lessee's Master Plan.

Section 93. Pedestrian Connector

(a) As used herein "Pedestrian Connector" shall mean the elevated, enclosed bridge and its foundations, supports, utility systems, equipment and appurtenance, as shown in hatch and in stipple on Exhibit B. In the event that Building No. 53 shall no longer be part of the premises hereunder, the Lessee shall keep open and maintain that portion of the Pedestrian Connector located in Area IA of the premises in accordance with the terms and conditions of the Lease so that at all times during the term of the Lease it

can be used as a means of pedestrian ingress and egress to and from Building No. 53 and Building No. 54. In the event Building No. 54 shall no longer be a part of the premises hereunder, the Lessee shall keep open and maintain that portion of the Pedestrian Connector located in Area IB of the premises in accordance with the terms and conditions of the Lease so that at all times during the term of the Lease it can be used as a means of pedestrian ingress and egress to and from Building No. 53 and Building No. 54.

(b) (1) In the event that Building No. 53 shall no longer be a part of the premises hereunder, that portion of the Pedestrian Connector located in Area IA together with that portion of the Pedestrian Connector located in Building No. 53 shall be subject to a joint and mutual easement as a pedestrian passageway to be used jointly by the Lessee on one hand and by the Port Authority and any lessee(s), sublessee(s), occupant(s) or user(s) on the other hand who pursuant to Port Authority permission may lease, rent, occupy or use Building No. 53 for providing to the Lessee ingress to and egress from Building No. 53 on one hand and Building No. 54 on the other hand and for providing to the Port Authority and such lessee(s), sublessee(s), occupant(s) or user(s) ingress to and egress from Building No. 53 on one hand and Building No. 54 on the other hand.

(2) In the event that Building No. 54 shall no longer be a part of the premises hereunder, that portion of the Pedestrian Connector located in Area IB together with that portion of the Pedestrian Connector located in Building No. 54 shall be subject to a joint and mutual easement as a pedestrian passageway to be used jointly by the Lessee on one hand and by the Port Authority and any lessee(s), sublessee(s), occupant(s) or user(s) on the other hand who pursuant to Port Authority permission may lease, rent, occupy or use Building No. 54 for providing to the Lessee ingress to and egress from Building No. 54 on one hand and Building No. 54 on the other hand and for providing to the Port Authority and such lessee(s), sublessee(s), occupant(s) or user(s) ingress to and egress from Building No. 54 on one hand and Building No. 53 on the other hand.

(c) (1) In the event that Building No. 53 shall no longer be a part of the premises hereunder, the Lessee shall care for, maintain, repair and rebuild in accordance with the terms and provisions of the Lease that portion of the Pedestrian Connector located in the premises and shall cooperate with the Port Authority and any lessee(s), subuser(s), occupant(s) or user(s) who pursuant to Port Authority permission may lease, rent, occupy or use Building No. 53 in the care, maintenance, repair and rebuilding of the Pedestrian Connector. The Port Authority shall include in any agreement it shall enter into with any such lessee, subuser, occupant or user of Building No. 53 terms and provisions similar to those set forth in this Section 93.

(2) In the event that Building No. 54 shall no longer be a part of the premises hereunder, the Lessee shall care for,

maintain, repair and rebuild in accordance with the terms and provisions of the Lease that portion of the Pedestrian Connector located in the premises and shall cooperate with the Port Authority and any lessee(s), subuser(s), occupant(s) or user(s) who pursuant to Port Authority permission may lease, rent, occupy or use Building No. 54 in the care, maintenance, repair and rebuilding of the Pedestrian Connector. The Port Authority shall include in any agreement it shall enter into with any such lessee, subuser, occupant or user of Building No. 54 terms and provisions similar to those set forth in this Section 93.

Section 94. Entire Agreement

This Agreement consists of the following: Sections 1 through 94, inclusive, and Exhibits A, A-1, A-2, A-3, B, C, D, E, S, X and Y and Schedules E, R-1R and R-2R. It constitutes the entire agreement of the parties on the subject matter hereof and may not be changed, modified, discharged or extended except by written instrument duly executed by the Port Authority and the Lessee. The Lessee and the Port Authority agree that no representations or warranties shall be binding upon the other unless expressed in writing in this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed these presents the day and year first above written.

ATTEST:

Secretary

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

By DEPUTY DIRECTOR

(Title) OF AVIATION

(Seal)

ATTEST:

Secretary

LESLIE P. KLEMPERER
ASSISTANT SECRETARY

DELTA AIR LINES, INC.

By

(Title) R. A. McClelland
Senior Vice President ~~President~~
Corporate Secretary (Corporate Seal)

APPROVED:
FORM TERMS

EXHIBIT E

PHASE I CONSTRUCTION WORK

NOTE: Underlined, starred items are personal property title to which shall pass to the Port Authority upon the installation thereof.

I. BUILDING NO. 53

(a) Signage

Installation of interior and exterior signage and directional information. Asbestos abatement/removal as required.

(b) Roof/Expansion Joints/Roadways

Replace existing terminal roof. Replace interior roadway expansion joints and resurface roadways. Asbestos abatement/removal as required.

(c) Inbound Baggage Claim Renovation

Demolition of existing baggage claim units and installation of new Delta Air Lines standard widebody - capable inbound claim units*. Asbestos abatement/removal as required.

(d) Elevators/Escalators/Moving Walkways

Renovate vertical and horizontal transportation systems throughout facility and provide handicap access per Americans With Disabilities Act (ADA). Asbestos abatement/removal as required.

(e) Support Space Renovation

Renovate interior areas to provide support space for Lessee's operational services such as Flight Operations, In-Flight Service, Aircraft Maintenance. Asbestos abatement/removal as required.

(f) Crown Room/Business Class Lounge/First Class Lounge/Group Rooms Renovation

Renovate and expand club rooms to reflect Lessee's corporate identity. Asbestos abatement/removal as required.

(g) Ticket Counters/Concourse/Holdroom Renovation

Renovate holdrooms, concourse area ticket counters*, automated conveyor systems*. Asbestos abatement/removal as required.

(h) Loading Bridge and Ramp Upgrade

Installation of loading bridges and foundations*, 400HZ ground power units*, associated building modifications, fuel pit relocations, and concrete apron to reflect final aircraft layout. Asbestos abatement/removal as required.

(i) Building Systems Upgrade

Installation of energy management systems and upgrade HVAC systems. Upgrade electrical switchgear and distribution network. Provide sprinkler systems and related life safety equipment as required by local building codes. Remove transformers containing PCB's and install new transformers. Install additional exterior lighting. Asbestos abatement/removal as required.

(j) Gate Expansion

Installation of additional building gates through building expansion and ramp modifications. Asbestos abatement/removal as required.

(k) FIS - Meeter Greeter Area

Installation of new wall, floor, ceiling finishes and additional lighting. Asbestos abatement/removal as required.

(l) Ramp Filling Station/Glycol Facility

Provide facilities for a ramp equipment fueling station and glycol dispensing and glycol recovery facilities. Asbestos abatement/removal as required.

(m) Roadways

Renovations to the elevated and the lower level roadway accesses to maintain the structural integrity, improve traffic flow. Asbestos abatement/removal as required.

(n) Restroom Upgrades

Renovation and expansion of restrooms. Asbestos abatement/removal as required.

II BUILDING NO. 54

(a) Signage

Installation of interior and exterior signage and directional information. Asbestos abatement/removal as required.

(b) Inbound Baggage Claim Renovation

Demolition of existing baggage claim units and installation of new Delta Air Lines standard widebody - capable inbound claims units*. Asbestos abatement/removal as required.

(c) Elevators/Escalators

Renovate vertical transportation systems throughout facility and provide handicap access per Americans With Disabilities Act (ADA). Asbestos abatement/removal as required.

(d) Support Space Renovation

Renovate interior areas to provide support space for Lessee's operational services such as Flight Operations, In-Flight Service, Aircraft Maintenance. Asbestos abatement/removal as required.

(e) Crown Room/Business Class Lounge/First Class Lounge/Group Rooms Renovation

Renovate and expand club rooms to reflect Lessee's corporate identity. Asbestos abatement/removal as required.

(f) Ticket Counters/Concourses/Holdroom Renovation

Renovate holdrooms, concourse area ticket counters*, automated conveyor systems*. Asbestos abatement/removal as required.

(g) Loading Bridge and Ramp Upgrades

Installation of loading bridges and foundations*, 400HZ ground power units*, associated building modifications, fuel pit relocations; and concrete apron to reflect final aircraft pit relocations, and concrete apron to reflect final aircraft layout. Asbestos abatement/removal as required.

(h) Building Systems Upgrade

Installation of energy management systems and upgrade HVAC systems. Upgrade electrical switchgear and distribution network. Provide sprinkler systems and related life safety equipment as required by local codes. Install additional exterior lighting. Asbestos abatement/removal as required.

(i) Gate Expansion

Installation of additional building gates through building expansion and ramp modifications. Asbestos abatement/removal as required

(j) Meeter Greeter Area

Installation of new wall, floor, ceiling finishes and additional lighting. Asbestos abatement/removal as required.

(k) Roadways

Renovation to the elevated and the lower level roadway accesses to maintain the structural integrity, improve traffic flow. Asbestos abatement/removal as required.

For the Port Authority

Initialled:

For Delta Air Lines, Inc.
(the Lessee)

Schedule R-1R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

'st of the PBGC Assignment: First Additional Facility Rental

The annual rental rates of the First Additional Facility Rental are:

1993	
1994	(2.a.)
1995	
1996	
1997	
1998	
1999	
2000	
2001	
2002	
2003	
2004	
2005	
2006	
2007	
2008	
2009	
2010	
2011	
2012	
2013	
2014	
2015	

The monthly rental payments of the First Additional Facility Rental are payable by the Lessee on the first day of each month, and in the amounts stated as follows:

01-Jan-93	
01-Feb-93	(2.a.)
01-Mar-93	
01-Apr-93	
01-May-93	
01-Jun-93	
01-Jul-93	
01-Aug-93	
01-Sep-93	
01-Oct-93	
01-Nov-93	
01-Dec-93	
01-Jan-94	
01-Feb-94	
01-Mar-94	
01-Apr-94	
01-May-94	
01-Jun-94	
01-Jul-94	
01-Aug-94	

Schedule R-1R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

:t of the PBGC Assignment: First Additional Facility Rental

01-Sep-94	
01-Oct-94	(2.a.)
01-Nov-94	
01-Dec-94	
01-Jan-95	
01-Feb-95	
01-Mar-95	
01-Apr-95	
01-May-95	
01-Jun-95	
01-Jul-95	
01-Aug-95	
01-Sep-95	
01-Oct-95	
01-Nov-95	
01-Dec-95	
01-Jan-96	
01-Feb-96	
01-Mar-96	
01-Apr-96	
01-May-96	
01-Jun-96	
01-Jul-96	
01-Aug-96	
01-Sep-96	
01-Oct-96	
01-Nov-96	
01-Dec-96	
01-Jan-97	
01-Feb-97	
01-Mar-97	
01-Apr-97	
01-May-97	
01-Jun-97	
01-Jul-97	
01-Aug-97	
01-Sep-97	
01-Oct-97	
01-Nov-97	
01-Dec-97	
01-Jan-98	
01-Feb-98	
01-Mar-98	
01-Apr-98	
01-May-98	
01-Jun-98	
01-Jul-98	
01-Aug-98	
01-Sep-98	

Schedule R-1R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

st of the PBGC Assignment: First Additional Facility Rental

01-Oct-98	
01-Nov-98	
01-Dec-98	
01-Jan-99	
01-Feb-99	(2.a.)
01-Mar-99	
01-Apr-99	
01-May-99	
01-Jun-99	
01-Jul-99	
01-Aug-99	
01-Sep-99	
01-Oct-99	
01-Nov-99	
01-Dec-99	
01-Jan-2000	
01-Feb-2000	
01-Mar-2000	
01-Apr-2000	
01-May-2000	
01-Jun-2000	
01-Jul-2000	
01-Aug-2000	
01-Sep-2000	
01-Oct-2000	
01-Nov-2000	
01-Dec-2000	
01-Jan-2001	
01-Feb-2001	
01-Mar-2001	
01-Apr-2001	
01-May-2001	
01-Jun-2001	
01-Jul-2001	
01-Aug-2001	
01-Sep-2001	
01-Oct-2001	
01-Nov-2001	
01-Dec-2001	
01-Jan-2002	
01-Feb-2002	
01-Mar-2002	
01-Apr-2002	
01-May-2002	
01-Jun-2002	
01-Jul-2002	
01-Aug-2002	
01-Sep-2002	
01-Oct-2002	

Schedule R-1R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

Cost of the PBGC Assignment: First Additional Facility Rental

01-Nov-2002	
01-Dec-2002	
01-Jan-2003	
01-Feb-2003	
01-Mar-2003	
01-Apr-2003	
01-May-2003	
01-Jun-2003	(2.a.)
01-Jul-2003	
01-Aug-2003	
01-Sep-2003	
01-Oct-2003	
01-Nov-2003	
01-Dec-2003	
01-Jan-2004	
01-Feb-2004	
01-Mar-2004	
01-Apr-2004	
01-May-2004	
01-Jun-2004	
01-Jul-2004	
01-Aug-2004	
01-Sep-2004	
01-Oct-2004	
01-Nov-2004	
01-Dec-2004	
01-Jan-2005	
01-Feb-2005	
01-Mar-2005	
01-Apr-2005	
01-May-2005	
01-Jun-2005	
01-Jul-2005	
01-Aug-2005	
01-Sep-2005	
01-Oct-2005	
01-Nov-2005	
01-Dec-2005	
01-Jan-2006	
01-Feb-2006	
01-Mar-2006	
01-Apr-2006	
01-May-2006	
01-Jun-2006	
01-Jul-2006	
01-Aug-2006	
01-Sep-2006	
01-Oct-2006	
01-Nov-2006	

Schedule R-1R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

st of the PBGC Assignment: First Additional Facility Rental

01-Dec-2006	
01-Jan-2007	
01-Feb-2007	(2.a.)
01-Mar-2007	
01-Apr-2007	
01-May-2007	
01-Jun-2007	
01-Jul-2007	
01-Aug-2007	
01-Sep-2007	
01-Oct-2007	
01-Nov-2007	
01-Dec-2007	
01-Jan-2008	
01-Feb-2008	
01-Mar-2008	
01-Apr-2008	
01-May-2008	
01-Jun-2008	
01-Jul-2008	
01-Aug-2008	
01-Sep-2008	
01-Oct-2008	
01-Nov-2008	
01-Dec-2008	
01-Jan-2009	
01-Feb-2009	
01-Mar-2009	
01-Apr-2009	
01-May-2009	
01-Jun-2009	
01-Jul-2009	
01-Aug-2009	
01-Sep-2009	
01-Oct-2009	
01-Nov-2009	
01-Dec-2009	
01-Jan-2010	
01-Feb-2010	
01-Mar-2010	
01-Apr-2010	
01-May-2010	
01-Jun-2010	
01-Jul-2010	
01-Aug-2010	
01-Sep-2010	
01-Oct-2010	
01-Nov-2010	
01-Dec-2010	

Schedule R-1R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

st of the PBGC Assignment: First Additional Facility Rental

01-Jan-2011	
01-Feb-2011	
01-Mar-2011	
01-Apr-2011	
01-May-2011	
01-Jun-2011	(2.a.)
01-Jul-2011	
01-Aug-2011	
01-Sep-2011	
01-Oct-2011	
01-Nov-2011	
01-Dec-2011	
01-Jan-2012	
01-Feb-2012	
01-Mar-2012	
01-Apr-2012	
01-May-2012	
01-Jun-2012	
01-Jul-2012	
01-Aug-2012	
01-Sep-2012	
01-Oct-2012	
01-Nov-2012	
01-Dec-2012	
01-Jan-2013	
01-Feb-2013	
01-Mar-2013	
01-Apr-2013	
01-May-2013	
01-Jun-2013	
01-Jul-2013	
01-Aug-2013	
01-Sep-2013	
01-Oct-2013	
01-Nov-2013	
01-Dec-2013	
01-Jan-2014	
01-Feb-2014	
01-Mar-2014	
01-Apr-2014	
01-May-2014	
01-Jun-2014	
01-Jul-2014	
01-Aug-2014	
01-Sep-2014	
01-Oct-2014	
01-Nov-2014	
01-Dec-2014	
01-Jan-2015	

Schedule R-1R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

The PBGC Assignment: First Additional Facility Rental

01-Feb-2015	(2.a.)
01-Mar-2015	
01-Apr-2015	
01-May-2015	
01-Jun-2015	
01-Jul-2015	
01-Aug-2015	
01-Sep-2015	
01-Oct-2015	
01-Nov-2015	

If the Lessee receives a Lease Supplement, as defined in and subject to Section 3A, then the above annual rental for 2015 will become , and the annual rentals for 2016 and 2017 shall be , and the monthly rental payments of the First Additional Facility Rental, payable by the Lessee on the first day of each month, shall be in the amounts stated as follows:

01-Nov-2015	
01-Dec-2015	
01-Jan-2016	(2.a.)
01-Feb-2016	
01-Mar-2016	
01-Apr-2016	
01-May-2016	
n-2016	
Jul-2016	
01-Aug-2016	
01-Sep-2016	
01-Oct-2016	
01-Nov-2016	
01-Dec-2016	
01-Jan-2017	
01-Feb-2017	
01-Mar-2017	
01-Apr-2017	
01-May-2017	
01-Jun-2017	
01-Jul-2017	
01-Aug-2017	
01-Sep-2017	
01-Oct-2017	
01-Nov-2017	
01-Dec-2017	

Initialled:

For the Port Authority

For the Lessee

Schedule R-2R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

st of the Lessee's Initial Flightcenter Improvement Work: Second Additional Facility Rental

The annual rental rates of the Second Additional Facility Rental are:

1993	
1994	
1995	
1996	(2.a.)
1997	
1998	
1999	
2000	
2001	
2002	
2003	
2004	
2005	
2006	
2007	
2008	
2009	
2010	
2011	
2012	
2013	
2014	
2015	

The monthly rental payments of the Second Additional Facility Rental are payable by the Lessee on the firs day of each month, and in the amounts stated as follows:

01-Jan-93	
01-Feb-93	
01-Mar-93	(2.a.)
01-Apr-93	
01-May-93	
01-Jun-93	
01-Jul-93	
01-Aug-93	
01-Sep-93	
01-Oct-93	
01-Nov-93	
01-Dec-93	
01-Jan-94	
01-Feb-94	
01-Mar-94	
01-Apr-94	
01-May-94	
01-Jun-94	
01-Jul-94	
01-Aug-94	

Schedule R-2R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

ost of the Lessee's Initial Flightcenter Improvement Work: Second Additional Facility Rental

(2.a.)

01-Sep-94
01-Oct-94
01-Nov-94
01-Dec-94
01-Jan-95
01-Feb-95
01-Mar-95
01-Apr-95
01-May-95
01-Jun-95
01-Jul-95
01-Aug-95
01-Sep-95
01-Oct-95
01-Nov-95
01-Dec-95
01-Jan-96
01-Feb-96
01-Mar-96
01-Apr-96
01-May-96
01-Jun-96
01-Jul-96
01-Aug-96
01-Sep-96
01-Oct-96
01-Nov-96
01-Dec-96
01-Jan-97
01-Feb-97
01-Mar-97
01-Apr-97
01-May-97
01-Jun-97
01-Jul-97
01-Aug-97
01-Sep-97
01-Oct-97
01-Nov-97
01-Dec-97
01-Jan-98
01-Feb-98
01-Mar-98
01-Apr-98
01-May-98
01-Jun-98
01-Jul-98
01-Aug-98
01-Sep-98

Schedule R-2R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

Cost of the Lessee's Initial Flightcenter Improvement Work: Second Additional Facility Rental

01-Oct-98	
01-Nov-98	
01-Dec-98	
01-Jan-99	(2.a.)
01-Feb-99	
01-Mar-99	
01-Apr-99	
01-May-99	
01-Jun-99	
01-Jul-99	
01-Aug-99	
01-Sep-99	
01-Oct-99	
01-Nov-99	
01-Dec-99	
01-Jan-2000	
01-Feb-2000	
01-Mar-2000	
01-Apr-2000	
01-May-2000	
01-Jun-2000	
01-Jul-2000	
01-Aug-2000	
01-Sep-2000	
01-Oct-2000	
01-Nov-2000	
01-Dec-2000	
01-Jan-2001	
01-Feb-2001	
01-Mar-2001	
01-Apr-2001	
01-May-2001	
01-Jun-2001	
01-Jul-2001	
01-Aug-2001	
01-Sep-2001	
01-Oct-2001	
01-Nov-2001	
01-Dec-2001	
01-Jan-2002	
01-Feb-2002	
01-Mar-2002	
01-Apr-2002	
01-May-2002	
01-Jun-2002	
01-Jul-2002	
01-Aug-2002	
01-Sep-2002	
01-Oct-2002	

Schedule R-2R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

Cost of the Lessee's Initial Flightcenter Improvement Work: Second Additional Facility Rental

01-Nov-2002	
01-Dec-2002	
01-Jan-2003	
01-Feb-2003	
01-Mar-2003	
01-Apr-2003	(2.a.)
01-May-2003	
01-Jun-2003	
01-Jul-2003	
01-Aug-2003	
01-Sep-2003	
01-Oct-2003	
01-Nov-2003	
01-Dec-2003	
01-Jan-2004	
01-Feb-2004	
01-Mar-2004	
01-Apr-2004	
01-May-2004	
01-Jun-2004	
01-Jul-2004	
01-Aug-2004	
01-Sep-2004	
01-Oct-2004	
01-Nov-2004	
01-Dec-2004	
01-Jan-2005	
01-Feb-2005	
01-Mar-2005	
01-Apr-2005	
01-May-2005	
01-Jun-2005	
01-Jul-2005	
01-Aug-2005	
01-Sep-2005	
01-Oct-2005	
01-Nov-2005	
01-Dec-2005	
01-Jan-2006	
01-Feb-2006	
01-Mar-2006	
01-Apr-2006	
01-May-2006	
01-Jun-2006	
01-Jul-2006	
01-Aug-2006	
01-Sep-2006	
01-Oct-2006	
01-Nov-2006	

Schedule R-2R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

Cost of the Lessee's Initial Flightcenter Improvement Work: Second Additional Facility Rental

01-Dec-2006	
01-Jan-2007	
01-Feb-2007	
01-Mar-2007	
01-Apr-2007	
01-May-2007	(2.a.)
01-Jun-2007	
01-Jul-2007	
01-Aug-2007	
01-Sep-2007	
01-Oct-2007	
01-Nov-2007	
01-Dec-2007	
01-Jan-2008	
01-Feb-2008	
01-Mar-2008	
01-Apr-2008	
01-May-2008	
01-Jun-2008	
01-Jul-2008	
01-Aug-2008	
01-Sep-2008	
01-Oct-2008	
01-Nov-2008	
01-Dec-2008	
01-Jan-2009	
01-Feb-2009	
01-Mar-2009	
01-Apr-2009	
01-May-2009	
01-Jun-2009	
01-Jul-2009	
01-Aug-2009	
01-Sep-2009	
01-Oct-2009	
01-Nov-2009	
01-Dec-2009	
01-Jan-2010	
01-Feb-2010	
01-Mar-2010	
01-Apr-2010	
01-May-2010	
01-Jun-2010	
01-Jul-2010	
01-Aug-2010	
01-Sep-2010	
01-Oct-2010	
01-Nov-2010	
01-Dec-2010	

Schedule R-2R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

st of the Lessee's Initial Flightcenter Improvement Work: Second Additional Facility Rental

01-Jan-2011	
01-Feb-2011	
01-Mar-2011	
01-Apr-2011	(2.a.)
01-May-2011	
01-Jun-2011	
01-Jul-2011	
01-Aug-2011	
01-Sep-2011	
01-Oct-2011	
01-Nov-2011	
01-Dec-2011	
01-Jan-2012	
01-Feb-2012	
01-Mar-2012	
01-Apr-2012	
01-May-2012	
01-Jun-2012	
01-Jul-2012	
01-Aug-2012	
01-Sep-2012	
01-Oct-2012	
01-Nov-2012	
01-Dec-2012	
01-Jan-2013	
01-Feb-2013	
01-Mar-2013	
01-Apr-2013	
01-May-2013	
01-Jun-2013	
01-Jul-2013	
01-Aug-2013	
01-Sep-2013	
01-Oct-2013	
01-Nov-2013	
01-Dec-2013	
01-Jan-2014	
01-Feb-2014	
01-Mar-2014	
01-Apr-2014	
01-May-2014	
01-Jun-2014	
01-Jul-2014	
01-Aug-2014	
01-Sep-2014	
01-Oct-2014	
01-Nov-2014	
01-Dec-2014	
01-Jan-2015	

Schedule R-2R to Lease AYC-325 between the Port Authority of New York and New Jersey and Delta Air Lines, Inc. (the "Lessee")

st of the Lessee's Initial Flightcenter Improvement Work: Second Additional Facility Rental

01-Feb-2015	
01-Mar-2015	
01-Apr-2015	(2.a.)
01-May-2015	
01-Jun-2015	
01-Jul-2015	
01-Aug-2015	
01-Sep-2015	
01-Oct-2015	
01-Nov-2015	

If the Lessee receives a Lease Supplement, as defined in and subject to Section 3A, then the above annual rental for 2015 will become , and the annual rentals for 2016 and 2017 shall be , and the monthly rental payments of the Second Additional Facility Rental, payable by the Lessee on the first day of each month, shall be in the amounts stated as follows:

01-Nov-2015	
01-Dec-2015	
01-Jan-2016	(2.a.)
01-Feb-2016	
01-Mar-2016	
01-Apr-2016	
01-May-2016	
01-Jun-2016	
01-Jul-2016	
01-Aug-2016	
01-Sep-2016	
01-Oct-2016	
01-Nov-2016	
01-Dec-2016	
01-Jan-2017	
01-Feb-2017	
01-Mar-2017	
01-Apr-2017	
01-May-2017	
01-Jun-2017	
01-Jul-2017	
01-Aug-2017	
01-Sep-2017	
01-Oct-2017	
01-Nov-2017	
01-Dec-2017	

Initialled:

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For the Port Authority

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For the Lessee

SCHEDULE E

AFFIRMATIVE ACTION-EQUAL OPPORTUNITY---MINORITY BUSINESS ENTERPRISES---WOMEN-OWNED BUSINESS ENTERPRISES REQUIREMENTS

PART I. Affirmative Action Guidelines - Equal Employment Opportunity

I. As a matter of policy the Port Authority hereby requires the Lessee and the Lessee shall require the Contractor, as hereinafter defined, to comply with the provisions set forth in this Schedule E and in Section 2(b)(18) of Port Authority Agreement AYC-325 (herein called "the Lease") with Delta Air Lines, Inc. (herein called the "Lessee"). The provisions set forth in this Part I are similar to the conditions for bidding on federal government contracts adopted by the Office of Federal Contract Compliance and effective May 8, 1978.

The Lessee as well as each bidder, contractor and subcontractor of the Lessee and each subcontractor of a contractor at any tier of construction (herein collectively referred to as "the Contractor") must fully comply with the following conditions set forth herein as to each construction trade to be used on the construction work or any portion thereof (said conditions being herein called "Bid Conditions"). The Lessee hereby commits itself to the goals for minority and female utilization set forth below and all other requirements, terms and conditions of the Bid Conditions. The Lessee shall likewise require the Contractor to commit itself to the said goals for minority and female utilization set forth below and all other requirements, terms and conditions of the Bid Conditions by submitting a properly signed bid.

II. The Lessee and the Contractor shall each appoint an executive of its company to assume the responsibility for the implementation of the requirements, terms and conditions of the following Bid Conditions:

(a) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work are as follows:

(1) Minority participation:

Minority, except laborers	30%
Minority, laborers	40%

(2) Female participation:

Female, except laborers	6.9%

Female, laborers 6.9%

These goals are applicable to all the Contractor's construction work performed in and for the premises.

The Contractor's specific affirmative action obligations required herein of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make good faith efforts to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract. Compliance with the goals will be measured against the total work hours performed.

(b) The Contractor shall provide written notification to the Lessee and the Lessee shall provide written notification to the Manager of the Office of Business and Job Opportunity of the Port Authority within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work. The notification shall list the name, address and telephone number of the sub-contractor; employer identification number; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

(c) As used in these specifications:

(1) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941:

(2) "Minority" includes:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

(ii) Hispanic (all persons of Mexican, Puerto Rican, Dominican, Cuban, Central or South American culture or origin, regardless of race);

(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of

North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(d) Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the construction work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 those provisions which include the applicable goals for minority and female participation.

(e) The Contractor shall implement the specific affirmative action standards provided in subparagraphs (1) through (16) of Paragraph (h) hereof. The goals set forth above are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the premises. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

(f) Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations hereunder.

(g) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(h) The Contractor shall take specific affirmative actions to ensure equal employment opportunity ("EEO").

The evaluation of the Contractor's compliance with these provisions shall be based upon its good faith efforts to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

(1) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each Phase of the construction project. The Contractor, shall specifically ensure that all foremen, superintendents, and other supervisory personnel at the premises are aware of and carry out the Contractor's

obligation to maintain such a working environment, with specific attention to minority or female individuals working at the premises.

(2) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

(4) Provide immediate written notification to the Lessee when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and training programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under subparagraph (2) above.

(6) Disseminate the Contractor's EEO Policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the Contractor's newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the Contractor's EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

(7) Review, at least every six months the Contractor's EEO policy and affirmative action obligations hereunder with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-premises supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at the premises. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

(9) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations and to State-certified minority referral agencies serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the premises and in other areas of a Contractor's workforce.

(11) Tests and other selection requirements shall comply with 41 CFR Part 60-3.

(12) Conduct, at least every six months, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

(13) Ensure that seniority practices, job classifications, work assignments and other personnel

practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations hereunder are being carried out.

(14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

(15) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least every six months, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

(i) Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (subparagraphs (1)-(16) of Paragraph (h) above). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under Paragraph (h) hereof provided that: the Contractor actively participates in the group, makes good faith efforts to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes good faith efforts to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's non-compliance.

(j) A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation hereof if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation hereof if a specific minority group of women is underutilized).

(k) The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.

(l) The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

(m) The Contractor shall carry out such sanctions and penalties for violation of this clause including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered by the Lessee. Any Contractor who fails to carry out such sanctions and penalties shall be in violation hereof.

(n) The Contractor, in fulfilling its obligations hereunder shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph (h) hereof so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of these provisions, the Lessee shall proceed accordingly.

(o) The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanical apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

(p) Nothing herein provided shall be construed as a limitation upon the application of any laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

(q) Without limiting any other obligation, term or provision under the Lease, the Contractor shall cooperate with all federal, state or local agencies established for the purpose of implementing affirmative action compliance programs and shall

comply with all procedures and guidelines established or which may be established by the Port Authority.

PART II. MINORITY BUSINESS ENTERPRISES/WOMEN-OWNED BUSINESS ENTERPRISES

As a matter of policy the Port Authority requires the Lessee and the Lessee shall itself and shall require the general contractor or other construction supervisor and each of the Lessee's contractors to use every good faith effort to provide for meaningful participation by Minority Business Enterprises (MBEs) and Women-owned Business Enterprises (WBEs) in the construction work pursuant to the provisions of this Schedule E. For purposes hereof, Minority Business Enterprise (MBE) shall mean any business enterprise which is at least fifty-one percentum owned by, or in the case of a publicly owned business, at least fifty-one percentum of the stock of which is owned by citizens or permanent resident aliens who are minorities and such ownership is real, substantial and continuing. For the purposes hereof, Women-owned Business Enterprise (WBE) shall mean any business enterprise which is at least fifty-one percentum owned by, or in the case of a publicly owned business, at least fifty-one percentum of the stock of which is owned by women and such ownership is real, substantial and continuing. A minority shall be as defined in paragraph II(c) of Part I of this Schedule E. "Meaningful participation" shall mean that at least seventeen percent (17%) of the total dollar value of the construction contracts (including subcontracts) covering the construction work are for the participation of Minority Business Enterprises and Women-owned Business Enterprises, of which at least twelve percent (12%) are for the participation of Minority Business Enterprises. Good faith efforts to include meaningful participation by MBEs and WBEs shall include at least the following.

(a) Dividing the work to be subcontracted into smaller portions where feasible.

(b) Actively and affirmatively soliciting bids for subcontracts from MBEs and WBEs, including circulation of solicitations to minority and female contractor associations. The Contractor shall maintain records detailing the efforts made to provide for meaningful MBE and WBE participation in the Work, including the names and addresses of all MBEs and WBEs contacted and, if any such MBE or WBE is not selected as a joint venturer or subcontractor, the reason for such decision.

(c) Making plans and specifications for prospective construction work available to MBEs and WBEs in sufficient time for review.

(d) Utilizing the list of eligible MBEs and WBEs maintained by the Port Authority or seeking minorities and women from other sources for the purpose of soliciting bids for subcontractors.

(e) Encouraging the formation of joint ventures, partnerships or other similar arrangements among subcontractors, where appropriate, to insure that the Lessee and Contractor will meet their obligations hereunder.

(f) Insuring that provision is made to provide progress payments to MBEs and WBEs on a timely basis.

(g) Not requiring bonds from and/or providing bonds and insurance for MBEs and WBEs, where appropriate.

For the Port Authority

Initialled:

For the Lessee

EXEMPTION (4) – DRAWINGS OF NON-PUBLIC AREAS

EXHIBIT E

PHASE I CONSTRUCTION WORK

NOTE: Underlined, starred items are personal property title to which shall pass to the Port Authority upon the installation thereof.

I. BUILDING NO. 53

(a) Signage

Installation of interior and exterior signage and directional information. Asbestos abatement/removal as required.

(b) Roof/Expansion Joints/Roadways

Replace existing terminal roof. Replace interior roadway expansion joints and resurface roadways. Asbestos abatement/removal as required.

(c) Inbound Baggage Claim Renovation

Demolition of existing baggage claim units and installation of new Delta Air Lines standard widebody - capable inbound claim units*. Asbestos abatement/removal as required.

(d) Elevators/Escalators/Moving Walkways

Renovate vertical and horizontal transportation systems throughout facility and provide handicap access per Americans With Disabilities Act (ADA). Asbestos abatement/removal as required.

(e) Support Space Renovation

Renovate interior areas to provide support space for Lessee's operational services such as Flight Operations, In-Flight Service, Aircraft Maintenance. Asbestos abatement/removal as required.

(f) Crown Room/Business Class Lounge/First Class Lounge/Group Rooms Renovation

Renovate and expand club rooms to reflect Lessee's corporate identity. Asbestos abatement/removal as required.

(g) Ticket Counters/Concourse/Holdroom Renovation

Renovate holdrooms, concourse area ticket counters*, automated conveyor systems*. Asbestos abatement/removal as required.

(h) Loading Bridge and Ramp Upgrade

Installation of loading bridges and foundations*, 400HZ ground power units*, associated building modifications, fuel pit relocations, and concrete apron to reflect final aircraft layout. Asbestos abatement/removal as required.

(i) Building Systems Upgrade

Installation of energy management systems and upgrade HVAC systems. Upgrade electrical switchgear and distribution network. Provide sprinkler systems and related life safety equipment as required by local building codes. Remove transformers containing PCB's and install new transformers. Install additional exterior lighting. Asbestos abatement/removal as required.

(j) Gate Expansion

Installation of additional building gates through building expansion and ramp modifications. Asbestos abatement/removal as required.

(k) FIS - Meeter Greeter Area

Installation of new wall, floor, ceiling finishes and additional lighting. Asbestos abatement/removal as required.

(l) Ramp Filling Station/Glycol Facility

Provide facilities for a ramp equipment fueling station and glycol dispensing and glycol recovery facilities. Asbestos abatement/removal as required.

(m) Roadways

Renovations to the elevated and the lower level roadway accesses to maintain the structural integrity, improve traffic flow. Asbestos abatement/removal as required.

(n) Restroom Upgrades

Renovation and expansion of restrooms. Asbestos abatement/removal as required.

II BUILDING NO. 54

(a) Signage

Installation of interior and exterior signage and directional information. Asbestos abatement/removal as required.

(b) Inbound Baggage Claim Renovation

Demolition of existing baggage claim units and installation of new Delta Air Lines standard widebody - capable inbound claims units*. Asbestos abatement/removal as required.

(c) Elevators/Escalators

Renovate vertical transportation systems throughout facility and provide handicap access per Americans With Disabilities Act (ADA). Asbestos abatement/removal as required.

(d) Support Space Renovation

Renovate interior areas to provide support space for Lessee's operational services such as Flight Operations, In-Flight Service, Aircraft Maintenance. Asbestos abatement/removal as required.

(e) Crown Room/Business Class Lounge/First Class Lounge/Group Rooms Renovation

Renovate and expand club rooms to reflect Lessee's corporate identity. Asbestos abatement/removal as required.

(f) Ticket Counters/Concourses/Holdroom Renovation

Renovate holdrooms, concourse area ticket counters*, automated conveyor systems*. Asbestos abatement/removal as required.

(g) Loading Bridge and Ramp Upgrades

Installation of loading bridges and foundations*, 400HZ ground power units*, associated building modifications, fuel pit relocations, and concrete apron to reflect final aircraft pit relocations, and concrete apron to reflect final aircraft layout. Asbestos abatement/removal as required.

(h) Building Systems Upgrade

Installation of energy management systems and upgrade HVAC systems. Upgrade electrical switchgear and distribution network. Provide sprinkler systems and related life safety equipment as required by local codes. Install additional exterior lighting. Asbestos abatement/removal as required.

(i) Gate Expansion

Installation of additional building gates through building expansion and ramp modifications. Asbestos abatement/removal as required

(j) Meeter Greeter Area

Installation of new wall, floor, ceiling finishes and additional lighting. Asbestos abatement/removal as required.

(k) Roadways

Renovation to the elevated and the lower level roadway accesses to maintain the structural integrity, improve traffic flow. Asbestos abatement/removal as required.

_____
For the Port Authority

Initialled:

_____
For Delta Air Lines, Inc.
(the Lessee)

Final Dated 2/9/09 Version 2

THIS AGREEMENT SHALL NOT BE BINDING
UPON THE PORT AUTHORITY UNTIL DULY EXECUTED BY
AN EXECUTIVE OFFICER THEREOF AND DELIVERED TO THE LESSEE BY AN
AUTHORIZED REPRESENTATIVE OF THE PORT AUTHORITY

John F. Kennedy International Airport
Port Authority Lease No. AYC-325
Supplement No. 2

SUPPLEMENTAL AGREEMENT

THIS SUPPLEMENTAL AGREEMENT made as of August 1, 2008 (said date being hereinafter called the "***Effective Date***") by and between THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY (hereinafter called the "***Port Authority***") and DELTA AIR LINES, INC., a corporation organized under the laws of the State of Delaware (hereinafter called the "***Lessee***"),

WITNESSETH, THAT:

WHEREAS, by an agreement of lease made as of the first day of January, 1993 (which lease agreement, as the same has been and is herein extended, supplemented and amended is hereinafter called the "***Lease***"), the Port Authority let to the Lessee and the Lessee hired and took from the Port Authority certain premises at John F. Kennedy International Airport, all as more particularly described in the Lease; and

WHEREAS, the Port Authority and the Lessee desire to amend the Lease in certain respects;

NOW, THEREFORE, for and in consideration of the covenants and mutual agreements herein contained, the Port Authority and the Lessee hereby agree, effective as of the Effective Date, unless otherwise stated, as follows:

1. The Port Authority and the Lessee hereby agree to extend the term of the letting under the Lease to December 31, 2017, unless sooner terminated, upon all of the terms and conditions of the Lease as herein amended, it being understood that this extension of the Lease shall not be nor be deemed to be a waiver by the Port Authority of any breach or default of any agreement, term, covenant or condition of this Agreement.

2. Paragraph (b) of Section 30 of the Lease entitled "Survival of the Obligations of the Lessee shall be amended by deleting the period appearing at the end of subparagraph (5) thereof and substituting a semi-colon and the word "and" in lieu thereof and by inserting the following new subparagraph (6) to read as follows:

"DELTA AIR LINES, INC.
CONTRACT NO._____"

"(6) On account of the Lessee's obligation for the Design Rental, the amount of the total of all Design Rentals less the amount attributable to the installments of such Design Rentals payable prior to the effective date of termination or cancellation, except that the credit to be allowed for the installment thereof payable on the first day of the month in which the termination or cancellation is effective shall be prorated for the part of the month the letting remains in effect on the basis of the actual number of days in such month."

3. Section 41 of the Lease entitled, "Notices" shall be amended by deleting the address "One World Trade Center, New York, New York" appearing in the fourteenth (14th) and fifteenth (15th) lines thereof and by substituting in lieu thereof the address "225 Park Avenue South, New York, New York 10003" and by deleting the address "1030 Delta Boulevard, Hartsfield Atlanta International Airport, Atlanta, Georgia 30320 att: Director Airport and Corporate Affairs" appearing in the twenty-fifth (25th) through twenty-seventh (27th) lines thereof and by substituting in lieu thereof the address and title "1030 Delta Boulevard, Department 877, Atlanta, Georgia 30320, Attention: Vice-President-Corporate Real Estate."

4. Section 46 of the Lease entitled, "Place of Payments" shall be amended to read as follows:

"All payments required of the Lessee by this Agreement shall be sent to the following address:

THE PORT AUTHORITY OF NEW YORK
AND NEW JERSEY
P.O. BOX 95000-1517
PHILADELPHIA, PENNSYLVANIA 19195-1517

or made via the following wire transfer instructions:

Bank: Commerce Bank
Bank ABA Number: 031201360
Account Number: (Ex. 1)

or sent to such other address, or pursuant to such other wire transfer instructions, as may hereafter be substituted therefor by the Port Authority, from time to time, by notice to the Lessee."

5. Section 81 of the Lease entitled, "Definitions" shall be amended as follows:

a. Effective as of January 1, 2002, paragraph (b) thereof shall be amended to read as follows:

" '(b) ***John F. Kennedy International Airport*** ' or '***Airport***' shall mean John F. Kennedy International Airport, consisting of certain premises identified as 'John F. Kennedy International Airport' on Sheet JFK-1 of Exhibit G, and more particularly

described in Exhibit H, annexed to the Basic Lease, and such other property as may be acquired in connection with and added to such premises pursuant to the terms of the Basic Lease."

b. Effective as of January 1, 2002, paragraph (d) thereof shall be amended to read as follows:

" '(d) ***Basic Lease***' shall mean the Amended and Restated Agreement of Lease between The City of New York, as landlord, and the Port Authority, as tenant, dated as of November 24, 2004, as the same from time to time may be supplemented or amended and/or restated. Said agreement dated as of November 24, 2004, has been recorded in the Office of the Register of The City of New York, County of Queens, on December 3, 2004 with a City Register File Number of 2004000748687."

6. Section 94 of the Lease entitled, "Entire Agreement" shall be deemed renumbered as "Section 97" and the number "94" appearing in the second (2nd) line thereof shall be deleted and the number "97" substituted in lieu thereof.

7. The following new Sections 94 through 96 are hereby added to the Lease and made a part thereof to read as follows:

"Section 94. Development of Schematic Design Drawings and 30% Design Development for the Proposed Redevelopment of the Premises

(a) The Port Authority and the Lessee have been in preliminary discussions with respect to the Lessee's redevelopment of the premises and the extension and amendment of the Lease in connection therewith (the '***Proposed Agreement***'). Although these discussions are very preliminary, the terms and conditions of any such Proposed Agreement have not been agreed to and the scope and nature of the redevelopment and the financial viability of and the source of funding for the proposed redevelopment have not been determined the Lessee has advised the Port Authority that it is conducting a schematic design, including without limitation 30% design development of selected elements of the schematic design work, and a project model for the proposed redevelopment work and has requested that the Port Authority provide a portion of the funding for such design work. The agreement of the parties on Port Authority funding of the Design Work, as herein after defined, and the repayment thereof are set forth in Sections 95 and 96 of this Lease.

(b) The Lessee has entered into a Special Services Agreement dated June 25, 2007 together with Change Orders Nos. 1 through 4 thereto with a joint venture of Skidmore, Owings & Merrill LLP Architects and Ove Arup & Partners Consulting Engineers PC (herein '***ARUP/SOM***'), a copy of such agreement and change orders being attached hereto, hereby made a part hereof and marked as "Exhibit G" (which contract as the same may be amended and supplemented by Change Order No 5 attached hereto, hereby made a part hereof and marked as "Exhibit H" and as further amended and supplemented in accordance with the terms of this Section is herein called the

'***ARUP/SOM Contract***'). The Lessee and ARUP/SOM shall be entering into Change Order No. 5 to the ARUP/SOM Contract covering the schematic design, including without limitation 30% design development of selected elements of the schematic design work, and a project model for the proposed redevelopment in the form attached hereto as Exhibit H. The work that ARUP/SOM is to perform under Change Order No. 5 to the ARUP/SOM Contract in accordance with this Section is herein called the '***Design Work***'). No changes shall be made to the ARUP/SOM Contract without the prior approval of the Port Authority, provided, however, the foregoing shall not prohibit the Lessee from entering into changes to the ARUP/SOM Contract without the Port Authority's approval provided that such changes are for different services or involve only the subject matter of change orders 1 through 4 and do not involve any obligation on the part of the Port Authority to pay for any portion of such services and do not change the original ARUP/SOM Contract as it existed prior to the first Change Order. The ARUP/SOM Contract shall include all of the provisions required by this Section 94 to be incorporated therein.

(c) The Design Work shall develop the concept design set forth in the conceptual report for the Terminals 2/3/4 Site entitled "JFK Redevelopment Concept Final Report" dated April 2008 performed by ARUP/SOM, copy of which is attached hereto, hereby made a part hereof and marked "Exhibit F" to the schematic design level.

(d) The Lessee agrees that all costs incurred in the performance of the Design Work shall be at the Lessee's sole cost and expense without any reimbursement from the Port Authority except as set forth in Sections 95 and 96 hereof and shall be subject to and performed in accordance with all the terms, provisions and conditions of this Lease.

(e) Right of the Port Authority to Use the Design Work:

Notwithstanding that the ARUP/SOM Contract is with the Lessee nor any other fact or circumstance, but subject to the provisions of Section 7.6 of the ARUP/SOM Contract, the Port Authority may use the Design Work in any manner and for any purpose without the consent of the Lessee upon the expiration or earlier termination of the Lease, and prior to the expiration or termination of the Lease, the Port Authority may use the Design Work without the consent of the Lessee for the project for which it was prepared and for any other purpose whatsoever in connection with the Airport from and after any default by the Lessee in the payment of the Design Rental.

(f) Reporting and Management:

(1) The Lessee shall provide the Port Authority in advance of a weekly calendar of design meetings between the Lessee and ARUP/SOM and in arrears a weekly report, including meeting minutes, of such meetings. The Port Authority shall be entitled to attend such meetings.

(2) The Lessee shall cause ARUP/SOM to deliver to the Port Authority upon request of the Port Authority up to thirty-six (36) copies of all reports, data, drawings and all other electronic and/or written information, documentation and work product with respect to the Design Work (the '***Design Submissions***'). The Port Authority shall have the right, but not the obligation, to review and comment on the Design Submissions and the Lessee shall direct ARUP/SOM to incorporate the Port Authority's comments relating to the completion of the Design Work and to take into consideration other comments of the Port Authority on the Design Work.

(3) The ARUP/SOM Contract shall provide that the Port Authority shall have the right at any time and from time to time by its agents, employees and representatives to audit and inspect during regular business hours the books, records and other data of ARUP/SOM relating to the Cost of the Design Work (as defined in Section 95(a) of this Lease), or any part thereof, including without limitation any and all timesheets and contracts covering or relating to the Design Work or any portion thereof, any and all invoices covering or relating to the Design Work or any portion thereof; it being expressly agreed and understood that the Port Authority shall not be bound by any prior audit conducted by it. ARUP/SOM shall agree to keep such books, records and other data within the Port of New York District but ARUP/SOM shall not be required to maintain any such books, records and other data for more than four (4) years after May 31, 2009.

(g) Performance of the Design Work:

All the Design Work shall be done in accordance with the following terms and conditions:

(1) (i) To the extent arising from the negligent or willful intentional acts or omissions of the Lessee, ARUP/SOM, or ARUP/SOM's subconsultants in connection with the performance of the Design Work, the Lessee shall itself and shall also require ARUP/SOM to indemnify and hold harmless the Port Authority, its Commissioners, officers, agents and employees from and against all claims and demands, just or unjust, of third persons (including employees, officers, and agents of the Port Authority) arising or alleged to arise out of the performance of the Design Work and for all expenses incurred by it and by them in the defense, settlement or satisfaction thereof, including without limitation thereto, claims and demands for death, for personal injury or for property damage, direct or consequential, whether they arise from the acts or omissions of the Lessee, of ARUP/SOM, of any other consultants or contractors of the Lessee, of the Port Authority, or of third persons, or from acts of God or of the public enemy, or otherwise (including claims of the City of New York against the Port Authority pursuant to the provisions of the Basic Lease whereby the Port Authority has agreed to indemnify the City against claims), excepting only claims and demands which result solely from affirmative wilful acts done by the Port Authority, its Commissioners, officers, agents and employees with respect to the Design Work, provided, however, that the Lessee shall not be required to indemnify, or to require ARUP/SOM to indemnify, the

Port Authority where indemnity would be precluded pursuant to the provisions of Section 5 322.1 of the General Obligations Law of the State of New York.

(ii) If so directed, the Lessee shall at its own expense defend any suit based upon any such claim or demand (even if such suit, claim or demand is groundless, false or fraudulent), and in handling such it shall not, without obtaining express advance written permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority, or the provisions of any statutes respecting suits against the Port Authority.

(2) In addition to and without limiting any other right or remedy of the Port Authority under this Lease or otherwise, the Port Authority shall have the right to audit the books of ARUP/SOM with respect to the Design Work and the ARUP/SOM Contract shall so provide. In the event that a Port Authority audit shall disclose that amounts paid by the Port Authority for the Port Authority's Cost of the Design Work exceed amounts incurred for the Design Work actually performed, the Lessee shall immediately pay to the Port Authority an amount equal to the excess amount paid by the Port Authority.

(3) The Lessee shall cause ARUP/SOM to complete the Design Work by April 30, 2009.

(4) The Lessee agrees to be solely responsible for any plans and specifications prepared in connection with the Design Work and for any loss or damages resulting from the use thereof, notwithstanding the same have been approved by the Port Authority and notwithstanding the incorporation therein of Port Authority recommendations or requirements. Notwithstanding the requirement for approval by the Port Authority of the contracts to be entered into by the Lessee or the incorporation therein of Port Authority requirements or recommendations, and notwithstanding any rights the Port Authority may have reserved to itself hereunder, the Port Authority shall have no liabilities or obligations of any kind to ARUP/SOM or for any other matter in connection therewith and the Lessee hereby releases and discharges the Port Authority, its Commissioners, officers, representatives and employees of and from any and all liability, claims for damages or losses of any kind, whether legal or equitable, or from any action or cause of action arising or alleged to arise out of the performance of any of the Design Work.

(5) The Lessee agrees that it shall deliver to the Port Authority ten (10) sets of all final drawings forming a part of the Design Work in an electronic CADD data file on a CD Rom in a format to be designated by the Port Authority, all of which shall conform to the specifications of the Port Authority (the receipt of a copy of said specifications prior to its execution of Supplement No. 2 to the Lease being hereby acknowledged by the Lessee), and all final analysis and reports generated as part of the Design Work.

(6) The Lessee shall pay or cause to be paid all claims lawfully made against it by ARUP/SOM, its other consultants and its contractors and subcontractors, materialmen and workmen, and all claims lawfully made against it by other third persons arising out of or in connection with or because of the performance of the Design Work, and shall cause ARUP/SOM and its subconsultants, contractors and subcontractors to pay all such claims lawfully made against them, provided, however, that nothing herein contained shall be construed to limit the right of the Lessee to contest any claim of ARUP/SOM or any other consultant or of a contractor, subcontractor, materialman, workman and/or other person and no such claim shall be considered to be an obligation of the Lessee within the meaning of this Section unless and until the same shall have been finally adjudicated. The Lessee shall diligently seek to resolve any such claims and shall keep the Port Authority fully informed of its actions with respect thereto. Nothing herein contained shall be deemed to constitute consent to the creation of any liens or claims against the premises or any other area of the Airport nor to create any rights in said third persons against the Port Authority.

(7) Nothing contained in this Lease shall grant or be deemed to grant ARUP/SOM or any other consultant or a subconsultant, contractor, architect, engineer, supplier, subcontractor or any other person engaged by the Lessee, ARUP/SOM or any of its contractors in the performance of any part of the Design Work any right of action or claim against the Port Authority, its Commissioners, officers, agents and employees with respect to any work any of them may do in connection with the Design Work. Nothing contained herein shall create or be deemed to create any relationship between the Port Authority and ARUP/SOM or between the Port Authority and any such consultant, subconsultant, contractor, architect, engineer, supplier, subcontractor or any other person engaged by the Lessee or any of its consultants or contractors in the performance of any part of the Design Work and the Port Authority shall not be responsible to any of the foregoing for any payments due or alleged to be due thereto for any work performed or materials purchased in connection with the Design Work.

(g) Notwithstanding the performance of the Design Work and notwithstanding any reference to various proposed property lines or to space to be occupied by the Lessee, it is hereby understood and agreed that said performance and references are not and shall not be or be deemed to be a part of, or to imply, that the Port Authority has any obligation whatsoever to negotiate or enter into the Proposed Agreement or any other lease, permit or other agreement covering the leasing, use or occupancy of any area at the Airport or that any Port Authority approval for any redevelopment of the premises or portion thereof shall be forthcoming.

(h) (1) The Lessee hereby specifically acknowledges and agrees that neither Supplement No. 2 to the Lease nor the performance of the Design Work or any portion thereof nor the expenditure of monies thereon shall grant nor shall be deemed to have granted any rights whatsoever in the Lessee to enter into the Proposed Agreement or otherwise to enter into agreements covering the leasing, use, redevelopment or occupancy of the premises or any other land or building at the Airport or to redevelop the

premises in accordance with the Design Work. The Lessee hereby acknowledges and agrees that if it proceeds with the Design Work covered by Supplement No. 2 to the Lease, it shall do so at its sole risk being fully cognizant of the fact that the entire expenditure of monies by it in the performance of the Design Work may be a complete waste to it and without consideration, in that no Proposed Agreement may ever be executed or no proposed redevelopment of the premises may be approved by the Port Authority or the Port Authority may not permit the redevelopment of the premises in the manner set forth in whole or in part in the Design Work. The Lessee hereby agrees that it shall never introduce in any forum the fact that the Design Work or any portion thereof was performed as the basis for a contention that there is in fact or by inference or by implication any agreement between the Lessee and the Port Authority that any redevelopment of the premises will incorporated any of the Design Work or any agreement between the Lessee and the Port Authority to reimburse the Lessee for the Design Work except as set forth in Sections 95 and 96 of the Lease or any portion thereof and the Lessee agrees that it shall not claim that it is entitled in law or in equity to any of the foregoing or to any compensation, award, suit, action or proceeding because of Supplement No. 2 to the Lease or the Port Authority's participation in the Design Work or the performance of the Design Work or any portion thereof or the expenditure of monies thereon by the Lessee.

(2) The Lessee further specifically acknowledges and agrees that the Port Authority shall have as full discretion in negotiating the provisions of the Proposed Agreement as if Supplement No. 2 to the Lease had never been executed and the Port Authority had not participated in the performance of the Design Work and the Design Work had not been performed and monies expended thereon. The Lessee hereby specifically acknowledges that the staffs of the Lessee and the Port Authority may not reach agreement on the terms and provisions of the Proposed Agreement.

(3) The Lessee also hereby specifically acknowledges and agrees that no statements, representations, promises or assurances other than as set forth in this Lease have been made or given to it by representatives of the Port Authority or shall be relied on by it with respect to the risks and obligations being assumed hereunder if it elects to proceed with the Design Work and that it shall never introduce in any forum any alleged statement, representation, promise or assurance to the extent that the same would change or affect the express and precise provisions of this Lease and the risks and obligations assumed by the Lessee hereunder, and the Lessee hereby affirms its acceptance of all risks and obligations hereunder."

"*Section 95.* *Design Payments for a Portion of the Cost of the Design Work*

(a) For the purposes of this Lease, the following terms shall have the respective meanings provided below:

(1) '***Cost of the Design Work***' shall mean the sum of the amounts, and such amounts only, due and payable by the Lessee to ARUP/SOM for the Design Work under Change Order No. 5 to the ARUP/SOM Contract to the extent that

the inclusion of the same is permitted by generally accepted accounting practices consistently applied for the performance of the Design Work. The Cost of the Design Work shall include only Design Work performed by ARUP/SOM under Change Order No. 5 in accordance with all the terms and provisions of this Lease.

(2) '***Design Payment***' shall mean each payment made by the Port Authority to ARUP/SOM pursuant to this Section.

(3) '***Design Work Certificate***' shall mean the certificate submitted by the Lessee pursuant to and in accordance with this Section which meets all of the requirements of this Section.

(4) '***Final Date***' shall mean May 31, 2009.

(5) '***Port Authority's Cost of the Design Work***' shall mean the lesser of (x) the amount of (2.a.) ıd (y) the Cost of the Design Work.

(b) Design Work Certificates and Design Payments:

The Port Authority shall pay for the Port Authority's Cost of the Design Work to the extent such costs and expenses are properly incurred by the Lessee and to the extent and subject to and in accordance with the terms and provisions of this Section as follows:

(1) On or before May 21, 2009, the Lessee shall deliver to the Port Authority a notarized certificate which shall be signed by a responsible officer of the Lessee having sufficient knowledge to provide such certificate and shall:

(i) certify and set forth the amounts actually due and payable from the Lessee to ARUP/SOM for work actually performed for the Design Work under Change Order No. 5 to the ARUP/SOM Contract;

(ii) have attached thereto reproduction copies or duplicate originals of the invoices of ARUP/SOM for the Design Work;

(iii) certify that the amounts and payments therein set forth constitute Costs of the Design Work;

(iv) certify that the work for which payment is requested has been accomplished and has a value of not less than the amount requested to be paid;

(v) certify that each portion of the Design Work covered by such certificate has been performed in accordance with the terms of this Lease and the ARUP/SOM Contract;

(vi) certify that, except for the amount stated in the Design Work Certificate, there is no outstanding indebtedness then due on account of the purchase of any equipment or fixtures described in the Design Work Certificate or for labor, wages, materials, supplies or services in connection with any Design Work whether or not described in or covered by such Design Work Certificate which, if unpaid, might become the basis of a vendor's, mechanic's, laborer's or materialmen statutory or similar lien or alleged lien upon such work or upon the premises or the Airport or any portion thereof, or upon the Lessee's leasehold interest in the premises, nor are any of the improvements, equipment or fixtures described in such Design Work Certificate secured by any liens, mortgages, security interests or other encumbrances, provided, however, nothing contained herein shall be deemed or construed as a submission by the Port Authority to the application to itself of any such lien; and

(vii) contain such further information and documentation with respect to the Cost of the Design Work as the Port Authority may from time to time require, which information, documentation and certification shall be given on such forms as may be adopted by the Port Authority.

(2) In addition to and without limiting the foregoing, and in addition to any and all other information required to be submitted pursuant to this Lease, the Lessee shall furnish to the Port Authority information concerning budget, costs, costs estimates, plans and specifications, timing, scheduling and performance of the Design Work as may be requested by the Port Authority.

(3) Within forty-five (45) days after the delivery of the duly submitted Design Work Certificate by the Lessee satisfying in full the requirements of this Section as determined by the Port Authority, the Port Authority shall pay to ARUP/SOM the amount set forth in such certificate, except that in no event shall the payment to be made by the Port Authority exceed the Port Authority's Cost of the Design Work, with the Lessee to pay the remainder of the Cost of the Design Work.

(4) In addition to and without limiting the foregoing provisions and without limiting or impairing or waiving any other right or remedy of the Port Authority under this Lease or otherwise, the Port Authority shall have the right, in its discretion, to withhold from the aforesaid payment to ARUP/SOM the amounts of any or all items contained in the Design Work Certificate if any the following shall have occurred:

(i) if the Port Authority's inspection and/or audit does not substantiate the contents of the Design Work Certificate, but the Port Authority shall have no obligation to conduct any such inspection or audit;

(ii) in the event this Lease is not in full force and effect, or the Lessee shall be under a notice of termination of the Lease, or in default

under any term or provision thereof, provided, however, no payment or withholding of a Design Payment shall be or be deemed to be a waiver of any rights of the Port Authority with respect to the termination of the Lease, or to a default by the Lessee under any term or provision thereof;

(iii) ARUP/SOM shall be in default or under a notice of termination with respect to the ARUP/SOM Contract, or has not complied with all of the applicable terms or provisions of the ARUP/SOM Contract;

(iv) the Design Work Certificate or any of the certifications and documentation and other items required to be contained therein, attached thereto or submitted therewith is not in accord with the terms of this Lease or the ARUP/SOM Contract, or is not complete or is otherwise improper or inadequate, or the same fails to include or omits required items; or

(v) the submitted Design Work Certificate covers work not performed.

(5) The Design Payment for the Port Authority's Cost of the Design Work shall not be made unless and until the Lessee has, to the satisfaction of the Port Authority, fully complied with all of the terms of this Section and all other applicable terms of this Agreement and submitted to the Port Authority all certifications, documentation and the like required under this Section. No such final payment by the Port Authority shall constitute any waiver of claims or release by the Port Authority against the Lessee or ARUP/SOM, nor any waiver of the Port Authority's rights of audit and inspection, nor any waiver of any other rights or remedies, legal or equitable, of the Port Authority.

(6) No Waiver:

No Design Payment made by the Port Authority hereunder shall mean or be deemed to mean that the amount of such Design Payment is correct or that all the requirements set forth herein with respect to the payment by the Port Authority for the Port Authority's Cost of the Design Work have been met.

(7) Limited Obligation:

It is specifically understood and agreed that notwithstanding anything to the contrary herein, the Cost of the Design Work shall be reimbursed by the Port Authority as provided herein and only to the extent provided for herein and properly includable in the Cost of the Design Work. Further, the obligation of the Port Authority to pay to for the Cost of the Design Work shall be limited to the amount of (2.a.)

and shall be limited in time to a Design Work Certificates properly submitted by the Lessee in accordance with and under this Section on or prior to the Final Date.

(8) Further Requirements:

The Lessee shall promptly submit to the Port Authority further information, including but not limited to its estimate of the amounts and times of the various payments it will be making for the Cost of the Design Work as the Port Authority may from time to time, and at any time, request, and shall be available itself or cause ARUP/SOM to be available for consultation in connection with the Design Work Certificates submitted by this Lessee pursuant to this Section.

(c) (1) In addition to and without limiting any other term or provision of this Lease, the Port Authority shall have the right at any time and from time to time by its agents, employees and representatives to audit and inspect during regular business hours the books, records and other data of the Lessee relating to the Cost of the Design Work, or any part thereof, including without limitation any and all contracts covering or relating to the Design Work or any portion thereof, any and all invoices covering or relating to the Design Work or any portion thereof; it being expressly agreed and understood that the Port Authority shall not be bound by any prior audit conducted by it. The Lessee agrees to keep such books, records and other data within the Port of New York District but the Lessee shall not be required to maintain any such books, records and other data for more than four (4) years after the Final Date.

(2) If any books, records and other data described in paragraph (c)(1) of this Section are maintained outside of the Port of New York District, then the Port Authority in its sole discretion may (x) require on ten (10) days' notice to the Lessee that any such books, records and other data be made available to the Port Authority within the Port of New York District for examination and audit and/or (y) examine and audit any such books, records and other data the location(s) they are maintained and the Lessee shall pay to the Port Authority when billed all travel costs and related expenses, as determined by the Port Authority, for Port Authority auditors and other representatives, employees and officers in connection with such examination and audit.

(d) In the event that a Port Authority audit shall disclose, based upon Design Work Certificates or otherwise, that a Design Payment should not have been made or that amounts paid by the Port Authority pursuant to this Section exceed the amounts that are required to by paid by the Port Authority pursuant to this Section, then, upon thirty (30) days demand, the Lessee shall immediately pay to the Port Authority an amount equal to the excess amount paid by the Port Authority; the foregoing shall not be or be deemed to be any limitation, impairment or waiver of any other right or remedy of the Port Authority under the Lease or otherwise.

(e) If the Lessee has included in any portion of the Cost of the Design Work any item as having been incurred, but which in the opinion of the Port Authority was not so incurred, or which in the opinion of the Port Authority if so incurred is not an item properly chargeable to the Cost of the Design Work under generally accepted accounting practice, and the parties have been unable to resolve their differences within 90 days after

the Port Authority gave its notice objecting to the same, the decision of the Port Authority as to the nature of the items in question shall be final.

(f) It is hereby understood and agreed that nothing in this Supplemental Agreement shall be or shall be deemed for the benefit of ARUP/SOM or other third party and nothing contained herein shall operate or give to ARUP/SOM or third party any claim or right of action against the Lessee, the Port Authority and/or their respective Commissioners, officers, agents and employees."

"Section 96. Design Rental

(a) Definitions:

The following terms as used in this Section shall have the respective meanings given below:

(1) "***Design Rental Commencement Date***" shall mean the earlier to occur of (y) June 1, 2012 and (x) the "Design Rental Commencement Date" set forth in a notice, if any, given by the Port Authority to the Lessee, which Design Rental Commencement Date set forth in such notice shall not commence prior to June 1, 2009 nor sooner than thirty (30) days after such notice is given by the Port Authority to the Lessee.

(2) "***Design Accrued Amount***" shall mean with respect to each Design Payment, the product obtained by multiplying such Design Payment by the amount derived from the following formula:

$$(1+j)^{n} - 1$$

Where "j" equals the Monthly Factor, "n" a power that equals the number of calendar months, both whole and partial, occurring from and including the last day of the month in which the Payment Date for such Design Payment shall have occurred up to and including the Design Rental Commencement Date, both dates inclusive, provided, however, if the Payment Date for such Design Payment shall not be the first day of a calendar month, then the number "1" shall be subtracted from "n" and a fraction, the numerator of which shall be the number of days from the Payment Date for such Design Payment and the last day of the calendar month in which such Payment Date occurred, both dates inclusive, and the denominator of which shall be the number of days in such calendar month, shall be added to "n".

(3) "***Design Factor***" shall mean a percentage equal to the sum derived by adding the percentage 3.0% to the percentage reported as the weekly index of the Bond Buyer Revenue Bond Index in the publication "The Bond Buyer" on the day which is 30 days prior to the Design Rental Commencement Date, and if The Bond Buyer

is not published on such day, then on the day The Bond Buyer is published that is closest to 30 days prior to the Design Rental Commencement Date.

(4) "***Design Payment***" shall mean have the meaning given such term in Section 95 hereof.

(5) "***Design Rental Amount***" shall mean an amount calculated on a monthly basis equal to the product obtained by multiplying the Design Rental Factor by the Total Design Payment Amount.

(6) "***Design Rental Factor***" shall mean the factor derived in accordance herewith from time to time by application of the following formula:

$$\frac{i}{1 - \frac{1}{(1+i)^t}} = \text{Design Rental Factor}$$

Where "i" equals the Monthly Factor; "t" a power that equals the number of whole calendar months occurring from and after the Design Rental Commencement Date up to and including December 31, 2017; and "1" is the whole number one.

(7) "***Monthly Factor***" shall mean an amount equal to the quotient derived by dividing the Design Factor by the whole number twelve (12).

(8) "***Payment Date***" shall mean with respect to each Design Payment, the date that such Design Payment is made by the Port Authority.

(9) "***Total Design Payment Amount***" shall mean an amount derived as follows in the following order:

(A) First, the Design Accrued Amount for each Design Payment shall be added to the amount of such Design Payment (each such sum being herein referred to as a "***Total Design Payment***"); then

(B) Second, the Total Design Payment for all Design Payments shall be added together (such sum being herein referred to as the "***Total Design Payment Amount***").

(b) Payment of the Delta Design Rental.

(1) For the period commencing on the Design Rental Commencement Date up to and including December 31, 2017, both dates inclusive, the

Lessee shall pay to the Port Authority a monthly rental (the '***Design Rental***') in an amount equal to the Design Rental Amount. The Design Rental shall be paid on the Design Rental Commencement Date and on the first day of each and every calendar month thereafter occurring to and including December 1, 2017.

(c) Audit Findings:

In the event that an adjustment is made by the Port Authority with respect to any Design Payment pursuant to paragraphs (d) or (e) of Section 95 hereof, then the Design Rental Amount shall be recalculated based upon such adjustment. In addition, there shall be credited or debited, as the case shall be, against the Lessee's payment of future Design Rentals an amount equal to the difference between the amount of the Design Rentals which the Lessee has paid to the Port Authority and the amount of the Design Rentals as so recalculated.

(d) Prepayment:

The Lessee may prepay in full the unpaid balance of the Design Rental without penalty, provided, however, that any such payment shall be made on the scheduled date of the next succeeding installment payment.

8. As hereby amended, all of the terms, covenants, provisions, conditions and agreements of the Lease shall be and remain in full force and effect.

9. The Lessee represents and warrants that no broker has been concerned in the negotiation of this Supplemental Agreement or the extension hereunder and that there is no broker who is or may be entitled to be paid a commission in connection therewith. The Lessee shall indemnify and save harmless the Port Authority of and from any and all claims for commission or brokerage made by any and all persons, firms or corporations whatsoever for services in connection with the negotiation and execution of this Supplemental Agreement or the extension hereunder.

10. No Commissioner, director, officer, agent or employee of any party to this Supplemental Agreement shall be charged personally or held contractually liable by or to any other party under any term or provision of this Supplemental Agreement or of any supplement, modification or amendment to the Lease or because of its or their execution or attempted execution or because of any breach or alleged or attempted breach thereof.

11. This Supplemental Agreement consisting of Paragraphs 1 through 11 and Exhibit F, Exhibit G and Exhibit H and the Lease which it amends constitute the entire agreement between the Port Authority and the Lessee on the subject matter, and may not be changed, modified, discharged or extended except by instrument in writing duly executed on behalf of both the Port Authority an the Lessee. The Lessee and the Port Authority agree that no representations or warranties shall be binding upon the other unless expressed in writing in the

Lease or in this Supplemental Agreement.

IN WITNESS WHEREOF, the Port Authority and the Lessee have executed these presents as of the date first above written.

ATTEST:

Secretary

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

By

Printed Name: DAVID KAGAN

(Title) Assistant Director

(Seal)

ATTEST:

Secretary

Leslie P. Klemperer
Corporate Secretary

DELTA AIR LINES, INC.

By

Printed Name: John W. Boatright

(Title) Vice President- Corporate Real Estate
President

APPROVED:
FORM | TERMS

Final Dated 2/9/09 Version 2

For the Port Authority

STATE OF NEW YORK)
) ss
COUNTY OF NEW YORK)

On the 5TH day of MARCH in the year 2009, before me, the undersigned, a Notary Public in and for said state, personally appeared

DAVID KAGAN

personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Gail E. Mitchell
(Notarial seal and stamp)

GAIL E. MITCHELL
NOTARY PUBLIC-STATE OF NEW YORK
No. 01MI6026210
Qualified In Queens County
My Commission Expires June 14, 20 11

For the Lessee

STATE OF ~~NEW YORK~~ Georgia)
) ss
COUNTY OF ~~NEW YORK~~ Fulton)

On the 18th day of February in the year 2009, before me, the undersigned, a Notary Public in and for said state, personally appeared

John W. Boatright

personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Lisa Gavin
(notarial seal and stamp)

LISA GAVIN
NOTARY PUBLIC
MY COMMISSION EXPIRES
DECEMBER 6, 2012
COBB COUNTY, GEORGIA

EXHIBIT G

To

Supplement No. 2 to Lease AYC-325

Between

The Port Authority of New York and New Jersey

And

Delta Air Lines, Inc.

Initialed:

For the Port Authority

For the Lessee

PLEASE REFERENCE THIS PURCHASE ORDER NUMBER ON ALL INVOICES: 91-30145
Cost Center: C8770ATG GL Account: 6407187 Contract #: 0094329

SPECIAL SERVICES AGREEMENT

THIS SPECIAL SERVICES AGREEMENT (this "Agreement") is made the 25th day of June, 2007, by and between:

Owner: Delta Air Lines, Inc.
1030 Delta Boulevard
Atlanta, Georgia 30354-1989

Attn: Corporate Real Estate, Dept. 877
Fax Number: (404) 715-2548

and
Architect: ARUP/SOM, a joint venture of
Skidmore, Owings & Merrill LLP Architects
and Ove Arup & Partners Consulting Engineers PC
14 Wall Street
New York, NY 10005

Attn: Anthony T. Vacchione, AIA
Fax Number: (212) 298-9500

for the Project: JFK Terminal Planning Study
John F. Kennedy International Airport
Jamaica, NY

For and in consideration of the covenants, promises and obligations contained herein, Owner and Architect agree as set forth below.

ARTICLE 1: SERVICES

1.1 Architect shall provide those services for the Project described in Exhibit A, attached hereto and incorporated herein by reference for the sole purpose of describing Architect's services and, in Exhibit B attached hereto and incorporated herein by reference to establish billing rates and not to exceed amounts for fees and reimbursable expenses. Any other terms and conditions therein, such as payment terms and indemnification, do not apply to this Agreement.

1.2 In the event Architect is requested to render services or incur expenses which Architect believes are beyond the scope of Architect's services set forth herein, it shall be the obligation of Architect to so advise Owner in writing prior to rendering such services or incurring such expenses. Unless Owner then gives its advance written approval of such additional services or expenses, Owner shall not be responsible for any extra compensation claimed by Architect on account of such services or expenses. In the event additional services or expenses are required as a result of an error by Architect or its failure to comply with this Agreement or Owner's instructions, then such cost for additional services shall be borne by Architect.

1.3 Architect shall perform the services as expeditiously as is consistent with professional skill and care and the orderly progress of the Work. Architect shall perform the services within 60 calendar days from the Notice to Proceed date. Architect shall submit for Owner's approval, a schedule of deliverables consistent with the Project schedule, for the performance of Architect's services. This schedule may be adjusted as required as the Project proceeds, and shall include allowances for periods of time required for Owner's review and approval of submissions and for approvals of authorities having jurisdiction over the Project.

ARTICLE 2: OWNER'S RESPONSIBILITIES

2.1 Owner shall provide full information regarding requirements for the Project as expeditiously as necessary for the orderly progress of the Work, and Architect shall be entitled to rely upon the accuracy and completeness thereof.

2.2 Owner shall designate, when necessary, a representative authorized to act on Owner's behalf with respect to the Project. Owner or such authorized representative shall examine the documents submitted by Architect and shall render decisions pertaining thereto promptly, to avoid unreasonable delay in the progress of Architect's services.

ARTICLE 3: PAYMENTS TO ARCHITECT

3.1 Payments for Architect's services shall be made monthly upon Architect's statement of services rendered. Owner shall make payment of undisputed amounts within forty-five (45) calendar days after the receipt of the invoice therefor.

3.2 If the Project is suspended or abandoned in whole or in part for more than three months, Architect shall be compensated for all services performed prior to receipt of written notice from Owner of such suspension or abandonment, together with all Termination Expenses as defined in Paragraph 5.4.

ARTICLE 4: ARCHITECT'S RECORDS

4.1 Architect's records pertaining to services performed and expenses incurred pursuant to this Agreement shall be kept on the basis of generally accepted accounting principles and shall be available to Owner or Owner's representative at mutually convenient times.

ARTICLE 5: TERMINATION OF AGREEMENT

5.1 This Agreement may be terminated by either party upon seven days written notice should the other party fail substantially to perform in accordance with its terms through no fault of the party initiating the termination.

5.2 This Agreement may be terminated by Owner, in Owner's sole discretion, for convenience and with or without cause, upon at least seven days written notice to Architect.

5.3 In the event of termination not the fault of Architect, Architect shall be compensated for all services performed to the termination date, together with all Termination Expenses as defined in Paragraph 5.4.

5.4 Termination Expenses are defined as additional expenses directly attributable to termination which could not reasonably have been avoided and for which Architect is not otherwise compensated. Termination Expenses shall not include lost profits, lost opportunities, consequential damages, or the like.

ARTICLE 6: BASIS OF COMPENSATION

6.1 For the purposes of this Article 6, the following definitions shall apply. "Architect's Fee" shall mean the fee payable to Architect (other than Labor Costs) for the services described in Paragraph 1.1. "Labor Costs" shall mean all costs of Architect's personnel and any other independent professional contracted by Architect. "Reimbursable Expenses" shall be limited to actual expenditures made by Architect and Architect's employees and consultants in the interest of the Project and shall include expenses of transportation and living expenses in connection with out-of-town travel in accordance with Owner's Travel Reimbursement Policy attached to this Agreement as Exhibit C, when authorized by Owner in writing; long distance communications; fees paid for securing approvals of authorities having jurisdiction over the Project; reproductions; postage and handling of documents; renderings and models requested by Owner in writing; and expense of overtime work requiring higher than regular rates, if authorized by Owner in writing.

6.2 Owner shall compensate Architect for Architect's services, in accordance with ARTICLE 3: PAYMENTS TO ARCHITECT, and the other Terms and Conditions of this Agreement, per the schedule set out below. Such compensation shall cover all of Architect's services and expenses including the Architect's Fee, Labor Costs and Reimbursable Expenses.

.1 NOT-TO-EXCEED SUM: The not-to-exceed sum of One Hundred Eighty Six Thousand Eight Hundred Seventy Five Dollars (NTE $186,875.00), being the total of:

The not-to-exceed sum of One Hundred Sixty Six Thousand Eight Hundred Seventy Five Dollars ($166,875.00) for the Architect's Fee, according to the billing rates shown on Exhibit B; and

The not-to-exceed sum of Twenty Thousand Dollars (NTE $20,000.00) for Reimbursable Expenses.

6.3 Partial payments pursuant to Paragraphs 3.1, 3.2, or 5.3 shall be based upon the pro-rata portion of services performed and expenses incurred.

6.4 The Architect's compensation includes, and Architect shall be responsible for the payment of, any and all Taxes ("Taxes" means sales, use, customs, excise, value added, ad valorem or other similar tax, assessment, duty or similar governmental charge or fee chargeable on account of this Agreement, but excluding any tax measured by the net or gross income or excess profits, receipts, capital, franchise, net worth or business privilege of Owner) levied on Owner or Architect in connection with the Architect's services, and Architect expressly agrees to pay all such amounts, whether or not the statutory liability therefor is assigned to Owner; however, Architect's compensation shall not include amounts for any Taxes for which there is an exemption, and Owner agrees to use best efforts to take advantage of any such exemptions for Architect's benefit. Architect shall indemnify and hold Owner harmless with respect to the payment of any of these Taxes including any interest or penalties assessed thereon. If a claim is made against Owner for Taxes with respect to which Architect is responsible for payment hereunder, Owner will promptly give Architect notice in writing within thirty (30) days of such claim; provided, however, Owner's failure to give such notice will not relieve Architect of its obligations hereunder to pay such Taxes. Architect will be required to remit payment to Owner or the tax authority, as appropriate, unless Architect is permitted by applicable law to contest such claim and defer payment in accordance with the law. Such contest will be coordinated by Owner and the expense will be borne by Architect, and includes, but is not limited to all costs, expenses, legal and accounting fees, penalties and interest. If either party receives any refund on account of any suit or action with respect to any Taxes that were paid by the other party, the party receiving such refund shall promptly, but in any event within thirty (30) days of receipt of such refund, remit such refund to the other party, together with interest refunded on such amount.

ARTICLE 7: SPECIAL CONDITIONS

7.1 Architect shall maintain the following insurance coverages, with an insurance company or companies satisfactory to Owner for claims which may arise from and during operations under this Agreement, whether such operations be by Architect, its subcontractors or anyone directly or indirectly employed by any of them. Certificates of such insurance shall be filed with Owner prior to commencing the services contemplated by this Agreement, and shall provide coverage in not less than the following amounts:

Errors and Omissions or Professional Liability	When the amount stated in Paragraph 6.2 is greater than $100,000, the minimum policy limit shall be $3,000,000 per claim and in the aggregate. When the amount stated in Paragraph 6.2 is equal to or less than $100,000 the minimum policy limit shall be $1,000,000 per claim and in the aggregate
Commercial General Liability	$1,000,000 combined single limit per occurrence for bodily injury and property damage
Worker's Compensation	Statutory limits
Employer's Liability	$1,000,000 per occurrence
Automobile Liability	$1,000,000 combined single limit per occurrence for bodily injury and property damage

7.2 Except for claims arising under the Errors and Omissions and Workers' Compensation policies, the policies shall contain an appropriate cross-liability clause insuring Owner against any loss or damage to Owner or Owner's property resulting from any acts or omissions of Architect, its officers, directors, employees, agents or contractors, and shall name Owner as an additional insured to the extent of the indemnity obligations hereunder. The liability insurance policies shall include contractual liability. All insurance Architect provides shall be primary and not contributory as to any coverage of Owner. All policies shall remain in full force and effect for at least thirty (30) days after Owner receives written notice of cancellation, termination or material modification.

7.3 Except as provided below in clauses (1) and (2) of this Paragraph 7.3, to the fullest extent permitted by law, Architect shall indemnify, defend and hold harmless Owner and its directors, officers, employees and agents (collectively, the "Indemnified Parties" and individually, an "Indemnified Party") from and against any and all claims, damages, losses, fines, civil penalties, liabilities, judgments, costs and expenses of any kind or nature whatsoever (including but not limited to interest, court costs and attorney's fees) ("Claims"), arising out of or result from any act(s) or omission(s) by Architect (or anyone directly or indirectly employed by Architect or anyone for whose acts Architect may be liable) in the performance or nonperformance of the services under this Agreement, including but not limited to injury to or death of any person, damage to or destruction of any property, real or personal (including but not limited to property owned, leased or under the control of Owner), and liability or obligations under or with respect to any violation of federal, state and local laws, regulations, rules, codes and ordinances (including but not limited to those concerning environmental protection). This Paragraph 7.3 shall apply regardless of whether or not the damage, loss or

injury complained of arises out of or relates to the negligence (whether active, passive or otherwise) of, or was caused in part by, an Indemnified Party. However, (1) nothing contained in this Paragraph 7.3 shall be construed as a release or indemnity by Architect of an Indemnified Party from or against any loss, liability or claim arising solely from the negligence or willful misconduct of that Indemnified Party, and (2) with respect to Claims which are within the definition of coverage under Architect's Errors and Omissions/Professional Liability policy, this indemnity shall apply only to the extent such Claims arise out of or result from the negligent act(s), error(s), or omission(s) of Architect, or anyone directly or indirectly employed by Architect or anyone for whose acts Architect may be liable. This Paragraph 7.3 shall not be construed to negate, abridge or otherwise reduce any other right to indemnity which would otherwise exist in favor of any Indemnified Party, or any other obligation of Architect, its officers, directors, employees, agents or contractors to indemnify an Indemnified Party. Architect's obligations under this Paragraph 7.3 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits paid or payable by Architect under Workers' Compensation Acts, disability benefits acts or other employee benefit laws or regulations. The indemnification obligations of this Paragraph 7.3 shall survive termination or expiration of this Agreement.

7.4 All services hereunder shall be furnished by Architect as an independent contractor. All personnel utilized by Architect in the furnishing of such services shall be employees or subcontractors of Architect and under no circumstances shall be deemed employees of Owner. Architect shall be fully responsible for all acts and omissions of such personnel. Architect shall bear sole responsibility for payment of compensation to such personnel. Architect shall withhold (if applicable), pay and report, for all such personnel all federal, state and local income tax withholding, social security taxes, employment head taxes, and unemployment insurance applicable to such personnel. Architect shall bear sole responsibility for any health or disability benefits, retirement benefits, or welfare, pension or other benefits (if any) to which such personnel may be entitled.

7.5 For purposes of this Agreement, "Confidential Information" shall mean all information that Owner or any affiliate or representative of Owner discloses to Architect, as well as information disclosed to Architect by third parties in connection with the Project, and the work product and other information resulting from Architect's services hereunder, including without limitation Architect's evaluations and reports, Owner's responses to Architect's evaluations and reports, cost information, the extent and nature of the Project contemplated by Owner, and all drafts and associated materials; provided that Confidential Information does not include information that Owner identifies in writing as not confidential, that rightly becomes public, or that Architect otherwise knows or receives without obligation of confidence. For a period of five (5) years from the date of disclosure, Architect agrees to hold all Confidential Information in trust and confidence for Owner and agrees not to disclose Confidential Information, by publication or otherwise, to any person other than to Architect's consultants or subcontractors, employees, Owner, or any authority having jurisdiction over the Project, or to third parties having a need to know and whom Owner agrees in writing may receive such information; provided that, prior to such disclosure to third parties, Architect shall obtain appropriate non-disclosure agreements from such persons and firms. If any medium containing Confidential Information is lost, Architect shall promptly notify Owner. Architect shall not copy Confidential Information unless approved in writing by Owner. Upon expiration or early termination of this Agreement, Architect shall return to Owner all written or descriptive matter, in any form, which contains any Confidential Information, except that Architect may retain one copy of such documents or things for its records.

7.6 Drawings, specifications and other documents, including those in electronic form, prepared by the Architect and the Architect's consultants are for use solely with respect to this Project. Any other use shall be at the Owner's sole risk and without liability to the Architect or the Architect's consultants. Unless Owner fails hereunder to pay Architect therefor, Owner shall be deemed the owner of such drawings, specifications and other documents and shall have and retain all rights therein. In the event the Owner is adjudged to have failed hereunder to pay Architect for such drawings, specifications or other documents, ownership thereof, and all rights therein, shall revert to the Architect.

7.7 At the Owner's option the study may be continued for up to three additional 30 calendar day extension periods at the same terms, rate and conditions established in this Agreement and Exhibit B attached hereto.

ARTICLE 8: MISCELLANEOUS PROVISIONS

8.1 Unless otherwise specified, this Agreement shall be governed by the law of the principal place of business of Owner.

8.2 Owner and Architect, respectively, bind themselves, their successors, assigns, and legal representatives to the other party to this Agreement and to the successors, assigns and legal representatives of such other party with respect to all covenants of this Agreement. Neither Owner nor Architect shall assign or transfer any interest in this Agreement without the written consent of the other.

8.3 This Agreement represents the entire and integrated agreement between Owner and Architect and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument

signed by both Owner and Architect. In the event of any inconsistency between this Agreement and Exhibit A attached hereto, this Agreement shall control.

8.4 If the scope of the Project or of Architect's services is changed materially, the amounts of compensation shall be equitably adjusted.

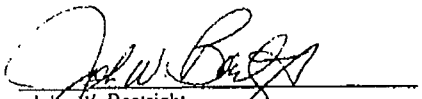
8.5 Architect acknowledges that (i) Owner is committed to enhancing business opportunities for small business, veteran-owned small business, HUBZone small business, small disadvantaged business and women-owned small business enterprises (collectively, "Small Business") as first and second tier suppliers to Owner, and (ii) Owner believes that every reasonable attempt should be made to include and utilize Small Business supplier firms as suppliers to Owner, as long as they are competitive on price, quality and service, and provide the best overall value for Owner. Architect agrees to cooperate with Owner to achieve the general objective of including Small Business supplier firms as suppliers to Owner, in accordance with the guidelines described in clause (ii) above, and to use all commercially reasonable efforts to include Small Business supplier firms in its procurement process. Upon request, Architect shall complete and submit to Owner supplier diversity reports in such format as Owner may reasonably specify, including without limitation a Supplier Diversity Quarterly Utilization Report.

8.6 Any notices, requests or other communications required or permitted to be given hereunder shall be in writing and shall be delivered by hand, by overnight courier or by facsimile transmission ("fax"), or mailed by registered or certified mail, return receipt requested, postage prepaid, and addressed to the appropriate party at its address or to its fax number first set forth above. Any such notice, request or other communication shall be considered given on the date of hand or courier delivery if delivered by hand or overnight courier, on the date of receipt if delivered by fax, or on the date of deposit in the mail as provided above. Rejection or other refusal to accept or inability to deliver because of changed address or fax number of which no notice was given shall not affect the validity or the effectiveness of the notice, request or other communication. By giving at least ten (10) days' prior written notice thereof, either party may from time to time and at any time change its mailing address hereunder.

8.7 In performing the services pursuant to this Agreement, Architect shall comply with the principles of business ethics and conduct required of suppliers to Owner as set forth in Owner's booklet entitled "Doing Business with Delta," available on-line at http://www.delta.com/about_delta/partnering_with_delta/supplier_diversity/suppliers_doing_business/index.jsp

This Agreement entered into the day and year first written above.

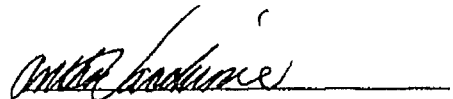
Owner: Delta Air Lines, Inc.

By: 

Name: John W. Boatright
Title: Vice President – Corporate Real Estate
Date: 9-10-07

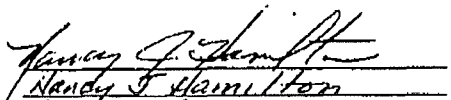
Architect: ARUP/SOM, a New York joint venture

By: Skidmore, Owings & Merrill LLP Architects, joint venturer

By: 

Name: ANTHONY VACCARELLI
Title: PARTNER
Date: SEPTEMBER 12, 2007

By: Ove Arup & Partners Consulting Engineers PC, joint venturer

By: 

Name: Nandy F Hamilton
Title: Principal
Date: Sept 26, 2007

Exhibit A

Scope Description

June 5, 2007

Delta Air Lines
JFK Terminal Planning Study
John F. Kennedy International Airport
Jamaica, NY

Project Description:

- Delta is undertaking a study to develop terminal master plan concepts to support its forecast operations at JFK International Airport.
- The concepts will encompass redevelopment of Delta's Terminal 2 and 3 site as well as expansion or integration with Terminal 1 or Terminal 4.
- This initial study is planned to begin July 1, 2007 and be completed August 31, 2007.
- This study will be a high level planning effort and engineering or specialty consultants will not be required.

Services shall include:

- Assist Delta with development of high level program requirements for gates, processors and support space.
- Evaluate existing JFK Terminal 1 and Terminal 4 plans for a working knowledge of:
  - Curbside lengths
  - Passenger & baggage processor counts
  - FIS processor counts, capacity and processing times
  - Support space
  - Clubs & concessions
  - TSA screening
  - Gates, fleet mix, international/domestic capability
  - Constraints to terminal modification & expansion
- Explore master plan concepts to support program requirements.
- Develop two or three viable concepts. Provide site plans, terminal functional floor plans and functional building sections to describe each concept at a high level.
- Prepare high level phasing plans for each concept that support Delta's on-going operations during construction.

- Provide estimated areas and units for Delta's use in establishing rough order of magnitude pricing and schedules for each concept.

Your proposal response is to be inclusive in 10 pages or less:

- Brief resumes of key individuals who will be assigned to this study
- Relevant project experience and qualifications

In addition, complete and attach to your response, the Proposal Matrix indicating your proposed fees and not-to-exceed reimbursable expenses.

Exhibit B

SECTION I :: TEAM ORGANIZATION

THE ARUP/SOM TEAM

We are proposing for this Study a blended team of the most experienced airport terminal planners from Arup and SOM. We feel that together we offer Delta the strongest possible team to address what we already know – from working with you during 2000 and 2001 – is a very challenging project. All the key staff members from that project are ready to bring that knowledge to bear on your new set of requirements. In the intervening years we have gained even more PA and JFK experience, including projects for low-cost carriers. We feel we begin with the advantage of our previous experience with you and with the T2/3 site, but we bring a fresh look and our customary objectivity. Our strategic thinking is second to none. Let us re-introduce ourselves.

Arup-SOM Key Strengths and Relevant Experience

- Current understanding of JFK-wide operations at the highest level of planning through consultation to the Port Authority
- Current detailed knowledge of ground conditions and infrastructure as engineers and/or architects for T4, T5/6, and T7. Knowledge of T1 is also present within the team
- Current knowledge of Port Authority requirements, procedures and processes
- Architects and engineers for previous Delta project to redevelop T2/3 during 2000-2001
- Broad understanding of Delta operations and departments
- Key staff from the foregoing projects are available for the new Delta JFK Terminal Planning Study
- Planners and designers of facilities for low-cost carriers emphasizing quick-turnaround operations and cost-effective / low-cost design
- Extensive US and world-wide master planning experience
- Noted for detailed phasing plans for multiple JFK projects

Arup Firm Description

Arup has one of the world's largest and most successful airport consulting practices. We are committed to providing optimal solutions in planning, design, development and operational consulting for aviation-related facilities worldwide. Arup has been involved in airport development work for 40 years. During this period we have worked on a wide range of projects at more than 100 airports, with over $15 billion in constructed projects. Our aim is to provide the highest quality professional services in all aspects of our airport practice, consistently and economically.

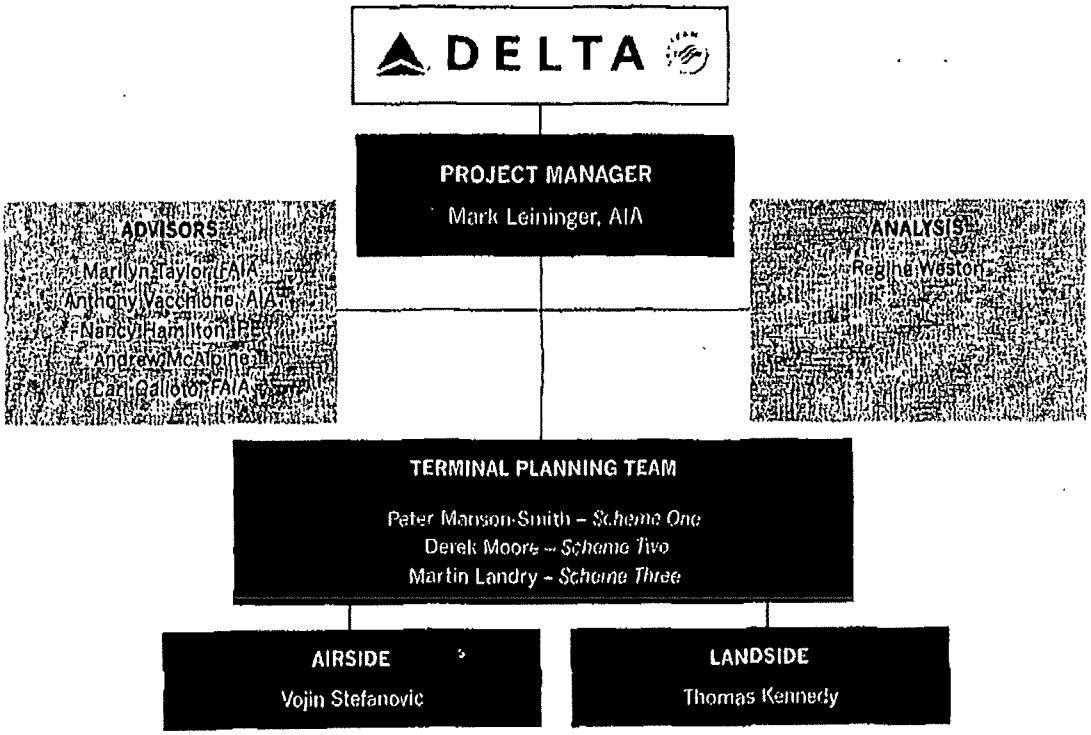
Arup has an in-depth knowledge of JFK International Airport from Terminal 1 to Terminal 7 as a result of 15 years of on-going work, both major and minor, at the airport. Our planning efforts at JFK have been implemented at Terminals 4 (JFKIAT), 5 (jetBlue), 6 (jetblue and United) and 7 (British Airways) on the airside, landside, and terminals. For the Port Authority, Arup provided the re-configuration design of the Terminals 5, 6 and 7 landside, including new parking structures, as well as strategic long range planning studies for the overall airport.

For Delta at JFK, Arup and SOM continued our partnership from Terminal 4 to plan an extension to T4 for Delta, with a phased strategy for replacement of Terminals 2 and 3 and integration of the landside and airside. That work unfortunately was stopped due to 9-11, but the knowledge of the puzzle pieces and possibilities still resides in the team we are bringing to your project.

SOM Firm Description

SOM specializes in designing complex, cost-effective airport terminals. Combining an in-depth knowledge of airport terminal design with an efficient approach, SOM's designs accommodate both the immediate needs of the passenger as well as our clients' need for long-term, flexible facilities. SOM Airports pays close attention to the design of functional spaces that are understandable and reflect a high level of passenger service. We also anticipate future changes, and our group works closely with clients to design facilities that respond to current operational demands as well as to the demands of projected expansion and growth.

SOM's history with JFK International Airport began in 1957 with the opening of the International Arrivals Building. Since then SOM has continued building upon our relationship with JFK and the Port Authority with terminal planning studies, designs for expansions and renovations and new facilities.



UNDERSTANDING OF KEY ISSUES

- Delta still needs the JFK facilities to function as a significant transfer hub between European/Asian and domestic US routes.
- Meeting the connection transfer time between domestic and international is a challenge, particularly with respect to phased development and baggage handling systems
- Delta will have increased its emphasis on cost-effective and highly functional solutions since 2001
- The T2/3 airside is fairly constrained, and operating almost at the saturation point. Phasing of aircraft parking positions during construction will be of paramount importance. Adjacent aprons may need to come into play.
- Delta's fleet mix must be considered in aircraft parking schemes, which can achieve certain efficiencies relative to the standard Code E aircraft planning dimensions.
- The JFK road quadrant system limits the ability to combine quadrants. The geometry of the roads must be understood. Splitting international and domestic landside traffic between quadrants leads to wayfinding and signage problems on the roads.
- T2 and T3 have limited landside curb lengths due to their "corner" position in the JFK central terminal area. Multiple terminal roadway alignments and diverse curb elevations are further complicated by the presence of the AirTrain station and infrastructure.
- Terminal 4 concourses are 3 levels high, with a constrained floor height at Level 2, while domestic operations would ideally want to depart and arrive at Level 2.
- T1 is also in effect a 3-level terminal, with an intermediate arrivals mezzanine floor. In addition, its international CBP arrivals facilities are located on the far side of the building, making connections to the T2 side difficult.
- "Decanting" of other airlines or Delta products from existing facilities in order to maintain existing levels of operation and service requires extra phasing considerations.
- Parking locations for A380 aircraft need to be maintained or relocated within the T1 and T4 sites if those aprons are involved in the Delta expansion.

A NOTE ON THE FEE PROPOSAL

We would welcome a discussion of our fee proposal. It is strongly informed by our understanding of the very complex issues on the landside, the constraints of the airside, and the need for multiple phases and sub-phases. Our advanced knowledge of the site has led us to include very experienced specialist planners for landside and airside, in support of the three independent terminal planners who will each develop a distinct concept. We feel that this approach – combined with our sophisticated analysis and programming – will give Delta the best value for money. We hope we have not disadvantaged ourselves by knowing what it will take to develop truly viable solutions for this complex site.

In addition, our fee proposal assumes the adequacy of the base planning data to be provided by Delta. We also assume – based on our previous experience – that Delta will provide a streamlined point of contact for this Study, and that interaction with the Port Authority and Delta operational departments will be appropriate to the high-level nature of this Study.

OUTLINE OF ARUP-SOM TEAM PROCESS

Task 1 – Assist Delta with development of high-level program requirements

With our analytical tools we will be able to move very quickly from the gate and peak hour information you provide to a robust set of terminal processors, taking into account your new business plans and strategic objectives for the JFK hub. We know that the landside requirements will also need to take into account Port Authority parameters. Within our team we have current knowledge of the airport's entire set of operations, and we have the analytical tools and benchmarks to help Delta quickly define an efficient set of processors and support facilities.

Task 2 – Evaluate existing JFK Terminal 1 and Terminal 4 plans

We have most of this base data already and will be able to hit the ground running. SOM and Arup were the architects and engineers for Terminal 4 and the proposed Delta Expansion. The team includes staff who participated in Terminal 1. Most important will be the knowledge of JFK infrastructure and ground conditions. Even though engineering and specialty sub-consultants are not required for this Study, our multi-disciplinary team and JFK experience makes that knowledge and expertise available anyway.

Task 3 – Explore master plan concepts to support program requirements

We will cast the widest possible net when looking at initial master planning concepts. We will begin this exploration almost immediately. We will be able to draw upon the numerous concepts that were looked at in the past, to see if any of these can be modified for Delta's current needs. However, we will be able to take a fresh and objective look at a wide range of new concepts, based on our extensive master planning experience. In particular, we will be able to apply an understanding of the requirements of an international-domestic hub operation with a high percentage of transfers. We plan to present the full range of concepts with a preliminary assessment and, through discussion and evaluation, assist Delta in the selection of three short-listed concepts for further development.

Task 4 – Develop three viable concepts

A unique aspect of our team will be the ability to put fully independent planning teams to work developing different concepts. These teams will be led by different senior planners from Arup and SOM. This approach assures Delta that the broadest possible range of alternatives will be considered at the outset. These teams will continue developing the short-listed concepts. Delta will be assured of receiving truly distinct concepts built on the same base assumptions and informed by a knowledge of existing conditions.

The key staff who participated in Delta's previous redevelopment project for T2/3 during 2000 and 2001 area all available to contribute to the new study. We have that much more experience since then, including the work at T5/6 for jetBlue and designing for other low-cost carrier operations.

Task 5 – Prepare high-level phasing plans for each concept

Our team has developed detailed phasing plans for all of our many projects at JFK. We understand the constraints and opportunities presented by the adjacent terminal sites. We know from previous work for Delta on the T2/3 site that there will be no viable concept without a viable phasing plan. There will likely be multiple phases and sub-phases. The landside in particular presents major phasing issues.

Task 6 – Provide estimated areas and units

During the early weeks of the Study (Task 1) we will begin working closely with Delta to understand the specific support facility needs for the redeveloped JFK hub. This information will inform the development of viable concepts in task 4. By the time we get to Task 6 we will not only be able to provide the unit information and area breakdowns, but also – given our extensive and current experience at JFK (T4, T5) and elsewhere in New York – we will be able to assist Delta in building up the rough order of magnitude cost of the work.

Deliverables

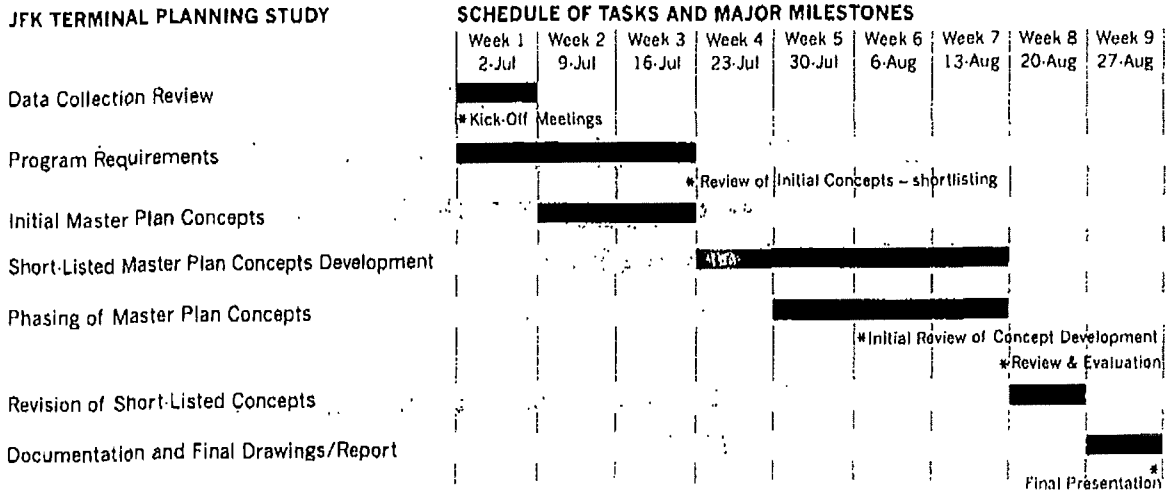
- Technical Memorandum presenting the initial concepts considered and the rationale for winnowing the long list to three viable concepts to carry forward
- Final Report presenting the three short-listed concepts and a high-level evaluation and assessment

Graphic documentation of the three schemes:

- Site plans
- Terminal functional floor plans
- Functional building sections
- High-level phasing plans
- Estimated areas and units
- Other supporting diagrams and graphics

JFK TERMINAL PLANNING STUDY

SCHEDULE OF TASKS AND MAJOR MILESTONES



MARILYN TAYLOR, FAIA / URBAN DESIGN PARTNER / SOM

Marilyn leads the SOM Airports practice. She has directed the planning and design of most of SOM's major terminal projects, including those at Dulles, Newark, Toronto, and JFK Terminal 4, as well as other significant terminals around the world. Marilyn will provide strategic direction to this Study.

John F. Kennedy International Airport, Jamaica, New York
- Feasibility Study
- Terminal 4
- Terminal 4 / Delta Air Lines Expansion

Newark Liberty International Airport, Newark, New Jersey
- Continental Airlines Global Gateway

Logan International Airport, Boston, Massachusetts
- Design Guidelines
- Terminal E, International Arrivals Building

Dulles International Airport, Washington, DC
- Airport Master Plan
- Main Terminal Renovation/Expansion
- International Arrival Facility

Lester B. Pearson International Airport - Toronto, Canada

Hong Kong International Airport, Hong Kong, China
- SkyCity Master Plan / Terminal 2/SkyPlaza

Changi International Airport, Singapore
- Terminal 3

ANDREW McALPINE / PRINCIPAL AIRPORT PLANNER / ARUP

Andrew McAlpine leads Arup's North American Interchange and Terminal Planning Business. He is a professional architect with particular expertise in aviation terminal and facilities planning and design. Andrew is adept at responding to complex problems requiring highly functional concepts, tailored to specific sites and operational requirements. His experience includes developing innovative implementation strategies that respond to the many practical issues surrounding project development in active operational environments.

John F. Kennedy International Airport, Jamaica, New York
- jetBlue Terminal 5 Development
- Planning Alternatives Analysis

Washington Dulles International Airport, Washington, DC
- Tier 2 Programming and Planning

Minneapolis-St. Paul International Airport, Minneapolis, Minnesota
- 2020 Masterplan

Seattle-Tacoma International Airport, Seattle, Washington
- Simulation of Security Screening

Lester B. Pearson International Airport, Toronto, Ontario
- Airport Development

Ottawa Macdonald-Cartier International Airport, Ottawa, Ontario
- Terminal Development

ANTHONY VACCHIONE, AIA / MANAGING PARTNER / SOM

Tony has served as project manager for most of SOM's major terminal projects, including the JFK Terminal 4 Feasibility Study, the design of Terminal 4, and the proposed Expansion for Delta suspended in 2001. Tony will serve as Managing Partner for this Study, providing oversight and strategic direction.

John F. Kennedy International Airport, Jamaica, New York
- Feasibility Study
- Terminal 4
- Terminal 4 / Delta Air Lines Expansion

Newark Liberty International Airport, Newark, New Jersey
- Continental Airlines Global Gateway

Logan International Airport, Boston, Massachusetts
- Design Guidelines
- Terminal E, International Arrivals Building

Dulles International Airport, Washington, DC
- Airport Master Plan
- Main Terminal Renovation/Expansion
- International Arrival Facility

Lester B. Pearson International Airport - Toronto, Canada

San Francisco International Airport, San Francisco, California

Dublin Airport, Dublin, Ireland, Pier D

Hong Kong International Airport, Hong Kong, China
- SkyCity Master Plan / Terminal 2/SkyPlaza

NANCY HAMILTON / AVIATION TECHNICAL PLANNER / ARUP

Nancy Hamilton, a Principal with Arup, is their Aviation Sector Leader in America who has led 8 projects at JFK. She is expert at leading teams to create highly efficient and economical multi-disciplinary solutions. As Project Engineering Director on a daily basis for the $1.4 billion Terminal 4 at JFK, and as Principal in Charge /PM for Delta's major Expansion project at JFK in 2000 and 2001, she brings an expert knowledge of what is easily achievable or difficult to achieve on the Terminal 4 site, and on the airport landside for the Port Authority.

John F. Kennedy International Airport, Jamaica, New York
- jetBlue Terminal 5 Development
- Planning Alternatives Analysis

John F. Kennedy International Airport, Jamaica, New York
- Terminal 4
- Delta Expansion, 26 gates
- Master plan for Terminal 5 Jet Blue
- Terminal 4, Emirates A380 Gate Expansion, (current)

Minneapolis St Paul International Airport 2020 vision, 38 gate expansion, (2004)

Kunming Xiashao International Airport, China, 60m PAX airport (2006)

CARL GALIOTO, FAIA / TECHNICAL PARTNER / SOM

Carl Galioto is the firm wide Partner-in-Charge of SOM's Technical Group. The Technical Group is responsible for quality assurance, cost control, code compliance, exterior wall development, and the integration of building services and structural systems in the early design phases of projects, in addition to having the full responsibility for construction documents and construction administration.

Carl served as Senior Technical Coordinator for the JFK Terminal 4 project, as well as for the proposed Expansion for Delta, and will provide advice and guidance for the phasing planning of this Study.

John F. Kennedy International Airport, Jamaica, New York,
Terminal 4
Terminal 4/Delta Air Lines Expansion

Continental Airlines Global Gateway, Newark Liberty International Airport, Newark, New Jersey

Seven World Trade Center, New York, New York

World Trade Center, Tower One, "Freedom Tower" New York, New York

James A. Farley Post Office Renovation/Moynihan Station Redevelopment Project, New York, New York

New York Stock Exchange, New York, New York

MARK LEININGER / PROJECT MANAGER / SOM

Mark is an experienced project manager for airport and other transportation projects. He participated in the JFK Terminal 4 Expansion project, as well as playing significant planning roles in the completion of SOM's work at Logan terminal E, Toronto, and Dulles. He understands all phases of airport project development and will serve as overall Project Manager for the Study.

John F. Kennedy International Airport, Jamaica, New York
Terminal 4 /Delta Air Lines Expansion

Logan International Airport, Boston, Massachusetts
Terminal E, International Arrivals Building

Newark Liberty International Airport, Newark, New Jersey
Continental Airlines Global Gateway

Lester B Pearson International Airport, Toronto, Canada

Dulles International Airport, Washington, DC
Airport Master Plan
Main Terminal Renovation/Expansion
International Arrival Facility

James A. Farley Post Office Renovation/Moynihan Station Redevelopment Project, New York, New York

PETER MANSON-SMITH / TERMINAL PLANNER / ARUP

Peter Manson-Smith is an Associate Principal and Senior Airport Planner with more than 30 years experience in airport planning and development. He has worked at some of the world's most demanding airports, bringing a keen understanding of the intricacies of airport operations to deliver balanced, efficient and highly functional plans and designs, which minimize adverse impacts on the ongoing daily operations of busy international airports.

John F. Kennedy International Airport, Jamaica, New York
Terminal 4 Planning (current)
Terminal 5 Planning for jetBlue (current)
Terminal 6 Development (current)

LaGuardia International Airport, New York, New York
Port Authority of NY & NJ, Gate Capacity/Demand Analysis

Newark International Airport, Newark, New Jersey
Gate Utilization and Optimization

Atlanta Hartsfield International Airport, Atlanta, Georgia
Master Plan

Minneapolis-St. Paul International Airport, Minneapolis, Minnesota
2020 Plan

Lester B. Pearson International Airport, Toronto, Ontario
Terminal Development Master Plan

Dublin International Airport, Dublin, Ireland
Terminal 2 Development

Portland International Jetport, Portland, Oregon
Terminal and Apron Development Plan

DEREK A. R. MOORE / TERMINAL PLANNER / SOM

Derek has led master planning studies for numerous airports. He was SOM's lead planner for the expansion of Continental's hub at EWR and the suspended JFK Terminal 4 Expansion project for Delta. Prior to joining SOM he participated in the Terminal 1 project at JFK. He brings a broad knowledge of the site, from T1 through T4.

John F. Kennedy International Airport, Jamaica, New York
Terminal 4
Terminal 4 /Delta Air Lines Expansion

Newark Liberty International Airport, Newark, New Jersey
Continental Airlines Global Gateway

Lester B Pearson International Airport, Toronto, Canada

Dublin Airport, Dublin, Ireland
Master Plan and Pier D

Hong Kong International Airport, Hong Kong, China
SkyCity Master Plan / Terminal 2/SkyPlaza

Abu Dhabi Airport Master Plan, Abu Dhabi, UAE

Previous Experience: JFK International Airport, Terminal 1

LaGuardia, US Airways Terminal, New York

MARTIN LANDRY / TERMINAL PLANNER / ARUP

Martin is an Associate with Arup, Professional Architect and Airport Planner specializing in airport master plan, passenger terminal building and apron planning and design. He provides leadership and on-site project development skills to master plan, terminal building and apron projects at major international airports. He is particularly adept at managing, planning and programming and has been involved in reviewing capacity and demand analysis at two of the busiest airports in the United States - Orlando and JFK.

John F. Kennedy International Airport, Jamaica, New York
- Delta T4 Expansion
- Port Authority of NY & NJ Terminal Planning Services

Newark International Airport, Newark, New Jersey
- Port Authority of NY & NJ Terminal A Reconfiguration
- Terminal B Analysis, Gate Utilization and Optimization Studies

Orlando International Airport, Orlando, Florida
- Terminal Development Alternatives Analysis

Minneapolis-St. Paul International Airport, Minneapolis, Minnesota
- 2020 Plan

Lester B. Pearson International Airport, Toronto, Ontario
- New Terminal Development

Pierre-Elliot-Trudeau International Airport, Montreal, Quebec
- Terminal Development Plan Update

THOMAS KENNEDY / CIVIL ENGINEER / ARUP

Tom Kennedy is an Associate with Arup and brings over 12 years of experience in a wide range of civil engineering projects and site development worldwide, with the last 6 spent at JFK. Tom's skills include all aspects of planning design and construction associated with site development, including earthwork re-grading, internal and external site access roads, high-pressure utility diversions, storm and sanitary water drainage, rainwater harvesting, and utility supply and diversion. He brings extensive knowledge of airport operations, including significant experience at JFK International Airport.

John F. Kennedy International Airport, Jamaica, New York
- Delta T4 Expansion
- jetBlue T5
- jetBlue T6
- Terminal 4 A380 Emirates Gate

Kunming Xiashao International Airport, China
- New 60m Pax Airport -Landside planning and development

Birmingham International Airport, Birmingham, United Kingdom
- Access Roads
- Stands Extension
- Environmental Noise Bunds

Hamilton International Airport, Hamilton, Ontario
- Utilities Master Plan

VOJIN STEFANOVIC / APRON PLANNER / ARUP

Vojin Stefanovic is an airport planning specialist responsible for airside and gate planning to support airport and airline clients around the world. Vojin has a strong understanding of the integrated relationship between terminal buildings and airside operations, and extensive experience with the PANYNJ. His professional experience on both sides of the gate combined with his command of the ICAO and FAA standards and policies allow him to deliver balanced and efficient solutions for various airport development plans.

John F. Kennedy International Airport, Jamaica, New York
- Delta T4 Expansion
- T4 Airside Planning
- jetBlue Terminal Development
- Terminal 4 A380 Gate Modifications and Apron Improvements

Atlanta Hartsfield International Airport, Atlanta, Georgia
- Terminal Master Plan and Aircraft Gating Studies

Lester B. Pearson International Airport, Toronto, Ontario
- Airlines Integration Project
- Standing Services Airport Planning

Dublin International Airport, Dublin, Ireland
- New Terminal 2 Development Project

REGINE WESTON / LEAD ANALYST / CONSULTANT

Regine is an internationally recognized expert in Airport Planning and Systems Analysis. She specializes in terminal and apron capacity/demand analyses and forecasting and has worked at major airports around the world including John F. Kennedy , La Guardia, and Newark in New York, Atlanta, SEATAC, Dulles and Reagan (National) in Washington, Orlando, Toronto, Calgary, Dorval and Mirabel in Montreal, Manchester and Seoul among many others. Regine is particularly experienced at scenario assessment and is able to rapidly model and assess the impact on airports of alternative traffic assignment, forecast scheduling, development phasing options and physical planning scenarios.

John F. Kennedy International Airport, Jamaica, New York
- Delta T4 Expansion
- jetBlue Terminal Development
- Forecast Demand Analysis, Gate Modelling and Terminal Simulation

LaGuardia International Airport, New York, New York
- Port Authority of NY & NJ, Gate Utilization Analysis

Newark International Airport, Newark, New Jersey
- Port Authority of NY & NJ Future Demand Forecasts

Hartsfield Atlanta International Airport, Atlanta, Georgia
- Future Gates Analysis

Minneapolis-St. Paul International Airport, Minneapolis, Minnesota
- 2020 Plan

JFK INTERNATIONAL AIRPORT TERMINAL 4

The new terminal, opened in 2001, was designed to serve 7 million annual passengers and replace the original international arrivals building (also designed by SOM) through a process of carefully planned and coordinated construction stages, and a fast-tracked schedule, which allowed the terminal to remain fully operational during construction.

The new terminal was constructed in an intensely utilized operational area, with numerous different carriers and multiple peaks during the operational day. SOM and Arup worked out the phasing strategies, documenting the plan in a series of detailed drawings to guide the construction. The plan also included a new Meeter-Greeter Hall, strategically placed and linked to the existing terminal by means of a connecting passageway, to serve as a temporary arrivals hall while the former hall was demolished and the new permanent hall constructed.

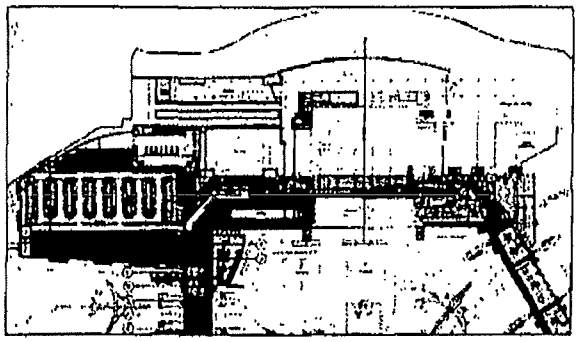
The new three-level, state-of-the-art terminal reasserts the airport's place as the pre-eminent international gateway in North America.

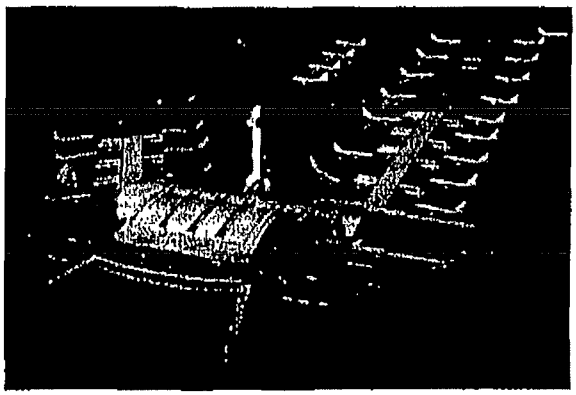
Team Credit: SOM and Arup

JFK INTERNATIONAL AIRPORT TERMINAL 4/DELTA AIR LINES EXPANSION

This SOM/Arup designed project, put on hold after 9/11, was expanded by an additional 1.5 million sf of program area to accommodate a significant portion of Delta Air Lines' operations at JFK, as well as growth in the operations of other IAT carriers. The East Concourse was to be extended and widened to accommodate a range of international and domestic carriers. The West Concourse extended and fitted out for Delta's combined international and domestic main line operations. Passenger amenities included Delta clubs and at least three airside concessions' nodes providing approximately 40,000 sf of retail and food/beverage concessions. The terminal, or Head House, of T4 was to be expanded to accommodate Delta's passenger processing functions. In addition to check-in and arrivals functions, the expansion included extensive new Federal Inspection Services (FIS) facilities for Delta International passengers, both connecting and terminating.

Team Credit: SOM and Arup

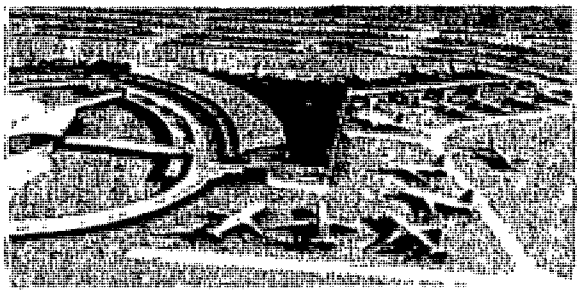


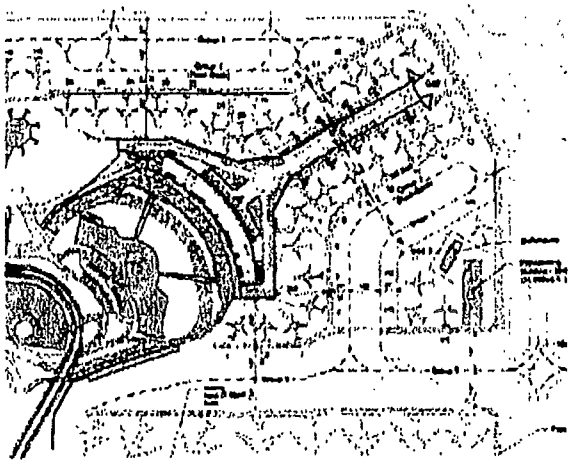


JFK INTERNATIONAL AIRPORT JETBLUE TERMINAL

Arup has worked closely with JetBlue to develop a terminal for their rapidly growing hub operation at JFK. At 26 gates and a projected 20 million passengers per annum, the JetBlue terminal (T5) will be one of the most productive terminals in the world. Facilities will be closely tailored to JetBlue's low cost, high efficiency business model. The site is in a very constrained quadrant of JFK occupied by the historically significant Terminal 5 designed by Eero Saarinen. The plan responds simply and directly to a range of imperatives, including high efficiency of airside aircraft movements, direct and uncomplicated internal passenger movements, efficiency of supporting operations, robust and reliable design able to withstand high volume usage, simplicity of baggage system design and deference to the historically significant existing Terminal 5. Work has included extensive passenger flow simulations and analysis, including simulation of the performance of the retail node using proprietary advanced simulation tools.

Team Credit: Arup

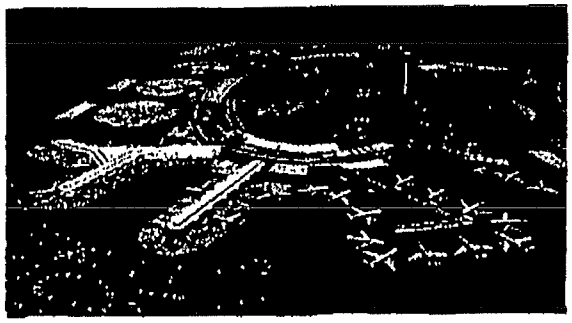


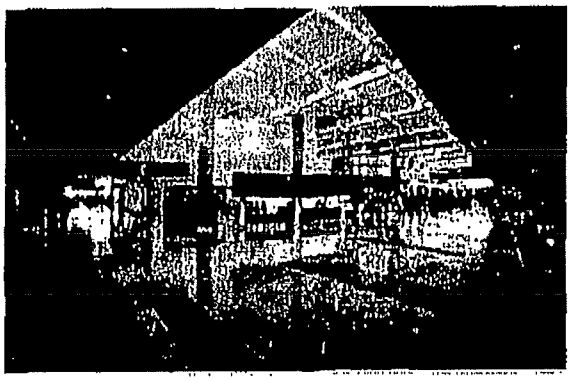


NEWARK LIBERTY INTERNATIONAL AIRPORT CONTINENTAL AIRLINES TERMINAL C3 EXPANSION

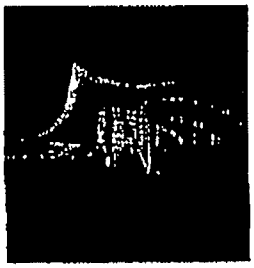
The new facilities include a 325,000 sf, 19-gate concourse for both international and domestic use, an FIS facility capable of processing 1,500 passengers per hour, an elevated departures roadway and dual arrivals roadway, a 3,400-space parking garage with bridge connections to the terminal, a Presidents Club, a consolidated outbound baggage facility, a 42-position ramp control tower standing 135 feet above grade, and a 700-foot-long airside corridor facilitating connections between Continental's three concourse. In addition, SOM has designed a complete renovation of the terminal, converting a ground-level parking area into a new arrivals area, adding a second departures level in its place, and augmenting all elevators, escalators and stairs.

Team Credit: SOM



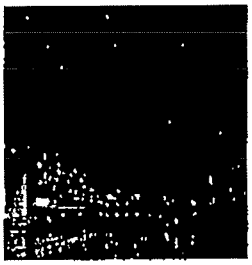


SECTION IV :: ADDITIONAL RELEVANT EXPERIENCE



LESTER B PEARSON INTERNATIONAL AIRPORT

SOM, in a joint venture with Adamson Associates and Moshe Safdie and Associates - teamed with **Arup**, planned and designed a new terminal in Toronto, Canada. The new terminal will replaces in phases the existing Terminals 1 and 2 and will to serve as Air Canada's main hub, and strengthening Pearson's position as a gateway to North America. The terminal planning provides for phased growth, flexibility, and positive passenger experience. As a hub terminal, one of the important planning goals was ease of transfer between domestic, international, and US-bound flights.

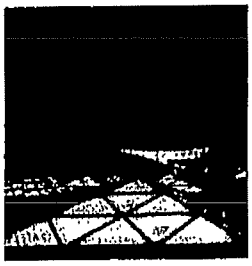


LOGAN INTERNATIONAL AIRPORT, TERMINAL E, INTERNATIONAL ARRIVALS BUILDING

A signature building in Logan's $1 billion expansion, the new terminal creates a dramatic new image for Boston's 75-year old airport. As "Image Architect" for MASSPORT's expansion, **SOM** designed a new multi-level facility that gives the existing terminal a grander civic dimension while adding a sense of warmth. One of **SOM's** central priorities is to strengthen the airport's relationship with the city. Inside, passengers will enjoy panoramic views of Boston Harbor through a sweeping glass curtain wall on the terminal's south side. Outside, the vestibules' crystalline forms will be visible at night from downtown Boston.

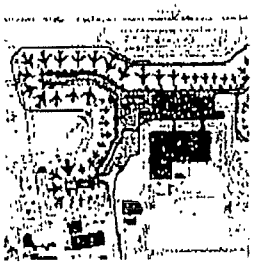
MINNEAPOLIS ST PAUL INTERNATIONAL AIRPORT, 2020 VISION MASTER PLAN

As part of the Leading development of a new master plan, **Arup** was responsible for all terminal, groundside and terminal airside elements including forecasting, gate demand assessment, and airline assignment scenarios for an airport-wide plan to accommodate growth for NorthWest, its SkyTeam partners and all other users of Minneapolis St. Paul. One of the key strategic elements was to ensure a financially sustainable incremental development that would meet the traffic forecast for each individual segment of traffic, and to utilize the existing airport assets instead of abandoning them for a previously proposed new master terminal.



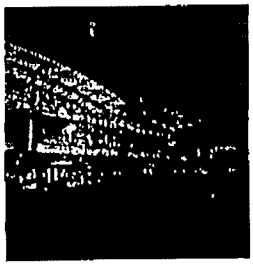
DULLES INTERNATIONAL AIRPORT

Dulles is one of the most architecturally and functionally significant airports of the modern era. Designed by Eero Saarinen, it was the first example of the now ubiquitous concept of separating the passenger processing (landside) and aircraft related (airside) components of an airport when it was built in 1962. Since 1984, **SOM** has provided design services for the Master Plan; Renovation and Expansion to the Main Terminal, the new International Arrivals Facility, and the new Automated People Mover which is currently under construction. **Arup** has contributed to planning and MEP engineering for the new 44 gate Tier 2 concourse to serve United Airline and the Star Alliance.



TRUDEAU INTERNATIONAL AIRPORT, TERMINAL DEVELOPMENT MASTER PLAN

The major elements of **Arup's** plan include: expansion & redevelopment of the existing terminal processor to provide additional check-in and ticketing, increased passenger queuing and public circulation space, improved retail facilities, new international arrivals and baggage claim facilities, new facilities for Canadian Inspection Services; construction of a new pier to accommodate US Transborder traffic, including the phased relocation of related US Federal Inspection Services Facilities; and construction of a new international pier, planned to serve traffic relocated from Mirabel to Trudeau, which has been temporarily accommodated during the first phase of the project.



SAN FRANCISCO INTERNATIONAL AIRPORT, INTERNATIONAL TERMINAL

As the centerpiece of SFIA's $2.6-billion expansion, the new Terminal has become a striking symbol of the city's status as the West Coast's gateway to the Pacific Rim. The five-story structure represents a watershed in the integration of structural and architectural design and a model for other urban airports with limited developable land. To assure that the facility would remain operational in the event of a major earthquake, **SOM** engineered the structure to the highest seismic safety requirements ever imposed on an American airport terminal. **SOM** introduced natural light throughout the building to clarify its structure and guide users through the massive facility's circulation systems.

Delta Air Lines
JFK Terminal Planning Study
John F. Kennedy International Airport

Proposal Matrix
June 15, 2007

Insert the proposed employees, classification, salary cost, multiplier and hours required for this study. Please add more rows as needed. Insert an amount for not-to-exceed reimbursable expenses for this study as defined in other attachments to this Request for Proposa

Employee	Title	Labor Salary Cost ($/ hr)	Labor Burden Multiplier	Hourly Billing Rate	Hours Required	Totals	
Arup							
Andrew McAlpine, OAA	Principal, Senior Airport Planner	83.8	3.15	$263.97	20	$5,279.40	
Nancy Hamilton, PE	Principal, Aviation Technical Planner						
Martin Landry, OAQ	Associate Principal, Terminal Planner	$60.41	3.15	$190.29	140	$26,640.81	
Peter Manson-Smith	Associate Principal, Terminal Planner	$76.41	3.15	$240.69	140	$33,696.81	
Tom Kennedy, PE	Associate Principal, Groundside Planner	$65.38	3.00	$196.14	30	$5,884.20	
Vojin Stefanovic	Associate, Airside Planner	$50.91	3.15	$160.37	60	$9,621.99	
Staff	Roadway Planner	$38.00	3.00	$114.00	60	$6,840.00	
Staff	CAD	$30.69	3.15	$96.67	80	$7,733.88	
SOM							
Marilyn Jordan Taylor, FAIA	Urban Design Partner	$105.00	3.00	$315.00	20	$6,300.00	
Anthony Vacchione, AIA	*Managing Partner*						
Mark Leininger, AIA	Associate Partner, Project Manager	$50.00	3.00	$150.00	72	$10,800.00	
Derek A. R. Moore, Ph.D.	Associate, Terminal Planner	$50.31	3.00	$150.93	140	$21,130.20	
Staff	Terminal Planner	$33.33	3.00	$99.99	220	$21,997.80	
Staff	Architect(s)	$30.00	3.00	$90.00	80	$7,200.00	
WBE							
Regine Weston, PEng	Consultant, Lead Analyst	$75.00	2.50	$187.50	20	$3,750.00	
						Not to exceed (NTE) Total Labor Cost	$166,875.09
						Not to exceed (NTE) Total Reimbursable Expense	$20,000.00
						NTE Labor Cost	$166,875.09
						NTE Reimbursable Expense	$20,000.00
						Total NTE	$186,875.09

EXHIBIT "C"

TRAVEL REIMBURSEMENT POLICY

---

1. **Policy:**

It is the policy to reimburse the reasonable costs made by the Consultant under contract in the performance of their contractual responsibilities. Due to the various types of contracts entered into, there is a need for a consistent process in the approval, payment, review, and accounting for expenditures incurred by authorized persons.

2. **Purpose and Objective:**

It is the purpose of this policy to:

A. Provide clear guidelines for obtaining approval and reimbursement for travel-related expenditures by persons traveling in connection with contracted work.

B. Serve as a reference for prospective offerors or bidders for contracts for work.

C. Establish parameters for expenditures, accounting and auditing in connection with contracted work.

3. **Definitions:**

A. Reasonable cost: Least costly means of accomplishing objectives, considering the nature and purpose of expenditures, the value of the authorized individual's time, and the impact on the overall contract cost or agreed upon budgets.

B. Documentation: Original receipts, invoices, statements, etc. which confirm actual incurred costs, receipts of payment, date of transaction, and nature of the service or product received, or if other receipts are unavailable, a written letter of memorandum that summarizes the basis of the particular payment.

C. Per Diem: Allowance for meals associated with out-of-town business travel.

D. Business Need: Specific requirements or circumstances dictated by the nature of the requirements of the contract.

E. Out-of-town travel: Travel of more than 50 miles one way from the authorized traveler's designated place of assignment.

F. Non-reimbursable travel expenditures: Those expenses that were incurred without pre-approval; expenses not allowed in the contract; and expenditures not allowed in federal, state, and Owner's regulations current at that time

4. **Application of this Policy:**

This policy will be applicable to the following types of contracts, but only to the extent that expenditures are authorized in the contract:

A. Time and materials (expenses) contracts – T&M or T&E.

B. Lump sum plus reimbursement of expenses.

C. Contract with a not-to-exceed amount (NTE), which allows for reimbursement of expenses.

D. Other types of contractual agreements that are not lump sum and have identified expenditures as reimbursable line item in the fee proposal agreement.

5. **Reimbursable Expenses:**

A. Travel

1.) For travelers to the Project Site not based at the Project Site area or travelers to the Client's Office not based in the Client's Office area, only the following expenses shall be reimbursed and only the stated amounts.

a.) The means of transportation used by the authorized traveler must be the most economical means available during the time of travel, and Owner will only reimburse up to the expense of using that means. Example, if a traveler decides to drive instead of taking a plane, if the cost of a round trip ticket at the time was lower than the cost of mileage reimbursement, the Owner will only reimburse up to the cost of the airfare.

b.) If travel is by air, travel must be by Delta coach, if available and at the most reasonable cost available at the time of travel. Round trip fare will be reimbursed only if travel is directly between the Project Site or the Client's Office and the traveler's base of employment, and solely for purposes of performing the contract. If the travel is for additional purposes or includes other stops, the Owner will only reimburse the proportionate share of travel costs necessary for the performance of the contract with the Owner. If travel is by vehicle, reimbursement will be made based on the approved IRS reimbursable rate per mile.

c.) Lodging at the Project Site or in the Client's Office area will be paid up to the maximum Per Diem Rate established by the GSA for the current Fiscal Year for the location of the Project related overnight stay, plus the actual costs of taxes. No other room charges will be paid for lodging. This lodging limit will be adjusted based on the area's market conditions.

d.) Meal rates shall apply whether travelers dine alone or in groups. Rates and conditions are as follows:

(1.) Meals while at the Project Site or in the Client's Office area will be paid at actual cost, but not to exceed up to the maximum Per Diem Rate established by the GSA for the current Fiscal Year for the location of the Project related meal expense.

(2.) Reasonable reimbursement for meals while in transit to and from the Project Site or the Client's Office will be based on arrival time at the Project Site or in the Client's Office.

(3.) Meals will be reimbursed only for the authorized traveler and not for others who may accompany the traveler.

(4.) No charges for alcoholic beverages will be reimbursed.

e.) Transportation by rental car while at the Project Site or in the Client's Office area will be paid at a maximum of $60.00 per day base rate, based on a mid-sized car rental rate. The actual costs of taxes, insurance and gas will also be paid. This limit will be adjusted on an annual basis based on the car rental market. Actual parking costs will be paid. The traveler will obtain the best rate applicable to the period of time during which the rental car is needed.

(1.) If the nature of the visit does not require a rental car, the reasonable cost of ground transportation will be reimbursed. Actual taxi fare will be paid and use of a personal car will be limited to the approved IRS reimbursable rate per mile.

f.) The actual reasonable cost of other expenses incurred by the traveler while at the Project Site or in the Client's Office area will not be reimbursed if the traveler has a local office or local partner or affiliate at the Project Site or at the Client's Office area. If the traveler has no local partner, office or affiliate at the Project Site or in the Client's Office area, reasonable amounts for duplicating services, fax service, and other miscellaneous business expenses related to the engagement will be reimbursed at cost. Business phone calls in furtherance of the contract with the Owner will be reimbursed during the period of travel. Personal calls, whether local or long distance, will not be reimbursed.

g.) Travel in and out of the continental United States will be subject to written pre-approval by the Owner. If a traveler will be originating from outside the continental U.S., the cost of travel will be reimbursed only as if the travel was originated from the home office in the U.S. unless pre-approved in writing.

2.) For travelers based at the Project Site city or in the Client's Office city to destinations in the continental U.S., only the following expenses shall be reimbursed and only in the stated amounts:

a.) The traveler shall follow the provisions of Section 5.A.1 of this policy.

b.) Travel requests will be pre-approved by the Owner and should be all for the furtherance of the contract with the Owner and based on an annual or program out-of-town travel budget.

c.) If the contractor travels with a family member, only the cost that applies to the contractor will be reimbursed.

3.) Travel Authorization, Reimbursement and Documentation:

a.) Travel expenditures shall be part of the contract's approved budget or agreed reimbursable fee. The traveler's official contract representative will recommend the authorization for travel to the Owner's representative for approval using the Owner's Travel Authorization Form. If the requested travel is not in the approved budget or in the agreed contract fee, the Travel Authorization Form will be forwarded to the Owner's finance representative for financial and budget review and approval/disapproval. The traveler shall only make travel arrangements after receipt of an approved Travel Authorization Form from the Owner.

b.) Reimbursements for travel-related expenditures should be submitted within 30 days after completion of travel. The Owner will pay all approved travel in the amounts that are in compliance with this policy within 30 days after receipt of the reimbursement request.

c.) The traveler shall only submit the approved Travel Authorization Form and a Traven Expense Reconciliation Form to request a reimbursement. All original receipts shall be kept at the traveler's designated office of assignment and be made available on demand during the processing of reimbursement or during audit.

DELTA COPY

CHANGE ORDER - DESIGN

Owner: DELTA AIR LINES, INC.
Corporate Real Estate, Dept. 877
P.O. Box 20706
Atlanta, Georgia 30320

Architect: ARUP/SOM Joint Venture
14 Wall Street
New York, NY 10005

Please reference this purchase order # on all invoices:
Purchase Order: 91-30145
Contract No.: 0094329 Change Order No.: 001
WBS Element: N/A GL Account: 6407187
Cost Center: C8770ATG Internal Order: N/A
AMOUNT ADJUSTMENT: $ 80,200.00
TIME ADJUSTMENT: add/subtract zero (0) days
Change Order Date: October 4, 2007
Original Contract Date: June 25, 2007

PROJECT: JFK Terminal Planning Study

PROJECT SITE: John F. Kennedy International Airport

Owner and Architect agree that the Contract is changed as follows (☒ check appropriate box):

☒ As set forth in Architect's Proposal(s) dated August 17, 2007 and August 28, 2007, attached hereto and incorporated herein.

☐ Description of Work for this Change Order (if Proposal(s) are not attached):

Any conflict between the terms of this Change Order and any Proposal attached hereto or referenced herein shall be resolved in favor of the provisions of this Change Order. The parties agree that the adjustment, if any, to the compensation shown below is the only such adjustment that will be made on account of the change to the Contract made by this Change Order.

THE MAXIMUM COMPENSATION PAYABLE BY OWNER TO ARCHITECT UNDER THE CONTRACT WILL BE CHANGED AS SHOWN BELOW:

Original Amount:	**Increase / (Decrease):**	**Total to Date:**
$ 186,875.00	Previous Change Orders $ 0.00 (C.O. 0 through 0) **This Change Order $ 80,200.00**	$ 267,075.00

Owner: DELTA AIR LINES, INC.

By: John W. Boatright
Name: John W. Boatright
Title: Vice President-Corporate Real Estate
Date: 10-5-07

Architect: ARUP/SOM, JOINT VENTURE

By: Skidmore, Owings & Merrill, LLP
Architects, joint venturer
Name:
Title: ASSOCIATE PARTNER
Date: 11-8-07

By: Ove Arup & Partners Consulting
Engineers, PC, joint venturer
Name:
Title: Principal
Date: 11-9-07

NO WORK COVERED BY THIS CHANGE ORDER SHALL COMMENCE UNTIL THIS CHANGE ORDER HAS BEEN EXECUTED BY ALL PARTIES.

ARUP/SOM

August 28, 2007

Thom Lang
Delta Air Lines
PO Box 20706
Atlanta, GA 30320

Dear Thom,

Thank you for acknowledging our efforts on the Delta Terminal Study at JFK. Working with you and the Delta team has been and exciting and rewarding project for all us here at ARUP and SOM. As requested we have reviewed our expenses to date and have calculated the following:

ARUP expenses to date	$19,700.00
SOM expenses to date	$ 4,000.00
ARUP expenses for 2 additional trips – 8-29 and 9-5 (2 persons per trip)	$ 5,400.00
SOM expenses additional	$ 1,200.00
40 Copies of final presentation	$10,000.00
Total	$40,200.00
Previously budgeted expenses	$20,000.00
New additional expenses (Not to exceed)	**$20,200.00**

Feel free to contact me with any questions, I have asked ARUP to provide back up to their expenses to date and I have SOM's and the printing estimate for your records if your require them for your use.

Sincerely,
Mark F. Leininger, AIA
Associate Partner

srv-configure

SKIDMORE, OWINGS & MERRILL LLP
14 WALL STREET, NEW YORK, NY 10005
TEL 212.298.9300 FAX 212.298.9500
SOM.COM

Booz | Allen | Hamilton

Booz Allen Hamilton Inc.
8283 Greensboro Drive
McLean, VA 22102

Tel 1-703-377-5196
Fax 1-703-902-3497

www.boozallen.com

DRAFT – CONFIDENTIAL

August 17, 2007

Mr. Thom Lang
General Manager – New York
Delta Air Lines
(404) 714-6168

Subject: JFK Redevelopment Options Analyses

Dear Mr. Lang:

Booz Allen Hamilton welcomes the opportunity to submit this scope and fee proposal to assist Delta Air Lines (Delta) with John F. Kennedy International Airport (JFK) re-development plans. Specifically, this proposal covers the evaluation of the four terminal expansion options from the perspective of terminal ramp area aircraft congestion and efficiency. Although full TAAM[1] simulations may be necessary in the future to estimate the delays caused by the preferred option with finer precision, there is an urgent need now to quickly rank the proposed alternatives with respect to aircraft movement efficiency. We understand that the primary objective of this effort is to evaluate the proposed options rapidly before designs are developed further and identify better performing options or eliminate some. We will focus on the impact to the airside operations performance and support the overall assessment of the available expansion options.

The letter proposal is organized into three sections as follows:

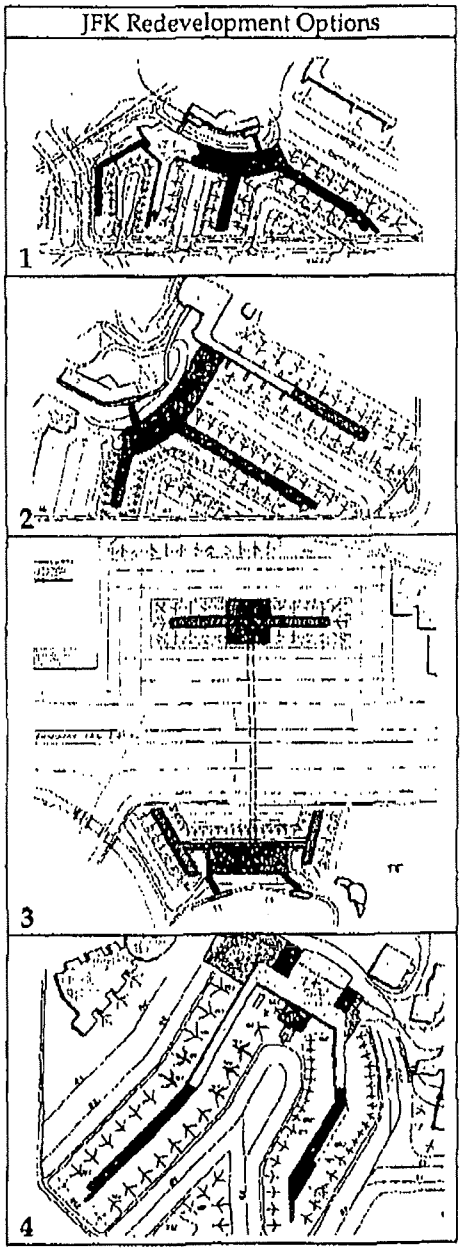
- Objectives, Scope and Approach

[1] *Total Airspace and Airport Modeler - http://www.preston.net/Documents/taambrochure.pdf*

- Primary Tasks
- Staffing, Timetable and Fees

Objectives, Scope and Approach

Delta is engaged in re-development of its JFK hub and initiated a JFK Terminal Planning Study. The design team is considering alternative expansion options and in this early phase of the redevelopment, four scenarios emerged. JFK airport is experiencing significant airside and ramp congestion, and particularly, existing Delta facilities at Terminal 2 and Terminal 3 are severely constrained with respect to aircraft flows on terminal area taxiways and gate access.



The objective of the proposed work is to develop a modeling framework, quantify and evaluate the performance of the four proposed options with respect to ramp and taxiway aircraft flows and associated taxiing delays.

We will develop a network flow model and a probabilistic approach to evaluate each topology and determine the expected taxiing delays. The model will be used to identify all possible aircraft taxi conflicts and determine associated probabilities for each and duration of conflict resolution. The enumeration of all possible conflict events will lead us to an expected overall delay for a given topology. This is a probabilistic model with the ability to estimate the expected performance under the desired flight schedule, gate assignment, and time-of-day.

This approach will allow us to quantify the expected delays for each option under the forecast flight schedule. Running the model for different time of the day allows us to capture the variability in the taxi delays and understand and quantify the robustness of each option.

Primary Tasks

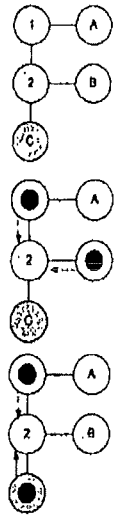
We recommend three tasks in this proposal as described in the paragraphs that follow.

Task 1 – Document Key Project Assumptions: This task consists of data gathering and assumption documentation, an essential part of our ramp modeling effort. Specifically, we will work with you to gather and understand:

- Proposed terminal option drawings, aircraft taxiing flows,
- Forecast flight schedule,
- Existing historical delays associated with flights using JFK Terminal 2.

Our initial assessment is that all required data and information are available, and will be provided by Delta. Information will be reviewed and any missing or incomplete items will be discussed with Delta to determine additional assumptions or identify other data to use. Booz Allen will inventory all relevant information and obtain agreement on the proposed test flight schedules with Delta's project staff.

Task 2 – Model and Algorithm Development: Booz Allen will develop a ramp and taxiway operations evaluation model to be used for options rankings. The model characterizes the ramp and taxiway operations using a node-arc network and facilitates the analysis of aircraft movement conflicts and taxiing delay estimation. The probability of each conflict event and the duration for conflict resolution can be derived from operational statistics, and the expected delay due to each conflict event can be computed accordingly. The algorithm enumerates all potential conflict scenarios and computes expected delay for each flight by summing up the expected delay of each conflict scenario.



A sample taxiing delay calculation of the model is depicted here:

- On the right is a simple layout with two gates A and B and an exit point C, the blue nodes 1 and 2 represent points along a taxipath.
- Considering the red aircraft going from A to C; it may need to wait at node 1 if the blue aircraft is pushing out from gate B. Assume for now that half of the time the red aircraft concedes and the other half of the time the blue aircraft concedes and waits.
- The red aircraft will need to wait at node 1 if the blue aircraft is taxiing to gate B from C.
- Assume the movement from node to node take 3 time units
- Expected[*delay from A to C*] = P(*taxiing from B*) * 3 * 0.5 + P(*taxiing to B*) * 3

Iterative calculation of such expected delays and summation will give us the total taxiing delays for each scenario. It is anticipated that there will be hundreds of such conflict scenarios. We will develop a computer program to enumerate and evaluate all possible delay events.

The model will serve as an evaluation platform for taxiing delays. We will test the model performance and calibrate as necessary if existing JFK delays are provided for Terminal 2, where Delta operates currently.

Task 3 – Evaluate the Four Proposed Options: We will evaluate and rank the four proposed layouts with respect to a set of defined metrics. The proposed evaluation metrics include:

- *Gate capacity*: number of aircraft per hour that can be supported by the terminal and gate layout
- *Taxiing distance*: weighted average and maximum from gate to terminal area exit, and ultimately to departing runway. (Arrivals are assumed same).
- *Expected taxiing delay*: expected additional taxi-in and taxi-out time spent because of interference due to movements of other aircraft.

Each option is given a score and ranked in an ordinal scale. Although it is possible to evaluate the absolute delay values for each option, the precision of the proposed approach better supports a comparative evaluation than an absolute delay prediction. We will score the options on a relative scale. Ultimate ranking of the options with respect to airside performance is a weighted sum of taxiing distance and associated delays.[2]

Deliverable: Management meeting and report with the rankings and recommendations.

Staffing, Timetable and Fees

Justin Zubrod, the partner in charge of Booz Allen's US commercial transportation business will be the officer-in-charge of this effort and Dr. Cenk Tunasar, Senior Associate, will serve as the project manager and be responsible for overall project delivery. Dr. Barry Liu, Associate, will serve as the technical lead and will develop the

[2] *It must be noted that our proposed approach only highlights the airside aircraft movements, and an ultimate ranking would need evaluation of passenger walking distances, connect times, constructability, cost of construction, further expansion flexibility, etc.*

proposed models. Cheech Ong, Associate, will consolidate the scoring and develop a ranking methodology. Additional resources will be added as needed.

We estimate that our professional fees will be $60,000 to complete all tasks of this effort including expenses. It is anticipated that all proposed work will be performed within 3 weeks from the date all required data and assumptions are available. The work will be performed under the conditions laid out in the Master Services Contract between Delta Air Lines and Booz Allen. All reports, analyses or other material provided by Booz Allen to Delta are solely for Delta information and use in connection with the assignment. Booz Allen will devote its best professional efforts to this assignment. All findings, conclusions, and recommendations will represent our best judgment based on the information supplied by Delta.

* * * * *

Mr. Lang, we very much look forward to working with you on this project and are anxious to get started.

Best Regards,

Justin F. Zubrod, Sr.
Vice President

Cenk Tunasar, Ph.D.
Senior Associate

ACCEPTED AND AGREED TO:

Delta Air Lines, Inc.

By:_____

CHANGE ORDER - DESIGN

Owner: DELTA AIR LINES, INC.
Corporate Real Estate, Dept. 877
P.O. Box 20706
Atlanta, Georgia 30320

Architect: ARUP/SOM Joint Venture
14 Wall Street
New York, NY 10005

Please reference this purchase order # on all invoices:
Purchase Order: 91-30145
Contract No.: 0094329 Change Order No.: 003
WBS Element: N/A GL Account: 6407187
Cost Center: C8770ATG Internal Order: N/A
AMOUNT ADJUSTMENT: $ 275,761.00
TIME ADJUSTMENT: add/subtract zero (0) days
Change Order Date: March 6, 2008
Original Contract Date: June 25, 2007

PROJECT: JFK Terminal Planning Study

PROJECT SITE: John F. Kennedy International Airport

Owner and Architect agree that the Contract is changed as follows (☒ check appropriate box):

☒ As set forth in Architect's Proposal(s) dated January 4, 2008, attached hereto and incorporated herein.

☐ Description of Work for this Change Order (if Proposal(s) are not attached):

Any conflict between the terms of this Change Order and any Proposal attached hereto or referenced herein shall be resolved in favor of the provisions of this Change Order. The parties agree that the adjustment, if any, to the compensation shown below is the only such adjustment that will be made on account of the change to the Contract made by this Change Order.

THE MAXIMUM COMPENSATION PAYABLE BY OWNER TO ARCHITECT UNDER THE CONTRACT WILL BE CHANGED AS SHOWN BELOW:

Original Amount:	**Increase / (Decrease):**	**Total to Date:**
$ 186,875.00	Previous Change Orders $ 362,310.00 (C.O. 0 through 2) **This Change Order $ 275,761.00**	$ 824,946.00

Owner: DELTA AIR LINES, INC.

By: [signature]
Name: John W. Boatright
Title: Vice President-Corporate Real Estate
Date: 3-7-08

Architect: ARUP/SOM, JOINT VENTURE

By: Skidmore, Owings & Merrill, LLP
Architects, joint venturer
Name: [signature]
Title: Partner
Date: March 11, 2008

By: Ove Arup & Partners Consulting
Engineers, PC, joint venturer
Name: [signature]
Title: President
Date: 3.11.08

NO WORK COVERED BY THIS CHANGE ORDER SHALL COMMENCE UNTIL THIS CHANGE ORDER HAS BEEN EXECUTED BY ALL PARTIES.

ARUP|SOM, a joint venture of
Skidmore, Owings & Merrill LLP Architects and
Ove Arup & Partners Consulting Engineers PC

January 4, 2008

Thom Lang
Delta Air Lines, Inc.
Hartsfield Atlanta International Airport
Atlanta, Georgia 30320
via Email: thom.lang@delta.com

Re: JFK Terminal Planning Study – Phase 3

Dear Mr. Lang:

We are delighted to know that Delta is moving ahead with plans for redeveloping your facilities at JFK. We have enjoyed working with you and the rest of the Delta team on the Redevelopment Study Report this summer and are enthusiastic about proposing for this additional Study. In fact, all of the senior staff who have worked on that project and gained knowledge of the site, the facilities and Delta operations continue to be available to take part in this new phase of Study.

As requested we have broken our fee into Phase 3 and Expenses.

Phase 3	–	$229,761.00
Expenses –		$ 46,000.00
Total not to exceed ·		$275,761.00

We and our colleagues are keenly interested in this assignment and assure you our personal commitment to making your project a success. Kindly review the information in this submittal and feel free to contact us if you have any questions. Please sign and return a copy for our files. Thank you very much.

Very truly yours,

Mark Leininger, AIA
Associate Partner, SOM

CHANGE ORDER - DESIGN

Owner: DELTA AIR LINES, INC.
Corporate Real Estate, Dept. 877
P.O. Box 20706
Atlanta, Georgia 30320

Architect: ARUP/SOM Joint Venture
14 Wall Street
New York, NY 10005

Please reference this purchase order # on all invoices:
Purchase Order: 91-30145
Contract No.: 0094329 Change Order No.: 004
WBS Element: N/A GL Account: 6407187
Cost Center: C8770ATG Internal Order: N/A
AMOUNT ADJUSTMENT: $ 80,000.00
TIME ADJUSTMENT: add/subtract zero (0) days
Change Order Date: May 13, 2008
Original Contract Date: June 25, 2007

PROJECT: JFK Terminal Planning Study

PROJECT SITE: John F. Kennedy International Airport

Owner and Architect agree that the Contract is changed as follows (☒ check appropriate box):

☒ As set forth in Architect's Proposal(s) dated May 12, 2008, attached hereto and incorporated herein.

☐ Description of Work for this Change Order (if Proposal(s) are not attached):

Any conflict between the terms of this Change Order and any Proposal attached hereto or referenced herein shall be resolved in favor of the provisions of this Change Order. The parties agree that the adjustment, if any, to the compensation shown below is the only such adjustment that will be made on account of the change to the Contract made by this Change Order.

THE MAXIMUM COMPENSATION PAYABLE BY OWNER TO ARCHITECT UNDER THE CONTRACT WILL BE CHANGED AS SHOWN BELOW:

Original Amount:	**Increase / (Decrease):**	**Total to Date:**
$ 186,875.00	Previous Change Orders $ 638,071.00 (C.O. 0 through 3)	$ 904,946.00
	This Change Order $ 80,000.00	

Owner: DELTA AIR LINES, INC.

By: _____
Name: John W. Boatright
Title: Vice President-Corporate Real Estate
Date: 5-13-2008

Architect: ARUP/SOM, JOINT VENTURE

Skidmore, Owings & Merrill, LLP
Architects, joint venturer

By: _____
Name:
Title:
Date:

Ove Arup & Partners Consulting
Engineers, PC, joint venturer

By: _____
Name:
Title: Principal
Date: 5-19-08

NO WORK COVERED BY THIS CHANGE ORDER SHALL COMMENCE UNTIL THIS CHANGE ORDER HAS BEEN EXECUTED BY ALL PARTIES.

ARUP|SOM *a joint venture of*
Skidmore, Owings & Merrill LLP Architects and
Ove Arup & Partners Consulting Engineers PC

May 12, 2008

Thom Lang
Delta Air Lines, Inc.
Hartsfield Atlanta International Airport
Atlanta, Georgia 30320
via Email: thom.lang@delta.com

Re: JFK Terminal Planning Study – Concept Design Continuation

Dear Mr. Lang:

We are delighted to know that Delta is moving ahead with plans for redeveloping your facilities at JFK. We have enjoyed working with you and the rest of the Delta team on the Redevelopment Study Report this year and are enthusiastic about proposing for this additional Study. In fact, all of the senior staff who have worked on that project and gained knowledge of the site, the facilities and Delta operations continue to be available to take part in this work. Due to the extension of time and effort, we are requesting an increase in fee to cover our costs. The tasks involved include the preparation and participation in the peer review, modifications to the concept design and continued meetings with the PA and IAT.

Phase 4	–	$80,000.00
Total not to exceed		$80,000.00

We and our colleagues are keenly interested in this assignment and assure you our personal commitment to making your project a success. Kindly review the information in this submittal and feel free to contact us if you have any questions. Please sign and return a copy for our files. Thank you very much.

Very truly yours,

Mark Leininger, AIA
Associate Director, SOM

EXHIBIT H

To

Supplement No. 2 to Lease AYC-325

Between

The Port Authority of New York and New Jersey

And

Delta Air Lines, Inc.

Initialed:

For the Port Authority

For the Lessee

CHANGE ORDER - DESIGN

Owner:	DELTA AIR LINES, INC. Corporate Real Estate, Dept. 877 P.O. Box 20706 Atlanta, Georgia 30320	Please reference this purchase order # on all invoices: **Purchase Order: ##-####** Contract No.: 94329	Change Order No.: 005 GL Account: _____ Internal Order: _____
Architect:	ARUP|SOM, a joint venture 14 Wall Street New York, NY 10005	Cost Center: _____ AMOUNT ADJUSTMENT: $5,654,117.00 TIME ADJUSTMENT: December 31, 2008 Change Order Date: October 3, 2008 Original Contract Date: June 25, 2007	

PROJECT: JFK Terminal Planning Study

PROJECT SITE: JFK International Airport, Jamaica, NY

Owner and Architect agree that the Contract is changed as follows (☒ check appropriate box):

☒Description of Changes for this Change Order:

This Change Order is for Schematic Design and 30% Design Development for select portions of the Project as outlined and supported on the attached proposals from ARUP|SOM dated April 11, 2008 and last revised September 25, 2008, AERO Systems Engineering ("AERO") dated May 24, 2008, BNP Associates, Inc. ("BNP") dated May 23, 2008 and TransSolutions dated July 18, 2008. This Change Order also modifies the Contract as follows:

1. Increase the value of the Basic Compensation NTE sum from $904,946.00 to $6,559,063.00.

2. Increase the value of the JFK Terminal Planning Study Total Compensation NTE sum in the amount of $5,654,117.00. Architect's fee shall be increased in the NTE amount of $5,339,552.00. Architect's reimbursable expense shall be increased in the NTE amount of $314,565.00.

3. By Supplement No. 2 to Port Authority Lease No. AYC-325 between PANYNJ and Owner dated as of August 1, 2008 (the "Lease Supplement"), PANYNJ has agreed to pay for a portion of the work described in this Change Order, subject to the terms and conditions of the Lease Supplement. A true and correct copy of the Lease Supplement is attached to this Change Order as Exhibit "A" and incorporated herein for all purposes. The total cost to PANYNJ associated with this Change Order shall not exceed $5,440,598.00. Architect acknowledges that PANYNJ plans to remit payment of its share of amounts payable under this Change Order directly to Architect and Architect shall treat all such amounts remitted by PANYNJ to Architect as payments hereunder. Owner and Architect anticipate that Owner's obligation to make payments to Architect as a result of this Change Order shall not exceed $213,519.00; however, in the event PANYNJ fails to make payment of its share of amounts payable under this Change Order to Architect, Owner shall be responsible for paying such amounts to Architect, it being understood that Architect has no contractual rights against PANYNJ to enforce payment of any amounts under the Lease Supplement.

4. The following tasks shall be included in Schematic Design services:

- Architect shall develop schematic design requirements of the Project. In developing schematic plans, Architect not only must explore various design options; Architect also must consider expansion potentials of the facility. Architect shall prepare Schematic Design Documents consisting of drawings and other documents to illustrate the scale and relationship of Project components.
- Architect shall provide schedule estimates based on the schematic design.
- Architect shall review with Owner alternative approaches to design and construction of the Project.
- Architect shall work with the Value Engineering (VE) entity in connection with the preparation of the Schematic Designs.
- Architect shall construct a Project model in accordance with the schematic design package.

5. The following tasks shall be included in the Design Development services:

- Based on the approved Schematic Design documents and any adjustments authorized by Owner in the program, schedule or construction budget, Architect shall prepare, for approval by Owner, 30% Design Development documents consisting of drawings and other documents to establish and describe the size and character of the select portions of the Project specified in the attached Proposals.

6. The Architect's services shall be performed in a skillful and competent manner, exercising due and reasonable professional care, and shall comply with the professional standards of a nationally-recognized architectural and engineering firm performing similar services for similar projects and the standards and practices specified in the Contract.

7. The PANYNJ, together with its directors, officers, officials, employees and agents shall be deemed to be "Indemnified Parties" for purposes of the Contract, in addition to the Indemnified Parties defined therein.

8. Sections 7.1 and 7.2 of the Contract are hereby deleted and replaced with the following:

7.1 Architect shall maintain the following insurance coverages, with an insurance company or companies satisfactory to Owner for claims which may arise from and during operations under this Agreement, whether such operations be by Architect, its subcontractors or anyone directly or indirectly employed by any of them. Certificates of such insurance shall be filed with Owner prior to commencing the services contemplated by this Agreement, and shall provide coverage in not less than the following amounts:

Errors and Omissions or Professional Liability	The minimum policy limit shall be $3,000,000 per claim and in the aggregate.
Commercial General Liability	$1,000,000 combined single limit per occurrence for bodily injury and property damage
Worker's Compensation	Statutory limits
Employer's Liability	$1,000,000 per occurrence
Automobile Liability	$1,000,000 combined single limit per occurrence for bodily injury and property damage

7.2 Except for claims arising under the Errors and Omissions and Workers' Compensation policies, the policies shall contain an appropriate cross-liability clause insuring Owner and PANYNJ against any loss or damage to Owner or PANYNJ or property of Owner or PANYNJ resulting from any acts or omissions of Architect, its officers, directors, employees, agents or contractors, and shall name Owner and PANYNJ as additional insureds to the extent of the indemnity obligations hereunder. The liability insurance policies shall include contractual liability. All insurance Architect provides shall be primary and not contributory as to any coverage of Owner or PANYNJ. All policies shall remain in full force and effect for at least thirty (30) days after Owner and PANYNJ receive written notice of cancellation, termination or material modification.

9. Architect shall secure Owner's approval in writing prior to including photographic or artistic representations of the design of the Project among Architect's promotional and professional materials. However, Architect's materials shall not include Owner's confidential or proprietary information.

10. Architect has entered or will enter into contractual agreements with AERO, BNP, TransSolutions, and other third party consultants and will require AERO, BNP, TransSolutions and other third party consultants to assume responsibility to Architect, Owner, and PANYNJ for work product produced by such sub-consultants.

11. "Article 9: Security" is added to the Agreement as follows:

9.1 **EMPLOYMENT AND ACCESS INVESTIGATIONS.**

9.1.1 If the Project site is an airport, Architect represents and agrees that it has performed and will continue to perform all employment and access investigations required by and in accordance with federal law and Owner's Aircraft Operator Standard Security Program as approved by the Transportation Security Administration (the

"TSA") as in effect from time to time, including, without limitation, the requirements of 49 U.S.C. § 44936 and the TSA's regulations promulgated pursuant thereto at 49 C.F.R. Parts 1542 and 1544, with respect to all persons hired or utilized by Architect to perform any portion of the services at the Project site who require Special Security Authority, as defined in Paragraph 9.1.2 below. Such employment and access investigations may include without limitation employment histories and verifications, verifications of identity, and criminal history records checks as and to the extent required by federal law.

9.1.2 Required employment and access investigations shall be completed for all persons prior to Architect allowing such persons "unescorted access authority" (as such term is defined in 49 C.F.R. Part 1544), prior to Architect allowing such persons to work in the sterile area of and airport, and otherwise as required by and in accordance with federal law and Owner's Aircraft Operator Standard Security Program (said authority being referred to herein as "Special Security Authority").

9.1.3 Architect and Engineer's services under this Agreement do not include any involvement in the detection, reporting, permitting, analysis, abatement or removal of any existing mold, asbestos, lead, underground storage tanks, polychlorinated biphenyl (PCB), toxic substances or any other hazardous materials which my be encountered within or around the Project Site.

9.2 **ADDITIONAL REQUIREMENTS.**

Architect also agrees to undertake whatever other measures are necessary to comply with security, drug and alcohol testing, record-keeping, and other requirements appropriate to the services to be performed by Architect and to the areas to which Architect has access at an airport in connection with performance of the services, that are imposed from time to time by public agencies such as the TSA, DOT, FAA, the United States Postal Service, the United States Customs Service, and the operator of the airport in question.

9.3 **AUDIT OF EMPLOYMENT RECORDS.**

Architect shall keep full and detailed records demonstrating its compliance with this Article 9 as to each employee with Special Security Authority employed at the Project site and shall maintain and preserve such records without additional compensation therefor for a period of three (3) years after termination or expiration of this Agreement. Owner shall have the right, but not the duty, to conduct such audits of Architect's employment records as it deems prudent to ensure Architect's compliance with this Article 9.

9.4 **RETURN OF CREDENTIALS.**

Architect acknowledges the importance of maintaining control over all access/identification media and credentials issued to Architect's employees allowing such employees Special Security Authority or other special access authority granted by the operator of an airport or Owner ("Credentials"). Architect shall maintain by means acceptable to Owner a current listing of all of Architect's employees, all subconsultant employees and all other individuals employed on the Project site by or through Architect who require Credentials, and the type of Credentials issued to such individuals. Architect shall, within the time periods prescribed by law and by the issuing authority and by means acceptable to the issuing authority, (i) return to the issuing authority all Credentials issued to such individuals upon termination of employment or disqualification for Credentials of such individuals, and (ii) report to the issuing authority all lost, stolen and unaccounted for Credentials. Architect shall notify Owner's Station Manager/Director at the applicable airport or his designee in writing (x) of such termination or disqualification of such individuals immediately after such termination or disqualification, (y) of the return of Credentials to the issuing authority simultaneously with such return, and (z) of such lost, stolen and unaccounted for Credentials simultaneously with such report to the issuing authority.

12. Architect acknowledges that the Lease Supplement requires certain provisions granting rights and protections to PANYNJ to be incorporated into this Change Order. Such provisions are hereby incorporated by this reference and shall apply to the Contract with respect to the services provided under this Change Order only. In addition, Architect shall cooperate with Owner to supply reports, documentation, work product, and back-up requested by PANYNJ under the Lease Supplement in connection with PANYNJ's review and approval of pay applications. Architect hereby consents to Owner's assignment to PANYNJ of all right, title and interest that Owner has or may have in and to the drawings, specifications and

other documents, including those in electronic form, prepared by the Architect and the Architect's consultants in accordance with the provisions of Section 94(e) of the Lease as added by the Lease Supplement.

Any conflict between the terms of this Change Order and any Proposal attached hereto or referenced herein shall be resolved in favor of the provisions of this Change Order. The parties agree that the adjustment, if any, to the compensation shown below is the only such adjustment that will be made on account of the change to the Contract made by this Change Order.

THE MAXIMUM COMPENSATION PAYABLE TO ARCHITECT UNDER THE CONTRACT WILL BE CHANGED AS SHOWN BELOW:

Original Amount:	**Increase / (Decrease):**	**Total to Date:**
$ 186,875.00	Previous Change Orders $ 718,071.00 (C.O. 1 through 4)	$ 6,559,063.00
	This Change Order $5,654,117.00	

Owner: DELTA AIR LINES, INC.

By:

Name: John W. Boatright
Title: Vice President - Corporate Real Estate
Date:

Architect: **ARUP|SOM**

By: Skidmore, Owings & Merrill LLP
Architects

By:
Name:
Title:
Date:

By: Ove Arup & Partners Consulting
Engineers PC

By:
Name:
Title:
Date:

EXHIBIT F

To

Supplement No. 2 to Lease AYC-325

Between

The Port Authority of New York and New Jersey

And

Delta Air Lines, Inc.

Initialed:

For the Port Authority

For the Lessee

THIRD SUPPLEMENTAL AGREEMENT

To

LEASE NO. AYC-325

Between

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

And

DELTA AIR LINES, INC.

Dated as of December 9, 2010

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THIS SUPPLEMENTAL AGREEMENT SHALL NOT BE BINDING UPON THE PORT AUTHORITY UNTIL DULY EXECUTED BY AN EXECUTIVE OFFICER THEREOF AND DELIVERED TO THE LESSEE BY AN AUTHORIZED REPRESENTATIVE OF THE PORT AUTHORITY

Port Authority Lease No. AYC-325
Supplement No. 3
John F. Kennedy International Airport

SUPPLEMENTAL AGREEMENT

THIS SUPPLEMENTAL AGREEMENT (this "Third Supplemental Agreement"), made as of December 9, 2010 (said date being hereinafter called the "Effective Date") by and between THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY (the "Port Authority") and DELTA AIR LINES, INC. (the "Lessee"), a corporation organized and existing under the laws of the State of Delaware. Capitalized terms used but not defined herein have the meanings assigned to them in the Lease, as herein amended and supplemented.

WITNESSETH, That:

WHEREAS, the Port Authority and the Lessee entered into an Agreement of Lease, made as of January 1, 1993 (the "**Original Lease**"), pursuant to which the Port Authority let to the Lessee and the Lessee hired and took from the Port Authority certain premises at John F. Kennedy International Airport, all as more particularly described in the Original Lease; and

WHEREAS, the Original Lease has been supplemented and amended by a Supplemental Agreement, dated as of August 1, 2008 ("**Second Supplemental Agreement**"), it being acknowledged that a proposed First Supplemental Agreement, dated as of May 14, 2007 was not fully executed; the Original Lease, as supplemented, modified and amended by the Second Supplemental Agreement and the Third Supplemental Agreement being hereinafter called the "**Lease**");

WHEREAS, contemporaneously with the execution of this Third Supplemental Agreement, the Lessee is entering into an Anchor Tenant Agreement (as herein defined), dated as of the date hereof, which provides for, *inter alia*, the Lessee subletting of a substantial portion of Terminal 4 and the expansion, renovation and modification of the terminal building on the premises covered by the Terminal 4 Lease, and the Lessee undertaking of the demolition of Terminal 3, the construction of improvements to utilities at the Terminal 3 Site, the paving and creation of up to 16 initial hardstands on the Terminal 3 Site and the construction of a Terminal 2-4 Pedestrian Connector (all of the aforementioned and other contemplated work referenced in

the Anchor Tenant Agreement as the Phase I IAT Project being collectively referred to as the "**2010 Phase I Project**");

WHEREAS, contemporaneously with the execution of this Third Supplemental Agreement, the Lessee is entering into (1) Port Authority Permit No. AYE-066 ("**Aircraft Parking Permit**") with the Port Authority, dated as of the date hereof, which contemplates the surrender of the Terminal 3 Site under the Lease and which grants to the Lessee, thereafter and as of the effective date of the Aircraft Parking Permit, permission to park aircraft operated by the Lessee and certain other Aircraft Operators at hardstand positions at the Terminal 3 Site, and (2) the Security Agreement, as defined in Section 23A of the Lease;

WHEREAS, the Port Authority and the Lessee desire to extend the term of the Lease, to provide for the aforesaid demolition, construction, paving and creation of hardstands, and surrender, and amend the Lease in certain other respects;

NOW, THEREFORE, for and in consideration of the covenants and mutual agreements herein contained, the Port Authority and the Lessee hereby agree, effective as of the Effective Date, unless otherwise stated, as follows:

1. **Amendment to Section 81 of the Lease.**

(a) Section 81 of the Agreement, entitled "Definitions", is hereby amended by amending and restating the following definitions:

"**Agreement**" shall mean this Agreement of Lease, dated as of January 1, 1993, by and between the Port Authority and the Lessee, as supplemented by the Second Supplemental Agreement, dated as of August 1, 2008, the Third Supplemental Agreement, dated as of December 9, 2010, and as further supplemented, modified, amended and/or restated.

(b) Section 81 of the Lease, entitled *"Definitions"*, is hereby amended by adding new definitions as follows:

"Additional Area IB" shall have the meaning set forth in Section 16(a) of the Third Supplemental Agreement.

"Additional Area IB Commencement Date" shall have the meaning set forth in Section 16(a) of the Third Supplemental Agreement.

"Aircraft Parking Easement" shall have the meaning set forth in Section 98(c) of the Lease.

"**Aircraft Parking Permit**" shall have the meaning set forth in the fourth (4th) WHEREAS clause to the Third Supplemental Agreement.

"Anchor Tenant Agreement" or **"ATA"** shall mean the sublease agreement, dated as of December 9, 2010, between JFK International Air Terminal LLC, as sublessor, and the Lessee, as sublessee, relating to the Lessee's lease of premises at Terminal 4 at the Airport, which sublease agreement is subject and subordinate in all respects to the Terminal 4 Lease.

"**Area IB Ground Rental Abatement Period**" shall have the meaning set forth in Section 4(IV).

"**ATA Defined Term**" shall have the meaning set forth in Section 2(g)(4)(viii) of the Lease.

"**Blocked Persons**" shall have the meaning set forth in Section 79 of the Lease.

"**Blocked Persons Laws**" shall have the meaning set forth in Section 79 of the Lease.

"**Bond**" shall have the meaning set forth in Section 2(k)(7) of the Lease.

"**Completion Date**" shall have the meaning set forth in Section 2(g)(4)(iv) of the Lease.

"**Comprehensive Plan for AYC-325**" shall have the meaning set forth in Section 2(k)(1) of the Lease.

"**Construction Application**" shall mean the applicable Tenant Alteration Application(s) for completion of the 2010 Construction Work approved by the Port Authority in effect from time to time.

"**Demolition Commencement Date**" shall mean the first day of the first calendar month after which all of the following conditions have been determined by the Port Authority to have been satisfied by the Lessee: the Lessee has (1) obtained Port Authority approval of those of its tenant alteration applications which cover asbestos abatement at Terminal 3, demolition of Terminal 3, and the 2010 Environmental Management Plan, (2) entered into signed contracts, in compliance with Section 2 of the Lease, for asbestos abatement at Terminal 3 and demolition of Terminal 3 and (3) commenced, or caused the commencement by approved third party contractors of, asbestos abatement at Terminal 3 and demolition of Terminal 3. The parties currently anticipate the Demolition Commencement Date to be on or about May 10, 2013.

"**Discharge**" shall have the meaning set forth in Section 84(a) of the Lease, as amended.

"**Eligible PFC Construction Work**" shall have the meaning set forth in Section 88(g)(2) of the Lease.

"**Environmental Requirements**" in the plural and "Environmental Requirement" in the singular shall have the meaning ascribed to them in Section 81 of the Lease, as amended.

"**FAA**" shall mean the Federal Aviation Administration of the United States and any successor thereto.

"**First Deferred Area IB Ground Rental**" shall have the meaning set forth in Section 4 (IV) of the Lease, as amended.

"**General Contractor**" shall have the meaning set forth in Section 2(k)(7) of the Lease.

"**Hazardous Substances**" in the plural and "**Hazardous Substance**" in the singular shall have the meaning ascribed to it in Section 81 of the Lease, as amended.

"**Lease**" shall have the meaning set forth in the second WHEREAS clause to the Third Supplemental Agreement.

"**Lease Defined Term**" shall have the meaning set forth in Section 2(g)(4) of the Lease.

"**OFAC**" shall have the meaning set forth in Section 79 of the Lease.

"**Original Lease**" shall have the meaning set forth in the first WHEREAS clause to the Third Supplemental Agreement.

"**Partial Approval Work**" shall have the meaning set forth in Section 2(g) of the Lease.

"**Partial Approval Work Plans**" shall have the meaning set forth in Section 2(g) of the Lease.

"**PFCs**" shall mean passenger facility charges covered by Part 158 of Title 14 of the Code of Federal Regulations Section 158.3, imposed by a public agency on passengers enplaned at a commercial service airport it controls.

"**Remediate**" or "**Remediation**" shall have the meanings set forth in Section 81 of the Lease, as amended.

"**ROE Agreement**" shall mean the Right of Entry Agreement, dated as of October 1, 2010, by and among the Port Authority, the Lessee, and JFK International Air Terminal, LLC.

"**Second Deferred Area IB Ground Rental**" shall have the meaning set forth in Section 4 (IV) to the Lease.

"**Second Supplemental Agreement**" shall have the meaning set forth in the second WHEREAS clause to the Third Supplemental Agreement.

"**Security Agreement**" shall have the meaning set forth in Section 23A of the Lease.

"**Tanks**" shall have the meaning set forth in Section 84(a) of the Lease.

"**Tank Claims**" shall have the meaning set forth in Section 84(a) of the Lease.

"**Taxiway Easement**" shall have the meaning set forth in Section 98 of the Lease.

"**Terminal 2-4 Pedestrian Connector**" means the elevated, enclosed secure passenger connector (including without limitation people movers) to be constructed by the Lessee as part of the 2010 Construction Work, connecting Terminal 1A (and commonly known as "Building 54"

or "Terminal 2") with Terminal 4, as shown in shading on Exhibit 93-2, such connector to include its foundations, supports, utility systems, equipment and appurtenances.

"Terminal 2-4 Pedestrian Connector Area" means the portion of the Terminal 4 Site containing approximately 0.13 acres shown in shading on Exhibit 93-1, page 1 of 2, of which a portion of the Terminal 2-4 Pedestrian Connector is to be constructed.

"Terminal 3 Easement Site" shall have the meaning set forth in Section 98 of the Lease.

"Terminal 3 Site" means a portion of Area IB as shown on Exhibit A of the Lease on which Terminal 1B (commonly known as "Building 53" or air passenger terminal "Terminal 3") is located.

"Terminal 3 Site Surrender Date" shall have the meaning set forth in Section 97(a) of the Lease.

"**Terminal 3 Site Surrender Notice**" shall have the meaning set forth in Section 97(a) of the Lease.

"**Terminal 3 Site Surrender Acceptance Notice**" shall have the meaning set forth in Section 97(a) of the Lease.

"**Terminal 3 Site Surrender Remediation Action Plan**" shall have the meaning set forth in Section 97(a) of the Lease.

"Terminal 4" means the air passenger terminal known as Terminal 4 at the Airport, including (i) the Terminal 4 Site, (ii) all buildings, structures, improvements and building fixtures now or hereafter located on the Terminal 4 Site, and (iii) the related aircraft parking, apron, ramp, taxiway and other aircraft operations areas, and has the same meaning as the term "Premises" under the Terminal 4 Lease.

"Terminal 4 Easement Site" shall have the meaning set forth in Section 98 of the Lease.

"Terminal 4 Easement Users" shall have the meaning set forth in Section 98 of the Lease.

"Terminal 4 Lease" shall mean the agreement of lease, made effective as of May 13, 1997, bearing Port Authority File No. AYC-685 (as the same has been heretofore and may hereafter be amended and supplemented), by and between JFK International Air Terminal, LLC, as lessee, and the Port Authority, as lessor.

"Third Supplemental Agreement" shall mean that certain Supplement No. 3, dated as of December 9, 2010, by and between the Port Authority and the Lessee.

"**2010 Basis of Design**" shall have the meaning set forth in Section 2(k)(1) of the Lease.

"2010 Capital Investment" shall have the meaning set forth in Section 88 of the Lease.

"2010 Construction Work" shall have the meaning set forth in Section 2(k) of the Lease.

"2010 Environmental Management Plan" shall have the meaning set forth in Section 2(g)(8) of the Lease.

"2010 Expansion DBO" shall have the meaning set forth in the Fifth Supplemental Agreement to the Terminal 4 Lease.

"2010 Phase I Project" shall have the meaning set forth in the third (3rd) WHEREAS clause to the Third Supplemental Agreement.

2. Amendment to Section 2 of the Lease

Section 2 of the Lease, entitled *"Construction by the Lessee"* is hereby amended as follows:

(a) Subparagraph (b)(7) shall be deleted in its entirety and replaced with a new subparagraph (b)(7) which shall provide as follows:

"(7) The Lessee agrees that it shall deliver to the Port Authority upon completion of the construction work two (2) sets of "as built" drawings of the construction work in an electronic CADD data file in a format to be designated by the Port Authority, all of which shall conform to the specifications of the Port Authority (the receipt of a copy of said specifications prior to the execution of this Agreement being hereby acknowledged by the Lessee), together with two (2) complete hard copies of such drawings, all engineering reports, engineering analysis, boring logs, survey information and engineering design calculations and operation and maintenance manuals in a comprehensive, coordinated package. The Lessee shall, during the term of this Lease, keep said drawings current showing thereon any changes or modifications which may be made and provide same to the Port Authority upon its request. No changes or modifications shall be made without prior Port Authority consent. It is understood and agreed that, with respect to the 2010 Phase I Project, the construction work referenced in this subparagraph (7) shall refer to the 2010 Construction Work."

(b) By adding a sentence at the end of the first paragraph of subparagraph (b)(11)(i) which shall state as follows:

"With respect to the 2010 Construction Work, the above-stated insurance requirements shall be superseded by the insurance requirements set forth in Section 2(l)(2) of the Lease, as set forth in the Third Supplemental Agreement."

(c) By adding in the first paragraph of subparagraph (b)(14) the words "(but not the demolition work associated with the 2010 Construction Work)" immediately after the words "construction work" in the first sentence thereof.

(d) By adding a new Section 2(g)(4) which shall state as follows:

"(g)(4)(i) Upon final completion of all of the Lessee's 2010 Construction Work, the Lessee shall deliver to the Port Authority a certificate to such effect signed by a responsible officer of the Lessee, and by the architect or engineer who sealed the Lessee's plans pursuant to the provisions of this paragraph, certifying that all of the work has been performed in accordance with the approved Construction Application and plans and specifications and the provisions of the Lease, and the Lessee shall supply the Port Authority with as-built drawings of the Lessee's 2010 Construction Work in such form and number requested by the Port Authority. Following its receipt of the Lessee's certificate, the Port Authority shall inspect the work and, unless such certification is not correct, or the Port Authority determines that the premises are unsuitable for occupancy and use by the Lessee, a certificate of completion shall be delivered to the Lessee by the Port Authority.

(ii) Except as set forth in subparagraph (iii) of this paragraph, the Lessee shall not commence any portion of the Lessee's 2010 Construction Work until the Construction Application and plans and specifications covering such work have been finally approved by the Port Authority, and the required insurance procured.

(iii) If the Lessee desires to commence construction of portions of the Lessee's 2010 Construction Work prior to the approval by the Port Authority of the complete Construction Application and plans and specifications covering all of such work pursuant to subparagraph (ii), above, the Lessee shall submit to the Port Authority a separate Construction Application for each portion of the Lessee's 2010 Construction Work the Lessee so desires to commence (each such portion of the Lessee's 2010 Construction Work being hereinafter designated as "**Partial Approval Work**") which shall be executed by an authorized officer of the Lessee and shall be accompanied by final and complete plans, specifications, drawings, and data with respect to such portion of the Lessee's Construction Work (the final and complete plans, specifications, drawings, and data covering each such portion of the Lessee's 2010 Construction Work are hereinafter referred to as the "**Partial Approval Work Plans**" with respect to such portion of the Lessee's 2010 Construction Work) setting forth in detail the work to be performed in connection with each such portion of the Lessee's 2010 Construction Work. The Port Authority shall use its discretion to determine whether to permit the Lessee to proceed with the performance of any Partial Approval Work. If the Port Authority consents to the performance of any Partial Approval Work, the Port Authority shall review the Construction Application covering such work and shall give its written approval or rejection of the Partial Approval Work Plans with respect thereto or shall request such revisions or modifications thereto as the Port Authority may find necessary. Upon the Port Authority's approval of the Construction Application covering an item of Partial Approval Work and its approval of the Partial Approval Work Plans with respect thereto, the Lessee may proceed to perform such item of Partial Approval Work subject to and in accordance with the following terms and conditions:

(1) The performance by the Lessee of any item of Partial Approval Work in accordance with the Port Authority's approval will be at its sole risk and if for any reason the Construction Application and plans and specifications for the balance of the Lessee's 2010 Construction Work, or any part thereof, are not approved by the Port Authority or if the approval thereof calls for modifications or changes in any item of Partial Approval Work undertaken by the Lessee under any approval granted by the Port Authority pursuant to this paragraph, the Lessee shall, as directed by the Port Authority, and at the Lessee's sole cost and expense, either restore the area affected to the condition existing prior to the commencement of such item of Partial Approval Work or make such modifications and changes to such work as may be required by the Port Authority.

(2) Nothing contained in any approval given pursuant to this paragraph shall constitute a determination or indication by the Port Authority that the Lessee has complied with any laws, rules, orders, ordinances, enactments, resolutions, regulations, statutes, requirements, codes, directions, and executive orders, including but not limited to those of the State of New York, Borough of Queens or City of New York, which may pertain to the Partial Approval Work to be performed and which the Lessee is required to comply with pursuant to the Lease, as amended.

(3) Each item of Partial Approval Work shall be performed in accordance with and subject to the terms and provisions of the Lease, as amended by the Third Supplemental Agreement, covering the Lessee's 2010 Construction Work, and in accordance with the approved Construction Application covering such item of Partial Approval Work, and in accordance with the approved Partial Approval Work Plans constituting a part of such Construction Application, and subject to any requirements, stipulations, and provisions which the Port Authority may impose in its approval of the performance of such item of Partial Approval Work.

(4) No Partial Approval Work performed by the Lessee pursuant to the provisions of this paragraph shall affect or limit the obligations of the Lessee with respect to the Lessee's 2010 Construction Work or any prior approvals thereof.

(5) The Lessee specifically understands that neither the Port Authority's approval of any Construction Application and Partial Approval Work Plans covering any item of Partial Approval Work nor the performance by the Lessee of any item of Partial Approval Work pursuant to such approval shall obligate the Port Authority to approve the Construction Application and plans and specifications submitted by the Lessee for the balance of the Lessee's 2010 Construction Work or shall create or be deemed to create any obligation on the part of the Port Authority to permit subsequent Partial Approval Work to be performed. Without limiting the generality of the provisions of this paragraph, it is specifically understood that the Port Authority may withhold its approval of a Construction Application and Partial Approval Work Plans covering any item of Partial Approval Work if the Port Authority determines that review of subsequent items of Partial Approval Work is required before the Port Authority can approve, reject, or comment upon such Partial Approval Work Plans.

(6) In the event that in the opinion of the Port Authority the Lessee: (i) fails to comply with all of the provisions of the Lease, as amended, with respect to such work; (ii) fails to comply with the provisions of the Construction Application covering such work and the plans and specifications forming a part thereof; (iii) fails to comply with any requirements, stipulations, or provisions imposed by the Port Authority in its approval of the performance of such item of Partial Approval Work; or (iv) shall be in breach of any of the provisions of the Construction Application and plans and specifications covering the performance of such work, the Port Authority shall have the right to cause the Lessee to cease the work that is being performed in violation of the Third Supplemental Agreement, the Construction Application and plans and specifications, or the conditions of the Port Authority's approval. Upon written direction from the Port Authority, the Lessee shall promptly cease performance of the portion of the Partial Approval Work specified. The Lessee shall thereupon submit to the Port Authority for its written approval of the Lessee's proposal for making modifications, corrections or changes in or to the item of Partial Approval Work that has been or is to be performed so that the same will comply with the provisions of the Lease, as amended, the Construction Application and plans and specifications, or the conditions of the Port Authority's approval covering such work. The Lessee shall not commence construction of the portion of the Partial Approval Work that has been halted until it has received written approval of the proposed modifications, corrections or changes.

(7) It is hereby expressly understood and agreed that the Port Authority has no duty or obligation of any kind whatsoever to inspect or police the performance of any Partial Approval Work by the Lessee and the rights granted to the Port Authority hereunder shall not create or be deemed to create such a duty or obligation. Accordingly, the fact that the Port Authority has not exercised its right to require the Lessee to cease performance of all or any part of the Partial Approval Work shall not be, or be deemed to be, an agreement or acknowledgment on the part of the Port Authority that the Lessee has in fact performed such work in accordance with the terms of the Third Supplemental Agreement, the Construction Application and plans and specifications covering such work, or the conditions of the Port Authority's approval of such work. Nor shall such fact be or be deemed to be a waiver by the Port Authority of any of the requirements of this Agreement with respect to such work, or any of the requirements of the Construction Application and plans and specifications covering such work, or any of the conditions of the Port Authority's approval of such work.

(iv) Without limiting the generality of subparagraph (v) of this paragraph, the Lessee shall be solely responsible for the plans and specifications used by it and for the adequacy or sufficiency of such plans and specifications and all the improvements, fixtures, and equipment depicted thereon or covered thereby, regardless of the consent thereto or approval thereof by the Port Authority or the incorporation therein of any Port Authority requirements or recommendations. The Port Authority shall have no obligation or liability in connection with the performance of any of the Lessee's 2010 Construction Work or for the contracts for the performance thereof entered into by the Lessee. Any warranties extended or available to the Lessee in connection with the aforesaid work shall be for the benefit of the Port Authority as well as the Lessee. The Lessee shall not permit passenger use of the Terminal 2-4 Pedestrian Connector, or conduct aircraft parking operations at the Terminal 3 Site, until the Port Authority

shall have notified the Lessee in writing that the Lessee's 2010 Construction Work or the Partial Approval Work, as applicable, has been completed to its satisfaction, to be evidenced by the issuance of a "permit to occupy or use" with respect to the 2010 Construction Work, or with respect to each Partial Approval Work, as applicable, pursuant to subparagraph (i) of this paragraph. The date of the issuance of such permit to occupy or use, if only one for the 2010 Construction Work, or the date of the issuance of the final permit to occupy or use, if more than one for the 2010 Construction Work, shall be called the 2010 Construction Work "**Completion Date**". The Lessee shall be obligated to pay any tenant construction review fee or other review fee charged by the Port Authority for its costs of administrating the Construction Application process, consistent with the Port Authority's procedures or policies concerning charges for such review fees.

(v) Without limiting or affecting any other term or provision of the Lease, as amended by the Third Supplemental Agreement, as between the Lessee and the Port Authority (but without limiting the Lessee's indemnification and hold harmless obligations to the Port Authority under the Lease with respect to third party claims brought against the Port Authority), the Lessee shall be solely responsible for (x) the design, adequacy and operation of any utility, mechanical, electrical, communications and other systems installed at the Terminal 3 Site by the Lessee as part of the Lessee's 2010 Construction Work and any other improvements, additions, fixtures, finishes, decorations and equipment made or installed by the Lessee at the Terminal 3 Site as Lessee's 2010 Construction Work and shall do preventive maintenance and make such repairs, replacements, rebuilding (ordinary or extraordinary, structural or non-structural) and painting necessary to keep such systems, improvements, additions, fixtures, finishes, decorations and equipment (whether the same involves structural or non-structural work) in the condition they were in when made or installed except for reasonable wear which does not adversely affect the efficient or proper utilization of any part of the Terminal 3 Site or the balance of the premises, (y) any systems, improvements, fixtures and equipment decommissioned and left in place at the Terminal 3 Site by Lessee as part of the 2010 Construction Work, and (z) the condition of the Terminal 3 Site including, without limitation, utility and other systems and improvements thereat, affected by the removal of any systems, improvements, fixtures and equipment effected as part of the 2010 Construction Work.

(vi) The Lessee shall pay all claims lawfully made against it by its contractors, subcontractors, materialmen and workmen, and all claims lawfully made against it by other third persons arising out of or in connection with or because of the performance of the work, and shall cause its contractors and subcontractors to pay all such claims lawfully made against them. Nothing herein contained shall be deemed to constitute consent to the creation of any lien or claim against the Terminal 3 Site, or the premises, or any part thereof, nor to prevent the Lessee from contesting claims in good faith.

(vii) In the performance of the Lessee's 2010 Construction Work, the Lessee shall not employ any contractor nor shall the Lessee or any of its contractors employ any persons or use or have any equipment or materials or allow any condition to exist if any such shall or, in the opinion of the Port Authority, may cause or be conducive to any labor troubles at the Airport which interfere, or in the opinion of the Port Authority are likely to interfere, with the operations

of others at the Airport or with the progress of construction work thereat. The determination of the Port Authority shall be conclusive on the Lessee. Upon notice from the Port Authority, the Lessee will (or will cause its contractor to, as applicable) immediately rectify any condition causing or contributing to labor troubles as specified in such notice. In the event of failure by the Lessee (or any of its contractors, as applicable) to timely comply with the requirements of this paragraph, the Port Authority shall have the right, by notice from the Port Authority to the Lessee, to suspend the Lessee's right to proceed with the 2010 Construction Work, or the applicable portion thereof, being performed by or on behalf of the Lessee and the Lessee will thereupon immediately cease the same. When labor troubles will be so settled that such interference no longer exists and the danger thereof no longer exists, the Port Authority by notice to the Lessee will reinstate the permission to the Lessee to perform the Lessee's 2010 Construction Work on all the same terms and conditions as before the suspension. "Labor troubles" shall mean and include strikes, boycotts, picketing, work-stoppages, slowdowns, complaints, disputes, controversies or any other type of labor trouble, regardless of the employer of the person involved or their employment status, if any.

(viii) In the event of a conflict or ambiguity between the terms and provisions of the Lease and those of the ATA, or between the terms and provisions of the Lease and those any other agreement to which the Port Authority is not a signatory, the terms and provisions of the Lease in all respects shall be controlling and determinative as between the Port Authority and the Lessee. The ATA is an agreement between JFK International Air Terminal, LLC and the Lessee, and by referencing the ATA in the Third Supplemental Agreement the Port Authority does not incorporate into the Lease any agreements or understandings that are contained in the ATA unless expressly stated to be so incorporated. The ATA shall not be used or referred to in interpreting any defined term in the Lease ("**Lease Defined Term**"), and in interpreting any Lease Defined Term, no inference shall be drawn from the use thereof in the ATA. Further, defined terms used in the ATA ("**ATA Defined Term**") shall not be considered or referred to in the interpretation or construction of the Lease. In any event, ATA Defined Terms shall not be deemed to elaborate, amplify, limit or otherwise explain in any manner (whether expressly, by manner of use, by context, by analogy, by contract, or by example, or pursuant to any other rule of construction or interpretation) any Lease Defined Term, or any term or provision of the Lease. Notwithstanding the foregoing, where an ATA Defined Term is expressly used in a provision of the Third Supplemental Agreement, such ATA Defined Term shall be used, only in the interpretation of such provision, by ascribing to such ATA Defined Term the definition specifically set forth in the ATA."

(d) By adding the following sentence at the end of subparagraph (h):

> "Notwithstanding anything to the contrary stated elsewhere in this subparagraph (h), the provisions of this subparagraph shall not be deemed to modify the abatement provisions contained in Section 4 (IV) of the Lease as set forth in the Third Supplemental Agreement."

(e) By adding new subparagraphs (k) and (l) which shall read in their entirety as follows:

"(k) Comprehensive Plan for AYC-325.

(1) *Comprehensive Plan for AYC-325.*

Prior to the execution of the Third Supplemental Agreement the Lessee has submitted to the Port Authority for review two design documents entitled "Basis of Design" relating to the 2010 Construction Work, specifically (a) one design document relating to the Terminal 2-4 Pedestrian Connector and (b) one design document relating to the demolition of Terminal 3, the demolition of the Air Train connector and elevator core at Terminal 3, the construction of a covered walkway from the Terminal 2-3 Air Train Station elevator core to Terminal 2, the pavement of the area on which hardstands shall be constructed, hardstand construction and other components of the 2010 Construction Work, copies of which are attached hereto, hereby made a part hereof and marked Exhibit 2(k) (collectively, the "**2010 Basis of Design**"), and has submitted, or shall submit, for the Port Authority's review further plans and specifications based on the approved 2010 Basis of Design (such plans and specifications, upon approval by the Port Authority, together with the approved 2010 Basis of Design, the "**Comprehensive Plan for AYC-325**"). The 2010 Basis of Design includes, among other things, requirements in order to ensure safe vehicular and pedestrian access to Terminal 2, to preserve the Lessee's safe use of the existing Terminal 2 aircraft movement areas for Lessee's aircraft parking, de-icing and operation needs, and to delineate the site preparation work. The Comprehensive Plan for AYC-325 shall include the 2010 Construction Work (as hereinafter defined).

(2) *Description of 2010 Construction Work.*

In connection with the 2010 Phase I Project, the Lessee hereby agrees to undertake and complete at its sole cost and expense at the premises the 2010 Construction Work. The 2010 Construction Work, inclusive of all necessary construction and relocation of paved areas, utility lines, pipes, mains, conduits and other improvements, and whether commenced or completed prior to, or following, the effective date of the Third Supplemental Agreement, and as described in the 2010 Basis of Design (as herein defined) and/or the applicable Construction Application(s), constitutes "construction work" as such term is used in Section 2 of the Lease. The 2010 Construction Work shall mean and include, without limitation, the following:

(i) the complete abatement and removal of all asbestos, asbestos-containing materials, lead and other Hazardous Substances located in all structures (whether above-grade or below-grade) on the Terminal 3 Site prior to the actual demolition of Terminal 3, and the handling, transporting and off-Airport disposal thereof (including, if required, disposal of asbestos in an off-Airport long-term asbestos disposal facility), all of the foregoing to be performed and completed in accordance with Environmental Requirements but, in all events, to the levels, within a time frame, and in a manner necessary in the judgment of the Port Authority for it to be at all times in compliance with the Basic Lease;

(ii) the demolition and removal of all aboveground structures located on and at the Terminal 3 Site, including Terminal 3. All Terminal 3 deep foundations shall remain intact but basement foundation walls shall be demolished;

(iii) the installation and use of supportive and protective systems in connection with disassembly and demolition in order to support and protect adjacent structures and structures that are to remain at the Airport after the 2010 Construction Work is completed;

(iv) the capping of building and site utilities, alarms and other Terminal 3 systems back to the nearest existing isolation valves, manholes and/or junctions;

(v) Remediation of the Terminal 3 Site in compliance with the Lease but, in all events, in compliance with Environmental Requirements, including, without limitation, any stipulation agreements entered into by the Lessee with the NYS Department of Environmental Conservation; such Remediation to include, without limitation, (x) closing of all spills (including, without limitation, Spill Number 0802350 reported to have occurred on May 30, 2008, Spill Number 9800920 reported to have occurred on April 21, 1998, Spill Number 9604699 reported to have occurred on June 30, 1996, and Spill Number 9414047 reported to have occurred on January 18, 1995) and (y) de-commissioning the hydrant fueling system with the existing transfer lines from the Airport Satellite Fuel Farm that serve Terminal 3 to be cut and capped as close to the leasehold as possible, all fuel removed, and filled with nitrogen for long term storage. All fuel transfer lines that pass through the Terminal 3 Site and supply fuel to Terminal 4 or any other terminal at the Airport shall remain undisturbed and protected throughout the duration of the construction work. All Remediation shall be performed and completed in accordance with Environmental Requirements but, in all events, to the levels and in a manner necessary, in the judgment of the Port Authority, for it to be in compliance at all times with the Basic Lease;

(vi) demolition, removal and/or capping of drainage piping and structures, water/sewer piping, and electric duct banks related to the demolition which shall involve the identification, trenching, capping, disabling, removal and disposal of fittings, hydrant extensions, valve boxes, precast utility boxes, vaults, lift stations, meters and duct banks, as well as removal of electric cables from the duct banks;

(vii) once the demolition component of the 2010 Construction Work has been completed, the Terminal 3 footprint shall be brought to grade by backfilling and thereafter such Terminal 3 Site shall be paved with airport-rated pavement, and marked, as required to enable the Terminal 3 Site to be used for aircraft parking purposes;

(viii) if desired by Lessee and included in an approved Construction Application installation, after previously obtaining a required permit therefor, of above-grade glycol tanks to be used for de-icing at the Terminal 3 Site after the Terminal 3 Site Surrender Date and, if such de-icing is to take place at the Terminal 3 Site, then compliance with secondary containment requirements and installation of infrastructure to handle collection and treatment of glycol;

(ix) installation of utilities, storm, water catch basins, storm receptors for water quality control and treatment systems where de-icing agents are applied or utilized;

(x) installation of all necessary or required blast fences and other fencing;

(xi) installation of ramp and taxilane lighting;

(xii) the construction of a secure Terminal 2-4 Pedestrian Connector from an intermediate point on the Pedestrian Connector to Terminal 4, and, in connection with the demolition of Terminal 3, the demolition of the portion of the existing Pedestrian Connector between the intermediate point on the Pedestrian Connector and Terminal 3, the aforesaid to be as described in Section 93 of the Lease, entitled *"Pedestrian Connector"*. The Terminal 2-4 Pedestrian Connector shall not be less than 20 feet in clear interior width other than at the approach to the connection points at Terminal 4 and the Pedestrian Connector and shall consist of secure, enclosed, climate-controlled passenger connection bridges between the named terminals with moving walkways in both directions;

(xiii) demolition and removal of the existing vertical circulation and overhead connector from the Terminal 2-3 Air Train station. It is contemplated that the overhead structure will be taken back to either face of the Air Train station or to a natural stopping point. Sealing of the penetration shall match existing finishes;

(xiv) the construction of a covered walkway from the Terminal 2-3 Air Train Station elevator core to Terminal 2;

(xv) the construction of Taxiway "HA", off-premises on the PAF Site (as defined in the ROE Agreement) at the location shown in hatching on Exhibit 2(L) attached hereto and hereby made a part hereof; and

(xvi) all other appropriate or necessary work in connection with effectuation of the 2010 Construction Work at the premises.

(3) *Updates to Comprehensive Plan for AYC-325.*

The Lessee shall keep the Comprehensive Plan for AYC-325 up to date and shall submit to the Port Authority for its approval all amendments, supplements or modifications thereto, which amendments, supplements or modifications shall not become effective until the same have been approved by the Port Authority.

(4) *Certain Details Concerning the 2010 Construction Work.*

(a) All of the 2010 Construction Work shall be performed and completed in accordance with applicable law including, without limitation, all Environmental Requirements which shall include, among others, filing notices of intent for coverage under the Port

Authority's State Pollution Discharge Elimination System permits for management of stormwater and obtaining all relevant permits for ground water activities. The 2010 Construction Work shall include the removal by Lessee of all above-ground emergency generator fuel tanks and all underground storage tanks. The 2010 Construction Work shall include sampling in connection with the decommissioning of the Distribution Portion of the Underground Fuel System pursuant to NYSDEC DER10 or subsequent adopted regulations and guidance. While the 2010 Construction Work shall not include the removal and/or closure of the Distribution Portion of the Underground Fuel System (as defined in the Lease) located at Terminal 3, the 2010 Construction Work shall include any testing, sampling, the removal of the fuel from the related underground piping, the removal of surge suppressors, isolation valves and associated piping, and the installation of blind flanges, as necessary. The Distribution Portion of the Underground Fuel System shall be slurry-filled and the hydrant pits shall be back-filled and cemented to grade. All additional soil to be used for backfilling in connection with the 2010 Construction Work shall be obtained from the Port Authority's on-Airport stockpile (which will be made available to Lessee at no incremental cost to the extent available and shall be subject to testing and approval for use by the Lessee at Lessee's sole cost and expense) and, to the extent not available from such stockpile, from another source at Lessee's sole cost and expense.

(b) Both during and after the 2010 Construction Work, (i) both vehicular and pedestrian access shall be continued, ongoing, unimpeded and uninhibited to Terminal 2 via existing roadways, existing bridges, temporary walkways and the Pedestrian Connector; however, it is anticipated that the Terminal 3 upper level roadway will be closed commencing with construction of the Terminal 2-4 Pedestrian Connector; (ii) the current at-grade pedestrian access walkway shall be continued, ongoing, unimpeded and uninhibited to the existing Terminal 2-3 Air Train elevator core and exit stair tower; and (iii) the existing Terminal 2 aircraft movement areas shall remain available for the Lessee's aircraft parking, de-icing and operational needs.

(c) As a general matter with regard to utilities, utilities that serve the premises and will no longer be needed in connection with operations under the Aircraft Parking Permit shall be disconnected as part of the 2010 Construction Work at existing manholes, valves and/or junctions, as close to the leasehold line under the Lease as possible, and all utilities that remain on the Terminal 3 Site after completion of the 2010 Construction Work shall be the sole responsibility of the Lessee under the Aircraft Parking Permit, in accordance with the terms of the Aircraft Parking Permit.

(5) *Lessee's Capital Investment.* The Lessee's Capital Investment (as defined in Section 88 of the Lease) in connection with the 2010 Construction Work shall be as set forth in said Section 88, as herein amended.

(6) *Compliance with 2010 Basis of Design and other Procedures.* All of the 2010 Construction Work which is consented to by the Port Authority shall be designed and constructed in accordance with the 2010 Basis of Design and the design criteria contained in the Port Authority Tenant Construction Review Manual and in the Port Authority Aviation Department Tenant Alteration Procedures and Standards Guide, as the same may be amended from time to time. The Lessee agrees that in the performance of the 2010 Construction Work, it

will comply with the Port Authority's policy on sustainable design as set forth in the sustainable design guidelines promulgated by the Port Authority Engineering Department from time to time. In the event of any inconsistency between the terms of the Port Authority Tenant Construction Review Manual or the Port Authority Aviation Department Tenant Alteration Procedures and Standards Guide on one hand and the terms of the Lease, as amended, on the other hand, the terms of the Lease shall prevail and control.

(7) *Payment and Performance Bond.*

Prior to the commencement of any 2010 Construction Work, the Lessee shall procure from each of its general contractors ("**General Contractor**"), and cause to be delivered to the Port Authority, a payment and performance bond covering the applicable portion of the 2010 Construction Work to be performed by such general contractor (a "**Bond**") in such form as has been approved in advance in form and substance by the Port Authority in its sole discretion, whereby the Port Authority and the Lessee shall be listed as the payee, protecting the Port Authority and the Lessee from monetary risk during, relating to or arising out of the 2010 Construction Work, and in all events each Bond shall be only with a surety listed in the Financial Management Service of the United States Department of the Treasury. Each Bond shall be in an amount equal to the entire contract price for the portion of the 2010 Construction Work to be performed by the General Contractor providing such Bond, and shall guarantee the full, faithful and prompt performance of and compliance with, on the part of such General Contractor, all of the terms, provisions, covenants and conditions of the Lease, as amended by this Agreement relating to the portion of the 2010 Construction Work to be performed by such General Contractor including, without limitation, the terms, provisions, covenants and conditions which relate to the 2010 Construction Work generally and the insurance, indemnity and environmental obligations associated therewith. Each Bond shall remain in effect in all respects through and after the Completion Date, and indefinitely until the applicable General Contractor fully satisfies its obligations relating to the portion of the 2010 Construction Work to be performed by such General Contractor. The existence of the Bond shall not limit or alter any other remedies of the Port Authority under the Lease, as amended, and the Port Authority may from time to time and at any time elect to pursue (or not to pursue) its rights under any Bond without thereby limiting, voiding or relinquishing any of its other rights or remedies under the Lease, as amended.

(8) *2010 Environmental Management Plan.* The Lessee shall submit to the Port Authority for its approval prior to the commencement of the 2010 Construction Work an environmental management plan setting forth in detail the Lessee's plans for all handling, excavation, depositing, testing, screening, backfilling, removal, storage, transportation, disposal and other handling of soil and the treatment of ground and wastewater in the performance of the 2010 Construction Work (such plan, as approved by the Port Authority, the "**2010 Environmental Management Plan**"). The 2010 Construction Work shall be performed in accordance with the 2010 Environmental Management Plan.

(9) *No Release or Discharge from Demolition Obligation.* In the event the Lessee fails to demolish Terminal 3, which the Lessee acknowledges is required by this Agreement, the Port Authority shall not release or discharge the Lessee from such obligation.

(l) Other Lease Requirements for 2010 Construction Work; Insurance.

(1) Except as expressly provided otherwise in the Third Supplemental Agreement, the Lessee shall perform the 2010 Construction Work in strict accordance with Section 2 of the Lease, entitled *"Construction by the Lessee"*, it being understood that Section 2 applies to the 2010 Construction Work in the same way that it applied to the Phase I Construction Work and Phase II Construction Work, except that:

(i) Sections 2(a)(1)-(3) of the Lease are inapplicable to the 2010 Construction Work,

(ii) references to "Phase I Construction Work" and "Phase II Construction Work" in Section 2(a)(4) and (5) shall refer instead to the 2010 Construction Work,

(iii) reference in Section 2(a)(5)(ix) to Section 21 of the Basic Lease shall mean and refer to Section 18 of the Basic Lease as such term was revised in the Second Supplemental Agreement to the Lease,

(iv) the Capital Investment amounts attributable to the Phase I Construction Work and Phase II Construction Work shall not apply to the 2010 Construction Work, but the Capital Investment associated with the 2010 Construction Work shall be as set forth in Section 88 of the Lease, as amended by the Third Supplemental Agreement,

(v) the insurance requirements set forth in Section 2(b)(11)(i) shall be superseded by the insurance requirements set forth in Section 2(l)(2), below,

(vi) the per diem rate of pay to Port Authority engineer(s), for the services of said engineer or engineers, as set forth in Section 2(d), shall be replaced with the per diem rates as follows: The rate that the Port Authority shall charge Aircraft Operators at the Airport for the services of such engineer or engineers during such calendar year that the engineer or engineers are so assigned for such calendar year,

(vii) Schedule E, referenced in Section 2(b)(18)(i), shall be deleted and substituted with a new Schedule E, a copy of which is attached to the Third Supplemental Agreement and hereby incorporated by reference into the Lease, and

(viii) a new Section 2(g)(4) shall be added to apply to the 2010 Construction Work.

(2) (a) In addition to all policies of insurance otherwise required by the Lease, the Lessee shall procure and maintain or cause to be procured and maintained in effect during the performance of the Lessee's 2010 Construction Work the following:

(i) Commercial General Liability Insurance including but not limited to Independent Contractor coverage and coverage for Premises Operations and Completed-Operations and for Broad Form Property Damage, with a contractual liability endorsement covering the obligations assumed by the Lessee under paragraph (b) of Section 2 of the Lease as the same applies to the 2010 Construction Work, and which are customarily insured under such a policy, with a minimum combined single limit coverage for death, bodily injury and property damage of $100,000,000.00 per occurrence, and in the aggregate.

(ii) Commercial Automobile Liability Insurance covering all owned, non-owned or hired vehicles used in connection with said construction with a minimum combined single limit coverage for death, bodily injury and property damage of $25,000,000.00 per occurrence, no general aggregate; and

(iii) Environmental Impairment Liability Insurance, on a claims-made or occurrence basis, with a minimum combined single limit coverage per claim for death, bodily injury and property damage, with liability for both gradual and sudden and accidental occurrences and both on-site and off-site cleanup of $10,000,000.00 per occurrence, and in the aggregate.

(b) The environmental impairment liability policy(ies) and any certificate of insurance submitted hereunder in relation to such policy(ies) shall (i) be expressly endorsed for the Airport and each transfer location, travel route and material disposition location selected by the Lessee, (ii) state that claims disputes and coverage shall be litigated in United States courts having jurisdiction, and not be limited to arbitration, and (iii) acknowledge the Lessee disclosure to the insurance carrier that the material may be considered a Hazardous Substance under applicable law including, but not limited to, RCRA (as defined herein) and/or CERCLA (as defined herein) and/or the TSCA (as defined herein). It should be noted that the substances may be considered "hazardous" under CERCLA, but not necessarily "hazardous" under RCRA and that such materials if RCRA "hazardous" would require a manifest and disposal certificate under RCRA at a Subtitle C hazardous waste disposal facility. A copy of the Lease, including the Third Supplemental Agreement and including all schedules and documents attached thereto, shall be provided to the insurance carrier.

(c) With the exception of the Commercial Automobile Liability policy, each policy of insurance described in subparagraph (a), above, shall include the Port Authority as an additional insured in its coverages including, without limitation, coverage for premises- operations and completed operations, and no such policy shall contain any care, custody or control exclusions, or any exclusion for bodily injury to or sickness, disease or death of any employee of the Lessee or of any of its contractors which would conflict with or in any way impair the coverages resulting from the Port Authority's status as an additional insured, or the coverage under the contractual liability endorsement described in subparagraph (a)(1), above, of this paragraph. The policies or policies of such insurance shall also provide or contain an endorsement providing that the protections afforded the Lessee thereunder with respect to any claim or action against the Lessee by a third party shall pertain and apply with like effect with respect to any claim or action against the Lessee by the Port Authority and against the Port

Authority by the Lessee, and shall also provide or contain a separation of insureds endorsement; but said endorsement shall not limit, vary, change or affect the protections afforded the Port Authority thereunder as an additional insured and/or loss payee, as applicable. Such insurance shall contain a provision that the insurer shall not, without obtaining express written permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provisions of any statutes respecting suits against the Port Authority."

3. **Amendment to Section 3 of the Lease.**

Section 3 of the Lease, entitled *"Term"*, is hereby amended by restating paragraph (b) in its entirety as follows:

"(b) Unless sooner terminated, the term of the letting under this Lease (i) with respect to Area IB (the Terminal 3 Site), shall expire on the earlier to occur of (x) the Terminal 3 Site Surrender Date and (y) December 31, 2017 and (ii) with respect to the balance of the premises let to the Lessee under the Lease, exclusive of Area IB, shall expire on December 31, 2020, upon all of the terms and conditions of the Lease as herein amended, it being understood that this extension of the Lease shall not be nor be deemed to be a waiver by the Port Authority of any breach or default of any agreement, term, covenant or condition of the Lease."

4. **Amendment to Section 4 of the Lease**

Section 4 of the Lease, entitled *"Rentals"* is hereby amended as follows:

(a) Section 4(I)(a), entitled *"Ground Rentals: Area IA Ground Rental"* shall be amended by adding a new paragraph (b)(7) which shall read as follows:

"(7) Effective January 1, 2018, the annual rental rate for the Area IA Ground Rental shall be increased to the rate of (2.a.) acre. As of each January 1 anniversary date thereafter during the term of the letting, the Area IA Ground Rental shall be an amount equal to the Area IA Ground Rental in effect during the preceding calendar year plus

(b) Section 4(II)(a), entitled *"Area IA Facility Rental"* shall be amended by amending and restating paragraph (a)(5) and by adding a new paragraph (a)(6) which paragraphs shall read as follows:

"(5) For the portion of the term of the letting hereunder commencing on January 1, 2013 to and including December 31, 2017, the Lessee hereby agrees to and shall pay to the Port Authority Area IA Facility Rental at the annual rate of (2.a.)

(6) For the portion of the term of the letting hereunder commencing on January 1, 2018 to and including December 31, 2018, the Lessee hereby agrees to and shall pay to the Port Authority Area IA Facility Rental at the annual rate equal to the amount in effect during the prior year plus (2.a.) As of each January 1

anniversary date thereafter during the term of the letting, the Area IA Facility Rental in effect for the succeeding year shall increase by

(c) Section 4(I)(e)(i), entitled "*Ground Rentals: Abatement*", shall be amended by adding a new subparagraph (4), (5) and (6) which shall read as follows:

"(4) For the portion of the term from January 1, 2018 to December 31, 2018 at the daily rate of

(5) For the portion of the term from January 1, 2019 to December 31, 2019 at the daily rate of

(6) For the portion of the term from January 1, 2020 to December 31, 2020 at the daily rate of

(d) Section 4(II)(d)(i), entitled "*Facility Rentals: Abatement*", shall be amended by amending and restating subparagraph (5) and by adding new subparagraph (6), (7) and (8) which shall read as follows:

"(5) For the portion of the term from January 1, 2013 to December 31, 2017 at the daily rate of

(6) For the portion of the term from January 1, 2018 to December 31, 2018 at the daily rate of

(7) For the portion of the term from January 1, 2019 to December 31, 2019 at the daily rate of

(8) For the portion of the term from January 1, 2020 to December 31, 2020 at the daily rate of

(e) A new Section 4 (IV) shall be added which shall read as follows:

"IV. *Area IB Abatement as of Demolition Commencement Date.*

As of the Demolition Commencement Date, the following shall occur with respect to Area IB Facility Rental and Area IB Ground Rental:

(i) the Lessee shall cease to incur an obligation to pay Area IB Facility Rental for the balance of the letting under this Agreement after such date. The Lessee shall continue to be liable for timely payment of Area IA Facility Rental incurred prior to the Demolition Commencement Date.

(ii) the Lessee's obligation to pay Area IB Ground Rental shall continue to accrue after the Demolition Commencement Date, but its obligation to pay such Area IB Ground Rental shall be deferred during the period from the Demolition Commencement Date to the earlier of (A) the day preceding the second (2nd) anniversary of the Demolition Commencement Date and (B) the Terminal 3 Site Surrender Date (the "**Area IB Ground Rental Abatement Period**"). During the Area IB Ground Rental Abatement Period, the Area IB Ground Rental shall accrue at (1) the annual rental rate for Area IB Ground Rental otherwise in effect

during such period plus (2) interest on such Area IB Ground Rental at the rate on the coupon of longest maturity of the Series 8 Bonds, as such term is defined in the Terminal 4 Lease (such increased rental rate being called the "**First Deferred Area IB Ground Rental Rate**"). The aggregate amount of the Area IB Ground Rental that accrues during the Area IB Ground Rental Abatement Period shall be paid to the Port Authority in consecutive, equal monthly amounts, together with interest thereon, commencing on the first day of the first month after the expiration of the Area IB Ground Rental Abatement Period and, thereafter, on the first day of each month thereafter occurring through December 31, 2017; provided, however, if the Terminal 3 Site Surrender Date has not occurred by the end of the twenty-fourth (24th) month from and including the month in which the Demolition Commencement Date occurs then, commencing the first day of the twenty fifth (25th) month from and including the month in which the Demolition Commencement Date occurs, Area IB Ground Rental shall be deemed to have accrued, retroactively, during the period from the Demolition Commencement Date through the Terminal 3 Site Surrender Date at the rate of one hundred fifty percent (150%) of the Area IB Ground Rental rate otherwise in effect during such period, i.e., the Area IB Ground Rental provided for under Section 4(I)(c) of the Lease plus fifty percent (50%) of such Area IB Ground Rental (such increased rental rate being called the "**Second Deferred Area IB Ground Rental Rate**"). A retroactive adjustment to the Area IB Ground Rental shall be made at the Second Deferred Area IB Ground Rental Rate. The Lessee shall pay the Area IB Ground Rental in monthly installments at the Second Deferred Area IB Ground Rental Rate commencing with the first day of the twenty-fifth (25th) month except that, if the Terminal 3 Site Surrender Date has not occurred by the end of the thirtieth (30th) month from and including the month in which the Demolition Commencement Date occurs, then, within thirty (30) days after the expiration of the thirtieth (30th) month, the full amount of the Area IB Ground Rental accrued from and after the Demolition Commencement Date, at the Second Deferred Area IB Ground Rental Rate, shall be due and payable to the Port Authority in a single, lump sum payment. For the avoidance of doubt, Area IB Ground Rental shall continue to accrue after the Area IB Ground Rental Abatement Period and prior to the expiration of the 30th month from and including the month in which the Demolition Commencement Date occurs at the Second Deferred Area IB Ground Rental Rate, but a lump sum payment of accrued Area IB Ground Rental shall not be due unless the Terminal 3 Site Surrender Date does not occur by the last day of the thirtieth (30th) month from the Demolition Commencement Date. After the thirtieth (30th) month, if the Terminal 3 Site Surrender Date has not occurred, monthly payments of Area IB Ground Rental shall continue to accrue and be paid on the first day of each month occurring after such 30th month, until the Terminal 3 Site Surrender Date, at the Second Deferred Area IB Ground Rental Rate. Notwithstanding the provisions of this Section 4(IV) to the contrary, the Second Deferred Area IB Ground Rental Rate, as opposed to the First Deferred Area IB Ground Rental Rate, shall apply only if the failure or inability for the Terminal 3 Site Surrender Date to occur within 24 months from the Demolition Commencement Date is caused by the Lessee or its officers, directors, employees, representatives, agents, contractors, subcontractors or matters under the control of any of the foregoing. In all events, Area IB Ground Rental shall cease to accrue after the Terminal 3 Site Surrender Date. It is expressly agreed that no delay, condition relating construction work under the Anchor Tenant Agreement or Terminal 4 Lease, or force majeure event under the Anchor Tenant Agreement or Terminal 4 Lease shall constitute a force majeure event under the Lease, as amended."

5. **Amendment to Section 5 of the Lease**

Section 5 of the Lease, entitled *"Use of Premises"*, shall be amended to add a new paragraph at the end of Section 5 which provides as follows:

"As of the "2010 Expansion DBO", as such term is defined in the Fifth Supplemental Agreement to the Terminal 4 Lease, the Lessee shall be obligated to immediately cease its use of Area IB (including, but not limited to, cessation of its business of transportation by aircraft and cessation of concession operations); provided, however, that the Lessee shall be permitted to use Area IB (a) for those of its operations and activities necessary to prepare for, undertake and complete the 2010 Construction Work, and (b) if less than sixteen (16) Delta Gates (as such term is defined in the Anchor Tenant Agreement) are located at Terminal 4, for live hardstands, until sixteen (16) Delta Gates are located at Terminal 4, but use under this clause (b) shall only be permitted if (i) such use does not delay or unduly interfere with 2010 Construction Work activities) and (ii) at all times for such proposed use, there is maintained peak hour customer service levels in the Terminal 4 FIS Facility, Baggage and Ticketing hall processors (as such terms are defined in the ATA) at Level of Service C which shall have the meaning set forth in the IATA Airport Development Reference Manual. It is expressly agreed that any continued use of Area IB for hardstand use pursuant to clause (b), above, shall not constitute a force majeure event under the Lease, as amended."

6. **Amendment to Section 15 of the Lease.**

Section 15 of the Lease, entitled *"Joint Periodic Condition Survey"*, shall be amended by adding a new paragraph (i) which shall read as follows:

"(i) In connection with the Condition Survey to be undertaken prior to the expiration date of the term of the letting under this Agreement, as described in subparagraph (b), above, the parties acknowledge that subparagraph (e), above, requires the Lessee to commence and complete all items and action required or recommended (in accordance with the standards of subparagraph (e) above) to be taken in the relevant Contract Condition Survey Report and within the time periods described in said subparagraph (e). The Port Authority hereby reserves the right to elect, in its sole and absolute discretion, to accept surrender of the Area IA premises by the Lessee at the expiration of the Agreement in a condition where the items and areas described in subparagraph (a)(1), above, while the same shall all be in good working condition, as applicable, but where not all of the work required or recommended in the relevant Contract Condition Survey Report is completed as otherwise required by subparagraph (e). In such event, the Port Authority shall so advise the Lessee in writing and the parties, thereafter, shall negotiate in good faith to determine a payment amount, and the due date therefor, that would be due and payable to the Port Authority by the Lessee, based on the findings of the Contract Condition Survey Report, in lieu of all the work that would otherwise be required to be completed by the Lessee in order for it to strictly comply with subparagraph (e), above. If the parties are unable to agree upon the amount of, and due date for receipt of, the payment to be made to the Port Authority in lieu of completing the work in strict compliance with subparagraph (e) within sixty (60) days of the date of the Port Authority's written notice described in the immediately preceding sentence, then the Lessee shall be obligated to perform all the work cited in the Contract Condition Survey Report in accordance with this Section as if such notice had not been

received from the Port Authority. For the avoidance of doubt, nothing in this paragraph (i) is intended to modify the provisions of Section 97 of the Lease, entitled "*Surrender of the Terminal 3 Site*", which controls with respect to the surrender of the Terminal 3 Site."

7. Amendment of Section 23A of the Lease

Section 23A of the Lease, entitled *"Security Deposit"*, is hereby amended by amending and restating subsections (a) and (b) as follows:

"Section 23A. Security Deposit.

(a) The Port Authority and the Lessee are contemporaneously with the execution of this Lease entering into an agreement, dated as of the date of the Third Supplemental Agreement, and identified by Port Authority No. AX-852 (as the same may hereafter be supplemented, amended or extended, the "**Security Agreement**") covering certain agreements to which the Lessee is a party relating to use, occupancy or privileges at Port Authority facilities. The Lessee and the Port Authority hereby agree that all sums deposited by the Lessee as security as set forth in the Security Agreement shall be held and used by the Port Authority as security for the full, faithful and prompt performance of and compliance with, on the part of the Lessee, all of the terms, provisions, covenants and conditions of the Lessee in connection with this Lease, as well as the other agreements covered by such Security Agreement.

(b) Accordingly, notwithstanding anything to the contrary contained in this Lease, the Lessee hereby agrees that this Lease is one of the "Agreements", as such term is defined in the Security Agreement, and that a breach or failure to perform or comply with any of the terms and conditions of the Security Agreement including, without limitation, failure to provide a letter of credit in accordance with the terms and provisions of the Security Agreement at any time during the term under any of the Agreements valid and available to the Port Authority or any failure of any banking institution issuing a letter of credit to make one or more payments as provided in such letter of credit, shall, if not cured within any applicable grace period set forth in the Security Agreement, constitute a material breach of this Lease and the Security Agreement thereby entitling the Port Authority to immediately exercise any and all rights available to it including, without limitation, the right to terminate this Lease for cause."

8. Addition of Section 79 of the Lease.

A new Section 79 to the Lease, entitled *"OFAC Compliance"*, shall be inserted and shall provide in its entirety as follows:

"Section 79. OFAC Compliance

(a) As of the Effective Date of the Third Supplemental Agreement, Lessee represents and warrants to the Port Authority that it (i) is not a person or entity with whom the Port Authority is restricted from doing business under the regulations of the Office of Foreign Assets Control ("OFAC") of the United States Department of the Treasury (including, without

limitation, those named on OFAC's Specially Designated and Blocked Persons list) or under any statute, executive order or other regulation relating to national security or foreign policy (including, without limitation, Executive Order 13224 of September 23, 2001, *Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten To Commit, or Support Terrorism*), or other governmental action, such persons being referred to herein as "Blocked Persons" and such regulations, statutes, executive orders and governmental actions related to national security, the violation of which would also constitute a violation of law, being referred to herein as "Blocked Persons Laws") and (ii) is not engaging in any dealings or transactions with Blocked Persons in violation of any Blocked Persons Laws. Lessee acknowledges that the Port Authority is entering into the Third Supplemental Agreement to the Lease in reliance on the foregoing representations and warranties and that such representations and warranties are a material element of the consideration inducing the Port Authority to enter into and execute the Third Supplemental Agreement.

(b) Lessee covenants that (i) during the term of the Lease it shall not become a Blocked Person and shall not engage in any dealings or transactions with Blocked Persons in violation of any Blocked Persons Laws. In the event of any breach of the aforesaid covenant, the same shall constitute an event of default and, accordingly, a basis for termination of the Lease by the Port Authority in accordance with Section 26 of the Lease, entitled "*Termination by the Port Authority*", in addition to any and all other remedies provided under the Lease or at law or in equity. The foregoing shall not constitute an acknowledgement by the Port Authority that such breach is capable of being cured.

(c) The Lessee shall indemnify and hold harmless the Port Authority and its Commissioners, officers, employees, agents and representatives from and against any and all claims, damages, losses, risks, liabilities and expenses (including, without limitation, attorney's fees and disbursements) arising out of, relating to, or in connection with the Lessee's breach of any of its representations and warranties made under this paragraph. Upon the request of the Port Authority, the Lessee shall at its own expense defend any suit based upon any such claim or demand (even if such suit, claim or demand is groundless, false or fraudulent) and in handling such it shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority, or the provision of any statutes respecting suits against the Port Authority.

(d) The provisions of this Section shall survive the expiration or earlier termination of the Lease."

9. **Amendment of Section 81 of the Lease.**

Section 81 to the Lease, entitled *"Definitions"*, shall be amended by adding the following definitions:

(a) **"Environmental Requirement"** shall mean in the singular and "Environmental Requirements" shall mean in the plural all common law and all past, present and future laws, statutes, enactments, resolutions, regulations, rules, directives, ordinances, codes, licenses, permits, orders, memoranda of understanding and memoranda of agreement, guidances, approvals, plans, authorizations, concessions, franchises, requirements and similar items of all governmental agencies, departments, commissions, boards, bureaus or instrumentalities of the United States, states and political subdivisions thereof, all pollution prevention programs, "best management practices plans", and other programs adopted and agreements made by the Port Authority with any governmental agencies (whether adopted or made with or without consideration or with or without compulsion), with any government agencies, departments, commissions, boards, bureaus or instrumentalities of the United States, states and political subdivisions thereof, and all judicial, administrative, voluntary and regulatory decrees, judgments, orders and agreements relating to the protection of human health or the environment, and in the event that there shall be more than one compliance standard, the standards that the Lessee shall comply with shall be those standards that achieve the level of Hazardous Substances required by the New York State Department of Environmental Conservation ("NYSDEC"), or any successor agency thereto, and, with respect to Remediation, for issuance of a written determination stating that no further action is required with regard to such Hazardous Substances; provided, however, that in all events, the standards that the Lessee shall comply with shall be those that, when complied with by the Lessee, would not be or become a breach or default under the Basic Lease in the judgment of the Port Authority, and those standards that would not result in or permit any encumbrance being placed on or with respect to the Airport or any portion thereof, such as but not limited to, the imposition of any deed restriction, any engineering or institutional controls or restrictions, limitations or conditions on the use and occupancy of the airport, the operations and activities that may be conducted thereon or upon any transfer of the Airport. The foregoing shall include, without limitation, the following:

(i) All requirements pertaining to reporting, licensing, permitting, investigation and Remediation of emissions, discharges, releases or threatened releases of Hazardous Substances into the air, surface water, groundwater or land, or relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Substances, or the transfer of property on which Hazardous Substances exist;

(ii) All requirements pertaining to the protection from Hazardous Substances of the health and safety of employees or the public; and

(iii) The Atomic Energy Act of 1954 , 42 U.S.C. Section 2011 *et seq.*; the Clean Water Act also known as the Federal Water Pollution Control Act, 33 U.S.C. Section 1251 *et seq.*; the Clean Air Act, 42 U.S.C. Section 7401 *et seq.*; the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. Section 136 *et seq.*; the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601 *et seq.*; the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), Section 2701 *et seq.*; the Emergency Planning and Community Right to Know Act, 42 U.S.C. Section 11001 *et seq.*; the Occupational Safety and Health Act, 29 U.S.C. Section 651 *et seq.*; the Hazardous Materials Transportation Act, 49 U.S.C. Section 5101 *et seq.*; the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 *et seq.*; the Toxic Substances

Control Act, 15 U.S.C. Section 2601 *et seq.*; the Safe Drinking Water Act of 1974, 42 U.S.C. Sections 300f-300h-11 *et seq.*; the New York State Environmental Conservation Law; the New York State Navigation Law; together, in each case, with any amendment thereto, and the regulations adopted, guidances, memoranda and publications promulgated thereunder and all substitutions thereof.

(b) **Hazardous Substances**" shall mean and include in the plural and "**Hazardous Substance**" shall mean any pollutant, contaminant, toxic or hazardous waste, dangerous substance, potentially dangerous substance, noxious substance, toxic substance, flammable, explosive or radioactive material, urea formaldehyde foam insulation, asbestos, polychlorinated biphenyls (PCBs), chemicals known to cause cancer, endocrine disruption or reproductive toxicity, petroleum and petroleum products and substances declared to be hazardous or toxic or the removal, containment or restriction of which is required, or the manufacture, preparation, production, generation, use, maintenance, treatment, storage, transfer, handling or ownership of which is restricted, prohibited, regulated or penalized by any federal, state, county, or municipal or other local statute or law now or at any time hereafter in effect as amended or supplemented and by the regulations adopted and publications promulgated pursuant thereto.

(c) "**Remediate**" or "**Remediation**" shall mean the investigation (including any feasibility studies or reports), cleanup, removal, abatement, transportation, disposal, treatment (including *in-situ* treatment), management, stabilization, neutralization, collection, or containment of a Hazardous Substance or contamination, that may be required to satisfy Environmental Requirements, in each case, including, without limitation, any closure, restoration or monitoring, operations and maintenance activities that may be required by any Government Agency after the completion of such investigation, cleanup, removal, transportation, disposal, treatment, neutralization, collection, or containment activities as well as the performance of any and all obligations imposed by any Governmental Agency in connection with such investigation, cleanup, removal, transportation, disposal, treatment (including *in situ* treatment), management, stabilization, neutralization, collection, or containment (including any such obligation that may be imposed pursuant to an environmental permit or a consent order).

10. Addition of Section 84 of the Lease.

A new Section 84 of the Lease, entitled *"Storage Tanks"* shall be inserted and shall read in its entirety as follows:

"84. Storage Tanks

(a) Definitions. The following terms shall have the respective meanings set forth as follows:

"Discharge" for purposes of this Section shall mean the presence, pumping, pouring, venting, emitting, emptying, leakage, deposit, spill, discharge or other release of Hazardous Substances from Tanks or in connection with their use, operation, maintenance, testing or repair.

"Tanks" shall mean all underground storage tanks and all above-ground storage tanks installed in the premises as of the Effective Date, together with all underground storage tanks and all above-ground storage tanks installed in the premises during the period of permission, and their appurtenances, pipes, lines, fixtures and other related equipment.

"Tank Claims" shall have the meaning set forth in paragraph (f)(1), below.

(b) Lessee to Have Responsibility for All Tanks.

Notwithstanding any other facts or circumstances to the contrary, including without limitation any vesting of title to the Tanks in the City of New York pursuant to any construction or alteration application or otherwise, the Lessee hereby agrees that title and ownership of the Tanks shall be and remain in the Lessee, that all Tanks shall be registered by the Lessee in the name of the Lessee as operator and owner and that the Lessee shall have full and sole responsibility for all the Tanks, and shall release and relieve the Port Authority from all costs and responsibility for the Tanks. The Port Authority has made no representations or warranties with respect to the Tanks or their location and shall assume no responsibility for the Tanks. All Tanks installed by the Lessee shall be installed pursuant to the terms and conditions of the Lease including, without limitation, the Section of Lease entitled *"Other Construction by the Lessee"*, and nothing in this Section shall be deemed to be permission or authorization to install any Tanks.

(c) Maintenance of Tanks.

Without limiting the generality of any of the provisions of the Lease, the Lessee agrees that it shall be solely responsible for maintaining, testing and repairing the Tanks. The Lessee shall not perform any servicing, repair or non-routine maintenance to the Tanks without the prior written approval of the Port Authority. In addition, the Lessee, at its sole cost and expense, shall make all modifications to the Tanks and take all other actions so that the Tanks shall at all times comply with all applicable Environmental Requirements. Further, Lessee shall provide to the Port Authority copies of all annual testing final reports, tank certified engineering drawings, and regulatory submissions prepared in connection with meeting all applicable Environmental Requirements.

(d) Removal.

(1) The Lessee shall remove all the Tanks from the premises on or before the expiration of the Lease (unless the Lessee shall have received the prior written approval of the Port Authority to have abandoned a tank in place and such abandonment continues to meet all applicable Environmental Requirements) and the Lessee agrees to dispose of the Tanks off the Airport in accordance with all applicable Environmental Requirements.

(2) Any removal of the Tanks shall be performed pursuant to an alteration application prepared by the Lessee and submitted to the Port Authority for the Port Authority's

approval and in connection with such removal, the Lessee shall restore the premises to the same condition existing prior to the installation of the Tanks, shall perform such testing of the Tanks and of the soil, sub-soil and ground water in the vicinity of the Tanks as shall be required by the Port Authority and shall Remediate any contamination disclosed by said testing. In the event the Lessee does not remove the Tanks as required by subparagraph (l), above, the Port Authority may enter upon the premises and effect the removal and disposal of the Tanks, restoration of the premises and such Remediation and the Lessee hereby agrees to pay all costs and expenses of the Port Authority arising out of such removal, disposal, restoration and Remediation.

(e) Compliance with Environmental Requirements. Without limiting the generality of any other term or provision of the Lease, the Lessee shall at its cost and expense comply with all Environmental Requirements applicable to the Tanks including, without limitation, any modifications or closures required thereby, and any Discharge including, without limitation, testing the Tanks and registering the Tanks in the name of the Lessee as owner and operator, submitting all required clean-up plans, bonds and other financial assurances, performing all required Remediation of Discharges and filing all reports, making all submissions to, providing all information required by, and complying with all requirements of, all Governmental Authorities pursuant to all such Environmental Requirements. Nothing in the foregoing shall be construed as a submission by the Port Authority to the application to itself of the Environmental Requirements; provided, however, no immunity or exemption of the Port Authority from the Environmental Requirements shall excuse the compliance therewith by the Lessee or shall be grounds for non-compliance therewith by the Lessee.

(f) Lessee's Assumption of Risks.

(1) The Lessee hereby assumes all risks arising out of or in connection with the Tanks and all Discharges whether or not foreseen or unforeseen and shall indemnify and hold harmless the Port Authority, its Commissioners, officers, agents and employees from and against (and shall reimburse the Port Authority for their costs and expenses including without limitation penalties, fines, liabilities, settlements, damages, attorney and consultant fees, investigation and laboratory fees, Remediation costs, court costs and litigation expenses), all claims and demands, just or unjust, of third persons (such claims and demands, "Tank Claims") including, but not limited to, those for personal injuries (including death), property damages, or environmental impairment, arising or alleged to arise out of or in any way related to, the failure of the Lessee to comply with each and every term and provision of this Section, or the Tanks, or any Discharge, or any lawsuit brought or threatened, settlement reached or any governmental order relating to the Tanks or a Discharge, or any violation of any Environmental Requirement or demands of any Governmental Authority based upon or in any way related to the Tanks or a Discharge, and whether such arise out of the acts or omissions of the Lessee or of the contractors of the Lessee or of third persons or out of the acts of God or the public enemy or otherwise including Tank Claims by the City of New York against the Port Authority pursuant to the provisions of the Basic Lease whereby the Port Authority has agreed to indemnify the City of New York against claims. It is understood the foregoing indemnity shall cover all claims, demands, penalties, settlements, damages, fines, costs and expenses of or imposed by any Governmental Authority under the aforesaid Environmental Requirements.

(2) If so directed the Lessee shall at its expense defend any suit based upon any such Tank Claim (even if such Tank Claim is groundless, false or fraudulent) and in handling such it shall not without first having express advance permission from the General Counsel of the Port Authority raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provisions of any statutes respecting suits against the Port Authority.

(3) The terms and conditions of this paragraph (f) are intended to allocate obligations and responsibilities between the Lessee and the Port Authority only, and nothing in this paragraph (f) shall limit, modify or otherwise alter the rights and remedies which the Port Authority or the Lessee may have against third parties at law, equity or otherwise.

(g) Survival of Obligations. The Lessee's obligations under this Section shall survive the expiration or earlier revocation or termination of the Lease.

(h) Port Authority-directed Testing and Remediation. In addition to the requirements of the Section hereof entitled *"Compliance With Governmental Requirements"* and paragraph (e) of this Section, the Port Authority shall have the right upon notice to the Lessee to direct the Lessee, at the Lessee's sole cost and expense, (i) to perform such reasonable testing of the Tanks as the Port Authority shall direct and to perform such reasonable testing of the soil, subsoil and ground water of the premises at or near the Tanks and of such surrounding area as the Port Authority shall direct, and (ii) to Remediate any Discharge, regardless of whether any Environmental Requirement or Governmental Authority shall require such testing or Remediation, which testing and Remediation shall be performed pursuant to an alteration application prepared by the Lessee and submitted to the Port Authority for the Port Authority's approval. All Remediation required by this Section shall be to levels, within a time frame, and in a manner necessary in the judgment of the Port Authority for it to be at all times in compliance with the Basic Lease;

(i) *Preventive Measures.* In the Lessee's use and operation of the Tanks, the Lessee shall not permit any Hazardous Substance from entering the ground and, accordingly, shall take appropriate preventive measures including, without limitation, installing appropriate spill and overfill devices and placing an impervious material, such as asphalt or concrete, over the ground area above or under and in the vicinity of the Tanks, all subject to the Sections of the Lease entitled *"Compliance with Governmental Requirements"* and *"Other Construction by the Lessee"*.

11. Amendment to Section 88 of the Lease.

Section 88 of the Lease, entitled *"Lessee's Capital Investment and Port Authority's Additional Rights of Termination"*, shall be amended by adding subparagraphs (g), (h), and (i) which shall read as follows:

"(g) (1) The Lessee agrees to make a Capital Investment, as hereinafter defined, at the premises to complete the 2010 Construction Work (including without limitation submitting to the Port Authority the certifications and supporting materials therefor as set forth in paragraph (g) below) of approximately
(which Capital Investment is hereinafter called the "**2010 Capital Investment**"). The Lessee's cash contribution to the total cost of the 2010 Phase I Project shall in all events be no less than

(2) Notwithstanding the Lessee's obligation to make the 2010 Capital Investment and complete the 2010 Construction Work, the Port Authority agrees to use diligent efforts to submit an application to the Federal Aviation Administration ("**FAA**") to obtain approval to apply PFC funds up to (2.a.) for (a) PFC-eligible construction work performed by the Lessee at the PAF Site, as such term is defined in the ROE Agreement, together with related costs of the type included in the 2010 Capital Investment and described in Section 88(h)(ii) of the Lease and (b) that portion of the 2010 Construction Work that excludes (i) construction of the Terminal 2-4 Pedestrian Connector and costs and expenses relating thereto, (ii) all underground environmental Remediation of Hazardous Substances, (iii) the demolition of the Air Train connector and elevator core at Terminal 3, and (iv) any non-PFC eligible financing cost component of the 2010 Capital Investment. Such aforesaid exclusions shall include all Remediation and other environmental-related liabilities and obligations for which the Lessee is responsible under (a) the ROE Agreement, (b) Section 83 of the Lease, whether relating to Area IA or Area IB, including, therefore, without limitation, (x) all costs and expenses associated with closing open spills at the Terminal 3 Site and (y) all other Remediation which is occasioned by, arises out of, or relates to the 2010 Construction Work, whether above-ground or below-ground (excluding asbestos abatement and removal at Terminal 3 and excluding "universal waste" within Terminal 3). By way of example, but not limitation, the Port Authority PFC application would seek approval for PFC funding of the 2010 Construction Work relating to Terminal 3 Site work (except Remediation and other items identified in clauses (i)-(iv), as aforesaid), Terminal 3 utility work, Terminal 3 demolition, Terminal 3 asbestos abatement work, and Terminal 3 ramp paving for aircraft parking. The Port Authority's PFC application, and PFC funds, shall not apply to any (a) improvement at the Airport which was PFC-funded and as to which the useful life has not expired or (b) component of the 2010 Phase I Project which occurs on or at Terminal 4. Upon any determination by the FAA that all or a part of the portion of the PFC-eligible construction work performed by the Lessee at the PAF Site or the 2010 Capital Investment to be funded by PFCs is so eligible and FAA-approved to be paid or reimbursed through PFCs ("**Eligible PFC Construction Work**"), the Port Authority agrees to reimburse the Lessee on a monthly basis, up to (2.a.) rom PFC funds it has collected, for Eligible PFC Construction Work. In this connection, the Lessee acknowledges that, as of the date of the Third Supplemental Agreement, there are other projects at Port Authority facilities as to which PFC funding has previously been deemed eligible and which have received approval from the FAA and, subsequent to this Third Supplemental Agreement but prior to the time full reimbursement for Eligible PFC Construction Work shall have been made to the Lessee, there likely shall be other projects at Port Authority facilities as to which PFC funding is deemed eligible and which are submitted by the Port

Authority for approval from the FAA prior to or contemporaneously with the Eligible PFC Construction Work or for other airport terminal projects. The Lessee understands and acknowledges that any monthly reimbursement to the Lessee pursuant to this Section shall not be a fixed amount but shall vary from month to month and, additionally, that the Port Authority's determination of the appropriate amount to reimburse the Lessee for Eligible PFC Construction Work in any month shall be relative to, and in the context of, the application by it of PFC funds for other PFC-qualifying projects submitted by the Port Authority for approval from the FAA prior to or contemporaneously with the Eligible PFC Construction Work or for other airport terminal projects. Accordingly, following approval by the FAA of the Port Authority PFC application to use PFC funds on Eligible PFC Projects, PFC reimbursement to the Lessee shall be made as follows. Within forty five (45) days after the end of the calendar month in which the Lessee submits an invoice for reimbursement of expenditures related to Eligible PFC Construction Work, provided such invoice is in a form and includes such back-up documentation and detail reasonably acceptable to the Port Authority, the Port Authority will pay the Lessee the lesser of (a) the invoiced amount or (b) a *pro rata* amount, calculated by multiplying the total PFC collections during the calendar month following the calendar month in which the Lessee submitted the invoice, together with any other PFCs previously collected and unspent, by a fraction of which (i) the numerator shall be the total of all invoices submitted by the Lessee to the Port Authority that are eligible for PFC-reimbursement and for which reimbursement has not yet been made by the Port Authority, and (ii) the denominator shall be the total of all eligible Port Authority PFC expenditures not yet reimbursed for PFC-qualifying projects submitted by the Port Authority for approval from the FAA prior to or contemporaneously with the Eligible PFC Construction Work or for other airport terminal projects. Any difference between the Lessee's invoiced amount and the Lessee's reimbursed amount shall be included in the following month's calculation of the Lessee's *pro rata* amount. In the event that all unreimbursed invoiced amounts in any month is (i) equal to the balance remaining to be reimbursed to the Lessee for all Eligible PFC Construction Work and (ii) less than or equal to , the Port Authority shall pay the Lessee the invoiced amount, without regard to *pro ration.*

(3) The Lessee expressly agrees that it shall not, directly or through a third party, request Port Authority financing or other funding from the Port Authority (whether in the form of construction reimbursement, loans, rent offsets, rent credits, or otherwise) for any portion of the 2010 Construction Work that is not covered by Eligible PFC Construction Work, and the Port Authority shall not be obligated to consider, respond to, negotiate with Lessee as to, or seek approval of its Board of Commissioners in connection with, any such request. It is expressly understood and agreed by the Lessee that the sole source of reimbursement by the Port Authority for any costs and expenses incurred by it for any portion of the 2010 Construction Work or 2010 Capital Investment shall be from PFC funds, and only if and to the extent the same are approved by the FAA. Further, the Lessee expressly agrees that it is obligated to perform and complete the 2010 Construction Work in a timely and diligent manner, at its sole cost and expense, regardless of when or whether the FAA determines whether or not there is any Eligible PFC Construction Work.

(h) Without limiting and in addition to any other right or remedy of the Port Authority, in the event that the Terminal 3 Site Surrender Date including, without limitation, submitting to the Port Authority the certifications and supporting materials therefor as set forth in

paragraph (i), below, has not occurred by December 31, 2017, then upon the occurrence of such event, or at any time thereafter for so long as the Terminal 3 Site Surrender Date shall not have occurred, the Port Authority may, upon thirty (30) days' notice to the Lessee, terminate the term of the Lease and the letting thereunder with respect to all or such portion or portions of the premises as shall be set forth in the Port Authority's said notice of termination to the Lessee, the letting as to all of such portion or portions of the premises shall be deemed terminated and the Lessee shall thereafter be a holdover tenant, on a month-to-month periodical basis, of the Port Authority of such portion or portions of the premises.

(i) As used in this Lease with respect to the 2010 Construction Work, the Lessee's "2010 Capital Investment" shall mean:

(i) the amounts paid by the Lessee to independent contractors for work actually performed and labor and materials actually furnished, inclusive of sales, use and like taxes where applicable, whether prior to or following the effective date of the Third Supplemental Agreement (but not earlier than Port Authority authorization for the Third Supplemental Agreement on August 5, 2010), in connection with the 2010 Construction Work;

(ii) the payments made and expenses incurred by the Lessee, in connection with the 2010 Construction Work, whether prior to or following the effective date of the Third Supplemental Agreement (but not earlier than Port Authority authorization for the Third Supplemental Agreement on August 5, 2010) , for engineering, architectural, professional and consulting services, and the supervision of construction (which term shall be understood to include demolition), inclusive of sales, use and like taxes where applicable, it being understood that payments under this item (ii) shall not exceed sixteen percent (16%) of the sum of the amounts described in item (i), above;

and, further, in each case, as the aforementioned amounts and payments are evidenced, from time to time, by certificates of a responsible fiscal officer of the Lessee, sworn to before a notary public and delivered to the Port Authority, which certificates shall (a) set forth, in reasonable detail and in appropriate format as may be required, in the judgment of the Port Authority, for PFC purposes, the amounts paid to specified independent contractors, the payments made to other specified persons and the other expenses incurred by the Lessee, which have not previously been reported in certificates delivered to the Port Authority, (b) have attached thereto reproduction copies or duplicates originals of the invoices of such independent contractors and other persons acknowledging the receipt by them of such amounts and payments, and (c) certify that the amounts and payments therein set forth constitute the Lessee's 2010 Capital Investment arising out of the performance of the construction work. The Lessee shall keep a separate accounting of the Lessee's 2010 Capital Investment which accounting shall be kept at all times within the Port of New York District for a period of two (2) years after the final costs of all the construction work have been submitted by the Lessee to the Port Authority or the end of the term of the letting, whichever is later, and shall be subject to the audit and inspection of the Port Authority, its representatives and employees; provided, however, on the condition that the Lessee shall pay to the Port Authority all travel costs and expenses as determined by the Port Authority for Port Authority auditors and other representatives in connection with any audit at locations outside the Port of New York District, the Lessee may maintain said records and books

and make them available to the Port Authority at the Lessee's office at 1030 Delta Boulevard, Hartsfield Atlanta International Airport, Atlanta, Georgia 30320."

12. Amendment to Section 93 of the Lease

Section 93 of the Lease, entitled *"Pedestrian Connector"*, shall be amended by adding subparagraph (d) which shall read in its entirety as follows:

"(d) (1) As part of the 2010 Construction Work, (i) Lessee acknowledges that (i) Lessee shall design, construct and complete a new secure Terminal 2-4 Pedestrian Connector (from an intermediate point on the Pedestrian Connector to Terminal 4) and (ii) in connection with the demolition of Terminal 3, Lessee shall remove the portion of the Pedestrian Connector between the intermediate point on the Pedestrian Connector and Terminal 3. The Terminal 2-4 Pedestrian Connector refers to an elevated, enclosed bridge and its foundations, supports, utility systems, equipment and appurtenances. Notwithstanding anything to the contrary stated in the ATA, the Terminal 2-4 Pedestrian Connector shall be designed, constructed and completed in accordance with this Lease and the applicable Port Authority standards and application process and in the event of a conflict between the ATA and this Lease, the provisions of this Lease shall be determinative and controlling.

(2) (a) The Pedestrian Connector and Terminal 2-4 Pedestrian Connector shall be subject to a joint and mutual easement as pedestrian passageways to be used jointly by the Lessee on one hand and by the Port Authority and any lessee(s), sublessee(s), occupant(s) or user(s) on the other hand who pursuant to Port Authority permission may lease, rent, occupy or use Terminal 4. Such joint and mutual easements shall be for the provision to the Lessee ingress to and egress from Terminals 2 and 3 on the one hand and Terminal 4 on the other hand and for the provision to the Port Authority and such lessee(s), sublessee(s), occupant(s) or user(s) of ingress to and egress from Terminal 4 on the one hand and Terminals 2 and 3 on the other hand. The aforedescribed joint and mutual easements shall remain in effect subsequent to the demolition by the Lessee of Terminal 3, during the course of the 2010 Construction Work, except for that portion of the Pedestrian Connector that shall be demolished in connection with the demolition of Terminal 3.

(b) Effective as the Effective Date of this Third Supplemental Agreement, and for so long as the Terminal 2-4 Pedestrian Connector (once constructed) remains in place (subject to restoration after a casualty), the Terminal 2-4 Connector Area shall be subject to a leasehold easement in favor of the Lessee for the purpose of constructing, maintaining, repairing and rebuilding the portion of the Terminal 2-4 Pedestrian Connector located in the Terminal 2-4 Pedestrian Connector Area, including attaching the Terminal 2-4 Pedestrian Connector to Terminal 4.

(3) The Lessee shall have sole responsibility, at its own cost and expense, to care for, maintain, repair and rebuild in accordance with the terms and provisions of the Lease all portions of the Pedestrian Connector and Terminal 2-4 Pedestrian Connector

throughout the term of the Lease (except that portion of the Pedestrian Connector which is to be demolished in connection with the demolition of Terminal 3). With respect to the portion of the Terminal 2-4 Pedestrian Connector located within Terminal 4 in the Terminal 2-4 Connector Area, the Lessee shall cooperate with the Port Authority and any lessee(s), subuser(s), occupant(s) or user(s) who pursuant to Port Authority permission may lease, rent, occupy or use Terminal 4 in the care, maintenance, repair and rebuilding of the portion of the Terminal 2-4 Pedestrian Connector located in the Terminal 2-4 Pedestrian Connector Area. The parties contemplate that, after the effective date of the ATA and continuing after the expiration or termination of this Lease, the Lessee shall be conducting operations at and from Terminal 4, and throughout the period of its operations at Terminal 2 and/or Terminal 4, the Lessee's responsibilities with respect to the Pedestrian Connector and the Terminal 2-4 Pedestrian Connector, as aforesaid, shall remain solely with Lessee under its agreement(s) relating to its operations at Terminal 4. The Lessee covenants that it shall include in the ATA, any replacement lease with any successor terminal operator of Terminal 4, and any agreement the Lessee shall enter into with any lessee, subuser, occupant or user of Terminal 4 terms and provisions that require its continued responsibility, at its own cost and expense, to care for, maintain, repair and rebuild the Terminal 2-4 Pedestrian Connector and the remaining portion of the Pedestrian Connector, as aforesaid. Notwithstanding the preceding sentence, the Lessee shall be obligated to demolish the Terminal 2-4 Pedestrian Connector and the remaining portion of the Pedestrian Connector, at its sole cost and expense, at the expiration or termination of the Lease unless otherwise directed to the contrary in writing by the Port Authority, and if the Port Authority directs that the Terminal 2-4 Pedestrian Connector and/or remaining portion of the Pedestrian Connector not be so demolished, then Lessee's obligations to maintain, repair and rebuild same shall immediately cease except for the fulfillment of its obligations pursuant to Section 15 of the Lease, entitled "*Joint Periodic Condition Survey*", which shall survive.

13. Addition of Section 97 to the Lease.

A new Section 97 shall be added to the Lease which shall state in its entirety as follows:

"Section 97. Surrender of the Terminal 3 Site; Terminal 3 Site Surrender Remediation Action Plan.

(a) Upon the completion of the 2010 Construction Work in accordance with the Third Supplemental Agreement, the Lessee shall surrender the Terminal 3 Site and the letting hereunder and all of its rights with respect thereto under this Lease, immediately after which the grant of the license to the Lessee, pursuant to the terms of the Aircraft Parking Permit, shall be effective. In this connection, the Lessee shall send written notice to the Port Authority (the "**Terminal 3 Site Surrender Notice**") that it has completed the 2010 Construction Work in accordance with the Third Supplemental Agreement. The Port Authority shall not be obligated to accept surrender of the Terminal 3 Site unless and until it has (i) received the Terminal 3 Site Surrender Notice, (ii) received the Terminal 3 Site Surrender Remediation Action Plan (as hereinbelow defined), and (iii) determined in its sole discretion that the 2010 Construction Work has been so completed and, in this connection, the 2010 Construction Work shall be deemed not to have been completed if the Remediation of the Terminal 3 Site, including without limitation the clean-up and closing of all spills and the

obtaining of a "no further action" status from the NYSDEC with respect to all spills reported to the NYSDEC, has not been completed. The aforesaid obligation to fully complete all Remediation of the Terminal 3 Site as of the date of the Terminal 3 Site Surrender Notice may exclude only such ongoing monitoring and natural attenuation as is described in an environmental remediation action plan approved in writing by the Port Authority (the "**Terminal 3 Site Surrender Remediation Action Plan**"), which pre-approved plan shall be delivered to the Port Authority prior to, or together with, the Terminal 3 Site Surrender Notice. The Lessee shall be fully responsible for all costs associated with any ongoing monitoring, reporting and closure activities relating to or resulting from such spills, and shall complete all necessary remedial actions, monitoring and reporting necessary to obtain such "no further action" status. Upon the acceptance by the Port Authority of the surrender of the Terminal 3 Site, the Port Authority shall issue a written notice to such effect (the "**Terminal 3 Site Surrender Acceptance Notice**").

(b) Effective as of the date and time stated in the Terminal 3 Site Surrender Acceptance Notice (which date and time are hereinafter collectively called the "**Terminal 3 Site Surrender Date**"), the Lessee shall and be deemed to have granted, bargained, sold, surrendered and yielded up and by these presents have granted, bargained, sold, surrendered and yielded up unto the Port Authority, its successors and assigns, forever, its rights in the Terminal 3 Site and the term of years with respect thereto under the Lease, as amended, yet to come and shall and be deemed to have given, granted, surrendered and by these presents does give, grant and surrender to the Port Authority, its successors and assigns, all the rights, rights of renewal, licenses, privileges and options of the Lessee granted by the Lease, as amended, with respect to the Terminal 3 Site, all to the intent and purpose that the said Terminal 3 Site term of letting under the Lease, as amended, and the said rights of renewal, licenses, privileges and options may be wholly merged, extinguished and determined on the Terminal 3 Site Surrender Date, with the same force and effect as if the said Terminal 3 Site term were in and by the provisions of the Lease, as amended, originally fixed to expire on the Terminal 3 Site Surrender Date, but the Lease and the letting thereunder, as amended, shall continue in full force and effect as to the remainder of the premises under the Lease, as amended, and in accordance with all the terms and provisions thereof. The Aircraft Parking Permit shall become effective at 12:01 a.m. on the day immediately following the Terminal 3 Site Surrender Date.

(c) The Lessee hereby covenants on behalf of itself, its successors and assigns that (x) it has not done or suffered and will not do or suffer anything whereby Terminal 3 Site or the Lessee's leasehold therein, has been or shall be encumbered as of the Terminal 3 Site Surrender Date in any way whatsoever (other than pursuant to the rights granted pursuant to the Aircraft Parking Permit); (y) the Lessee is and will remain until the Terminal 3 Site Surrender Date the sole and absolute owner of the leasehold estate in Terminal 3 Site and of the rights, rights of renewal, licenses, privileges and options granted by the Lease, as amended, with respect thereto and that the same area is and will remain until the Terminal 3 Site Surrender Date free and clear of all liens and encumbrances of whatsoever nature (other than pursuant to the rights granted pursuant to the Aircraft Parking Permit); and (z) the Lessee has full right and power to make this agreement.

(d) All promises, covenants, agreements and obligations of the Lessee with respect to Terminal 3 Site which under the provisions thereof would have matured upon the date originally fixed in the Lease for the expiration of the Terminal 3 Site term, or upon the termination of the Lease prior to the said date, or within a stated period after expiration or termination shall, notwithstanding such provisions, mature upon the Terminal 3 Site Surrender Date and shall survive the delivery of the Terminal 3 Site Termination Notice by the Port Authority to the Lessee.

(e) As of the Terminal 3 Site Surrender Date, the Lessee shall and shall have released and discharged and does by these presents release and discharge the Port Authority from any and all obligations on the part of the Port Authority to be performed under the Lease, as amended, with respect to Terminal 3 Site after the Terminal 3 Site Surrender Date. The Port Authority does by these presents release and discharge the Lessee from any and all obligations on the part of the Lessee to be performed under the Lease, as amended, with respect to Terminal 3 Site for that portion of the Terminal 3 Site term subsequent to the Terminal 3 Site Surrender Date; it being understood that nothing herein contained shall release, relieve or discharge the Lessee from any liability for rentals or for other charges that may be due or become due to the Port Authority for any period or periods prior to the Terminal 3 Site Surrender Date, or for breach of any other obligation on the Lessee's part to be performed under the Lease, as amended, for or during such period or periods or maturing pursuant to the foregoing paragraph, nor shall anything herein be deemed to release the Lessee from any liability for rentals or other charges that may be due or become due to the Port Authority for any other portion of the premises or the Terminal 3 Site or for breach of any other obligation on the Lessee's part to be performed under the Lease, as amended.

(f) The Lessee hereby agrees to terminate its occupancy of Terminal 3 Site and to deliver actual, physical possession of Terminal 3 Site to the Port Authority, on the Terminal 3 Site Surrender Date, in the condition required by the Lease upon surrender including, without limitation, in the condition representing completion of the 2010 Construction Work, subject only to the proviso in paragraph (a), above, of this Section relating to incomplete cleanup of spills as of the Terminal 3 Site Surrender Date. The Lessee further agrees that it shall remove all of the Lessee's personal property from Terminal 3 Site prior to the Terminal 3 Site Surrender Date (other than personal property that is to be used in connection with the Aircraft Parking Permit), and all the terms and conditions of Section 29 of the Lease with respect to termination of the letting shall apply to any of the Lessee's personal property not so removed.

(g) The Lessee hereby acknowledges that each and every term, provision and condition of the Lease, as amended, shall continue to apply to the premises remaining after the termination of Terminal 3 Site.

(h) From and after the Terminal 3 Site Surrender Date, (i) Area IB Ground Rental shall cease to accrue and (ii) the Aircraft Parking Permit shall automatically become effective pursuant to the terms of the Aircraft Parking Permit.

14. **Addition of Section 98 to the Lease.**

A new Section 98 shall be added to the Lease which shall state in its entirety as follows:

"Section 98. Taxilane Easement; Aircraft Parking Easement.

(a) Taxilane Easement.

The strips of land identified as "West Easement" and "East Easement" on the drawings attached hereto as Exhibit S3-98-1 and Exhibit S3-98-2 , which includes the portion of the Terminal 3 Site shown in diagonal hatching (**"Terminal 3 Easement Site"**) on Exhibit S3-98-1 and the portion of premises covered under the Terminal 4 Lease shown in diagonal hatching on Exhibit S3-98-2 (**"Terminal 4 Easement Site"**), shall be subject to an easement for use as a taxilane (the "**Taxilane Easement**") in favor of the Port Authority, lessee(s), sublessee(s), occupant(s) or user(s) who pursuant to Port Authority permission may lease, rent, occupy or use Terminal 4 (**"Terminal 4 Easement Users"**) for purposes of ingress to and egress from Terminal 4, and in favor of the Lessee for the purposes of ingress to and egress from the Terminal 3 Site, and may be used jointly by the Lessee and the Terminal 4 Easement Users, the successors in interest of either of the foregoing, the Port Authority and any other entity to whom the Port Authority may grant the right to use the Taxilane Easement.

(b) Aircraft Parking Easement.

Effective as of the Effective Date, the Lessee acknowledges and agrees that the portion of the Terminal 3 Site shown in cross-hatching on Exhibit S3-98-1 shall be subject to a non-exclusive easement in favor of the Port Authority and lessee(s), sublessee(s), occupant(s) or user(s) who pursuant to Port Authority permission may lease, rent, occupy or use Terminal 4 for the purposes of the parking of aircraft at the contiguous aircraft building gate positions at Terminal 4, and related operations (the "**Aircraft Parking Easement**").

15. **Addition of Section 99 to the Lease.**

A new Section 99 shall be added to the Lease which shall state in its entirety as follows:

"99. Addition to Area IB to the Premises.

(a) In addition to the premises heretofore let to the Lessee under the Lease, the letting as to which shall continue in full force and effect subject to and in accordance with all the terms, provisions, covenants and conditions of the Lease as herein amended, the Port Authority hereby lets to the Lessee and the Lessee hereby hires and takes from the Port Authority the two additional open areas shown in shading on Exhibit S3-99-1, page 1 of 2 (such areas being sometimes hereinafter collectively called "**Additional Area IB**"), together with the structures, fixtures, improvements and other property, if any, of the Port Authority located or to be located therein or thereon, to be and become a part of Area IB and, accordingly, part of the premises under the Lease as herein amended from and after 12:01 o'clock A.M. on the Effective Date of

this Third Supplemental Agreement (such date sometimes hereinafter in this Third Supplemental Agreement called the "**Additional Area IB Commencement Date**") let to the Lessee, subject to and in accordance with all of the terms, provisions, covenants and conditions of the Lease as herein amended, for and during the remainder of the term of the letting of Area IB under the Lease as herein amended, unless sooner terminated. The parties acknowledge that Additional Area IB, as well as the premises heretofore covered by the Lease, constitute non-residential real property.

(b) The Additional Area IB shall be used solely as space over which the Terminal 2-4 Pedestrian Connector shall be constructed, located and maintained, and for no other purpose or purposes whatsoever.

(c) The Lessee acknowledges that it has not relied upon any representation or statement of the Port Authority or its Commissioners, officers, employees or agents as to the suitability of Additional Area IB for the operations permitted thereon by the Lease as herein amended. The Lessee agrees that no portion of Additional Area IB will be used initially or at any time during the term of the letting thereof which is in a condition unsafe or improper for the conduct of the Lessee's operations therein under the Lease as herein amended so that there is possibility of injury or damage to life or property and the Lessee further agrees that before any use it will immediately correct any such unsafe or improper condition.

(d) The Port Authority shall deliver Additional Area IB or any portion thereof in its "as is" condition. The Lessee acknowledges that prior to the execution of this Third Supplemental Agreement it thoroughly examined and inspected Additional Area IB and found the same in good order and repair and determined the premises to be suitable for the Lessee's operations hereunder. The Lessee agrees to and shall take the said premises in such "as is" condition. The Port Authority shall have no obligation for finishing work or for preparation of any portion of Additional Area IB for the Lessee's use. All provisions of the Lease as herein amended that apply to Area IB shall apply to Additional Area IB, of which it is a part, other than the specific use to which Additional Area IB shall be put (as set forth in subparagraph (b), above), the Ground Rent applicable to Additional Area IB (as set forth in subparagraph (e), below, and the abatement rate applicable to Additional Area IB (as set forth in subparagraph (f), below).

(e) Rentals.

(1) For the portion of the term of the letting commencing on the Additional Area IB Commencement Date, in addition to all other rentals payable under the Lease as herein amended, the Lessee agrees to and shall pay to the Port Authority Area IB Ground Rental for Additional Area IB at the annual rate of Five Thousand One Hundred Eighty Four Dollars and No Cents ($5,184.00) as follows, payable in advance at the time and in the manner required for the payment of Area IB Ground Rental under the Lease.

(2) Effective on January 1, 2011 and thereafter on the first day of the month in each succeeding year during the term of the letting hereunder, rental for the

Additional Area IB shall be increased in accordance with the escalation provisions set forth in Section 4(I)(c) of the Lease, applicable to the Area IB Ground Rental.

(3) Section 2(IV), entitled "*Area IB Abatement as of Demolition Commencement Date*", shall apply to Additional Area IB in the same manner that it applies to the balance of Area IB, to which Additional Area IB shall constitute a part.

(f) Abatement.

In the event that the Lessee shall at any time by the provisions of the Lease become entitled to an abatement of Ground Rentals, said abatement for the Additional Area IB shall be computed at the same daily rate as shall apply with respect to the balance of Area IB. The parties acknowledge that, as of the Additional Area IB Commencement Date, abatement for the Additional Area IB shall be at the daily rate of $0.006126."

16. Renumbering of Entire Agreement Section

Section of the Lease, entitled "*Entire Agreement*", shall be deemed renumbered as "Section 100" and the number "97" appearing in the second (2nd) line thereof shall be deleted and the number "100" substituted in lieu thereof.

17. Cross-Default between Lease and ATA.

Without limiting the generality of Section 26 of the Lease, entitled "*Termination by the Port Authority*" or any other rights or remedies of the Port Authority under the Lease or in law or equity, the Lessee shall be deemed to have breached the Lease, as amended, in the event that the Lessee shall have either (a) breached any of its obligations or defaulted under the Aircraft Parking Permit or (b) breached any of its obligations or defaulted under the ATA, in either case after the expiration of any applicable cure period. It is expressly agreed, therefore, that the Lease, as amended, and the Aircraft Parking Permit, in the first instance, and the Lease, as amended, and the ATA, in the second instance, shall be cross-defaulted.

18. Cost of the Design Work.

Contemporaneously with the execution and delivery of this Agreement, the Lessee shall wire transfer to the Port Authority, in accordance with Section 46 of the Lease, entitled "*Place of Payments*" (as amended by the Second Supplemental Agreement thereto), the sum of Five Million Four Hundred Forty Thousand Five Hundred Seventy-eight Dollars and No Cents ($5,440,578.00) as repayment to the Port Authority for the Cost of the Design Work, as defined in Section 95 of the Lease, entitled "*Design Payments for a Portion of the Cost of the Design Work*".

19. **Amendment and Addition to the Lease Exhibits.**

The following Exhibits are attached to this Third Supplemental Agreement:

Schedule E	Affirmative Action-Equal Opportunity-Minority Business Enterprises-Women-Owned Business Enterprises Requirements
Exhibit 2(k)	2010 Basis of Design
Exhibit 2(L)	Taxiway-HA
Exhibit93-1	Terminal 2-4 Pedestrian Connector
Exhibit93-2	Terminal 2-4 Pedestrian Connector Area
Exhibit S3-98-1	Terminal 3 Easement Site
Exhibit S3-98-2	Terminal 4 Easement Site
Exhibit S3- 99-1	Additional Area IB

20. **Effect of Amendments.**

Except as hereby amended, all of the terms, covenants, provision, conditions and agreements of the Lease shall be and remain in full force and effect.

21. **Broker.**

Each party represents and warrants that to the other party that no broker has been concerned in the negotiation of this Third Supplemental Agreement and that there is no broker who is or may be entitled to be paid a commission in connection therewith. Each party shall indemnify and save harmless the other party of and from all claims for commissions or brokerage fees made by any and all persons, firms or corporations whatsoever for services provided to the indemnifying party in connection with the negotiation or execution of this Third Supplemental Agreement.

22. **No Personal Liability.**

No Commissioner, director, officer, agent or employee of any party to this Third Supplemental Agreement shall be charged personally, or held contractually liable by or to any other party under any term or provision of this Third Supplemental Agreement, or because of its or their execution or attempted execution, or breach of any breach or attempted or alleged breach thereof.

23. **Lease in Full Force and Effect.**

As hereby amended, all of the terms, provisions, covenants and conditions of the Lease are incorporated herein by reference, shall continue in full force and effect, and shall, in accordance with this Third Supplemental Agreement, apply to the Terminal 3 Site, including

without limitation, the termination rights of the Port Authority and the Lessee set forth in Sections 20, 43, 50 and 83 to the Lease.

24. Miscellaneous.

(a) Construction and Application of Terms.

(i) The Section and paragraph headings, if any, in this Third Supplemental Agreement are inserted only as a matter of convenience and for reference and in no way define, limit or describe the scope or intent of any provision hereof.

(ii) Unless otherwise expressly specified, the terms, provisions and obligations contained in the Exhibits and Schedules attached hereto, whether there set out in full or as amendments of, or supplements to provisions elsewhere in the Third Supplemental Agreement stated, shall have the same force and effect as if herein set forth in full.

(iii) If any clause, provision or section of this Third Supplemental Agreement shall be ruled invalid by any court of competent jurisdiction, the invalidity of such clause, provision or section shall not affect any of the remaining provisions.

(iv) The fact that certain of the terms and provisions hereunder are expressly stated to survive the expiration or termination of the letting hereunder shall not mean that those provisions hereunder which are not expressly stated to survive shall terminate or expire on the expiration or termination of the letting hereunder and do not survive such termination or expiration.

(v) Nothing contained herein shall be deemed or construed to be an undertaking or covenant for the benefit of any third party.

(vi) The parties agree that any rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be applicable to the interpretation of this Third Supplemental Agreement or any amendments, addenda or supplements hereby or any Exhibits or Schedules hereto.

(b) Entire Agreement. This Third Supplemental Agreement, together with the Lease (to which it is supplementary), constitutes the entire agreement between the Port Authority and the Lessee on the subject matter, and may not be changed, modified, discharged or extended, except by instrument in writing duly executed on behalf of both the Port Authority and the Lessee. The Lessee agrees that no representations or warranties shall be binding upon the Port Authority, unless expressed in writing in the Lease or this Third Supplemental Agreement.

(c) Counterparts. This Third Supplemental Agreement may be executed in any number of counterparts, but not facsimile counterparts, each of which shall constitute an original agreement, and all of which together shall constitute one and the same agreement.

IN WITNESS WHEREOF, the parties hereto have executed these presents the day and year first above written.

ATTEST:

Assistant Secretary

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

By:
Name: David Kagan
Title: Assistant Director
Business. Properties & Airport Development

(Seal)

ATTEST:

Assistant Secretary

DELTA AIR LINES, INC.

By:
Name: John W. Boatright
Title: Vice President – Corporate Real Estate

(Corporate Seal)

Port Authority Use Only:	
Approval as to Terms:	Approval as to Form:

Schedule E

Affirmative Action-Equal Opportunity-Minority Business Enterprises Women-Owned Business Enterprises Requirements

SCHEDULE E

AFFIRMATIVE ACTION-EQUAL OPPORTUNITY---MINORITY BUSINESS ENTERPRISES ---WOMEN-OWNED BUSINESS ENTERPRISES REQUIREMENTS

PART I. AFFIRMATIVE ACTION GUIDELINE-EQUAL EMPLOYMENT OPPORTUNITY

I. As a matter of policy the Port Authority hereby requires Delta Air Lines, Inc. (hereinafter called "Airline"), and Airline shall require the Contractor, as hereinafter defined, to comply with the provisions set forth hereinafter in this Schedule E and in the Letter Agreement to which this Schedule is attached. The provisions set forth in this Part I are similar to the conditions for bidding on federal government contract adopted by the Office of Federal Contract Compliance and effective May 8, 1978.

The Airline as well as each bidder, contractor and subcontractor of the Airline and each subcontractor of a contractor at any tier of construction (herein collectively referred to as the "Contractor") must fully comply with the following conditions set forth herein as to each construction trade to be used on the construction work or any portion thereof (said conditions being herein called "Bid Conditions"). The Airline hereby commits itself to the goals for minority and female utilization set forth below and all other requirements, terms and conditions of the Bid Conditions. The Airline shall likewise require the Contractor to commit itself to the said goals for minority and female utilization set forth below and all other requirements, terms and conditions of the Bid Conditions by submitting a properly signed bid.

II. The Airline and the Contractor shall each appoint an executive of its company to assume the responsibility for the implementation of the requirements, terms and conditions of the following Bid Conditions:

(a) The goals for minority and female participation expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work are as follows:

(1)	Minority participation	
	Minority, except laborers	30%
	Minority, laborers	40%
(2)	Female participation	
	Female, except laborers	6.9%
	Female, laborers	6.9%

These goals are applicable to all the Contractor's construction work performed in and for the Premises.

The Contractor's specific affirmative action obligations required herein of minority and female employment and training must be substantially uniform throughout the

length of the contract, and in each trade, and the Contractor shall make good faith efforts to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract. Compliance with the goals will be measured against the total work hours performed.

(b) The Contractor shall provide written notification to the Airline and the Airline shall provide written notification to the Port Authority's Aviation Department and Office of Business and Job Opportunity within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

(c) As used in these specifications:

(1) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941:

(2) "Minority" includes:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

(ii) Hispanic (all persons of Mexican, Puerto Rican, Dominican, Cuban, Central or South American culture or origin, regardless of race);

(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(d) Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the construction work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 those provisions which include the applicable goals for minority and female participation.

(e) The Contractor shall implement the specific affirmative action standards provided in subparagraphs (1) through (16) of Paragraph (h) hereof. The goals set forth above are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the Premises. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

(f) Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations hereunder.

(g) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(h) The Contractor shall take specific affirmative actions to ensure equal employment opportunity ("EEO").

The evaluation of the Contractor's compliance with these provisions shall be based upon its good faith efforts to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

(1) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each phase of the construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other supervisory personnel at the Premises are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at the Premises.

(2) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

(4) Provide immediate written notification to the Airline when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and training programs relevant to the Contractor's employment

needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under subparagraph (2) above.

(6) Disseminate the Contractor's EEO Policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the Contractor's newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the Contractor's EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

(7) Review, at least every six months the Contractor's EEO policy and affirmative action obligations hereunder with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decision including specific review of these items with on-terminal supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at the Premises. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

(9) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations and to State-certified minority referral agencies serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the Premises and in areas of a Contractor's workforce.

(11) Tests and other selecting requirements shall comply with 41 CFR Part 60-3.

(12) Conduct, at least every six months, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

(13) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all

personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations hereunder are being carried out.

(14) Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

(15) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least every six months, of all supervisors' adherence to and performance under the Contractors' EEO policies and affirmative action obligations.

(i) Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (subparagraphs (1)-(16) of Paragraph (h) above). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under Paragraph (h) hereof provided that: the Contractor actively participates in the group, makes good faith efforts to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes good faith efforts to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's non-compliance.

(j) A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation hereof if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation hereof if a specific minority group of women is underutilized).

(k) The Contractor shall not use the goals and timetables or affirmative action standards to.discriminate against any person because of race, color, religion, sex or national origin.

(l) The Contractor shall not enter into any subcontract with any Person or firm debarred from Government contracts pursuant to Executive Order 11246.

(m) The Contractor shall carry out such sanctions and penalties for violation of this clause including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered by the Airline. Any Contractor who fails to carry out such sanctions and penalties shall be in violation hereof.

(n) The Contractor, in fulfilling its obligations hereunder shall implement specific affirmative actions steps, at least as extensive as those standards prescribed in paragraph (h) hereof so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of these provisions, the Airline shall proceed accordingly.

(o) The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanical apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work is performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

(p) Nothing herein provided shall be construed as a limitation upon the application of any laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

(q) Without limiting any other obligation, term or provision under the Lease, the Contractor shall cooperate with all federal, state or local agencies established for the purpose of implementing affirmative action compliance programs and shall comply with all procedures and guidelines established or which may be established by the Port Authority.

PART II. MINORITY BUSINESS ENTERPRISES AND WOMEN-OWNED BUSINESS ENTERPRISES

As a matter of policy the Port Authority requires the Airline and the Airline shall itself and shall require that any Contractor utilized by the Airline to perform contract work ("the work") on the Premises including without limitation construction work to use every good faith effort to provide for meaningful participation by Minority Business Enterprises (MBEs) and Women-owned Business Enterprises (WBEs) in the work pursuant to the provisions of this Schedule E. For purposes hereof, "Minority Business Enterprise" "(MBE)" shall mean any business enterprise which is at least fifty-one percentum owned by, or in the case of a publicly owned business, at least fifty-one percentum of the stock of which is owned by citizens or permanent resident aliens who are minorities and such ownership is real, substantial and continuing. For the purposes hereof, "Women-owned Business Enterprise" "(WBE)" shall mean any business enterprise which is at least fifty-one percentum owned by, or in the case of a publicly owned business, at least fifty-one percentum of the stock of which is owned by women and such ownership is real, substantial and continuing. A minority shall be as defined in paragraph II(c) of Part I of this Schedule E. "Meaningful participation" shall mean that at least seventeen percent (17%) of the total dollar value of the construction contracts (including subcontracts) covering the construction work are for the participation of Minority Business

Enterprises and Women-owned Business Enterprises, of which at least twelve percent (12%) are for the participation of Minority Business Enterprises. Good faith efforts to include meaningful participation by MBEs and WBEs shall include at least the following:

(a) Dividing the work to be subcontracted into smaller portions where feasible.

(b) Actively and affirmatively soliciting bids for subcontracts from MBEs and WBEs, including circulation of solicitations to minority and female contractor associations. The Contractor shall maintain records detailing the efforts made to provide for meaningful MBE and WBE participation in the work, including the names and addresses of all MBEs and WBEs contacted and, if any such MBE or WBE is not selected as a joint venturer or subcontractor, the reason for such decision.

(c) Making plans and specifications for prospective construction work available to MBEs and WBEs in sufficient time for review.

(d) Utilizing the list of eligible MBEs and WBEs maintained by the Port Authority or seeking minorities and women from other sources for the purpose of soliciting bids for subcontractors.

(e) Encouraging the formation of joint ventures, partnerships or other similar arrangements among subcontractors, where appropriate, to insure that the Airline and Contractor will meet their obligations hereunder.

(f) Insuring that provision is made to provide progress payments to MBEs and WBEs on a timely basis, preferably bi-weekly, and that retainage is paid to MBEs and WBEs when they have completed their work.

(g) Not requiring bonds from and/or providing bonds and insurance for MBEs and WBEs, where appropriate.

(h) Requiring each contractor to submit to the Airline with each payment request evidence that all MBE and WBE Contractors have been paid in accordance with their contract.

Certification of MBEs and WBEs hereunder shall be made by the Office of Business and Job Opportunity of the Port Authority. If the Contractor wishes to utilize a firm not already certified by the Port Authority, it shall submit to the Port Authority a written request for a determination that the proposed firm is eligible for certification. This shall be done by completing and forwarding such form as may be then required by the Port Authority. All such requests shall be in writing addressed to the Office of Business and Job Opportunity, the Port Authority of New York and New Jersey, 233 Park Avenue South, 4th Floor, New York, New York 10003 or such other address as the Port Authority may specify by notice to the Airline. Certification shall be effective only if made in writing by the Director in charge of the Office of Business and Job Opportunity of the Port Authority. The determination of the Port Authority shall be final and binding.

The Port Authority has compiled a list of the firms that the Port Authority has determined satisfy the criteria for MBE and WBE certification. This list may be supplemented and revised from time to time by the Port Authority. Such list shall be made available to the Contractor upon request. The Port Authority makes no representation as the financial responsibility of such firms, their technical competence to perform, or any other performance-related qualifications.

Only MBE's and WBE's certified by the Port Authority will count toward the MBE and WBE goals.

Please note that only sixty percent (60%) of expenditures to MBE or WBE suppliers will count towards meeting the MBE and WBE goals. However, expenditures to MBE or WBE manufacturer's (i.e., suppliers that produce goods from raw materials or substantially alter them before resale) are counted dollar for dollar.

For the Port Authority

Initialed:

For the Lessee

Exhibit 2(k)

2010 Basis of Design

Basis of Design

ARCHITECT
Skidmore, Owings & Merrill LLP
New York, New York

STRUCTURAL ENGINEER
Skidmore, Owings & Merrill LLP
New York, New York

MEP ENGINEER
WSP Flack + Kurtz
New York, New York

CIVIL ENGINEER
ARUP
New York, New York

BUILDING TRANSPORTATION SYSTEMS ENGINEER
VDA Associates
New York, New York

Signage and Wayfinding
Steven Abel LLC
Jersey City, New Jersey

Initialed:

For the Port Authority

For the Lessee

December 6, 2010

PASSENGER BRIDGE T2 / T4

JOHN F. KENNEDY INTERNATIONAL AIRPORT

Basis of Design

ARCHITECT
Skidmore, Owings & Merrill LLP
New York, New York

STRUCTURAL ENGINEER
Skidmore, Owings & Merrill LLP
New York, New York

MEP ENGINEER
WSP Flack + Kurtz
New York, New York

CIVIL ENGINEER
ARUP
New York, New York

BUILDING TRANSPORTATION SYSTEMS ENGINEER
VDA Associates
New York, New York

Signage and Wayfinding
Steven Abel LLC
Jersey City, New Jersey

Initialed:

For the Port Authority

For the Lessee

December 6, 2010

Basis of Design Narrative

CHAPTER 1 General Information

A. Project Introduction

B. Applicable Regulations and Codes

C. Program Summary

D. Area Calculations

CHAPTER 2 Project Elements

A. Substructure
A10 Foundations

B. Shell
B10 Superstructure
B20 Exterior Enclosure
B30 Exterior Stairways
B40 Roof System
B50 Façade Maintenance System
B60 Exposed Structural Steel Paint Finish
B70 Mock-Ups

C. Interiors
C10 Interior Finishes

D. Services
D10 Conveying Systems
D20 Plumbing Systems
D30 Mechanical Systems
D40 Fire Protection Systems
D50 Electrical Systems
D60 Communications and Security

E. Building Sitework
E10 Site Preparation
E20 Site Pavement
E30 Site Utilities
E40 Site Stormwater

CHAPTER 1 General Information

A. PROJECT INTRODUCTION

1. General:

The Basis of Design description is intended to outline the general scope, building systems and project standards and reference applicable codes to be used as the basis for developing the construction documents. The description indicates the general scope of the project in terms of architectural design, dimensions of the building, major architectural elements, and mechanical, plumbing, fire protection, and electrical systems.

2. Project Summary:

The proposed connector bridge is a passenger connection bridge between Terminals 2 and 4. It is an airside connection due to the fact that passengers have already been processed thru security screening and are transferring between the secure portions of the terminals. The bridge is an enclosed, climate controlled structure that connects the rotunda of the existing terminal 2 to Terminal 3 Connector Bridge with Level 3 of Terminal 4. Moving walkways in both directions are in the main portions of the trusses. The remaining clear width allows for 2 golf cart type vehicles to pass one another. The bridge is arranged on the site as 3 main truss sections, with 6 nodes – 2 nodes at either end connecting to the terminals, with the other 4 nodes functioning as structures that transition the overall direction of the bridge and provide emergency egress.

Exclusions:

None

B. APPLICABLE CODES and STANDARDS

The following Codes, Standards and Regulations have been identified.

- The Building Code of New York City 2008.
  - New York City Building Code
  - New York City Mechanical Code
  - New York City Plumbing Code
  - New York City Fuel Gas Code
- The New York City Fire Prevention Code 2008.
- New York City Rules and Regulations 2004 Edition.
- New York City Administrative Code, Title 28
- New York City Electrical Code
- New York City Fire Code and Directives
- New York City Health Code
- New York City Local Laws
- New York City Rules

Title 1, Department of Buildings

Title 2, Board of Standards and Appeals

Title 3, Fire Department

Title 24, Department of Health

- New York State Energy Conservation and Construction Code
- New York State Labor Laws
- Port Authority Tenant Construction Review Manual (TCRM) - 2008 Edition
- Americans with Disabilities Act (ADA)
- American National Standards Institute (ANSI)
- Applicable Flood Control Regulations
- Department of Buildings - Directives and Memoranda
- Environmental Protection Agency - Applicable regulations of the U.S. and local
- Federal Occupational Safety and Health Administration Regulations (OSHA)
- Federal Aviation Regulations - Title 147 Part 139 Certification of Airports Subpart D - Operations
- *Illumination Engineering Society of North America: Lighting Handbook - 9th Edition*
- National Electrical Code with New York City Amendments, 2005
- National Electrical Contractors Association (NECA)
- National Electrical Manufacturers Association (NEMA)
- National Electric Safety Code (NESC)
- National Fire Protection Association
- NFPA-415 "Standard on Airport Terminal Buildings, Fueling Ramp drainage, and loading walkways", 2008 Edition.
- Port Authority Signage and Wayfinding Airport Standards Manual, 4th Edition June 2008
- Transportation Security Administration
- Underwriters Laboratories (UL)

B.1 Construction Classification

The Terminal 2 to Terminal 4 Passenger Connector Bridge will follow the guidance of the New York City Building Code (2008 with subsequent amendments).

The construction type for the Passenger Connector Bridge will be Type II-B.

The Fire Resistive Requirements Class II-B.

B.2 Occupancy Classification

The occupancy classification of the Passenger Connector Bridge is considered is

A-3 (place of assembly) Section 303.1

B.3 Occupant Load and Egress

The occupant load for the Passenger Connector Bridge, based on occupancy, is 304 occupants requiring an aggregate egress unit width of 92 inches.

Egress is provided via four (4) stair towers and two horizontal exits with a combined egress capacity of 1109 occupants and an aggregate egress unit width of 281 inches.

The Passenger Connector Bridge is equipped with overhead fire shutters at each end of the Bridge. Under normal operating conditions these doors will remain in the open position to facilitate passenger circulation. Upon activation of the fire alarm these overhead doors will close protecting the bridge and its occupants. Man doors adjacent to the shutters allow for the movement of passengers and emergency personnel.

C. PROGRAM SUMMARY:

The requirements of the project are to: 1). Provide direct cleared passenger access between Terminals 2 and 4. 2). Equip the bridge with moving walkways to facilitate passenger movement as well as provide access for customer assistance vehicles for passengers with limited mobility. 3). The bridge is to have a minimum impact on current operations at either of its terminating ends within Terminals 2 and 4 or on ramp operations.

D. AREA CALCULATIONS:

Total Area of Approximately 31,000 Square Feet

CHAPTER 2 Building Elements

A. SUBSTRUCTURE

A10 Foundations

The substructure of the Delta T2T4 Connector Bridge transfers its loads to the ground through a system of deep foundation elements. The bridge steel columns are supported by reinforced concrete pile caps of various plan dimensions, depths, and top-of-concrete elevations. The pile caps, in turn, rest on driven, concrete-filled steel tube piles with partially tapered profiles as provided by the manufacturer Tapertube. The piles are arranged in groups of two to five piles per pile cap depending on the gravity and lateral loads to be transferred at the base of each bridge column.

The pile caps are interconnected through reinforced concrete grade beams which help to distribute the lateral bridge reaction forces between the pile caps. The grade beams are typically located above grade to avoid potential conflicts with utilities. Below two of the bridge nodes, between gridlines 6/ 16 and 20/22, grade beams and pile caps are additionally interconnected through reinforced concrete slab diaphragms to assist in the horizontal force distribution.

A minimum of three (3) test piles shall be installed and test loaded to twice the allowable pile design capacity. The test pile program shall be successfully completed prior to the fabrication and/or installation of building piles. Pile test program shall be continuously monitored by the contractor's soil testing agency.

B. SHELL

B10 Superstructure

The superstructure of the Delta T2T4 Connector Bridge consists of steel trusses with spans of approximately 100ft, supported by steel columns. Two full-height trusses form the sides of the bridge with the pedestrian walkway supported at the bottom chord elevation. The bridge body is a closed section with the top and bottom chords of the side trusses being connected through cross beams and bracing. The truss members typically consist of wide-flange profiles (top and bottom chords) and HSS profiles (infill members).

The bridge body is structurally divided into three sections separated by expansion joints at grid lines 7 and 8, 20 and 21. The sections include egress nodes which also incorporate the bracing for the longitudinal bridge section stability. The bridge stability in transverse direction is ensured by diagonal WT-bracing located at each truss support column pair. The bridge body stands independently from the existing terminals T2 and T4 by additional expansion joints between the superstructure and the existing structures.

The floor and roof structures of the bridge are formed by steel beam-supported precast concrete hollow-core slabs and corrugated metal deck, respectively. At the bridge nodes additional framing members for stairs and mechanical spaces will be provided.

B20 Exterior Enclosure

Exterior Enclosure General:

The Passenger Connector Bridge exterior wall will consist of a metal panel cladding system with a horizontal fluted pattern that emphasizes the bridge's linear character. The bridge with include a continuous horizontal band window system that will afford passengers views of both the landside and airside activities while providing a significant amount of natural light that will enhance the passenger experience.

Exterior Enclosure Construction:

The Passenger Connector Bridge's exterior wall will be fabricated from standard building components. Primary wall framing will be attached to the outboard side of the bridge truss, insulated and sheathed with an exterior grade gypsum sheathing materials. A continuous waterproofing membrane will be adhered to the exterior sheathing and a metal panel cladding system will then be mechanically fastened at regular intervals to the wall framing system. Aluminum band windows will be installed within flashed framed openings.
Flashing, trim, copings and sealants will be used as required to form a complete watertight enclosure system.

Applicable Standards:

The exterior enclosure shall comply with performance requirements of the New York City Building Code.

B30 Exterior Stairways

Exterior Stair Enclosures:

Stairs that lead to the airside occur at each of three nodes and are spaced to allow for safe egress of bridge occupants. The stairs are exterior non conditioned spaces that are covered by a roof and semi - enclosed by a perforated metal screen wall system. Lighting is provided to facilitate safe decent/accent of the stairs in low light conditions.

Stair Construction:

The stair construction consist of a steel frame structure that supports the solid roof above as well as the perforated metal screen wall enclosing the stair. The structure is to be painted to match the metal cladding system (see section B60 - *Exposed Structural Steel Paint Finish*). Stair landings and treads are fabricated using a panelized treadway system with a non-slip finished surface.

Enclosure Construction:

The stair enclosure is clad with a horizontal fluted perforated metal panel system that is mechanically fasted to an aluminum girt system. This girt system is fastened directly to the structural frame of the stair enclosure. Fasteners, clips, reinforcements, flashings, trim and copings will be used as required to form a complete enclosure system that is integrated with the adjacent bridge cladding system.

The full length of the two structural bridge trusses directly adjacent to Terminal 2 Rotunda and 4 will be treated with a sprayed-on fireproofing material. This is intended to protect the Passenger Connection Bridge should a fire occur in one of the adjacent terminals. The exterior enclosure of the bridge is constructed as a two hour fire separation where it is within a distance of 30 feet from the adjacent terminal buildings.

B40 Roof System

Flat Roof System:

Passenger Connector Bridge roof shall consist of modified bituminous membrane roofing system. The system will be composed of the following:

Insulation:

Extruded polystyrene board with water drainage channels. Thickness as required to achieve required "U" values.

Roof Membrane System:

Modified bituminous membrane roofing system w/ base flashing.

Drainage:

Integral roof drainage system.
Class:

FM Class "1A-105" Wind Uplift Rating

Fire Rating:

UL 11/2 hour rated assembly

B50 Façade Maintenance System

General:

Facade maintenance and window cleaning will be performed at required intervals via ramp based lift equipment. No permanent façade maintenance provisions have been incorporated into the passenger bridge design.

Electric Power:

Electric power shall be provided by weatherproof outlets positioned at each of the nodes along the length of the bridge.

B60 Exposed Structural Steel Paint Finish

Exterior (exposed to the elements) steel members such as dunnage members, support members and other steel items shall receive the following shop applied coating systems:

Primer:

Zinc rich primer in an inorganic resin, one of the following:

"Carbo-Zinc 11 HS or Carbo-Zinc 11VOC" (Carboline Co.); 2.0 to 4.0 mils min. d.f.t.

"Tnemec 90-96 Tneme-Zinc" (Tnemec Co.); 2.0 to 3.0 mils min. d.f.t.

"Dimetcote 21-9" Ameron Protective Coatings); 2.0 to 3.0 mils min. d.f.t.

Intermediate Coat:

Compatible with, and of the same manufacturer as, the primer. High build, high solids, epoxy mastic, one of the following:

"Carboline 893/898LT" (Carboline Co.). 4.0 - 6.0 mils d.f.t.

"Tnemec 69 Hi-Build Epoxoline II" (Tnemec Co. Inc.); 4.0 - 6.0 mils d.f.t.

"Amerlock 400" (Ameron). 5.0 - 8.0 mils d.f.t.

Finish Coat:

Compatible with, and of the same manufacturer as, the primer and the intermediate coat. High build, aliphatic polyurethane, satin finish, one of the following:

"Carboline 133 HB/833" (Carboline Co.). 3.0 - 5.0 mils d.f.t.

"Series 175 Endura-Shield III" (Tnemec Co. Inc.); 3.0 - 5.0 mils d.f.t.

"Amershield" (Ameron Products). 4.0 - 5.0 mils d.f.t.

Entire paint system shall resist exposure to chemicals in cooling tower exhaust as well as other mechanical systems and local atmospheric conditions.

B70 Mock-Ups

A series of visual and testing mock-ups will be required for the Passenger Connector's interior and exterior building systems to insure a high quality of fit and finish. Exact quantities and locations are to be determined.

Possible Examples:

Exterior Cladding System - (Visual and Performance)
Horizontal Band Windows - (Visual and Performance)
Exterior Perforated Cladding at Node Stair Towers - (In place visual)

Interior Finishes - (In-place visual)
Interior and Exterior Lighting - (Visual)

C. INTERIORS

C10 Interior Finishes

1. **Public Spaces:**

1.1 Pedestrian Walkway

1.1.1 Floors:	36" x 36" Carpet Tiles as manufactured by Millkin
1.1.2 Walls:	Gypsum wall board clad with Acrovyn impact resistant wall panel system as manufactured by Construction Specialties
1.1.3 Ceilings:	V200 Luxalon type suspended baffle ceiling system on a code compliant suspension carrier system as manufactured by Hunter Douglass. Fixed baffles at typical application - moveable baffles for access to mechanical equipment where equipment occurs
1.1.4 Lighting:	Linear Fluorescent Fixture - Mntd. flush with Finished Ceiling

1.2 Nodes

1.2.1 Floors:	36" x 36" Carpet Tiles as manufactured by Millkin
1.2.2 Walls:	Gypsum wall board clad with Acrovyn impact resistant wall panel system as manufactured by Construction Specialties
1.2.3 Ceilings:	V200 Luxalon type suspended baffle ceiling system on a code compliant suspension carrier system as manufactured by Hunter Douglass. Fixed baffles at typical application - moveable baffles for access to mechanical equipment where equipment occurs
1.2.4 Lighting:	Linear Fluorescent Fixture - Mntd. flush with Finished Ceiling

1.2.5 Doors, Frames and Hardware:	Flush, seamless, hollow metal 8'-0" high with 116 ga. frames and 18 ga. doors rated as required. Factory primed, field painted. Mortised lever locksets, ball bearing hinges and surface mounted closers. Provide 1-1/2 hour rated doors, frames and hardware at stairs and electrical closets.

2. **Utility Spaces:**

2.1 Mechanical, Telecom and Electric Closets

2.1.1 Floors:	Float finished concrete with vinyl composition tile flooring.
2.1.2 Walls:	Gypsum wall board on metal studs, primed not painted. Rated as required at mechanical and electrical rooms and shafts. Acoustical insulation to be provided as required to meet NC requirements of office and conference rooms.
2.1.3 Ceilings:	Exposed construction, spray-on fireproofing to be sealed.
2.1.4 Lighting:	Surface mounted fluorescent fixtures.

D. SERVICES

The following narrative describes the scope of work associated with the mechanical and electrical systems design of a passenger connector bridge to connect Terminal 4 to Terminal 2 at JFK airport. of this project, there will be a passenger bridge that links Terminal 4 to the rotunda of the Connecter bridge from Terminal 2.

It is assumed that all of the mechanical and electrical infrastructure to support the connector bridge will come from Terminal 4, excluding a small portion of the extension of the bridge, which will have its dry sprinkler service be supplied via an existing service located inside the sprinkler room in the base of the T2/T3 rotunda.

Heating and cooling will be achieved using roof-mounted air-cooled DX units with electric heating coils. Three units, one located on each of the connector nodes, will serve the project. The units will require the concurrence of KIAC/Calpine.

D10 Conveying Systems

The complete moving walkway systems shall comply with the applicable local codes and sized to accommodate passengers with hand luggage.

The bridge is equipped with six (6) moving walkway which are 40 inches in width and approximately 200 feet in length. The balustrades are constructed of clear tempered glass on the open floor area side and stainless steel where the walkway

is adjacent to the exterior wall. All deckboards and skirting are fabricated from stainless steel with a No. 4 finish. Handrails and steps/step plates are black in color with combplates finished in safety yellow. Moving walks are pallet reversible capable of running in either direction. The controller is designed to connect the moving walk motors to source power and protect the units against overload. The controller is programmed to automatically cut off power to the motor and apply the service brakes should a power failure occur or life safety systems be activated.

D20 Plumbing Systems

The storm water drainage system will include roof drains and overflow drains. The separate systems will be drained down to the ground level. The overflow will spill to the ground and the storm drainage will be connected to existing storm water drainage system.

D30 Mechanical Systems

Provide and install new outdoor self contained packages DX cooled air-handling unit AHU-R-1. The system consists of a DX cooling coil, in electric preheating coil, A hot gas reheat, a variable speed supply fan, return air humidity sensor, a variable speed return fan, an economizer section, (3) supply side smoke detectors, a return side smoke detector, low pressure ductwork, air inlet / outlets, and controls.

Provide for new ceiling exhaust fans for each of the electrical closets. Exhaust up to the roof with a gooseneck.

Provide for one 1 KW electric heater to serve the dry pipe closet heating.

D40 Fire Protection Systems

The wet-pipe and dry-pipe sprinkler design for the connector bridge will be supplied from T4. A wet-pipe system will feed the sprinklers above and below the ducts in the connector bridge. A dry-pipe system will feed the sprinklers on the underside of the bridge serving a future conveyor system. Calculations determining pipe sizes and pressure for both the wet and dry-pipe systems have been done based on the requirements of NFPA 13.

D50 Electrical Systems

The connector bridge requires normal power for lighting, HVAC units, moving walks and receptacle loads. It requires generator power for life-safety/emergency egress lighting loads, the dry pipe air compressor, roll-up door motors, fire alarm system devices and security system devices. Normal and emergency power have been provided that is sufficient to accommodate the connector bridge loads. All of the power required originates in the T4 building. An electrical utility report was issued on October 8, 2010 with the response to the Basis of Design milestone review (issued by the PANYNJ on 9/8/2010). It provided connector bridge load assessment including the existing Terminal 4 load. The fire alarm system devices and circuits that serve the connector bridge are compatible with and are an extension of the existing addressable fire alarm system that serves the T4 building. A fire alarm system event that takes place in the connector, will annunciate in Terminal 4. The Connector will be treated as a separate fire alarm

zone from Terminal 4 to the Terminal 2 Rotunda.

A Faraday-type lightning protection is provided. The system will be a UL approved system. The lightning protection system for the connector is an independent engineering system from those of Terminal 2 and Terminal 4.

D60 Communications and Security

All new security devices, monitoring, and access controls for the new bridge will be tied back to the existing telecom room MT3-083 in Terminal 4. All communications from this telecom room to the security command center will be via existing infrastructure.

E. BUILDING SITE WORK

The following narrative describes the scope of civil and utility work associated with the proposed Connector Bridge between Terminal 2 and Terminal 4.

E10 Site Preparation

A series of three investigations are proposed for the civil scope prior to any site work :

o Topographic Survey
o Utility Survey
o Geotechnical Investigation

Prior to any construction commencing, an erosion and sedimentation control plan will be required to be implemented by the contractor, including temporary sediment barriers and stabilized construction entrances.

The extent of civil removals work is limited to removal of existing airside and landside pavement and associated striping, removal of certain existing utility and stormwater infrastructure within and surrounding the proposed column locations. Landside removals and modifications scope includes the following:

o Modifications to existing curbing and sidewalk at the entry and exit points from Terminal 3;
o Modifications to the existing sidewalk adjacent to the external exit road and between Terminal 3 and Terminal 4
o Removal of the end bay of the existing Terminal 3 exit ramp;
o Removal of the existing overhead sign gantry on the Terminal 3 entry ramp;
o Removal and reinstatement of existing traffic signal masts during construction
o Relocation of the existing bus shelter on the external exit road
o Relocation and extension of existing sidewalk fence, and street lighting, and signage

Treatment or removal of any unsuitable excavated material will be in accordance

with the environmental plan to be developed for the project.
Existing utility structures (catch basins, vaults, chambers and manholes) and distribution systems (pipes, conduits and ductbanks) that are not required as part of the permanent works will either be demolished and removed or filled and capped in-situ as required by the project environmental plan and at the discretion of the Engineer of Record.

Demolition of existing terminal building elements will be preceded by an abatement program (by others) to identify and mitigate any hazardous materials present within the structure to be removed. The extent of demolition will be limited to that necessary to allow for the safe construction and operation of the proposed works.

Removed or demolished materials will be crushed and reused where possible, in accordance with the project environmental plan and at the discretion of the Engineer of Record. An appropriate location for material stockpiling and crushing shall be identified on airport that does not impact on other construction activities or aircraft operations.

Any site preparation or demolition works will be designed to prevent the cross contamination of the upper and lower aquifers.

E20 Site Pavement

New pavement scope of work is limited to curbing and protection of the proposed above grade columns, pile caps and grade beams. Some pavement reinstatement work will also be required within the footprint of the temporary works required to construct the pile caps, pile installation procedure and utility connections.

Applicable codes and references for the pavement design include, but are not limited to :

- FAA AC 150/5320-6D "Airport Pavement Design and Evaluation" – *23 June 2006*
- PANYNJ Civil Engineering Design Guidelines – *1 April 2010*
- PANYNJ Tenant Construction Review Manual – December 2008
- Applicable FAA Advisory Circulars
- NFPA-415 "Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways" - *2008 Edition*

E30 Site Utilities

Subject to field verification of existing utility extents, size and location, the proposed scope is limited to identification and protection of infrastructure only. The exception to this statement is the realignment of a length of electric line, water line and sanitary line to avoid potential clash with the proposed foundation locations. Abandonment of existing utilities is limited to communications ductbanks, gas lines and TDS lines. Applicable codes and references include, but are not limited

to :

o American Water Works Association (AWWA)
o City of New York Department of Environmental Protection, Bureau of Water Supply and Wastewater Collection
o New York City Building Code - July 2008
o Underwriters Laboratories Inc. (UL)
o American Society for Testing and Materials (ASTM)
o NFPA 24 Private Fire Service Mains - 2007 Edition
o PANYNJ Tenant Alteration Procedures and Standards Guide - September 2006
o PANYNJ Tenant Construction Review Manual - December 2008
o PANYNJ Civil Engineering Design Guidelines - 1 April 2010

No new underground utility connections are proposed for the Connector Bridge.

E40 Site Stormwater

Subject to field verification of existing conditions, the stormwater drainage network will be retained in-situ around the proposed foundation locations. New underground pipe connections will be provided between the proposed roof drain leaders and the existing stormwater infrastructure. Codes and references applicable to the design of the new stormwater include, but are not limited to :

o FAA AC 150/5320-5C "Surface Drainage Design" – *29 September 2006*
o PANYNJ Tenant Alteration Procedures and Standards Guide – *September 2006*
o PANYNJ Tenant Construction Review Manual – *December 2008*
o PANYNJ Civil Engineering Design Guidelines – *1 April 2010*
o NFPA-415 "Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways" - *2008 Edition*
o NYSDEC Stormwater Management Design Manual – *April 2008*
o NYSDEC Instruction Manual for Stormwater Construction Activities - *July 2004*

Lease No. AYD-350

between

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

and

JETBLUE AIRWAYS CORPORATION

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LEASE AYD-350

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Terminal Five

Lease

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Final Dated November 22, 2005

THIS AGREEMENT SHALL NOT BE BINDING UPON
THE PORT AUTHORITY UNTIL DULY EXECUTED BY
AN EXECUTIVE OFFICER THEREOF AND DELIVERED
TO THE LESSEE BY AN AUTHORIZED
REPRESENTATIVE OF THE PORT AUTHORITY

Port Authority Lease No. AYD-350

AGREEMENT OF LEASE

THIS AGREEMENT OF LEASE, made as of the 6th day of May, 2005 (which date is hereinafter called the "*Effective Date*") by and between THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY (hereinafter called the "*Port Authority*"), a body corporate and politic, established by Compact between the States of New Jersey and New York with the consent of the Congress of the United States of America, and having an office at 225 Park Avenue South, in the Borough of Manhattan, City, County and State of New York, and JETBLUE AIRWAYS CORPORATION (hereinafter called the "*Lessee*"), a corporation of the State of Delaware with an office and place of business at 118-29 Queens Boulevard, Forest Hills, New York 11375, whose representative is Vice President of Corporate Real Estate.

WITNESSETH, That:

The Port Authority and the Lessee, for and in consideration of the rents, covenants and mutual agreements hereinafter contained, hereby covenant and agree effective as of the Effective Date with respect to Sections 2, 6, 7, 28, 30, 32, 35, 36, 56, 62, 63, 65, 84, 85, 87 and 94 hereof and the exhibits and schedules referred to in such Sections and effective as of November 22, 2005 (the "*Lease Commencement* Date") with respect to all other portions of this Agreement as follows:

Section 1. Letting

(a) The Port Authority hereby lets to the Lessee and the Lessee hereby hires and takes from the Port Authority the land shown in stipple, stippled diagonal hatching and stippled double parallel vertical hatching on the exhibit attached hereto, hereby made a part hereof and marked Exhibit 1.1 (which exhibit is hereinafter referred to as "*Exhibit 1.1*") at John F. Kennedy International Airport (sometimes hereinafter referred to as the "*Airport*") in the County of Queens, City and State of New York, the aforesaid land, together with all buildings, structures, fixtures, improvements and other property of the Port Authority located therein, thereon or thereunder, and all structures, improvements, additions, buildings, installations and facilities located, constructed or installed, or which may be located, constructed or installed therein, thereon or thereunder, and the equipment permanently affixed or permanently located therein, such as electrical, plumbing, sprinkler, fire protection and fire alarm, heating, steam, sewage, drainage, refrigerating, communications, gas and other systems, and their pipes, wires, mains, lines, tubes, conduits, equipment and fixtures, and all paving, drains, culverts, ditches and catch-basins constructed therein, thereon or thereunder (all of the foregoing being herein called the "Premises", provided, however, it is hereby understood and agreed that the AirTrain, the Cogeneration Facility, the Traffic Systems and the Distribution Portion of the System and Tanks

shall not be a part of the Premises and shall not be or become a part of the Premises). The parties acknowledge that the Premises constitute non-residential real property.

(b) Except to the extent required for the performance of any of the obligations of the Lessee hereunder nothing contained in this Agreement shall grant to the Lessee any rights whatsoever in the air space above the Premises in excess of the height elevation limitations described in the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 1.2".

(c) (i) For the period from the Lease Commencement Date to the day immediately preceding the Terminal 4 Parcel Tender Date, both dates inclusive, the area of the Premises as shown in stippled double parallel vertical hatching and identified as "Area 4" on Exhibit 1.1 together with the contiguous area of land immediately abutting such portion of the Premises as shown in herringbone hatching and identified as "Area 3" on Exhibit 1.1 shall be subject to a joint and mutual easement for the taxiing, push-back, tug-in, turn around and other operations of aircraft to be used jointly by the Lessee on one hand and the Port Authority and the lessee(s), tenant(s), occupant(s) or users who pursuant to Port Authority permission now or in the future lease, rent, occupy or use any of said area shown in herringbone hatching or adjoining and abutting said area.

(ii) For the period from the Lease Commencement Date to the day immediately preceding the Terminal 6 Parcel Tender Date, both dates inclusive, the area of the Premises as shown in stippled diagonal hatching on Exhibit 1.1 together with the contiguous area of land immediately abutting such portion of the Premises as shown in crosshatching on Exhibit 1.1 shall be subject to a joint and mutual easement for the taxiing, push-back, tug-in, turn around and other operations of aircraft to be used jointly by the Lessee on one hand and the Port Authority and the lessee(s), tenant(s), occupant(s) or users who pursuant to Port Authority permission now or in the future lease, rent, occupy or use any of said area shown in crosshatching or abutting and adjoining said area.

(iii) For the period from and after the Terminal 4 Parcel Tender Date, the areas of the Premises as shown in crosshatching and dashed horizontal hatching with crosshatching on the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 1.3" (herein referred to as "*Exhibit 1.3*") together with the contiguous area of land immediately abutting such portion of the Premises as shown in diagonal hatching and in shaded stipple with diagonal hatching on Exhibit 1.3 shall be subject to a joint and mutual easement for the taxiing, push-back, tug-in, turn around and other operations of aircraft to be used jointly by the Lessee on one hand and the Port Authority and the lessee(s), tenant(s), occupant(s) or users who pursuant to Port Authority permission now or in the future lease, rent, occupy or use any of said area shown in shaded stipple with diagonal hatching or adjoining and abutting said area.

(iv) For the period from and after the Terminal 6 Parcel Tender Date the area of the Premises as shown in stippled diagonal hatching on the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 1.4" (herein referred to as "*Exhibit 1.4*") together with the contiguous area of land immediately abutting such portion of the Premises as shown in crosshatching on Exhibit 1.4 shall be subject to a joint and mutual easement for the taxiing, push-back, tug-in, turn around and other operations of aircraft to be used jointly by the Lessee on one

hand and the Port Authority and the lessee(s), tenant(s), occupant(s) or users who pursuant to Port Authority permission now or in the future lease, rent, occupy or use any of said area shown in crosshatching or abutting and adjoining said area.

(d) Without limiting any obligation of the Lessee to commence operations hereunder at the time and in the manner stated elsewhere in this Agreement, the Lessee agrees that no portion of the Premises will be used initially or at any time during the letting which is in a condition unsafe or improper for the conduct of the Lessee's operations hereunder so that there is possibility of injury or damage to life or property. It is hereby understood and agreed that whenever reference is made in this Agreement to the condition of the Premises as of the commencement of the term thereof, the same shall be deemed to mean the condition of the Premises as of the Lease Commencement Date, and as to the improvements made and the alteration work performed during the term of this Agreement, in the condition existing after the completion of the same.

(e) (i) Effective at 12:01 a.m. on the day of tender thereof by the Port Authority to the Lessee, which tender shall be made upon thirty (30) days' notice (the "*Terminal 4 Notice*") to the Lessee by the Port Authority (the effective date of the Terminal 4 Notice being herein referred to as the "*Terminal 4 Parcel Tender Date*"), in addition to the premises heretofore let to the Lessee under this Lease, the letting of which shall continue in full force and effect, the Port Authority shall let to the Lessee and the Lessee shall hire and take from the Port Authority upon all the terms, provisions, conditions and agreements of this Lease at the Airport in the County of Queens, City and State of New York the land shown in dashed horizontal hatching with crosshatching on Exhibit 1.3 (which land is hereinafter referred to as the "*Terminal 4 Parcel*"), together with the fixtures, improvements and other property of the Port Authority located or to be located therein, thereunder or thereon, and all structures, improvements, additions, buildings and facilities, located, constructed or installed or to be located, constructed or installed therein, thereunder or thereon, all of the foregoing to be and become a part of the Premises let under this Lease, subject to all of the terms, provisions, covenants and conditions of this Lease, for and during the balance of the term of the letting under this Lease subject to earlier termination as provided in this Lease.

(ii) If the Port Authority shall not give possession of the Terminal 4 Parcel during the Term by reason of the fact that the Terminal 4 Parcel or any part thereof are in the course of construction, repair, alteration or improvement or by reason of the fact that the occupant thereof failed or refused to deliver possession to the Port Authority, or by reason of any cause or condition beyond the control of the Port Authority, the Port Authority shall not be subject to any liability for the failure to give possession of the Terminal 4 Parcel to the Lessee.

(f) (i) Effective as of the Terminal 4 Parcel Tender Date, the Lessee shall and be deemed to have granted, bargained, sold, surrendered and yielded up and by these presents have granted, bargained, sold, surrendered and yielded up unto the Port Authority, its successors and assigns, forever, its rights in that portion of the Premises shown in shaded stipple and shaded stipple with diagonal hatching on Exhibit 1.3 (the "*Terminal 4 Surrendered Parcel*") and the term of years with respect thereto under the Lease yet to come and shall and be deemed to have given, granted, surrendered and by these presents does give, grant and surrender to the

Port Authority, its successors and assigns, all the rights, rights of renewal, licenses, privileges and options of the Lessee granted by the Lease with respect to the Terminal 4 Surrendered Parcel, all to the intent and purpose that the said term under the Lease and the said rights of renewal, licenses, privileges and options may be wholly merged, extinguished and determined on the Terminal 4 Parcel Tender Date, with the same force and effect as if the said term were in and by the provisions of the Lease originally fixed to expire on the Terminal 4 Parcel Tender Date, but the Lease and the letting thereunder shall continue in full force and effect as to the remainder of the Premises under the Lease and in accordance with all the terms and provisions thereof.

TO HAVE AND TO HOLD the same unto the Port Authority, its successors and assigns forever.

(ii) The Lessee hereby covenants on behalf of itself, its successors and assigns that (x) it has not done or suffered and will not do or suffer anything whereby the Terminal 4 Surrendered Parcel or the Lessee's leasehold therein, has been or shall be encumbered as of the Terminal 4 Parcel Tender Date in any way whatsoever; (y) the Lessee is and will remain until the Terminal 4 Parcel Tender Date the sole and absolute owner of the leasehold estate in the Terminal 4 Surrendered Parcel and of the rights, rights of renewal, licenses, privileges and options granted by the Lease with respect thereto and that the same are and will remain until the Terminal 4 Parcel Tender Date free and clear of all liens and encumbrances of whatsoever nature; and (z) the Lessee has full right and power to make this agreement.

(iii) All promises, covenants, agreements and obligations of the Lessee with respect to the Terminal 4 Surrendered Parcel which under the provisions thereof would have matured upon the date originally fixed in the Lease for the expiration of the term thereof, or upon the termination of the Lease prior to the said date, or within a stated period after expiration or termination shall, notwithstanding such provisions, mature upon the Terminal 4 Parcel Tender Date and shall survive the delivery of the Terminal 4 Notice by the Port Authority to the Lessee.

(iv) As of the Terminal 4 Parcel Tender Date, the Lessee shall and shall have released and discharged and does by these presents release and discharge the Port Authority from any and all obligations on the part of the Port Authority to be performed under the Lease with respect to the Terminal 4 Surrendered Parcel. The Port Authority does by these presents release and discharge the Lessee from any and all obligations on the part of the Lessee to be performed under the Lease with respect to the Terminal 4 Surrendered Parcel for that portion of the term subsequent to the Terminal 4 Parcel Tender Date; it being understood that nothing herein contained shall release, relieve or discharge the Lessee from any liability for rentals or for other charges that may be due or become due to the Port Authority for any period or periods prior to the Terminal 4 Parcel Tender Date, or for breach of any other obligation on the Lessee's part to be performed under the Lease for or during such period or periods or maturing pursuant to the foregoing paragraph, nor shall anything herein be deemed to release the Lessee from any liability for rentals or other charges that may be due or become due to the Port Authority for any other portion of the Premises or for breach of any other obligation on the Lessee's part to be performed under the Lease.

(v) The Lessee hereby agrees to terminate its occupancy of the Terminal 4 Surrendered Parcel and to deliver actual, physical possession of the Terminal 4 Surrendered Parcel to the Port Authority, on or before the Terminal 4 Parcel Tender Date, in the condition required by the Lease upon surrender. The Lessee further agrees that it shall remove all the Lessee's Personal Property from Terminal 4 Surrendered Parcel prior to the Terminal 4 Parcel Tender Date, and all the terms and conditions of Section 29 of the Lease with respect to termination of the letting shall apply to any of the Lessee's Personal Property not so removed.

(vi) The Lessee hereby acknowledges that each and every term, provision and condition of the Lease shall continue to apply to the Premises remaining after the termination of the Terminal 4 Surrendered Parcel.

(vii) From and after the day immediately following the Terminal 4 Parcel Tender Date, the Lessee shall be entitled to an abatement of the First Ground Rental and/or the Second Ground Rental in accordance with Section 4 hereof.

(g) Effective at 12:01 a.m. on the day immediately following the expiration or earlier termination (the "*Terminal 6 Parcel Tender Date*") of that certain agreement of lease entered into between the Lessee and the Port Authority as of the 1st day of November, 2002 covering Terminal 6 and bearing Port Authority agreement no. AYD-265 ("*Lease AYD-265*") in addition to the premises heretofore let to the Lessee under this Lease, the letting of which shall continue in full force and effect, the Port Authority shall let to the Lessee and the Lessee shall hire and take from the Port Authority upon all the terms, provisions, conditions and agreements of this Lease at the Airport in the County of Queens, City and State of New York the land shown in stipple and stippled diagonal hatching on Exhibit 1.4 (which land is hereinafter referred to as the "*Terminal 6 Parcel*"), together with the fixtures, improvements and other property of the Port Authority located or to be located therein, thereunder or thereon, and all structures, improvements, additions, buildings and facilities, located, constructed or installed or to be located, constructed or installed therein, thereunder or thereon, all of the foregoing to be and become a part of the Premises let under this Lease, subject to all of the terms, provisions, covenants and conditions of this Lease, for and during the balance of the term of the letting under this Lease subject to earlier termination as provided in this Lease.

(h) The Lessee shall have a non-exclusive right of way for the passage of vehicles through the area shown in stippled cross hatching on Exhibit 1.1, which area shall not in any event be obstructed by the Lessee or used by the Lessee for any other purpose including without limitation for the parking or storage of any equipment or vehicles.

Section 2. **Construction by the Lessee**

(a) The following terms, when used in this Agreement, shall, unless the context shall require otherwise, have the respective meanings given below:

(i) "*Building No. 60*" shall mean the TWA Main Terminal as shown in stippled crosshatching on the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 2.1" (herein referred to as "*Exhibit 2.1*"), the Flight Wing I Tube and the Flight Wing II Tube.

(ii) "*Director of Redevelopment of the Port Authority*" shall mean the person or persons from time to time designated by the Port Authority to exercise the powers and functions vested in the said Director of Redevelopment of the Port Authority by this Agreement; but until further notice from the Port Authority to the Lessee it shall mean the Program Director of the JFK Redevelopment Program (or the temporary or acting Program Director of the JFK Redevelopment Program) for the time being, or his duly designated representative or representatives.

(iii) "*Element of Work*" shall mean each of and "*Elements of* Work" shall mean all of the Passenger Terminal Work, the Landside Civil Work, the Airside Civil Work, the MOA Curtain Wall Work, the Parking Garage Work, the MOA Flight Wing II Work and the Terminal 5 AirTrain Connector Work.

(iv) "*Flight Wing I Tube*" shall mean the pedestrian bridge shown in diagonal hatching and identified as the "Flight Wing I Tube" on Exhibit 2.1.

(v) "*Flight Wing II Tube*" shall mean the pedestrian bridge shown in crosshatching on Exhibit 2.1 and identified as the "Flight Wing II Tube on Exhibit 2.1.

(vi) "*Group VI Aircraft*" shall mean the FAA Airplane Design Group for wingspans greater than 214 feet.

(vii) "*New Passenger Terminal*" shall mean the new passenger terminal to be designed and constructed by the Lessee pursuant to and in accordance with this Lease.

(viii) "*Parking Garage*" shall mean the parking garage to be built by the Lessee pursuant to and in accordance with this Lease.

(ix) "*Parking Garage Basis of Design*" shall mean the document attached hereto entitled "jetBlue Airways JFK International Airport Terminal 5 Redevelopment Basis of Design – Parking Garage, November 15, 2005" hereby made a part hereof and marked "Exhibit "2.2".

(x) "*Parking Garage Site*" shall mean the area shown in stipple and stippled crosshatching on the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 2.3" (which exhibit is herein referred to as "*Exhibit 2.3*").

(xi) "*Port Authority Service Contract*" shall mean each of the Parking Garage Vertical Circulation Maintenance Contract, the Parking Garage Fire Safety Equipment Maintenance Contract, the AirTrain Vertical Circulation Maintenance Contract and the AirTrain Moving Sidewalk Maintenance Contract.

(xii) "*Project Costs*" shall mean the Cost of the Lessee's Redevelopment Work Elements and all other costs and expenses of the Lessee to comply with all

of the terms and conditions of this Section 2 with respect to the Redevelopment Work except for the Cost of the Port Authority Redevelopment Work Elements.

(xiii) "*Redevelopment of Terminal5/6 FONSI/ROD*" shall mean the United States of America, Federal Aviation Administration Finding of No Significant Impact Record of Decision approved on February 7, 2005 for the Redevelopment of Terminals 5 and 6 at John F. Kennedy International Airport, a copy of which together with the Environmental Assessment dated October 2004 on which it was based is attached hereto, hereby made a part hereof and marked "Exhibit 2.4".

(xiv) "*Redevelopment Work Construction Applications*" shall mean all of the Tenant Construction or Alteration Applications submitted by the Lessee pursuant to Section 2 of this Lease as approved by the Port Authority.

(xv) "*Redevelopment Work Contract*" shall mean each agreement entered into by the Lessee, including without limitation those entered into prior to the Effective Date, relating to the Redevelopment Work including without limitation all such agreements with architects, engineers, contractors, consultants, subcontractors, the Contract Documents and all other agreements entered into by the Lessee for the supply of labor, materials and equipment relating to the Redevelopment Work (including without limitation to guaranties, payment bonds and surety agreements) and all amendments, modifications, supplements, extensions and renewals.

(xvi) "*Redevelopment Work Contractor*" shall mean each Person that is or is to be a party to a Redevelopment Work Contract, except for the Lessee.

(xvii) "*Redevelopment Work Contracts and Documents*" shall mean all Redevelopment Work Contracts, all Design Development Documents, all Contract Documents and all plans and specifications for the development and construction of the Redevelopment Work, all service, maintenance and warranties provided by a Redevelopment Work Contractor related to the Redevelopment Work, all other contracts and agreements related to the Redevelopment Work and all amendments, modifications, supplements, extensions and renewals thereof.

(xviii) "*Redevelopment Work Site*" shall mean each of, and "*Redevelopment Work Sites*" shall mean all of, the following areas: the area shown in stipple on the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 2.7" (herein referred to as "*Exhibit 2.7*"), the area shown in broken horizontal hatching on Exhibit 2.7, the area shown in crosshatching on Exhibit 2.7, the area shown in broken horizontal hatching with crosshatching on Exhibit 2.7, the area shown in crosshatching on the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 2.8" and the Parking Garage Site.

(xix) "*Remedial Action Work Plan*" shall mean the remedial action work plan attached hereto, hereby made a part hereof and marked "Exhibit 2.5" as the same may be amended and supplemented from time to time.

(xx) "*Resident Engineer*" shall mean the person or persons from time to time designated by the Port Authority to exercise the powers and functions vested in the said Resident Engineer by this Agreement; but until further notice from the Port Authority to the Lessee it shall mean the Port Authority Resident Engineer (or the temporary or acting Port Authority Resident Engineer) located in Building 14 of the Airport for the time being, or his duly designated representative or representatives.

(xxi) "*Temporary Facilities*" shall mean the facilities and improvements constructed and installed on the Premises as part of the Temporary Facilities Work.

(xxii) "*Terminal 4*", "*Terminal 6*" and "*Terminal 7*" shall mean the passenger terminal buildings at the Airport identified as such on Exhibit 2.1.

(xxiii) "*Terminal 5 AirTrain Connector Site*" shall mean the area shown in crosshatching and identified as such on Exhibit 2.3.

(xxiv) "Te*rminal 5/6 AirTrain Station*" shall mean the AirTrain station, identified as such on Exhibit 2.3 that serves Terminal 5 and Terminal 6.

(xxv) "*Terminal 5 Redevelopment Basis of Design*" shall mean the document attached hereto, entitled "jetBlue Airways JFK International Airport Terminal 5 Redevelopment – Basis of Design" dated November 1st, 2005 hereby made a part hereof and marked "Exhibit 2.6".

(xxvi) "*Terminal/5 6 AirTrain Connector*" shall mean the AirTrain Connector identified as such on Exhibit 2.3.

(b) Lessee's Comprehensive Plan for the Redevelopment Work:

(1) The Lessee shall, prior to its submission to the Port Authority of the plans and specifications for the Redevelopment Work as hereinafter provided for, submit to the Port Authority for its consent, the Lessee's comprehensive plan for the planning, design and performance of the Redevelopment Work including, but not limited to, renderings, layouts, locations, models, functional plans, staging plans and project schedule. Said comprehensive plan shall be based upon the Terminal 5 Redevelopment Basis of Design and the Parking Garage Basis of Design together with the further design development documents based thereon (which further design development documents as approved by the Port Authority are herein called the "*Design Development Documents*") which shall be prepared by the Lessee and submitted to the Port Authority for its approval; said comprehensive plan as approved by the Port Authority shall constitute the Lessee's "*Comprehensive Plan*" hereunder. The Design Development Documents shall clearly delineate each Element of Work from each other Element of Work and the Design Development Documents shall include a composite drawing clearly depicting the limits of each Element of Work. The Lessee shall keep the Comprehensive Plan up to date and shall submit to the Port Authority for its approval all amendments, supplements or modifications thereto, which amendments, supplements or modifications shall not become effective until the same have been approved by the Port Authority. If the Port Authority disapproves the Lessee's further design development documents or any portion thereof, or any submittals in connection with the

Comprehensive Plan, it shall set forth, in writing, in reasonable detail the reasons for such disapproval.

(2) Without limiting the foregoing the Lessee agrees that the Comprehensive Plan shall include the design and construction of the Passenger Terminal Work, the Landside Civil Work, the Airside Civil Work, the MOA Curtain Wall Work, the MOA Flight Wing II Work, the Parking Garage Work and the Terminal 5 AirTrain Connector Work as more particularly described below:

(i) The "*Passenger Terminal Work*" shall mean and consist of the work set forth in the following items (aa) through (jj) and all necessary and appropriate work in connection therewith including without limitation the work set forth in subparagraphs (2)(viii) and (2)(ix) of this paragraph (b) as follows:

(aa) A main passenger terminal building of approximately 635,000 square feet of floor space;

(bb) Space, facilities, equipment for passenger departure functions including, but not limited to, sufficient curbside, lobby and kiosk facilities for ticketing, baggage check-in, security screening positions, gate holdroom and passenger arriving functions including, but not limited to, facilities for not less than six (6) baggage claim devices;

(cc) Twenty six (26) aircraft passenger enplaning and deplaning contact gates, together with all associated preconditioned air and ground power support and related areas and facilities including without limitation 26 passenger boarding bridges and 13 fixed links;

(dd) All appropriate and necessary work for the construction of Concession Areas consisting of a minimum of 50,000 total square feet of floor space to be made available for consumer services as more fully described and set forth in Sections 73 through 81 hereof including without limitation the construction and installation of utility lines which are to serve the Concession Areas;

(ee) All necessary and required work for the construction of a Consolidated Counter for Ground Transportation Operators for use in accordance with Section 66 hereof entitled "Ground Transportation Services" at such location as may be specified by the Port Authority as may reasonably be required for use as Consolidated Counters;

(ff) All interior vertical circulation areas, facilities and systems in connection with the Terminal 5 AirTrain Connector, including without limitation, escalators, elevators, stairs and passageways, and all work to connect, extend, integrate, interface, support and accept the Terminal 5 AirTrain Connector to the New Passenger Terminal and to the Terminal 5/6 AirTrain Station, including without limitation making the connections and integration water tight;

(gg) All departure level roadway structures including piles, foundations, substructure, superstructure, structural slabs, drainage and lighting infrastructure to support upper level roadways and frontage to be built above the arrivals hall;

(hh) Structural modifications to the Flight Wing I Tube, a new terminus and vertical circulation at the New Passenger Terminal end of the Flight Wing I Tube and the retention of the entire visible exterior length of the Flight Wing II Tube, as required in paragraph (c) of this Section and;

(ii) Investigation of a hierarchy of options for the Flight Wing I Tube as required in paragraph (c) of this Section for presentation to the RAC and all work necessary and desirable to implement the option selected by the Port Authority; and

(jj) Such public access to the New Passenger Terminal from Building No. 60 through both the Flight Wing I Tube and the Flight Wing II Tube as shall be determined by the Port Authority after consultation with the RAC and the Lessee.

(ii) The "*Landside Civil Work*" which shall mean and consist of the work set forth in the following items (aa) through (gg) and all necessary and appropriate work in connection therewith including without limitation the work set forth in subparagraphs (2)(viii) and (2)(ix) of this paragraph (b):

(aa) The construction in, on and under the area shown in crosshatching and broken horizontal hatching with crosshatching on Exhibit 2.7.

(A) All upper level and lower level roadways exclusive of the upper level roadway substructure over the arrivals hall included in the Passenger Terminal Work, and all other necessary or appropriate ground and elevated roadways, ramps, sidewalks, vehicular service areas, vehicular staging areas and pedestrian circulation areas shown in crosshatching on Exhibit 2.8 together with all related and associated areas and facilities including without limitation associated drainage, street lighting, vehicular and pedestrian signage, and traffic control infrastructure (the foregoing being herein sometimes called the "*Premises Circulation Facilities*"); and

(B) New Airport roads and roadway ramps to provide access to the New Passenger Terminal, recirculation roadways to the Parking Garage and to connect certain portions of the Premises Circulation Facilities to Building No. 60, the Parking Garage and Terminal 6, and vehicular roadways and pedestrian walkways, and other areas, structures and facilities related to or associated therewith, including without limitation, ground lighting, the maintenance and protection of traffic and the maintenance of temporary roads and signage, such work to be performed generally in the area shown in

crosshatching on Exhibit 2.8, it being understood and agreed that such roadways and roads shall allow vehicles to access all of the Building No. 60 frontage roadway, Terminal 6 access roadways, adjacent leaseholds or the arrivals and departures roadways of the New Passenger Terminal or the Parking Garage;

(C) New roadways and all associated and related extensions, widenings, relocations, and rehabilitation of existing roadways to provide access to the New Passenger Terminal, recirculation roadways to the Parking Garage and to connect certain portions of the Premises Circulation Facilities to Building No. 60 and Terminal 6, and vehicular roadways and pedestrian walkways, and other areas, structures and facilities related to or associated therewith, ground lighting, and the maintenance and protection of traffic, it being understood and agreed that such roadways and roads shall allow vehicles to access all of the arrivals and departures roadways of the New Passenger Terminal, or Building No. 60 frontage roadways or Terminal 6 access roadways or the Parking Garage; all of the foregoing to be constructed in the area shown in crosshatching on Exhibit 2.8;

(bb) All required ground transportation functions, including without limitation, all necessary and required work to accommodate baggage cart racks and construct taxi dispatch booths (including without limitation required and appropriate infrastructure for communication and electrical power) and bus shelters as may be required to adequately serve the Premises at such locations as may be determined by the Port Authority;

(cc) All necessary and required work to conform to Port Authority frontage control requirements including without limitation signage, CCTV, public address systems, street lighting;

(dd) All necessary and required work to conform to Port Authority requirements for access to passenger terminal areas and public parking areas including static and dynamic sign systems and traffic lights and other traffic control devices and systems including without limitation associated overhead structures and foundations, as specified and required by the Port Authority;

(ee) All necessary and required work to provide canopies over all pedestrian waiting and crossing areas on the Premises, including without limitation, all ground transportation waiting, loading and unloading areas;

(ff) All necessary and required work to provide a secure loading dock and trash containment/pick-up area; and

(gg) All grading and paving of ground areas and appropriate landscaping together with all related and associated work including without limitation all hardscape and irrigation of unpaved areas.

(iii) The "*Airside Civil Work*" shall mean and consist of the work set forth in the following items (aa) through (dd) and all necessary and appropriate work in connection therewith including without limitation the work set forth in subparagraphs (2)(viii) and (2)(ix) of this paragraph (b):

(aa) All necessary and appropriate aircraft ramp and apron areas for 26 aircraft passenger enplaning and deplaning contact gate and remote parking positions;

(bb) Subject to and in accordance with paragraph (o) of this Section, the construction and installation of additions and modifications to and relocations of the underground fuel system, including but not limited to additions and modifications to and relocations of the Distribution Portion of the System and the Airline Terminal Portion of the System and underground pipelines, fuel mains, and stubs necessary or required to tie into the Distribution Portion of the System at the Airport to accommodate and serve the Premises and all aircraft gate positions located or to be located at the Premises and the construction and installation of such additions and modifications to and relocations of the Distribution Portion of the System and the Satellite Portion of the System necessary or required by any changes to the Airline Terminal Portion of the System or the Distribution Portion of the System made by the Lessee, including but not limited to, transfer pumps, filter vessels, emergency fuel shutdown, and control systems associated with Premises Distribution Lines 402-1, 402-2, 402-3, it being understood that the maintenance, operation and repair of the Satellite Portion of the System shall not be part of the Redevelopment Work;

(cc) Appropriate measures to protect against jet blast for areas adjacent to the Premises; and

(dd) All taxiway access stubs, taxilanes and associated and related areas and facilities, including without limitation signage, pavement markings, edge lights and lead-in lights, which taxilanes in the area shown in stippled double parallel vertical hatching on Exhibit 1.1 and in the area shown in shaded stippled diagonal hatching on Exhibit 1.3 and in the area shown in stippled diagonal crosshatching on Exhibit 1.4. Any new or reconstructed taxilanes to be constructed on the area shown in stippled double parallel vertical hatching on Exhibit 1.1 shall be constructed to accommodate use by Group VI aircraft.

(iv) The "*MOA Curtain Wall Work*" shall mean and consist of work actually performed, labor actually furnished and materials actually furnished and installed in connection with the construction of that portion of the façade and curtain wall of the New Passenger Terminal which faces Building No. 60, but only if such costs are required solely to satisfy the requirements of the MOA and paragraph (c) of this Section. The MOA Curtain Wall Work, if performed, shall be performed pursuant to a Port Authority Requested Change Order.

(v) The "*MOA Flight Wing II Work*" shall mean and consist of the relocation and incorporation of the Flight Wing II gate lounge "trumpets" as shown in stipple

on Exhibit 2.1 and/or other architecturally significant elements as and if required by and in accordance with the MOA and paragraph (c) of this Section together all necessary and appropriate work in connection therewith including without limitation the work set forth in subparagraphs (2)(viii) and (2)(ix) of this paragraph (b). The MOA Flight Wing II Work, if performed, shall be performed pursuant to a Port Authority Requested Change Order.

(vi) The "*Parking Garage Work*" shall mean and consist of the work set forth in the following items (aa) through (ii) and all necessary and appropriate work in connection therewith including without limitation the work set forth in subparagraphs (2)(viii) and (2) (ix) of this paragraph (b) as follows:

(aa) An elevated parking garage structure having a minimum of 1500 public parking spaces;

(bb) All roadways and all other necessary or appropriate ground roadways, ramps, sidewalks, vehicular service areas, vehicular staging areas and pedestrian circulation areas, together with all related and contiguous associated areas and facilities located within the Parking Garage Site (the foregoing being herein sometimes called the "*Parking Garage Circulation Facilities*");

(cc) Vehicular entry plaza(s) including without limitation the Port Authority Airport parking revenue control system ("*RCS*") ticket dispensing equipment, communications and associated infrastructure and vehicular exit plaza(s) including without limitation a service building, toll booths containing RCS equipment, communications and associated infrastructure, which equipment shall be procured from the Port Authority's contractor for the RCS and the installation, testing, commissioning and acceptance of the system shall be coordinated with such RCS contractor;

(dd) All necessary or required work to conform to Port Authority requirements for access to passenger terminal areas and public parking areas including static and dynamic sign systems and traffic lights and other traffic control devices and systems as specified and required by the Port Authority;

(ee) All vertical circulation areas, facilities and systems, including without limitation, a central core of elevators, stairs and passageways and all work to connect, extend, integrate, support and accept the vertical circulation to the Parking Garage, including without limitation making the vertical circulation system water tight, and a maintenance contract for the vertical circulation equipment and systems for a period of one year from the date Port Authority issues a certificate to use such portion of the Redevelopment Work as described in paragraph (n) of this Section (the "*Parking Garage Vertical Circulation Maintenance Contract*");

(ff) All work to connect, extend, integrate, support and accept the Terminal 5/6 AirTrain Station to the Parking Garage;

(gg) All necessary or required work to connect the Parking Garage fire alarm system to the Airport fire alarm system including coordination for installation, testing, commissioning and acceptance of the system and a maintenance contract for the fire alarm equipment and system for a period of one year from the date the Port Authority issues a certificate to use such portion of the Redevelopment Work as described in paragraph (n) of this Section (the "*Parking Garage Fire Safety Equipment Maintenance Contract*");

(hh) All necessary or required fencing at locations identified by the Port Authority; and

(ii) All necessary or required work for communication infrastructure for emergency phone service and elevator closed circuit TV in accordance with Port Authority standards.

(vii) The "*Terminal 5 AirTrain Connector Work*" shall mean and consist of the work set forth in the following items (aa) through (dd) and all necessary and appropriate work in connection therewith including without limitation the work set forth in subparagraphs (2)(viii) and (2)(ix) of this paragraph (b) as follows:

(aa) An enclosed, climate controlled, pedestrian connector from the Terminal 5/6 AirTrain Station connector to the New Passenger Terminal providing grade separated crossing of all active roadways (the "*Terminal 5 AirTrain Connector*");

(bb) All required vertical circulation elements including escalators and elevators to provide for elevation changes to access the Terminal 5 AirTrain Connector and at other necessary locations and a maintenance contract for the vertical circulation equipment and systems for a period of one year from the date Port Authority issues a certificate to use such portion of the Redevelopment Work as described in paragraph (n) of this Section (the "*AirTrain Vertical Circulation Maintenance Contract*");

(cc) Moving walkways in the enclosed horizontal elements of the connector and a maintenance contract for the moving walkway equipment and systems for a period of one year from the date the Port Authority issues a certificate to use such portion of the Redevelopment Work as described in paragraph (n) of this Section (the "*AirTrain Moving Sidewalk Maintenance Contract*"); and

(dd) Extension and modification of existing systems, including but not limited to, mechanical, electrical, control, fire protection, communication and security systems, from the Terminal 5/6 AirTrain Connector to provide an environment consistent with the AirTrain systems.

(viii) All other necessary and appropriate work in connection with the foregoing clauses (2)(i) through (2)(vii) of this paragraph (b) including without limitation thereto:

(aa) All appropriate and necessary general utility and mechanical equipment occupied and non-occupied rooms and spaces;

(bb) The construction and installation of all appropriate lines, pipes, mains, cables, manholes, wires, conduits and other facilities required in connection with or relating to the mechanical, utility, electrical, storm sewer, sanitary sewer, communications, security, water, telephone, fire alarm, fire protection, gas and other systems including all necessary relocations, and all work necessary or required to tie the foregoing to the utility access stubs now existing or to be constructed as part of the Redevelopment Work, including but not limited to all necessary valves and other equipment and accessories necessary to the use and operation of the heating, cooling, electrical, water, communications and other utility systems serving or which are to serve the Redevelopment Work or other Airport facilities;

(cc) To the extent permitted by KIAC, all work necessary or required to construct lateral mains to tie into the Central Terminal Area ring supply lines for hot water for heating and domestic use purposes only and chilled water for air conditioning purposes only, in accordance with the requirements and specifications as set forth in Section 39 hereof entitled "Hot Water and Chilled Water Requirements", provided, however, if KIAC does not so permit such work to be performed by the Lessee, such work shall be performed by KIAC or KIAC's contractors, as determined by KIAC, which costs and expense shall be a part of the Cost of the Lessee's Redevelopment Work Elements. The work specified in this paragraph (b)(2)(viii)(cc) shall become a part of the TDS at the Airport and will become the property of the Port Authority or its designee and none of the foregoing work shall become a part of the Premises; and

(dd) The complete demolition and removal of the structures located on the Redevelopment Work Sites as shown in grey shading on the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 2.9", and all other demolition and removal associated with the Redevelopment Work including, without limitation, the removal of all underground tanks and their appurtenances, pipes, lines, fixtures and other related equipment associated with Building No. 296 or exposed during the performance of the Redevelopment Work and the removal and disposal of all contaminated soil associated with any such tanks which the DEC requires be removed or remediated in connection with the closure of any such tanks (which tank and soil removal and disposal except for the Fuel Line Work is herein referred to as "*Tank Removal Work*"), and all other demolition and removal associated with the Redevelopment Work, all of the foregoing to be performed in accordance with applicable law, including without limitation all applicable Environmental Requirements, and to include without limitation all appropriate, required or necessary removal of all below ground asbestos which is damaged or interferes with the performance of the Redevelopment Work and all above

ground asbestos, lead, petroleum products and other Hazardous Substances and the handling, transporting and off-Airport disposal thereof (including, if required, disposal of asbestos in an off-Airport long-term asbestos-only disposal facility), provided, however, that the costs of the performance of the Tank Removal Work shall be paid for as provided in paragraph (g)(12) of this Section and in Section 87 and provided, further, however, without limiting any other term or condition hereof the Tank Removal Work shall additionally be performed in accordance with the terms and conditions of subparagraph (30) of paragraph (g) of this section.

(ee) In addition to any other excavation and removal and disposal of soil which is appropriate or necessary in connection with the performance of the Redevelopment Work, the excavation and removal and disposal off the Airport in accordance with all of the terms and conditions of this Lease, including without limitation this Section 2 and all applicable Environmental Requirements, at a location that has been approved by the Port Authority, of all soil required to be removed from the Redevelopment Work Sites by the Remedial Action Work Plan.

(ix) All other appropriate or necessary work in connection with the foregoing clauses (i) through (viii) of this paragraph (b)(2), including without limitation thereto, all borings, surveys, route marker signs, obstruction lights and material inspections and testing and also including all other tie-ins, temporary and otherwise, to utility lines and roadway access stubs and other temporary work necessary to maintain airport operations.

(3) The Lessee agrees that all Project Costs and the performance of the design and construction of the work described in paragraph (b)(2) of this Section and any other work which the Lessee includes in its comprehensive plan and which is consented to by the Port Authority shall be at the Lessee's sole cost and expense without any reimbursement from the Port Authority except as set forth in paragraph (g)(12) of this Section and in Section 87 hereof and shall be subject to and performed in accordance with all the terms, provisions and conditions of this Lease. Further, without limiting any other term or provision of this Lease, all of the design and construction of the work described in paragraph (b)(2) of this Section, except for the Parking Garage Work, shall also be in conformance with the Terminal 5 Redevelopment Basis of Design and the Parking Garage Work shall be designed and constructed by the Lessee in accordance with the Parking Garage Basis of Design and all of the foregoing and any other work which the Lessee includes in its comprehensive plan and which is consented to by the Port Authority shall be designed and constructed in accordance with the design criteria as contained in the Port Authority Tenant Construction Review Manual and in the Port Authority Aviation Department Tenant Alteration Procedures and Standards Guide as the same may be amended from time to time (such design and construction of the work described in paragraph (b)(2) of this Section and any other work which the Lessee includes in its comprehensive plan and which is consented to by the Port Authority being sometimes hereinafter collectively referred to as the "*Redevelopment Work*"). The Lessee agrees to perform the Redevelopment Work in accordance with all of the terms and conditions of this Lease.

(4) The Lessee, its contractors, subcontractors, suppliers of materials and furnishers of services shall have access to the Redevelopment Work Sites which are not

located on the Premises and the Satellite Portion of the Distribution Portion of the System at all reasonable times subject however to the terms and conditions of paragraph (g)(29) of this Section and subject and pursuant to and in accordance with the Port Authority's right of entry as to other tenant areas, and such other areas immediately adjacent thereto under the control of the Port Authority as necessary to perform the construction obligations set forth in subparagraph (2) of this paragraph (b). The exercise of such right of access shall at all times be done in a lawful manner and in accordance with the rules and regulations of the Port Authority.

(5) Temporary Facilities:

(i) The "*Temporary Facilities Work*" shall mean and consist of the work set forth in the following items (aa) through (ee) and all necessary and appropriate work in connection therewith as follows:

(aa) The design and construction of a new temporary remote gate concourse of approximately 24,000 square feet with seven (7) boarding gates in the area shown in stippled crosshatching on the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 2.10" (herein called "*Exhibit 2.10*");

(bb) The design and construction of an at grade busing route connecting the temporary remote gate concourse with Terminal 6;

(cc) The design and construction of utilities solely to serve the Temporary Facilities Work,

(dd) The demolition and removal of all of the Temporary Facilities Work, including without limitation, the temporary remote gate concourse, the ramp bus route, all conveyers and equipment installed exterior to the temporary remote gate concourse for baggage handling purposes and utilities serving the temporary remote gate concourse, which demolition and removal shall be completed within one hundred eighty (180) days after DBO; and

(ee) All other work in connection with the foregoing and which is consented to by the Port Authority.

(ii) The performance of the Temporary Facilities Work, and the Temporary Facilities and the use and operation thereof, shall not adversely affect the Redevelopment Work including without limitation the cost or schedule thereof. Additionally, none of the costs for the Temporary Facilities Work shall be included in the Cost of the Redevelopment Work, except for the amounts actually paid or payable by the Lessee to independent third party contractors for the purchase of the jet bridges and lounge furniture that are installed at the New Passenger Terminal. None of the Temporary Facilities Cost shall be a part of the Cost of the Redevelopment Work.

(iii) The Lessee agrees that the performance of the Temporary Facilities Work described in this paragraph (b)(5) shall be at the Lessee's sole cost and expense

without any reimbursement from the Port Authority, shall be subject to and performed in accordance with all the terms and provisions of this Lease and shall be designed and constructed in accordance with the design criteria as contained in the Port Authority Tenant Construction Review Manual and in the Port Authority Aviation Department Tenant Alteration Procedures and Standards Guide as the same may be amended from time to time (the Redevelopment Work and such design and construction of the Temporary Terminal Work being sometimes hereinafter collectively referred to as the "*Construction Work*").

(c) Memorandum of Agreement Requirements:

(1) The Lessee shall participate in all meetings with the Redevelopment Advisory Committee ("RAC"), as defined in the MOA, in connection with the Construction Work and the obligations of the Lessee set forth in subparagraph (2) of this paragraph (c) and shall cooperate with the RAC and the Port Authority and provide to the Port Authority a response to suggestions and recommendations made by the RAC or any members thereof in connection with the foregoing. Further, Port Authority approval of the Lessee's plans and specifications shall not occur prior to all determinations having been made by the Port Authority as to all of the matters covered by subparagraph (2) of this paragraph (c).

(2) The Lessee shall comply with all of the terms and conditions of the MOA which pertain or relate to the Construction Work (the "*Terminal 5 MOA Requirements*") including without limitation the following requirements in the MOA, such compliance to include without limitation preparing and submitting associated studies, analyses and documentation in a prompt and timely manner and as required by the MOA and the RAC:

(i) The Lessee shall cooperate fully with the formation and operation of the Redevelopment Advisory Committee;

(ii) The Lessee shall comply with all of the requirements of Stipulations 3, 9, 10, 13 and 14 of the MOA;

(iii) The Lessee shall comply with all of the requirements of Stipulations4 and 12 of the MOA with respect to the Redevelopment Work;

(iv) The Lessee shall comply with all of the requirements of Stipulation 5 of the MOA with respect to the West Tube as defined in the MOA;

(v) The Lessee shall comply with all of the requirements of Stipulation 15 of the MOA with respect to the removal of the south baggage facility; and

(vi) The Lessee shall comply with all of the requirements of guideline 4(b), 4(c), 4(e), 4(f) and 4(g) of Attachment D of the MOA.

(3) All of the costs paid for or incurred by the Lessee to comply with this paragraph (c) shall be assigned to the appropriate Element of Work.

(4) Neither this Lease nor anything contained herein shall impose or be deemed to have imposed any obligations whatsoever on the Port Authority with respect to the MOA except as set forth in Section 87 hereof with respect to the MOA Flight Wing II Work, the MOA Curtain Wall Work and the Building No. 60 AirTrain Connector Work.

(5) No delay in the performance of the Construction Work arising from or in connection with the RAC or the MOA shall relieve the Lessee from any of the obligations under this Lease.

(d) Changes to Contract Documents:

(1) Definitions:

The following terms, when used in this Agreement shall, unless the context shall require otherwise, have the respective meanings given below:

(i) "*Authorized Change Order*" shall mean an Immaterial Change Order, a Material Change Order and a Port Authority Requested Change Order.

(ii) "*Change Order*" shall mean any amendment, supplement or other change to any of the Contract Documents.

(iii) "*Immaterial Change*" shall mean a Proposed Change that is not a Material Change.

(iv) "*Immaterial Change Order*" shall mean a Change Order that is not a Material Change Order that was submitted to the Port Authority prior to execution thereof by the Lessee.

(v) "*Lessee Change Order*" shall mean any Change Order that is not a Port Authority Requested Change Order.

(vi) "*Lessee Proposed Change*" shall mean a Proposed Change that is not a Port Authority Requested Change.

(vii) "*Material Change*" shall mean a Proposed Change that:

(aa) increases or reduces the scope of, or the design intent of, the Redevelopment Work as described in the Terminal 5 Redevelopment Basis of Design, the Parking Garage Basis of Design, the Design Development Documents or the Redevelopment Work Construction Applications;

(bb) changes one or more Port Authority approved Contract Documents which (x) results in the issuance of a new or revised drawing by the Architect or Engineer of Record and (y) the Resident Engineer of the Port Authority

determines that such Proposed Change requires submission to the Port Authority for approval;

(cc) adversely affects the Redevelopment Work so that it will not deliver the same level of service, quality, functionality, useful life, efficiency or cost and ease of maintenance as the Redevelopment Work specified in the Terminal 5 Redevelopment Basis of Design, the Parking Garage Basis of Design, the Design Development Documents or the Redevelopment Work Construction Applications; or

(dd) impacts any construction other than the Redevelopment Work, or any activity other than the activities permitted under this Lease, or any portion of the Airport outside of the Redevelopment Work Site; or

(ee) impacts the Redevelopment Work Project Schedule.

(viii) "*Material Change Order*" means a Material Change that has been approved by the Port Authority.

(ix) "*Port Authority Requested Change*" shall mean a Proposed Change requested by the Port Authority for purposes that include but are not limited to operation and maintenance considerations, good practice, operational requirements, and any further conditions which may be imposed by the General Manager of the Airport, provided, however, any change (x) that is in response to unforeseen conditions discovered in the area of work during construction that requires adjustment or modification of the installation or construction to accommodate the design intent or (y) that shall be required in order for the Redevelopment Work to be performed and completed in compliance with all of the terms and conditions of this Lease, including without limitation, those set forth in paragraph (f) of this Section, shall not be a Port Authority Requested Change notwithstanding such amendment, supplement or change is requested by the Port Authority.

(vi) "*Port Authority Requested Change Order*" shall mean each Port Authority Requested Change that has been approved by the Port Authority.

(vii) "*Proposed Change*" shall mean a proposed amendment, supplement or other change to any of the Contract Documents.

(2) Lessee Proposed Changes:

Upon request by the Port Authority, the Lessee shall provide to the Port Authority the written documentation described in paragraph (e)(3)(iv) of this Section. In the event of any dispute as to whether a Lessee Proposed Change is a Material Change, such dispute shall be referred to and determined by the Chief Engineer of the Port Authority. The Port Authority shall advise the Lessee in writing if a Lessee Proposed Change is a Material Change.

(3) Material Changes:

All Material Changes shall be subject to the prior written approval of the Port Authority and the Lessee shall not authorize or permit any Redevelopment Work Contractor to perform any work in connection with any Material Change unless such prior approval of the Port Authority is obtained. If the Lessee desires to make a Material Change, it shall request the approval of the Port Authority and shall provide the Port Authority with a written statement setting forth in detail the scope, impact on the level of service, quality, functionality, useful life, efficiency and cost and ease of maintenance of the Redevelopment Work and the Lessee's good faith cost estimate for each Material Change for labor, materials and equipment and such other Cost Categories as may be applicable (including without limitation, design and construction and the costs of any changes in related work) and savings, if any, in the Cost of the Redevelopment Work which would result from such Material Change and the impact of the Material Change (either positive or negative), cumulatively with all prior Change Orders on (A) the Cost of the Redevelopment Work (B) each Element of Cost and (C) on the scheduled completion date for each Element of Work. Upon the approval by the Port Authority of a Material Change, the Lessee may enter into the Material Change and proceed with the work covered by such Material Change.

(4) Port Authority Requested Changes:

(i) The Lessee shall provide the Port Authority with a written statement within ten (10) Business Days after the Lessee's receipt of a Port Authority Requested Change setting forth in detail the Lessee's good faith cost estimate for such Port Authority Requested Change for labor, materials and equipment and such other Cost Categories as may be applicable (including without limitation design and construction and the costs of any changes in related work) and savings, if any, in the Cost of the Redevelopment Work which would result from such Port Authority Requested Change and the impact of the Port Authority Requested Change (either positive or negative), cumulatively with all prior Authorized Change Orders on (A) the Cost of the Redevelopment Work (B) each Element of Cost and (C) on the scheduled completion date for each Element of Work.

(ii) The Lessee shall design and make such changes or modifications in the Redevelopment Work in accordance with each Port Authority Requested Change Order, which changes and modifications will become a part of the applicable Redevelopment Work Construction Application and the Redevelopment Work.

(iii) The Lessee shall not authorize or permit any Redevelopment Work Contractor to perform any work in connection with any Port Authority Requested Change unless the Port Authority has approved such Port Authority Requested Change.

(iv) The Lessee will use commercially reasonable efforts to provide the Port Authority with an estimate for each Port Authority Requested Change in the lowest lump sum amount. In the event that such lump sum amount is not satisfactory to the Port Authority, the Port Authority will have the option to have the Lessee proceed with the Port Authority Requested Change on a time and materials basis not to exceed without prior approval of an agreed upon maximum cost.

(v) The Port Authority shall pay the Lessee for the cost of all Port Authority Requested Change Orders in accordance with Section 87 of this Agreement, provided, however, if the work, materials or equipment covered by a Port Authority Requested Change is part of the Element Budget for the Cost of the Lessee's Redevelopment Work Elements, then only the incremental cost of such Port Authority Requested Change Order shall be included in any Cost of the Port Authority Requested Change Order and in the Cost of the Port Authority Redevelopment Work Elements and the remainder of the amounts paid or payable under such Port Authority Requested Change Order shall be included in the Cost of the Lessee's Redevelopment Work Elements.

(5) The Cost of the Redevelopment Work shall not include any costs related to a Change Order for a Material Change that is not a Material Change Order.

(e) Project Management:

(1) Prior to or promptly after the execution of this Agreement, the Lessee shall submit a project management plan to the Port Authority for its approval. Such plan shall describe in detail the organizational structure of the Lessee's project team, including roles and responsibilities of all members, the proposed plan for the procurement of design and construction services, the proposed procedures and software to be used to provide cost control and management of schedules and budgets, the administrative procedures for record keeping and document control. The Lessee shall comply with such project management plan as the same shall have been approved by the Port Authority.

(2) The Lessee shall be responsible for developing all Redevelopment Work Contracts and Documents and for the coordination among all design and construction Redevelopment Work Contracts and Documents. The Redevelopment Work Contracts and Documents shall provide separate construction cost estimates for each Element of Work as more fully described in paragraph (g) hereof and shall provide construction schedules that coordinate all the Elements of Work.

(3) Project Cost Plan, Budget and Reporting:

(i) The detailed Stage 2 construction trade cost estimates for each Element of Work as shown in the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 2.11" (herein referred to as "*Exhibit 2.11*") have been translated into cost budgets for each Element of Work in accordance with the schedule of various cost categories comprising "construction costs" and "soft costs" as set forth in the exhibit attached hereto, make a part hereof and hereby marked "Exhibit 2.12" (herein referred to as "*Exhibit 2.12*") (each a "*Cost Category*"). The term "*Element Budget*" shall mean with respect to each Element of Work the sum of all of the Cost Categories for such Element of Work as set forth in the exhibit attached hereto, make a part hereof and hereby marked "Exhibit 2.13" (herein referred to as "*Exhibit 2.13*") and "*Project Budget*" shall mean an amount equal to the sum of all Element Budgets.

(ii) The Lessee shall provide monthly reports and updates of each Cost Category in the Element Budget for each Element of Work. The reports shall include the original budget for each Cost Category set forth in Exhibit 2.12, approved budget transfers, current budget, actual costs incurred to date, Port Authority Payments made with respect to the cost category, variances from comparing actual costs to budgeted, and the estimated cost by Cost Category and total thereof at completion for each Element of Work. Actual costs and forecasts will include relevant details of contract costs and reflect the latest updated Redevelopment Work Project Schedule information so as to accurately reflect the project cash flows.

(iii) The exhibit attached hereto, hereby made a part hereof and marked "Exhibit 2.14" (herein referred to as the "*Anticipated Monthly Expenditure Schedule*") indicates anticipated expenditures by month for each Cost Category and for each Element of Work for the performance of all of the Redevelopment Work. The Lessee will provide updates to the Anticipated Monthly Expenditure Schedule for the duration of the Redevelopment Work.

(iv) The Lessee shall maintain, make available for Port Authority inspection and continuously update a tabulation of all pending Change Orders and Change Orders. The tabulation shall include the description, estimated cost, final cost schedule adjustments and additional costs resulting from such pending Change Orders and Change Orders. The Lessee shall maintain such documentation for Proposed Changes, pending Change Orders and Change Orders in sufficient detail for the Port Authority to determine if a Change Order covers a Material Change, including, but not limited to, drawings, sketches, costs estimates and specifications. The Lessee shall provide the Port Authority with copies of the foregoing and such additional information and documentation as the Port Authority may request from time to time.

(v) The Lessee shall notify the Port Authority in writing when the actual cost for an Element of Work reaches 80% of the Element Budget for such Element of Work together with an estimated cost at completion of such Element of Work by each Cost Category constituting a part of such Element Budget, taking into account without limitation executed Change Orders and pending Change Orders, if any, and other commitments and exposures related to such Element of Work.

(4) Project Schedules:

(i) The exhibit attached hereto, hereby made a part hereof and marked "Exhibit 2.15" (herein referred to as "*Exhibit 2.15*") sets forth a comprehensive baseline project master schedule for the Redevelopment Work including schedule information for each Element of Work and showing the interrelationships and interfaces between and among design activities, the work to be performed under each of the construction contracts, connection to airport utility services, key milestones and major tasks for each Element of Work including their associated durations and dates of placing into use and completion (which comprehensive schedule is herein called the "*Initial Redevelopment Work Project Schedule*").

(ii) The Lessee shall promptly revise the Redevelopment Work Project Schedule to incorporate all updates thereto reflecting individual construction contract schedule information and shall promptly provide the Port Authority with all such revisions

(which revised Initial Redevelopment Work Project Schedule as so revised from time to time as approved by the Port Authority is herein called the "*Redevelopment Work Project Schedule*").

(iii) Additionally, the Lessee shall administer, revise and provide updates on the progress of the Redevelopment Work in comparison to the Redevelopment Work Project Schedule on a monthly basis. The initial Redevelopment Work Project Schedule and all subsequent revisions and monthly updates shall conform to standard industry practices for projects of similar size including but not limited to critical path method format and a sufficient level of detail to support milestone dates, and provide construction work status. The schedule shall be provided in electronic primavera data base format and printed format as may be requested by the Port Authority.

(iv) The Redevelopment Work Project Schedule shall reflect that the existing Yellow Parking Lot including entry/exit plazas shall not be closed before the pre-construction meeting for the Parking Garage Work is held and that the Parking Garage Completion Date shall occur on or prior to the earlier to occur of DBO or the Terminal Work Completion Date.

(5) Project Reports:

The Lessee shall provide the Port Authority a monthly project management report in such form as shall be prescribed by the Port Authority including an executive summary and describing project activities, accomplishments, issues and concerns for the past month, and activities planned for the next three months. Each report shall contain cost and schedule information to reflect the progress and status of the Redevelopment Work. The report shall identify and address any anticipated or potential problems, the reason for any failure to meet targets, and proposals for correcting actual or anticipated problems. The reports shall be provided to the Port Authority by the 20th day occurring after the last day of the calendar month covered by such report.

(f) Plans and Specifications

(1) (i) Prior to the commencement of the Construction Work, the Lessee shall submit to the Port Authority for the Port Authority's approval as they are completed and with sufficient time to permit Port Authority staff to review the submission to ensure that the Redevelopment Work Project Schedule is complied with, complete plans and specifications for the Construction Work and all required supporting information including, but not limited to, drawings, reports, calculations and computer printouts of analysis therefor. Procedures for submissions and reviews are described in the Port Authority Aviation Department Tenant Alteration Procedures and Standards Guide.

(ii) In addition to the requirements set forth in subparagraph (1)(i) of this paragraph (f), as they are completed and with sufficient time to permit Port Authority staff to review the documents to ensure that the Redevelopment Work Project Schedule for the Passenger Terminal Work, Landside Civil Work, Airside Civil Work, MOA Curtain Wall Work, MOA Flight Wing II Work, Parking Garage Work, Terminal 5 Airtrain

Connector Work and Temporary Facilities Work will be adhered to, the Lessee shall submit to the Director of the Redevelopment of the Port Authority a sufficient number of copies of the preliminary design development documents (60% completed design) for each of the Elements of Work.

(iii) Further, in addition to the requirements set forth in subparagraphs (1)(i) and (1)(ii) of this paragraph (f) for any work that is performed on a design build basis, as they are completed and with sufficient time to permit Port Authority staff to review the documents to ensure that Redevelopment Work Project Schedule attached hereto will be adhered to, the Lessee shall submit to the Director of Redevelopment of the Port Authority Program fifteen (15) copies of the following drawings or documents:

(aa) preliminary concept development plans;

(bb) request for proposal and scope of work documents including without limitation concept drawings and design criteria;

(cc) initial preliminary design documents which shall be at a minimum 35% complete; and

(dd) preliminary design documents which shall be at a minimum 60 -75% complete.

(2) Without limiting the generality of the foregoing, the Construction Work as set forth in the Lessee's plans and specifications (all of which shall be in such detail as may reasonably permit the Port Authority to make a determination as to whether the requirements hereinafter referred to are met) shall not:

(i) Be unsafe, unsound, hazardous or improper for the use and occupancy for which it is designed, or

(ii) Not comply with the Port Authority's requirements for harmony of external architecture of similar existing or future improvements at the Airport, or

(iii) Not comply with the Port Authority's requirements with respect to external and interior building materials and finishes of similar existing or future improvements at the Airport, or

(iv) Not provide for sufficient clearances for taxiways, runways and apron areas, or be designed for use for purposes other than those authorized under this Agreement, or set forth ground elevations or heights other than those prescribed by the Port Authority, or

(v) Be designed for use for purposes other than those authorized under the Agreement, or

(vi) Set forth ground elevations or heights other than those prescribed by the Port Authority, or

(vii) Not provide adequate and proper roadways and pedestrian circulation areas, or

(viii) Not comply with the building height limitations in connection with sight line requirements between the existing control tower and the Public Aircraft Facilities at the Airport, or

(ix) Not be at locations or not be oriented in accordance with the Comprehensive Plan, or

(x) Not comply with the provisions of the Basic Lease, including without limiting the generality thereof, the provisions of Section 18 of the Basic Lease providing that the Port Authority will conform to the enactments, ordinances, resolutions and regulations of the City of New York and its various departments, boards and bureaus in regard to the construction and maintenance of buildings and structures and in regard to health and fire protection which would be applicable if the Port Authority were a private corporation to the extent that the Port Authority finds it practicable so to do, or

(xi) Permit aircraft to overhang the boundary of the Premises, except when entering or leaving the Premises, or

(xii) Be in violation or contravention of any other provisions and terms of the Lease, or

(xiii) Not comply with all applicable governmental laws, ordinances, enactments, resolutions, regulations, rules and orders, or

(xiv) Not comply with all applicable requirements of the National Board of Fire Underwriters and the Fire Insurance Rating Organization of New York, or

(xv) Not comply with the Port Authority's requirements with respect to landscaping, or

(xvi) Not comply with the Port Authority's requirements and standards with respect to noise, air pollution, water pollution or other types of pollution, or

(xvii) Not comply with the construction limitations set forth in any of the Exhibits, or

(xviii) Without limiting any other term or provision hereof, not comply with the Americans With Disabilities Act of 1990 and all federal rules, regulations and guidelines pertaining thereto, or

(xix) Not comply with the Port Authority's standard design details, or

(xx) Not comply with the Port Authority's plans and policies with respect to ground transportation, signing and traffic control and frontage control within the Central Terminal Area of the Airport, or

(xxi) Not be coordinated in design, functional planning, construction or scheduling or staging with other Port Authority or tenant construction in the Central Terminal Area at the Airport or with the Lessee's staging of the Construction Work hereunder or other ongoing Airport construction projects and operations, including without limitation the operation of the AirTrain, or

(xxii) Not provide appropriate or adequate access for KIAC to its cogeneration facility and the Central Heating and Refrigeration Facility for all types of vehicular, including oversized, deliveries, or

(xxiii) Not comply with the Terminal 5 Redevelopment Basis of Design, or

(xxiv) Not comply with or meet the requirements of the MOA, or

(xxv) Not comply with the project or construction scheduling set forth in the Redevelopment Work Project Schedule, or

(xxvi) Not comply with the Redevelopment of Terminal5/6 FONSI/ROD, or

(xxvii) Not comply with the Parking Garage Basis of Design.

(3) The Lessee and the Port Authority shall establish a design and redevelopment working group to review the development of the Redevelopment Work and all drawings, specifications, calculations and reports and like items prior to the submission of any drawings or plans to the Port Authority and review the progress and conduct of the Redevelopment Work. The working group shall meet on a regular basis in order that the Port Authority will generally be informed of all areas of the design of the Redevelopment Work and be aware of all construction approval dates. The meetings shall be informal to encourage a full discussion of all appropriate issues and will not supersede the review or approval process of the Comprehensive Plan, the Design Development Documents, Tenant Construction or Alteration Applications and the contract documents as described in this Section. The meetings shall continue until the Redevelopment Work is completed.

(g) Performance of the Construction Work

All the Construction Work shall be done in accordance with the following terms and conditions:

(1) (i) The Lessee hereby assumes the risk of loss or damage to all of the Construction Work prior to the completion thereof and the risk of loss or damage to all property of the Port Authority and others and the risk of personal injury and death to all Persons arising out of or in connection with the performance of the Construction Work including without limitation for all Environmental Requirements and Environmental Damages, except as expressly set forth in subparagraph (12) of this paragraph (g). In the event of such loss or damage, the Lessee shall forthwith repair, replace and make good the Construction Work and the property of the Port Authority as part of Project Costs. The Lessee shall itself and shall also require its contractors to indemnify and hold harmless the Port Authority, its Commissioners, officers, agents and employees (each of the foregoing being hereinafter singularly referred to as a "*Construction Work Indemnified Party*") from and against all claims and demands, just or unjust, of third persons (including employees, officers, and agents of the Port Authority) arising or alleged to arise out of the performance of the Construction Work and for all expenses incurred by it and by them in the defense, settlement or satisfaction thereof, including without limitation thereto, claims and demands for death, for personal injury or for property damage, direct or consequential, and whether they arise from the acts or omissions of the Lessee, of any contractors of the Lessee, of the Port Authority, or of third persons, or from acts of God or of the public enemy, or otherwise excepting only claims and demands which result solely from affirmative willful acts done by the Port Authority, all the foregoing to include without limitation all claims and demands arising out of or in connection with any Hazardous Substance and all claims of the City of New York against the Port Authority pursuant to the provisions of the Basic Lease whereby the Port Authority has agreed to indemnify the City against claims except claims and demands of the City arising solely with respect to the Condition Exceptions which the Lessee is not responsible for pursuant to paragraph (b)(2) of Section 56 hereof and claims and demands arising solely with respect to the terms and conditions of the Remedial Action Work Plan which the Lessee is not responsible for complying with pursuant this Lease, provided, however, that the Lessee shall not be required to indemnify the Port Authority where indemnity would be precluded pursuant to the provisions of Section 5-322.1 of the General Obligations Law of the State of New York (each and every claim or demand for which the Lessee has agreed to indemnify a Construction Work Indemnified Party pursuant to this paragraph (g)(1)(i) being hereinafter called a "*Construction Work Indemnified Claim*").

(ii) (aa) Except as set forth in subparagraph (g)(1)(ii)(bb) of this Section, the Lessee shall at its own cost and expense defend each and every suit based upon any Construction Work Indemnified Claim (even if such claim or demand is groundless, false or fraudulent) with counsel reasonably satisfactory to the Port Authority, and in defending such suit the Lessee shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority, or the provisions of any statutes respecting suits against the Port Authority, provided, however, the Port Authority shall have the right at its election to either (x) participate in such defense or settlement with its own

counsel and at its sole expense except as set forth in subparagraph (g)(1)(ii)(bb) of this Section, but the Lessee shall have the control of the defense, judgment and settlement or (y) upon notice to the Lessee relieve the Lessee from the obligation to defend any Construction Work Indemnified Claim and itself defend such Construction Work Indemnified Claim at its sole cost and expense except as set forth in subparagraph (g)(1)(ii)(bb) of this Section and the settlement, judgment and satisfaction thereof shall be paid by the Lessee if the Lessee has consented to such settlement, judgment or satisfaction, which consent of the Lessee will not be unreasonably withheld.

(bb) In the event that the defense of a Construction Work Indemnified Claim which is to be provided by the Lessee (including without limitation any defense provided by the Lessee's insurer, contractor or subcontractor) has not been commenced within a reasonable time period after receipt by the Lessee of notice of such Construction Work Indemnified Claim, or if the Lessee, one of its contractors or subcontractors or its insurer shall not use a counsel that is reasonably satisfactory to the Port Authority in defending a Construction Work Indemnified Claim, then upon notice to the Lessee the Port Authority may defend such Construction Work Indemnified Claim at the sole cost and expense of the Lessee.

(cc) The Port Authority and the Lessee will reasonably cooperate with each other in the defense of any Construction Work Indemnified Claim.

(dd) In the event that the Lessee (including any of its insurance carriers, contractors or subcontractors involved in the defense of a Construction Work Indemnified Claim) has a conflict of interest with the Port Authority or other Construction Work Indemnified Party or a defense by the Lessee (including without limitation a defense by the Lessee's insurer, contractor or subcontractor) adversely affects the interests of the Port Authority or other Construction Work Indemnified Party, then Lessee shall provide or cause to be provided separate counsel approved by the Port Authority to defend such Construction Work Indemnified Claim.

(2) (i) All the Redevelopment Work shall be done in accordance with plans and specifications to be submitted to and approved by the Port Authority prior to the commencement of the Redevelopment Work and until such approval has been obtained the Lessee shall redo and resubmit such plans and specifications until approval thereof by the Port Authority. Upon approval of such plans and specifications by the Port Authority (such approved plans and specifications as modified by an Authorized Change Order being herein sometimes called the "*Contract Documents*"), the Lessee shall proceed diligently at its sole cost and expense (except as provided in paragraph (g)(12) of this Section and in Section 87 hereof) to perform the Redevelopment Work. All the Redevelopment Work, including workmanship and materials, shall be of first class quality. The Lessee shall redo, replace or construct at its own cost and expense and without any reimbursement or payment by the Port Authority pursuant to Section 87 hereof entitled "Port Authority Payments for the Cost of the Redevelopment Work", any Redevelopment Work not done in accordance with the approved plans and specifications, the terms, provisions and conditions of this Lease or any further requirements of the Port Authority.

(ii) All the Temporary Facilities Work shall be done in accordance with plans and specifications to be submitted to and approved by the Port Authority prior to the commencement of the Temporary Facilities Work and until such approval has been obtained the Lessee shall redo and resubmit such plans and specifications until approval thereof by the Port Authority. Upon approval of such plans and specifications by the Port Authority, the Lessee shall proceed diligently at its sole cost and expense to perform the Temporary Facilities Work. All the Temporary Facilities Work, including workmanship and materials, shall be of first class quality. The Lessee shall redo, replace or construct at its own cost and expense, any Temporary Facilities Work not done in accordance with the approved plans and specifications, the terms, provisions and conditions of this Lease or any further requirements of the Port Authority.

(3) (i) In addition to the requirements set forth in subparagraphs (4) and (5) of this paragraph (g), the Lessee shall provide a list of contracts and describe the scope of work for each contract it intends to award for the performance of the Construction Work. Prior to entering into a contract for any part of the Construction Work, the Lessee shall submit to the Port Authority the names of the bidders for each contract and the name of the contractor to whom the Lessee proposes to award said contract. The Port Authority shall have the right to disapprove any contractor that may be unacceptable to it. The Lessee shall include in all such contracts such provisions and conditions as may be reasonably required by the Port Authority. In addition, all contracts for the transportation and disposal of Shared Soil shall be performed, billed and paid for on a per ton basis and shall further include provisions covering the performance of transportation and disposal of soil that is not Shared Soil pursuant to Port Authority Requested Change Order at the same per ton costs as those for Shared Soil.

(ii) Without limiting the generality of the foregoing all of the construction contracts for the Construction Work shall provide as follows: "If (i) the Contractor fails to perform any of his obligations under the Contract, including his obligation to the Lessee to pay any claims lawfully made against him by any materialman, subcontractor or workman or other third person which arises out of or in connection with the performance of the Contract or (ii) any claim (just or unjust) which arises out of or in connection with the Contract is made against the Lessee or (iii) any subcontractor under the Contract fails to pay any claims lawfully made against him by any materialman, subcontractor, workman or other third persons which arise out of or in connection with the Contract or if in the Lessee's opinion any of the aforesaid contingencies is likely to arise, then the Lessee shall have the right, in its discretion, to withhold out of any payment (final or otherwise and even though such payments have already been certified as due) such sums as the Lessee may deem ample to protect it against delay or loss or to assume the payment of just claims of third persons, and to apply such sums in such manner as the Lessee may deem proper to secure such protection or satisfy such claims. All sums so applied shall be deducted from the Contractor's compensation. Omission by the Lessee to withhold out of any payment, final or otherwise, a sum for any of the above contingencies, even though such contingency has occurred at the time of such payment, shall not be deemed to indicate that the Lessee does not intend to exercise its right with respect to such contingency. Neither the above provisions for rights of the Lessee to withhold and apply monies nor any exercise, or attempted exercise of, or omission to exercise such rights by the Lessee shall create any obligation of any kind to such materialmen,

subcontractors, workmen or other third persons. Until actual payment is made to the Contractor, his right to any amount to be paid under the Contract (even though such amount has already been certified as due) shall be subordinate to the rights of the Lessee under this provision."

(4) (i) Prior to engaging or retaining any Architect or Engineer of Record for the Construction Work, the Lessee shall submit the name of each such architect or engineer to the Port Authority for its approval. The Port Authority shall have the right to disapprove any architect or engineer who may be unacceptable to it. Additionally, prior to entering into any agreement with any Architect or Engineer of Record, the Lessee shall submit such agreement to the Port Authority for approval and the Port Authority shall have the right to disapprove any such agreement within fifteen (15) Business Days after the Lessee's submittal of such agreement to the Port Authority. No such agreement shall be modified, supplemented or amended until the Lessee shall have submitted such modification, supplement or amendment to the Port Authority for approval and the Port Authority shall have the right to disapprove any such modification, supplement or amendment within ten (10) Business Days after the Lessee's submittal thereof to the Port Authority.

(ii) Prior to engaging or retaining a program manager to monitor and supervise the Construction Work, the Lessee shall submit the name of each such program manager to the Port Authority for its approval. Additionally, prior to entering into any agreement with any program manager, the Lessee shall submit such agreement to the Port Authority for approval and the Port Authority shall have the right to disapprove any such agreement within fifteen (15) Business Days after the Lessee's submittal of such agreement to the Port Authority. No such agreement shall be modified, supplemented or amended until the Lessee shall have submitted such modification, supplement or amendment to the Port Authority for approval and the Port Authority shall have the right to disapprove any such modification, supplement or amendment within 10 Business Days after the Lessee's submittal thereof to the Port Authority.

(5) (i) The Lessee shall retain a construction manager to act as the general contractor for the Construction Work. Prior to entering into a contract with a construction manager for the Construction Work, the Lessee shall submit to the Port Authority for its approval the name of each construction manager. The Port Authority shall have the right to disapprove any construction manager that may be unacceptable to it (each such construction manager that is approved by the Port Authority being herein called a "*General Contractor*"). Additionally, prior to entering into any agreement with any General Contractor, the Lessee shall submit such agreement to the Port Authority for approval and the Port Authority shall have the right to disapprove any such agreement within fifteen (15) Business Days after the Lessee's submittal of such agreement to the Port Authority. No such agreement shall be modified, supplemented or amended until the Lessee shall have submitted such modification, supplement or amendment to the Port Authority for approval and the Port Authority shall have the right to disapprove any such modification, supplement or amendment within ten (10) Business Days after the Lessee's submittal thereof to the Port Authority.

(ii) At such times as the Lessee and the General Contractor determine the identity of the proposed subcontractors and potential bidders for the Construction Work, the Lessee shall submit to the Port Authority the names of the proposed subcontractors and potential bidders and the portion of the Construction Work which the Lessee anticipates will

be performed by such contractors, subcontractors and bidders. The Port Authority may, within ten (10) business days of the submission of a list of the names of such proposed subcontractors and bidders, comment thereon. The Lessee shall not employ or approve any subcontractor or bidder to which the Port Authority has a reasonable objection.

(iii) Each construction bid document, contract and other construction document for the Redevelopment Work must comply with all of the terms and conditions of this Section and of Section 87 hereof entitled "Port Authority Payments for the Cost of the Redevelopment Work" and in addition to the requirements set forth in this Section 2 and in Section 87 hereof, the Lessee shall include in said construction documents, bid documents and contracts such other terms, provisions and conditions as may be reasonably required by the Port Authority prior to the execution thereof.

(iv) In addition to and without limiting any other right or remedy of the Port Authority under this Lease or otherwise, the Port Authority shall have the right to audit the books of any contractor (at any tier) with respect to any contract covering the Construction Work, or any portion thereof and each contract for the Construction Work shall so provide. In the event that a Port Authority audit shall disclose that amounts paid by the Port Authority exceed amounts incurred by the Lessee or the payments actually paid by the Lessee for work actually performed and labor actually furnished and material and equipment actually furnished and installed in connection with the performance of the Redevelopment Work, the Lessee shall immediately pay to the Port Authority an amount equal to the excess amount paid by the Port Authority.

(v) (aa) The Lessee shall provide on an ongoing basis, a cost breakdown of all the Redevelopment Work separately detailing each of the Elements of Work or any portion thereof, which separate detailed cost breakdown shall be provided to the Port Authority. It is expressly understood and agreed that in the event any proposed contract covers the construction of more than one Element of Work, or any portion thereof, then the cost breakdown shall contain an allocation of costs between each Element of Work, or shall set forth a method for properly determining the allocation of such costs, provided, however, that if such cost breakdown does not properly allocate said costs or set forth a method for the allocation of said costs the Port Authority shall determine the costs thereof that are applicable to each individual Element of Work, or any portion thereof.

(bb) No bid document and no contract for the Temporary Facilities Work shall cover the performance of any of the Redevelopment Work and no cost incurred for work performed under a contract covering the Temporary Facilities Work shall be included in the Cost of the Redevelopment Work.

(vi) It is further understood and agreed that the Port Authority shall have as full a right to require the use of competitive bidding and award, or other basis of

award, for the construction of the Redevelopment Work, or any portion thereof as if such construction were to be performed by the Port Authority.

(vii) The Lessee shall file with the Port Authority two copies of each of the contracts for the Redevelopment Work on the earlier of within ten (10) days after the execution of such contract and prior to the start of the portion of the Construction Work covered by such contract. Further, the Lessee shall submit one copy of all approved shop drawings within 10 days after approval thereof by the Architect or Engineer of Record for such drawings.

(6) (i) The Lessee shall or shall require its construction manager, architect or engineer to furnish a full time resident engineer on site at all times work is ongoing during the construction period and the Lessee shall furnish a full time owner's representative authorized to act on behalf of the Lessee for the Construction Work and shall be available on site at all times work is ongoing during the construction period.

(ii) The Lessee shall require certification by a licensed engineer of all controlled inspections and testing including, but not limited to, pile driving data and all controlled concrete work and such other certifications as may be requested by the Port Authority from time to time. The Lessee shall submit all certifications and logs to the Port Authority's Resident Engineer. Prior to the commencement of laboratory services the Lessee shall submit to the Port Authority the names of all laboratories to be used for testing and inspections. The Port Authority shall have the right to disapprove any laboratory that may be unacceptable to it.

(7) The Lessee shall expend not less than Five Hundred Seventy Million Dollars and No Cents ($570,000,000.00) with respect to the Redevelopment Work and shall complete the Redevelopment Work by no later than day the preceding the fifth (5th) anniversary of the Lease Commencement Date.

(8) The Lessee agrees to be solely responsible for any plans and specifications used by it and for any loss or damages resulting from the use thereof, notwithstanding the same have been approved by the Port Authority and notwithstanding the incorporation therein of Port Authority recommendations or requirements. Notwithstanding the requirement for approval by the Port Authority of the contracts to be entered into by the Lessee or the incorporation therein of Port Authority requirements or recommendations, and notwithstanding any rights the Port Authority may have reserved to itself hereunder, the Port Authority shall have no liabilities or obligations of any kind to any contractors engaged by the Lessee or for any other matter in connection therewith and the Lessee hereby releases and discharges the Port Authority, its Commissioners, officers, representatives and employees of and from any and all liability, claims for damages or losses of any kind, whether legal or equitable, or from any action or cause of action arising or alleged to arise out of the performance of any of the Construction Work pursuant to the contracts between the Lessee and its contractors. Any warranties contained in any construction contract entered into by the Lessee for the performance of the Construction Work hereunder shall be for the benefit of the Port Authority as well as the Lessee, and the contract shall so provide.

(9) The Port Authority shall have the right, through its duly designated representatives, to inspect the Construction Work and the plans and specifications thereof, at any and all reasonable times during the progress thereof and from time to time, in its discretion, to take samples and perform testing in any part of the Construction Work.

(10) The Lessee agrees that it shall deliver to the Port Authority three (3) sets of "as built" drawings of the Construction Work in an electronic CADD data file on a CD Rom in a format to be designated by the Port Authority, all of which shall conform to the specifications of the Port Authority (the receipt of a copy of said specifications prior to the Effective Date being hereby acknowledged by the Lessee), and all engineering reports, engineering analysis, boring logs, survey information and engineering design calculations and operation and maintenance manuals in a comprehensive, coordinated package. The Lessee shall, during the term of this Lease, keep said digital electronic files of drawings and said electronic CADD data files current showing thereon any changes or modifications which may be made and provide copies thereof to the Port Authority as the Port Authority may request from time to time. (No changes or modifications shall be made without prior Port Authority consent).

(11) The Lessee shall, if requested by the Port Authority, take all reasonable measures to prevent erosion of the soil and the blowing of sand during the performance of the Construction Work, including but not limited to the fencing of the Redevelopment Work Sites or portions thereof or other areas and the covering of open areas with asphaltic emulsion or similar materials as the Port Authority may direct.

(12) (i) The following terms, when used in this Agreement, shall, unless the context shall require otherwise, have the respective meanings given below:

(aa) "*Eligible Below Ground Asbestos*" shall mean only that asbestos which meets all of the following criteria: It is (i) intact, (ii) below-ground but not part of a below-ground structure and (iii) contained within or around a utility line that has to be relocated or removed as part of the Redevelopment Work, provided, however, no such asbestos shall be Eligible Below Ground Asbestos unless the Lessee shall have notified the Resident Engineer of the possible presence of such eligible below ground asbestos and the Port Authority shall have inspected, measured and documented the eligibility and quantity of the suspected eligible below ground asbestos within two Business Days.

(bb) "*Eligible Below Ground Asbestos Disposal Cost*" shall mean the amounts, and such amounts only, actually paid or payable by the Lessee to independent third party contractors for the cutting, wrapping, transporting and disposal off-Airport of Eligible Below Ground Asbestos by a licensed asbestos contractor in accordance with this Lease, including without limitation, all Environmental Requirements, but only to the extent such amounts are included in Redevelopment Work Certificates as defined in Section 87 hereof, and as such amounts may be adjusted pursuant to the provisions of paragraphs (f) and (g) of Section 87 hereof.

(cc) "*Free Product*" shall mean the presence in ground water of free phase petroleum hydrocarbons having a thickness of 0.01 feet or greater.

(dd) "*Incremental Dewatering Cost*" shall mean the sum of the following amounts, and such amounts only, actually paid or payable by the Lessee (but only to the extent such amounts are included in Redevelopment Work Certificates and as such amounts may be adjusted pursuant to the provisions of paragraphs (f) and (g) of Section 87 hereof) (it being understood and agreed that the cost of the transportation and disposal of sediments from a Supplemental Treatment System if disposed of as soil shall be Shared Soil and shall be included in the Incremental Soil Disposal Costs and not in the Incremental Dewatering Cost):

(A) amounts actually paid or payable by the Lessee to independent third party contractors on a per gallon basis for the transportation and disposal in accordance with this Lease, including without limitation, all Environmental Requirements, of liquid sediments generated from the Lessee's Dewatering System in excess of six cents (Ex. 2.a.) (Ex. 2.a.) provided, however, in no event shall any amounts which are not paid or payable on a per gallon basis be includable as part of the Incremental Dewatering Cost, and, provided, further, however, notwithstanding the foregoing "Incremental Dewatering Cost" shall not include any amounts paid or payable to the Lessee for the transportation and disposal of any liquid sediments which contain any Lessee Hazardous Substances, and

(B) amounts actually paid or payable by the Lessee to independent third party contractors for work actually performed, labor actually furnished and materials and equipment actually furnished for the purchase, installation and operation of the Supplemental Treatment, if any, provided, however, notwithstanding the foregoing "Incremental Dewatering Cost" shall not include any amounts paid or payable to the Lessee for the purchase, installation and operation of any Supplemental Treatment of volatile organics which are a Lessee Hazardous Substance.

(ee) "*Incremental Per Ton Cost of the Shared Soil Disposal Work*" shall mean for each ton of Shared Soil transported and disposed of to a location off of the Airport in accordance with the terms and conditions of this Lease, the amount that the Per Ton Cost of the Shared Soil Disposal Work for such ton of Shared Soil exceeds the amount of (Ex. 2.a.) (Ex. 2.a.) per ton but does not exceed the amount of per ton.

(ff) "*Incremental Soil Disposal Costs*" shall mean an amount equal to the sum of the Incremental Per Ton Cost of the Shared Soil Disposal Work for all tons of Shared Soil transported and disposed of off of the Airport.

(gg) "*Lessee's Dewatering System*" shall mean the treatment system which shall have been approved by the Port Authority and is required to

satisfy all the requirements and conditions of the JFK SPDES Permit, with the exception of volatile organics, as sampled from the final discharge from such treatment system, and at a minimum said system shall include settling tanks, provided, however, notwithstanding the foregoing, in the event that the presence of any volatile organics is due to a Lessee's Act or if the volatile organics are taken from or under the Premises and the presence of such volatile organics on or under the Premises occurred after the Effective Date and such Hazardous Substances were not added to or under the Premises by the sole acts and omissions of the Port Authority, then the "*Lessee's Dewatering System*" shall include the treatment system which shall have been approved by the Port Authority and is required to satisfy the requirements and conditions of the JFK SPDES Permit for such volatile organics.

(hh) "*Lessee's Eligible Below Ground Asbestos Disposal Costs*" shall mean an amount equal to 40% of the Eligible Below Ground Asbestos Disposal Cost.

(ii) "*Lessee's Incremental Dewatering Costs*" shall mean an amount equal to 40% of the Incremental Dewatering Cost.

(jj) "*Lessee's Shared Environmental Costs*" shall collectively mean the Lessee's Soil Disposal Costs, the Lessee's Incremental Dewatering Costs and the Lessee's Eligible Below Ground Asbestos Disposal Costs.

(kk) "*Lessee's Soil Disposal Costs*" shall mean all costs and expenses of the Lessee in performing the Redevelopment Work to dispose of and transport soil off the Airport which costs and expenses are not Port Authority Shared Soil Disposal Costs or Port Authority Non-Shared Soil Disposal Costs.

(ll) "*Per Ton Cost of the Shared Soil Disposal Work*" shall mean for each ton of Shared Soil that is transported and disposed of off of the Airport the amounts, and such amounts only, actually paid or payable by the Lessee to independent third party contractors on a per ton basis for the transportation and disposal of each such ton of Shared Soil but only to the extent such amounts are included in Redevelopment Work Certificates as defined in Section 87 hereof and as such amounts may be adjusted pursuant to the provisions of paragraphs (f) and (g) of Section 87 hereof.

(mm) "*Port Authority Backfill Costs*" shall mean the amounts, and such amounts only, actually paid or payable by the Lessee to independent third party contractors for the purchase, testing, transportation and depositing of soil in the excavations from which Port Authority Non-Shared Soil has been excavated but only to the extent such backfill soil is not available from the performance of the Redevelopment Work and further that such amounts are included in Redevelopment Work Certificates as defined in Section 87 hereof and to the extent that such purchase, testing, transportation and depositing of soil have been performed pursuant to a Port Authority Requested Change Order, as such amounts may be adjusted pursuant to the provisions of paragraphs (f) and (g) of Section 87 hereof.

(nn) "*Port Authority Eligible Below Ground Asbestos Disposal Costs*" shall mean an amount equal to 60% of the Eligible Below Ground Asbestos Disposal Cost.

(oo) "*Port Authority Incremental Dewatering Costs*" shall mean 60% of the Incremental Dewatering Cost and 100% of the Supplemental Treatment Disposal Cost.

(pp) "*Port Authority Non-Shared Soil*" shall mean soils that either (X) are classified as Hazardous Waste or (Y) meet all of the following criteria: (i) they either are not excavated as part of the Redevelopment Work or are excavated from the vicinity of a tank that is removed as part of the Fuel Tank Work, (ii) they are not used at the Redevelopment Work Site, (iii) they are excavated by the Lessee and transported and delivered by the Lessee to an off Airport location approved by the Port Authority pursuant to a Port Authority Requested Change Order, (iv) the transportation and disposal thereof is performed and billed on a per ton basis and at the best available price, and (v) the Lessee has provided to the Port Authority the documentation required in subparagraph (xii) of this paragraph (g)(12) for such soils, provided, however, "*Port Authority Non-Shared Soil*" shall not include any soil which contains any Lessee Hazardous Substance, and provided, further, however, soil shall not be Port Authority Non-Shared Soil unless the Lessee shall have notified the Resident Engineer of the possible presence of such Port Authority Non-Shared Soil and the Port Authority shall have inspected, measured and documented the eligibility and quantity of the suspected eligible Port Authority Non-Shared Soil, and provided, further, however, notwithstanding the foregoing, Port Authority Non-Shared Soil shall not include any soil that requires excavation pursuant to subparagraph 7 of Section 3.1.1 of the Remedial Action Work Plan or under the landside roadways.

(qq) "*Port Authority Non-Shared Soil Disposal Costs*" shall mean the amounts, and such amounts only, actually paid or payable by the Lessee to independent third party contractors for the excavation, testing, transportation and disposal of Port Authority Non-Shared Soil but only to the extent such amounts are included in Redevelopment Work Certificates as defined in Section 87 hereof and only to the extent that such excavation, testing, transportation and disposal Port Authority Non-Shared Soil have been performed pursuant to a Port Authority Requested Change Order, and further as such amounts may be adjusted pursuant to the provisions of paragraphs (f) and (g) of Section 87 hereof.

(rr) "*Port Authority Shared Soil Disposal Costs*" shall mean an amount equal to (Ex. 2.a.) ~~(Ex. 2.a.)~~

(ss) "*Port Authority Shared Soil*" shall mean

(tt) "*Shared Soil*" shall mean soil including, without limitation, the sediment from the Lessee's Dewatering System that is disposed of as soil, that meets all of the following criteria: (i) it is excavated or removed as part of the Redevelopment Work, (ii) it is not used or redeposited at the Redevelopment Work Site and (iii) it is transported to and disposed by the Lessee at an off Airport location in accordance with all of the terms and conditions of this Lease, including without limitation all Environmental Requirements, (iv) the transportation and disposal thereof is performed and billed on a per ton basis, (v) the Lessee has provided to the Port Authority the documentation required in subparagraph (xii) of this paragraph (g)(12) with respect to such soil, and (vi) it is Hazardous Waste, provided, however, "*Shared Soil*" shall not include the transportation and disposal of any soil or sediment which contains any Lessee Hazardous Substances.

(uu) "*Supplemental Treatment Disposal Cost*" shall mean the sum of the amounts, and such amounts only, actually paid or payable by the Lessee to independent third party contractors for the transportation and disposal in accordance with this Lease, including without limitation, all Environmental Requirements, of Supplemental Treatment Waste, but only to the extent such amounts are included in Redevelopment Work Certificates as defined in Section 87 hereof, and as such amounts may be adjusted pursuant to the provisions of paragraphs (f) and (g) of Section 87 hereof.

(vv) "*Supplemental Treatment Waste*" shall mean oil impregnated absorbent pads and supernatant liquids generated from an oil water separator and other wastes generated from the Supplemental Treatment, provided, however, that "Supplemental Treatment Waste" shall not include any oil impregnated absorbent pads, supernatant liquids and other wastes generated from the Supplemental Treatment which contain any amount of Lessee Hazardous Substances.

(ww) "*Supplemental Treatment*" shall mean an oil water separator and such additional equipment, additives or treatments that shall have been approved by the Port Authority to enhance the performance of the Lessee's Dewatering System, which enhancement is required solely to satisfy the JFK SPDES Permit requirements for volatile organics tested according to test procedures approved under 40 CFR Part 136 and which volatile organics do not contain any Lessee Hazardous Substance, it being understood that the Port Authority, in its sole discretion, reserves the right to limit the expenses associated with said Supplemental Treatment through the Lessee's implementation of such alternative treatment methods as the Port Authority may require.

(xx) "*Unknown Environmental Condition*" shall mean any soil or ground water found in, on or under the Premises, the Terminal 4 Parcel and the Terminal 6 Parcel during the period from the Lease Commencement Date to the date that the last sample is taken as part of the Initial Post Construction Work, both dates inclusive, that contains any Hazardous Substance.

(ii) Without limiting the generality of any other term or condition of this Lease, any soil, dirt, sand, asbestos, sediment or other material on the Premises or the Airport removed or excavated by the Lessee during the course of Construction Work (all such material being hereinafter collectively called the "*Removed Material*") and not used or redeposited at the Redevelopment Work Site in accordance with this Lease shall be delivered and deposited in accordance with the terms and conditions of this Lease, including without limitation this Section 2 and all applicable Environmental Requirements (including, if required, disposal of asbestos in a long-term disposal facility), to a location off the Airport which has been approved by the Port Authority and all in a manner satisfactory to the Port Authority. The Lessee shall submit to the Port Authority for its approval all manifests, bills of lading and all other documentation covering any Removed Material.

(iii) In the event the Lessee shall cause or discover an Unknown Environmental Condition during its performance of the Construction Work, the Lessee shall immediately notify the Resident Engineer. If the Unknown Environmental Condition is not part of the Existing Condition, the Lessee shall comply with paragraph (g)(34) hereof. In the event that the Unknown Environmental Condition is part of the Existing Condition, the Lessee shall survey and record the location of such Unknown Environmental Condition in such manner and to the extent as shall have been approved by the Port Authority. The Lessee shall not proceed with any Construction Work in the area of an Unknown Environmental Condition subsequent to the discovery thereof until such survey and recording has been performed as approved by the Port Authority and the results of such survey and recordation delivered to the Resident Engineer and further until either all such Unknown Subsurface Contamination has been removed to the satisfaction of the Port Authority or the Lessee shall have received notice from the Port Authority that the Construction Work can recommence. Thereafter the Construction Work shall be performed in accordance with any requirements of the DEC or such other Governmental Authority with respect to such Unknown Environmental Condition.

(iv) The Port Authority shall take title to the Port Authority Shared Soil, 100% of the Port Authority Non-Shared Soil and all Supplemental Treatment Waste and the entire proceeds, if any, of the sale or other disposition of the Port Authority Shared Soil, the Port Authority Non-Shared Soil and the Supplemental Treatment Waste shall belong to the Port Authority. The Lessee shall take title to all of the Removed Material that is not Port Authority Non-Shared Soil, Port Authority Shared Soil or Supplemental Treatment Waste and the entire proceeds, if any, of the sale or other disposition thereof shall belong to the Lessee. The Lessee shall submit to the Port Authority for its completion all manifests, bills of lading and all other documentation covering any Port Authority Shared Soil, Port Authority Non-Shared Soil and Supplemental Treatment Waste.

(v) The following shall be paid for by the Port Authority to the extent and as provided for in Section 87 hereof:

(aa) Port Authority Shared Soil Disposal Costs,

(bb) Port Authority Eligible Below Ground Asbestos Disposal Costs,

(cc) Port Authority Non-Shared Soil Disposal Costs,

(dd) Port Authority Backfill Costs,

(ee) Port Authority Incremental Dewatering Costs, and

(ff) Supplemental Treatment Disposal Cost.

(vi) The Lessee's Shared Environmental Costs and all other dewatering costs and expenses and costs and expenses for the excavation, testing, transportation and disposal of Removed Material not set forth in subparagraph (12)(v) of this paragraph (g) shall be paid for by the Lessee, shall be a portion of the Cost of the Lessee's Redevelopment Work Elements, included in the appropriate Element of Cost and included in the Port Authority's Share of the Cost of the Lessee's Redevelopment Work Elements to the extent and as provided for in Section 87 hereof.

(vii) Promptly upon final disposition of any Hazardous Substance in the performance of the Construction Work, the Lessee shall submit to the Port Authority a "Certification of Final Disposal" stating the type and amount of material disposed, the method of disposal and the owner and location of the disposal facility. The format of such certification shall follow the requirements, if any, of governmental agencies having jurisdiction as if the Port Authority were a private organization and the name of the Port Authority shall not appear on any certificate or other document as a generator or owner of such material except for Port Authority Shared Soil, Port Authority Non-Shared Soil and Supplemental Treatment Waste.

(viii) In the event any Hazardous Substance is discovered in the performance of the Construction Work, the Lessee in reporting such Hazardous Substance shall direct such report to the attention of such individual at the subject governmental authority as the General Manager of the Airport shall require in order to assure consistency in the environmental management of the Airport.

(ix) In the performance of the Construction Work, the Lessee shall not exacerbate the environmental condition of the Premises, the Airport or any natural resource, including without limitation, any ground water or aquifer, provided, however, the handling and re-depositing of soil in accordance with this Section 2, the Remedial Action Work Plan and the Soil Management Plan as approved by the Port Authority shall not be or be deemed to be an exacerbation of the environmental condition of the Premises or the Airport

(x) In the event of any inconsistency between the terms of the Remedial Action Work Plan and the Soil Management Plan, the terms of the Remedial Action Work Plan shall prevail and control and in the event of any inconsistency between the terms and conditions of this Lease and the Soil Management Plan, the terms and conditions of this Lease shall prevail and control.

(xi) The Lessee shall excavate, test and dispose of off of the Airport all soils which the Remedial Action Work Plan requires to be removed from the Premises in connection with or related to the performance of the Construction Work.

(xii) The Lessee shall submit to the Port Authority for its approval all manifests and bills of lading covering any Removed Material and in addition shall prepare and submit to the Port Authority for its approval all documentation that the Port Authority is required to submit to the DEC pursuant to the Remedial Action Work Plan with respect to any Removed Material and that the Lessee is required to submit to the disposal site or the DEC with respect to any Removed Material. Further, the Lessee shall provide weight tickets from a certified scale for each truckload of Shared Soil and Port Authority Non-Shared Soil and for each such ticket such further evidence and documentation as to the weight of each truck with no load and all manifests, bills of lading and such other documentation that shall evidence to the satisfaction of the Port Authority the per gallon cost of the Supplemental Treatment Disposal Cost.

(13) The Lessee shall pay or cause to be paid all claims lawfully made against it by its contractors, subcontractors, materialmen and workmen, and all claims lawfully made against it by other third persons arising out of or in connection with or because of the performance of the Construction Work, and shall cause its contractors and subcontractors to pay all such claims lawfully made against them, provided, however, that nothing herein contained shall be construed to limit the right of the Lessee to contest any claim of a contractor, subcontractor, materialman, workman and/or other Person and no such claim shall be considered to be an obligation of the Lessee within the meaning of this Section unless and until the same shall have been finally adjudicated. The Lessee shall diligently seek to resolve any such claims and shall keep the Port Authority fully informed of its actions with respect thereto. Nothing herein contained shall be deemed to constitute consent to the creation of any liens or claims against the Construction Work, the Premises, the Redevelopment Work Site or any other area of the Airport nor to create any rights in said third persons against the Port Authority.

(14) (i) The Lessee in its own name as insured and also including the Port Authority, the City Insureds and the Construction Work Indemnified Parties as additional insureds, including without limitation for both premises-operations and products-completed operations, shall procure and maintain Commercial General Liability Insurance, including but not limited to broad form property damage liability, completed operations for a minimum of three (3) years after the Completion Date, explosion, collapse and underground property damages, bodily injury (including death) and independent contractors, none of the foregoing to contain care, custody or control exclusions, in not less than the minimum limit set forth below, and with a contractual liability endorsement covering the obligations assumed by the Lessee pursuant to subparagraphs (1) and (8) of this paragraph (g) and the obligations required of the Lessee's contractors pursuant to subparagraph (1) of this paragraph (g), and Commercial Automobile Liability Insurance covering owned, non-owned and hired vehicles and automatically covering newly acquired vehicles in not less than the minimum limit set forth below, and Environmental Impairment Liability Insurance covering both gradual and sudden and accidental occurrences with a 1 year extended reporting period and including the Port Authority

and the City of New York as insureds, as owners, and which shall be site specific and include on-site and off-site clean-up and with a contractual liability endorsement covering the obligations assumed by the Lessee pursuant to Section 56 hereof entitled "Environmental Obligations and Section 61 hereof entitled "Storage Tanks", and providing for coverage in the minimum limit set forth below, and such other insurance as the Port Authority may require in connection with the performance of the Construction Work. The Lessee may provide such insurance by requiring each contractor engaged by it for the Construction Work to procure and maintain such insurance including such contractual liability endorsement, said insurance, whether procured by the Lessee or by a contractor engaged by it as aforesaid, not to contain any care, custody or control exclusions, and not to contain any exclusion for bodily injury to or sickness, disease or death of any employee of the Lessee or of any of its contractors which would conflict with or in any way impair coverage under the contractual liability endorsement. In addition, the said policy or policies of insurance shall also provide or contain an endorsement providing that the protections afforded the Lessee thereunder with respect to any claim or action against the Lessee by a third person shall pertain and apply with like effect with respect to any claim or action against the Lessee by the Port Authority, and shall also provide or contain an endorsement providing that the protections afforded the Port Authority thereunder with respect to any claim or action against the Port Authority by the Lessee shall be the same as the protections afforded the Lessee thereunder with respect to any claim or action against the Lessee by a third person as if the Port Authority were the named insured thereunder, but such provision or endorsement shall not limit, vary or affect the protections afforded the Port Authority thereunder as an additional insured. In addition, each of the said policy or policies of insurance shall be endorsed to state they are primary in relation to any insurance carried or maintained by the Port Authority, including without limitation, any self-insurance, regardless of type. All the foregoing insurance requirements shall be in addition to all policies of insurance otherwise required by the Lease.

	Minimum Limits
Commercial General Liability	
Combined single limit per occurrence for death, bodily injury and property damage liability:	$100,000,000.00
Commercial Automobile Liability (covering owned, non-owned and hired vehicles)	
Combined single limit per occurrence or death, bodily injury and property damage liability:	$25,000,000.00
Environmental Impairment Liability	
Combined single limit per claim for death, bodily injury and property damage liability for both gradual and	

sudden and accidental occurrences and both on-site and off-site cleanup: $10,000,000.00

(ii) Without limiting the provisions hereof, in the event the Lessee maintains the foregoing insurance in limits greater than aforesaid, the Port Authority shall be included therein as an additional insured to the full extent of all such insurance in accordance with all the terms and provisions hereof.

(iii) The Lessee shall also procure and maintain in effect, or cause to be procured and maintained in effect, Workers' Compensation Insurance and Employer's Liability Insurance in accordance with and as required by law and including coverage for asbestos exposure.

(iv) The insurance required hereunder in this subparagraph (14) shall be maintained in effect during the performance of the Construction Work and a certified copy of each of the policies or a certificate or certificates evidencing the existence thereof, or binders, shall be delivered to the Port Authority at least fifteen (15) days prior to the commencement of the Construction Work or any portion thereof. In the event any binder is delivered, it shall be replaced within thirty (30) days by a certified copy of the policy or a certificate. Each copy, certificate and binder delivered by the Lessee to the Port Authority pursuant to the foregoing shall bear the endorsement of or be accompanied by evidence of payment of the premium thereof and, also, contain a valid provision or endorsement that the policy may not be canceled or terminated without giving thirty (30) days' written advance notice thereof to the Port Authority and the City of New York and that the policy may not be changed or modified in any way that would affect the Port Authority or the City of New York without giving thirty (30) days' written advance notice thereof to the Port Authority and the City of New York. Each such copy and each such certificate with respect to the insurance required under this subparagraph (14) shall contain an additional endorsement providing that the insurance carrier shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provisions of any statutes respecting suits against the Port Authority. Any renewal policy or certificate shall be delivered to the Port Authority prior to the expiration of each expiring policy. The aforesaid policies of insurance shall be written by a company or companies approved by the Port Authority, the Port Authority agreeing not to withhold its approval unreasonably. If at any time any of the insurance policies shall be or become unsatisfactory to the Port Authority as to form, substance or limits or if any of the carriers issuing such policies shall be or become unsatisfactory to the Port Authority, the Lessee shall promptly obtain a new and satisfactory policy in replacement, the Port Authority agreeing not to act unreasonably hereunder. If the Port Authority at any time so requests, a certified copy of each of the policies shall be delivered to the Port Authority.

(15) (i) The Lessee shall procure and maintain Builder's Risk (All Risk) Completed Value Insurance with a deductible of not more than One Hundred Thousand Dollars and No Cents ($100,000.00) covering loss or damage (including any loss or damage resulting from flood or earthquake) to the Construction Work during the performance thereof

including material located both on and off the Redevelopment Work Site but not attached to the realty in an amount equal to the full replacement cost. Such insurance shall also provide for full replacement value of materials stored off-site and for materials in transit. Such insurance shall be in compliance with and subject to the applicable provisions of Section 11 of the Lease entitled "Insurance" and shall name the Port Authority, the City Insureds and the Lessee and its contractors and subcontractors as insureds as their interests may appear, the Port Authority shall be included as the loss payee, and such policy shall be endorsed to provide that losses shall be adjusted with and payable to the Port Authority. The Port Authority shall make such proceeds available to the Lessee for and applied strictly and solely to the payment of the cost of the repair, replacement, rebuilding or other performance of the Construction Work and any excess shall be retained by the Port Authority. The Lessee may provide such insurance by requiring the general contractor engaged by it for the Construction Work to procure and maintain such insurance. In the event the Construction Work or any part thereof shall be damaged by any casualty against which insurance is carried pursuant to this subparagaph (15)(i), the Lessee shall promptly furnish to the Port Authority such information and data as may be necessary to enable the Port Authority to adjust the loss. The policies or certificates representing insurance covered by this subparagraph (15) shall be delivered by the Lessee to the Port Authority at least fifteen (15) days prior to the commencement of construction of the Construction Work or any portion thereof, and each policy or certificate delivered shall bear the endorsement of or be accompanied by evidence of payment of the premium thereof and also contain a valid provision obligating the insurance company to furnish the Port Authority and the City of New York thirty (30) days' advance notice of the cancellation or termination of the insurance evidenced by said policy or certificate and thirty days' advance notice of any change or modification of the insurance evidenced by said policy or certificate that would in any way the affect the Port Authority or the City of New York. Renewal policies or certificates shall be delivered to the Port Authority at least ten (10) days before the expiration of the insurance which such policies are to renew.

(ii) The insurance covered by this subparagraph (15) shall be written by companies approved by the Port Authority, the Port Authority covenanting and agreeing not to withhold its approval unreasonably. If at any time any of the insurance policies shall be or become unsatisfactory to the Port Authority as to the form or substance or if any of the carriers issuing such policies shall be or become unsatisfactory to the Port Authority, the Lessee shall promptly obtain a new and satisfactory policy in replacement, the Port Authority covenanting and agreeing not to act unreasonably hereunder. If at any time the Port Authority so requests, a certified copy of each of the said policies shall be delivered to the Port Authority.

(16) The Lessee shall be under no obligation to reimburse the Port Authority for expenses incurred by the Port Authority in connection with its normal review and approval of the original plans and specifications submitted by the Lessee pursuant to this Section. The Lessee however agrees to pay to the Port Authority upon its demand the expenses incurred by the Port Authority in connection with any additional review for approval of any changes, modifications or revisions of the original plans and specifications which may be proposed by the Lessee for the Port Authority's approval. The expenses of the Port Authority for any such additional review and approval shall be computed on the basis of direct payroll time expended in connection therewith plus 100%. Wherever in this Lease reference is made to "direct payroll time", costs computed thereunder shall include a pro-rata share of the cost to the

Port Authority of providing employee benefits, including, but not limited to, pensions, hospitalization, medical and life insurance, vacations and holidays. Such computations shall be in accordance with the Port Authority's accounting principles as consistently applied.

(17) The Lessee shall prior to the commencement of construction of the Construction Work and at all times during such construction submit to the Port Authority all engineering studies and environmental test results with respect to the Construction Work and samples of construction materials as may be required at any time and from time to time by the Port Authority.

(18) The Lessee shall at the time of submitting its comprehensive plan to the Port Authority as provided in paragraph (b) hereof submit to the Port Authority its forecasts of the number of people who will be working at various times during the Construction Period at the Premises, the expected utility demands of the Premises, noise profiles and such other information as the Port Authority may require. The Lessee shall continue to submit its latest forecasts and such other information as may be required as aforesaid as the Port Authority shall from time to time and at any time request. The Lessee shall comply with Port Authority requirements for security of the construction site and badging of all workers on the Redevelopment Work Site.

(19) The Lessee shall execute and submit for the Port Authority's approval a Tenant Construction or Alteration Application or Applications in the form prescribed by the Port Authority covering the Construction Work or portions thereof prior to the performance of the Construction Work. The Lessee shall comply with all the terms and provisions of the approved Tenant Construction or Alteration Application. In the event of any inconsistency between the terms of any Tenant Construction or Alteration Application and the terms of this Lease, the terms of this Lease shall prevail and control. No approval nor anything contained in any approval granted by the Port Authority in connection with the Construction Work shall constitute a determination or indication by the Port Authority that the Lessee has complied with the applicable governmental laws, ordinances, enactments, resolutions, rules and orders, including but not limited those of the City of New York, which may pertain to the work to be performed.

(20) Nothing contained in this Lease shall grant or be deemed to grant any contractor, architect, engineer, supplier, subcontractor or any other Person engaged by the Lessee or any of its contractors in the performance of any part of the Construction Work any right of action or claim against the Port Authority, its Commissioners, officers, agents and employees with respect to any work any of them may do in connection with the Construction Work. Nothing contained herein shall create or be deemed to create any relationship between the Port Authority and any such contractor, architect, engineer, supplier, subcontractor or any other Person engaged by the Lessee or any of its contractors in the performance of any part of the Construction Work and the Port Authority shall not be responsible to any of the foregoing for any payments due or alleged to be due thereto for any work performed or materials purchased in connection with the Construction Work.

(21) (i) Without limiting any other terms, provisions and conditions of the Lease, the Lessee understands and agrees that it shall put into effect prior to the commencement of any of the Construction Work an affirmative action program and Minority Business Enterprise (MBE) program and Women-owned Business Enterprise (WBE) program in accordance with the provisions of Schedule E attached hereto and hereby made a part hereof (hereinafter "*Schedule E*"); as used in Schedule E the term "Construction Work" shall apply to the Construction Work as defined in this Section. The provisions of said Schedule E shall be applicable to the Lessee's contractor or contractors and subcontractors at any tier of construction as well as to the Lessee itself and the Lessee shall include the provisions of said Schedule E within all of its construction contracts so as to make said provisions and undertakings the direct obligation of the construction contractor or contractors and subcontractors at any tier of construction. The Lessee shall and shall require its said contractor, contractors and subcontractors to furnish to the Port Authority such data, including but not limited to compliance reports relating to the operation and implementation of the affirmative action, MBE and WBE programs called for hereunder as the Port Authority may request at any time and from time to time regarding the affirmative action, MBE and WBE programs of the Lessee and its contractor, contractors, and subcontractors at any tier of construction, and the Lessee shall and shall also require that its contractor, contractors and subcontractors at any tier of construction make and put into effect such modifications and additions thereto as may be directed by the Port Authority pursuant to the provisions hereof and said Schedule E to effectuate the goals of affirmative action and MBE and WBE programs.

(ii) In addition to and without limiting any terms and provisions of this Lease, the Lessee shall provide in its contracts and all subcontracts covering the Construction Work or any portion thereof, that:

(aa) The contractor shall not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, and shall undertake or continue existing programs of affirmative action to ensure that minority group persons are afforded equal employment opportunity without discrimination. Such programs shall include, but not be limited to, recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, rates of pay or other forms of compensation, and selections for training or retraining, including apprenticeships and on-the-job training;

(bb) At the request of either the Port Authority or the Lessee, the contractor shall request such employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding and which is involved in the performance of the contract with the Lessee to furnish a written statement that such employment agency, labor union or representative shall not discriminate because of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will cooperate in the implementation of the contractor's obligations hereunder;

(cc) The contractor will state, in all solicitations or advertisements for employees placed by or on behalf of the contractor in the performance

of the contract, that all qualified applicants will be afforded equal employment opportunity without discrimination because of race, creed, color, national origin, sex, age, disability or marital status;

(dd) The contractor will include the provisions of subparagraphs (21)(aa) through (21)(cc) of this paragraph (g) in every subcontract or purchase order in such a manner that such provisions will be binding upon each subcontractor or vendor as to its work in connection with the contract;

"Contractor" as used herein shall include each contractor and subcontractor at any tier of construction.

(iii) The Lessee in the performance of the Construction Work shall commit itself to and use good faith efforts to implement an extensive program to utilize Local Business Enterprises in accordance with and as set forth in the schedule attached hereto, hereby made a part hereof and marked "*Schedule F*".

(22) The Lessee shall not commence construction of the Construction Work unless and until it has met with the General Manager of the Airport, and has given him at least 72 hours advance notice of its intention to commence construction of the Construction Work. Scheduling of the Construction Work shall be coordinated with the General Manager of the Airport or his duly authorized representative.

(23) In connection with the performance of the Construction Work the Lessee shall be responsible for identifying the location of all utilities and shall prior to the commencement of any of the Construction Work coordinate the Construction Work with the New York City and Long Island One Call toll free information service (1-800-272-4480) and ascertain the location of underground utilities, if any, at the Redevelopment Work Sites and in the vicinity where any of the Construction Work is to be performed. The Lessee shall provide the Port Authority with the written evidence of such coordination.

(24) In the performance of the Construction Work the Lessee shall not employ any contractor nor shall the Lessee or any of its contractors employ any Persons or use or have any equipment or materials or allow any condition to exist if any such shall or, in the opinion of the Port Authority, may cause or be conducive to any labor troubles at the Airport which interfere, or in the opinion of the Port Authority are likely to interfere with the operations of others at the Airport or with the progress of other Construction Work thereat. The determinations of the Port Authority shall be conclusive to the Lessee. Upon notice from the Port Authority, the Lessee shall immediately remove such contractor or withdraw or cause its contractors to withdraw from the Airport, the Persons, equipment or materials specified in the notice and replace them with unobjectionable contractors, Persons, equipment and materials and the Lessee shall or shall cause its contractor to immediately rectify any condition specified in the notice. In the event of failure by the Lessee or any of its contractors to immediately comply with the requirements of this subparagraph (whether or not such failure is due to the Lessee's fault), the Port Authority shall have the right to suspend the Lessee's right to perform the Construction Work without prior notice; when the labor troubles shall be so settled that such interferences or

the danger thereof no longer exists, the Port Authority, by notice to the Lessee, shall reinstate said right on all the same terms and conditions as before the suspension. "Labor troubles" shall mean and include strikes, boycotts, picketing, work-stoppages, slowdowns, complaints, disputes, controversies or any other type of labor trouble, regardless of the employer of the Person involved or their employment status, if any.

(25) Dewatering and Discharge Permits:

(i) Attached hereto, hereby made a part hereof and identified as "Exhibit 2.16" is a copy of Long Island Well Permit No. 2-6308-00019/00005 effective for the period April 23, 2001 through December 31, 2006 issued by the DEC to the Port Authority covering the installation and operation of temporary dewatering systems associated with 11 specific contracts for the Central Terminal Area redevelopment program at the Airport (which permit is hereinafter called the "*Long Island Well Permit*"). The Lessee has requested that it be permitted to conduct dewatering performed by it in connection with the Construction Work (the "*Construction Work Dewatering*") to be performed by the Lessee hereunder. The Port Authority hereby grants its permission for the Lessee to perform the Construction Work Dewatering under and pursuant to the Long Island Well Permit on the following terms and conditions provided that, and only to the extent that, the DEC concurs and permits the Construction Work Dewatering to be performed by the Lessee under and pursuant to the Long Island Well Permit, provided, however, that the permission granted hereunder with respect to any extension of or replacement or succeeding permit to the Long Island Well Permit shall not be effective if the conduct of Construction Work Dewatering thereunder by the Lessee would be a violation of such permit.

(ii) (aa) The Lessee shall comply with all the terms and conditions of the Long Island Well Permit and with all additional requirements of the DEC in connection with the Construction Work Dewatering performed under and pursuant to the Long Island Well Permit and all other regulations in connection with any dewatering a performed by the Lessee or contractor(s) of the Lessee at the Airport.

(bb) In addition, it is recognized that the Lessee will be discharging wastewater under and pursuant to the New York State Pollution Discharge Elimination System Permit No. NY 0008109 (the "*JFK SPDES Permit*"). The Lessee shall comply with all the terms and conditions of the JFK SPDES Permit and with all additional requirements of the DEC in connection with any discharge of wastewater performed by the Lessee as part of the Construction Work and all other regulations in connection with any such discharge performed by the Lessee or contractor(s) of the Lessee at the Airport.

(iii) It is specifically understood and agreed that the permission of the Port Authority granted hereunder will allow the Lessee solely to dewater under the Long Island Well Permit for the Construction Work only if approved by the DEC, and additionally the performance of the Construction Work Dewatering and the discharge of wastewater shall be subject to the following additional conditions:

(aa) Construction Work Dewatering shall take place at a rate of no more than 1.5 million gallons in any 24 hour period. The cumulative pump capacity of all active pumps operating pursuant to the Construction Work Dewatering shall not exceed 1000 gallons per minute for the duration of the Long Island Well Permit.

(bb) Dewatering and discharges must be monitored and reported separately for individual contracts that comprise the Construction Work. Accordingly, separate monitoring systems shall be used to track dewatering and discharge activities performed under each contract for the Construction Work and at each Redevelopment Work Site. In addition, quantities allocated for one portion of the work or for one Redevelopment Work Site may be applied to any other portion of the Construction Work or any other Redevelopment Work Site provided that the cumulative rate does not exceed 1.5 million gallons in any 24 hour period.

(iv) The Lessee shall designate, by written notice to the Port Authority given not later than five (5) days after the Lessee's execution of this Lease, a duly authorized representative of the Lessee (the "*Lessee Environmental Representative*") who shall be responsible for the Lessee's compliance with the Long Island Well Permit and the JFK SPDES Permit. The Lessee shall install any and all pretreatment items requested by DEC, the General Manager of the Airport, any approved Tenant Construction or Alteration Application and/or indicated by water quality sampling results. All effluent must be processed through settling tanks to reduce Total Suspended Solids to achieve the JFK SPDES Permit limits.

(v) Upon written notice to the Lessee by the Port Authority which may be given at any time upon any indication of non-compliance or potential non-compliance by the Lessee with the Long Island Well Permit or the JFK SPDES Permit, the Lessee shall immediately retain, at its own expense, under contract a qualified environmental consultant, independent of the Lessee's construction contractor, which qualified environmental consultant shall be subject to the approval of the Port Authority and which qualified environmental consultant shall provide liaison with the Port Authority and shall have the obligation to submit any and all reports, and any other requested information, directly to the Port Authority and to oversee installation of the dewatering wells by a licensed driller, and to monitor contractor compliance with all dewatering operations. The aforesaid Lessee Environmental Representative and/or the qualified environmental consultant of the Lessee shall promptly notify the Port Authority's Resident Engineer of the progress of scheduled activities, including initiation of dewatering activities and shall provide weekly updates (by facsimile) on the activities at each Redevelopment Work Site, including the status of dewatering activities (e.g. volumes removed, condition of waters). Anything to the contrary in the foregoing notwithstanding, the said environmental consultant shall at all times be a contractor of the Lessee. The Port Authority shall not be responsible for any act or omission or fault or neglect of the said environmental consultant nor shall the Port Authority have any liabilities or obligations of any kind to said environmental consultant or any responsibility for any payments due or alleged to be due thereto.

(vi) In addition to and without limiting paragraph (g)(25)(viii) below or any other term or provision of this Lease, the Lessee shall be solely responsible for any

and all fines, penalties, assessments, or levies assessed due to deviation from or violation of the Long Island Well Permit and the requirements and conditions thereof or due to deviation from or violation of the JFK SPDES Permit or of the Lessee's authorization to discharge stormwater in the performance of the Construction Work during construction or of any other permit, plan, authorization or permission mentioned herein. All design planning shall be in conformance with the requirements and conditions of the Long Island Well Permit, of the JFK SPDES Permit and applicable Environmental Requirements and of any other permit, plan, authorization or permission mentioned herein. The Lessee is responsible for complete compliance with the said Environmental Requirements.

(vii) In the event that the projected zone of influence of planned dewatering system is found to extend into any area outside of any Redevelopment Work Site, the Lessee shall notify the Port Authority by submitting to the Port Authority's Resident Engineer the proposed dewatering design for review and approval. This proposed plan shall include the identification of potentially affected non-pile supported structures and pavements which may be impacted by drawdown effects during dewatering operations.

(viii) The Lessee agrees to assume all risks arising out of its performance of the Construction Work Dewatering and discharging of wastewater at any portion or area of the Redevelopment Work Site under the Long Island Well Permit, the JFK SPDES Permit or of any other permit, plan, authorization or permission mentioned herein and, without limiting the generality of any other term or provision contained in this Agreement, the Lessee shall indemnify, hold harmless and reimburse the Port Authority, its Commissioners, officers, employees and representatives from and against (and shall reimburse the Port Authority for the Port Authority's costs and expenses including, without limitation, legal costs and expenses incurred in connection with the defense of) all claims and demands, penalties, fines, liabilities (including, without limitation, strict liability), settlements, attorney and consultant fees, investigation and laboratory fees, cleanup and remediation costs, court costs and litigation expenses, damages, judgments, losses, costs and expenses, including, without limitation, claims for personal injury, including death, property damage and natural resources damage, of whatsoever kind or nature and whether known or unknown, contingent or otherwise, just or unjust, groundless or foreseeable or otherwise arising or alleged to arise out of, or any way related to the Lessee's performance of the Construction Work Dewatering or any discharging at any portion of the Redevelopment Work Site or the Airport or the use of the Long Island Well Permit or the JFK SPDES Permit by the Lessee or of any other permit, plan, authorization or permission mentioned herein. If so directed, the Lessee shall at its own expense defend any suit based upon the foregoing, and in handling such it shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provisions of any statutes respecting suits against the Port Authority.

(ix) The Lessee must provide all information to the Port Authority required to obtain DEC authorization for it to discharge under the Long Island Well Permit. Without limiting the generality of the foregoing sentence, the Lessee shall submit to the Port Authority's Resident Engineer all information required by the Long Island Well Permit

prior to the performance of any Construction Work Dewatering, including without limitation the information set forth in Special Condition No. 3 of the Long Island Well Permit, at least 60 days prior to commencement of construction under each individual contract covering Construction Work Dewatering and discharge.

(x) Monthly volume logs, water quality results, visual inspection logs and photographs required by the Special Conditions of the Long Island Well Permit covering each Redevelopment Work Site and each contract for Construction Work Dewatering are to be submitted by the Lessee to the Supervisor, Permits and Government Approvals of the Port Authority's Environmental Engineering Division by the 5th day of the month following the month in which the foregoing are recorded or obtained. The parameters to be analyzed and reported will be specified by the DEC pursuant to the Special Conditions of the Long Island Well Permit.

(xi) The permission granted pursuant to this subparagraph (25) for the Lessee to perform dewatering pursuant to the Long Island Well Permit and discharging pursuant to the JFK SPDES Permit, as aforesaid, and any other related matter may be revoked by the Port Authority upon twenty-four (24) hours' notice to the Lessee if the Lessee fails, within seven (7) days after receipt by the Lessee of notice of default from the Port Authority identifying the breach or breaches of this subparagraph (25), to cure any default of the terms and conditions of this subparagraph (25) so identified.

(xii) Not later than ten (10) days after completion by the Lessee of dewatering activities and receipt of any approvals by a Governmental Authority, the Lessee shall perform and complete a closure of all wells in conformance with DEC requirements. As part of the closure of these wells, the Lessee and its contractor (s) shall notify both the Port Authority and the DEC of this action.

(xiii) Prior to the expiration of the Long Island Well Permit, the Lessee shall, as part of General Construction Costs, obtain from the DEC and maintain in effect its own permit for dewatering performed in connection with the Construction Work (the "*Lessee's Dewatering Permit*"). The Lessee shall comply with all the terms and conditions of the Lessee's Dewatering Permit and with any and all additional requirements of the DEC and notwithstanding anything in the Lessee's Dewatering Permit to the contrary, the use of the Lessee's Dewatering Permit shall not violate or be the cause of the violation of any existing and future dewatering or SPDES permits at the Airport. In the event that the projected zone of influence of any planned dewatering system is found to extend into any area outside of the Premises or the Redevelopment Work Sites, the Lessee shall notify the Port Authority by submitting to the Residential Engineer the proposed dewatering design for review and approval.

(xiv) The Lessee shall keep full documentation of all ground water volumes treated, sampled and discharged, including without limitation all documentation which the Port Authority is required to report to the DEC pursuant to the Remedial Action Work Plan and shall provide all such documentation to the Port Authority.

(xv) The Lessee shall design and implement suitable appropriate engineering practices and controls for all dewatering activities in the performance of the Construction Work to prevent contamination of the lower aquifer.

(26) Without limiting the generality of any other term or condition hereof, the performance of the Construction Work shall be in accordance with the MOA and the Redevelopment of Terminal 5/6 FONSI/ROD, including without limitation FAA AC 150/5370-10A Standards for specifying construction of Airports" item P-156 and AC 150/5320-5B "Airport Drainage" and a storm water pollution prevention plan which includes best management practices.

(27) The performance of the Construction Work shall be in accordance with the Port Authority Tenant Construction Review Manual and the Port Authority Aviation Department Tenant Alteration Procedures and Standards Guide. In the event of any inconsistency between the terms of the Port Authority Tenant Construction Review Manual or the Port Authority Aviation Department Tenant Alteration Procedures and Standards Guide on one hand and the terms of this Lease on the other hand, the terms of this Lease shall prevail and control.

(28) The Port Authority shall have no obligation to provide any parking facilities or area to any workers performing any of the Construction Work and the Lessee shall not provide parking to any of the construction workers at the Redevelopment Work Sites or anywhere else at the Airport without the prior written approval of the General Manager of the Airport. Further, the Lessee shall as part of General Construction Costs provide bus or van transportation for such workers between the Redevelopment Work Sites and the area or areas on or off the Airport, if any, where the Lessee has provided parking to such workers.

(29) The transportation of materials and equipment on the Airport in connection with the performance of the Construction Work shall be conducted only at the times and on the routes as shall be designated therefor from time to time by the General Manager of the Airport. Further, access to the Public Aircraft Facilities shall only be at such guard post or posts as shall be designated from time to time by the General Manager of the Airport.

(30) In addition to all the other requirements set forth in this Lease for the performance of the Construction Work, the Tank Removal Work shall be performed in accordance with and subject to the following additional terms and conditions.

(i) The Lessee shall schedule and coordinate the Tank Removal Work with the Port Authority to insure that the Port Authority can monitor the performance thereof. The Lessee shall perform all soil and ground water sampling required by any Environmental Requirement, including without limitation the Remedial Action Work Plan, or the DEC in connection with the performance of the Tank Removal Work. No Tank Removal Work shall be commenced unless the Lessee shall have given the General Manager of the Airport at least 72 hours notice of the date that the Tank Removal Work shall begin and of the anticipated schedule for the performance of the Tank Removal Work. No Tank Removal Work shall be performed during any period that an environmental representative from the Port

Authority as designated by the General Manager of the Airport is not present at the Premises to oversee and monitor the performance of the work.

(ii) The parties recognize that the Tank Removal Work will require various submissions be made to the DEC including without limitation test results of soil and groundwater impacted by any underground tank and documentation and certifications relating to the tank and soil disposal. The Lessee shall provide the Port Authority, its representatives, contractors and designees access to the Premises to perform such sampling of the ground water and soil in the tank excavation area as the Port Authority shall in its sole discretion determine is required. The Lessee shall remove and dispose of all contaminated soil which the DEC requires be removed or remediated in connection with the closure of any tanks as shall be required by the Port Authority pursuant to a Port Authority Requested Change Order.

(iii) No tank and related soil excavation area shall be backfilled without the prior written approval of the Port Authority. If any area is backfilled, whether with or without the approval of the Port Authority, prior to the removal of all of the soil that has been contaminated as a result of a leak, spill or discharge from or in connection with a tank, no Redevelopment Work shall be constructed over or on such area or in the vicinity thereof until the Lessee shall have received notice from the Port Authority that no further soil removal is required.

(iv) The Lessee shall provide and prepare such documentation and certifications as shall be required by the approved Tenant Construction or Alteration Applications covering the Tank Removal Work, such as but not limited to, an underground storage tank closure assessment and closure report as stipulated under 40 CFR Part 280, Subpart G, Section 280, a certificate of disposal for each tank removed, a bill of lading or manifest for all soil disposed of and required documentation in connection with the cleaning of each tank that is removed from any Redevelopment Work Site and the Lessee's contracts covering the Tank Removal Work shall so provide.

(v) The Port Authority shall have no liability to the Lessee or any Tank Removal Work contractor for any delay in the performance of the Construction Work resulting from or in connection with the Tank Removal Work, including without limitation, any delay resulting from soil and ground water testing to be performed by the Port Authority or any delay in back filling the excavation resulting from the tank and related soil removal or any delay in construction over or in the vicinity of a backfilled area as provided for in subparagraph (30)(ii) of this paragraph (g).

(31) Prior to backfilling any excavations in which the construction of utilities has been completed, the Lessee shall notify the Resident Engineer that such excavations are ready to be backfilled. Such excavations shall not be backfilled until the Port Authority shall have documented and surveyed the line and grade of such utilities. Nothing in this paragraph (31) shall relieve the Lessee from its obligation to provide as built drawings in accordance with this Section of all completed construction.

(32) In the performance of the Construction Work, the Lessee shall perform all soil handling in accordance with the Remedial Action Work Plan and the Soil

Management Plan and shall promptly comply with, observe and execute all the terms and conditions of Section 3 of the Remedial Action Work Plan. In addition, the Construction Work shall be performed in compliance with all of the terms and conditions of the Remedial Action Work Plan.

(33) As a part of the Construction Work the Lessee shall submit to the Port Authority for its approval prior to the commencement of the Construction Work a soil management plan setting forth in detail how all handling, excavation, depositing, testing, screening, backfilling, removal, storage, transportation, disposal and other handling of soil in the performance of the Construction Work shall be managed and performed (such plan as approved by the Port Authority is hereinafter called the "*Soil Management Plan*").

(34) Without limiting any of the other terms and conditions of this Lease, including without limitation paragraph (m) of Section 9 and paragraph (d)(1) of Section 56 hereof and in addition thereto, in the event that any Hazardous Substances are spilled, released, discharged, disposed on the Airport in the performance of the Construction Work or on the Premises after the Effective Date and which Hazardous Substances were not caused by the sole acts or omissions of the Port Authority, the Lessee shall immediately (i) notify the Port Authority of such spill, release, discharge or disposal, (ii) excavate all soil containing any such Hazardous Substances, (iii) pump and treat all ground water containing such any Hazardous Substances, and (iv) delineate such spill, release, discharge or disposal to the satisfaction of the Port Authority. Such pumping and treatment shall continue until all such Hazardous Substances that have been so spilled, released, discharged or disposed of have been removed. Further, the Lessee shall perform such sampling, testing and analysis as shall be necessary or required to fingerprint or otherwise identify such Hazardous Substances from similar pre-existing Hazardous Substances. Additionally, no Construction Work shall be or continued to be performed in the area of such spill, release, discharge or disposal until all such Hazardous Substances have been removed by the Lessee, except, however, in the event of contamination of the ground water by any petroleum hydrocarbons, construction can commence, continue or recommence, as the case may be, in the event that free phase petroleum hydrocarbons have a thickness of less than 0.01 foot and the Lessee shall have delineated such free phase to the satisfaction of the Port Authority, provided, further, that the remedial action work plan that has been approved by the DEC covering such spill, release, discharge or disposal shall permit such free phase petroleum hydrocarbons to remain in the ground water during construction and the Lessee shall subsequent to the completion of the Construction Work and as soon as practicable pump and treat the remainder of such free phase petroleum hydrocarbons from the ground water and the Lessee shall have delineated such spill, release, discharge or disposal to the satisfaction of the Port Authority.

(h) Provisional Approvals

The Lessee may wish to commence construction of portions of the Redevelopment Work prior to the approval by the Port Authority of its complete plans and specifications for the same as required in this Section and if the Lessee does it shall submit a written request to the Port Authority setting forth the work it proposes to then do. The Port Authority shall have full and complete discretion as to whether or not to permit the Lessee to

proceed with said work. Further, the Lessee may wish to commence construction of portions of the Temporary Facilities Work prior to the approval by the Port Authority of its complete plans and specifications for the same as required in this Section and if the Lessee does it shall submit a written request to the Port Authority setting forth the work it proposes to then do. The Port Authority shall have full and complete discretion as to whether or not to permit the Lessee to proceed with said work. If the Port Authority has no objection to the Lessee's proceeding with the work, it shall do so by writing a letter to the Lessee to such effect. If the Lessee performs the work covered by said letter, it agrees all such work shall be performed subject to and in accordance with all of the provisions of the approval letter and subject to and in accordance with the following terms and conditions:

(1) The performance by the Lessee of the work covered by any request as aforesaid will be at its sole risk. Until the complete plans and specifications for the Temporary Facilities Work have been approved by the Port Authority or if the approval thereof calls for modifications or changes in the work undertaken by the Lessee under any approval granted by the Port Authority pursuant to this paragraph (h), the Lessee will, as directed by the Port Authority, at its sole cost and expense, either restore the area affected to the condition prior to the commencement of any such work or make such modifications and changes in any such work as may be required by the Port Authority. Until the complete plans and specifications for the Redevelopment Work have been approved by the Port Authority or if the approval thereof calls for modifications or changes in the work undertaken by the Lessee under any approval granted by the Port Authority pursuant to this paragraph (h), the Lessee will, as directed by the Port Authority, at its sole cost and expense either restore the area affected to the condition prior to the commencement of any such work or make such modifications and changes in any such work as may be required by the Port Authority.

(2) Nothing contained in any approval hereunder shall constitute a determination or indication by the Port Authority that the Lessee has complied with the applicable governmental laws, ordinances, enactments, resolutions, rules and orders, including but not limited to those of the City of New York, which may pertain to the work to be performed.

(3) The approved work will be performed in accordance with and subject to the terms, conditions, indemnities and provisions of the Lease covering the Construction Work and with the terms, conditions, indemnities and provisions of any Tenant Construction or Alteration Application which the Port Authority may request the Lessee to submit even though such Tenant Construction or Alteration Application may not have, at the time of the approval under this paragraph (h), been approved by the Port Authority.

(4) No work under any such approval shall affect or limit the obligations of the Lessee under all prior approvals with respect to its construction of the Construction Work.

(5) The Lessee shall comply with all requirements, stipulations and provisions as may be set forth in the letter of approval.

(6) In the event that the Lessee shall at any time during the construction of any portion of the Construction Work under the approval granted by the Port Authority pursuant to this paragraph (h) fail, in the opinion of the General Manager of the Airport, to comply with all of the provisions of the Lease with respect to such work, the Tenant Construction or Alteration Application or the approval letter covering the same or be, in the opinion of the said General Manager of the Airport, in breach of any of the provisions of the Lease, the Tenant Construction or Alteration Application or the approval letter covering the same, the Port Authority shall have the right, acting through said General Manager of the Airport, to cause the Lessee to cease all or such part of the Construction Work as is being performed in violation of the Lease, the Tenant Construction or Alteration Application or the approval letter. Upon such written direction from the General Manager of the Airport the Lessee shall promptly cease construction of the portion of the Construction Work specified. The Lessee shall thereupon submit to the Port Authority for its written approval the Lessee's proposal for making modifications, corrections or changes in or to the Construction Work that has been or is to be performed so that the same will comply with the provisions of this Lease, the Tenant Construction or Alteration Application and the approval letter covering the Construction Work. The Lessee shall not commence construction of the portion of the Construction Work that has been halted until such written approval has been received.

(7) It is hereby expressly understood and agreed that neither the Resident Engineer nor the field engineer(s) mentioned in paragraph (i) below has any authority to approve any plans and specifications of the Lessee with respect to the Construction Work, to approve the construction by the Lessee of any portion of the Construction Work or to agree to any variation by the Lessee from compliance with the terms of the Lease, or the Tenant Construction or Alteration Application or the approval letter with respect to the Construction Work. Notwithstanding the foregoing, should the Resident Engineer or any field engineer give any directions or approvals with respect to the Lessee's performance of any portion of the Construction Work which are contrary to the provisions of the Lease, the Tenant Construction or Alteration Application or the approval letter, said directions or approvals shall not affect the obligations of the Lessee as set forth herein nor release or relieve the Lessee from strict compliance therewith.

(8) It is hereby further understood and agreed that the Port Authority has no duty or obligation of any kind whatsoever to inspect or police the performance of the Construction Work by the Lessee and the rights granted to the Port Authority hereunder shall not create or be deemed to create such a duty or obligation. Accordingly, the fact that the General Manager of the Airport has not exercised the Port Authority's right to require the Lessee to cease its construction of all or any part of the Construction Work shall not be or be deemed to be an agreement or acknowledgment on the part of the Port Authority that the Lessee has in fact performed such portion of the Construction Work in accordance with the terms of the Lease, the Tenant Construction or Alteration Application or the approval letter nor shall such fact be or be deemed to be a waiver by the Port Authority from the requirement of strict compliance by the Lessee with the provisions of the Lease, the Tenant Construction or Alteration Application and the approval letter with respect to such work.

(9) Without limiting the discretion of the Port Authority hereunder, the Port Authority hereby specifically advises the Lessee that even if the Port Authority hereafter in the exercise of its discretion wishes to grant approvals under this paragraph (h), it may be unable to do so, so as to permit the Lessee to continue work without interruption following its completion of the work covered by any prior approval hereunder. The Lessee hereby acknowledges that if it commences work pursuant to this paragraph (h) it shall do so with full knowledge that there may not be continuity by it in the performance of its Construction Work under the procedures of this paragraph (h).

(10) No prior approval of any work in connection with the Construction Work shall create or be deemed to create any obligation on the part of the Port Authority to permit subsequent work to be performed in connection therewith prior to the approval by the Port Authority of the Lessee's complete plans and specifications therefor. It is understood that no such prior approval shall release or relieve the Lessee from its obligation to submit complete plans and specifications for the Construction Work and to obtain the Port Authority's approval of the same as set forth in paragraph (f) hereof. It is further understood that in the event the Lessee elects not to continue to seek further approval letter(s) pursuant to this paragraph (h), the Port Authority shall have the right to suspend the obligations of the Lessee to restore the area with respect to the Construction Work and to make modifications and changes to the Construction Work as set forth in subparagraph (1) of this paragraph (h) until the Port Authority shall have approved the complete plans and specifications for the Construction Work in accordance with paragraph (f) hereof.

(i) Commencement of Construction Work and Assignment of Port Authority Field Engineer

The Lessee will give the General Manager of the Airport at least 72 hours advance notice prior to the commencement of construction. The Port Authority will assign to the Construction Work a full time field engineer or engineers during such time that any Construction Work is being performed pursuant to paragraph (h) hereof and may assign to the Construction Work a full time field engineer or engineers during any time that no Construction Work is being performed pursuant to paragraph (h) hereof. The Lessee shall pay to the Port Authority for the services of said engineer or engineers an amount equal to the Cost of Port Authority Construction Inspection. The Lessee shall pay for the Cost of Port Authority Construction Inspection by having such amount deducted from the amount of the Port Authority Payments made to the Lessee by the Port Authority pursuant to Section 87 hereof and as provided for in such Section 87. Nothing contained herein shall affect any of the provisions of paragraph (n) hereof or the rights of the Port Authority thereunder.

(j) Additional Environmental Obligations

(1) The Construction Work shall be constructed in such a manner that there will be at all times a minimum of air pollution, water pollution or any other type of pollution and a minimum of noise emanating from, arising out of or resulting from the operation, use or maintenance of the Premises by the Lessee and from the operations of the Lessee under this Agreement. Accordingly, and in addition to all other obligations imposed on the Lessee

under this Agreement and without diminishing, limiting, modifying or affecting any of the same, the Lessee shall be obligated to construct as part of the Construction Work hereunder such structures, fences, equipment, devices and other facilities as may be necessary or appropriate to accomplish the foregoing and each of the foregoing shall be and become a part of the Construction Work hereunder.

(2) Notwithstanding the provisions of subparagraph (1) of this paragraph (j) and in addition thereto, the Port Authority hereby reserves the right from time to time and at any time during the term of the Lease to require the Lessee, subsequent to the completion of the Construction Work to design and construct at its sole cost and expense on the Premises such further reasonable structures, fences, equipment, devices and other facilities as maybe necessary or appropriate to accomplish the objectives as set forth in the first sentence of subparagraph (1) of this paragraph (j). All locations, the manner, type and method of construction and the size of any of the foregoing shall be determined by the Port Authority. The Lessee shall submit for Port Authority approval its plans and specifications covering the required work and upon receiving such approval shall proceed diligently to construct the same. All other provisions of this Section with respect to the Construction Work shall apply and pertain with like effect to any work which the Lessee is obligated to perform pursuant to this paragraph (j) and upon completion of each portion of such work it shall be and become a part of the Premises.

(k) Title to Construction Work

Title to all the Construction Work except for any Tanks shall pass to the City as the same or any part thereof is erected, constructed or installed. All of the Construction Work, except for the Terminal 5 AirTrain Connector Work, any Tank and the work as set forth in paragraph (b)(2)(viii)(cc) hereof, shall be and become a part of the Premises hereunder if located on the Premises, it being understood that all personal property for which the Lessee shall have received a Port Authority Payment for shall not be the personal property of the Lessee but instead shall be the property of the Port Authority. The foregoing provisions of this paragraph (k) shall not affect the risks and obligations assumed by the Lessee hereunder nor release the Lessee from the performance of its rebuilding and restoration obligations set forth in this Section 2.

(l) Minimization of Disruption of and Coordination with Other Airport Operations, Activities and Construction:

(1) The Lessee acknowledges that the Port Authority as well as other users, lessees, tenants, airport patrons, contractors and invitees and others will be continuing their operations in the Central Terminal Area during the period of time the Lessee is performing the Construction Work hereunder and that this will involve among other things inconvenience, noise, dust, interference and disturbance to said operations and possibly other risks as well. The Lessee further acknowledges that the Construction Work hereunder will impact traffic flow and control on the roadways in the CTA as well as the terminal frontage roads in front of the Premises and in front of Terminal 6 and the use thereof by customers, patrons, invitees and employees. The Lessee hereby expressly assumes all of the foregoing risks. Without limiting the foregoing, the Lessee shall and expressly hereby agrees to perform, and to require each of its contractors and subcontractors to perform, the Construction Work and each portion thereof in

such a manner so as to minimize the impact and any disruption resulting therefrom on said operations and on traffic control and traffic flow in the CTA and on the operation and use of the AirTrain. The Lessee shall, without limiting any other term or provision hereof, communicate and cooperate (and require each of its contractors to communicate and cooperate) with the Port Authority and with each of the users, lessees, tenants, airport patrons, invitees, contractors and others in all aspects of the Construction Work, and the Lessee shall coordinate and work in harmony with all said Persons, including without limitation the users, occupants and operators of the Premises, Building No. 60, the AirTrain, Terminal 4, Terminal 6, and Terminal 7 and Port Authority contractors. The Lessee shall also communicate and cooperate (and require each of its contractors to communicate and cooperate) with all ground transportation operators and providers including all taxi, limousine and bus operators and the AirTrain operator throughout the entire period of time of the performance of the Construction Work. The Lessee shall include in each of its contracts and subcontracts covering the Construction Work or any portion thereof the foregoing requirements for minimization of disruption and for contractor cooperation, communication and coordination.

(2) The Lessee acknowledges that the Construction Work may impact on the fuel distribution system at the Airport as well as other utilities on or adjoining the Airport and that the Construction Work may disrupt or interfere with or interrupt the operation and performance of such utilities. The Lessee hereby expressly assumes all of the risks from such disruption, interference and interruption. Without limiting the foregoing, the Lessee shall and expressly hereby agrees to perform, and to require each of its contractors and subcontractors to perform, the Construction Work and each portion thereof in such a manner so as to minimize the disruption, interference and interruption resulting therefrom on said utilities. The Lessee shall, without limiting any other term or provision hereof, determine which utilities may be affected by the performance of the Construction Work and communicate and cooperate (and require each of its contractors to communicate and cooperate) with the Port Authority and with each of the users of such utilities in all aspects of the Construction Work, and the Lessee shall coordinate and work in harmony with all said Persons. The Lessee shall include in each of its contracts and subcontracts covering the Construction Work or any portion thereof the foregoing requirements for minimization of disruption, interference and interruption and for contractor cooperation, communication and coordination.

(3) Without limiting any other term or provision hereof, the Lessee shall complete the design and perform the Construction Work in a manner consistent with roadway, frontage and utility improvements of the Port Authority at the Airport and with the operation of the AirTrain.

(4) Temporary Construction Program: In order to ensure appropriate levels of service to the users, occupants, and Airport patrons and others using the Airport during the performance of the Construction Work, the Lessee, not less than sixty (60) days prior to the commencement of any portion of the Construction Work and the implementation of each construction stage, shall prepare and submit to the Port Authority for its prior approval a temporary construction program (including, but not limited to, drawings, sketches, schedules and narrative descriptions) which sets forth plans for the continuing provision of all patron services and landside operations at or adjacent to the Redevelopment Work Site. Without limiting any

other term or provision hereof, any temporary construction is and shall be subject to paragraph (n) of this Section, including, but not limited to, certifications of the Lessee and the Lessee's licensed architect or engineer and the issuance of a certificate of completion therefor by the Port Authority.

(m) Utility Lines

(1) The Port Authority shall have no responsibility for bringing to the Premises or the Redevelopment Work Site any utility service lines for the supply of cold water, or any other utility or service lines, except for the work described in the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 2.17" (which work is herein called the "*5kV Electrical Power and Sanitary Sewer Work*"). If the Lessee determines that it will require that additional utility service lines be brought to the Redevelopment Work Site or that the capacity of one or more of the existing utility service lines serving the Redevelopment Work Sites be greater than the capacity which existed on the Effective Date, except for the 5kV Electrical Power and Sanitary Sewer Work, the Lessee shall submit to the Port Authority for the Port Authority's approval a Tenant Construction or Alteration Application covering the work to provide the additional utility service line capacity to the Redevelopment Work Sites (hereinafter called the "*Off-Premises Utility Service Line Work*") which work when and if approved by the Port Authority shall be performed by the Lessee at the Lessee's sole cost and expense except as set forth in Section (g)(12) and Section 87 hereof, in accordance with all the terms and provisions of this Section, provided, however, that the Off-Premises Utility Service Line Work shall not be or become a part of the Premises hereunder.

(2) The Lessee understands that there may be communications and utility lines and conduits located on or under the Redevelopment Work Site which do not, and may not in the future, serve the Redevelopment Work Site and are located on or under the Redevelopment Work Site where the Construction Work is or is to be performed or for which currently or in the future the operation, maintenance, replacement, repair are or maybe affected by the Construction Work or the performance thereof. The Lessee agrees, if directed by the Port Authority so to do, to relocate and reinstall such communications and utility lines and conduits on the Redevelopment Work Site or off the Redevelopment Work Site as directed by the Port Authority and to restore all affected areas (such work being hereinafter collectively called the "*Relocation Work*"). The Lessee shall perform the Relocation Work subject to and in accordance with all the terms and provisions of this Section and the Relocation Work shall be and become a part of the Redevelopment Work, it being understood, however, that the Relocation Work shall not be or become a part of the Premises hereunder.

(3) In the event KIAC does not permit the Lessee to relocate or perform any other work in connection with the TDS (including without limitation the lateral mains and heat exchangers) constituting a portion of the Redevelopment Work, such relocation and other work shall be performed by KIAC or KIAC's contractors, as determined by KIAC. Such work, upon completion, will become a part of the TDS at the Airport and will become the property of the Port Authority or of its designee and will not be a part of the Premises.

(n) Completion of the Construction Work:

(1) When the Temporary Facilities Work is substantially completed and ready for use, the Lessee shall advise the Port Authority to such effect and shall deliver to the Port Authority a certificate signed by an authorized officer of the Lessee and also signed by the Lessee's licensed architect or engineer certifying that the Temporary Facilities Work has been constructed in accordance with the approved plans and specifications and the provisions of the Lease and in compliance with all applicable laws, ordinances and governmental rules, regulations and orders. Thereafter the Temporary Facilities Work will be inspected by the Port Authority and if the same has been completed as certified by the Lessee and the Lessee's licensed architect or engineer, as aforesaid, a certificate to such effect shall be delivered to the Lessee, subject to the condition that all risks thereafter with respect to the construction and installation of the same and any liability therefor for negligence or other reason shall be borne by the Lessee. The Lessee shall not use or permit the use of the Temporary Facilities Work for the purposes set forth in paragraph (d) of Section 5 of the Lease until such certificate is received from the Port Authority, and the Lessee shall not use or permit the use of the Temporary Facilities Work or any portion thereof even if such certificate is received if the Port Authority states in any such certificate that the same cannot be used until other specified portions are completed.

(2) (i) When all of the Passenger Terminal Work, the Landside Civil Work, the Airside Civil Work, the MOA Curtain Wall Work, if any, and the Terminal 5 AirTrain Connector Work (collectively the "*Terminal Work*") are substantially completed and ready for use, the Lessee shall advise the Port Authority to such effect and shall deliver to the Port Authority a certificate signed by an authorized officer of the Lessee and also signed by the Lessee's licensed architect or engineer certifying that the Terminal Work has been constructed in accordance with the approved plans and specifications and the provisions of the Lease and in compliance with all applicable laws, ordinances and governmental rules, regulations and orders. Thereafter the Terminal Work will be inspected by the Port Authority and if the same has been completed as certified by the Lessee and the Lessee's licensed architect or engineer, as aforesaid, a certificate to such effect shall be delivered to the Lessee, subject to the condition that all risks thereafter with respect to the construction and installation of the same and any liability therefor for negligence or other reason shall be borne by the Lessee. The Lessee shall not use or permit the use of the Terminal Work for the purposes set forth in the Lease until such certificate is received from the Port Authority, and the Lessee shall not use or permit the use of the Terminal Work or any portion thereof even if such certificate is received if the Port Authority states in any such certificate that the same cannot be used until other specified portions are completed. The term "*Terminal Work Completion Date*" for the purposes of the Lease shall mean the date appearing on the certificate issued by the Port Authority pursuant to this subparagraph (2)(i) of this paragraph (n) after the substantial completion of the Terminal Work.

(ii) In addition to and without affecting the obligations of the Lessee under the preceding paragraph (n)(2)(i) of this Section when an integral and material portion of the Terminal Work is substantially completed or is properly usable the Lessee may advise the Port Authority to such effect and may deliver to the Port Authority a certificate signed by an authorized officer of the Lessee and also signed by the Lessee's licensed architect or engineer certifying that such portion of the Terminal Work has been constructed in accordance

with the approved plans and specifications and the provisions of the Lease and in compliance with all applicable laws, ordinances and governmental rules, regulations and orders, and specifying that such portion of the Terminal Work can be properly used even though the Terminal Work has not been completed and that the Lessee desires such use. The Port Authority may in its sole discretion deliver a certificate to the Lessee with respect to each such portion of the Terminal Work permitting the Lessee to use such portion thereof for the purposes set forth in the Lease. In such event the Lessee may use such portion subject to the condition that all risks thereafter with respect to the construction and installation of the same and any liability therefor for negligence or other reason shall be borne by the Lessee, and subject to the risks as set forth in paragraph (h) hereof in the event that the Port Authority shall not have then approved the complete plans and specifications for the Terminal Work. Moreover, at any time prior to the issuance of the certificate required in subparagraph (2)(i) of this paragraph (n) for the Terminal Work, the Lessee shall promptly upon receipt of a written notice from the Port Authority cease its use of such portion of the Terminal Work which it had been using pursuant to permission granted in this paragraph (n)(2)(ii).

(3) (i) When the Parking Garage Work is substantially completed and ready for use, the Lessee shall advise the Port Authority to such effect and shall deliver to the Port Authority a certificate signed by an authorized officer of the Lessee and also signed by the Lessee's licensed architect or engineer certifying that the Parking Garage Work has been constructed in accordance with the approved plans and specifications and the provisions of the Lease and in compliance with all applicable laws, ordinances and governmental rules, regulations and orders. Thereafter the Parking Garage Work will be inspected by the Port Authority and if the same has been completed as certified by the Lessee and the Lessee's licensed architect or engineer, as aforesaid, a certificate to such effect shall be delivered to the Lessee, subject to the condition that all risks thereafter with respect to the construction and installation of the same and any liability therefor for negligence or other reason shall be borne by the Lessee. The Lessee shall not use or permit the use of the Parking Garage Work for the purposes set forth in the Lease until such certificate is received from the Port Authority, and the Lessee shall not use or permit the use of the Parking Garage Work or any portion thereof even if such certificate is received if the Port Authority states in any such certificate that the same cannot be used until other specified portions are completed. The term "*Parking Garage Work Completion Date*" for the purposes of the Lease shall mean the date appearing on the certificate issued by the Port Authority pursuant to this paragraph (n)(3)(i) of this Section after the substantial completion of the Parking Garage Work.

(ii) In addition to and without affecting the obligations of the Lessee under the preceding paragraph (n)(3)(i), when an integral and material portion of the Parking Garage Work is substantially completed or is properly usable the Lessee may advise the Port Authority to such effect and may deliver to the Port Authority a certificate signed by an authorized officer of the Lessee and also signed by the Lessee's licensed architect or engineer certifying that such portion of the Parking Garage Work has been constructed in accordance with the approved plans and specifications and the provisions of the Lease and in compliance with all applicable laws, ordinances and governmental rules, regulations and orders, and specifying that such portion of the Parking Garage Work can be properly used even though the Parking Garage Work has not been completed and that the Lessee desires such use. The Port Authority may in

its sole discretion deliver a certificate to the Lessee with respect to each such portion of the Parking Garage Work permitting the Lessee to use such portion thereof for the purposes set forth in the Lease. In such event the Lessee may use such portion subject to the condition that all risks thereafter with respect to the construction and installation of the same and any liability therefor for negligence or other reason shall be borne by the Lessee, and subject to the risks as set forth in paragraph (h) hereof in the event that the Port Authority shall not have then approved the complete plans and specifications for the Parking Garage Work. Moreover, at any time prior to the issuance of the certificate required in paragraph (n)(3)(i) of this Section for the Parking Garage Work, the Lessee shall promptly upon receipt of a written notice from the Port Authority cease its use of such portion of the Parking Garage Work which it had been using pursuant to permission granted in this paragraph (n)(3)(ii).

(4) The term "*Completion Date*" for the purposes of the Lease shall mean the later to occur of the Parking Garage Work Completion Date and the Terminal Work Completion Work Date, provided, however, and if the Parking Garage Work Completion Date and the Terminal Work Completion Work Date shall be the same date, then "*Completion Date*" shall mean such same date.

(5) At the same time that the Lessee shall deliver any certificate pursuant to paragraph (n)(3) of this Section covering all or any portion of the Parking Garage Work or the Terminal 5 AirTrain Connector Work the Lessee shall deliver to the Port Authority all warranties, guarantees, manuals, maintenance contracts and spare parts for or associated with such Parking Garage Work or Terminal 5 AirTrain Connector Work The Lessee shall have assigned all warranties, guarantees and maintenance contracts to the Port Authority in accordance with paragraph (q) of this Section. All Port Authority Service Contracts and other maintenance contracts and warranties and guarantees related to such Parking Garage Work shall commence on the date of the first certificate of the Port Authority issued pursuant to paragraph (n)(3) of this Section covering that portion of the Parking Garage Work and all Port Authority Service Contracts and other maintenance contracts and warranties and guarantees related to such Terminal Work shall commence on the date of the first certificate of the Port Authority issued pursuant in paragraph (n)(3) of this Section covering that portion of the Terminal Work

(o) Fuel Line Work:

(1) The following terms when used in this paragraph (o) shall have the respective meanings given below:

(i) "*Abandoned Fuel Lines*" shall mean any portion of the System which is taken out of service as part of the Fuel Line Work and is abandoned in place or is abandoned and removed from the Airport as a part of the Fuel Line Work.

(ii) "*Acceptance Date*" shall mean with respect to each portion of the Distribution Portion Work, the date appearing on the certificate delivered to the Lessee by the Port Authority pursuant to subparagraph (3) of this paragraph (o) covering such portion of the Distribution Portion Work and shall mean with respect to each portion of the Satellite Portion

Work, the date appearing on the certificate delivered to the Lessee by the Port Authority pursuant to subparagraph (3) of this paragraph (o) covering such portion of the Satellite Portion Work.

(iii) "*Airport Fueling Agreements*" shall mean the General Airport Agreement (also commonly known as the "Dewey Leases") and any other agreements covering aircraft fueling at the Airport which are contemplated by the Airport Fueling Agreements, it being understood and agreed that the term "Airport Fueling Agreements" shall continue to include the General Airport Agreement upon the expiration thereof as the same may continue to be operative, and shall also include the New Airport Fueling Agreements.

(iv) "*Airline Terminal Portion*" shall mean that portion of the System that is located on the Premises, including without limitation all of the Airline Terminal Portion of the Work and all of the Premises Distribution Lines which are located on the Premises.

(v) "*Airline Terminal Portion of the Work*" shall mean all portions of the Fuel Line Work performed and located on the Premises and the Terminal 4 Parcel.

(vi) "*Defect*" shall have the meaning given such term in subparagraph (2)(xi) of this paragraph.

(vii) "*Distribution Portion Work*" shall mean any of the Fuel Line Work that is performed by the Lessee or on behalf of the Lessee to the Distribution Portion of the System and such work is not performed on the Premises or the Terminal 4 Parcel.

(viii) "*Fuel Line Risks*" shall mean any and all risks, costs, expenses, damages, responsibilities and liabilities arising out of, in connection with or resulting from the Fuel Line Work, the New System Components, or the Abandoned Fuel Lines, including but not limited to, each Warranty, all Defects, the failure to have, or the inclusion of (whether proper or improper), any maintenance, repair, replacement, operation or other costs or expenses incurred in connection with the Fuel Line Work, New System Components or the Abandoned Lines included in the System Costs, or the failure or refusal of the Users or any of them to pay any such costs or expenses, or the failure to obtain the agreement or approval of the Other Users for the Fuel Line Work, including without limitation the payment of the costs thereof and its design.

(ix) "*Fuel Line Work*" shall have the meaning set forth in subparagraph (2) of this paragraph (o).

(x) "*New Isolation Valve Pit*" shall mean all of the new associated pig indicator and receiver pits, isolation valves, and related appurtenances to be constructed, provided and installed by the Lessee in connection with the proposed location of the New Isolation Valve Pit as shown on Exhibit 2.18, attached hereto, hereby made an part hereof and marked "Exhibit 2.18" (herein referred to as "*Exhibit 2.18*") with respect to Premises Distribution Lines 402-1, 402-2, 402-3 as part of the Fuel Line Work.

(xi) "*New System Components*" shall collectively mean all improvements, facilities, structures, additions, installations and equipment installed or constructed as part of the Fuel Line Work.

(xii) "*Other Users*" shall mean all Users except for the Lessee.

(xiii) "*Permitted Modification*" shall mean a modification, relocation, alteration, addition, replacement or capital improvement made to the System by any Person, provided, however, that (i) the costs and expenses of such modification, relocation, alteration, addition, replacement or capital improvement are not includable or included in Systems Costs by reason that one or more persons have agreed to pay for such costs and expenses (which person may be one of the Users and if so such agreement to pay such costs and expenses has not been made by such person pursuant to the Airport Fueling Agreements) or was performed by or on behalf of the Port Authority and is not "An Additional Facility Improvement" (as such term is defined in Section 4.021F of the General Airport Agreement) and/or the Port Authority has not proposed to the Lessee or the other Basic Aircraft Operators (as such term is used in Section 12.14 of the General Airport Agreement) that such modification, relocation, alteration, addition, replacement or capital improvement be made to the Distribution Portion of the System pursuant to Section 4.021 K of the General Airport Agreement and/or is any other work which is not included or includable in System Costs pursuant to the General Airport Agreement or the New Airport Fueling Agreements and (ii) such modification, relocation, alteration, addition, replacement or capital improvement shall have been approved or performed by the Port Authority.

(xiv) "*Premises Distribution Line*" shall mean each of those distribution fuel lines identified as Line 402-1, Line 402-2, Line 402-3 on Exhibit 2.18 as such Lines recommence at the dike wall of the Satellite Portion of the System and their related facilities and appurtenances.

(xv) "*Re-designated Airline Terminal Portion of the System*" shall mean all portions of Premises Distribution Lines 402-1, 402-2, 402-3 existing prior to the commencement of the Fuel Line Work and which are located on the Premises and the Terminal 4 Parcel.

(xvi) "*Redesignation Date*" shall mean with respect to each Premises Distribution Line the date that the Lessee shall first commence any of the Fuel Line Work with respect to such Premises Distribution Line.

(xvii) "*Satellite Portion Work*" shall mean that portion of the Fuel Line Work, if any, that is performed at the Satellite Portion of the System.

(xviii) "*System*" shall have the meaning given such term in Section 4.021A of the General Airport Agreement.

(xix) "*System Costs*" shall mean all costs and expenses incurred in connection with the System, including without limitation capital, operation, maintenance and repair costs and expenses, paid or to be paid for collectively by the Users pursuant to the Airport Fueling Agreements (including without limitation Sections 4.02 and 4.021 of the General Airport Agreement and the New Airport Fueling Agreements).

(xx) "*System License*" shall mean the Major Petroleum Facility License issued by the New York State Department of Environmental Conservation bearing license number 2-2380.

(xxi) "*System Operator*" shall mean Allied New York Services, Inc., the Port Authority's independent contractor presently operating the System, or any other Person who shall operate, repair or maintain the System pursuant to the General Airport Agreement.

(xxii) "*Users*" shall mean any Persons who use the System or are obligated (whether by agreement or otherwise) to pay any System Costs.

(xxiii) "*Warranty*" shall have the meaning given such term in subparagraph (2) (xi) of this paragraph (o).

(2) As part of the Lessee's Redevelopment Work, the Lessee has advised the Port Authority that it desires to relocate, remove, replace and abandon portions of the Distribution Portion of the System located on the Premises as well as make certain replacements and modifications to the Satellite Portion of the System and other portions of the Distribution Portion of the System as shall be required, necessary or desirable for such relocation, removal, replacement and abandonment (any work performed on the System and any replacements and abandonment of the System to be performed by the Lessee as part of the Construction Work as the same may be approved by the Port Authority being herein referred to as the "*Fuel Line Work*", it being understood that the maintenance, operation and repair of the Satellite Portion of the System shall not be part of the Fuel Line Work). In addition to all the other terms and conditions of this Lease, all Fuel Line Work performed by the Lessee shall be performed subject to and in accordance the following additional terms and conditions:

(i) None of the Fuel Line Work shall become part of System Costs. The Lessee further agrees that if any costs and expenses for the repair, operation, replacement, maintenance or use of the Distribution Portion Work, the Satellite Portion Work for any reason whatsoever are not included or includable in, or not allowed to become a part of, System Costs, that the Lessee shall bear and pay for any and all such costs and expenses inclusive of the associated costs for the proper handling and disposing of removed fuel and the removed fuel lines which are taken out of the System and off the Airport by the Lessee as a part of the Fuel Line Work.

(ii) The Fuel Line Work shall be performed in accordance with all the terms and conditions of this Lease and of the General Airport Agreement and the other Airport Fueling Agreements.

(iii) In addition to and without limiting the obligations set forth in paragraph (g) of this Section, any portion of the Fuel Line Work performed by the System Operator shall be performed by the System Operator on behalf of the Lessee. The Lessee shall assure that the costs and expenses of all Fuel Line Work are separately allocated and billed to the Lessee by each of its contractors, including without limitation, by the System Operator, and in no event are any such costs and expenses to be allocated or billed as, or to become a part of, System Costs. Further, the Lessee shall communicate and cooperate (and require each of its contractors to communicate and cooperate) with the System Operator in all aspects of the Fuel Line Work and shall coordinate the performance of the Fuel Line Work with the System Operator. The Lessee shall include in each of its contracts and subcontracts covering the Fuel Line Work or any portion thereof the foregoing requirements for cooperation, communication, coordination, allocation and billing.

(iv) In addition to and without limiting the obligations set forth in paragraph (l) of this Section, the Lessee shall in the performance of the Fuel Line Work and in fulfillment of its obligations pursuant to subparagraph (xi) of this paragraph (o)(2) minimize to the greatest extent possible any disruption, interruption, delay or interference in the operation, performance, maintenance, repair or use of the System. To that end, prior to the Lessee's commencement of the Fuel Line Work or any portion thereof, the Lessee shall submit to the Port Authority for the Port Authority's approval a plan to accomplish the foregoing and shall revise and update such plan as desirable or required throughout the performance of the Fuel Line Work. Such plan shall include without limitation the sequencing and scheduling of all shut downs of any portion of the System such as but not limited to the sequencing and scheduling of all work to tie-in any portion of the Fuel Line Work to the System and flushing and testing the Fuel Line Work, and that no section of the Satellite Portion Work shall be taken or kept out of service during peak travel periods. Further, such plan shall include actions and procedures to be undertaken and followed in the event of any unscheduled or unexpected shut down or disruption of or interference with the operation or use of the of the System. The Lessee understands and agrees that no approval of the Port Authority shall relieve or release the Lessee from its obligations under this paragraph (o). The Port Authority shall have the right from time to time to require the Lessee to make changes to the plan and the Lessee shall comply therewith and with any and all such required changes.

(v) All Fuel Line Work shall comply in all respects with the System License and all other Environmental Requirements and the Lessee shall take all actions to ensure such compliance. Further, if required or permitted by the DEC or any other applicable Governmental Authority, the Lessee shall register, license and/or permit the Airline Terminal Portion of the System in accordance with Environmental Requirements in the name of the Lessee as the owner thereof and in the name of the System Operator as the operator thereof.

(vi) Title to the Airline Terminal Portion of the Work shall remain in the Lessee as the same or any part thereof is erected, constructed or installed and upon such erection, construction or installation the same shall be and become a part of the Airline Terminal Portion of the System for the purposes of this Agreement and the Airport Fueling Agreements including without limitation the Lessee assuming all risks, costs, expenses,

responsibilities and liabilities in connection therewith and the same shall be and become a Tank (as such term is defined in Section 61 hereof entitled "Storage Tanks") and all the terms and conditions of Section 61 shall apply thereto.

(vii) Notwithstanding any terms or conditions in the Airport Fueling Agreements to the contrary, effective as of the Redesignation Date with respect to each Premises Distribution Line, that portion of such Premises Distribution Line constituting a portion of the Re-designated Airline Terminal Portion of the System shall be and become for the purposes of this Agreement and of the Airport Fueling Agreements a part of the Airline Terminal Portion of the System and a Tank and all the terms and conditions of Section 61 hereof shall apply thereto. Without limiting the generality of any other term or provision of this Agreement, from and after the Redesignation Date for such Re-designated Airline Terminal Portion of the System shall no longer be or be deem to be a part of the Distribution Portion of the System and the Lessee shall take title to the same in its "as is" condition and shall release and relieve the Port Authority and Other Users from and shall assume all risks, costs, expenses, responsibilities and liabilities in connection with such Re-designated Airline Terminal Portion of the System.

(viii) Title to all the Distribution Portion Work and the Satellite Portion Work shall pass to the City of New York as the same or any portion thereof is erected, constructed and installed and effective upon the Acceptance Date of each portion of the Distribution Portion Work, such Distribution Portion Work shall be and become for the purposes of this Agreement and of the Airport Fueling Agreements a part of the Distribution Portion of the System and effective upon the Acceptance Date of each portion of the Satellite Portion Work, such Satellite Portion Work shall be and become for the purposes of this Agreement and of the Airport Fueling Agreements a part of the Satellite Portion of the System.

(ix) The Lessee shall take all actions to maintain and protect all manufacturer, contractor and vendor warranties (express and implied) of any New System Components.

(x) The Lessee hereby agrees as the lessee hereunder, and as a User under the General Airport Agreement and, if as a party to any of the New Airport Fueling Agreements, if it becomes such a party, that it shall not object to, challenge or make any claim or demand (including without limitation one for or concerning arbitration), whether under this Agreement or the Airport Fueling Agreements or otherwise, with respect to, on account of or arising out of any Permitted Modification, including without limitation, (aa) the failure of the Port Authority to have entered into any written agreement with, or to have obtained consents or approvals from, one or more Users in connection with any Permitted Modification or (bb) the inclusion or the failure to be included in the System Costs any maintenance, repair, replacement, operational or other costs and expenses with respect to a Permitted Modification.

(xi) Notwithstanding any other term or provision of this Agreement or any review by the Port Authority of the plans and specifications for the Fuel Line Work or any comment of the Port Authority on or failure of the Port Authority to comment on the design, performance or installation of the Fuel Line Work, or any inspection or approval by the Port Authority or by the System Operator of the Fuel Line Work, or any terms or conditions

of any Port Authority approval covering the Fuel Line Work, or the existence of any patent or trade name, or any other facts or circumstances which could or could be construed to affect or relieve the Lessee from its obligations under this paragraph (o)(2)(xi), the Lessee unconditionally guarantees, warrants and represents to the Port Authority and the Other Users that:

(aa) the Fuel Line Work shall be performed in accordance with and subject to all the terms and conditions of this Agreement and the General Airport Agreement as the same may be replaced by New Airport Fueling Agreements,

(bb) the New System Components shall comply with all industry standards and Environmental Requirements applicable thereto and shall at all times be fully fit to perform all the functions and purposes for which they were designed and as required by and set forth in the General Airport Agreement as the same may be replaced by New Airport Fueling Agreements,

(cc) the New System Components and the System shall at all times meet or exceed all aspects of the System as it existed prior to the commencement of the Fuel Line Work, including without limitation, in capacity, integrity, functional capability, efficiency and operation,

(dd) the Fuel Line Work shall not be included or includable in System Costs,

(ee) the New System Components shall not increase the costs and expenses to operate, maintain, repair or use the Distribution Portion of the System or the Satellite Portion of the System, or any portion thereof or increase the System Costs,

(ff) the New System Components shall at all times throughout their expected useful life operate free from any defects, deficiencies or failures of any kind, including without limitation, any leaks or any defects, deficiencies or failures in design, workmanship, construction or materials,

(gg) neither the Fuel Line Work nor the New System Components shall violate any Environmental Requirement or cause or result in any Environmental Damages, and

(hh) the New System Components, including without limitation, the cathodic protection system to be installed by the Lessee as part of the Airline Terminal Portion of the Work, shall be designed to be and shall be fully integrated into and compatible with the Distribution Portion and the Satellite Portion of the System (each of the foregoing described in items (aa), (bb), (cc), (dd), (ee), (ff), (gg) and (hh) of this paragraph (o)(2)(xi) and the warranties described in paragraph (g)(8) of this Section being herein called a "*Warranty*").

Upon the Lessee's receipt at any time and from time to time of notice from the Port Authority or any Governmental Authority or other Person that a Warranty has been breached or not complied with or in the event the Lessee becomes aware of or receives any other notice (constructive or otherwise) of a breach of or noncompliance with a Warranty (any such breach or noncompliance being herein called a "*Defect*"), the Lessee shall in accordance with all the terms and conditions of this Agreement including without limitation Section 33 hereof and at its sole cost and expense, repair, modify or replace such Defect or do whatever else shall be required to correct such Defect, including without limitation, removing, relocating and replacing all or a part of the New System Components and all necessary and required work to accomplish the foregoing and none of such costs and expenses shall be or become System Costs. The foregoing warranty, representation and guarantee shall not be a limitation on any expressed or implied warranty or guaranty otherwise available to the Port Authority or the Other Users or any of them, under this Agreement, any of the contracts for the Fuel Line Work, law, equity or otherwise or a limitation on any other rights or remedies which the Port Authority and/or any Other Users may have in connection with the Fuel Line Work, the System or the New System Components whether pursuant to the Airport Fueling Agreements, this Agreement, at law or equity, or otherwise.

(xii) Without limiting any other term or condition of this Agreement and in addition to the terms and conditions set forth elsewhere in this Lease, the Lessee hereby relieves and releases the Port Authority and the Other Users from and assumes all the Fuel Line Risks.

(xiii) (aa) Without limiting any other term or provision hereof and in addition thereto, the Lessee shall release, hold harmless and indemnify the Other Users and each of them and the Port Authority and its Commissioners, officers and employees and representatives from and against, including without limitation, reimbursing the Other Users and the Port Authority for their costs and expenses (including without limitation all legal costs and expenses including the costs and expenses of the Port Authority's own in-house legal staff), incurred in connection with the defense, settlement or satisfaction of all claims and demands, just or unjust, arising or alleged to arise out of the Fuel Line Work, the New System Components, the Abandoned Fuel Lines, the Fuel Line Risks, each Warranty, any Defects, or any breach by the Lessee of any term or provision of this paragraph (o), or any breach of the General Airport Agreement or of the New Airport Fueling Agreements with respect to this paragraph (o), including without limitation, for death, personal injury or property damage, whether pursuant to contract, permit, lease, law, equity or otherwise, whether direct or consequential, and whether they arise from the acts or omissions of the Lessee or of any contractors of the Lessee, or of the Port Authority or any contractor of the Port Authority or of third persons, or of the Other Users or any of them, or from acts of God or a public enemy or otherwise (including claims of the City of New York against the Port Authority pursuant to the provisions of the Basic Lease whereby the Port Authority has agreed to indemnify the City against claims), provided, however, that the Lessee shall not be required to indemnify the Port Authority pursuant to this paragraph (o)(2)(xiii) where indemnity would be precluded pursuant to provisions of any statute.

(bb) If so directed, the Lessee shall at its own expense defend any suit based upon any such claim or demand (even if such suit, claim or demand is groundless, false or fraudulent), and in handling such it shall not, without obtaining express advance written permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority, or the provisions of any statutes respecting suits against the Port Authority.

(xiv) The terms and conditions set forth in subparagraphs (i), (vii), (viii), (ix), (xi), (xii) and (xiii) of this paragraph (o)(2) shall inure to the benefit of the Other Users.

(xv) No acceptance or approval of the Fuel Line Work by the Port Authority in part or in whole whether as set forth in paragraphs (f) and (n) of this Section or in subparagraph (3) of this paragraph (o) or otherwise, shall in part or in whole, release or relieve the Lessee from its obligations under this paragraph (o) or otherwise. Moreover, neither the enumeration in this paragraph (o) nor the enumeration elsewhere in this Agreement of particular risks assumed by the Lessee or of particular claims for which it is responsible shall be deemed (x) to limit the effect of the provisions of this paragraph (o) or of any other Section of this Agreement relating to such risks or claims, (y) to imply that the Lessee assumes or is responsible for risks or claims only of the type enumerated in this paragraph (o) or in any other portion of this Agreement, or (z) to limit the risks which the Lessee would assume or the claims or demands for which it would be responsible in the absence of such enumeration.

(3) In addition to and without affecting the obligations of the Lessee pursuant to paragraph (n) of this Section, when an integral and material portion of the Distribution Portion Work and/or the Satellite Portion Work is fully operational, has been successfully tested and properly flushed and is ready to be placed in service, the Lessee shall so advise the Port Authority and shall deliver to the Port Authority a certificate signed by an authorized officer of the Lessee and also signed by the Lessee's licensed architect or engineer certifying that such portion of the Fuel Line Work has been constructed, inspected and tested in accordance with approved plans and specifications, the provisions of the Lease and the General Airport Agreement and, if, there is in effect, the New Airport Fueling Agreements and in compliance with all applicable laws, ordinances and governmental rules, regulations and orders, including without limitation the System License, and specifying the portion of the Distribution Portion Work and/or the Satellite Portion that has been so completed, inspected and tested. The Port Authority may in its sole discretion deliver a certificate to the Lessee with respect to such portion of the Distribution Portion Work and/or Satellite Portion Work stating that such portion may be placed in operation for the purposes set forth in the General Airport Agreement and, if, there is in effect, the New Airport Fueling Agreements and subject to and in accordance with all the terms and conditions of this Lease and the General Airport Agreement and, if, there is in effect, the New Airport Fueling Agreements and subject to the risks set forth in paragraph (h) hereof in the event that the Port Authority has not approved the plans and specifications for the Redevelopment Work.

(p) Lessee's Ongoing Operations:

The Lessee acknowledges that it may be conducting on that portion of the Premises shown in stipple, stippled cross hatching and stippled diagonal hatching on Exhibit 2.10 the operations permitted by Section 5 hereof and at Terminal 6 the operations permitted under Lease AYD-265 made as of December 1, 2003 between the Port Authority and the Lessee ("Lease AYD-265"), during the period of time it is performing a portion of the Construction Work hereunder. The Lessee further acknowledges that this may involve among other things inconvenience, noise, dust, interference and disturbance to the Lessee in its operations at the Premises and at Terminal 6 as well as to its customers, patrons, invitees and employees and possibly other risks as well. The Lessee hereby expressly assumes all of the foregoing risks and agrees that there will be no reduction or abatement of any of the rentals, fees or charges payable by the Lessee under this Lease, under Lease AYD-265 or otherwise on account of its performance of the Construction Work and that the performance of the Construction Work shall not constitute an eviction or constructive eviction of the Lessee nor be grounds for any abatement of rentals, fees or charges payable by the Lessee under this Lease, under Lease AYD-265 or otherwise nor give rise to or be the basis of any claim or demand by the Lessee against the Port Authority, its Commissioners, officers, employees or agents for damages, consequential or otherwise, under this Lease or otherwise.

(q) Assignment of Contracts and Plans and Specifications:

(1) As part of the consideration in entering into this Agreement, the Lessee shall execute and deliver to the Port Authority for the Port Authority's execution at the same time that the Port Authority shall execute this Agreement an agreement in the form attached hereto, hereby made a part hereof and marked "Exhibit 2.19" covering the assignment of the Redevelopment Work Contracts and Documents to the Port Authority (such agreement as duly executed by the Port Authority and the Lessee, as the same may be amended, supplemented, or otherwise modified from time to time, is herein referred to as the "*Assignment of Redevelopment Work Contracts and Documents*"). The Lessee hereby agrees that a breach or failure to perform or comply with any of the terms and conditions of the Assignment of Redevelopment Work Contracts and Documents shall constitute a breach of this Lease thereby entitling the Port Authority to immediately exercise any and all rights available to it as fully as if such breach, failure or non-compliance was a breach of this Lease, including without limitation, the right to terminate this Lease pursuant to Section 20 hereof.

(2) The Lessee shall not enter into a Redevelopment Work Contract with a Redevelopment Work Contractor for the Parking Garage Work unless simultaneously with the Lessee's execution of such Redevelopment Work Contract the Redevelopment Work Contractor shall duly execute and deliver to the Port Authority a consent and agreement in the form attached to the Assignment of Redevelopment Work Contract and Documents attached thereto as "Exhibit A" covering all warranties, guaranties and maintenance contracts, including without limitation any Port Authority Service Contract relating to the Parking Garage Work and which is covered by such Redevelopment Work Contract.

(r) Lessee's Obligations for Costs and Delays:

(1) The Lessee shall be solely and fully responsible for all Project Costs except for the Net Cost of Port Authority Requested Change Orders without any payment or reimbursement or claim or right to payment or reimbursement from the Port Authority except as otherwise expressly provided in paragraph (g)(12) of this Section and in Section 87 hereof entitled "Port Authority Payments For the Cost of the Redevelopment Work".

(2) Except as set forth in paragraph (s) of this Section and as set forth in paragraph (a)(14) of Section 87 hereof, the Lessee shall be solely and fully responsible for all delays in connection with the Construction Work and all costs associated therewith (which costs shall be included as a Project Cost), including without limitation all delays associated or in connection with the MOA, and the Port Authority shall not in any event have any liability or obligation to the Lessee or to any other person, party or entity, including without limitation any contractor or subcontractor (at any tier) of the Lessee, for any delay in the Construction Work or for any increase in the costs of the Construction Work, or any portion thereof, or for any remedy or damages, monetary or otherwise, at law or in equity, arising from, relating to or in any way in connection with any such delay (including stoppage) or increase in costs; nor shall any such cause, delay, stoppage or increase in costs result in or entitle the Lessee to any abatement, reduction, diminution or suspension of any rental or other payment obligation hereunder.

(3) The Lessee agrees that the Lessee's $80 Million Work shall be completed on or before the Tentative Final Certificate Date and shall not be paid for by the Port Authority pursuant to Section 87 hereof or otherwise.

(s) Parking Garage DEC Delays:

(1) The following terms, when used in this Agreement, shall, unless the context shall require otherwise, have the respective meanings given below:

(i) "*Parking Garage DEC Delay*" shall mean that in the sole and reasonable opinion of the Chief Engineer of the Port Authority the Parking Garage Completion Date shall have been actually and necessarily delayed beyond the later to occur of the Second Enplanement Rental Abatement End Date and the Extended Second Enplanement Rental Abatement End Date, if any, directly and solely because of remediation required by the DEC of one or more Hazardous Substances in the soil or ground water in, on or under the Parking Garage Site, provided, however, that there shall be no Parking Garage DEC Delay for any remediation of any Lessee Hazardous Substance.

(ii) "*Parking Garage DEC Delay Costs*" shall mean that portion of the Cost of the Parking Garage Work that in the sole and reasonable opinion of the Chief Engineer of the Port Authority were incurred directly and solely because of a Parking Garage DEC Delay and would not have for any other reason but for the Parking Garage DEC Delay have been incurred.

(2) If a Parking Garage DEC Delay shall have occurred, then, provided and subject to all of the following terms and conditions the Parking Garage DEC Delay

Costs shall not be included as a part of the Cost of the Lessee's Redevelopment Work Elements and shall be and become a part of the Cost of the Port Authority Redevelopment Work Elements and be paid to the Lessee by the Port Authority pursuant to Section 87 hereof as a part of the Cost of the Port Authority Redevelopment Work Elements:

(i) No Parking Garage DEC Delay shall occur or be deemed to have occurred if such delay could have been avoided or mitigated by the exercise of all reasonable precautions, efforts and measures (including, without limitation, planning, scheduling and rescheduling and the cooperation and coordination called for under subparagraph (4) of this paragraph (s)), whether before or after the occurrence of the cause of delay; or was due in whole or in part due to the performance of the Construction Work, or portion thereof, any fault of the Lessee or any contractor or subcontractor (at any tier) of the Lessee or for any other delay for which the Lessee or any contractor or subcontractor (at any tier) of the Lessee is entitled to an extension of time. Further, no Parking Garage DEC Delay Costs shall be or be deemed to have incurred if such costs could have been avoided or mitigated by the exercise of all reasonable precautions, efforts and measures (including, without limitation, planning, scheduling and rescheduling and the cooperation and coordination called for under subparagraph (4) of this paragraph (s)), whether before or after the incurrence of any costs; or were due in whole or in part due to the performance of the Construction Work, or portion thereof, any fault of the Lessee or any contractor or subcontractor (at any tier) of the Lessee or for any other costs for which the Lessee is entitled to be paid by any Person other than the Port Authority.

(ii) The Chief Engineer of the Port Authority may defer all or part of his or her decision on whether a Parking Garage DEC Delay has occurred or any Parking Garage DEC Delay Costs have been incurred and any such decision may be rescinded or shortened if it subsequently is found that the delay can be overcome or reduced or the costs be avoided or reduced by the exercise of reasonable precautions, efforts and measures (including, without limitation, the coordination and cooperation called for under subparagraph (4) of this paragraph (s)).

(3) (i) As a condition precedent to the occurrence of a Parking Garage DEC Delay and the incurring of Parking Garage DEC Delay Costs, the Lessee shall give written notice to the Chief Engineer of the Port Authority promptly after the time when the Lessee knows of any cause which might result in a Parking Garage DEC Delay or result in the incurring of any Parking Garage DEC Delay Costs (including those causes which the Port Authority is responsible for or has knowledge of), specifically stating that a Parking Garage DEC Delay is or may be claimed or Parking Garage DEC Delay Costs have or may be incurred, identifying such cause and describing, as fully as practicable at the time, the nature and expected duration of the delay and its effect on the completion of the Parking Garage Work and the estimate of the Parking Garage DEC Delay Costs. Since a possible Parking Garage DEC Delay and the possible incurring of Parking Garage DEC Delay Costs may materially alter the scheduling, plans and other actions of the Port Authority, and since, with sufficient opportunity, the Port Authority might, if it so elects, attempt to mitigate the effect of a Parking Garage DEC Delay and the delay for which a Parking Garage DEC Delay might be claimed, and since merely oral notice may cause disputes as to the existence or substance thereof, the giving of written notice as above required shall be of the essence of the Lessee's rights and obligations under this

paragraph (s) and failure of the Lessee to give written notice as above required shall be a waiver of the assumption of any Parking Garage DEC Delay Costs by the Port Authority unless the ability of the Chief Engineer of the Port Authority to evaluate whether a Parking Garage DEC Delay has occurred or whether any Parking Garage DEC Delay Costs have incurred, if any, has not been actually prejudiced by such failure.

(ii) It shall in all cases be presumed that no Parking Garage DEC Delay has occurred and no Parking Garage DEC Delay Costs shall have been incurred unless the Lessee shall affirmatively demonstrate to the satisfaction of the Chief Engineer of the Port Authority that a Parking Garage DEC Delay has occurred and Parking Garage DEC Delay Costs have been incurred. To this end, and in addition to and without limiting any other term or provision of this Agreement, the Lessee shall maintain adequate records supporting any claim for a Parking Garage DEC Delay and Parking Garage DEC Delay Costs, and in the absence of such records, the foregoing presumption shall be deemed conclusive.

(4) It is recognized that the Lessee may be performing the Parking Garage Work, or portions thereof as the case may be, concurrently with the performance of remediation of the Parking Garage Site by the Port Authority or its designee that is required by the DEC (the "*DEC Required Remediation*". The Port Authority and the Lessee agree to consult with each other, and to cause each of their respective contractors to cooperate, in the scheduling of the DEC Required Remediation and to coordinate such scheduling with the scheduling of the performance of the Parking Garage Work, subject to the requirements of the DEC, so as to provide minimum interference with the Lessee's scheduling of the Parking Garage Work. Solely for purposes of the foregoing (and not for any right of review or approval by the Lessee) the Port Authority and the Lessee will provide to the other a copy of the remedial work plan or plans, including the scheduling, for any DEC Required Remediation as and when the same are available and at such time notify the other party of the estimated completion dates (if there are phased completion dates) and the estimated completion date of any DEC Required Remediation.

(t) The Port Authority shall make available to the Lessee, during the performance of the Redevelopment Work, at no additional rental to the Lessee, a material and staging area as shown on the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 2.20" (which exhibit is herein referred to "*Exhibit 2.20*" and which area is herein referred to as the "*Staging Area*"). The location of the Staging Area may be changed and/or moved by the Port Authority at any time and from time to time on ninety (90) days' notice to the Lessee. The Lessee shall have the exclusive use of the Staging Area in connection with the completion of all the Redevelopment Work until sixty (60) days after the Completion Date (the "*Staging Area Termination Date*"). The Lessee shall be responsible for constructing any necessary improvements to the Staging Area including but not limited to utilities, fencing and lighting and the demolition and removal of same prior to the Staging Area Termination Date and for security and any other services at the Staging Area. The Staging Area and the use thereof by the Lessee for the purposes set forth above shall be subject to all of the appropriate terms and provisions of this Agreement including, but not limited to, indemnity and insurance.

Section 3. Term

(a) The term of the letting under this Lease (the "*Term*") shall commence on the Lease Commencement Date and shall expire ("the "*Expiration Date*"), on the earlier to occur of (x) the day preceding the thirty-fourth (34th) anniversary of the Lease Commencement Date and (y) the thirtieth (30th) anniversary of DBO, unless sooner terminated in accordance with the terms and provisions of the Lease, provided, however, in the event there is a Second Enplanement Rental Abatement End Date and/or an Extended Second Enplanement Rental Abatement End Date, then unless sooner terminated in accordance with the terms and provisions of the Lease, the Term shall expire on the earlier to occur of (x) the day preceding the thirty-fourth (34th) anniversary of the Lease Commencement Date and (y) the thirtieth (30th) anniversary of the later to occur of the Second Enplanement Rental Abatement End Date and the Extended Second Enplanement Rental Abatement End Date.

(b) The Lessee shall have the right to terminate the letting under this Lease in its entirety, without cause, upon notice to the Port Authority given by the Lessee at any time during the twelve month period (and only during such twelve month period) commencing on the twenty-third (23rd) anniversary of the later to occur of the Third Additional Rental Commencement Date, the Second Enplanement Rental Abatement End Date and the Extended Second Enplanement Rental Abatement End Date, and ending on the day immediately preceding the twenty-fourth (24th) anniversary of the later to occur of the Third Additional Rental Commencement Date, the Second Enplanement Rental Abatement End Date and the Extended Second Enplanement Rental Abatement End Date, which termination shall become effective on (and only on) the day immediately preceding the twenty-fifth (25th) anniversary of the later to occur of the Third Additional Rental Commencement Date, the Second Enplanement Rental Abatement End Date and the Extended Second Enplanement Rental Abatement End Date, (the "*Optional Expiration Date*"), provided, however, the letting shall not terminate on the Optional Expiration Date if the Lessee shall be under notice of default as to which any applicable period to cure has passed, or under notice of termination, from the Port Authority, either on the date of its giving of such notice to the Port Authority or on the Optional Expiration Date. Termination by the Lessee under the provisions of this paragraph (b) shall have the same effect as if the Optional Expiration Date were the date of expiration of the term of the letting under this Agreement.

Section 4. Rental

I. Definitions

For the purposes of this Lease the following terms shall have the respective meanings given below:

(a) "*Adjustment Period*" shall mean, as the context requires, the period commencing on January 1, 2006 and expiring on December 31, 2006 (the "*First Adjustment Period*") and each of the succeeding twelve-month periods beginning on each January 1st thereafter occurring to and including the Expiration Date, provided, however, in the event the Expiration Date is on other than the last day of a calendar year then in such event the last "Adjustment Period" shall expire on the Expiration Date.

(b) "*Annual Period*" shall mean, as the context requires, the twelve-month period commencing with the Full Enplanement Rental Commencement Date and each twelve-month period thereafter occurring, each such Annual Period to commence on the anniversary of the Full Enplanement Rental Commencement Date, provided, however, that if the Full Enplanement Rental Commencement Date is other than the first day of a calendar month, the first Annual Period shall include the portion of the month in which the Full Enplanement Rental Commencement Date occurs following such date plus the succeeding eleven calendar months and each such subsequent Annual Period shall commence on the anniversary of the first day of the first full calendar month in which the first anniversary of the Full Enplanement Rental Commencement Date occurs, provided, further, that the last Annual Period shall end on the Expiration Date.

(c) "*Base Enplanement Rental*" shall mean for each Annual Period the Initial Base Enplanement Rental for such Annual Period, as the same may have been adjusted pursuant to the terms of Sections 42 and 43 hereof.

(d) "*CPI*" *or* "*Consumer Price Index*" shall mean the Consumer Price Index for all Urban Consumers, New York-Northern New Jersey, Long Island, NY-NJ-CT (All Items, unadjusted 1982-84=100) published by the Bureau of Labor Statistics of the United States Department of Labor.

(e) "*CPI Percentage Increase*" shall mean the annual percentage increase, if any, in the CPI yielded by dividing the amount of the increase, if any, in the CPI for one Reference Month as compared to the CPI for the immediately preceding Reference Month, by the CPI for the earlier of the two Reference Months; as determined by the Port Authority.

(f) "*DBO*" and "*Date of Beneficial Occupancy*" shall each mean the date of the issuance of a certificate issued by the Port Authority pursuant to Section 2(n)(2) covering the completion, or partial completion, of the Terminal Work so that with the issuance of such certificate, 13 or more Gates and Gate Related Premises at the New Passenger Terminal are sufficiently completed so as to allow the use and occupancy thereof.

(g) "*Enplanement*" shall mean each aircraft passenger that departs by aircraft from the Premises, provided, however, Enplanements shall not include aircraft passengers that are employees of a Scheduled Aircraft Operator for whom the Lessee does not receive any monies or other revenue or that are employees of a wholly owned subsidiary of the Lessee for whom the Lessee does not receive any monies or other revenue.

(h) "*Enplanement* Rental"shall mean in the singular each of, and "*Enplanement Rentals*" shall collectively mean, the First Enplanement Rental and the Second Enplanement Rental.

(i) "*Fifth Ground Rental*" shall mean the rental payable by the Lessee to the Port Authority pursuant to and calculated in accordance with the terms of paragraph (a)(5) of Subdivision II of this Section.

(j) "*Fifth Variable Per Enplanement Rental Rate*" shall mean with respect to each Annual Period, an amount equal to the product obtained by multiplying the Per Enplanement Rental Rate for such Annual Period, as the same may have been reduced and adjusted by the provisions of paragraph (b)(3) of Subdivision II hereof, by Forty-eight Percent (48%).

(k) "*Final Payment Date*" shall mean the date that the last Port Authority Payment shall be made to the Lessee.

(l) "*First Additional Rental*" shall mean the rental payable by the Lessee to the Port Authority pursuant to and calculated in accordance with the terms of paragraph (c)(1) of Subdivision II of this Section.

(m) "*First Enplanement Date*" shall mean the date that the first Enplanement shall occur from the New Passenger Terminal.

(n) "*First Enplanement Rental*" shall mean the rental payable by the Lessee to the Port Authority pursuant to and calculated in accordance with the terms of paragraph (b)(1) of Subdivision II of this Section.

(o) "*First Ground Rental*" shall mean the rental payable by the Lessee to the Port Authority pursuant to and calculated in accordance with the terms of paragraph (a)(1) of Subdivision II of this Section.

(p) "*First Temporary Enplanement Date*" shall mean the date that the first Enplanement shall occur from the Temporary Facilities.

(q) "*First Variable Per Enplanement Rental Rate*" shall mean with respect to each Annual Period, an amount equal to the product obtained by multiplying the Per Enplanement Rental Rate for such Annual Period, as the same may have been reduced and adjusted by the provisions of paragraph (b)(3) of Subdivision II hereof, by Ninety-Five Percent (95%).

(r) "*Fourth Additional Rental*" shall mean the rental payable by the Lessee to the Port Authority pursuant to and calculated in accordance with the terms of paragraph (c)(4) of Subdivision II of this Section.

(s) "*Fourth Ground Rental*" shall mean the rental payable by the Lessee to the Port Authority pursuant to and calculated in accordance with the terms of paragraph (a)(4) of Subdivision II of this Section.

(t) "*Fourth Variable Per Enplanement Rental Rate*" shall mean with respect to each Annual Period, an amount equal to the product obtained by multiplying the Per Enplanement Rental Rate for such Annual Period, as the same may have been reduced and

adjusted by the provisions of paragraph (b)(3) of Subdivision II hereof, by Sixty-Three Percent (63%).

(u) "*Full Enplanement Rental Commencement Date*" shall mean the first to occur of (i) DBO and (ii) the fourth (4th) anniversary of the Lease Commencement Date.

(v) "*Ground Rental Base Rate*" shall mean for the period from the Lease Commencement Date to December 31, 2005, both dates inclusive, an annual rate per square foot of ground area of (Ex. 2.a.) (Ex. 2.a.), which annual rate shall thereafter be increased as follows:

(1) The Ground Rental Base Rate of (Ex. 2.a.) (Ex. 2.a.) set forth above in this paragraph (v) shall be separately multiplied (A) by a percentage composed of ½ of the CPI Percentage Increase as calculated using the two immediately preceding Reference Months (i.e. October 2004 and October 2005) plus 100% and (B) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (A) and (B) shall be and become the Ground Rental Base Rate for the First Adjustment Period, as defined in paragraph (a) of this Subdivision I of this Section.

(2) The Port Authority shall ascertain the CPI for the first Reference Month and for each succeeding Reference Month after the same has been published, and the Port Authority shall also determine each CPI Percentage Increase.

(3) Effective on January 1, 2007 and on the first day of each Adjustment Period thereafter, the Ground Rental Base Rate shall be further increased for each Adjustment Period as follows: the amount of the Ground Rental Base Rate set forth in paragraph (v)(1) above as the same may have been last adjusted under this paragraph (v)(3), shall be separately multiplied (A) by a percentage composed of ½ of the CPI Percentage Increase as calculated using the two immediately preceding Reference Months plus 100% and (B) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (A) and (B) shall be and become the Ground Rental Base Rate for the subject Adjustment Period.

(w) "*Guaranteed Annual Enplanements*" shall mean the Initial Base Guaranteed Annual Enplanements, for each Annual Period, as the same may have been adjusted pursuant to the terms of Sections 42 and 43 hereof.

(x) "*Initial Base Enplanement Rental*" shall mean for each Annual Period an amount equal to the product obtained by multiplying the Initial Base Guaranteed Annual Enplanements for such Annual Period by the Per Enplanement Rental Rate for such Annual Period as such Per Enplanement Rental Rate may have been reduced and adjusted by the provisions of paragraph (b)(3) of Subdivision II hereof.

(y) "*Initial Base Guaranteed Annual Enplanements*" shall mean for each Annual Period the following number of Enplanements:

(1) For the first Annual Period, (Ex. 2.a.) (Ex. 2.a.) Enplanements, and

(2) For the second Annual Period, (Ex. 2.a.) (Ex. 2.a.) Enplanements, and

(3) For the third Annual Period, (Ex. 2.a.) (Ex. 2.a.) Enplanements, and

(4) For the fourth Annual Period, (Ex. 2.a.) (Ex. 2.a.) Enplanements, and

(5) For each and every Annual Period after the fourth Annual Period, (Ex. 2.a.) (Ex. 2.a.) Enplanements.

(z) "*Initial Minimum Enplanement Rental*" shall mean for each Annual Period the amount set forth for such Annual Period in the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 4.1" under the column entitled "Initial Minimum Enplanement Rental".

(aa) "*Minimum Enplanement Rental*" shall mean for each Annual Period the Initial Minimum Enplanement Rental for such Annual Period, as the same may have been adjusted pursuant to the terms of Sections 42 and 43 hereof.

(bb) "*Monthly Period*" shall mean, as the context requires, the period commencing on the First Enplanement Date and expiring at the end of the calendar month in which the First Enplanement Date shall occur and each calendar month thereafter occurring up to and including the day immediately preceding the later to occur of (x) the day preceding the Full Enplanement Rental Commencement Date,(y) the Second Enplanement Rental Abatement End Date and (z) the Extended Second Enplanement Rental Abatement End Date, it being understood that if the Full Enplanement Rental Commencement Date, the Second Enplanement Rental Abatement End Date and the Extended Second Enplanement Rental Abatement End Date shall be other than the first day of a calendar month, then the last Monthly Period shall not be a full calendar month.

(cc) "*Payment Date*" shall mean with respect to each Port Authority Payment, the date that such Port Authority Payment shall be made to the Lessee.

(dd) "*Per Enplanement Rental Rate*" shall mean for each Annual Period the amount set forth for such Annual Period in the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 4.2" (which exhibit is herein referred to as "*Exhibit 4.2*") under the column entitled "Per Enplanement Rental Rate", as the same may have been reduced and adjusted pursuant to paragraph (b)(3) of Subdivision II of this Section.

(ee) "*Post-DBO Additional Rental Commencement* Date" shall mean the period commencing on the first day of the thirteenth (13th) calendar month following the earlier to occur of (i) the calendar month in which DBO shall have occurred and (ii) the calendar month in which the fifth (5th) anniversary of the Lease Commencement Date shall have occurred.

(ff) "*Reference Month*" shall mean the calendar month of October 2004 (the first Reference Month) and each succeeding calendar month of October thereafter occurring.

(gg) "*Second Additional Rental*" shall mean the rental payable by the Lessee to the Port Authority pursuant to and calculated in accordance with the terms of paragraph (c)(2) of Subdivision II of this Section.

(hh) "*Second Enplanement Rental*" shall mean the rental payable by the Lessee to the Port Authority pursuant to and calculated in accordance with the terms of paragraph (b)(2) of Subdivision II of this Section.

(ii) "*Second Ground Rental*" shall mean the rental payable by the Lessee to the Port Authority pursuant to and calculated in accordance with the terms of paragraph (a)(2) of Subdivision II of this Section.

(jj) "*Second Variable Per Enplanement Rental Rate*" shall mean with respect to each Annual Period, an amount equal to the product obtained by multiplying the Per Enplanement Rental Rate for such Annual Period, as the same may have been reduced and adjusted by the provisions of paragraph (b)(3) of Subdivision II hereof, by Eighty-eight Percent (88%).

(kk) " *Temporary Facility Ground Rental*" shall mean the rental payable by the Lessee to the Port Authority pursuant to and calculated in accordance with the terms of paragraph (a)(6) of Subdivision II of this Section.

(ll) "*Third Additional Rental*" shall mean the rental payable by the Lessee to the Port Authority pursuant to and calculated in accordance with paragraph (c)(3) of Subdivision II of this Section.

(mm) "*Third Ground Rental*" shall mean the rental payable by the Lessee to the Port Authority pursuant to and calculated in accordance with the terms of paragraph (a)(3) of Subdivision II of this Section.

(nn) "*Third Variable Per Enplanement Rental Rate*" shall mean for each Annual Period, an amount equal to the product obtained by multiplying the Per Enplanement Rental Rate for such Annual Period, as the same may have been reduced and adjusted by the provisions of paragraph (b)(3) of Subdivision II hereof, by (Ex. 2.a.) (Ex. 2.a.)

(oo) "*Variable Enplanement Rental*" shall mean for each Annual Period, the sum of the following amounts:

(1) The product obtained by multiplying the First Variable Per Enplanement Rental Rate by the number of Enplanements occurring during such Annual Period in excess of the Guaranteed Annual Enplanements for such Annual Period but not in excess of (Ex.2.a.) Enplanements more than the Guaranteed Annual Enplanements for such Annual Period; and

(2) The product obtained by multiplying the Second Variable Per Enplanement Rental Rate by the number of Enplanements occurring during such Annual Period in excess of (Ex.2.a.) Enplanements above the Guaranteed Annual Enplanements for such Annual Period but not in excess of (Ex.2.a.) Enplanements more than the Guaranteed Annual Enplanements for such Annual Period; and

(3) The product obtained by multiplying the Third Variable Per Enplanement Rental Rate by the number of Enplanements occurring during such Annual Period in excess of (Ex.2.a.) Enplanements above the Guaranteed Annual Enplanements for such Annual Period but not in excess of (Ex.2.a.) Enplanements more than the Guaranteed Annual Enplanements for such Annual Period; and

(4) The product obtained by multiplying the Fourth Variable Per Enplanement Rental Rate by the number of Enplanements occurring during such Annual Period in excess of (Ex.2.a.) Enplanements above the Guaranteed Annual Enplanements for such Annual Period but not in excess of (Ex.2.a.) Enplanements more than the Guaranteed Annual Enplanements for such Annual Period; and

(5) The product obtained by multiplying the Fifth Variable Per Enplanement Rental Rate by the number of Enplanements occurring during such Annual Period in excess of (Ex.2.a.) Enplanements above the Guaranteed Annual Enplanements for such Annual Period.

II. Rentals:

(a) Ground Rentals:

(1) First Ground Rental:

For the period from and including the Lease Commencement Date to and including the earliest to occur of (x) the day immediately preceding the fourth (4th) anniversary of the Lease Commencement Date, (y) the day immediately preceding DBO and (z) the day immediately preceding the First Enplanement Date, the Lessee shall pay to the Port Authority a rental (the "*First Ground Rental*") for the ground area shown in stipple, stippled diagonal hatching and stippled double parallel vertical hatching on Exhibit 1.1 in the amounts set forth below.

(i) The First Ground Rental shall be in the amount of (Ex.2.a.)

(Ex.2.a.) per annum for the period from the Lease Commencement Date to December 31, 2005, both dates inclusive, which First Ground Rental shall thereafter be adjusted on an annual basis as hereinafter set forth.

(ii) The Port Authority shall ascertain the CPI for the first Reference Month and for each succeeding Reference Month after the same has been published, and the Port Authority shall also determine each CPI Percentage Increase.

(iii) (aa) Effective on January 1, 2006 the First Ground Rental in the amount of (Ex.2.aa.) per annum as set forth in paragraph (a)(1)(i) above shall be increased as follows: the First Ground Rental set forth in paragraph (a)(1)(i) above shall be separately multiplied (x) by a percentage composed of ½ of the CPI Percentage Increase as calculated using the two immediately preceding Reference Months (i.e. October 2004 and October 2005) plus 100% and (y) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (x) and (y) shall be and become the First Ground Rental in effect for the Adjustment Period commencing on January 1, 2006.

(bb) Effective on January 1, 2007 and on the first day of each Adjustment Period thereafter occurring up to and including the earliest to occur of (x) the day immediately preceding the fourth (4th) anniversary of the Lease Commencement Date, (y) the day immediately preceding DBO and (z) the day immediately preceding the First Enplanement Date, the First Ground Rental shall be further increased for each Adjustment Period as follows: the amount of the First Ground Rental set forth in paragraph (a)(1)(i) above as the same shall have been last adjusted under this paragraph (a)(1)(iii), shall be separately multiplied (x) by a percentage composed of ½ of the CPI Percentage Increase calculated using the two Reference Months immediately preceding the first day of the subject Adjustment Period plus 100% and (y) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (x) and (y) shall be and become the First Ground Rental in effect for the subject Adjustment Period.

(2) Second Ground Rental:

From and after the earliest to occur of (x) the fourth (4th) anniversary of the Lease Commencement Date, (y) DBO and (z) the First Enplanement Date (the "*Second Ground Rental Commencement Date*"), the Lessee shall pay to the Port Authority an annual rental (the "*Second Ground Rental*") for the ground area shown in stipple, stippled diagonal hatching and stippled double parallel vertical hatching on Exhibit 1.1 calculated, and in the amounts stated, as follows:

(i) The Port Authority shall determine the Second Ground Rental in effect on the Second Ground Rental Commencement Date, which Second Ground Rental shall be an annual amount equal to the product obtained from the following calculation:

(aa) First, the number of square feet of land area in the Terminal 4 Parcel if the Terminal 4 Parcel is a part of the Premises on the Second Ground Rental Commencement Date, the number of square feet of land area in the Terminal 6 Parcel if the Terminal 6 Parcel is a part of the Premises on the Second Ground Rental Commencement Date and the number of square feet of land area in the remainder of the Premises all shall be calculated to the second decimal place; then

(bb) Second, the number of square feet of land area in the Terminal 4 Parcel if the Terminal 4 Parcel is a part of the Premises on the Second Ground Rental Commencement Date and the number of square feet of land area in the Terminal 6 Parcel if the Terminal 6 Parcel is a part of the Premises on the Second Ground Rental Commencement Date, each of the foregoing calculated to the second decimal place, shall be subtracted from the number of square feet of land area in the Premises; then

(cc) Third, the difference resulting from the subtraction performed in the foregoing clause (bb), if any, shall be multiplied by the Ground Rental Base Rate in effect during the Adjustment Period during which the Second Ground Rental Commencement Date shall occur.

The resulting product from the calculation in the foregoing clause (cc) shall be and become the Second Ground Rental payable for the period from the Second Ground Rental Commencement Date to and including the December 31st of the calendar year in which the Second Ground Rental Commencement Date shall occur, which Second Ground Rental shall thereafter be adjusted on an annual basis as hereinafter set forth during the Term.

(ii) The Port Authority shall ascertain the CPI for the first Reference Month and for each succeeding Reference Month after the same has been published, and the Port Authority shall also determine each CPI Percentage Increase.

(iii) (aa) Effective on the first January 1st following the Second Ground Rental Commencement Date, the Second Ground Rental shall be increased as follows: the Second Ground Rental set forth in paragraph (a)(2)(i) above shall be separately multiplied (x) by a percentage composed of ½ of the CPI Percentage Increase as calculated using the two Reference Months immediately preceding such January 1st, plus 100% and (y) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (x) and (y) shall be and become the Second Ground Rental in effect for the Adjustment Period commencing on the first January 1st following the Second Ground Rental Commencement Date.

(bb) Effective on the second January 1st following the Second Ground Rental Commencement Date and on the first day of each Adjustment Period occurring during the remainder of the Term, the Second Ground Rental shall be further increased for each Adjustment Period as follows: the amount of the Second Ground Rental set forth in paragraph (a)(2)(i) above as the same shall have been last adjusted under this paragraph (a)(2)(iii), shall be separately multiplied (x) by a

percentage composed of ½ of the CPI Percentage Increase calculated using the two Reference Months immediately preceding the first day of the subject Adjustment Period plus 100% and (y) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (x) and (y) shall be and become the Second Ground Rental in effect for the subject Adjustment Period.

(3) Third Ground Rental:

From and after the Terminal 6 Parcel Tender Date, the Lessee shall pay to the Port Authority an annual rental (the "*Third Ground Rental*") for the Terminal 6 Parcel in the amounts and as calculated as follows:

(i) The Port Authority shall determine the Third Ground Rental in effect on the Terminal 6 Parcel Tender Date, which Third Ground Rental shall be an annual amount equal to the product obtained by multiplying the number of square feet of land area in the Terminal 6 Parcel on the Terminal 6 Parcel Tender Date, calculated to the second decimal place, by the Ground Rental Base Rate in effect during the Adjustment Period during which the Terminal 6 Parcel Tender Date shall occur, and such product shall be and become the Third Ground Rental payable for the period from the Terminal 6 Parcel Tender Date to and including the December 31st of the calendar year in which the Terminal 6 Parcel Tender Date shall occur, which Third Ground Rental shall thereafter be adjusted during the Term on an annual basis as hereinafter set forth.

(ii) The Port Authority shall ascertain the CPI for the first Reference Month and for each succeeding Reference Month after the same has been published, and the Port Authority shall also determine each CPI Percentage Increase.

(iii) (aa) Effective on the first January 1st following the Terminal 6 Parcel Tender Date, the Third Ground Rental shall be increased as follows: the Third Ground Rental set forth in paragraph (a)(3)(i) above shall be separately multiplied (x) by a percentage composed of ½ of the CPI Percentage Increase as calculated using the two Reference Months immediately preceding such January 1st, plus 100% and (y) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (x) and (y) shall be and become the Third Ground Rental in effect for the Adjustment Period commencing on the first January 1st following the Terminal 6 Parcel Tender Date.

(bb) Effective on the second January 1st following the Terminal 6 Parcel Tender Date and on the first day of each Adjustment Period occurring during the remainder of the Term, the Third Ground Rental shall be further increased for each Adjustment Period as follows: the amount of the Third Ground Rental set forth in paragraph (a)(3)(i) above as the same shall have been last adjusted under this paragraph (a)(3)(iii), shall be separately multiplied (x) by a percentage composed of ½ of the CPI Percentage Increase calculated using the two Reference Months immediately preceding the first day of the subject Adjustment Period plus 100% and (y) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (x)

and (y) shall be and become the Third Ground Rental in effect for the subject Adjustment Period.

(4) Fourth Ground Rental:

From and after the Terminal 4 Parcel Tender Date, the Lessee shall pay to the Port Authority an annual rental (the "*Fourth Ground Rental*") for the Terminal 4 Parcel in the amounts and as calculated as follows:

(i) The Port Authority shall determine the Fourth Ground Rental in effect on the Terminal 4 Parcel Tender Date, which Fourth Ground Rental shall be an annual amount equal to the product obtained by multiplying the number of square feet of land area in the Terminal 4 Parcel on the Terminal 4 Parcel Tender Date, calculated to the second decimal place, by the Ground Rental Base Rate in effect during the Adjustment Period during which the Terminal 4 Parcel Tender Date shall occur, and such product shall be and become the Fourth Ground Rental payable for the period from the Terminal 4 Parcel Tender Date to and including the December 31st of the calendar year in which the Terminal 4 Parcel Tender Date shall occur, which Fourth Ground Rental shall thereafter be adjusted during the Term on an annual basis as hereinafter set forth.

(ii) The Port Authority shall ascertain the CPI for the first Reference Month and for each succeeding Reference Month after the same has been published, and the Port Authority shall also determine each CPI Percentage Increase.

(iii) (aa) Effective on the first January 1st following the Terminal 4 Parcel Tender Date, the Fourth Ground Rental shall be increased as follows: the Fourth Ground Rental set forth in paragraph (a)(4)(i) above shall be separately multiplied (x) by a percentage composed of ½ of the CPI Percentage Increase as calculated using the two Reference Months immediately preceding such January 1st, plus 100% and (y) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (x) and (y) shall be and become the Fourth Ground Rental in effect for the Adjustment Period commencing on the first January 1st following the Terminal 4 Parcel Tender Date.

(bb) Effective on the second January 1st following the Terminal 4 Parcel Tender Date and on the first day of each Adjustment Period occurring during the remainder of the Term, the Fourth Ground Rental shall be further increased for each Adjustment Period as follows: the amount of the Fourth Ground Rental set forth in paragraph (a)(4)(i)above as the same shall have been last adjusted under this paragraph (a)(4)(iii), shall be separately multiplied (x) by a percentage composed of ½ of the CPI Percentage Increase calculated using the two Reference Months immediately preceding the first day of the subject Adjustment Period plus 100% and (y) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (x) and (y) shall be and become the Fourth Ground Rental in effect for the subject Adjustment Period.

(5) Fifth Ground Rental:

On the Lease Commencement Date and on the first day of each and every month thereafter occurring up to and including the day preceding the Shell Completion Date, the Lessee shall pay to the Port Authority a monthly rental (the "*Fifth Ground Rental*"), which Fifth Ground Rental shall be in an amount calculated for each and every full or partial calendar month occurring during such period as follows in the following order:

(i) First, the annual Ground Rental Base Rate in effect for the month for which the calculation is being made shall be divided by the whole number 12, provided, however, in the event that that the Lease Commencement Date is not the first day of a calendar month, or in the event that the Fifth Ground Rental shall end on a day other than the last day of a calendar month, then for the purpose of determining the quotient to be calculated pursuant to this subparagraph (i), the quotient obtained from the foregoing division for such month shall be prorated on a daily basis using the actual number of days in the said month that the Fifth Ground Rental is in effect; then;

(ii) Second, the quotient derived in subparagraph (i) above, as the same may have been prorated, shall be multiplied by the number fifty-six and three tenths (56.3); then

(iii) Third, the monthly installment of First Ground Rental payable for the month for which the calculation is being made shall be subtracted from the product obtained from the calculation made pursuant to paragraph (a)(5)(ii) of this Subdivision II; then

(iv) Fourth, the monthly installment of Temporary Facility Ground Rental payable for the month for which the calculation is being made shall be subtracted from the difference obtained from the calculation made pursuant to paragraph (a)(5)(iii) of this Subdivision II, and the difference so obtained shall be the Fifth Ground Rental for such month.

(6) Temporary Facility Ground Rental:

From and including the First Temporary Enplanement Date to and including the day immediately preceding the Second Ground Rental Commencement Date, the Lessee shall pay to the Port Authority an annual rental (the "*Temporary Facility Ground Rental*") for the ground area shown in stipple and stippled cross hatching on Exhibit 2.10 in the amount equal to the Annual Temporary Facility Ground Rental Amount. The "*Annual Temporary Facility Ground Rental Amount*" shall mean the amounts determined and calculated as follows:

(i) The Annual Temporary Facility Ground Rental Amount shall be in the amount of (Ex.2.a.) (Ex.2.a.) per annum for the period from and including the Lease Commencement Date to and including December 31, 2005, which Annual Temporary Facility Ground Rental Amount shall thereafter be adjusted on an annual basis as hereinafter set forth.

(ii) The Port Authority shall ascertain the CPI for the first Reference Month and for each succeeding Reference Month after the same has been published, and the Port Authority shall also determine each CPI Percentage Increase.

(iii) (aa) Effective on January 1, 2006 the Annual Temporary Facility Ground Rental Amount shall be increased as follows: the Annual Temporary Facility Ground Rental Amount set forth in paragraph (a)(6)(i) above shall be increased as follows: the amount of the Annual Temporary Facility Ground Rental Amount set forth in paragraph (a)(6)(i), shall be multiplied (x) by a percentage composed of ½ of the CPI Percentage Increase as calculated using the two immediately preceding Reference Months plus 100% and (y) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (x) and (y) shall be and become the Annual Temporary Facility Ground Rental amount for the Adjustment Period commencing on January 1, 2006.

(bb) Effective on January 1, 2007 and on each January 1st thereafter occurring up to and including the day preceding the Second Ground Rental Commencement Date, the Annual Temporary Facility Ground Rental Amount shall be further increased for each Adjustment Period as follows: the amount of the Annual Temporary Facility Ground Rental Amount set forth in paragraph (a)(6)(i) above as the same shall have been last adjusted under this paragraph (a)(6)(iii), shall be separately multiplied (x) by a percentage composed of ½ of the CPI Percentage Increase calculated using the two Reference Months immediately preceding the first day of the subject Adjustment Period plus 100% and (y) by 104%; and the greater of the amounts so obtained from the foregoing calculations set forth in clauses (x) and (y) shall be and become the Annual Temporary Facility Ground Rental Amount in effect for the subject Adjustment Period.

(7) Payment of Certain Ground Rentals:

(i) The First Ground Rental shall be payable by the Lessee in advance in equal monthly installments on the Lease Commencement Date and on the first day of each and every calendar month thereafter occurring up to and including the day immediately preceding the Second Ground Rental Commencement Date; and the Second Ground Rental shall be payable by the Lessee in advance in equal monthly installments on the Second Ground Rental Commencement Date and on the first day of each and every calendar month thereafter occurring during the balance of the Term; and the Third Ground Rental shall be payable by the Lessee in advance in equal monthly installments on the Terminal 6 Parcel Tender Date and on the first day of each and every calendar month thereafter occurring during the balance of the Term; and the Fourth Ground Rental shall be payable by the Lessee in advance in equal monthly installments on the Terminal 4 Parcel Tender Date and on the first day of each and every calendar month thereafter occurring during the balance of the Term; and the Temporary Facility Ground Rental shall by payable by the Lessee in advance in equal monthly installments on the First Temporary Enplanement Date and on the first day of each and every calendar month thereafter occurring up to and including the day preceding the Second Ground Rental Commencement Date.

(ii) If the First Ground Rental, the Second Ground Rental, the Third Ground Rental, the Fourth Ground Rental or the Temporary Facility Ground Rental shall be payable for less than a whole calendar year each monthly installment payable during such year shall be equal to one-twelfth ($1/12^{th}$) of said rental and if any installment of such rental shall be payable for less than a full calendar month then the rental payment for the portion of the month for which such payment is due shall be the monthly installment prorated on a daily basis using the actual number of days in the said month.

(b) Enplanement Rentals:

(1) First Enplanement Rental:

(i) For each and every Monthly Period the Lessee shall pay a monthly enplanement rental (herein called the "*First Enplanement Rental*") equal to the greater of (x) the product obtained by multiplying the amount of (Ex.2.a.) (Ex.2.a.) by a fraction the numerator of which shall be the maximum number of gates at the Premises utilized by the Lessee during any Monthly Period occurring from the First Enplanement Date through the end of the Monthly Period for which the calculation is being made and the denominator of which shall be twenty-four (24) (which product is herein referred to as "the "*Minimum First Enplanement Rental*") and (y) the product obtained by multiplying the number of Enplanements occurring at the Premises during such Monthly Period by (Ex. 2.a.) (which product is herein referred to as the "*Activity Based First Enplanement Rental*"); and the greater of the Minimum First Enplanement Rental (as the same may be pro-rated pursuant to paragraph (b)(1)(iii) of this Subdivision II) and the Activity Based First Enplanement Rental shall be and become the amount of the First Enplanement Rental payable by the Lessee to the Port Authority for such Monthly Period.

(ii) The Lessee shall report the number of Enplanements and shall pay the First Enplanement Rental as follows: on the 20th day of the first calendar month following the First Enplanement Date and on the 20th day of each and every calendar month thereafter including the calendar month following the end of the last Monthly Period, the Lessee shall render to the Port Authority a notarized statement signed by a responsible fiscal officer of the Lessee showing the total number of Enplanements for the preceding Monthly Period, the total monthly aircraft departures along with the gate designation used for each such aircraft departure together with the total number of gates used by the Lessee at the Premises during the preceding Monthly Period and the maximum number of gates at the Premises utilized by the Lessee during any Monthly Period occurring from the First Enplanement Date through the end of the preceding Monthly Period and specifying the Minimum First Enplanement Rental and the Activity Based First Enplanement Rental calculated for the previous Monthly Period. The Lessee shall pay to the Port Authority an amount equal to the greater of the Minimum First Enplanement Rental and the Activity Based First Enplanement Rental calculated for the preceding Monthly Period at the time of rendering such statement.

(iii) In the event that any Monthly Period is for less than a calendar month, the Minimum First Enplanement Rental calculated for such Monthly Period

shall be the Minimum First Enplanement Rental calculated in accordance with paragraph (b)(1)(i) above multiplied by a fraction, the numerator of which shall be the number of days in such Monthly Period and the denominator of which shall be the full number of days of the calendar month during which such Monthly Period occurred.

(iv) The computation of the First Enplanement Rental for each Monthly Period, or a portion of a Monthly Period, shall be individual to such Monthly Period, or such portion of a Monthly Period, and without relation to any other Monthly Period, or any other portion of any Monthly Period.

(2) Second Enplanement Rental:

(i) Commencing on the Full Enplanement Rental Commencement Date, the Lessee shall pay to the Port Authority a rental (the "*Second Enplanement Rental*") for each Annual Period occurring during the Term in an amount equal to the greater of (x) the Minimum Enplanement Rental for such Annual Period and (y) the sum of the Base Enplanement Rental for such Annual Period and the Variable Enplanement Rental for such Annual Period. The Second Enplanement Rental shall be paid as follows:

(aa) On the Full Enplanement Rental Commencement Date and on the first day of each and every calendar month thereafter occurring during the Annual Period in which the Full Enplanement Rental shall occur, the Lessee shall pay to the Port Authority a tentative Second Enplanement Rental in an amount equal to one twelfth (1/12) of the Minimum Enplanement Rental (without any pro-ration pursuant to paragraph (b)(2)(iv) of this Subdivision II) for such Annual Period.

(bb) On the first day of each and every calendar month of each Annual Period occurring after the Annual Period in which the Full Enplanement Rental Commencement Date shall have occurred, the Lessee shall pay to the Port Authority a tentative Second Enplanement Rental in an amount equal to one twelfth (1/12) of the greater of (x) the Minimum Enplanement Rental (without any pro-ration pursuant to paragraph (b)(2)(iv) of this Subdivision II) for such Annual Period) and (y) an amount equal to the sum of the Base Enplanement Rental (without any pro-ration pursuant to paragraph (b)(2)(iv) of this Subdivision II)) for the immediately preceding Annual Period and the Variable Enplanement Rental (without any pro-ration pursuant to paragraph (b)(2)(iv) of this Subdivision II) for such immediately preceding Annual Period.

(ii) On the first day of the second full calendar month immediately following the last day of the first Annual Period, and on the first day of the second full calendar month immediately following the last day of each Annual Period thereafter, the Lessee shall render to the Port Authority a notarized statement signed by a responsible fiscal officer of the Lessee showing the following:

(aa) the total number of Enplanements which occurred during the immediately preceding Annual Period,

(bb) the Minimum Enplanement Rental for such Annual Period and if applicable the prorated amount thereof as calculated pursuant to paragraph (b)(2)(iv)(aa) of this Subdivision II,

(cc) the Base Enplanement Rental for such Annual Period and if applicable the prorated amount thereof as calculated pursuant to paragraph (b)(2)(iv)(bb) of this Subdivision II,

(dd) the Per Enplanement Rental Rate for such Annual Period,

(ee) the number of Guaranteed Annual Enplanements for such Annual Period and if applicable the prorated amount thereof as calculated pursuant to paragraph (b)(2)(iv)(cc) of this Subdivision II, and

(ff) the Variable Enplanement Rental for such Annual Period including each of the calculations provided for in paragraph (nn) of Subdivision I of this Section for such Annual Period.

At the time of rendering the statement required pursuant to this paragraph (b)(2)(ii) if the Second Enplanement Rental for such Annual Period for which the statement is being provided exceeds the total cumulative payments made by the Lessee to the Port Authority pursuant to paragraph (b)(2)(i) above for such Annual Period, the Lessee shall pay to the Port Authority an amount equal to such excess and if the total cumulative payments made by the Lessee to the Port Authority pursuant to paragraph (b)(2)(i) above for the Annual Period for which the statement is being provided exceeds the Second Enplanement Rental for such Annual Period, then the amount of such excess shall be credited against the Lessee's payment of future Second Enplanement Rentals and for the last such statement required to be rendered after the expiration of the Term, then the Port Authority shall at its election credit such excess against amounts owed by the Lessee to the Port Authority or pay such excess to the Lessee.

(iii) The computation of the Second Enplanement Rental for each Annual Period, or a portion of an Annual Period, shall be individual to such Annual Period, or such portion of an Annual Period, and without relation to any other Annual Period, or any other portion of any Annual Period.

(iv) For any Annual Period which contains less than 365 days, the following pro-rated amounts shall be used to calculate the amount of the Second Enplanement Rental due for such Annual Period:

(aa) The Minimum Enplanement Rental for such Annual Period shall be prorated by multiplying the Minimum Enplanement Rental for such Annual Period by a fraction, the numerator of which shall be the number of days in such Annual Period and the denominator of which shall be 365.

(bb) The Base Enplanement Rental for such Annual Period shall be prorated by multiplying the Base Enplanement Rental for such Annual Period by a fraction, the numerator of which shall be the number of days in such Annual Period and the denominator of which shall be 365.

(cc) The Guaranteed Annual Enplanements for such Annual Period shall be prorated by multiplying the Guaranteed Annual Enplanements for such Annual Period by a fraction, the numerator of which shall be the number of days in such Annual Period and the denominator of which shall be 365.

(v) Without affecting the terms and conditions of Subdivision III of this Section and in addition thereto, in the event that DBO has not occurred on or before the fourth (4th) anniversary of the Lease Commencement Date, then the Second Enplanement Rental shall be abated in full for the period from and including the fourth (4th) anniversary of the Lease Commencement Date to and including the day preceding the earlier to occur of DBO and the fifth (5th) anniversary of the Lease Commencement Date (the earlier to occur of such date being herein referred to as the "*Second Enplanement Rental Abatement End Date*"), provided, however, if DBO has not occurred by the fifth (5th) anniversary of the Lease Commencement Date, the Lessee may request the Director of the Aviation Department of the Port Authority (the "*Director of Aviation*") that the abatement of the Second Enplanement Rental be extended to the earlier to occur of DBO and the last day of the sixty-sixth (66th) full calendar month occurring after the Lease Commencement Date, if the Lessee can prove to the reasonable satisfaction of the Director of Aviation that failure of DBO to occur prior to the fifth (5th) anniversary of the Lease Commencement Date resulted solely from events or circumstances beyond the control of the Lessee. Such request for extension of the abatement of the Second Enplanement Rental may be made by the Lessee to the Port Authority at least sixty (60) but not more than one hundred twenty (120) days prior to the fifth (5th) anniversary of the Lease Commencement Date if the Lessee's Redevelopment Work Project Schedule provides for DBO to occur after the fifth (5th) anniversary of the Lease Commencement Date. Such request shall state in sufficient detail for the Director of Aviation to reasonably determine that the failure of DBO to occur prior to the fifth (5th) anniversary of the Lease Commencement Date resulted solely from events or circumstances beyond the control of the Lessee. In the event that the Director of Aviation determines that failure of DBO to occur prior to the fifth (5th) anniversary of the Lease Commencement Date solely resulted from events or circumstances beyond the control of the Lessee and the Lessee is in compliance with all of the terms, provisions, covenants and conditions of this Lease on its part to be kept, performed and observed, then the Director of Aviation shall notify the Lessee that the Second Enplanement Rental will continue to be abated until the earlier to occur of DBO and the last day of the sixty-sixth (66th) full calendar month occurring after the Lease Commencement Date, which day is herein referred to as the "*Extended Second Enplanement Rental Abatement End Date*".

(3) Enplanement Rate Reduction:

(i) The following terms as used herein shall have the respective meanings given below:

(aa) "*Associated Carrying Costs*" shall mean with respect to each of the Cost of the Passenger Terminal Work, the Cost of the Airside Civil Work, the Cost of the Parking Garage Work, the Lessee's Shared Environmental Costs, the Cost of the Landside Civil Work, the Cost of the MOA Curtain Wall Work, the Cost of the Terminal 5 AirTrain Connector Work and the Cost of the Building No. 60 AirTrain Connector Work, an amount equal to the capitalized "Financial Expense" of the Port Authority attributed to each such cost, as such Financial Expense is computed and recorded by the Port Authority's accounting system.

(bb) "*Cost of the $.01 Work*" shall mean an amount equal to the sum of the Cost of the Passenger Terminal Work and Associated Carrying Costs, the Cost of the Airside Civil Work and Associated Carrying Costs, the Cost of the Parking Garage Work and Associated Carrying Costs and the Lessee's Shared Environmental Costs and Associated Carrying Costs.

(cc) "*Cost of the $.008 Work*" shall mean an amount equal to the sum of the Cost of the Landside Civil Work and Associated Carrying Costs and the Cost of the Terminal 5 AirTrain Connector Work and Associated Carrying Costs.

(dd) "*$.01 Work Cost Savings Sub-total*" shall mean the difference obtained by subtracting the Cost of the MOA Curtain Wall Work and Associated Carrying Costs from the difference obtained by subtracting the Cost of the $.01 Work from the amount of Five Hundred Fifty-eight Million Four Hundred Thousand Dollars and No Cents ($558,400,000.00).

(ee) "*$.008 Work Cost Savings Sub-total*" shall mean the difference obtained by subtracting the Cost of the Building No. 60 AirTrain Connector Work and Associated Carrying Costs in excess of (Ex.2.a.) but not in excess of (Ex.2.a.) (Ex.2.a.), from the difference obtained by subtracting the Cost of the $.008 Work from the amount of (Ex.2.a.)

(ff) "*$.01 Work Cost Savings*" shall mean the $.01 Work Cost Savings Sub-total, except if the $.008 Work Cost Savings Sub-total is a negative amount, the $.01 Work Cost Savings shall mean the sum of $.01 Work Cost Savings Sub-total and the $.008 Work Cost Savings Sub-total.

(gg) "*$.008 Work Cost Savings*" shall mean the $.008 Work Cost Savings Sub-total, except if the $.01 Work Cost Savings Sub-total is a negative amount, the $.008 Work Cost Savings shall mean the sum of $.008 Work Cost Savings Sub-total and the $.01 Work Cost Savings Sub-total.

(ii) In the event there is either a $.01 Work Cost Savings or a $.008 Work Cost Savings, or both, the Per Enplanement Rental Rates set forth in Exhibit 4.2 shall be subject to reduction as follows:

(aa) The Per Enplanement Rental Rate of (Ex.2.a.) set forth in Exhibit 4.2 for the first Annual Period shall be reduced by $.01 for each entire

(bb) In addition, the Per Enplanement Rental Rate of (Ex.2.a.) for the first Annual Period, as the same may have been reduced pursuant to the operation of subparagraph (aa) above, shall be further reduced by $.008 for each entire (Ex.2.a.) of $.008 Work Cost Savings (which Per Enplanement Rental Rate as so adjusted pursuant to this paragraph (b)(3) is herein referred to as the "*Adjusted Per Enplanement Rental Rate*"), and such Adjusted Per Enplanement Rental Rate shall be and become the Per Enplanement Rental Rate for the First Annual Period, which Adjusted Per Enplanement Rental Rate for the First Annual Period shall thereafter be adjusted on an annual basis as hereinafter set forth.

(cc) If the Per Enplanement Rental Rate has been adjusted pursuant to the provisions of paragraphs (b)(3)(ii)(aa) and/or (b)(3)(ii)(bb) of this Subdivision II, then the Per Enplanement Rental Rates for the second Annual Period and for each and every Annual Period thereafter occurring shall not be the rates set forth in Exhibit 4.2 but instead shall the rates calculated and increased as follows: For the second Annual Period and for each Annual Period thereafter occurring to and including the fifteenth (15th) Annual Period, the Adjusted Per Enplanement Rental Rate, as the same shall have been increased for the immediately preceding Annual Period pursuant to this paragraph (b)(3)(ii), shall be further increased by multiplying the same by 102.5%, and the product so obtained shall be and become the Per Enplanement Rental Rate for the Annual Period for which the calculation is being made, and for the sixteenth (16th) Annual Period and for each Annual Period thereafter, the Adjusted Per Enplanement Rental Rate, as the same shall have been last increased pursuant to this paragraph (b)(3)(ii), shall be further increased by multiplying the same by 102%, and the product so obtained shall be and become the Per Enplanement Rental Rate for the Annual Period for which the calculation is being made.

(iii) In the event that either or both of the $.008 Work Cost Savings and the $.01 Work Cost Savings can not be determined on the Full Enplanement Rental Commencement Date, the Lessee shall pay to the Port Authority the Second Enplanement Rental calculated on the basis of the Per Enplanement Rental Rates set forth in Exhibit 4.2 without reduction as provided for in this paragraph (b)(3). Upon the earlier to occur of the Final Payment Date and when both of the $.008 Work Cost Savings and the $.01 Work Cost Savings have been determined, the Second Enplanement Rentals which have been paid by the Lessee to the Port Authority shall be recalculated based upon the $.008 Work Cost Savings and the $.01 Work Cost Savings and the amount of the difference between the Second Enplanement Rentals which have been paid to the Port Authority and the amount of such recalculated Second Enplanement Rentals shall be credited against the Lessee's payment of future Second Enplanement Rentals

except that for the last such statement required to be rendered after the expiration of the Term, the Port Authority shall at its election credit such excess against amounts owed by the Lessee to the Port Authority or pay such excess to the Lessee.

(4) No Partnership or Joint Venture:

Notwithstanding that the Enplanement Rentals hereunder are calculated based upon the number of Enplanements, no joint adventure or partnership relationship between the Lessee and the Port Authority is created by this Lease.

(c) Additional Rentals:

(1) First Additional Rental:

On the Full Enplanement Rental Commencement Date and on the first day of each calendar month thereafter occurring up to and including the first day of the 240th full calendar month occurring subsequent to the Full Enplanement Rental Commencement Date if the Full Enplanement Rental Commencement Date shall occur on the first day of a calendar month and, if the Full Enplanement Rental Commencement Date shall not occur on the first day of a calendar month, then on the Full Enplanement Rental Commencement Date and on the first day of each calendar month thereafter occurring up to and including the first day of the 239th full calendar month occurring subsequent to the Full Enplanement Rental Commencement Date, the Lessee shall pay to the Port Authority a monthly rental (the "*First Additional Rental*") in the amount of (Ex.2.a.)

, it being understood that the Lessee shall make a total of 240 payments of First Additional Rental in a total amount of

ıer year for twenty years.

(2) Second Additional Rental:

If the Cost of the Lessee's $80 Million Work shall be less than Eighty Million Dollars and No Cents ($80,000,000.00) on the Tentative Final Certificate Date, then on the Tentative Final Certificate Date the Lessee shall pay to the Port Authority a rental equal to the difference obtained by subtracting an amount equal to the Lessee's Cost of the Shell Work from the amount of Eighty Million Dollars and No Cents ($80,000,000.00), which difference is herein called the "*Second Additional Rental*".

(3) Third Additional Rental:

(i) The following terms as used herein shall have the respective meanings given below:

(aa) "*Base Percentage*" shall mean for each Project Contingency Payment a percentage equal to the sum derived by adding the percentage (Ex2.a.) to the percentage reported as the weekly index of the Bond Buyer Revenue Bond Index in the publication "The Bond Buyer" for the week in which the Payment Date for such Project Contingency Payment occurred.

(bb) "*Monthly Percentage*" shall mean with respect to each Project Contingency Payment, an amount equal to the quotient derived by dividing the Base Percentage for such Project Contingency Payment by the whole number twelve (12).

(cc) "*Post-DBO Accrued Amount*" shall mean with respect to each Post-DBO Project Contingency Payment, the product obtained by multiplying such Post-DBO Project Contingency Payment by the amount derived from the following formula:

$$(1+j)^{n} - 1$$

Where "j" equals the Monthly Percentage, "n" a power that equals the number of calendar months, both whole and partial, occurring from and including the last day of the month in which the Payment Date for such Post-DBO Project Contingency Payment shall have occurred up to and including the last day of the calendar month immediately preceding the Post-DBO Additional Rental Commencement Date, both dates inclusive, provided, however, if such Payment Date for such Post-DBO Project Contingency Payment shall not be the first day of a calendar month, then the number "1" shall be subtracted from "n" and a fraction, the numerator of which shall be the number of days from the Payment Date for such Post-DBO Project Contingency Payment and the last day of the calendar month in which such Payment Date occurred, both dates inclusive, and the denominator of which shall be the number of days in such calendar month, shall be added to "n".

(dd) "*Post-DBO Base Factor*" shall mean an amount derived as follows in the following order:

(A) First, the Post-DBO Accrued Amount for each Post-DBO Project Contingency Payment shall be added to the amount of such Post-DBO Project Contingency Payment (each such sum being herein referred to as a "*Total Post-DBO Project Contingency Payment*"); then

(B) Second, the Total Post-DBO Project Contingency Payment with respect to such Post-DBO Project Contingency Payment shall be multiplied by the Base Percentage for such Post-DBO Project Contingency Payment (each such product so obtained for each Total Post-DBO Project Contingency Payment being herein referred to as a "*Post-DBO Base Factor Product*"); then

(C) Third, all Post-DBO Base Factor Products shall be added together (the sum being so derived being herein referred to as the "*Sum of the Post-DBO Base Factor Products*"); then

(D) Fourth, the Sum of the Post-DBO Base Factor Products shall be divided by the Total Post-DBO Amount; then

(E) Fifth, the quotient obtained from the calculation set forth in the foregoing subparagraph (D) of this definition shall then be divided by the whole number twelve (12), and the quotient so obtained shall be the "Post-DBO Base Factor".

(ee) "*Post-DBO Project Contingency Payment*" shall mean each Project Contingency Payment made by the Port Authority to the Lessee on or after the Third Additional Rental Commencement Date up to and including the day preceding the Post-DBO Additional Rental Commencement Date.

(ff) "*Post-DBO Rental Factor*" shall mean the factor derived in accordance herewith from time to time by application of the following formula:

$$\frac{i}{1 - \frac{1}{(1+i)^t}} = \text{Post-DBO Rental Factor}$$

Where "i" equals the Post-DBO Base Factor, "t" a power that equals the number of whole calendar months occurring from and after the Post-DBO Additional Rental Commencement Date up to and including the twenty-fifth (25th) anniversary of the Third Additional Rental Commencement Date, "1" is the whole number one.

(gg) "*Post-DBO Third Additional Rental Amount*" shall mean an amount calculated on a monthly basis equal to the product obtained by multiplying the Post-DBO Rental Factor by the Total Post-DBO Amount.

(hh) "*Pre-DBO Base Factor*" shall mean the amount derived as follows in the following order:

(A) First, the Pre-DBO Payment Accrued Amount for each Pre-DBO Project Contingency Payment shall be added to the amount of such Pre-DBO Project Contingency Payment (each such sum being herein referred to as a "*Total Pre-DBO Project Contingency Payment*"); then

(B) Second: the Total Pre-DBO Project Contingency Payment with respect to such Pre-DBO Project Contingency Payment shall be multiplied by the Base Percentage for such Pre-DBO Project Contingency Payment (each such product so obtained for each Total Pre-DBO

Project Contingency Payment being herein referred to as a "*Pre-DBO Base Factor Product*"); then

(C) Third, all Pre-DBO Base Factor Products shall be added together (the sum being so derived being herein referred to as the "*Sum of the Pre-DBO Base Factor Products*"); then

(D) Fourth, the sum of the Pre-DBO Base Factor Products shall be divided by the Total Pre-DBO Amount; then

(E) Fifth, the quotient obtained from the calculation made pursuant subparagraph (D) of this definition shall then be divided by the whole number twelve (12), and the quotient so obtained shall be the "Pre-DBO Base Factor".

(ii) "*Pre-DBO Additional Rental Amount*" shall mean an amount calculated on a monthly basis equal to the product obtained by multiplying the Pre-DBO Rental Factor by the Total Pre-DBO Amount.

(jj) "*Pre-DBO Payment Accrued Amount*" shall mean with respect to each Pre-DBO Project Contingency Payment, the product obtained by multiplying such Pre-DBO Project Contingency Payment by the amount derived from the following formula:

$$(1+j)^{n} - 1$$

Where "j" equals the Monthly Percentage, "n" a power that equals the number of calendar months occurring from and including the last day of the month in which the Payment Date for such Pre-DBO Project Contingency Payment shall have occurred up to and including the last day of the calendar month immediately preceding the Third Additional Rental Commencement Date, both dates inclusive, provided, however, if such Payment Date for such Pre-DBO Project Contingency Payment shall not be the first day of a calendar month, then the number "1" shall be subtracted from "n" and a fraction, the numerator of which shall be the number of days from the Payment Date for such Pre-DBO Project Contingency Payment and the last day of the calendar month in which such Payment Date occurred, both dates inclusive, and the denominator of which shall be the number of days in such calendar month, shall be added to "n".

(kk) "*Pre-DBO Project Contingency Payment*" shall mean each Project Contingency Payment made by the Port Authority to the Lessee up to and including the day immediately preceding the Third Additional Rental Commencement Date.

(ll) "*Pre-DBO Rental Factor*" shall mean the factor or factors derived in accordance herewith from time to time by the application of the following formula:

$$\frac{i}{1 - \frac{1}{(1+i)^t}} = \text{Pre-DBO Rental Factor}$$

Where "i" equals the Pre-DBO Base Factor, "t" a power that equals 300, "1" is the whole number one.

(mm) *"Third Additional Rental Commencement Date"* shall be and mean the first to occur of (i) DBO if DBO is the first day of the month, and if not, then the first day of the calendar month immediately following DBO and (ii) the fourth anniversary of the Lease Commencement Date if the Lease Commencement Date is the first day of the month, and if not, then the first day of the calendar month immediately following the fourth anniversary of the Lease Commencement Date.

(nn) *"Total Post-DBO Amount"* shall mean the sum of (x) the total amount of all Post-DBO Project Contingency Payments and (y) the total amount of all Post-DBO Accrued Amounts calculated for all Post-DBO Project Contingency Payments.

(oo) *"Total Pre-DBO Amount"* shall mean the sum of (x) the total amount of all Pre-DBO Project Contingency Payments and (y) the total amount of all Pre-DBO Payment Accrued Amounts calculated for all Pre-DBO Project Contingency Payments.

(ii) (aa) For the period commencing on the Third Additional Rental Commencement Date up to and including the day immediately preceding the twenty-fifth anniversary of the Third Additional Rental Commencement Date, both dates inclusive, the Lessee shall pay to the Port Authority a monthly rental in an amount equal to the Pre-DBO Additional Rental Amount (which monthly rental is herein referred to as the *"Pre-DBO Additional Rental"*). The Pre-DBO Additional Rental shall be paid on the Third Additional Rental Commencement Date and on the first day of each and every calendar month thereafter occurring to and including the day immediately preceding the twenty-fifth (25th) anniversary of the Third Additional Rental Commencement Date.

(bb) For the period commencing the Post-DBO Additional Rental Commencement Date up to and including the day immediately preceding the twenty-fifth anniversary of the Third Additional Rental Commencement Date, both dates inclusive, the Lessee shall pay to the Port Authority a monthly rental in an amount equal to the Post-DBO Third Additional Rental Amount (which monthly rental is herein referred to as the *"Post-DBO Additional Rental"* and the Post-DBO Additional Rental and the Pre-DBO Additional Rental are herein collectively referred to as the *"Third Additional Rental"*). The Post-DBO Additional Rental shall be paid on the

Post-DBO Additional Rental Commencement Date and on the first day of each and every calendar month thereafter occurring to and including the day immediately preceding the twenty-fifth (25th) anniversary of the Third Additional Rental Commencement Date.

(iii) Audit Findings:

(aa) In the event that an adjustment is made by the Port Authority with respect to any Pre-DBO Project Contingency Payment pursuant to paragraphs (f) or (g) of Section 87 hereof, then the amount of the Pre-DBO Third Additional Rental Amount shall be recalculated based upon such adjustment. In addition, there shall be credited against the Lessee's payment of future Pre-DBO Additional Rentals an amount equal to the difference between the amount of the Pre-DBO Additional Rentals which the Lessee has paid to the Port Authority and the amount of the Pre-DBO Additional Rentals as so recalculated.

(bb) In the event that an adjustment is made by the Port Authority with respect to any Post-DBO Project Contingency Payment pursuant to paragraphs (f) or (g) of Section 87 hereof, then the amount of the Post-DBO Third Additional Rental Amount shall be recalculated based upon such adjustment. In addition, there shall be credited against the Lessee's payment of future Post-DBO Additional Rentals an amount equal to the difference between the amount of the Post-DBO Additional Rentals which the Lessee has paid to the Port Authority and the amount of the Post-DBO Additional Rentals as so recalculated.

(4) Fourth Additional Rental:

(i) The following terms as used herein shall have the respective meanings given below:

(aa) "*Calculated Fourth Additional Rental Amount*" shall mean the quotient obtained by performing the following calculations in the following order:

(A) First, the total monthly amounts of all Fifth Ground Rental payable from the Lease Commencement Date through the day preceding the Fourth Additional Rental Commencement Date shall be calculated; then

(B) Second, an amount equal to the sum obtained from the calculation made pursuant to subparagraph (A) of this definition shall be subtracted from the amount of [(Ex.2.a.)](Ex.2.a.) ; then

(C) Third, the difference obtained from the calculation made pursuant to subparagraph (B) of this definition shall be divided by the whole number six (6), and the quotient so obtained shall be the "*Calculated Fourth Additional Rental Amount*".

(bb) "*Fourth Additional Rental Adjustment*" shall mean an amount equal to the difference obtained by performing the following calculations in the following order:

(A) First, the Calculated Fourth Additional Rental Amount shall be multiplied by "t" where "t" equals the number of calendar months, both whole and partial, from the Fourth Additional Rental Commencement Date to the Shell Completion Date; then

(B) Second, the product obtained from the calculation made pursuant to subparagraph (A) of this definition shall be subtracted from the Fourth Pre-DBO Rental Factor, and the difference so obtained shall be the "*Fourth Additional Rental Adjustment*".

(cc) "*Fourth Additional Rental Commencement Date*" shall mean the earlier to occur of (x) February 1, 2008 and (y) the Shell Completion Date if the Shell Completion Date is on the first day of a calendar month and if the Shell Completion Date is not on the first day of a calendar month, then on the first day of the calendar month immediately following the calendar month in which the Shell Completion Date shall occur.

(dd) "*Fourth Pre-DBO Rental Factor*" shall mean the amount calculated by the application of the following formula:

$$\frac{(1+j)^{t+1} - (1+j)}{j} * \text{CFAR} = \text{Fourth Pre-DBO Rental Factor}$$

Where "j" equals the "*Fourth Additional Monthly Percentage*" which shall mean the quotient derived by dividing the percentage equal to the sum derived by adding the percentage (Ex 2.a) the percentage reported as the weekly index of the Bond Buyer Revenue Bond Index in the publication "The Bond Buyer" for the week ending immediately prior to the Fourth Additional Rental Commencement Date, by the whole number twelve (12), "t" equals the number of months, both whole and partial, from the Fourth Additional Rental Commencement Date to the Shell Completion Date, both dates inclusive, and "CFAR" equals the Calculated Fourth Additional Rental Amount.

(ii) The Lessee shall pay to the Port Authority a Fourth Additional Rental. The Fourth Additional Rental shall be a monthly rental and shall be paid, and in an amount calculated, as follows:

(aa) If the Shell Completion Date occurs on or before the Fourth Additional Rental Commencement Date, then the Lessee shall make six payments of Fourth Additional Rental commencing on the Fourth Additional Rental Commencement Date and on the first day of each and every calendar month for the first five months occurring thereafter, the Lessee shall pay to the Port Authority a Fourth Additional Rental in a monthly amount equal to the Calculated Fourth Additional Rental Amount.

(bb) If the Shell Completion Date has not occurred on or before the Fourth Additional Rental Commencement Date, commencing on the Shell Completion Date if the Shell Completion Date is on the first day of a calendar month and if the Shell Completion Date is not on the first day of a calendar month, then on the first day of the calendar month immediately following the calendar month in which the Shell Completion Date shall occur, and on the first day of each and every calendar month for the first five months occurring thereafter the Lessee shall pay to the Port Authority a Fourth Additional Rental in six monthly payments, each such payment to be in an amount equal to the quotient calculated as follows in the following order:

(A) First, the amount of (Ex.2.a.) (Ex.2.a.) nd the amount of the Fourth Additional Rental Adjustment shall be added together;

(B) Second, an amount equal to the sum of all Fifth Ground Rental payments made from the Lease Commencement Date through the Shell Completion Date shall be subtracted from the amount obtained from the calculation made pursuant to paragraph (c)(4)(ii)(bb)(A) of this Subdivision II; and

(C) Third, the amount obtained from the calculation made pursuant to paragraph (c)(4)(ii)(bb)(B) of this Subdivision II shall be divided by the whole number six (6), and the quotient so obtained shall be the amount of the Fourth Additional Rental.

(5) Fifth Additional Rental:

(i) The following terms as used herein shall have the respective meanings given below:

(aa) "*Fifth Accrued Amount*" shall mean the product obtained by multiplying each Fifth Project Contingency Payment by the amount derived from the following formula:

$$(1+j)^{n} - 1$$

Where "j" equals the Monthly Percentage as defined in paragraph (c)(3) of this Subdivision II, "n" a power that equals the number of calendar months occurring from and including the last day of the month in which the Payment Date for such Fifth Project Contingency Payment shall have occurred up to and including the last day of the calendar month in which the Final Payment Date shall have occurred, both dates inclusive, provided, however, if such Payment Date for such Fifth Project Contingency Payment shall not be the first day of a calendar month, then the number "1" shall be subtracted from "n" and a fraction, the numerator of which shall be the number of days from the Payment Date for such Fifth Project Contingency Payment and the last day of the calendar month in which such Payment Date occurred, both dates inclusive, and the denominator of which shall be the number of days in such calendar month, shall be added to "n".

(bb) "*Fifth Additional Rental Amount*" shall mean an amount calculated on a monthly basis equal to the product obtained by multiplying the Fifth Rental Factor by the Total Fifth Amount.

(cc) "*Fifth Base Factor*" shall mean an amount derived as follows in the following order:

(A) First, the Fifth Accrued Amount for each Fifth Project Contingency Payment shall be added to the amount of such Fifth Project Contingency Payment (each such sum being herein referred to as a "*Total Fifth Project Contingency Payment*"), then

(B) Second, the Total Fifth Project Contingency Payment with respect to such Fifth Project Contingency Payment shall be multiplied by the Base Percentage (as defined in paragraph (c)(3) of this Subdivision II) for such Fifth Project Contingency Payment (each such product so obtained for each Total Fifth Project Contingency Payment being herein referred to as a "*Fifth Base Factor Product*"), then

(C) Third, all Fifth Base Factor Products shall be added together (the sum being so derived being herein referred to as the "*Sum of the Fifth Base Factor Products*"), then

(D) Fourth, the Sum of the Fifth Base Factor Products shall be divided by the Total Fifth Amount, then

(E) Fifth, the quotient obtained from the calculation performed pursuant to subparagraph (D) of this definition shall be divided by the whole number twelve (12), and the quotient so obtained shall be the "*Fifth Base Factor*".

(dd) "*Fifth Project Contingency Payment*" shall mean each Project Contingency Payment made by the Port Authority to the Lessee on and after

the Post-DBO Third Additional Rental Commencement Date up to and including the Final Payment Date.

(ee) "*Fifth Rental Factor*" shall mean the factor derived in accordance herewith from time to time by application of the following formula:

$$\frac{i}{1 - \frac{1}{(1+i)^t}} = \text{Fifth Rental Factor}$$

Where "i" equals the Fifth Base Factor, "t" a power that equals the number of whole calendar months occurring from and after the Final Payment Date up to and including the twenty-fifth (25th) anniversary of the Third Additional Rental Commencement Date, "1" is the whole number one.

(ff) "*Total Fifth Amount*" shall mean the sum of (x) the total amount of all Fifth Project Contingency Payments and (y) the total amount of all Fifth Accrued Amounts as of Final Payment Date calculated for all Fifth Project Contingency Payments.

(ii) If the Port Authority has made one or more Fifth Project Contingency Payments, then for the period commencing on the day after the Final Payment Date and, if the day after the Final Payment Date is not the first day of a calendar month, then on the first day of the first full calendar month occurring after the Final Payment Date up to and including the day immediately preceding the twenty-fifth anniversary of the Third Additional Rental Commencement Date, both dates inclusive, the Lessee shall pay to the Port Authority a monthly rental (the "*Fifth Additional Rental*") in an amount equal to the Fifth Additional Rental Amount.

(iii) Audit Findings:

In the event that an adjustment is made by the Port Authority with respect to any Fifth Project Contingency Payment pursuant to paragraphs (f) or (g) of Section 87 hereof, then the Fifth Additional Rental Amount shall be recalculated based upon such adjustment. In addition, there shall be credited against the Lessee's payment of future Fifth Additional Rentals an amount equal to the difference between the amount of the Fifth Additional Rentals which the Lessee has paid to the Port Authority and the amount of the Fifth Additional Rentals as so recalculated.

(d) In the event that the Bond Buyer or its weekly Bond Buyer Revenue Bond Index shall be discontinued, such other comparable substitute for such Index shall be substituted as may be agreed to by the parties hereto. In the event of the failure of the parties to so agree, the Port Authority may select and use such index or indexes as it deems appropriate, provided,

however, that the foregoing shall not preclude the Lessee from contesting the Port Authority's selection.

III. Abatement

In the event that the Lessee shall at any time by the provisions of this Agreement expressly be entitled to abatement of the rentals for the Premises, said abatement shall be computed as follows (it being understood that there shall be no abatement of such rentals under the Lease for any portion of the Premises or any portion of the term except as specifically provided in this Subdivision III):

(a) First Ground Rental Abatement:

For each square foot of land in the Premises shown in stipple, stippled diagonal hatching and stippled double parallel vertical hatching on Exhibit 1.1 the use of which is denied to the Lessee the First Ground Rental shall be abated as follows:

(1) For the portion of the Term from the Lease Commencement Date through December 31, 2005, both dates inclusive, at the daily rate of (Ex.2.a.) (Ex.2.a.) ; and

(2) For the portion of the Term from January 1, 2006 to the day immediately preceding the Second Ground Rental Commencement Date, both dates, inclusive, at the daily rate of as appropriately adjusted to reflect any and all adjustments in the First Ground Rental pursuant to paragraph (a) of Subdivision II of this Section.

(b) Second Ground Rental Abatement:

For each square foot of land in the Premises shown in stipple, stippled diagonal hatching and stippled double parallel vertical hatching on Exhibit 1.1 the use of which is denied to the Lessee, the Second Ground Rental shall be abated as follows:

(1) For the portion of the Term from the Second Ground Rental Commencement Date, through the first December 31st occurring after the Second Ground Rental Commencement Date, at the daily rate equal to the quotient obtained by dividing the Ground Rental Base Rate in effect during the Adjustment Period during which the Second Ground Rental Commencement Date shall occur by 365 (the "*Initial Second Ground Rental Abatement Rate*"); and

(2) For the portion of the Term from and after the first January 1st occurring after the Second Ground Rental Commencement Date, at the daily rate of the Initial Second Ground Rental Abatement Rate as appropriately adjusted to reflect any and all adjustments in the Second Ground Rental pursuant to paragraph (a)(2) of Subdivision II of this Section.

(c) Third Ground Rental Abatement:

For each square foot of land in the Terminal 6 Parcel the use of which is denied to the Lessee, the Third Ground Rental shall be abated as follows:

(1) For the portion of the Term from the Terminal 6 Parcel Tender Date, through the first December 31st occurring after the Terminal 6 Parcel Tender Date, at the daily rate equal to the quotient obtained by dividing the Ground Rental Base Rate in effect during the Adjustment Period during which the Terminal 6 Parcel Tender Date shall occur by 365 (the "*Initial Third Ground Rental Abatement Rate*"); and

(2) For the portion of the Term from and after the first January 1st occurring after the Terminal 6 Parcel Effective, at the daily rate of the Initial Third Ground Rental Abatement Rate as appropriately adjusted to reflect any and all adjustments in the Third Ground Rentals pursuant to paragraph (a)(3) of Subdivision II of this Section.

(d) Fourth Ground Rental Abatement:

For each square foot of land in the Premises in the Terminal 4 Parcel the use of which is denied to the Lessee, the Fourth Ground Rental shall be abated as follows:

(1) For the portion of the Term from the Terminal 4 Parcel Tender Date, through the first December 31st occurring after the Terminal 4 Parcel Tender Date, at the daily rate equal to the quotient obtained by dividing the Ground Rental Base Rate in effect during the Adjustment Period during which the Terminal 4 Parcel Tender Date shall occur by 365 (the "*Initial Fourth Ground Rental Abatement Rate*"); and

(2) For the portion of the Term from and after the first January 1st occurring after the Terminal 4 Parcel Effective, at the daily rate of the Initial Fourth Ground Rental Abatement Rate as appropriately adjusted to reflect any and all adjustments in the Fourth Ground Rentals pursuant to paragraph (a)(4) of Subdivision II of this Section.

(e) Temporary Facility Ground Rental Abatement:

For each square foot of land as shown in stipple and in stippled crosshatching on Exhibit 2.10 the use of which is denied to the Lessee the Temporary Facility Ground Rental shall be abated as follows:

(1) For the portion of the Term from the First Temporary Enplanement Date through December 31, 2005, both dates inclusive, at the daily rate of ; and

(2) For the portion of the Term from January 1, 2006 to the day immediately preceding the Second Ground Rental Commencement Date, both dates, inclusive, at the daily rate of as appropriately adjusted to reflect any and all adjustments in the Temporary Facility Ground Rental pursuant to paragraph (a)(6) of Subdivision II of this Section.

(f) Abatement of the Fifth Ground Rental, the First Enplanement Rental, the Second Enplanement Rental, the First Additional Rental, the Second Additional Rental, the

Third Additional Rental, the Fourth Additional Rental and the Fifth Additional Rental shall be made on an equitable basis giving effect to the amount, quality and character of the space the use of which is denied the Lessee as compared with the total amount of space in the Premises.

VI. For the purposes of this Section, all of the interior space shall be measured and the same shall be ascertained by measuring between the interior plaster surfaces of the exterior building walls, and no deductions will be made therefrom for columns, pilasters, projections, partitions, toilets, vertical shafts, elevator shafts, stairs, fire towers, vents, pipe shafts, meter closets, flues, stacks, structures or facilities of any kind or anything else located therein.

Section 5. Use of Premises

(a) From and after DBO, the Lessee, in connection with its business of transportation by aircraft, may use the Premises for the following purposes and for activities reasonably required for such purposes and for such purposes and activities only:

(1) For the reservation of space and the sale of tickets for transportation on aircraft operated by the Lessee.

(2) For the reservation of space and the sale of tickets for transportation by other carriers but only as an incident to or in connection with transportation performed or to be performed by the Lessee or as an incident to or in connection with the cancellation of such transportation, or for the accommodation or convenience of the incoming or outbound passengers of the Lessee at the Airport. The occasional reservation of space and the sale of tickets for transportation by other carriers shall not be deemed to be prohibited by this provision.

(3) For the clearance, checking and rendering of service to passengers of the Lessee and for the furnishing of information service to such passengers and the general public.

(4) For providing rooms or space for the special handling of or the furnishing of special services (but not an observation deck unless the Lessee receives the prior written approval of the Port Authority) to any of its passengers, guests, or invitees, subject to the provisions of Sections 59, 60, 65 through 68 and 73 through 82 hereof.

(5) For the handling of baggage of passengers of the Lessee including baggage and parcels such passengers decide to send as air cargo.

(6) For the handling of unclaimed baggage and lost and found articles.

(7) For the conduct of operations, traffic, communications, reservations and administrative and executive office functions and activities in connection with air transportation performed by the Lessee.

(8) For the preparation, packaging and storage of food, beverages and commissary supplies to be consumed on aircraft operated by the Lessee.

(9) For the storage of repair parts, supplies and other personal property owned or leased by the Lessee and for the performance of minor repairs to personal property of the Lessee.

(10) For the storage of such automotive fuel and lubricants as may be approved by the Port Authority.

(11) For the operation of a cafeteria for over-the-counter sales to officers and employees of the Lessee or of any Subsidiary or Affiliate of the Lessee and their families and to occasional business guests of such officers and employees (other than passengers of the Lessee), of food, beverages and other merchandise normally sold in such an establishment at no profit to the Lessee and either directly by the Lessee or through a Subsidiary thereof or by an independent contractor who has received a permit from the Port Authority so to do.

(12) For use as crew quarters to be used by personnel of the Lessee during layovers between flights and for the establishment of lounges for employees of the Lessee.

(13) For the loading and unloading of passengers, baggage, mail, air cargo and commissary supplies, provided that the use of the Premises for the unloading and loading of passengers and their baggage from ground transportation vehicles shall be subject to limitation and restriction, from time to time, as set forth in Section 58 hereof entitled "Airport Transportation Facilities and Operations Use of Portions of the Premises" and Section 46 hereof entitled "Restrictions on Use of Passenger Terminal Frontage Roadways-Use of Airport Taxi Dispatchers and Roadway Frontage Management" and provided, further, that the loading and unloading of passengers, baggage, mail, air cargo and commissary supplies on and off of aircraft shall only be performed at Gates.

(14) For the parking and storage of aircraft and ramp equipment operated by the Lessee.

(15) For the fueling and servicing of aircraft and ramp equipment operated by the Lessee and for the maintenance of ramp equipment operated by the Lessee.

(16) For the performance of aircraft maintenance, subject to the limitations imposed by paragraph (r) of Section 9 hereof entitled "Prohibited Acts".

(17) For the training of personnel employed or to be employed by the Lessee or other Persons engaged in commercial transportation by aircraft, provided, that unless consented to by the Port Authority, the Lessee shall not engage in the training of persons employed by others or to be employed by others if the training of such persons is in competition with any concessionaire, permittee or licensee of the Port Authority at the Airport (other than another Person engaged in the business of transportation by aircraft).

(18) For the temporary storage of baggage, mail and air cargo.

(19) For any other purpose or activity, in addition to those specified in this Section, for which the Premises are expressly authorized to be used by any other provision of this Agreement.

(b) The loading or unloading on the Premises of all aircraft used principally for cargo is expressly prohibited. Further, notwithstanding any other term or provision of this Lease, including without limitation, any reference to Handled Airlines, Requesting Airline, Accommodated Handled Airline or Accommodated Sublessee Airline, it is understood and agreed that the Lessee is prohibited hereunder from performing any services for any other Aircraft Operator without the prior written consent of the Port Authority, which consent the Port Authority shall have no obligation whatsoever to give.

(c) If the Lessee desires to use that portion of the Premises shown in stippled diagonal hatching on Exhibit 2.10 ("*Parcel Z*") for the parking and storage of aircraft and ramp equipment operated by the Lessee and for the performance of deicing of the aircraft of the Lessee prior to DBO, then the Lessee shall submit to the Port Authority its plan for such use of Parcel Z setting forth the Lessee's plan for how such use will not interfere with the use of the taxilane shown in stippled double parallel hatching on Exhibit 1.1(such plan as approved by the Port Authority being herein called the "*Parcel Z Approved Plan*"). Upon the approval of such plan by the Port Authority, from and after the date of such approval the Lessee may use Parcel Z in accordance with the Parcel Z Approved Plan for the parking and storage of aircraft and ramp equipment operated by the Lessee and for the performance of deicing of the aircraft of the Lessee, so long as such deicing is not a violation of any Environmental Requirement or the Port Authority Rules and Regulations, provided, however, such use shall in no event interfere with the use of the taxilane shown in stippled double parallel hatching on Exhibit 1.1.

(d) For the period from and after the Temporary Facilities Completion Date to and including the earlier to occur of DBO and the Terminal Work Completion Date, the Lessee in connection with its business of transportation by aircraft may use that portion of the Premises shown in stipple and stippled crosshatching on Exhibit 2.10 for all of the purposes activities set forth in paragraph (a) of this Section, except for those purposes and activities set forth in subparagraphs (2), (4), (11), (12) and (17) of paragraph (a) of this Section, and for such purposes and activities only.

Section 6. Compliance with Governmental Requirements

(a) The Lessee shall promptly comply with, observe and execute all laws and ordinances and governmental rules, regulations, orders, requirements and similar items, including without limitation, all Environmental Requirements (except as otherwise provided in Section 2(g)(12) and Section 56 hereof), now or at any time during the term of this Agreement which as a matter of law are applicable to or which affect (i) the Premises or the groundwater thereunder, (ii) the operations of the Lessee at the Premises or the Airport, or (iii) the occupancy and use of the Premises. The Lessee shall, in accordance with and subject to the provisions of Section 2 hereof entitled "Construction by the Lessee" or Section 33 hereof entitled "Other Construction of the Lessee", as the case shall be, make any and all structural and non-structural improvements, alterations or repairs of the Premises required in order to fully satisfy the compliance obligations set forth herein.

(b) The Lessee shall procure from all Governmental Authorities having jurisdiction over the operations of the Lessee hereunder all licenses, certificates, permits or other authorization which may be necessary for the conduct of such operations. "Governmental Authority" shall not be construed as intending to include The Port Authority of New York and New Jersey, the lessor under this Agreement.

(c) The obligation of the Lessee to comply with governmental requirements is provided herein for the purpose of assuring proper safeguards for the protection of persons and property on the Premises. Such provision is not to be construed as a submission by the Port Authority to the application to itself of such requirements or any of them.

(d) Since the Port Authority has agreed in the Basic Lease to conform to the enactments, ordinances, resolutions and regulations of the City of New York and its various departments, boards and bureaus in regard to the construction and maintenance of buildings and structures and in regard to health and fire protection which would be applicable if the Port Authority were a private corporation to the extent that the Port Authority finds it practicable so to do, the Lessee shall comply with all such enactments, ordinances, resolutions and regulations which would be applicable to its operations hereunder if the Port Authority were a private corporation, except in cases where the Port Authority either notifies the Lessee that it need not comply with or directs it not to comply with any such enactments, ordinances, resolutions or regulations which are applicable only because of the Port Authority's agreement in the Basic Lease. The Lessee shall, for the Port Authority's information, deliver to the Port Authority promptly after receipt of any notice, warning, summons, or other legal process for the enforcement of any such enactment, ordinance, resolution or regulation a true copy of the same. Any direction by the Port Authority to the Lessee not to comply with any such enactment, ordinance, resolution or regulation shall be given only pursuant to a resolution duly adopted by the Board of Commissioners of the Port Authority or by an authorized committee of its Board and if any such direction is given by the Port Authority to the Lessee, the Port Authority, to the extent that it may lawfully do so, shall indemnify and hold the Lessee harmless from and against all claims, actions, damages, liabilities, fines, penalties, costs and expenses suffered or incurred by the Lessee as a result of non-compliance with such enactment, ordinance, resolution or regulation.

(e) The Lessee shall have such time within which to comply with the aforesaid laws, ordinances, rules and regulations as the authorities enforcing the same shall allow.

(f) Without limiting any other term or condition of this Lease, the Lessee shall promptly comply with, observe and execute all the terms and conditions of Sections 3, 4.2.2.1 and 4.2.2.2 of the Remedial Action Work Plan.

Section 7. Rules and Regulations

(a) The Lessee covenants and agrees to observe and obey (and to require its officers, employees, guests, invitees and those doing business with it to observe and obey) the existing Rules and Regulations of the Port Authority, the Airport Standards Manual of the Port

Authority, and such reasonable future Rules and Regulations and airport standards of the Port Authority (including amendments and supplements thereto) for the government of the conduct and operations of the Lessee and others on the Premises as may from time to time during the letting be promulgated by the Port Authority for reasons of safety, health, noise, sanitation, good order or establishing airport standards. The obligation of the Lessee to require such observance and obedience on the part of its guests, invitees and business visitors shall obtain only while such Persons are on the Premises. The Port Authority agrees that except in cases of emergency, it will give notice to the Lessee of every such future rule, regulation, or airport standard adopted by it at least ten (10) days before the Lessee shall be required to comply therewith.

(b) The use by the Lessee and its officers, employees, guests, invitees, sublessees, and those doing business with it, of any and all portions of the Airport which it may be entitled to use under this Lease (other than space leased to the Lessee for its exclusive use and the Public Aircraft Facilities) shall be subject to the Rules and Regulations and Airport Standards Manual of the Port Authority in effect as of the Effective Date, and such reasonable future rules and regulations and airport standards (including amendments and supplements to the existing Rules and Regulations and the Airport Standards Manual) as the Port Authority may from time to time promulgate in the public interest and in the interest of health, safety, noise, sanitation, good order and the economic and efficient operation of the Airport, including but not limited to, the number and type of aircraft which at any particular time may use the Public Aircraft Facilities and the time or times when such aircraft may use the Public Aircraft Facilities. Without limiting the foregoing, the Port Authority may take into account in adopting such Rules and Regulations the adequacy, capacity and suitability of (i) aircraft using the Airport, (ii) passenger handling facilities at the Airport including but not limited to the AirTrain, (iii) the Public Aircraft Facilities at the Airport, (iv) the roadways and (v) the parking facilities. In the event the Port Authority promulgates rules and regulations and/or airport standards pursuant to this paragraph (b), the Port Authority may devise and implement reasonable procedures including but not limited to, allocations among Aircraft Operators at the Airport.

(c) If a copy of the Rules and Regulations and the Airport Standards Manual is not attached, then the Port Authority will notify the Lessee thereof either by delivery of a copy, or by making a copy available at the office of the Secretary of the Port Authority.

Section 8. Various Obligations of the Lessee

(a) The Lessee shall conduct its operations hereunder in an orderly and proper manner, so as not to unreasonably annoy, disturb or be offensive to others at or off the Airport. The Lessee shall take all reasonable measures to eliminate vibrations originating on the Premises tending to damage any equipment, structure, building or portion of a building which is on the Premises, or is a part thereof, or is located elsewhere on or off the Airport.

(b) The Lessee shall use its best efforts to conduct all its operations at the Premises in a safe and careful manner, following in all respects the best practices of the Lessee's industry in the United States.

(c) If requested by the Port Authority the Lessee shall supply and shall require its employees to wear or carry badges or other suitable means of identification, which shall be subject to the prior and continuing approval of the General Manager of the Airport.

(d) The Lessee shall control all vehicular traffic on the roadways or other areas within the Premises or serving the same the use of which is granted to the Lessee hereunder and shall take all precautions reasonably necessary to promote the safety of its passengers and all other persons. The Lessee shall employ such means as may be necessary to direct the movement of vehicular traffic within the Premises to prevent traffic congestion on the public roadways leading to the Premises.

(e) The Lessee shall remove from the Airport or otherwise dispose of in a manner approved by the General Manager of the Airport all garbage, debris and other waste materials (whether solid or liquid) arising out of its occupancy of the Premises or out of its operations at the Airport. Any such waste material which may be temporarily stored in the open, shall be kept in suitable garbage and waste receptacles, the same to be made of metal or other suitable material, and equipped with tight fitting covers, and to be of a design safely and properly to contain whatever material may be placed therein. The Lessee shall use extreme care when effecting removal of all such waste materials, and shall effect such removal at such times and by such means as first approved by the Port Authority. No such garbage, debris or other waste materials shall be or be permitted to be thrown, discharged or deposited into or upon the waters at or bounding the Airport.

(f) From time to time and as often as reasonably required by the Port Authority, the Lessee shall conduct pressure, water-flow, and other appropriate tests of the fire extinguishing system and apparatus, fire-alarm and smoke detection systems and any other fire protection systems which constitute a part of the Premises. The Lessee shall keep in proper functioning order all fire-fighting equipment, fire-alarm and smoke detection equipment on the Premises and the Lessee shall at all times maintain on the Premises adequate stocks of fresh, usable chemicals for use in such systems, equipment and apparatus. The Lessee shall notify the Port Authority prior to conducting such tests. If requested by the Port Authority, the Lessee shall furnish the Port Authority with a copy of written reports of such tests.

(g) In addition to compliance by the Lessee with all laws, ordinances, governmental rules, regulations and orders now or at any time in effect during the term of the letting hereunder which as a matter of law are applicable to the operation, use or maintenance by the Lessee of the Premises or the operations of the Lessee under this Agreement (the foregoing not to be construed as a submission by the Port Authority to the application to itself of such requirements or any of them), the Lessee agrees that it shall exercise the highest degree of safety and care and shall conduct all its operations under this Lease and shall operate and maintain the Premises and shall use the Premises in accordance with the highest standards and in such manner that there will be at all times a minimum of air pollution, water pollution or any other type of pollution and a minimum of noise emanating from, arising out of or resulting from the operation, use or maintenance of the Premises by the Lessee and from the operations of the Lessee under this Agreement. The Port Authority hereby reserves the right from time to time and at any time during the term of this Lease to require the Lessee, and the Lessee agrees to design and construct

at its sole cost and expense such reasonable structures, fences, equipment, devices and other facilities as may be necessary or appropriate to accomplish the objectives as set forth in the first sentence of this paragraph. All locations, the manner, type and method of construction and the size of any of the foregoing shall be determined by the Port Authority. The Lessee shall submit for Port Authority approval its plans and specifications covering the required work and upon receiving such approval shall proceed diligently to construct the same. The obligations assumed by the Lessee under this paragraph shall continue throughout the term of this Lease and shall not be limited, affected, impaired or in any manner modified by the fact that the Port Authority shall have approved any construction application and supporting plans, specifications and contracts covering construction work and notwithstanding the incorporation therein of the Port Authority's recommendations or requirements and notwithstanding that the Port Authority may have at any time during the term of the Lease consented to or approved any particular procedure or method of operation which the Lessee may have proposed or the Port Authority may have itself prescribed the use of any procedure or method. The agreement of the Lessee to assume the obligations under this paragraph is a special inducement and consideration to the Port Authority in entering into this Lease with the Lessee.

(h) The Lessee shall periodically inspect, clean out and maintain the oil separators serving the Premises which are located on the Premises and the oil separators located outside the Premises if they exclusively serve the Premises.

(i) It is the intention of the parties hereto that noise caused by aircraft engine operations shall be held to a minimum considering the nature of the Lessee's operations. To this end the Lessee will conduct its operations in such a manner as to keep the noise produced by aircraft engines to a minimum and where appropriate shall employ noise arresting and noise reducing devices that are suitable. Aircraft testing and aircraft run-ups will be conducted only in such areas as shall meet with the prior and continuing approval of the Port Authority. The obligations assumed by the Lessee under this paragraph (i) shall not diminish, limit, modify or affect all other obligations of the Lessee with respect to noise under this Agreement.

(j) In its use of the Premises, the Lessee shall use its best efforts to minimize jet or prop blast interference to aircraft operating on or to buildings and structures now located on or which in the future may be located on areas adjacent to the Premises. In the event the Port Authority determines at any time and from time to time that the Lessee has not so minimized the jet or prop blast interference, it may serve a notice on the Lessee to such effect and if the condition is not corrected to the satisfaction of the Port Authority within thirty (30) days after the service of said notice, the Lessee hereby covenants and agrees to erect and maintain at its own expense such structure or structures as may be necessary to minimize the said jet or prop blast interference, subject, however, to the prior written approval of the Port Authority as to the type, manner and method of construction. The obligations assumed by the Lessee under this paragraph shall not diminish, limit, modify or affect all other obligations of the Lessee with respect to interference under this Agreement.

Section 9. Prohibited Acts

(a) The Lessee shall commit no unlawful nuisance, waste or injury on the Premises or at the Airport, and shall not do or permit to be done anything which may result in the

creation or commission or maintenance of such nuisance, waste or injury on the Premises or at the Airport.

(b) The Lessee shall not create nor permit to be caused or created upon the Premises any obnoxious odors or smokes, or noxious gases or vapors. The creation of exhaust fumes by the operation of the Lessee's internal-combustion engines or aircraft engines of other types, so long as such engines are maintained and are being operated in a proper manner, shall not be a violation of this paragraph.

(c) The Lessee shall not do or permit to be done anything which may interfere with the effectiveness or accessibility of the drainage and sewerage system, water system, communications system, electrical fire-protection system, sprinkler system, alarm system, fire hydrants and hoses and other systems, if any, installed or located on, under, or in the Premises.

(d) The Lessee shall not do or permit to be done any act or thing upon the Premises (1) which will invalidate or conflict with any fire insurance, extended coverage or rental insurance policies covering the Premises or any part thereof, or the Airport, or any part thereof, or (2) which, in the opinion of the Port Authority, may constitute an extra-hazardous condition, so as to increase the risks normally attendant upon the operations contemplated by Section 5 hereof entitled "Use of Premises". The Lessee shall promptly observe, comply with and execute the provisions of any and all present and future rules and regulations, requirements, orders and directions of the National Board of Fire Underwriters and the Fire Insurance Rating Organization of New York, or of any other board or organization exercising or which may exercise similar functions, which may pertain or apply to the operations of the Lessee on the Premises, and the Lessee shall, subject to and in accordance with the provisions of Section 33 hereof entitled "Other Construction by the Lessee", make any and all structural and non-structural improvements, alterations or repairs of the Premises that may be required at any time hereafter by any such present or future rule, regulation, requirement, order or direction. If by reason of any failure on the part of the Lessee to comply with the provisions of this paragraph any fire insurance rate, extended coverage or rental insurance rate on the Premises or any part thereof, or on the Airport or any part thereof, shall at any time be higher than it would be if the Premises were properly used for the purposes permitted by Section 5 hereof entitled "Use of Premises", then the Lessee shall pay to the Port Authority, as an item of additional rental, that part of all insurance premiums paid by the Port Authority which shall have been charged because of such violation or failure by the Lessee.

(e) The Lessee agrees that it will not erect, construct or maintain or otherwise create or continue any obstacle or so park or store any aircraft or other object on the Premises so as to create any obstacle that will hamper or interfere with the free, orderly, unobstructed and uninterrupted passage of vehicles, aircraft or of the wings or other integral part of aircraft of any type, nature or description, while such vehicle is operating or aircraft is taxiing or being transported or towed along the runways, taxiways and roads outside of and adjacent to the Premises.

(f) The Lessee shall not keep or store during any 24-hour period flammable liquids within any enclosed portion of the Premises (other than in rooms or areas expressly

constructed for the storage of such liquids) in excess of the Lessee's working requirements during the said 24-hour period. Any such liquids having a flash point of less than 110° F. shall be kept and stored in safety containers of a type approved by the Underwriters Laboratories or the Factory Mutual Insurance Association.

(g) The Lessee shall not operate any engine or any item of automotive equipment in any enclosed space on the Premises unless such space is adequately ventilated and unless such engine is equipped with a proper spark-arresting device which has been approved by the Port Authority.

(h) The Lessee shall not do or permit anything to be done which will interfere with the free access and passage of others to space adjacent to the Premises or in any streets, ways and walks adjacent or near the Premises.

(i) The Lessee shall not overload any floor and shall repair any floor, including supporting members, and any paved area damaged by overloading. Nothing in this paragraph or elsewhere in this Agreement shall be or be construed to be a representation by the Port Authority of the weight any floor or paved area will bear.

(j) The Lessee shall not use or permit the use of any structural supporting member of the buildings or roofs or any part thereof for the storage of any material or equipment, or hoist, lift, move or support any material or equipment or other weight or load, by means of said trusses or structural supporting members, without prior approval of the Port Authority.

(k) The Lessee shall not use any cleaning materials having a harmful corrosive effect, on any part of the Premises.

(l) The Lessee shall not fuel or defuel any equipment in the enclosed portions of the Premises without prior approval of the General Manager of the Airport.

(m) The Lessee shall not dispose of, release or discharge nor permit anyone to dispose of, release or discharge any Hazardous Substance on the Premises or at the Airport, provided, however, that the redepositing of soil in compliance with Section 2 hereof in the performance of the Construction Work shall not be or be deemed to be a breach of this paragraph (m).

(n) (1) The Lessee shall prevent access by persons or vehicles (unless duly authorized by the Port Authority) to the Public Landing Area from the Premises except for aircraft, which aircraft shall be equipped with radio receivers tuned to control tower frequencies and adequately manned in accordance with applicable Port Authority Rules and Regulations. Such aircraft may be towed by a motor vehicle equipped with a radio receiver tuned to the appropriate control tower frequency and adequately manned or such other means as may be approved by the Port Authority. The Lessee shall control access by its passengers and patrons from and to aircraft ramp, apron and parking areas on the Premises and shall maintain control of its passengers and patrons while they are upon said areas by proper measures to insure that the highest standards of safety are maintained.

(2) The Lessee shall furnish adequate security and guard service or such comparable means as approved by the Port Authority from time to time, on a 24 hour, seven day-a-week basis for the prevention of access to and control of persons on the aeronautical operations areas of the Premises and the prevention of access to the Public Landing Area.

(o) The Lessee shall not operate or cause to be operated aircraft engines in any portions of the Premises other than for the purpose of taxiing aircraft to and from the Premises or in connection with authorized aircraft maintenance on the Premises.

(p) The Lessee shall not keep or store aviation fuel on the Premises except that fueling equipment may be operated on the Premises in accordance with the provisions of the Airport Fueling Agreements covering the underground fueling system and with the Port Authority Rules and Regulations pertaining thereto.

(q) The Lessee shall not do or permit anything to be done which will interfere with the free access and passage of others to space adjacent to the Premises or in any streets, ways and walks adjacent or near the Premises.

(r) The Lessee shall not perform any aircraft maintenance on the Premises except that emergency aircraft maintenance and transit or turn around aircraft maintenance shall not be deemed to be prohibited by this provision.

Section 10. **Care, Maintenance, Rebuilding and Repair by the Lessee**

(a) The Lessee shall repair, replace, rebuild and paint all or any part of the Premises which may be damaged or destroyed by the acts or omissions of the Lessee or by those of its officers or employees or of other persons on or at the Premises with the Lessee's consent and shall pay to the Port Authority the costs and expenses of the Port Authority to repair, replace, rebuild and paint all or any part of the Airport which may be damaged or destroyed by the acts or omissions of the Lessee or by those of its officers or employees or of other Persons on or at the Premises with the Lessee's consent but as to areas outside of the Premises only by the acts or omissions of the Lessee and its officers or employees, provided, however, the foregoing obligations of the Lessee shall not apply to the repair of damage to the Premises caused solely by the Port Authority in the exercise of its rights under paragraph (l) of Section 56 hereof.

(b) Except for the restoration of any excavation, demolition or other damage to the Premises resulting as part of the Utility Servicing (as defined in Section 17 hereof) to its original state by the Port Authority as required by Section 17(b) hereof, the Lessee shall, throughout the term of this Lease, assume the entire responsibility and shall relieve the Port Authority from all responsibility for all repair, rebuilding and maintenance whatsoever in the Premises, whether such repair, rebuilding or maintenance be ordinary or extraordinary, partial or entire, inside or outside, foreseen or unforeseen, structural or otherwise, and without limiting the generality of the foregoing, the Lessee shall:

(1) Keep at all times in a clean and orderly condition and appearance, the Premises and all the Lessee's fixtures, equipment and personal property which are located in any part of the Premises which is open to or visible by the general public;

(2) Remove all snow and ice and perform all other activities and functions necessary or proper to make the Premises available for use by the Lessee;

(3) Take good care of the Premises and maintain the same at all times in good condition except for reasonable wear and tear which does not adversely affect the proper utilization of the Premises; perform all necessary preventive maintenance, including but not limited to painting (the exterior of the Premises and areas visible to the general public to be painted only in colors which have been approved by the Port Authority); and make all repairs and replacements, and do all rebuilding, inside and outside, ordinary and extraordinary, partial and entire, foreseen and unforeseen, structural or otherwise, which repairs, rebuilding and replacements by the Lessee shall be in quality and class not inferior to the original in materials and workmanship;

(4) Provide and maintain all obstruction lights and similar devices on the Premises and provide and maintain all fire protection and safety equipment and all other equipment of every kind and nature required by any law, rule, ordinance, resolution or regulation of the type and nature described in Section 6 hereof entitled "Compliance with Governmental Requirements" and Section 7 hereof entitled "Rules and Regulations". The Lessee shall enter into and keep in effect throughout the term of the Lease a contract or contracts with a central station alarm company acceptable to the Port Authority to provide continuous and automatic surveillance of the fire protection system on the Premises. The Lessee shall insure that all fire alarm signals with respect to the Premises shall also be transmitted to the Airport's police emergency alarm board or to such other location on the Airport as the General Manager of the Airport may direct. The Lessee's obligations hereunder shall in no way create any obligation whatsoever on the part of the Port Authority;

(5) Take such anti-erosion measures and maintain the landscaping at all times in good condition, including but not limited to periodic replanting, as the Port Authority may require, and perform and maintain such other landscaping with respect to all portions of the Premises not paved or built upon as the Port Authority may require;

(6) Be responsible for the maintenance and repair of all utility service lines, including but not limited to, service lines for the supply of water, electric power and telephone conduits and lines, sanitary sewers and storm sewers, located upon the Premises or located adjacent to the Premises and exclusively serving the Premises;

(7) Be responsible for the maintenance and repair of any damage to the paving or other surface of the Premises caused by any oil, gasoline, grease, lubricants or other flammable liquids and substances having a corrosive or detrimental effect thereon;

(8) Be responsible for all paving, line-stripping, lighting, signage, storm drains, culverts, cables, supporting structures, cleaning and snow removal in connection

with existing and future access roadways which are located off of the Premises and serve the Premises exclusively;

(9) Be responsible for the operation, maintenance, repair and replacement of building systems located on the Premises that serve the Flight Wing I Tube, and

(10) If any of the area shown in stippled double parallel vertical hatching on Exhibit 1.1 shall be repaved, such pavement and any related or required work shall be performed so that the taxilanes on such area can accommodate use by Group VI aircraft.

(c) In the event the Lessee fails to commence so to maintain, clean, repair, replace, rebuild or paint within a period of twenty (20) days after notice from the Port Authority so to do in the event that the said notice specifies that the required work to be accomplished by the Lessee includes maintenance and/or repair other than preventive maintenance; or within a period of one hundred eighty (180) days if the said notice specifies that the work to be accomplished by the Lessee involves preventive maintenance only, or fails diligently to continue to completion the repair, replacement, rebuilding or painting of all of the Premises required to be repaired, replaced, rebuilt or painted by the Lessee under the terms of this Agreement, the Port Authority may, at its option, and in addition to any other remedies which may be available to it, repair, replace, rebuild or paint all or any part of the Premises included in the said notice, and the cost thereof shall be payable by the Lessee upon demand.

(d) Notwithstanding the terms and conditions of Section 5 of this Lease entitled "Use of Premises", paragraph (d) of Section 8 of this Lease entitled "Various Obligations of the Lessee" and this Section, it is hereby agreed and understood, the Lessee shall have no right nor obligation to operate, control, maintain, rebuild or repair (i) the traffic signaling system located on the roadway frontage of the Premises and the roadways located off the Premises and generally consists of traffic lights and signals and associated wiring and control panels, or (ii) the variable message sign system located on the roadway frontage of the Premises and the roadways located off the Premises and generally consists of message signs, lights, wiring and control panels (which traffic signaling system and variable message sign system are hereinafter collectively called the "*Traffic Systems*"), provided, however, the Lessee shall pay to the Port Authority as additional rent all costs and expenses to repair, replace and rebuild all or any portion of the Traffic Systems which may be damaged or destroyed by the acts or omissions of the Lessee or by those of its officers or employees or of other Persons on or at the Premises. Further, the Port Authority shall not have any obligation hereunder or otherwise to operate, maintain, control or continue the operation of the Traffic Systems and may at any time and from time to time discontinue the operation of any or all of the Traffic Systems and/or disable such Traffic Systems and/or remove them from the Premises and from the roadways located off of the Premises. The Port Authority shall have the right at its sole discretion to modify, replace and substitute the Traffic Systems with identical or different systems as the Port Authority shall elect and to operate and control the Traffic Systems, including without limitation, to determine the content of and to place messages on the variable message system and to determine the operating mode of the traffic signaling system.

(e) If the performance of any of the foregoing repair, maintenance, replacement, repainting or rebuilding obligations of the Lessee requires work to be performed near an active taxiway or taxilane or where safety of operations is involved, the Lessee agrees, unless otherwise permitted by the Port Authority in writing, that it will, at its own expense, post guards or take such other appropriate measures as may be directed by the General Manager of the Airport to insure the safety of the work performed thereat.

Section 11. Insurance

(a) The Lessee shall, during the term of this Agreement, insure and keep insured to the extent of 100% of the replacement value thereof, the entire Premises and all other buildings, structures, improvements, installations, facilities and fixtures now or in the future located on the Premises against all risks of physical loss or damage (including, but not limited to flood and earthquake risks if commercially available), if available, and if not available, then against such hazards and risks as may now or in the future be included under the Standard Form of Fire Insurance Policy of the State of New York and also against damage or loss by windstorm, cyclone, tornado, hail, explosion, riot, civil commotion, aircraft, vehicles and smoke, under the Standard Form of Fire Insurance Policy of New York and the form of extended coverage endorsement prescribed as of the effective date of the said insurance by the rating organization having jurisdiction, and if the Port Authority so requests, also covering contamination hazards and, if the Premises contains a boiler, then boiler and machinery hazards and risks, in a separate insurance policy or policies or as an additional coverage endorsement to the aforesaid policies in the form as may now or in the future be prescribed as of the effective date of said insurance by the rating organization having jurisdiction and/or the Superintendent of Insurance of the State of New York and the Lessee shall furthermore provide additional insurance covering any other peril of loss or damage that the Port Authority at any time during the term of this Agreement covers by carrier or self-insurance covered by appropriate reserves at other locations at the Airport upon ninety days' (90) written notice to the Lessee to such effect.

(b) The aforesaid insurance coverages and renewals thereof shall insure the Port Authority, the Lessee and the City of New York, as insureds, as their interests may appear, and shall provide that the loss, if any, shall be adjusted with and payable to the Port Authority.

(c) In the event the Premises or any part thereof shall be damaged by any casualty against which insurance is carried pursuant to this Section, the Lessee shall promptly furnish to the Port Authority such information and data as may be necessary to enable the Port Authority to adjust the loss.

(d) The policies or certificates representing insurance covered by this Section shall, if not already delivered, shall be delivered by the Lessee to the Port Authority prior to the Lease Commencement Date and each policy or certificate delivered shall bear the endorsement of or be accompanied by evidence of payment of the premium thereon, and also shall contain a valid provision obligating the insurance company to furnish the Port Authority and the City of New York thirty (30) days' advance notice of the cancellation or termination of the insurance evidenced by said policy or certificate and that the policy may not be changed or modified in any way that would affect the Port Authority or the City of New York without giving thirty (30) days' written advance notice thereof to the Port Authority and the City of New York. Renewal

policies or certificates shall be delivered to the Port Authority before the expiration of the insurance which such policies are to renew.

(e) Regardless, however, of the Persons whose interests are insured, the proceeds of all policies covered by this Section shall be applied as provided in Section 12 hereof entitled "Damage to or Destruction of the Premises"; and the word "insurance" and all other references to insurance in said Section 12 shall be construed to refer to the insurance which is the subject matter of this Section, and to refer to such insurance only.

(f) The insurance covered by this Section shall be written by companies approved by the Port Authority, the Port Authority covenanting and agreeing not to withhold its approval unreasonably. If at any time any of the insurance policies shall be or become unsatisfactory to the Port Authority as to form or substance or if any of the carriers issuing such policies shall be or become unsatisfactory to the Port Authority, the Lessee shall promptly obtain a new and satisfactory policy in replacement, the Port Authority covenanting and agreeing not to act unreasonably hereunder. If at any time the Port Authority so requests, a certified copy of each of said policies shall be made available by the Lessee to the Port Authority for inspection and reproduction at an office of the Lessee within the Port of New York District.

Section 12. Damage to or Destruction of the Premises

(a) Removal of Debris. If the Premises or any part thereof, shall be damaged by fire, the elements, the public enemy or other casualty, the Lessee shall promptly remove all debris resulting from such damage from the Premises, and to the extent, if any, that the removal of debris under such circumstances is covered by insurance, the proceeds thereof shall be made available to and be used by the Lessee for such purpose.

(b) Minor Damage. If the Premises or any part thereof, shall be damaged by fire, the elements, the public enemy or other casualty but not rendered untenantable or unusable for a period of ninety (90) days, the Premises shall be repaired with due diligence in accordance with the plans and specifications for the Premises as they existed prior to such damage by and at the expense of the Lessee and if such damage is covered by insurance the proceeds thereof shall be made available by the Port Authority to and be used by the Lessee for that purpose.

(c) Major Damage to or Destruction of the Premises. If the Premises or any part thereof, shall be destroyed or so damaged by fire, the elements, the public enemy or other casualty as to be untenantable or unusable for ninety (90) days, or if within ninety (90) days after such damage or destruction the Lessee notifies the Port Authority in writing that in its opinion said Premises as the case shall be, will be untenantable or unusable for ninety (90) days then the Lessee shall proceed with due diligence to make the necessary repairs or replacements to restore the Premises in accordance with the plans and specifications for the Premises as the same existed prior to such damage or destruction; or with the approval in writing of the Port Authority make such other repairs, replacements or changes as may be desired by the Lessee. If such destruction or damage was covered by insurance, the proceeds thereof shall be made available by the Port Authority to and used by the Lessee for such restoration.

(d) The obligation of the Lessee to repair or replace shall be limited to the amount of the insurance proceeds provided the Lessee has carried insurance to the extent and in accordance with Section 11 hereof entitled "Insurance". Any excess of the proceeds of insurance over the costs of the restoration shall be retained by the Port Authority.

(e) The parties hereby stipulate that neither the provisions of Section 227 of the Real Property Law of New York nor those of any other similar statute shall extend or apply to this Agreement.

Section 13. Indemnity and Liability Insurance

(a) (1) The Lessee shall indemnify and hold harmless the Port Authority, its Commissioners, officers, employees and representatives (each of the foregoing being hereinafter singularly referred to as an "*Indemnified Party*"), from and against (and shall reimburse each Indemnified Party for its costs and expenses including legal expenses, whether those of the Port Authority's Law Department or otherwise, incurred in connection with the defense of) all claims and demands of third persons including, but not limited to, claims and demands for death or personal injuries, or for property damages, arising out of a breach or default of any term or provision of this Agreement by other than the Port Authority, or out of the use or occupancy of the Premises by the Lessee or by others with its consent, or out of any other acts or omissions of the Lessee, its officers, employees, guests, representatives, customers, contractors, invitees or business visitors on the Premises, or arising out of the acts or omissions of the Lessee, its officers and employees elsewhere at the Airport (excepting only claims and demands arising solely from the willful misconduct or the sole negligence of the Port Authority), including claims and demands of the City of New York from which the Port Authority derives its rights in the Airport, for indemnification, arising by operation of law or through agreement of the Port Authority with the said City (excepting claims and demands of the City arising solely with respect to the Condition Exceptions which the Lessee is not responsible for pursuant to paragraph (b)(2) of Section 56 hereof and claims and demands of the City arising solely with respect to those terms and conditions of the Remedial Action Work Plan which the Lessee is not responsible for complying with pursuant this Lease)(each and every claim or demand for which the Lessee has agreed to indemnify an Indemnified Party pursuant to this paragraph (a)(1) being hereinafter called as "*Indemnified Claim*").

(2) (i) Except as set forth in subparagraph (a)(2)(ii) of this Section, the Lessee shall at its own cost and expense defend each and every suit based upon any Indemnified Claim (even if such claim or demand is groundless, false or fraudulent) with counsel reasonable satisfactory to the Port Authority, and in defending such suit the Lessee shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority, or the provisions of any statutes respecting suits against the Port Authority, provided, however, the Port Authority shall have the right at its election to either (x) participate in such defense or settlement with its own counsel and at its sole expense except as set forth in subparagraph (a)(2)(ii) of this Section, but the Lessee shall have the control of the defense, judgment and settlement or (y) upon notice to the Lessee relieve the Lessee from the obligation to defend any Indemnified Claim and itself defend such Indemnified

Claim at its sole cost and expense except as set forth in subparagraph (a)(2)(ii) of this Section and the settlement, judgment and satisfaction thereof shall be paid by the Lessee if the Lessee has consented to such settlement, judgment or satisfaction, which consent of the Lessee will not be unreasonably withheld.

(ii) In the event that the defense of an Indemnified Claim which is to be provided by the Lessee (including without limitation any defense provided by the Lessee's insurer, contractor or subcontractor) has not been commenced within a reasonable time period after receipt by the Lessee of notice of such Indemnified Claim, or if the Lessee, one of its contractors or subcontractors or its insurer shall not use a counsel that is reasonably satisfactory to the Port Authority in defending an Indemnified Claim, then upon notice to the Lessee the Port Authority may defend such Indemnified Claim at the sole cost and expense of the Lessee.

(iii) The Port Authority and the Lessee will reasonably cooperate with each other in the defense of any Indemnified Claim.

(iv) In the event that the Lessee (including any of its insurance carriers, contractors or subcontractors involved in the defense of an Indemnified Claim) has a conflict of interest with the Port Authority or an Indemnified Party or a defense by the Lessee (including without limitation a defense by the Lessee's insurer, contractor or subcontractor) adversely affects the interests of the Port Authority or other Indemnified Party, then Lessee shall provide or cause to be provided separate counsel approved by the Port Authority to defend such Indemnified Claim.

(b) (1) In addition to the obligations set forth in paragraph (a) of this Section and all other insurance required under this Agreement, the Lessee during the term of this Agreement in its own name as insured and also including the Port Authority, the other Indemnified Parties and the City Insureds as additional insureds including without limitation for premises-operations and products-completed operations, shall maintain and pay the premiums on a policy or policies of (i) Commercial General Liability Insurance, and covering bodily injury, including death, and property damage liability, broadened to include or equivalent separate policies covering aircraft liability, none of the foregoing to contain care, custody or control exclusions, and providing for coverage in the limits set forth below, and (ii) Commercial Automobile Liability Insurance covering owned, non-owned and hired vehicles and automatically covering newly acquired vehicles in not less than the minimum limit set forth below and in lieu of the foregoing requirements pertaining to care, custody or control exclusions Baggage Legal Liability Insurance providing for coverage in not less than the limit set forth below. Said policy of Baggage Legal Liability Insurance shall cover and insure against such hazards and risks as are customarily insured under such a policy, shall cover the operations of the Lessee under this Lease, shall be effective throughout the term of the letting hereunder, and shall contain an endorsement waiving any rights of subrogation of the insurer against the Port Authority. In addition, each of the said policy or policies of insurance shall also provide or contain an endorsement providing that the protections afforded the Lessee thereunder with respect to any claim or action against the Lessee by a third person shall pertain and apply with like effect with respect to any claim or action against the Lessee by the Port Authority and any claim or action against the Port Authority by the Lessee as though the Port Authority were a

named insured but such endorsement shall not limit, vary, change, or affect the protection afforded the Port Authority thereunder as an additional insured. In addition, the said policy or policies of Commercial General Liability Insurance shall also provide or contain a contractual liability endorsement covering the obligations assumed by the Lessee under paragraph (a) hereof, Section 1 hereof entitled "Letting", Section 19 hereof entitled "Assignment and Sublease", Section 29 hereof entitled "Removal of Property", Section 30 hereof entitled "Brokerage", and paragraph (d) of Section 62 hereof entitled "Non-Discrimination".

	Minimum Limits
Commercial General Liability	
Combined single limit per occurrence for death, bodily injury and property damage liability:	$100,000,000.00
Commercial Automobile Liability (covering owned, non-owned and hired vehicles) Combined single limit per occurrence for death, bodily injury and property damage liability:	$25,000,000.00
Baggage Legal Liability	$10,000,000.00

(2) The Lessee shall also procure and maintain in effect, or cause to be procured and maintained in effect, Workers' Compensation Insurance and Employer's Liability Insurance in accordance with and as required by law and including coverage for asbestos exposure.

(3) Without limiting the provisions hereof, in the event the Lessee maintains the foregoing insurance in limits greater than aforesaid, the Port Authority shall be included therein as an additional insured to the full extent of all such insurance in accordance with the terms and provisions hereof.

(c) Notwithstanding the foregoing, it is specifically understood and agreed that the Port Authority shall have the right upon notice to the Lessee given from time to time and at any time to require the Lessee to increase any or all of the foregoing limits to commercially reasonable amounts and the Lessee shall promptly comply therewith and shall promptly submit a certificate or certificates evidencing the same to the Port Authority.

(d) As to the insurance required by the provisions of this Section, a certified copy of each of the policies or a certificate or certificates evidencing the existence thereof, or binders shall be delivered to the Port Authority prior to the Lease Commencement Date. In the event any binder is delivered, it shall be replaced within thirty (30) days by a certified copy of the policy or a certificate. Each such copy or certificate shall contain a valid provision or endorsement that the policy may not be canceled or terminated without giving thirty (30) days'

written advance notice thereof to the Port Authority and the City of New York and that the policy may not be changed or modified in any way that would affect the Port Authority or the City of New York without giving thirty (30) days' written advance notice thereof to the Port Authority and the City of New York. Each such copy or certificate shall contain an additional endorsement providing that the insurance carrier shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provisions of any statutes respecting suits against the Port Authority. Renewal policies or certificates shall be delivered to the Port Authority prior to the expiration of the insurance which the policies are to renew. The aforesaid insurance shall be written by a company or companies approved by the Port Authority, the Port Authority agreeing not to withhold its approval unreasonably. If at any time any of the insurance policies shall be or become unsatisfactory to the Port Authority as to form or substance or if any of the carriers issuing such policies shall be or become unsatisfactory to the Port Authority, the Lessee shall promptly obtain a new and satisfactory policy in replacement, the Port Authority covenanting and agreeing not to act unreasonably hereunder. If the Port Authority at any time so requests, a certified copy of each of the policies shall be made available by the Lessee to the Port Authority for inspection and reproduction at an office of the Lessee within the Port of New York District.

Section 14. Signs

(a) Except with the prior written approval of the Port Authority, the Lessee shall not erect, maintain or display any signs or advertising at or on the exterior parts of the Premises or in the Premises so as to be visible from outside the Premises or at or on any other portion of the Airport outside the Premises. Interior and exterior signs affecting public safety and security shall be in accordance with established Port Authority standards.

(b) Upon the expiration or termination of the letting, the Lessee shall remove, obliterate or paint out, as the Port Authority may direct, any and all signs and advertising on the Premises or elsewhere on the Airport and in connection therewith shall restore the portion of the Premises and the Airport affected by such signs or advertising to the same condition as existing prior to the installation of such signs and advertising. In the event of a failure on the part of the Lessee so to remove, obliterate or paint out each and every such sign or advertising and so to restore the Premises and the Airport, the Port Authority may perform the necessary work and the Lessee shall pay the cost thereof to the Port Authority on demand.

Section 15. Obstruction Lights

The Lessee shall install, maintain and operate at its own expense such obstruction lights on the Premises as the Federal Aviation Administration may direct or as the General Manager of the Airport may reasonably direct, and shall energize such lights daily for a period commencing thirty (30) minutes before sunset and ending thirty (30) minutes after sunrise (as sunset and sunrise may vary from day to day throughout the year) and for such other period as may be directed or requested by the control tower of the Airport.

Section 16. Additional Rent and Charges

(a) If the Port Authority has paid any sum or has incurred any obligations or expenses (including without limitation payments to third persons and internal Port Authority costs and expenses) for which the Lessee has agreed to pay or reimburse the Port Authority pursuant to the terms and conditions of this Lease or if the Port Authority is required or elects to pay any sum or sums or incurs any obligations or expense (including without limitation payments to third persons and internal Port Authority costs and expenses) by reason of the failure, neglect or refusal of the Lessee to perform one or more of the conditions, covenants or agreements contained in this Agreement or as a result of an act or omission of the Lessee contrary to the said conditions, covenants and agreements, the Lessee agrees to pay the sum or sums so paid or the expense so incurred, including all interest, costs, damages and penalties, and the same may be added to any installment of rent thereafter due hereunder, and each and every part of the same shall be and become additional rent, recoverable by the Port Authority in the same manner and with like remedies as if it were originally a part of the rent as set forth in Section 4 hereof entitled "Rental".

(b) For all purposes under this Section and in any suit, action or proceeding of any kind between the parties hereto, any receipt showing any payment of a sum or sums by the Port Authority for any work done or material furnished shall be prima facie evidence against the Lessee that the amount of such payment was necessary and reasonable. Should the Port Authority elect to use its operating and maintenance staff in performing any work and to charge the Lessee with the cost of same, any time report of any employee of the Port Authority showing hours of labor or work allocated to such work, or any stock requisition of the Port Authority showing the issuance of materials actually used in the performance thereof, shall likewise be prima facie evidence against the Lessee that the amount of such charge was necessary and reasonable.

Section 17. Rights of Entry Reserved

(a) The Port Authority, by its officers, employees, agents, representatives and contractors shall have the right at all reasonable times to enter upon the Premises for the purpose of inspecting the same, for observing the performance by the Lessee of its obligations under this Agreement, and for the doing of any act or thing which the Port Authority may be obligated or have the right to do under this Agreement or otherwise.

(b) Without limiting the generality of the foregoing, the Port Authority, by its officers, employees, agents, representatives, and contractors, and furnishers of utilities and other services, shall have the right, for its own benefit, for the benefit of the Lessee, or for the benefit of others than the Lessee at the Airport, to maintain existing and future utility, mechanical, electrical and other systems and to enter upon the Premises at all reasonable times to make such repairs, replacements or alterations as may, in the opinion of the Port Authority, be deemed necessary or advisable and, from time to time, to construct or install over, in or under the Premises new systems or parts thereof, and to use the Premises for access to other parts of the Airport otherwise not conveniently accessible (any such repairs, replacements, alterations, construction, installation or use for access being herein referred to as a "*Utility Servicing*"); provided, however, that in the conduct of such Utility Servicing the Port Authority shall (i) not

unreasonably interfere with the use and occupancy of the Premises by the Lessee, (ii) provide the Lessee notice of any Utility Servicing (except in cases of emergency) and (iii) restore or cause the restoration of any excavation, demolition or other damage to the Premises resulting as part of the Utility Servicing to its original state.

(c) (1) Further, without limiting the generality of this Section, the Port Authority, by its officers, employees, agents, representatives and contractors and furnishers of service shall have the right, for its own benefit, for the benefit of the Lessee, or for the benefit of others than the Lessee at the Airport to maintain the portions of the Distribution Portion of the System, the Traffic Systems and the Cogeneration Facility located under or on the Premises and to enter upon the Premises at all times to make such repairs, replacements or alterations to the Distribution Portion of the System, the Traffic Systems, the AirTrain and the Cogeneration Facility as may, in the opinion of the Port Authority, be deemed necessary or desirable and, from time to time to construct or install over, in or under the Premises additions or extensions to said Distribution Portion of the System, the Traffic Systems, AirTrain and the Cogeneration Facility; provided, however, that in the exercise of such rights of access, repair, alteration or new construction the Port Authority shall not unreasonably interfere with the use and occupancy of the Premises by the Lessee pursuant to the provisions of this Agreement.

(2) Neither the Distribution Portion of the System, the AirTrain, the Traffic Systems or the Cogeneration Facility nor any part of any of the foregoing shall be or be deemed to be a part of the Premises under the Lease.

(d) In the event that any property of the Lessee shall obstruct the access of the Port Authority, its employees, agents or contractors to any of the existing or future utility, mechanical, electrical and other systems and thus shall interfere with the inspection, maintenance or repair of any such system, the Lessee shall move such property, as directed by the Port Authority, in order that access may be had to the system or part thereof for its inspection, maintenance or repair, and, if the Lessee shall fail to so move such property after direction from the Port Authority to do so, the Port Authority may move it and the Lessee hereby agrees to pay the cost of such moving upon demand.

(e) Nothing in this Section shall or shall be construed to impose upon the Port Authority any obligations so to construct or maintain or to make repairs, replacements, alterations or additions, or shall create any liability for any failure so to do. The Lessee is and shall be in exclusive control and possession of the Premises and the Port Authority shall not in any event be liable for any injury or damage to any property or to any Person happening on or about the Premises nor for any injury or damage to the Premises except as set forth in paragraph (b) of this Section nor to any property of the Lessee or of any other Person located in or thereon (other than those occasioned by the affirmative acts of the Port Authority, its employees, agents and representatives).

(f) At any time and from time to time during ordinary business hours within the six (6) months next preceding the expiration of the letting, the Port Authority, for and by its agents and employees, whether or not accompanied by prospective lessees, occupiers or users of

the Premises, shall have the right to enter thereon for the purpose of exhibiting and viewing all parts of the same.

(g) If, during the last month of the letting, the Lessee shall have removed all or substantially all its property from the Premises, the Port Authority may, with the prior written consent of the Lessee, immediately enter and alter, renovate and redecorate the Premises.

(h) Without limiting the generality of this Section, the Port Authority, by its officers, employees, agents, representatives, contractors and furnishers of services, and the Port Authority's lessees, permittees and other Persons which now or in the future are occupants or users of the Terminal 6 Site with the permission of the Port Authority, by its and their contractors, employees, agents, representatives and furnishers of services shall have the right, for the benefit of the Port Authority, or for the benefit of such lessees, permittees and other Persons or for the benefit of the Lessee to enter upon the Premises at all times to construct such modifications, additions, installations, equipment, fixtures, structures, improvements and facilities on the Premises as may in the opinion of the Port Authority be necessary or desirable in connection with the use, occupancy and or redevelopment of the Terminal 6 Site, including without limitation modifications, additions, installations, equipment, fixtures, structures, improvements and facilities to signage, arrivals level roadways and frontages, departures level roadways and frontages, fire alarm systems and that portion of the New Passenger Terminal adjoining the Terminal 6 Site as shall be necessary or desirable to permit the free flow and circulation of the public and other users and occupants of the Terminal 6 Site and their vehicles, aircraft and other equipment between the Terminal 6 Site and the Premises, between the Terminal 6 Site and the Terminal 5 AirTrain Connector and as shall be necessary or desirable to connect a new passenger terminal on the Terminal 6 Site to the New Passenger Terminal in such a manner as the two terminals would function as one continuous terminal.

(i) The exercise of any or all of the foregoing rights by the Port Authority or others shall not be or be construed to be an eviction of the Lessee nor be made the grounds for any abatement of rental nor any claim or demand for damages, consequential or otherwise.

Section 18. Condemnation

(a) Definitions:

The following terms, when used in this Section 18, shall, unless the context shall require otherwise, have the respective meanings given below:

(1) "*Date of the Taking*" shall be deemed to be the date on which title to Premises or a portion thereof shall have vested in any lawful power or authority pursuant to the provisions of the applicable federal or New York State law.

(2) "*Material Part*" with reference to the Premises or with reference to the Public Landing Area shall mean such portion of the Premises or the Public Landing Area as when so taken would leave remaining a balance of the Premises, whether due either to the area so taken or the location of the part so taken in relation to the part not so taken, would not under economic conditions and after performance by the Lessee of all covenants, agreements, terms

and provisions contained herein or by law required to be observed or performed by the Lessee, permit the restoration of the Premises so as to enable the Lessee to operate, maintain and develop the Premises in accordance with Sections 2 and 5 of this Agreement.

(b) Permanent Taking of All or a Portion of the Premises and the Public Landing Area

(1) If a taking covers the entire Premises, then this Agreement shall, as of the date possession is taken, or as of the effective date of such termination, cease and determine in the same manner and with the same effect as if the date were the original date of expiration hereof.

(2) If less than all of the Premises shall be so taken, this Agreement and the Term shall continue as to the portion of the Premises not so taken, and the letting as to the part of the Premises so taken shall, as of the date possession thereof is taken, or as of the effective date of such termination, cease and determine in the same manner and with the same effect as if the term of the letting had on that date expired, and the rentals shall be abated as provided in Section 4 hereof.

(3) If the taking covers only a Material Part of the Premises or of the Public Landing Area, then the Lessee and the Port Authority shall each have an option exercisable by notice given within ten (10) days after the Date of the Taking to terminate the letting hereunder with respect to the Premises not taken, as of the Date of the Taking, and such termination shall be effective as if the Date of the Taking were the original date of expiration hereof. If the Port Authority exercises this option, it shall purchase from the Lessee the Lessee's leasehold interest (excluding any personal property whatsoever) in the Premises not taken for a consideration equal to the Lessee's Unamortized Investment, if any, in the Premises not taken. If the letting of the entire Premises is not terminated, the settlement or abatement of rentals after the date the body exercising such taking takes possession shall be abated in accordance with Section 4 hereof entitled "Rental".

(4) If less than the entire Premises is so taken and the letting of the Premises not taken is not terminated pursuant to paragraph (b)(3) of this Section, the Lessee (subject to Section 33 hereof entitled "Other Construction by the Lessee and Section 44 hereof entitled "Force Majeure" and all other applicable terms and provisions of this Lease) shall proceed diligently to restore any remaining part of the Premises not so taken so that the Premises shall be a complete, operable, self-contained architectural unit in good condition and repair and the proceeds of that portion of any award paid in trust to the Port Authority pursuant to Section 23.3 of the Basic Lease attributable to the improvements on the Premises not so taken shall be made available by the Port Authority to and be used by the Lessee for that purpose. The Port Authority shall retain any excess of such award over the costs of the restoration.

(c) Taking of a Temporary Interest in All or Any Part of the Premises or the Public Landing Area:

(1) If the temporary use of the whole or any part of the Premises shall be taken for any public or quasi-public purpose by any lawful power or authority by the exercise

of the right of condemnation or eminent domain or by agreement between the Port Authority and those authorized to exercise such right, (w) the Lessee shall give prompt notice thereof to the Port Authority, (x) the Term shall not be reduced or affected in any way and (y) the Lessee shall continue to pay in full all rentals payable by the Lessee hereunder without reduction or abatement except as set forth in paragraph (c)(2) below.

(2) If a temporary taking covers all or a Material Part of the Premises or the Public Landing Area, then the Lessee and the Port Authority shall each have an option, exercisable by notice given within ten (10) days after the Date of the Taking, to suspend the term of the letting of such of the Premises as are not so taken during the period of the taking, and, in that event, the rentals for such portion of the Premises not so taken shall abate for the period of the suspension in accordance with Section 4 hereof entitled "Rental". If the Port Authority exercises this option, it shall purchase from the Lessee the Lessee's leasehold interest (excluding any personal property whatsoever) in the Premises not taken for the period of suspension for a consideration equal to the Lessee's Unamortized Investment, if any, in such Premises which is to be amortized over the period of such suspension.

(d) The Lessee shall execute any and all documents that may be reasonably required in order to facilitate collection by the appropriate party of awards or payments covered by this Section.

(e) To the extent a condemnation claim by the Lessee shall not diminish any claim, award, compensation or damages of or to the City or of the Port Authority on account of any condemnation and such condemnation claim is permitted by Section 23 of the Basic Lease, the Lessee may file a claim in a condemnation proceeding.

Section 19. Assignment and Sublease

(a) (1) The Lessee covenants and agrees that it will not sell, convey, transfer, mortgage, pledge or assign this Agreement or any part thereof, or any rights created thereby or the letting thereunder or any part thereof without the prior written consent of the Port Authority provided, however, that this Agreement may be assigned in its entirety (by operation of law or otherwise) without such consent to any successor in interest of the Lessee which is or is to be a Scheduled Aircraft Operator (as defined in Section 94 of this Agreement), and into which the Lessee may merge or with which the Lessee may consolidate, or which may succeed to the assets of the Lessee or the major portion of its assets related to its air transportation system (any such successor in interest of the Lessee being hereinafter called a "*Qualified Assignee*"), if immediately following the merger, consolidation or succession of assets the Qualified Assignee has a financial standing at least as good as that of the Lessee immediately preceding the merger, consolidation or succession of assets (by which is meant that the Qualified Assignee's tangible net worth shall be at least as favorable as the tangible net worth of the Lessee immediately preceding the merger, consolidation or succession of assets).

(2) In the event that this Agreement shall be assigned in its entirety (by operation of law or otherwise) without the prior written approval of the Port Authority to a successor in interest of the Lessee which is or is to be a Scheduled Aircraft Operator (as defined in Section 94 of this Agreement), and into which the Lessee may merge or with which the Lessee may consolidate, or which may succeed to the assets of the Lessee or the major portion of

its assets related to its air transportation system the Lessee shall submit to the Port Authority prior to the tenth (10th) day after but not earlier than thirty (30) days prior to such transfer of this Agreement all appropriate information and documentation sufficient to allow the Port Authority to determine whether immediately following the merger, consolidation or succession of assets such successor in interest of the Lessee has a financial standing at least as good as that of the Lessee immediately preceding the merger, consolidation or succession of assets (by which is meant that the successor in interest's tangible net worth shall be at least as favorable as that of the Lessee immediately preceding the merger, consolidation or succession of assets).

(b) (1) The Lessee shall not sublet the Premises or any part thereof, without the prior written consent of the Port Authority.

(2) (i) "*Affiliated Scheduled Aircraft Operator*" shall mean a Person that is a Scheduled Aircraft Operator and if such Scheduled Aircraft Operator is a corporation, then to be an "*Affiliated Scheduled Aircraft Operator*", the Lessee shall be the absolute and unconditional owner of all of the issued and outstanding stock of such corporation and if such Scheduled Aircraft Operator is not a corporation, then to be an "*Affiliated Scheduled Aircraft Operator*", the Lessee shall be the absolute and unconditional owner of all of the ownership interests of such Scheduled Aircraft Operator and such Scheduled Aircraft Operator shall be a wholly owned subsidiary of the Lessee.

(ii) Notwithstanding any provision of this Lease and in addition thereto, and without the requirement for any permit, consent to sublease or other use agreement from the Port Authority, the Port Authority hereby grants its consent to the use of the Premises by an Affiliated Scheduled Aircraft Operator for the purposes set forth in Section 5 hereof, such use being without payment of the Port Authority fees for such use, in accordance with the terms and conditions of the Lease for so long as such Scheduled Aircraft Operator meets all of the requirements to qualify as an Affiliated Scheduled Aircraft Operator. In the event said Scheduled Aircraft Operator shall cease to qualify as an Affiliated Scheduled Aircraft Operator, the Lessee shall immediately so inform the Port Authority and deliver to the Port Authority a copy of the agreement between the Lessee and the former Affiliated Scheduled Aircraft Operator covering the use and occupancy of the Premises by such former Affiliated Scheduled Aircraft Operator. Thereafter a document or documents shall be prepared by the Port Authority and sent to the Lessee for execution by the Lessee and said former Affiliated Scheduled Aircraft Operator which document(s) shall be effective as of the date that the Affiliated Scheduled Aircraft Operator no longer qualifies as an Affiliated Scheduled Aircraft Operator and shall include, among other things, the right of said former Affiliated Scheduled Aircraft Operator to continue to use the Premises on the terms and conditions of the Lease, and the joint and several obligation of the Lessee and said former Affiliated Scheduled Aircraft Operator to pay to the Port Authority the then appropriate Port Authority fees therefore.

(iii) It is specifically understood and agreed that any sublease or other agreement or arrangement (hereinafter called the "*Affiliated Scheduled Aircraft Operator Arrangement*") covering an Affiliated Scheduled Aircraft Operator's use and/or occupancy of the Premises shall be for a term expiring no later than the day before the expiration date of this

Agreement and shall provide that the portion of the Premises to be used by the Affiliated Scheduled Aircraft Operator shall be used solely for the purposes set forth in Section 5 hereof.

(iv) Without limiting any rights or remedies of the Port Authority or obligations of an Affiliated Scheduled Aircraft Operator, the Lessee hereby assumes all risks and responsibilities for each Affiliated Scheduled Aircraft Operator's operations at the Airport including without limitation the payment of fees and charges payable by said Affiliated Scheduled Aircraft Operator to the Port Authority and the Lessee hereby agrees that all acts and omissions of said Affiliated Scheduled Aircraft Operator at the Airport shall be and be deemed to be acts and omissions of the Lessee. Without limiting the generality of the foregoing or any other term or provision of this Agreement, the failure of an Affiliated Scheduled Aircraft Operator to comply with any agreement, term, covenant or condition of the Lease shall be and be deemed to be a failure of the Lessee to have complied with such agreement, term, covenant or condition and further the Lessee shall indemnify and hold harmless the Port Authority, its Commissioners, officers, employees and representatives, from and against (and shall reimburse the Port Authority for the Port Authority's costs and expenses, whether those of the Port Authority's Law Department or otherwise, including legal expenses incurred in connection with the defense of) all claims and demands of third persons including but not limited to claims and demands for death or personal injuries, or for property damages, arising out of a breach or default of any term or provision of this Agreement by each Affiliated Scheduled Aircraft Operator, or out of the use or occupancy of the Premises by each Affiliated Scheduled Aircraft Operator or by others with its consent, or out of any other acts or omissions of each Affiliated Scheduled Aircraft Operator, its officers, employees, guests, representatives, customers, contractors, invitees or business visitors on the Premises, or arising out of the acts or omissions of each Affiliated Scheduled Aircraft Operator, its officers and employees elsewhere at the Airport (excepting only claims and demands arising solely from the willful misconduct or the sole negligence of the Port Authority), including claims and demands of the City of New York, from which the Port Authority derives its rights in the Airport, for indemnification, arising by operation of law or through the Basic Lease. If so directed, the Lessee shall at its own expense defend any suit based upon any such claim or demand (even if such suit, claim or demand is groundless, false or fraudulent), and in handling such it shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provision of any statutes respecting suits against the Port Authority.

(c) Any sale, assignment, transfer, sublease, mortgage, pledge, hypothecation, encumbrance or disposition of the Premises or of the rents, revenues or any other income from the Premises, or this Agreement or any part thereof, or any license or other interest of the Lessee therein not made in accordance with the provisions of this Agreement shall be null and void ab initio and of no force or effect.

(d) If without the prior written consent of the Port Authority, the Lessee assigns, sells, conveys, transfers, mortgages, pledges or sublets in violation of paragraphs (a) or (b) of this Section or if the Premises are occupied by anybody other than the Lessee, the Port Authority may collect rent from any assignee, sublessee or anyone who claims a right under this Agreement or letting or who occupies the Premises, and the Port Authority shall apply the net

amount collected to the rental herein reserved; but no such collection shall be deemed a waiver by the Port Authority of the covenants contained in paragraphs (a) and (b) of this Section or an acceptance by the Port Authority of any such assignee, sublessee, claimant or occupant as Lessee, nor a release of the Lessee by the Port Authority from the further performance by the Lessee of the covenants contained herein.

(e) Any consent granted by the Port Authority to any assignment or subletting to any sublease pursuant to the provisions hereof shall not be construed or deemed to release, relieve or discharge any succeeding assignee, successor or transferee of the Lessee or any other Person claiming any right, title or interest in this Agreement from the requirement of obtaining the prior written consent of the Port Authority in the event it wishes to sell, convey, transfer, mortgage, pledge, sublet or assign this Agreement or any part thereof, or any rights created thereby or the letting hereunder or any part thereof, or any rights created thereby without such prior written consent of the Port Authority.

(f) The Lessee shall not use or permit any Person to use the Premises or any portion thereof for any purpose other than the purposes stated in Section 5 hereof entitled "Use of Premises". Except as provided in this Agreement or otherwise permitted in writing by the Port Authority, the Lessee shall not permit the Premises to be used or occupied by any Person other than its own officers, employees, passengers, contractors and representatives.

(g) The Port Authority shall not assign or otherwise transfer this Lease or any of its rights hereunder (i) to any private Person without written consent duly executed by the Lessee; or (ii) to the City of New York, unless the City of New York at the time of such assignment or transfer assumes the obligations of the Port Authority under this Lease.

Section 20. Termination by the Port Authority

(a) If any one or more of the following events shall occur (each an "Event of Default"), that is to say:

(1) The Lessee shall become insolvent or shall take the benefit of any present or future insolvency statute, or shall make a general assignment for the benefit of creditors, or file a voluntary petition in bankruptcy or a petition or answer seeking an arrangement or its reorganization or the readjustment of its indebtedness under the federal bankruptcy laws or under any other law or statute of the United States or of any state thereof, or consent to the appointment of a receiver, trustee, or liquidator of all or substantially all of its property; or

(2) By order or decree of a court the Lessee shall be adjudged bankrupt or an order shall be made approving a petition filed by any of its creditors or by any of the stockholders of the Lessee, seeking its reorganization or the readjustment of its indebtedness under the federal bankruptcy laws or under any law or statute of the United States or any state thereof, provided that if any such judgment or order or decree is stayed or vacated within sixty (60) days after the entry thereof, any notice of cancellation shall be and become null, void and of no effect; or

(3) By or pursuant to, or under authority of any legislative act, resolution or rule, or any order or decree of any court or governmental board, agency or officer having jurisdiction, a receiver, trustee, or liquidator shall take possession or control of all or substantially all of the property of the Lessee, and such possession or control shall continue in effect for a period of sixty (60) days; or

(4) The Lessee shall voluntarily abandon, desert or vacate the Premises or discontinue its operations at the Airport, or after exhausting or abandoning any right of further appeal, the Lessee because of an act or omission of the Lessee, shall be prevented for a period of sixty (60) days by action of any Governmental Agency other than the Port Authority having jurisdiction thereof, from conducting its operations at the Airport; or

(5) Any lien is filed against the Premises because of any act or omission of the Lessee and shall not be discharged or bonded within ninety (90) days after the Lessee has received notice thereof; or

(6) Except as set forth in paragraph (a) of Section 19 hereof and in Sections 42 and 43 with respect to Gates and Gate Related Premises, the letting hereunder or the interest or estate of the Lessee under this Agreement shall be transferred directly by the Lessee or shall pass to or devolve upon, by operation of law or otherwise, any other Person, firm or corporation; or

(7) A petition under any part of the federal bankruptcy laws or an action under any present or future insolvency law or statute shall be filed against the Lessee and shall not be dismissed within ninety (90) days after the filing thereof; or

(8) If either (i) the Lessee shall, without the prior written approval of the Port Authority, become a merged (non-surviving) corporation in a merger, a constituent corporation in a consolidation, or a corporation in dissolution, except as otherwise expressly permitted in paragraph (a) of Section 19 hereof, or (ii) the Lessee shall, without the prior written approval of the Port Authority, become a possessor (surviving) corporation in a merger and either is not a Scheduled Aircraft Operator after such merger or immediately after the merger the Lessee's tangible net worth is not at least as favorable as the Lessee's tangible net worth was immediately preceding the merger; or

(9) The Lessee shall fail duly and punctually to pay the rentals or to make any other payment required hereunder when due to the Port Authority and shall continue in its failure to pay rentals or to make any other payments required hereunder for a period of twenty (20) days after receipt of written notice by it from the Port Authority to make such payments; or

(10) The Lessee shall fail to keep, perform and observe each and every other promise, covenant and agreement set forth in this Agreement on its part to be kept, performed, or observed, within thirty (30) days after receipt of notice of default thereunder from the Port Authority (except where fulfillment of its obligation requires activity over a period of time, and the Lessee shall have commenced to perform whatever may be required for fulfillment

within thirty (30) days after receipt of written notice of default by it from the Port Authority and continues such performance without interruption except for causes beyond its control);

then upon the occurrence of any such event or at any time thereafter during the continuance thereof, the Port Authority may upon twenty (20) days' notice (such notice a "*Notice of Termination*" terminate the rights of the Lessee hereunder and the letting, such termination to be effective upon the date specified in such notice. Such right of termination and the exercise thereof shall be and operate as a conditional limitation.

(b) The rights of termination described above shall be in addition to any other rights of termination provided in this Agreement and in addition to any rights and remedies that the Port Authority would have at law or in equity consequent upon any breach of this Agreement by the Lessee, and the exercise by the Port Authority of any right of termination shall be without prejudice to any other such rights and remedies.

(c) No failure by the Port Authority to insist upon the strict performance of any agreement, term, covenant or condition of the Lease or to exercise any right or remedy consequent upon a breach or default thereof, and no extension, supplement or amendment of the Lease during or after a breach thereof, unless expressly stated to be a waiver, and no acceptance by the Port Authority of rentals, fees, charges or other payments in whole or in part after or during the continuance of any such breach or default, shall constitute a waiver of any such breach or default of such agreement, term, covenant or condition. No agreement, term, covenant or condition of the Lease to be performed or complied with by the Lessee, and no breach or default thereof, shall be waived, altered or modified except by a written instrument executed by the Port Authority. No waiver by the Port Authority of any default or breach on the part of the Lessee in performance of any agreement, term, covenant or condition of this Lease shall affect or alter the Lease, but each and every agreement, term, covenant and condition thereof shall continue in full force and effect with respect to any other then existing or subsequent breach or default thereof.

(d) In the event that the Lessee shall, without the prior written approval of the Port Authority, become a possessor (surviving) corporation in a merger and is a Scheduled Aircraft Operator after such merger, the Lessee shall submit to the Port Authority prior to the tenth (10th) day after, but not earlier than thirty (30) days prior to, such merger all appropriate information and documentation sufficient to allow the Port Authority to determine whether immediately following the merger the Lessee has a financial standing at least as good as the Lessee's financial standing was immediately preceding the merger (by which is meant that the Lessee's tangible net worth immediately after the merger shall be at least as favorable as the Lessee's tangible net worth immediately preceding the merger).

Section 21. Rights of Re-entry

The Port Authority shall, as an additional remedy upon the giving of a notice of termination as provided in Section 20 hereof entitled "Termination by the Port Authority" or any other Section hereof, have the right to re-enter the Premises and every part thereof upon the effective date of termination without further notice of any kind, and may regain and resume possession either with or without the institution of summary or any other legal proceedings or

otherwise. Such re-entry, or regaining or resumption of possession, however, shall not in any manner affect, alter or diminish any of the obligations of the Lessee under this Agreement, and shall in no event constitute an acceptance of surrender.

Section 22. Waiver of Redemption

The Lessee hereby waives any and all rights to recover or regain possession of the Premises and all rights of redemption, granted by or under any present or future law in the event it is evicted or dispossessed for any cause, or in the event the Port Authority obtains possession of the Premises in any lawful manner.

Section 23. Survival of the Obligations of the Lessee

(a) In the event that the letting shall have been terminated in accordance with a notice of termination as provided in Section 20 hereof entitled "Termination by the Port Authority", or the interest of the Lessee canceled pursuant thereto, or in the event that the Port Authority has re-entered, regained or resumed possession of the Premises in accordance with the provisions of Section 21 hereof entitled "Right of Re-entry", all the obligations of the Lessee under this Agreement shall survive such termination or cancellation, or re-entry, regaining or resumption of possession and shall remain in full force and effect for the full term of the letting under this Agreement, and the amount or amounts of damages or deficiency shall become due and payable to the Port Authority to the same extent, at the same time or times and in the same manner as if no termination, cancellation, re-entry, regaining or resumption of possession had taken place. The Port Authority may maintain separate actions each month to recover the damage or deficiency then due or at its option and at any time may sue to recover the full deficiency less the proper discount, for the entire unexpired term.

(b) The amount of damages for rentals for the period of time subsequent to termination or cancellation (or re-entry, regaining or resumption of possession) shall be the sum of the following:

(1) On account of the Lessee's obligation for the First Ground Rental, the amount of the total of all annual First Ground Rentals less the amount attributable to the installments of such annual First Ground Rentals payable prior to the effective date of termination or cancellation, except that the credit to be allowed for the installment thereof payable on the first day of the month in which the termination or cancellation is effective shall be prorated for the part of the month the letting remains in effect on the basis of the actual number of days in such month, and

(2) On account of the Lessee's obligation for the Second Ground Rental, the amount of the total of all annual Second Ground Rentals less the amount attributable to the installments of such annual Second Ground Rentals payable prior to the effective date of termination or cancellation, except that the credit to be allowed for the installment thereof payable on the first day of the month in which the termination or cancellation is effective shall be prorated for the part of the month the letting remains in effect on the basis of the actual number of days in such month, and

(3) On account of the Lessee's obligation for the Third Ground Rental, the amount of the total of all annual Third Ground Rentals less the amount attributable to the installments of such annual Third Ground Rentals payable prior to the effective date of termination or cancellation, except that the credit to be allowed for the installment thereof payable on the first day of the month in which the termination or cancellation is effective shall be prorated for the part of the month the letting remains in effect on the basis of the actual number of days in such month, and

(4) On account of the Lessee's obligation for the Fourth Ground Rental, the amount of the total of all annual Fourth Ground Rentals less the amount attributable to the installments of such annual Fourth Ground Rentals payable prior to the effective date of termination or cancellation, except that the credit to be allowed for the installment thereof payable on the first day of the month in which the termination or cancellation is effective shall be prorated for the part of the month the letting remains in effect on the basis of the actual number of days in such month, and

(5) On account of the Lessee's obligation for the Fifth Ground Rental, the amount of the total of all annual Fifth Ground Rentals less the amount attributable to the installments of such annual Fifth Ground Rentals payable prior to the effective date of termination or cancellation, except that the credit to be allowed for the installment thereof payable on the first day of the month in which the termination or cancellation is effective shall be prorated for the part of the month the letting remains in effect on the basis of the actual number of days in such month, and

(6) On account of the Lessee's obligation for the Temporary Facility Ground Rental, the amount of the total of all annual Temporary Facility Ground Rental less the amount attributable to the installments of such annual Temporary Facility Ground Rentals payable prior to the effective date of termination or cancellation, except that the credit to be allowed for the installment thereof payable on the first day of the month in which the termination or cancellation is effective shall be prorated for the part of the month the letting remains in effect on the basis of the actual number of days in such month, and

(7) On account of the Lessee's obligation for the First Enplanement Rental, the amount of the total of all monthly First Enplanement Rentals which would have been paid by the Lessee during the balance of the term as if there had been no termination or cancellation, or re-entry, regaining, or resumption or possession; and for the purpose of calculation hereunder from and after the date of such termination, or cancellation the such First Enplanement Rental shall be the greater of the Minimum First Enplanement Rental for each Annual Period and the Activity Based First Enplanement Rental, the number of Enplanements to be used to calculate such Activity Based First Enplanement Rental for each Monthly Period after the date of such termination or cancellation shall be the total number of Enplanements for the most recent Monthly Period which occurred prior to the effective date of termination or cancellation, and

(8) On account of the Lessee's obligation for the Second Enplanement Rental, the amount of the total of all annual Second Enplanement Rentals which would have

been paid by the Lessee during the balance of the term as if there had been no termination or cancellation, or re-entry, regaining, or resumption or possession; and for the purpose of calculation hereunder from and after the date of such termination, or cancellation the amount of the Second Enplanement Rental shall be calculated for each Annual Period using just the Minimum Enplanement Rental for such Annual Period, and

(9) On account of the Lessee's obligation for First Additional Rental, the amount of the total of all monthly First Additional Rental payments payable under Section 4 of this Agreement, less the amount attributable to the installments of such First Additional Rental payable prior to the effective date of termination or cancellation, except that the credit to be allowed for the installment thereof payable on the first day of the month in which the termination or cancellation is effective shall be prorated for the part of the month the letting remains in effect, on the basis of the actual number of days in such month, and

(10) On account of the Lessee's obligation for Second Additional Rental, the amount equal to the difference obtained by subtracting the amount of Cost of the Lessee's $80 Million Work as of the effective date of termination or cancellation from the amount of Eighty Million Dollars and No Cents ($80,000,000.00), and

(11) On account of the Lessee's obligation for Third Additional Rental, the amount of the total of all monthly Third Additional Rental payments required under Section 4 of this Agreement, less the amount attributable to the installments of such Third Additional Rental payable prior to the effective date of termination or cancellation, except that the credit to be allowed for the installment thereof payable on the first day of the month in which the termination or cancellation is effective shall be prorated for the part of the month the letting remains in effect, on the basis of the actual number of days in such month, and

(12) On account of the Lessee's obligation for Fourth Additional Rental, the amount of the total of all monthly Fourth Additional Rental payments payable under Section 4 of this Agreement, less the amount attributable to the installments of such Fourth Additional Rental payable prior to the effective date of termination or cancellation, except that the credit to be allowed for the installment thereof payable on the first day of the month in which the termination or cancellation is effective shall be prorated for the part of the month the letting remains in effect, on the basis of the actual number of days in such month, and

(13) On account of the Lessee's obligation for Fifth Additional Rental, the amount of the total of all monthly Fifth Additional Rental payments payable under Section 4 of this Agreement, less the amount attributable to the installments of such Fifth Additional Rental payable prior to the effective date of termination or cancellation, except that the credit to be allowed for the installment thereof payable on the first day of the month in which the termination or cancellation is effective shall be prorated for the part of the month the letting remains in effect, on the basis of the actual number of days in such month, and

(14) On account of the Lessee's obligations to pay the Cost of Assumable Maintenance and Repair set forth in Section 53 hereof entitled "Assumption of Maintenance and Repair of the Premises by the Port Authority", an amount equal to the total sum

of the Capital Cost under said Section 53 hereof less the amount thereof payable prior to the effective date of termination, and

(15) On account of the Lessee's obligations to pay the Costs of the Condition Survey set forth in Section 54 hereof entitled "Joint Periodic Condition Survey", an amount equal to the Costs of the Condition Survey under said Section 54 hereof less the amount thereof payable prior to the effective date of termination,

(16) An amount equal to all expenses reasonably incurred by the Port Authority in connection with regaining possession and restoring and reletting the demised premises, for legal expenses (including but not limited to the cost to the Port Authority of in-house legal services), the care and maintenance of the Premises during any period of vacancy, putting the premises in order including, without limitation, cleaning, decorating and restoring (on failure of the Lessee to restore), maintenance and brokerage fees and commissions, and

(17) On account of the Lessee's obligations to pay the of the Port Authority's Cost of the Exit Baseline set forth in Section 56 hereof, an amount equal to (Ex.2.a.) of the Port Authority's Cost of the Exit Baseline, less the amount thereof payable prior to the effective date of termination.

(c) In addition to and without limiting the foregoing or any other right, claim or remedy of the Port Authority, legal or equitable, under this Lease or otherwise, in the event this Lease shall be terminated pursuant to Section 20 hereof entitled "Termination by the Port Authority" and the Lessee shall not have completed the Redevelopment Work, as defined in Section 2 hereof, or any portion thereof, on the effective date of termination or cancellation, the Lessee shall and hereby agrees to pay to the Port Authority any and all amounts, costs and expenses, of any type whatsoever, paid or incurred by the Port Authority by reason of the failure of the Lessee to complete the Redevelopment Work, or any portion thereof, including without limitation all interest, completion and other costs, damages, direct, indirect and consequential, losses and penalties less the amount of (Ex.2.a.) (Ex.2.a.) and all of the same shall survive the termination or cancellation of this Agreement and shall be deemed treated as survived damages hereunder in addition to those set forth in paragraphs (a), (b) and (d) of this Section.

(d) Notwithstanding anything to the contrary herein contained but subject to the terms and conditions of paragraph (u) of Section 56 hereof, all of the obligations of the Lessee under this Lease with respect to Environmental Damages and Environmental Requirements shall survive the expiration or termination of this Agreement.

Section 24. Reletting by the Port Authority

The Port Authority upon termination or cancellation pursuant to Section 20 hereof entitled "Termination by the Port Authority", or upon any re-entry, regaining or resumption of possession pursuant to Section 21 hereof entitled "Right of Re-entry", may occupy the Premises or may relet the Premises, and shall have the right to permit any Persons, firm or corporation to enter upon the Premises and use the same. Such reletting may be of part only of the Premises or a part thereof together with other space, and for a period of time the same as or different from the

balance of the term hereunder remaining, and on terms and conditions the same as or different from those set forth in this Agreement. The Port Authority shall also, upon termination or cancellation pursuant to the said Section 20, or upon its re-entry, regaining or resumption of possession pursuant to the said Section 21, have the right to repair or to make structural or other changes in the Premises, including changes which alter the character of the Premises and the suitability thereof for the purpose of the Lessee under this Agreement, without affecting, altering or diminishing the obligations of the Lessee hereunder. In the event either of any reletting or of any actual use and occupancy by the Port Authority (the mere right of the Port Authority to use and occupy not being sufficient however) there shall be credited to the account of the Lessee against its survived obligations hereunder any net amount remaining after deducting from the amount actually received from any lessee, licensee, permittee or other occupier in connection with the use of the said Premises or portion thereof during the balance of the letting as the same is originally stated in this Agreement, or from the market value of the occupancy of such portion of the Premises as the Port Authority may during such period actually use and occupy, all expenses, costs and disbursements incurred or paid by the Port Authority in connection therewith. No such reletting shall be or be construed to be an acceptance of a surrender.

Section 25. Remedies to be Non-Exclusive

All remedies provided in this Agreement shall be deemed cumulative and additional and not in lieu of or exclusive of each other or of any other remedy available to the Port Authority or to the Lessee at law or in equity, and the exercise of any remedy, or the existence herein of other remedies or indemnities shall not prevent the exercise of any other remedy.

Section 26. Surrender

The Lessee covenants and agrees to yield and deliver peaceably to the Port Authority possession of the Premises on the date of cessation of the letting, whether such cessation be by termination, expiration or otherwise, promptly and in good condition excepting reasonable wear and tear which does not adversely affect the proper utilization of the Premises, and all of the Premises shall be free and clear of all liens, encumbrances, and security interests and of any rights of any sublessees or other occupants of the Premises, provided, however, the foregoing provisions with respect to reasonable wear and tear shall not apply to the environmental condition of the Premises and the obligations of the Lessee with respect to the environmental condition of the Premises shall be as set forth in Section 56 hereof.

Section 27. Acceptance of Surrender of Lease

No agreement of surrender or to accept a surrender shall be valid unless and until the same shall have been reduced to writing and signed by the duly authorized representatives of the Port Authority and of the Lessee. Except as expressly provided in this Section, neither the doing of, nor any omission so to do, any act or thing, by any of the officers, agents or employees of the Port Authority, shall be deemed an acceptance of a surrender of the letting or of this Agreement.

Section 28. Basic Lease

(a) The Lessee acknowledges that it has received a copy, and is familiar with the contents, of the Basic Lease. The rights of the Port Authority in the Premises are those granted to it by the Basic Lease, and no greater rights are granted or intended to be granted to the Lessee than the Port Authority has power thereunder to grant.

(b) In accordance with the provisions of the Basic Lease, the Port Authority and the Lessee hereby agree as follows:

(1) This Lease is subject and subordinate to the Basic Lease and to any interest superior to that of the Port Authority;

(2) The Lessee shall not pay rent or other sums under this Agreement for more than one (1) month in advance (excluding security and other deposits required under this Agreement);

(3) With respect to this Lease, the Lessee on the termination of the Basic Lease will, at the option of The City of New York, attorn to, or enter into a direct lease on identical terms with, the City;

(4) The Lessee shall indemnify the City, as a third party beneficiary, with respect to all matters described in Section 31 of the Basic Lease;

(5) The Lessee shall not use the Premises hereunder or any other portion of the Airport for any use other than as permitted under the Basic Lease;

(6) The Lessee shall use, operate and maintain the Premises hereunder in a manner consistent with the Port Authority's obligations under Section 28 of the Basic Lease;

(7) The failure of the Lessee to comply with the foregoing provisions shall be an event of default under this Lease, which, after the giving of reasonable notice, shall provide the Port Authority with the right to terminate this Lease and exercise any other rights that the Port Authority may have as the landlord hereunder; and

(8) The City shall be named as an additional insured or loss payee, as applicable, under each policy of insurance procured by the Lessee pursuant to this Lease.

(c) The rights and obligations of the Lessee with respect to continuance of this Agreement upon the expiration or termination of the Basic Lease shall be as set forth in paragraph (b)(3) of this Section and the Lessee shall not enter into any recognition or nondisturbance agreement with the City with respect to the continuance of this Lease after the termination or expiration thereof or into any other agreement covering the Lessee's use and occupancy of the Premises hereunder without the prior written consent of the Port Authority.

(d) (i) Notwithstanding the provisions of paragraph (b)(4) of this Section, it is hereby agreed that the Port Authority shall indemnify the Lessee from and against all claims

and demands of the City arising solely out of the contractual obligation of the Lessee set forth in paragraph (b)(4) of this Section to the extent such claims and demands do not relate to (w) the Lessee's use or occupancy of the Demised Premises (as defined in the Basic Lease), or (x) the Lessee's exercise of rights or privileges at the Demised Premises pursuant to a license, lease, permit or other agreement (y) to the Lessee's ownership of any property at the Demised Premises or (z) to any act, omission, inaction or neglect of the Lessee, except, however, the foregoing clauses (w), (x), (y) and (z) shall not include any claim or demand of the City arising out of any of the Condition Exceptions for which the Lessee is not responsible for pursuant to paragraph (b)(2) of Section 56 hereof and claims and demands arising solely with respect to those terms and conditions of the Remedial Action Work Plan which the Lessee is not responsible for complying with pursuant to this Lease), (each claim and demand of the City for which the Port Authority has agreed to indemnify the Lessee pursuant to this paragraph (d)(i) is hereinafter referred to as an "Unrelated Claim").

(ii) The Lessee shall give prompt notice to the Port Authority of the assertion of any Unrelated Claim, or the commencement of any action or proceeding relating to an Unrelated Claim, specifying with reasonable particularity the damages, loss, liability, or expense for which the Lessee seeks indemnification, and the basis for the indemnity, and shall thereafter promptly give the Port Authority all such information with respect thereto as the Port Authority may request. The Lessee and its officers, directors, employees and representatives shall fully cooperate in the defense of any action or proceeding based upon any Unrelated Claim. The Port Authority shall have the right to select the counsel, or to utilize counsel for its insurer, in connection with the defense of any such action or proceeding, and shall have the right to settle or compromise any such Unrelated Claim without the consent of the Lessee, provided that such settlement or compromise does not require payment from the Lessee and will result in a full release of the Lessee from any further liability with respect to such Unrelated Claim. The Lessee shall have the right to settle or compromise any Unrelated Claim only with the consent of the Port Authority. A failure by the Lessee to give the Port Authority notice of an Unrelated Claim shall relieve the Port Authority from its obligations under this paragraph (d) to the extent the defense of such claim is prejudiced by the Lessee's failure to give prompt notice thereof.

Section 29. Removal of Property

(a) Except as set forth in Sections 52 and 61 hereof, all personal property (including trade fixtures) removable without material damage to the Premises installed by the Lessee in or on the Premises and which is not owned by the City of New York or the Port Authority pursuant to paragraph (k) of Section 2 hereof or otherwise shall be deemed to be and remain the property of the Lessee (which personal property of the Lessee is hereinafter called the "*Lessee's Personal Property*").

(b) All of the Lessee's Personal Property, provided that the Lessee shall install suitable replacements therefor if such property is necessary to operate the Premises in accordance with the terms and provisions hereof, may at the Lessee's option be removed by the Lessee from the Premises at any time during the term of the letting hereunder. Furthermore, notwithstanding the previous sentence, all of the Lessee's Personal Property shall, unless otherwise agreed in writing by the parties hereto, be removed by the Lessee on or before the expiration or other termination of the term of the letting hereunder. Any of the Lessee's Personal

Property, except for Tanks (as defined in Section 61 hereof entitled "Storage Tanks"), remaining on the Premises thereafter shall be deemed abandoned by the Lessee. Without limiting any other term or provision of this Agreement, the Lessee shall indemnify and hold harmless the Port Authority, its Commissioners, officers, agents, employees and contractors from all claims of third persons arising out of the Port Authority's removal and disposition of property so abandoned by the Lessee, including claims for conversion, claims for loss of or damage to the Lessee's Personal Property, claims for injury to Persons (including death), and claims for any other damages, consequential or otherwise.

(c) The Lessee shall not remove from the Premises any property of the City of New York or of the Port Authority without the prior written approval of the Port Authority.

Section 30. Brokerage

Each party represents and warrants to the other that no real estate broker has been concerned on its behalf in the negotiation of this Agreement and that there is no real estate broker who is or may be entitled to be paid a commission in connection therewith. Each party shall indemnify and save harmless the other party of and from any claim for commission or brokerage made by any and all Persons whatsoever for services to or on behalf of the indemnifying party in connection with the negotiation and execution of this Agreement.

Section 31. Limitation of Rights and Privileges Granted

(a) No greater rights or privileges with respect to the use of the Premises or any part thereof are granted or intended to be granted to the Lessee by this Agreement, or by any provision thereof, than the rights and privileges expressly and specifically granted hereby.

(b) The Premises are let to the Lessee and the Lessee takes the same subject to all the following: (i) easements, restrictions, reservations, covenants and agreements, if any, to which the Premises are subject, rights of the public in and to any public street, (ii) rights, if any, of any enterprise, public or private which is engaged in furnishing heating, lighting, power, telegraph, telephone, steam, or transportation services and of the City and State of New York and (iii) permits, licenses, regulations and restrictions, if any, of the United States, the City of New York or State of New York or other Governmental Authority.

Section 32. Notices

Except where expressly required or permitted herein to be oral, all notices, directions, requests, consents and approvals required to be given to or by either party shall be in writing, and all such notices and requests shall be personally delivered to the duly designated officer or representative of such party or delivered to the office of such officer or representative during regular business hours, or forwarded to him or to the party at such address by certified or registered mail. The Lessee shall from time to time designate in writing an office within the Port of New York District and an officer or representative whose regular place of business is at such office upon whom notices and requests may be served. Until further notice, the Port Authority hereby designates its Executive Director, and the Lessee designates its Vice President of Corporate Real Estate, as their officers upon whom notices and requests may be served, and the

Port Authority designates its office at 225 Park Avenue South, New York, New York 10003, and the Lessee designates its office at 118-29 Queens Boulevard, Forest Hills, New York 11375 as their respective offices where notices and requests may be served. If mailed, the notices herein required to be served shall be deemed effective and served as of the date of the certified or registered mailing thereof. The Port Authority may for informational purposes only send a copy by regular first class mail of all such notices and requests to the Lessee's General Counsel at the following address: 118-29 Queens Blvd., Forest Hills, New York 11375. Failure on the part of the Port Authority to send the informational copy shall not however be or be deemed to be a breach of this Agreement or impair or affect the validity of the notice or request actually given.

Section 33. Other Construction by the Lessee

(a) Except as expressly provided in Section 2 hereof, the Lessee shall not erect any structures, make any improvements or do any other construction work on the Premises or alter, modify, or make additions or improvements to any structure now existing or built at any time during the letting, or install any fixture (other than trade fixtures, removable without material damage to the freehold, any such damage to be immediately repaired by the Lessee) without the prior written approval of the Port Authority. In the event any construction, improvement, alteration, modification or addition, is made without such prior written approval of the Port Authority, then upon reasonable notice so to do, the Lessee will remove the same, or at the option of the Port Authority cause the same to be changed to the satisfaction of the Port Authority. In case of any failure on the part of the Lessee to comply with such notice, the Port Authority may effect the removal or change and the Lessee shall pay the cost thereof to the Port Authority. In addition all the Construction Work shall be performed in accordance with the terms and conditions of Section 2 hereof.

(b) Without limiting the generality of the foregoing paragraph the Lessee acknowledges and agrees that the notes and their associated reference lines set forth in the Exhibits to the Lease shall not constitute or be deemed to constitute or imply that approval of the Port Authority will be granted to any proposed construction by the Lessee nor shall the same grant or be deemed to grant any right or permission to the Lessee now or in the future to erect any structures, make any improvements or do any other construction work in the Premises, including but not limited to paving, or to alter, modify or make additions, improvements or repairs to or replacements of, any structure now existing or built at any time during the letting or install any fixtures on the Premises, including but not limited to paving, and that the provisions of the foregoing paragraph of this Section shall be read and construed as if there were no notes on the Exhibits and their associated reference lines, which were placed on such Exhibits solely and exclusively for the benefit of the Port Authority.

(c) Notwithstanding the obligation of maintenance imposed upon the Lessee by the provisions of Section 10 hereof, the Lessee shall not make any repairs or replacements (except emergency repairs or replacements) unless and until it has first obtained an approved Port Authority alteration application for such repairs or replacements which shall then be performed in full accordance with the terms of said alteration application.

Section 34. Place of Payments

All payments required of the Lessee by this Agreement shall be sent to the following address:

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY
P.O. BOX 95000-1517
PHILADELPHIA, PENNSYLVANIA 19195-1517

or via the following wire transfer instructions:
Bank: Commerce Bank
Bank ABA Number: 026013673
Account Number: 5950011618

or to such other address, office or location as may hereafter be substituted therefor by the Port Authority, from time to time, by notice to the Lessee.

Section 35. Construction and Application of Terms

(a) The Section and paragraph headings, if any, in this Agreement, are inserted only as a matter of convenience and for reference and in no way define, limit or describe the scope or intent of any provision hereof.

(b) Unless otherwise expressly specified, the terms, provisions and obligations contained in the Exhibits and Schedules attached hereto (whether such terms, provisions and obligations are therein set out in full or as amendments of, or supplements to provisions elsewhere in the Agreement stated) shall have the same force and effect as if herein set forth in full.

(c) If any clause, provision or section of this Agreement shall be ruled invalid by any court of competent jurisdiction, the invalidity of such clause, provision or section shall not affect any of the remaining provisions hereof.

(d) The fact that certain of the terms and provisions hereunder are expressly stated to survive the expiration or termination of the letting hereunder does not mean nor shall be construed to mean that those provisions hereunder which are not expressly stated to survive shall terminate or expire on the expiration or termination of the letting hereunder and do not survive such termination or expiration.

(e) The parties agree that any rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be applicable to the interpretations of this Agreement or any amendments, addenda or supplements hereto or any Exhibits or Schedules hereto.

Section 36. Non-liability of Individuals

No Commissioner, director, officer, agent or employee of either party shall be charged personally or held contractually liable by or to the other party under any term or

provision of this Agreement or of any supplement, modification or amendment to this Agreement or because of any breach thereof, or because of its or their execution or attempted execution.

Section 37. Abatement

If the Port Authority shall, for safety or other reasons, prohibit the use of the Public Landing Area at the Airport or of any substantial part thereof for foreign or domestic scheduled air transport operations for a period covering more than sixty (60) consecutive days and the Lessee shall thereby be prevented from conducting those operations at the Airport enumerated in Section 5 hereof entitled "Use of Premises", then upon the occurrence of such event, the Lessee at its option shall be entitled to abatement of rental during such period of prohibition and prevention. In the event that the Lessee shall exercise such option the Lessee shall be deemed to have released and discharged the Port Authority of and from all claims and rights which the Lessee may have hereunder arising out of or consequent upon such closing and the subsequent interrupted use of such Public Landing Area or part thereof during the period of prohibition.

Section 38. Services to the Lessee

Except as provided in this Section 38, the Port Authority shall not be obligated to perform or furnish any services or utilities whatsoever in connection with this Lease or the use and occupancy of the Premises.

(a) The Port Authority shall sell, furnish and supply to the Lessee for use on the Premises and the Lessee agrees to take from the Port Authority and pay for electricity of the same voltage, phase and cycle as supplied to the Premises by the public utility in the vicinity, but limited however, to serve a maximum of 10,400 KVA installed transformer capacity, at the same charge which would be made by such public utility for the same quantity under the same conditions and in the same service classification but in no event less than an amount that would reimburse the Port Authority for its cost of obtaining and supplying electricity to the Lessee hereunder; charges shall be payable by the Lessee when billed and the quantity of electricity consumed shall be measured by the meter or meters installed for the purpose; provided, however, that if for any reason any meter or meters fail to record the consumption of electricity, the consumption during the period such meter or meters are out of service will be considered to be the same as the consumption for a like period either immediately before or after the interruption as elected by the Port Authority. The Port Authority shall not discontinue the supply of electricity except upon fifteen (15) days' notice to the Lessee and unless a supply of electricity of the same voltage, phase and cycle (subject to the KVA limitation aforesaid) shall be available from another supplier and upon any such discontinuance the Lessee shall be at liberty to contract or otherwise arrange for the supply of such current after the expiration of said fifteen (15) days from any other Person, firm or corporation. The Port Authority shall install and maintain the appropriate meters.

(b) The Port Authority agrees to sell, furnish and supply to the Lessee for use on the Premises cold water (of the character furnished by the City of New York) in reasonable quantities through existing pipes, mains and fittings and the Lessee agrees to take such water from the Port Authority and to pay the Port Authority therefor an amount equal to that which

would be charged by the municipality or other supplier of the same (whether or not representing a charge for water or other services measured by water consumption) for the same quantity, used under the same conditions and in the same service classification plus the cost to the Port Authority of supplying such water which shall not be less than ten percent (10%) nor in excess of fifty percent (50%) of the amount charged. The charge therefor shall be payable by the Lessee when billed and the quantity of water consumed shall be measured by the meter or meters installed for the purpose; provided, however, that if for any reason, any meter or meters fail to record the consumption of water, the consumption during the period such meter or meters are out of service will be considered to be the same as the consumption for a like period immediately before or after the interruption, as elected by the Port Authority. The Port Authority shall install and maintain the appropriate meters. In the event meters are not installed to measure the consumption of water under high pressure, the quantity of such water used by the Lessee will be based upon equitable estimates of consumption, which estimates shall be deemed binding on the Lessee.

(c) The Lessee shall pay to the Port Authority such of the existing and future charges for sewerage services furnished by the City of New York as are presently or may hereafter be imposed or assessed against the Port Authority in respect of the Premises or its use and occupancy thereof. In the event that the City or the State of New York is now furnishing services with or without charge therefor, which are beneficial to the Lessee in its use and occupancy of the Premises, and shall hereafter impose charges or increase existing charges for such services, the Lessee agrees to pay to the Port Authority such of the charges or the increase in charges as may be imposed or assessed against the Port Authority in respect to the Premises or its use and occupancy thereof.

(d) In the event the Port Authority shall provide extermination service for the enclosed areas of the Premises, the Lessee agrees to utilize the same and to pay its pro rata share of the reasonable cost thereof upon demand. This paragraph does not impose any obligation on the Port Authority to furnish such service.

(e) The Port Authority shall be under no obligation to supply services if and to the extent and during any period that the supplying of any such service or the use of any component necessary therefor shall be prohibited or rationed by any federal, state or municipal law, rule, regulation, requirement, order or direction and if the Port Authority deems it in the public interest to comply therewith, even though such law, rule, regulation, requirement, order or direction may not be mandatory on the Port Authority as a public agency.

(f) No failure, delay or interruption in supplying agreed services (whether or not a separate charge is made therefor) shall be or be construed to be an eviction of the Lessee or grounds for any diminution or abatement of rental, or (unless resulting from the negligence or wilful failure of the Port Authority) shall be grounds for any claim by the Lessee for damages, consequential or otherwise.

Section 39. Hot Water and Chilled Water Requirements

(a) (1) The Port Authority has entered into agreements consisting of an Energy Purchase Agreement, dated as of April 28, 1993, a Construction and Operations

Agreement, dated as of April 28, 1993, and an Agreement of Lease, dated as of April 28, 1993, (all of the foregoing Agreements hereinafter as the same may be supplemented, amended and extended from time to time collectively and individually called the "*Cogeneration Agreement*") with KIAC Partners, a New York general partnership (hereinafter called "*KIAC*"), for the construction, installation and operation of a cogeneration facility at the Airport which includes portions of the central heating and refrigeration facility previously operated by the Port Authority at the Airport and which cogeneration facility produces electricity, hot water (hereinafter called "*Hot Water*") and chilled water (hereinafter called "*Chilled Water*") and which cogeneration facility is hereinafter called the "*Cogeneration Facility*". The Cogeneration Facility shall include a thermal distribution system (the "*TDS*") including distribution lines extending to the Premises as provided in paragraph (f) below.

(2) The Lessee acknowledges that it has received a copy of the Cogeneration Agreement and agrees that the supply by KIAC of Hot Water and Chilled Water to the Premises is subject to all of the terms and provisions of the Cogeneration Agreement. The Lessee agrees that the Port Authority may grant waivers, consents and approvals to KIAC from time to time and the Port Authority and KIAC may, except to the extent provided in paragraph (i) below, supplement, amend or extend the Cogeneration Agreement from time to time and that the Lessee shall be subject to any such waivers, consents and approvals and supplements, amendments, and extensions as part of the Cogeneration Agreement. Copies of any such supplements, amendments and extensions will be made available to the Lessee upon request by the Lessee therefor.

(b) (1) The Cogeneration Agreement provides, among other things, that the Port Authority will purchase from KIAC for resale to the Lessee, and the Lessee hereby agrees that it will accept and purchase from the Port Authority subject to all of the terms and conditions of the Cogeneration Agreement, for use on the Premises, to the extent the same is delivered by KIAC to the Port Authority and by the Port Authority to the Lessee, all of the Lessee's requirements at the Premises for Hot Water and Chilled Water (excluding requirements exclusively for aircraft and loading bridges leading to aircraft); and the Lessee hereby agrees to pay the Port Authority therefor as follows:

(i) The Lessee acknowledges and agrees that the charge to the Lessee by the Port Authority for the Lessee's consumption of Hot Water and Chilled Water at the Premises and Chilled Water makeup water and chemical treatment of makeup water (due to system leakage at the Premises or otherwise) shall be the sum of (A) the amount payable by the Port Authority to KIAC therefor pursuant to the Cogeneration Agreement, plus (B) Five Percent (5%) of the foregoing and plus (C) all applicable taxes.

(ii) The Lessee acknowledges that pursuant to the Cogeneration Agreement KIAC will furnish the Port Authority with measurements of the Lessee's consumption of (A) Hot Water based upon energy drawn by the Lessee from KIAC's Hot Water distribution lines, (B) Chilled Water based upon the energy absorbed from the Lessee by KIAC's Chilled Water distribution lines and (C) Chilled Water makeup water and chemical treatment of makeup water consumed on the Premises, and the Lessee agrees that the provisions of the Cogeneration Agreement with respect to the accuracy of such measurements, the

determination of such measurements in the event of inaccurate registration by metering devices, and the use of estimates in the event of the failure of such metering devices shall all be applicable to the Lessee under this Agreement as though set forth in full herein.

(iii) The Lessee acknowledges that the Cogeneration Agreement provides that KIAC shall provide estimated bills to the Port Authority for consumption of Hot Water and Chilled Water on a monthly basis on or about the tenth (10th) day of the month for each calendar month. KIAC is then to render a final bill with respect to each estimated bill approximately ten (10) days after the conclusion of the said month together with the estimated bill for the then current month.

(iv) Notwithstanding such arrangement between KIAC and the Port Authority, the Port Authority shall, with respect to each calendar year or fraction thereof, establish estimated unit rates, subject to change from time to time by the Port Authority, for the consumption on the Premises of Hot Water and Chilled Water and shall render an estimated bill to the Lessee for the consumption at the Premises at such estimated rates monthly on the last day of the calendar month following each full or partial calendar month during the term hereof which bill shall be payable on receipt.

(v) As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the amounts payable by the Lessee in accordance with the provisions of subparagraphs (i), (ii) and (iii) of this paragraph (b)(1). A corrected billing based upon such determination shall thereupon be rendered by the Port Authority to the Lessee and if any monies are due to the Port Authority they shall be promptly paid by the Lessee and if any monies are due to the Lessee they shall be credited to it. In the event the term of this Agreement expires or is sooner terminated on a date other than the last day of a calendar year, the Port Authority shall have no obligation to immediately make the computations as hereinabove provided which would determine the amounts payable by the Lessee in accordance with subparagraphs (i), (ii) and (iii) of this paragraph (b)(1) for the period during said year when this Agreement was in effect. In the event this Agreement expires on a day other than the last day of a calendar month and the actual consumption of and charges to the Lessee for such portion of the calendar month are not available, the charge to the Lessee shall be equitably prorated. Said computations shall be made subsequent to the end of the calendar year as hereinabove provided, and if any monies are due to the Port Authority they shall be paid by the Lessee and if any monies are due to the Lessee they shall be paid to it by the Port Authority less such amounts, if any, then due and owing to the Port Authority from the Lessee.

(vi) The Port Authority shall render a bill to the Lessee from time to time for the Lessee's Chilled Water distribution gallonage which shall be payable upon receipt. The charge therefor shall be based on KIAC's charge to the Port Authority for makeup water and chemical treatment of makeup water and shall be determined in accordance with subparagraphs (i) and (ii) of this paragraph (b)(1).

(vii) In the event that the Lessee disputes any item of an estimated or final bill, the Lessee shall promptly pay the bill in full and the Port Authority shall make any necessary adjustments only after resolution of such dispute.

(2) The Lessee agrees that in order that KIAC or any successor thereto may maintain the status of the Cogeneration Facility as a "qualifying cogeneration facility" under applicable Federal laws, rules and regulations ("*QF Status*") including the Public Utility Regulatory Policies Act of 1978 as the same may be amended and any successor statute thereto, the Lessee shall, at all times it is operating at the Premises for the purposes permitted in this Agreement, purchase from the Port Authority and use on an annual basis a minimum amount of thermal energy contained in Hot Water and Chilled Water produced by use of steam from the Cogeneration Facility equivalent to the lesser of (1) an amount that, together with all thermal energy contained in Hot Water and Chilled Water purchased and used by the Port Authority and all other lessees of premises in the Central Terminal Area, is sufficient to maintain the QF Status of the Cogeneration Facility and (2) the product of (x) 167,379 mm BTUs of thermal energy, which is one-third of the use of thermal energy contained in Hot Water and Chilled Water in the Central Terminal Area of the Port Authority and the lessees of premises in the Central Terminal Area in the year ending December 31, 1989, and (y) a fraction, the numerator of which is the amount of the use of thermal energy contained in Hot Water and Chilled Water at the Premises in the most recent complete calendar year preceding the applicable date of determination and the denominator of which is the amount of all use in the Central Terminal Area of thermal energy contained in Hot Water and Chilled Water in such calendar year.

(3) It is agreed that during or subsequent to the expiration of this Agreement no charge to or payment by the Lessee with respect to Hot Water, Chilled Water or Chilled Water distribution gallonage shall be included in, affect, or change in any way the calculation and determination of Port Authority costs or charges under any other agreement between the Lessee and the Port Authority at the Airport and any such Port Authority cost or charge shall be calculated and determined as if no charge to or payment by the Lessee with respect to Hot Water, Chilled Water or Chilled Water distribution gallonage had been incurred.

(c) THE LESSEE HEREBY WAIVES AND RELINQUISHES for itself, its successors and assigns any right it may have, and further agrees that it, its successors and assigns shall have no right, to manufacture or produce, to cause to be manufactured or produced, or to purchase or receive from any third party, Hot Water or Chilled Water for use on the Premises or to use any other manner of air cooling or air heating at the Premises except to purchase, receive and use Hot Water and Chilled Water from the Port Authority pursuant to this Agreement.

(d) There shall be no obligation to the Lessee by either KIAC or the Port Authority to furnish the goods and services covered by this Section at any time (i) while any component necessary therefor shall be prohibited or rationed by any federal, state or municipal, law, rule, regulation, requirement, order or direction or while the Port Authority deems it in the public interest to comply therewith even though such law, rule, regulation, requirement, order or direction may not be mandatory on the Port Authority as a public agency, (ii) while the same are curtailed or stopped because of the need to repair, replace, rebuild or alter the Cogeneration Facility, (iii) during the continuance of any event of Force Majeure, as such term is defined in the Cogeneration Agreement or (iv) that the Lessee shall be in default under this Agreement after the period, if any, herein granted to cure such default shall have expired. No failure, delay or interruption in supplying said goods and services shall be or be construed to be an eviction of the

Lessee or grounds for the diminution or abatement of rentals, fees or other charges, nor shall any such failure, delay or interruption be grounds for any claim by the Lessee for damages, consequential or otherwise, against the Port Authority or KIAC.

(e) Without limiting any other provision of this Section, any supply of Hot Water or Chilled Water to the Premises from the Cogeneration Facility shall be limited by the safe and efficient operating capacity of the Cogeneration Facility as determined by KIAC and as approved by the Port Authority.

(f) (1) The Lessee shall install all machinery, equipment and facilities, including heat exchangers, required to be installed in the Premises in order to utilize Hot Water and Chilled Water to be distributed and shall tie into the TDS in the mechanical equipment rooms constructed by the Lessee on the Premises.

(2) The Lessee hereby agrees that the Port Authority, KIAC and the contractors or suppliers of either of them shall have the right to enter upon the Premises to install, operate and maintain any part of the Cogeneration Facility located thereon including but not limited to the TDS and any heat exchangers installed by the Port Authority or KIAC.

(g) In the event the Cogeneration Agreement is terminated and the facilities for the production of Hot Water and Chilled Water at the Airport exist and are, in the opinion of the Port Authority, economically operable, the Port Authority itself or pursuant to agreement with a contractor or permittee shall supply Hot Water and Chilled Water to the Premises and the Lessee shall take and pay therefor at the same charge to the Lessee which would be applicable as if the Cogeneration Agreement had been in full force and effect, provided, however, that notwithstanding any other provision of this Section, the charge therefor to the Lessee shall in no event be less than an amount that would reimburse the Port Authority for its capital and operating costs in connection therewith determined in accordance with the Port Authority's normal accounting practice. In addition, the Port Authority may, in its discretion, make or consent to arrangements on one or more occasions with a third party or parties to succeed to KIAC's operation of all or any part of the Cogeneration Facility and the Lessee shall continue to be obligated to purchase Hot Water and Chilled Water from the Port Authority pursuant to this Agreement, at the rates provided for in the Cogeneration Agreement.

(h) The Port Authority shall have no liability to the Lessee for any facilities installed by the Lessee on the Premises in connection with the use of Hot Water and Chilled Water hereunder or for any investment made in connection with the use of Hot Water and Chilled Water.

(i) The Port Authority shall have the right to grant waivers, consents and approvals with respect to the Cogeneration Agreement and to enter into amendments, supplements or extensions of the Cogeneration Agreement with KIAC or any similar agreement with any successor operator of the Cogeneration Facility or other provider of Hot Water and Chilled Water at the Airport, provided, however, that the Port Authority will not enter into any amendment, supplement or extension of the Cogeneration Agreement which will result in a change in the formula used to calculate the Hot Water and Chilled Water rates payable by the

Lessee which change results in an increase in the rates payable by the Lessee pursuant to such formula (the Lessee hereby acknowledging that such formula may, according to its terms, provide for such rates to be adjusted from time to time) without the consent of the lessees (including the Port Authority as and to the extent that the Port Authority uses Hot Water and Chilled Water) of premises that purchased and used at least Fifty-one percent (51%) of the aggregate Hot Water and Chilled Water purchased and used in the Central Terminal Area during the last full calendar year preceding the effective date of such amendment, supplement or extension.

Section 40. JFK Flight Fees Agreement and Airport Fueling Agreements

(a) It is recognized that the JFK Flight Fees Agreements and the principles and formula set forth therein for the calculation of flight fees, including the costs recovery accounting principles, have by agreement become the basis for determining flight fees payable by various Aircraft Operators at the Airport who are the actual signatories to JFK Flight Fees Agreements. In the event of the expiration and non-extension or non-renewal of the JFK Flight Fees Agreement, the same formula, accounting principles and costs recovery methodology now set forth in the JFK Flight Fees Agreements for the calculation of flight fees shall continue to be utilized for the calculation of flight fees at the Airport for the Lessee until such time as the JFK Flight Fees Agreements are formally replaced by a new agreement or agreements or by a new policy or policies. The Port Authority has advised the Lessee that it is the intention of the Port Authority that with respect to the formula, accounting principles and the costs recovery methodology for the calculation of flight fees upon the expiration and non-extension or non-renewal of the JFK Flight Fees Agreements all Aircraft Operators at the Airport which are similarly situated will be treated in a similar manner.

(b) The parties hereto agree that in the event any provisions contained in the Lessee's JFK Flight Fees Agreement conflict with any one or more provisions of this Lease, the provisions this Lease shall control with respect to all areas and subject matters covered by this Lease, except only as to the Lessee's operations on the Public Aircraft Facilities at the Airport and to the extent that any of the provisions of this Lease conflict with the provisions of the Lessee's JFK Flight Fees Agreement concerning the rights and obligations as to operations on the Public Aircraft Facilities at the Airport, the Lessee's JFK Flight Fees Agreement shall control with respect to rights and obligations as to operations of the Public Aircraft Facilities at the Airport.

Section 41. Federal Airport Aid

The Port Authority has applied for and received a grant or grants of money from the Administrator of the Federal Aviation Administration pursuant to the Airport and Airways Development Act of 1970, as the same has been amended and supplemented or superseded by similar federal legislation, and under prior federal statutes which said Act superseded and the Port Authority may in the future apply for and receive further such grants. In connection therewith the Port Authority has undertaken and may in the future undertake certain obligations respecting its operation of the Airport and the activities of its contractors, lessees and permittees thereon. The performance by the Lessee of the covenants and obligations contained in this Lease is therefore a special consideration and inducement to the making of this Agreement by the Port

Authority, and the Lessee further covenants and agrees that if the Administrator of the Federal Aviation Administration or any other governmental officer or body having jurisdiction over the enforcement of the obligations of the Port Authority in connection with Federal Airport Aid shall make any orders, recommendations or suggestions respecting the performance by the Lessee of its covenants and obligations under this Agreement, the Lessee will promptly comply therewith at the time or times, when and to the extent that the Port Authority may direct.

Section 42. Requesting Airlines at the Airport

(a) Requesting Airlines:

(1) If at any time from and after the First Enplanement Date to and including the day preceding the fifth (5th) anniversary of DBO, a Scheduled Aircraft Operator advises the Lessee that it would like the Lessee to make Accommodations available to it at the Premises, the Lessee in furtherance of the public interest of having the Premises fully and most effectively utilized shall use reasonable efforts to provide Accommodations to said Scheduled Aircraft Operator. If the Lessee fails to reach agreement with said Scheduled Aircraft Operator for such Accommodations, the Lessee shall advise the Port Authority to such effect. Thereafter, the Port Authority shall make a determination as to whether the Lessee should provide Accommodations to the Scheduled Aircraft Operator as requested and if so, whether there are any limitations on the nature, cost, duration and extent of such Accommodations.

(2) If at any time from and after the fifth (5th) anniversary of DBO, a Scheduled Aircraft Operator advises the Lessee that it would like the Lessee to make Accommodations available to it at the Premises, the Lessee in furtherance of the public interest of having the Premises fully and most effectively utilized shall use its best efforts to provide Accommodations to said Scheduled Aircraft Operator. If the Lessee fails to reach agreement with said Scheduled Aircraft Operator for such Accommodations, the Lessee shall advise the Port Authority to such effect. Thereafter, the Port Authority shall make a determination as to whether the Lessee should provide Accommodations to the Scheduled Aircraft Operator as requested and if so, whether there are any limitations on the nature, cost, duration and extent of such Accommodations.

(3) The term "*Requesting Airline*" shall mean any Scheduled Aircraft Operator which has advised the Lessee that it would like the Lessee to make Accommodations available to it at the Premises and any Scheduled Aircraft Operator that the Port Authority has determined must be accommodated at the Premises as provided for in this paragraph (a).

(4) The determinations made by the Port Authority pursuant to subparagraphs (a)(1) and (a)(2) of this Section shall be made on a reasonable basis taking into consideration at a minimum the following factors: (i) the requirements and obligations of the Port Authority pursuant to law, grant assurances, agreement and otherwise, including without limitation, as the operator of the Airport and as an applicant for and recipient of governmental grants, federal airport aid, passenger facility charges and other monies, (ii) operational considerations of the Port Authority and of the Airport, (iii) the then existing utilization of Gates at the Premises by the Lessee compared with the then existing utilization of aircraft gates at the other passenger terminals in the CTA, (iv) the actual and projected growth of the number of

Enplanements of the Lessee, (v) the compatibility of the flights, schedules, flight times, operations, operating practices and aircraft equipment of the Requesting Airline with those of the Lessee and (vi) the need for labor harmony.

(5) Any Accommodation Agreement between the Lessee and the Requesting Airline made in accordance with any of the foregoing provisions of this Section 42, shall be submitted by the Lessee to the Port Authority for its consent, which will be in the form of a consent agreement prepared by the Port Authority and to be executed by the Lessee, the Requesting Airline and the Port Authority.

(6) Nothing in this Section shall be deemed to abrogate, change or affect any restrictions, limitations or prohibitions on assignment, subletting or use of the Premises by others under this Lease and shall not in any manner affect, waive or change any of the provisions thereof.

(b) Section 42 Notice to Provide Accommodations to a Requesting Airline:

(1) If the Port Authority shall make a determination under paragraph (a) of this Section 42 that the Lessee is to provide Accommodations to a Requesting Airline, then in addition to and without limiting each and every other right the Port Authority has under this Agreement or otherwise, the Port Authority as to any and each such Requesting Airline, shall have the right, upon ninety (90) days' notice to the Lessee (each such notice a "*Section 42 Notice to Provide Accommodations*" and each said 90-day period, the "*Section 42 Notice Period*") to require the Lessee to make available and provide Accommodations to such Requesting Airline at the Premises as directed by the Port Authority.

(2) The Lessee shall, and hereby agrees, on or before the expiration of the Section 42 Notice Period under each such Section 42 Notice to Provide Accommodations, to provide Accommodations to the Requesting Airline in accordance with said Section 42 Notice to Provide Accommodations, provided, however, the Lessee shall not be relieved from its obligation to provide such Accommodations to the Requesting Airline if Lessee and the Requesting Airline shall have failed to execute an Accommodations Agreement unless the Lessee shall have tendered to the Requesting Airline a form of Accommodations Agreement described in paragraph (c)(6) of this Section and which is in accordance with the Section 42 Notice to Provide Accommodations and the Requesting Airline shall not have executed such form of Accommodations Agreement after tender thereof to it for execution. The Lessee shall accept information from the Requesting Airline and/or the Port Authority with respect to the Requesting Airline's scheduled arrivals and departures for each Gate specified in the Section 42 Notice to Provide Accommodations and the Lessee shall provide Accommodations to the Requesting Airline in such manner so as to properly meet the Requesting Airline's schedule and needs for Accommodations as to each applicable Gate for its said scheduled arrivals and departures.

(3) Without limiting the foregoing, upon its receipt of such Section 42 Notice to Provide Accommodations the Lessee shall use its best efforts to enter into an Accommodations Agreement in the form described in paragraph (c)(6) of this Section with the

Requesting Airline in accordance with the Section 42 Notice to Provide Accommodations; provided, however, that any failure of the Lessee and the Requesting Airline to execute such Accommodations Agreement shall not relieve or release the Lessee from its obligations hereunder to provide Accommodations to the Requesting Airline in accordance with all of the foregoing and the Section 42 Notice to Provide Accommodations unless the Lessee shall have tendered to the Requesting Airline a form of Accommodations Agreement described in paragraph (c)(6) of this Section and which is in accordance with the Section 42 Notice to Provide Accommodations and the Requesting Airline shall not have executed such form of Accommodations Agreement after tender thereof to it for execution.

(c) Accommodations:

(1) The Requesting Airline may handle itself or may be handled by any Person who holds a permit from the Port Authority to provide handling services at the Airport.

(2) In addition, the Requesting Airline may be handled by the Lessee subject to the terms and conditions of this Lease, including without limitation the following. Each sublease or Handling Agreement entered into between the Requesting Airline and the Lessee shall be subject to the prior and continuing approval of the Port Authority and the execution among the Port Authority, the Lessee, and the Requesting Airline of a form of consent agreement prepared by the Port Authority.

(3) Except for the requirements set forth in subparagraph (6) of this paragraph (c), nothing contained in this Section shall in any way affect the discretion of the Port Authority in granting or withholding its consent to an Accommodations Agreement proposed by the Lessee or directed by the Port Authority and such consent may contain such terms and conditions including but not limited to such financial or other conditions which may include a fixed charge or a charge based upon a percentage of the Lessee's gross receipts arising therefrom, as the Port Authority may, at that time, elect, and all provisions of the Lease requiring the prior written consent or approval of the Port Authority.

(4) Notwithstanding anything to the contrary contained herein the Lessee understands and agrees that the Lessee shall not perform any services and functions for a Requesting Airline pursuant to an Accommodations Agreement with respect to which the Port Authority has specifically withheld consent and approval in the consent agreement to such Accommodations Agreement. The Requesting Airline may either perform said services and functions itself or use the services of the service organization authorized by the Port Authority, including but not limited to in-flight caterers, aircraft fuelers, and ramp handlers performing such services or functions at the Airport. The Lessee however may make the necessary arrangements (subject to Port Authority consent where required) with the authorized service organization performing such services and functions performed for the Requesting Airline.

(5) The Lessee shall furnish to the Port Authority from time to time such itemization, details and information pertaining to the Accommodations provided to each Requesting Airline and Accommodations Agreement as the Port Authority may from time to

time request. Moreover, and without limiting the foregoing, the Lessee will at all times keep the Port Authority informed and advised and will consult with the Port Authority from time to time as to all aspects of its Accommodations of Scheduled Aircraft Operators hereunder.

(6) The Lessee agrees that all services, facilities, equipment and other items provided by the Lessee to each Requesting Airline under an Accommodations Agreement (or otherwise) shall be at reasonable and at non-discriminatory rates, fees and charges, which rates, fees and charges shall be based upon the proper recovery by the Lessee of a pro rata share of the Lessee's costs of (i) operation and maintenance of the Premises, (ii) the services provided to the Accommodated Handled Airline or the Accommodated Sublessee Airline, (iii) the Lessee's investment in the Premises not otherwise included in the above and (iv) the fees and rentals paid to the Port Authority under this Agreement. Further, each Accommodations Agreement shall include (unless not required by the Lessee) that the Requesting Airline indemnify and hold the Lessee harmless from any injury, loss and/or damages associated with the Requesting Airline's use or occupancy of the applicable portions of the Premises; that the Requesting Airline provide the Lessee with a certificate of insurance evidencing that the Requesting Airline maintains insurance in accordance with the requirements set forth in the Port Authority's consent to the Accommodations Agreement and that the Lessee is named as an additional insured on such insurance; that the Requesting Airline agrees to be bound by those terms and conditions of the Lease applicable to the Requesting Airline; and that the Requesting Airline deposit with the Lessee a security deposit with the Lessee in an amount equivalent to all charges, fees, rentals, and other amounts payable by the Requesting Airline to the Lessee pursuant to the Accommodations Agreement for a period of not greater than two months.

(d) Section 42 Gate Termination:

(1) The terms and provisions of this paragraph (d) shall become and be effective from and after the fifth (5th) anniversary of DBO.

(2) In the event that at the expiration of the Section 42 Notice Period the Lessee shall fail to provide Accommodations to the Requesting Airline named in the Section 42 Notice to Provide Accommodations triggering such Section 42 Notice Period, the Port Authority may, upon at least thirty (30) days' notice to the Lessee (each a "*Section 42 Gate Termination Notice*"), terminate the letting of any number or all of the Gates specified in said Section 42 Notice to Provide Accommodations and all Gate Related Premises applicable thereto as specified in such Section 42 Notice to Provide Accommodations. In the event the Port Authority gives a Section 42 Gate Termination Notice in accordance with the foregoing, the termination of the Gate or Gates and Gate Related Premises specified in such notice shall be effective on the date set forth in said Section 42 Gate Termination Notice ("*Section 42 Gate Termination Date*").

(3) The Port Authority's rights to terminate one or more Gates and Gate Related Premises as set forth in this Section 42 may be exercised from time to time and as to one or more than one Requesting Airline, without waiving, limiting or impairing any other rights and remedies of the Port Authority under this Agreement or otherwise.

(4) As to each Section 42 Gate Termination Notice, upon such termination, the term of the letting as to the terminated portion or portions of the Premises (i.e. Gate(s) and Gate Related Premises) shall cease and expire on the effective date set forth in said Section 42 Gate Termination Notice with the same force and effect as if said date were the date originally stated in this Agreement for the expiration of the term of the letting as to said portion or portions of the Premises. This Agreement and the letting as to all other portions of the Premises (excluding all other previously terminated portions thereof) shall continue in full force and effect.

(5) "*Section 42 Terminated Gate*" shall mean each Gate and its Gate Related Premises for which the letting is terminated pursuant to the provisions of this Section 42.

(e) Adjustment of Rentals in the Event of a Section 42 Gate Termination:

In the event of the termination of any portion or portions of the Premises (i.e. Gate(s) and Gate Related Premises) pursuant to a Section 42 Gate Termination Notice the rentals payable under this Lease shall not be abated but instead the following rentals, and only such rentals, shall be adjusted as follows, which adjustment shall be subject to and conditioned on the Lessee's continued compliance with the terms and conditions set forth in paragraphs (g) and (h) below, and shall be made only during such times that the Lessee shall be in compliance with paragraphs (g) and (h) below and shall provide full and unrestricted access, ingress and egress to the Section 42 Terminated Gate(s) to the Port Authority and each user of the Section 42 Terminated Gate(s) and their employees, agents, representative and contractors:

(i) For each Section 42 Terminated Gate, from and after the later to occur of the Section 42 Gate Termination Date applicable to such Section 42 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 42 Terminated Gate in accordance with all the applicable provisions of this Lease, each installment of the Second Ground Rental payable by the Lessee to the Port Authority hereunder shall be reduced by an amount equal to the product obtained by multiplying the amount of such installment of Second Ground Rental that would have been payable by the Lessee under this Lease (including without limitation taking into account any abatement thereof) if there had not been any termination at any time of any Gates and Gate Related Premises pursuant to this Section or pursuant to Section 43 hereof, by the Pro-Rata Share.

(ii) For each Section 42 Terminated Gate, from and after the later to occur of the Section 42 Gate Termination Date applicable to such Section 42 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 42 Terminated Gate in accordance with all the applicable provisions of this Lease, each installment of the Third Ground Rental payable by the Lessee to the Port Authority hereunder shall be reduced by an amount equal to the product obtained by multiplying the amount of such installment of Third Ground Rental that would have been payable by the Lessee under this Lease (including without limitation taking into account any abatement thereof) if there had not been any termination at any time of any Gates and Gate Related Premises pursuant to this Section or pursuant to Section 43 hereof, by the Pro-Rata Share.

(iii) For each Section 42 Terminated Gate, from and after the later to occur of the Section 42 Gate Termination Date applicable to such Section 42 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 42 Terminated Gate in accordance with all the applicable provisions of this Lease, each installment of the Fourth Ground Rental payable by the Lessee to the Port Authority hereunder shall be reduced by an amount equal to the product obtained by multiplying the amount of such installment of Fourth Ground Rental that would have been payable by the Lessee under this Lease (including without limitation taking into account any abatement thereof) if there had not been any termination at any time of any Gates and Gate Related Premises pursuant to this Section or pursuant to Section 43 hereof, by the Pro-Rata Share.

(iv) With respect to each Section 42 Gate Termination Notice, for the purpose of calculating the Second Enplanement Rental payable by the Lessee to the Port Authority hereunder from and after the later to occur of the Section 42 Gate Termination Date applicable to such Section 42 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 42 Terminated Gate in accordance with all the applicable provisions of this Lease, (x) the amount of the Base Enplanement Rental, as the same may have been previously reduced pursuant to the provisions of this Section 42 or Section 43 hereof, shall be reduced by subtracting therefrom an amount equal to the product obtained by multiplying the number of Gates terminated by such Section 42 Gate Termination Notice by the product obtained by multiplying the Initial Base Enplanement Rental by the Pro-Rata Share, and (y) the amount of the Minimum Enplanement Rental, as the same may have been previously reduced pursuant to the provisions of this Section 42 and Section 43, shall be reduced by subtracting therefrom, an amount equal to the product obtained by multiplying the number of Gates terminated by such Section 42 Gate Termination Notice by the product obtained by multiplying the Initial Minimum Enplanement Rental by the Pro-Rata Share, and (z) the Variable Enplanement Rental, as the same may have been previously reduced pursuant to the provisions of this Section and Section 43 hereof, shall be reduced by subtracting therefrom an amount equal to the product obtained by multiplying the number of Gates terminated by such Section 42 Gate Termination Notice by the product obtained by multiplying such Variable Enplanement Rental, by the Pro-Rata Share.

(v) For each Section 42 Terminated Gate, from and after the later to occur of the Section 42 Gate Termination Date applicable to such Section 42 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 42 Terminated Gate in accordance with all the applicable provisions of this Lease, each installment of the First Additional Rental payable by the Lessee to the Port Authority hereunder shall be reduced by an amount equal to the product obtained by multiplying the amount of such installment of First Additional Rental that would have been payable by the Lessee under this Lease if there had not been any termination at any time of any Gates and Gate Related Premises pursuant to this Section or pursuant to Section 43 hereof, by the Pro-Rata Share.

(vi) For each Section 42 Terminated Gate, from and after the later to occur of the Section 42 Gate Termination Date applicable to such Section 42 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 42 Terminated Gate in accordance with all the applicable provisions of this Lease, each installment of the Third Additional Rental payable by the Lessee to the Port Authority hereunder shall be

reduced by an amount equal to the product obtained by multiplying the amount of such installment of Third Additional Rental that would have been payable by the Lessee under this Lease if there had not been any termination of any Gates and Gate Related Premises pursuant to this Section or pursuant to Section 43 hereof, by the Pro-Rata Share.

(vii) For each Section 42 Terminated Gate, from and after the later to occur of the Section 42 Gate Termination Date applicable to such Section 42 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 42 Terminated Gate in accordance with all the applicable provisions of this Lease, each installment of the Fifth Additional Rental payable by the Lessee to the Port Authority hereunder shall be reduced by an amount equal to the product obtained by multiplying the amount of such installment of Fifth Additional Rental that would have been payable by the Lessee under this Lease if there had not been any termination of any Gates and Gate Related Premises pursuant to this Section or pursuant to Section 43 hereof, by the Pro-Rata Share.

(f) Payment of Pro-Rata Share of Lessee's Unamortized Investment in the Event of a Section 42 Gate Termination:

Within sixty (60) days after the later to occur of a Section 42 Gate Termination Date and the date that the Lessee shall have actually surrendered and vacated in accordance with all applicable provisions of this Lease all of the Section 42 Terminated Gate(s) for which such Section 42 Gate Termination Date is applicable, the Port Authority shall, with respect to each such Section 42 Terminated Gate, make a one-time payment to the Lessee in the amount equal to the product obtained by multiplying the Pro-Rata Share by the Lessee's Unamortized Investment. The foregoing payments shall be subject to the Port Authority's rights of audit and inspection and shall be subject to the record-keeping obligations of the Lessee under Section 65 hereof.

(g) Services to Section 42 Terminated Gate(s):

The Lessee shall cooperate with the Port Authority in arrangements at the Premises so that each Aircraft Operator who uses a Section 42 Terminated Gate may handle itself or be handled by a handling permittee of the Port Authority of its choice, subject to prior written consent of the Port Authority and payment of all applicable fees to the Port Authority. In the event that the Lessee wishes to perform handling services for any such Aircraft Operator, the Lessee shall not do so unless the Lessee has obtained an appropriate handling permit from the Port Authority covering the Lessee's handling of such Aircraft Operator to be subject to the prior and continuing approval of the Port Authority and payment of all applicable fees to the Port Authority, and if the Port Authority deems appropriate, the execution among the Port Authority, the Lessee, and such Aircraft Operator of a form of consent agreement prepared by the Port Authority. Nothing contained herein shall in any way affect the discretion of the Port Authority in granting or withholding a permit or its consent to a Handling Agreement proposed by the Lessee and any such permit and/or consent may contain such terms and conditions including but not limited to such financial or other conditions which may include a fixed charge or a charge based upon a percentage of the Lessee's gross receipts arising therefrom, as the Port Authority

may, at that time, elect. All such rates, fees and charges pursuant to any such Handling Agreement shall be at reasonable and at non-discriminatory rates, fees and charges.

(h) Rights of Users of Terminated Gate(s):

Effective from and after a Section 42 Gate Termination Date as to each Section 42 Terminated Gate, the Port Authority and each user of a Section 42 Terminated Gate, and their respective officers, employees, passengers, patrons, invitees, contractors, suppliers of material and furnishers of services, shall have the right of ingress and egress between the Section 42 Terminated Gates and Gate Related Premises and the public streets outside the Premises, and also the right of ingress and egress between the Premises and the Public Landing Area at the Airport, by means of existing taxiways to be used in common with others having rights of passage thereon, as well as over the taxiway areas of the Premises.

(i) No Waiver:

The failure of the Port Authority to exercise any of its rights under this Section 42 during any period in which it may have such a right shall not affect, waive or limit its right to exercise said rights or any other of its rights or remedies under this Agreement or otherwise at any subsequent time.

Section 43. Additional Rights of Termination of the Port Authority as to Portions of the Premises

(a) It is hereby agreed that for the purpose of this Section the term the "*Lessee's Commencement Basic Schedule*" shall be and mean the following:

(1) for the first full calendar year occurring from and after the Completion Date (the "*First Commencement Period*"), the Lessee's Commencement Basic Schedule shall mean the Revenue Seats Daily Average, as defined in paragraph (f) hereof, for the immediately preceding calendar year; and

(2) for the second full calendar year occurring after the First Commencement Period, the Lessee's Commencement Basic Schedule shall mean the Revenue Seats Daily Average for the immediately preceding calendar year; and

(3) for the third full calendar year occurring after the First Commencement Period, the Lessee's Commencement Basic Schedule shall mean the Revenue Seats Daily Average for the immediately preceding calendar year; and

(4) for the fourth full calendar year occurring after the First Commencement Period the Lessee's Commencement Basic Schedule shall mean the Revenue Seats Daily Average for the immediately preceding calendar year; and

(5) for the fifth full calendar year occurring after the First Commencement Period the Lessee's Commencement Basic Schedule shall mean the Revenue Seats Daily Average for the immediately preceding calendar year; and

(6) for the sixth full calendar year occurring after the First Commencement Period and each and every calendar year thereafter the Lessee's Commencement Basic Schedule shall mean the Revenue Seats Daily Average for the fifth full calendar year occurring after the Completion Date.

(b) Commencing with the First Commencement Period, and for each and every calendar year thereafter, the Port Authority may ascertain the Revenue Seats Daily Average of the Lessee for the Airport for the preceding calendar year in accordance with the provisions of paragraph (f) hereof, which Revenue Seats Daily Average shall be the Lessee's Basic Schedule for the preceding calendar year and shall be referred to as such. Thus, for example, if the first calculation was based on the calendar year 2009 experience, said Revenue Seats Daily Average shall be called the "*Lessee's Basic Schedule for 2009*".

(c) If as of the first January 1st occurring after the First Commencement Period, and as of the January 1st of each succeeding calendar year (i) the Lessee's Basic Schedule for the immediately preceding calendar year for the Airport is less than (Ex. 2.a.) of the Lessee's Commencement Basic Schedule for such year or (ii) because of reasons beyond the control of the Lessee the Lessee's Basic Schedule for the immediately preceding two calendar years is less than (Ex. 2.a.) of the Lessee's Commencement Basic Schedule, then in either of such events set forth in the foregoing clauses (i) and (ii) and in addition to and without limiting each and every other right the Port Authority has under this Agreement or otherwise, the Port Authority shall have additional rights exercisable at its sole option, upon six (6) months written notice to the Lessee, (i) to require the Lessee (and the Lessee hereby agrees) to make available Accommodations at the Premises as directed by the Port Authority in the amount and to the extent set forth in paragraph (g) hereof to Aircraft Operators (each a "*Section 43 Notice to Provide Accommodations*"); or (ii) to terminate the letting under the Lease as to such number of Gates and all Gate Related Premises applicable thereto (each a *"Section 43 Gate Termination Notice")* set forth in paragraph (g) hereof; or (iii) to serve both a Section 43 Notice to Provide Accommodations and a Section 43 Gate Termination Notice as to any combination of the Gates (and all Gate Related Premises applicable thereto)) set forth in paragraph (g) hereof.

(d) Accommodations:

(1) The Lessee's obligation under this Section 43 to provide Accommodations to Scheduled Aircraft Operators shall be effective on the date set forth in each Section 43 Notice to Provide Accommodations from the Port Authority to such effect, as aforesaid. Upon such Section 43 Notice to Provide Accommodations the Lessee shall use its best efforts to secure an arrangement with a Scheduled Aircraft Operator as directed by the Port Authority for Accommodations in the Premises and shall in good faith negotiate with any such Scheduled Aircraft Operator as the Port Authority shall direct for Accommodations in the Premises, all in accordance herewith. With respect to each Section 43 Notice to Provide Accommodations served on the Lessee by the Port Authority, the Lessee shall make such Accommodations, as specified in the Section 43 Notice to Provide Accommodations, available from time to time during the entire period commencing on the effective date set forth in the

aforesaid Section 43 Notice to Provide Accommodations and ending when the Lessee's Basic Schedule for a calendar year, determined in accordance with the foregoing shall have been (Ex 2a) or more of the Lessee's Commencement Basic Schedule (a *"Period of Underutilization"*).

(2) (i) Such Accommodations may be accomplished by the Lessee by making available and providing non-exclusive use of Gates and Gate Related Premises to Scheduled Aircraft Operators pursuant to a Handling Agreement between the Lessee and any such Scheduled Aircraft Operator. Each such Handling Agreement shall be subject to the prior and continuing approval of the Port Authority and the execution among the Port Authority, the Lessee, and the Accommodated Handled Airline of a form of consent agreement prepared by the Port Authority.

(ii) It is understood furthermore that the Accommodations contemplated hereunder may involve the use of subleases of portions of the Premises in addition to or in lieu of Handling Agreements. Any sublease with a Scheduled Aircraft Operator, will similarly be subject to the prior and continuing approval of the Port Authority and the execution of a consent agreement prepared by the Port Authority, and executed by the Port Authority, the Lessee and the Accommodated Sublessee Airline.

(3) Nothing contained herein shall in any way affect the discretion of the Port Authority in granting or withholding its consent to a Handling Agreement or a sublease with a Accommodated Sublessee Airline, proposed by the Lessee or directed by the Port Authority whether or not during a Period of Underutilization, and such consent may contain such terms and conditions including but not limited to such financial or other conditions which may include a fixed charge or a charge based upon a percentage of the Lessee's gross receipts arising therefrom, as the Port Authority may, at that time, elect, and all provisions of the Lease requiring the prior written consent or approval of the Port Authority.

(4) Notwithstanding anything to the contrary contained herein the Lessee understands and agrees that the Lessee shall not perform any services and functions pursuant to any Handling Agreement or sublease with a Accommodated Handled Airline or a Accommodated Sublessee Airline with respect to which the Port Authority has specifically withheld consent and approval in the consent agreement to such Handling Agreement or sublease. The Accommodated Handled Airline and the Accommodated Sublessee Airline may either perform said services and functions themselves or use the services of the authorized service organization, including but not limited to in-flight caterers, aircraft fuelers, and ramp handlers performing such services or functions at the Airport. The Lessee however may make the necessary arrangements with the authorized service organization performing such services and functions performed for the Accommodated Handled Airline or the Accommodated Sublessee Airline.

(5) The Lessee shall furnish to the Port Authority from time to time such itemization, details and information pertaining to the Handling Agreements and subleases as the Port Authority may from time to time request. Moreover, and without limiting the foregoing, the Lessee shall at all times keep the Port Authority informed and advised and will

consult with the Port Authority from time to time as to all aspects of its Accommodations of Scheduled Aircraft Operators hereunder.

(6) The Lessee agrees that all services, facilities, equipment and other items covered by Handling Agreements and subleases shall be at reasonable and at non-discriminatory rates, fees and charges, which rates, fees and charges shall be based upon the recovery by the Lessee of a pro rata share of the Lessee's costs of (i) operation and maintenance of the Premises, (ii) the services provided to the Accommodated Handled Airline or the Accommodated Sublessee Airline and (iii) the Lessee's investment in the Premises not otherwise included in the above, and (iv) fees and rents paid to the Port Authority under this Agreement. Further, each Accommodations Agreement shall include (unless not required by the Lessee) that the Requesting Airline indemnify and hold the Lessee harmless from any injury, loss and/or damages associated with the Requesting Airline's use or occupancy of the applicable portions of the Premises; that the Requesting Airline provide the Lessee with a certificate of insurance evidencing that the Requesting Airline maintains insurance in accordance with the requirements set forth in the Port Authority's consent to the Accommodations Agreement and that the Lessee is named as an additional insured on such insurance; that the Requesting Airline deposit with the Lessee a security deposit with the Lessee in an amount equivalent to all charges, fees, rentals, and other amounts payable by the Requesting Airline to the Lessee pursuant to the Accommodations Agreement for a period of not greater than two months; and that the Requesting Airline agrees to be bound by the terms and conditions of the Lease applicable to the Requesting Airline.

(7) It is understood and agreed that the following shall not be a reason for the Lessee to refuse a sublease or Handling Agreement or to impose any conditions or limitations on operations in connection therewith under this Section: (aa) possible or potential labor disharmony with an Accommodated Handled Airline or Accommodated Sublessee Airline, (bb) compatibility of schedules and operations between the Lessee or another user or occupant of the Premises and an Accommodated Handled Airline or Accommodated Sublessee Airline, or (cc) competitive nature of the routes, schedules or type of air transportation service to be provided by an Accommodated Handled Airline or Accommodated Sublessee Airline, provided, further, however, that with respect to item (aa) above if, after notice from the Port Authority to provide Accommodations to a specific Scheduled Aircraft Operator, the Lessee shall, in good faith, believe that the operations of such specific Scheduled Aircraft Operator on the Premises would cause such significant, immediate and irremediable labor disharmony which would seriously affect the operations of the Lessee then, upon request by the Lessee to the Port Authority setting forth in specific detail satisfactory to the Port Authority the nature of the anticipated labor disharmony and requesting that the Lessee not be obligated under this Section to provide Accommodations for such specific Scheduled Aircraft Operator, the Port Authority shall, in good faith, consider the Lessee's request and if the Port Authority finds that the labor disharmony described by the Lessee is reasonably likely to result if the Lessee were to provide Accommodations to such Scheduled Aircraft Operator on the Premises then the Port Authority shall notify the Lessee that the Port Authority's discretion to provide Accommodations to such Scheduled Aircraft Operator is rescinded.

(e) Section 43 Gate Termination:

(1) In the event the Port Authority serves a Section 43 Gate Termination Notice in accordance with the foregoing paragraph (c), the termination of the Gate or Gates and the Gate Related Premises specified in such Notice shall be effective on the date set forth in said Section 43 Gate Termination Notice (each a "*Section 43 Gate Termination Date*").

(2) As to each Section 43 Gate Termination Notice, upon such termination, the term of the letting as to the terminated portion or portions of the Premises (i.e. Gate(s) and Gate Related Premises) shall cease and expire on the effective date set forth in said Section 43 Gate Termination Notice with the same force and effect as if said date were the date originally stated in this Agreement for the expiration of the term of the letting as to said portion or portions of the Premises. This Agreement and the letting as to all other portions of the Premises (excluding all other previously terminated portions thereof) shall continue in full force and effect.

(3) In the event of the termination of any portion or portions of the Premises (i.e. Gate(s) and Gate Related Premises) pursuant to a Section 43 Gate Termination Notice the rentals payable under this Lease shall not be abated but instead the following rentals, and only such rentals, shall be adjusted as follows, which adjustment shall be subject to and conditioned on the Lessee's continued compliance with the terms and conditions set forth in paragraphs (h) and (i) below, and shall be made only during such times that the Lessee shall be in compliance with paragraphs (h) and (i) below and shall provide full and unrestricted access, ingress and egress to the Section 43 Terminated Gate(s) to the Port Authority and each user of the Section 43 Terminated Gate(s) and their employees, agents, representative and contractors:

(i) For each Section 43 Terminated Gate, from and after the later to occur of the Section 43 Gate Termination Date applicable to such Section 43 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 43 Terminated Gate in accordance with all the applicable provisions of this Lease, each installment of the Second Ground Rental payable by the Lessee to the Port Authority hereunder shall be reduced by an amount equal to the product obtained by multiplying the amount of such installment of Second Ground Rental that would have been payable by the Lessee under this Lease (including without limitation taking into account any abatement thereof) if there had not been any termination at any time of any Gates and Gate Related Premises pursuant to this Section or pursuant to Section 42 hereof, by the Pro-Rata Share.

(ii) For each Section 43 Terminated Gate, from and after the later to occur of the Section 43 Gate Termination Date applicable to such Section 43 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 43 Terminated Gate in accordance with all the applicable provisions of this Lease, each installment of the Third Ground Rental payable by the Lessee to the Port Authority hereunder shall be reduced by an amount equal to the product obtained by multiplying the amount of such installment of Third Ground Rental that would have been payable by the Lessee under this Lease (including without limitation taking into account any abatement thereof) if there had not been any termination at any time of any Gates and Gate Related Premises pursuant to this Section or pursuant to Section 42 hereof, by the Pro-Rata Share.

(iii) For each Section 43 Terminated Gate, from and after the later to occur of the Section 43 Gate Termination Date applicable to such Section 43 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 43 Terminated Gate in accordance with all the applicable provisions of this Lease, each installment of the Fourth Ground Rental payable by the Lessee to the Port Authority hereunder shall be reduced by an amount equal to the product obtained by multiplying the amount of such installment of Fourth Ground Rental that would have been payable by the Lessee under this Lease (including without limitation taking into account any abatement thereof) if there had not been any termination at any time of any Gates and Gate Related Premises pursuant to this Section or pursuant to Section 42 hereof, by the Pro-Rata Share.

(iv) With respect to each Section 43 Gate Termination Notice, for the purpose of calculating the Second Enplanement Rental payable by the Lessee to the Port Authority hereunder from and after the later to occur of the Section 43 Gate Termination Date applicable to such Section 43 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 43 Terminated Gate in accordance with all the applicable provisions of this Lease, (x) the amount of the Base Enplanement Rental, as the same may have been previously reduced pursuant to the provisions of this Section 43 or Section 42 hereof, shall be reduced by subtracting therefrom an amount equal to the product obtained by multiplying the number of Gates terminated by such Section 43 Gate Termination Notice by the product obtained by multiplying the Initial Base Enplanement Rental by the Pro-Rata Share, and (y) the amount of the Minimum Enplanement Rental, as the same may have been previously reduced pursuant to the provisions of this Section 43 and Section 42, shall be reduced by subtracting therefrom, an amount equal to the product obtained by multiplying the number of Gates terminated by such Section 43 Gate Termination Notice by the product obtained by multiplying the Initial Minimum Enplanement Rental by the Pro-Rata Share, and (z) the Variable Enplanement Rental, as the same may have been previously reduced pursuant to the provisions of this Section and Section 42 hereof, shall be reduced by subtracting therefrom an amount equal to the product obtained by multiplying the number of Gates terminated by such Section 43 Gate Termination Notice by the product obtained by multiplying such Variable Enplanement Rental, by the Pro-Rata Share.

(v) For each Section 43 Terminated Gate, from and after the later to occur of the Section 43 Gate Termination Date applicable to such Section 43 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 43 Terminated Gate in accordance with all the applicable provisions of this Lease, each installment of the First Additional Rental payable by the Lessee to the Port Authority hereunder shall be reduced by an amount equal to the product obtained by multiplying the amount of such installment of First Additional Rental that would have been payable by the Lessee under this Lease if there had not been any termination at any time of any Gates and Gate Related Premises pursuant to this Section or pursuant to Section 42 hereof, by the Pro-Rata Share.

(vi) For each Section 43 Terminated Gate, from and after the later to occur of the Section 43 Gate Termination Date applicable to such Section 43 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 43 Terminated Gate in accordance with all the applicable provisions of this Lease, each installment

of the Third Additional Rental payable by the Lessee to the Port Authority hereunder shall be reduced by an amount equal to the product obtained by multiplying the amount of such installment of Third Additional Rental that would have been payable by the Lessee under this Lease if there had not been any termination of any Gates and Gate Related Premises pursuant to this Section or pursuant to Section 42 hereof, by the Pro-Rata Share.

(vii) For each Section 43 Terminated Gate, from and after the later to occur of the Section 43 Gate Termination Date applicable to such Section 43 Terminated Gate and the date that the Lessee shall have actually surrendered and vacated such Section 43 Terminated Gate in accordance with all the applicable provisions of this Lease, each installment of the Fifth Additional Rental payable by the Lessee to the Port Authority hereunder shall be reduced by an amount equal to the product obtained by multiplying the amount of such installment of FifthAdditional Rental that would have been payable by the Lessee under this Lease if there had not been any termination of any Gates and Gate Related Premises pursuant to this Section or pursuant to Section 42 hereof, by the Pro-Rata Share.

(4) Within sixty (60) days after the later to occur of a Section 43 Gate Termination Date and the date that the Lessee shall have actually surrendered and vacated in accordance with all applicable provisions of this Lease all of the Section 43 Terminated Gate(s) for which such Section 43 Gate Termination Date is applicable, the Port Authority shall, with respect to each such Section 43 Terminated Gate, make a one-time payment to the Lessee in the amount equal to the product obtained by multiplying the Pro-Rata Share by the Lessee's Unamortized Investment. The foregoing payments shall be subject to the Port Authority's rights of audit and inspection and shall be subject to the record-keeping obligations of the Lessee under Section 65 hereof.

(5) The Port Authority's rights to terminate one or more Gates and Gate Related Premises set forth above may be exercised one or more times until the total applicable Gates and Gate Related Premises have been terminated, without waiving, limiting or impairing any other rights or remedies of the Port Authority under this Agreement or otherwise.

(f) (1) In the event the Port Authority decides to ascertain the Revenue Seats Daily Average of the Lessee for the preceding calendar year it shall do so as follows: based upon the Official Airlines Guide (herein called the *"Guide"*), or in the event that the Guide shall not list the Lessee's schedules, then based upon the generally accepted United States aviation industry standard published airline schedule reference which shall include the Lessee's published schedules, the Port Authority shall ascertain the total number of revenue seats that were accommodated on the aircraft equipment scheduled to have been used by the Lessee on its published aircraft arrivals at the Airport as set forth in the Guide during two specified calendar weeks (Sunday through Saturday), the first of which weeks is the one during which the fifteenth (15th) day of February of the prior calendar year fell and the second being the one during which the fifteenth (15th) day of August of the said prior calendar year fell (said week of February together with said week of August being hereinafter collectively called the "*Measuring Period*"), and shall total the said number of revenue seats which are hereinafter called the "*Total Revenue Seats*" of the Lessee. In determining the Total Revenue Seats of the Lessee, the Total Revenue Seats as defined above of those Accommodated Handled Airlines, if any, of the Lessee who were

Accommodated Handled Airlines as of the date of such determination and Accommodated Sublessee Airlines at the Premises who were Accommodated Sublessee Airlines on the date of such determination, with respect to the aircraft of the Accommodated Handled Airlines and aircraft of the Accommodated Sublessee Airlines operating at the Premises, shall be included.

(2) In making said determination, the Port Authority shall use the aircraft configurations as supplied by the Lessee for the Measuring Period in question with respect to the number of revenue seats that can be accommodated on the particular aircraft equipment scheduled to be used by the Lessee at the Airport. The Total Revenue Seats of the Lessee shall then be divided by fourteen, the resulting quotient being herein called the "*Revenue Seats Daily Average*" of the Lessee.

(g)

(1)

Column A	Column B
Percentage of the Lessee's Basic Schedule Compared to Lessee's Commencement Basic Schedule	Number of Gate Positions the Port Authority May Require Accommodations at the Premises and/or May Terminate from the Premises

(2) The following shall apply when at any time the total number of Gates in the Premises is other than 26.

If the number of Gates in the Premises shall decrease as a result of the Port Authority having exercised its rights of termination under the Lease as to a portion or portions of the Premises as set forth above in this Section or in Section 42 hereof (the date of each such decrease in the number of Gates in the Premises being hereinafter called a "*Change Date*") then: commencing with the immediately succeeding Measuring Period following such Change Date the number of Gates which the Port Authority may require Accommodations or may terminate set forth in each Column B above for each percentage set forth in each Column A above shall be adjusted to equal the difference obtained by subtracting from the total number of Gates in the Premises on the Change Date, the product obtained by multiplying said percentage by the number of Gates in the Premises on the Change Date, in accordance with the following formula:

$$\mathbf{G - (P \times G) = U}$$

Where, G equals the total number of Gates in the Premises on the Change Date
P equals the applicable percentage under Column A
U equals the number of Gates that the Port Authority may require Accommodations or may terminate from the Premises

(h) Services to Section 43 Terminated Gate(s):

The Lessee shall cooperate with the Port Authority in arrangements at the Premises so that each Aircraft Operator who uses a Section 43 Terminated Gate may handle itself or be handled by a handling permittee of the Port Authority of its choice, subject to prior written consent of the Port Authority and payment of all applicable fees to the Port Authority. In the event that the Lessee wishes to perform handling services for any such Aircraft Operator, the Lessee shall not do so unless the Lessee has obtained an appropriate handling permit from the Port Authority covering the Lessee's handling of such Aircraft Operator to be subject to the prior and continuing approval of the Port Authority and payment of all applicable fees to the Port Authority, or if the Port Authority deems appropriate, the execution among the Port Authority, the Lessee, and such Aircraft Operator of a form of consent agreement prepared by the Port Authority. Nothing contained herein shall in any way affect the discretion of the Port Authority in granting or withholding a permit or its consent to a Handling Agreement proposed by the Lessee and such permit and/or consent may contain such terms and conditions including but not limited to such financial or other conditions which may include a fixed charge or a charge based upon a percentage of the Lessee's gross receipts arising therefrom, as the Port Authority may, at that time, elect. All such rates, fees and charges pursuant to any such Handling Agreement shall be at reasonable and at non-discriminatory rates, fees and charges.

(i) Rights of users of Section 43 Terminated Gate(s)

Effective from and after a Section 43 Gate Termination Date as to each Section 43 Terminated Gate and applicable Gate Related Premises, the Port Authority and each user of a Section 43 Terminated Gate and Gate Related Premises, and their respective officers, employees, passengers, patrons, invitees, contractors, suppliers of material and furnishers of services, shall have the right of ingress and egress between the Section 43 Terminated Gate and applicable Gate Related Premises and the public streets outside the Premises, and also the right of ingress and egress between the Premises and the Public Landing Area at the Airport, by means of existing taxiways to be used in common with others having rights of passage thereon, as well as over the taxiway areas of the Premises.

(j) The failure of the Port Authority to exercise any of its rights under this Section during any period in which it may have such a right, shall not affect, waive or limit its right to exercise said rights at any subsequent time or any other of its rights and remedies under this Agreement or otherwise.

(k) Nothing in this Section shall be deemed to have abrogated, changed or affected any restrictions, limitations or prohibitions on assignment, subletting or use of the

Premises by others under this Lease nor shall in any manner affect, waive or change any of the provisions thereof.

Section 44. Force Majeure

Neither the Port Authority nor the Lessee shall be deemed to be in violation of this Agreement if it is prevented from performing any of its obligations hereunder by reason of strikes, boycotts, labor disputes, embargoes, shortages of material, acts of God, acts of the public enemy, acts of superior governmental authority, weather conditions, tides, riots, rebellion, sabotage or any other circumstances for which it is not responsible and which are not within its control; provided, however, that this provision shall not apply to failures by the Lessee to pay the rentals specified in Section 4 hereof entitled "Rental" and shall not apply to any other charges or money payments under this Agreement; and, provided, further, that this provision shall not prevent either party from exercising its respective right of termination under Section 20 hereof entitled "Termination by the Port Authority", Section 83 hereof entitled "Termination by the Lessee", Section 49 entitled "Lessee's Financial Condition-Limitation of Lease Term-Triggering Events and Section 50 entitled "Right of Termination-Securities Ownership" and shall not prevent the Lessee from exercising its right to an abatement of rental under Section 37 hereof entitled "Abatement".

Section 45. Ingress and Egress

(a) The Lessee, its officers, employees, passengers, patrons, invitees, contractors, suppliers of material and furnishers of services, shall have the right of ingress and egress between the Premises and the city streets outside the Airport over such highways at the Airport as may be made available from time to time by the Port Authority for use by the public, provided, however, that the Lessee hereby expressly understands and agrees that the Lessee shall have no right of ingress and egress or access hereunder or otherwise for its employees, customers, patrons, invitees and their baggage between the Premises and the city streets or public ways outside the Airport by means of any mode of transportation or any vehicle which may be limited or restricted in accordance with Section 46 hereof, it being understood that access to the Premises for emergency response for reasons of safety or health shall not be deemed a breach hereof. Such right shall be exercised in common with others having rights of passage within the Airport.

(b) The Lessee shall have the right of ingress and egress between the Premises and the Public Landing Area at the Airport, by means of existing taxiways to be used in common with others having rights of passage thereon, provided, however, that the Port Authority may from time to time substitute other reasonably equivalent means of ingress and egress.

(c) The use of all roadways and taxiways shall be subject to the Rules and Regulations of the Port Authority which are now in effect or which may hereafter be promulgated for the safe and efficient operation of the Airport. In addition to the rights of closure granted above, the Port Authority may, at any time, temporarily or permanently close, or consent to or request the closing of, any such roadway, taxiway and any other area at the Airport presently or hereafter used as such, so long as a reasonably equivalent means of ingress and egress remains available to the Lessee. The Lessee hereby releases and discharges the Port

Authority, and all municipalities and other governmental authorities, and their respective successors and assigns of and from any and all claims, demands or causes of action which the Lessee may now or at any time hereafter have against any of the foregoing, arising or alleged to arise out of the closing of any way or other area, whether within or outside the Airport provided a reasonably equivalent means of access is available. The Lessee shall not do or permit anything to be done which will interfere with the free access and passage of others to space adjacent to the Premises or in any streets, ways and walks near the Premises.

Section 46. Restrictions on Use of Passenger Terminal Frontage Roadways–Use of Airport Taxi Dispatchers and Roadways Frontage

(a) The Lessee understands that the Port Authority presently has in effect and has planned various physical improvements and policies concerning and affecting the use of vehicular roadways in the Central Terminal Area ("*CTA*") of the Airport for the limitation and control of traffic thereon including the limitation and control of vehicular traffic on the Premises and vehicular traffic moving between the Air Terminal Highways, as designated from time to time by the Port Authority in the CTA of the Airport, and the vehicular roadways on the Premises connecting to the said Air Terminal Highways. These improvements and policies, both in existence and planned, generally include the following:

(1) Restrictions on the use of roadways in the CTA as set forth in Section 68 hereof entitled "Ground Transportation Within the Central Terminal Area" and Section 67 hereof entitled "Ground Transportation."

(2) The use of airport taxi dispatching services (as generally set forth in paragraph (b) hereof) where the Port Authority, either itself or through its contractor, utilizes at passenger terminals under the control of the Port Authority and makes available to passenger terminals at the Airport operated by others, the services of taxi dispatchers to assist in the expeditious and orderly flow of taxicabs to and from passenger terminals at the Airport.

(3) The use of a central taxi holding and dispatching system for the Airport in conjunction with the use of taxi dispatchers at the passenger terminals at the Airport.

(4) The designation of specified portions of the vehicular roadways on the Premises for limited use exclusively by certain types of ground transportation vehicles and/or certain types of ground transportation carriers for the loading and unloading of passengers and their baggage.

(5) The planning and construction of improvements to increase the capacity of roadway frontages at the passenger terminals.

(b) The Lessee agrees to restrict from the Premises during the time period or time periods, as may be specified by the Port Authority from time to time (each such period being herein referred to as a "*Taxi Dispatcher Period*"), all taxicabs except those taxicabs which are discharging passengers at the Premises and those taxicabs which are requested by a taxi dispatcher stationed on the Premises and dispatched through the airport central taxi holding and dispatching facility (herein called the "*Airport Central Taxi Stack*") to the Premises. Further,

during any Taxi Dispatcher Period the Lessee agrees to take and accept from the Port Authority, and permit the stationing at an appropriate location or locations on the Premises, of a taxi dispatcher or taxi dispatchers and the establishment of a taxicab waiting line on the Premises of such number of vehicles as shall be specified by the Port Authority from time to time. A taxi dispatcher or taxi dispatchers when located on the Premises shall provide the sole and exclusive dispatch of taxicabs to the Lessee's passengers and others desiring the use of a taxicab from the Premises and shall perform such other duties and functions in connection therewith as may be specified by the Port Authority from time to time. The Lessee agrees to permit the Port Authority to install on the Premises such fixtures, equipment and improvements including, but not limited to, taxi dispatcher shelters, telephones, radio transceiver and transponder receiving devices as may be necessary or reasonably desired by the Port Authority in connection with the activities and operations of the taxi dispatchers. The Lessee understands and agrees that all expenses of the Port Authority associated with the implementation and operation of the taxi dispatchers on the Airport including, but not limited to, the taxi dispatchers on the Premises and the construction, maintenance and operation of the Airport Central Taxi Stack shall be included in and payable through the aircraft flight fees at the Airport and will be accorded the same cost recovery treatment as the Air Terminal Highway is accorded for such purposes under the JFK Flight Fees Agreements and the calculation of other fees and charges under other existing agreements and policies at the Airport, and under any agreements which may be entered into and any policies which may be implemented, in the future, including agreements and policies to replace such existing agreements and policies or the JFK Flight Fees Agreements.

(c) In connection with and furtherance of the Port Authority's policies concerning ground transportation on the Airport, the operation of the Consolidated Counters as set forth in Section 66 entitled "Ground Transportation Services", the operation of taxi dispatchers and the Airport Central Taxi Stack as set forth in this Section, and the provisions governing ground transportation within the Central Terminal Area as set forth in Section 68 hereof entitled "Ground Transportation within the Central Terminal Area", the Lessee hereby agrees that, from time to time, the Port Authority may designate and specify appropriate areas of roadways and curbs located on the Premises, for the purpose of segregated and exclusive use by separate categories of vehicles, including but not limited to buses, taxicabs, private automobiles and other vehicles, and use by separate categories of ground transportation carriers (including but not limited to Port Authority permittees) as may be designated by the Port Authority, from time to time, for the purpose of loading and unloading passengers and their baggage. The Lessee shall prohibit the operation of all other types of vehicular traffic on the roadways on the Premises used for the loading and unloading of passengers and their baggage and shall prohibit parking or stopping except in the areas designated as aforesaid. Designated areas shall be clearly indicated by the Lessee by appropriate signing and marking on the Premises as shall be directed or approved from time to time by the Port Authority. The Lessee shall permit the Port Authority to install on the Premises such fixtures, equipment and improvements, including, but not limited to transponder receiving devices and other vehicular tracking and monitoring devices; and the Lessee shall, through the use of appropriate and sufficient means including, but not limited to, removing unauthorized parked vehicles from the Premises, security guards and other personnel stationed on the Premises in the area of the said roadways, require that the limitations and restrictions established hereunder by the Port Authority on the use of the said roadways are complied with and enforced during any Taxi Dispatcher Period and at other times as may be

directed by the Port Authority (which compliance and enforcement may be directed on a 24-hour basis).

(d) The Lessee understands that the proper limitation and control of traffic on passenger terminal frontage roads has an impact on the proper and efficient operation of the Air Terminal Highway system of the Airport and the Lessee agrees, for so long as the same is made available by the Port Authority, to either accept from the Port Authority or from the Port Authority contractor providing the service of limiting and controlling traffic on passenger terminal frontage roads from time to time and to pay for the frontage management services at the rate and in a manner which shall be applicable uniformly throughout the Airport or to provide substantially similar services itself.

(e) The Lessee understands that the Port Authority considers the provisions of this Section and the use of the Lessee's passenger terminal roadway areas of the utmost importance to the efficient operation of the Air Terminal Highway on the Airport and to the fulfillment of the Port Authority's governmental function to provide, maintain, develop, and operate the Airport; that the efficient use and operation of the Air Terminal Highway requires that the Lessee, in the operation and use of its passenger terminal facilities under this Lease shall utilize and cooperate fully in all respects in the operation and implementation of the provisions of this Section to the end that the Air Terminal Highway, including ingress thereto and egress therefrom, will operate in the most efficient manner; and that the Port Authority does not by this Lease intend to enter into any agreement, understanding, or commitment which will interfere with, limit, restrict, hinder, or prevent in any way, the efficient development, implementation and operation of the Air Terminal Highway and the rights and discretion of the Port Authority with respect thereto.

(f) The Port Authority has advised the Lessee that it is the intention of the Port Authority that all Aircraft Operators which are similarly situated will be treated in a similar manner with respect to the payment, operation and use of the taxi dispatchers and the Airport Central Taxi Stack as generally set forth in paragraph (b) above and with respect to the separation, designation and use of specific areas of roadways and curbs in the Premises for exclusive use by separate categories of vehicles and ground transportation carriers as generally set forth in paragraph (c) above.

Section 47. Maintenance Employees

The Lessee shall at all times during the term of this Agreement on a twenty-four hour, seven-day a week basis maintain sufficient qualified personnel at the Airport including but not limited to licensed electricians and plumbers, who shall be qualified to perform the maintenance obligations of the Lessee under this Agreement and particularly be able to respond to all emergencies, provided, however, the Lessee shall not be required to maintain licensed electricians or plumbers at the Airport twenty-four hours, seven-days a week if the Lessee shall have submitted a plan to the General Manager of the Airport for his or her approval setting forth the plans and procedures pursuant to which the Lessee would respond to all emergencies at the Premises twenty-four hours, seven-days a week and such plan shall have been approved by the General Manager of the Airport.

Section 48. Quiet Enjoyment

The Port Authority covenants and agrees that as long as the Port Authority remains the lessee of the Airport the Lessee, upon paying all rentals hereunder and performing all the covenants, conditions and provisions of this Agreement on its part to be performed, shall and may peacefully and quietly have and enjoy the Premises free of any act or acts of the Port Authority except as expressly agreed upon in this Agreement.

Section 49. Lessee's Financial Condition – Limitation of Term Lease –Triggering Events

(a) If any one or more of the Triggering Events listed in the exhibit annexed hereto, hereby made a part hereof and marked "Exhibit 49.1" (hereinafter called "*Exhibit 49.1*"), shall occur, then:

(1) with respect to the Triggering Event listed in paragraph (1) of Subdivision II of Exhibit 49.1, seven (7) days following the occurrence of such Triggering Event; or

(2) with respect to the Triggering Event listed in paragraph (3) of Subdivision II of Exhibit 49.1, ten (10) business days following the occurrence of any such Triggering Event the term of this Agreement and the letting hereunder shall be deemed terminated, and the Lessee shall thereafter be a hold-over tenant, on a month-to-month periodical basis, of the Port Authority. Termination hereunder shall be and operate as a conditional limitation. In the event any court of competent jurisdiction shall not give full and complete effect to this termination provision and its operation as a conditional limitation, the Lessee and the Port Authority agree, as a condition of this Agreement, and not merely as a covenant, that this Agreement and the stated term of the letting hereunder shall nonetheless, from and after the effective date of termination provided above, be deemed to have expired.

(b) Without limiting this Section or any term or provision hereof, and without limiting any term or provision of Exhibit 49.1, the Lessee agrees that:

(1) It shall meet with representatives of the Port Authority as described below and provide to said representatives the information described below during such scheduled meetings and at any other time as requested by the Port Authority; and

(2) If requested by the Port Authority, the Lessee shall deliver to the Port Authority, (a) as soon as available, but not later than forty-five (45) days after the close of each fiscal quarter, the consolidated profit-and-loss statement of the Lessee or of the Lessee's parent company which shall fairly and substantially reflect the Lessee's financial and operating condition for such fiscal quarter, to be accompanied by a schedule setting forth for each fiscal quarter the Lessee's enplanement load factor, available seat miles ("*ASM*"), revenue passenger miles ("*RPM*"), cost per ASM and yield per RPM, each certified by a responsible officer of the Lessee as accurate and complete, (b) within five (5) days after filing with the Department of Transportation, a copy of each Form 41 and (c) within five (5) days after the same becomes available, but not later than ninety (90) days after the close of each of its fiscal years, a complete copy of the Lessee's Annual Report or equivalent which shall fairly and substantially reflect the

Lessee's financial and operating condition for such fiscal year, which shall include consolidated financial statements of the Lessee which shall include the consolidated balance sheet of the Lessee as of the close of such year, and the consolidated statement of operations and statement of changes in financial position of the Lessee for such year, certified by an independent certified public accountant.

(c) There shall be an annual meeting with representatives of the Port Authority and with the chief operating officer or principal financial officer of the Lessee on the last business day of the month of April, or on such other day as may, from time to time, be agreed upon by the Lessee and the Port Authority to review the financial and operating performance of the Lessee. The foregoing provisions with respect to the said meetings on the last business day of the month of April shall be subject to the Lessee's right to reschedule by sending to the Port Authority a written notice prior to the first day of said month setting forth four (4) alternative business days within said month of April. The Port Authority shall notify the Lessee of its selection of the day for the next annual meeting within ten (10) days of its receipt of the said notice of the Lessee, if any. The review shall include but not be limited to the furnishing of the following information regarding the Lessee to the Port Authority by the Lessee and the discussion of same:

(1) Financial data including without limitation Form 41 filings with the Department of Transportation and any other statement which will reflect the financial and operating condition of the Lessee.

(2) Monthly traffic data including passengers, aircraft departures, available seat miles and revenue passenger miles.

(3) Monthly load factors and any performance indicator filed with the United States Department of Transportation including, without limitation, on-time performance and customer complaints received.

(d) It is the position of the Lessee that all or portions of the information it has agreed to furnish the Port Authority hereunder is of a confidential nature. The Port Authority agrees that, unless required to do so pursuant to any legal obligations imposed upon the Port Authority requiring public disclosure of information, or pursuant to freedom of information policy adopted or which may be adopted by its Commissioners, it shall not deliberately convey the same to any private Person.

(e) The Lessee shall submit to the Port Authority a statement at any time during the term of the letting signed by the Treasurer of the Lessee notifying the Port Authority that a Triggering Event or Triggering Events listed in Exhibit 49.1 has or have occurred and the date of the occurrence thereof, provided, however, that failure to give any such notice shall not affect the occurrence of any Triggering Event or the consequences thereof hereunder.

(f) If the Lessee has, by notice, advised the Port Authority that it reasonably believes that any of the Triggering Events which are listed in Exhibit 49.1 hereof and constitute events which would result in termination pursuant to this Section either are anticipated to occur

within forty-five (45) days of said notice, or has or have already occurred, or if in fact any Triggering Event or Triggering Events has or have occurred, or the Port Authority believes that the same has or have occurred without receipt of any notice from the Lessee, as aforesaid, then:

(1) the Lessee may, at any time prior to the termination of the letting, by notice, request that the Port Authority waive the occurrence of one or more of the Triggering Events, and the effect thereof hereunder, for a period of time to be determined by the Port Authority and to be contained in a letter agreement to be prepared by the Port Authority and executed by the Port Authority, which shall be effective upon its execution by the Lessee; or

(2) the Port Authority may, at any time prior to the termination of the letting, in its sole discretion and without a prior request from the Lessee, waive the occurrence of one or more of the Triggering Events, and the effect thereof hereunder, for a period of time to be determined by the Port Authority and to be set forth in a notice from the Port Authority to the Lessee. Service of a notice hereunder shall not in and of itself imply or be deemed to imply that a Triggering Event has occurred.

(3) The Port Authority shall have no obligation to take either of the above two actions in paragraphs (f) (1) and (f)(2) above.

(g) Although it is hereby specifically acknowledged and agreed that the aforesaid month-to-month periodical tenancy described in paragraph (a) above of this Section, if any should occur hereunder, is terminable by either party in accordance with law and that the following provision shall have no effect whatsoever on the right of either party to so terminate. It is further understood that if four (4) consecutive calendar quarters have elapsed after a Triggering Event has occurred during which time the Lessee is in occupancy of the Premises as a month-to-month tenant, and during such period none of the Triggering Events listed in Exhibit 49.1 have occurred or continue to occur, the Lessee is not in default in the payment of rental or any other provision of its month-to-month tenancy and neither the Port Authority nor the Lessee has terminated the month-to-month tenancy by notice to the other, then upon request by either party to the other, the parties will enter into a supplementary agreement to be prepared by the Port Authority and to be promptly executed by the parties hereto which would provide for the re-establishment of a tenancy between the Port Authority and the Lessee on a fixed term basis in accordance with all of the terms and provisions of this Lease, and upon said execution the Lease, as the same may theretofore have been supplemented, amended or extended, shall have the fixed term stated in the Lease.

Section 50. <u>Right of Termination - Securities Ownership</u>

(a) The following terms when used in this Agreement shall have the respective meanings given below:

(1) "*Change in Control*" shall mean the happening of any of the following:

(i) When any individual, corporation, partnership or other entity shall have Direct or Indirect Beneficial Ownership of a portion of 33.3% or more of any class of outstanding Voting Securities of the Lessee;

(ii) There shall be an issuance, transfer, purchase or exchange of all or a portion of the securities of the Lessee or of a subsidiary corporation of the Lessee or the creation, transfer, purchase or exchange of any rights or privileges thereunder, or the transfer, purchase or exchange of all or a portion of the assets of the Lessee or of a subsidiary corporation of the Lessee, which causes or results in a change in the relationship between the Lessee and a subsidiary corporation of the Lessee, or the Lessee and the holders of the securities of the Lessee, or the creation of another corporation for the purpose, among others, of accepting and holding securities of the Lessee, or which places control of the Lessee in a single entity, or which effects, causes or results in a transfer or change in the entity exercising control over the Lessee, provided, however, that the provisions of this subdivision (ii) shall not apply to any subsidiary corporation of the Lessee that is not a Scheduled Aircraft Operator.

(iii) The occurrence of a transaction requiring stockholder approval for the acquisition of the Lessee by an entity other than the Lessee or through purchase of assets, or by merger, or otherwise.

(2) "*Direct or Indirect Beneficial Ownership*" shall include without limiting the generality thereof the direct or indirect power through contract, arrangement, understanding, relationship or to otherwise to dispose of or to direct the disposal of, or to vote or to direct the voting of, any Voting Security of the Lessee.

(3) "*Voting Security*" or "*Voting Securities*" shall include any stock, bond or other obligation of the Lessee the holder of which has any voting rights including but not limited to the right to vote for the election of members of the board of directors of the Lessee and shall include any security convertible into a Voting Security and any right, option or warrant to purchase a Voting Security.

(4) "*Change of Control Date*" shall mean with respect to each Change of Control, the date that such Change of Control shall have occurred.

(b) In addition to and without limiting Section 20 hereof entitled "Termination by the Port Authority" or any other term or provision of this Lease or of any of the rights and remedies of the Port Authority thereunder, the occurrence of a Change in Control which either (i) results in a detectable decrease in the amount of, and a change in the nature of, the Lessee's scheduled passenger aircraft operations at the Airport or (ii) shall have the effect of causing this Lease to become the only asset or a greater portion of the assets of the Lessee than prior to such Change in Control, shall be and shall be deemed an event of default under Section 20 hereof and upon the occurrence of any such event or at any time thereafter during the continuance thereof the Port Authority shall have the right to terminate the Lease and the letting hereunder pursuant to the provisions of said Section 20.

(c) The foregoing right of termination shall be in addition to all other rights of termination the Port Authority has under this Agreement and the failure of the Port Authority to exercise its right of termination under this Section at any time in which it may have such right shall not affect, waive or limit its right to exercise said right of revocations at any subsequent time.

(d) The Lessee represents and warrants to the Port Authority, knowing that the Port Authority is relying on the accuracy of such representations and warranties, that, as of the Lease Commencement Date, the Lessee is a corporation organized and existing under the laws of the State of Delaware, and has issued and has outstanding 110,826,000 Voting Securities which constitute all its outstanding Voting Securities.

(e) The Lessee shall promptly advise the Port Authority in writing addressed to the Port Authority's Director of Aviation of any change in the representations and warranties made in paragraph (d) of this Section.

Section 51. Assignment to a Trust

In the event that the Port Authority is of the opinion that it is advisable due to statutory changes occurring after the Lease Commencement Date in the laws of the United States of America regarding bankruptcy and insolvency, which changes materially lessen or limit the rights or remedies of a landlord should a tenant under a lease of non-residential real property become a debtor pursuant to the aforesaid laws (such changes being hereinafter called "*Changes in Landlord Rights*"), the Port Authority and the Lessee agree that this Agreement, as the same may have been theretofore amended, supplemented or extended and as then amended by a supplement to be prepared by the Port Authority and executed by the Lessee and the Trust (described below) and delivered to the Port Authority for its execution, shall be assigned to a Trust, created as provided herein. The Trust shall be created by a trust indenture to be prepared by the Port Authority and executed by the Port Authority and the Lessee. The Trust would be under the voting control of the trustee designated by the Lessee, unless and until stipulated events of the type set forth as Triggering Events in Exhibit 49.1 occurred, in which event voting control would shift to the trustee designated by the Port Authority. The occurrence of such Triggering Events would be as certified by the independent trustee jointly designated by the Port Authority and the Lessee. The Port Authority agrees that it will simultaneously with the assignment of this Agreement, as the same may have been theretofore amended, supplemented or extended, to the Trust, consent to the Trust entering into a sublease with the Trust as landlord and the Lessee as sublessee, provided, however, that such sublease shall be a month-to-month periodical tenancy and the trust indenture shall provide for the same. If four consecutive calendar quarters shall elapse after voting control of the Trust has shifted to the trustee designated by the Port Authority and (i) the trustee designated by the Port Authority shall not have, by notice, advised the Lessee that it may no longer occupy the Premises as a month-to-month periodical tenant pursuant to the aforesaid sublease and the Lessee in fact is so occupying and (ii) none of the aforesaid stipulated events shall have occurred or continued to occur or shall have again occurred, the Port Authority will, at the request of the Lessee, prepare a supplemental agreement to be executed by the Trust and the Lessee, and delivered to the Port Authority for its execution reassigning this Agreement to the Lessee. If the Trust becomes the assignee of this Agreement as provided above, and there are further Changes in Landlord Rights such that the

rights and remedies of a landlord, as aforesaid, are restored, the Port Authority shall prepare and tender to the Lessee and the Trust a supplemental agreement to be executed and delivered by each of them and returned to the Port Authority for its execution, reassigning this Agreement, as the same may have been theretofore amended, supplemented or extended, to the Lessee.

Section 52. Purchase of Property

The Port Authority shall have the option from time to time exercisable by notice to the Lessee effective on the expiration or earlier termination of the letting of the Premises hereunder, or any part thereof, to purchase all, or such part as the Port Authority elects, of the Lessee's Personal Property (including trade fixtures) including without limiting the generality of the foregoing any system for handling baggage, any counters, and any passenger loading bridges, as and to the extent any of the foregoing are personal property, which may at the time of the giving of such notice have been installed or placed on the Premises. In the event the Port Authority exercises its option to make a purchase, the Port Authority shall pay to the Lessee a sum equal to the reasonable value of such personal property (including trade fixtures) purchased. The Lessee hereby agrees that it shall use reasonable commercial efforts so that on the effective date of the purchase and sale none of the aforesaid items shall be subject to any lien, security interest or other encumbrance, and if after the Lessee having used such reasonable commercial efforts any such property remains subject to any lien, security interest or other encumbrance the reasonable value of such property shall be reduced to properly reflect such lien, security interest or other encumbrance provided that the indebtedness is assumed by the Port Authority with the consent of the applicable lien holder. The Lessee hereby agrees that on the effective date of the purchase and sale and upon request of the Port Authority the Lessee will execute a bill of sale or such other document of conveyance as the Port Authority may request to transfer title to the aforesaid items to the Port Authority (including a warranty of title to the Port Authority) and the Port Authority shall pay the purchase price. Further, the Lessee shall from time to time execute such other documentation as the Port Authority may require and prepare evidencing the option of the Port Authority, as herein provided, to purchase the aforesaid personal property, including without limitation, security agreements and filings pursuant to the Uniform Commercial Code.

Section 53. Assumption of Maintenance and Repair of the Premises by the Port Authority

(a) The following terms when used in this Agreement shall have the respective meanings given below:

(1) "*Assumable Maintenance and Repair*" shall mean the obligation of the Lessee to clean, maintain, perform janitorial services and perform structural and non-structural improvements, repairs and rebuilding at the Premises as such obligations are set forth in:

(i) paragraphs (a) and (b) of Section 10 hereof entitled "Care, Maintenance, Rebuilding and Repair by the Lessee"; and

(ii) Section 6 hereof entitled "Compliance with Governmental Requirements" insofar as laws, ordinances and governmental rules, regulations, orders,

requirements and directions require structural and non-structural improvements, alterations or repairs of the Premises.

(2) The "*Cost of Assumable Maintenance and Repair*" shall, for each calendar year, consist of the sum of the "Operation and Maintenance Cost" and the "Annual Capital Cost" which shall both be determined as follows:

(i) The Port Authority will determine the total of all costs incurred or accrued during each calendar year in connection with the Assumable Maintenance and Repair in accordance with normal Port Authority accounting practice and as follows: The Port Authority will apportion Assumable Maintenance and Repair performed between "operation and maintenance" and "capital work". The cost of operation and maintenance is hereinafter called the "*Operation and Maintenance Cost*" and the cost of the capital work is hereinafter called the "*Capital Cost*".

(A) Operation and Maintenance Cost for each calendar year shall consist of the following expenditures for, in connection with, or related to operation and maintenance:

(aa) On-the-job payroll costs of employees and supervisory personnel (including Airport supervisors, foreman and clerks), including, but not limited to, contributions to any retirement system or the cost of or participation in any pension plans or the like, social security, old age, survivor's, disability and unemployment insurance and other insurance costs, sick leave pay, holiday, vacation, authorized absence and severance pay, other employee fringe benefits and any other payments made or costs incurred whether pursuant to law or by Port Authority policy to or with respect to said employees and personnel;

(bb) The cost (including rental charges) of materials, equipment, supplies and utilities (including but not limited to, electricity, water and phone);

(cc) Payments to contractors and any other third persons, firms or corporations for work performed or services rendered;

(dd) The cost of any performance bond or bonds;

(ee) The cost of insurance;

(ff) Any other direct costs as charged under the Port Authority's normal accounting practice;

(gg) Twenty-five percent (25%) of the sum of all of the foregoing items (aa) through (ff).

(B) "*Capital Cost*" for each calendar year shall consist of the following expenditures, for, in connection with, or related to capital work:

(aa) On-the-job payroll costs of employees and supervisory personnel (including Airport supervisors, foremen and clerks) including but not limited to, contributions to any retirement system or the cost of or participation in any pension plans or the like, social security, old age, survivor's, disability and unemployment insurance and other insurance costs, sick leave pay, holiday, vacation, authorized absence and severance pay, other employee fringe benefits and any other payments made or costs incurred whether pursuant to law or by Port Authority policy to or with respect to said employees and personnel;

(bb) The cost (including rental charges) of materials, supplies, equipment and utilities (including but not limited to electricity, water and phone);

(cc) Payments to contractors and any other third persons, firms or corporations for work performed or services rendered;

(dd) The cost of any performance bond or bonds;

(ee) The cost of any insurance;

(ff) Payments to independent consultants, architects and engineers engaged or retained by the Port Authority;

(gg) Any other direct costs as charged under the Port Authority's normal accounting practice;

(hh). Financial expense on the foregoing computed in accordance with Port Authority accounting practice;

(ii) Ten percent (10%) of the sum of all the foregoing items (aa) through (hh).

(C) "*Annual Capital Cost*" shall mean the total of all annual amounts based upon the amortization of the Capital Cost for each calendar year over the shorter of the weighted average period of the useful life of the capital work for each calendar year, or the remaining term of this Agreement as determined by the Port Authority. Each annual amount shall be determined on the basis of an equal annual payment method. The rate used in determining the Annual Capital Cost for all of the annual amounts shall be for each successive calendar year an annual percentage rate equal to the sum of (i) the average of all the weekly indices of the Bond Buyer Revenue Bond Index as reported in the publication "The Bond Buyer" for the 52-week period in the immediately preceding calendar year and (ii) three percentage points. For purposes of example and illustration only, The Bond Buyer Revenue Bond Index for the week ending January 20, 2005 was 4.89% as set forth under the column "25-Bond Revenue"

in the table entitled "Bond Buy Indexes" on page 37 of the Bond Buyer, Vol. 351 No. 32054, New York, N.Y., dated January 21, 2005. In the event that The Bond Buyer or its weekly Bond Buyer Revenue Bond Index shall be discontinued during the term of the letting hereunder, a comparable substitute for such Index shall be mutually agreed upon in writing by the Lessee and the Port Authority within thirty (30) days after discontinuance. In the event that the Port Authority and the Lessee shall fail to agree upon such a substitute within the time hereinabove specified then upon notice of either party such dispute shall be disposed of by arbitration in accordance with the then existing rules of the American Arbitration Association or any successor association. One half of the cost of said arbitration shall be borne by the Port Authority and the other half of said cost shall be borne by the Lessee.

(b) Commencement of Performance of Assumable Maintenance and Repair

(1) The "Assumable Maintenance and Repair Date" shall be the date, from time to time, determined as follows:

(i) The Port Authority may at any time and from time to time during the term of this Agreement advise the Lessee, by notice, of one or more deficiencies in the performance by the Lessee of the Assumable Maintenance and Repair, or in any portion, or portions, thereof. Such notice shall specify the aforesaid deficiencies in reasonable detail. In such notice the Port Authority shall also advise the Lessee of what reasonable period of time shall be afforded the Lessee to cure such deficiencies and the Port Authority shall advise the Lessee therein when and where its representatives may meet with representatives of the Port Authority to discuss the foregoing. The Port Authority will consider the response, if any, of representatives of the Lessee, as given at the aforesaid meeting, or during such period for a further response from the Lessee, as the Port Authority may, in its sole discretion, afford the Lessee. The Port Authority may, after the occurrence of the above, advise the Lessee, by notice, that it has elected not, at that time, to assume the performance of the Assumable Maintenance and Repair. The Port Authority, in its sole discretion, may condition such an election on such terms as it chooses to include in the notice, including the taking of certain remedial or other actions by the Lessee to the continuing satisfaction of the Port Authority. The fact that the Port Authority may previously have given a notice under this subparagraph but has subsequently elected on one or more occasions not to assume the performance of the Assumable Maintenance and Repair or having on one or more occasions assumed the Assumable Maintenance and Repair and thereafter returned the said obligations to the Lessee pursuant to the provisions hereof, shall not be deemed to limit the right of the Port Authority to, at any time, give another notice of one or more deficiencies pursuant to this subparagraph or notice pursuant to paragraph (b)(1)(ii) below.

(ii) The Port Authority may at any time and from time to time during the term of this Agreement, but only after the issuance of a notice described above and giving the opportunity to cure as provided above, advise the Lessee, by notice, that commencing on a date to be specified in such notice, which shall be not less than ninety (90) days after the giving thereof, the Port Authority will perform the Assumable Maintenance and Repair. Such

date as the same may be established from time to time shall be the "*Assumable Maintenance and Repair Date*".

(c) Performance of the Assumable Maintenance and Repair

(1) The Port Authority shall perform the Assumable Maintenance and Repair from and after the Assumable Maintenance and Repair Date with the Cost of Assumable Maintenance and Repair to be paid by the Lessee as provided in paragraph (d) below.

(2) The Lessee and the Port Authority each acknowledge and agree that the rights and obligations of the Port Authority and the Lessee hereunder are limited to the performance of all of the Assumable Maintenance and Repair by the Port Authority and not of particular portions thereof.

(3) The Lessee shall give its full cooperation to the Port Authority so as to better enable the Port Authority and its contractors to perform the Assumable Maintenance and Repair and the Port Authority and its employees, agents and contractors shall have the right to enter the Premises at all reasonable times to perform the Assumable Maintenance and Repair.

(d) Payment for the Assumable Maintenance and Repair

The Cost of the Assumable Maintenance and Repair shall be payable by the Lessee from and after the Assumable Maintenance and Repair Date as follows:

(1) The Port Authority shall establish monthly interim billing rates. Such billing rates shall be based upon determinations by the Port Authority of its estimate of the Cost of the Assumable Maintenance and Repair for the calendar year or; for the portion of the calendar year in which the Assumable Maintenance and Repair Date, if less than a calendar year, shall occur or for the portion of the calendar year during which the term of this Agreement shall expire, if less than a calendar year. Such determinations shall be based upon the prior calendar year's experience, if any, and upon other such reasonable basis as the Port Authority shall select. The Port Authority may prospectively revise its billing rates during any calendar year. The Lessee shall pay current billings they are received.

(2) As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the actual Cost of the Assumable Maintenance and Repair for the preceding calendar year and shall determine the amounts payable by the Lessee. In the event the Assumable Maintenance and Repair Date does not fall on the first day of a calendar year or in the event the term of this Agreement expires on a day other than the last day of a calendar year the Annual Capital Cost for said calendar year shall be prorated based on the number of days during said calendar year during which the Port Authority provides the Assumable Maintenance and Repair. Corrected billings based upon such determination shall thereupon be rendered by the Port Authority to the Lessee and if any monies are due to the Port Authority they shall be promptly paid by the Lessee and if any monies are due to the Lessee they shall be credited to it.

(e) Limitation of Port Authority Obligations and No Waiver of Rights of the Port Authority

(1) The right and obligation of the Port Authority to perform the Assumable Maintenance and Repair shall not release, waive or affect the obligations of the Lessee with respect thereto set forth in any provision of this Agreement, nor limit, waive or effect any rights of termination with respect thereto, including but not limited to, the right of the Port Authority to terminate this Agreement, whether before or after the occurrence of the Assumable Maintenance and Repair Date pursuant to Section 20 hereof entitled "Termination by the Port Authority".

(2) The Port Authority shall not be obligated to the Lessee to furnish the Assumable Maintenance and Repair at any time while the Lessee shall be in default under this Agreement.

(3) No failure, delay or interruption in performing the Assumable Maintenance and Repair by the Port Authority shall be or be construed to be an eviction of the Lessee or grounds for the diminution or abatement of rentals, fees, or other charges, or (unless resulting from the negligence or wilful failure of the Port Authority) shall be grounds for any claims by the Lessee for damages, consequential or otherwise.

(4) The Port Authority shall be under no obligation to perform the Assumable Maintenance and Repair if and to the extent that during any period such performance shall be prohibited, limited or rationed by any federal, state or municipal law, rule, regulation, requirement, order or direction and if the Port Authority deems it in the public interest to comply therewith, even though such law, rule, regulation, requirement, order or direction may not be mandatory on the Port Authority as a public agency. Furthermore, the obligation of the Port Authority to perform the Assumable Maintenance and Repair shall be deemed limited and modified during any period that repair or rebuilding of the Premises is required pursuant to Section 10 hereof entitled "Care, Maintenance, Rebuilding and Repair by the Lessee" or Section 12 hereof "Damage to or Destruction of the Premises".

(f) Return of the Assumable Maintenance and Repair to the Lessee

(1) At any time and from time to time after the Port Authority may have exercised its rights under this Section to perform the Assumable Maintenance and Repair the Port Authority shall have the right, upon notice to the Lessee to return the obligation to perform the Assumable Maintenance and Repair to the Lessee commencing on a date to be specified in such notice which date shall be not less than thirty (30) nor more than ninety (90) days from the giving of such notice. Such date shall be the "*Return Date of the Assumable Maintenance and Repair*". From and after the Return Date of the Assumable Maintenance and Repair the Lessee shall perform the Assumable Maintenance and Repair pursuant to and in accordance with all the terms and provisions of the Lease including, but not limited to, this Section.

(2) From and after the Return Date of Assumable Maintenance and Repair the Lessee shall continue to pay the Cost of Assumable Maintenance and Repair for all Assumable Maintenance and Repair performed prior to the Return Date of the Assumable Maintenance and Repair, it being understood, that nothing herein shall release or be deemed to release the Lessee from the payment to the Port Authority of the Cost of Assumable Maintenance and Repair including that portion thereof consisting of the Annual Capital Cost in accordance with paragraph (d) hereof arising prior to the Return Date of the Assumable Maintenance and Repair; nor shall anything herein require the Port Authority to make any calculation or determination with respect to the Cost of Assumable Maintenance and Repair prior to the time specified therefor in paragraph (d) hereof.

Section 54. Joint Periodic Condition Survey

In addition to and without limiting, Section 6 hereof entitled "Compliance with Governmental Requirements", Section 7 hereof entitled "Rules and Regulations", Section 8 hereof entitled "Various Obligations of the Lessee", Section 9 hereof entitled "Prohibited Acts", Section 10 hereof entitled "Care, Maintenance, Rebuilding and Repair by the Lessee", Section 11 hereof entitled "Insurance", Section 12 hereof entitled "Damage to or Destruction of Premises", Section 15 hereof entitled "Obstruction Lights", Section 16 hereof entitled "Additional Rent and Charges", Section 17 hereof entitled "Rights of Entry Reserved", Section 26 hereof entitled "Surrender", Section 53 hereof entitled "Assumption of Maintenance and Repair of the Premises by the Port Authority", Section 56 entitled "Environmental Obligations" and Section 61 entitled "Storage Tanks" or any other term, provision, covenant or condition of this Agreement, the Lessee and the Port Authority hereby agree that, in addition to any other inspection of the Premises which may be made under any other Section of this Agreement or otherwise, a Condition Survey (as hereinafter defined) of the Premises shall be conducted by the Condition Survey Contractor (as hereinafter defined) at the time period specified below subject to and in accordance with the following terms and conditions:

(a) As used herein the following terms shall have the following meanings:

(1) "*Condition Survey*" shall mean an inspection by the Condition Survey Contractor of the Premises, including without limitation the then current state of cleaning, maintenance, janitorial services, painting, structural and nonstructural conditions, surface and subsurface conditions, environmental conditions, lighting of building areas, ramp and apron areas, and the condition of utilities and utility systems, fire-fighting and fire protection equipment and systems, communications and communications systems, antipollution systems and devices, fuel facilities and systems, and the Lessee's fixtures, equipment and personal property, and also including the items mentioned or covered by Sections 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 26, 53, 56 and 61 of this Agreement;

(2) "*Condition Survey Contract*" shall mean and refer to a contract awarded to a Condition Survey Contractor, or entered into between the Port Authority and a Condition Survey Contractor, for the performance by such Condition Survey Contractor of a Condition Survey at any of the applicable times as specified in subparagraph (b) hereof;

(3) "*Condition Survey Contractor*" shall mean and refer to the contractor to whom the Condition Survey Contract is awarded pursuant to subparagraph (b) hereof which Condition Survey Contractor shall be an independent and reputable engineering firm, licensed or authorized to do business in the State of New York;

(4) "*Condition Survey Report*" shall mean the report prepared by the Condition Survey Contractor under its Condition Survey Contract after its completion of the Condition Survey work under its Condition Survey Contract including without limitation any and all recommendations for repair, maintenance, rebuilding and cleaning of all items or areas covered by the Condition Survey;

(5) "*Costs of the Condition Survey*" shall mean and include with respect to each Condition Survey all amounts paid and expenses incurred by the Port Authority, including all interest, costs, damages and penalties, in accordance with the provisions of Section 16 entitled "Additional Rent and Charges" for, relating to or in connection with Condition Survey work to be performed under the Condition Survey Contract;

(6) "*Report Date*" shall mean the date of the Port Authority's written notice to the Lessee by which the Port Authority delivers to the Lessee the Condition Survey Report.

(b) No earlier than sixty (60) days preceding the expiration of each period consisting of five (5) consecutive years occurring during the Term, beginning with the first such five-year period which commences on DBO and ends on the fifth anniversary of DBO and no earlier than sixty (60) days preceding the last day of the month which constitutes the twelfth month preceding the Expiration Date, the Port Authority may advise the Lessee of a proposed Condition Survey Contract (which may include all or particular portions of the items described in paragraph (a)(1) above) and including the name of the proposed Condition Survey Contractor who will perform a Condition Survey and the proposed scope of the proposed Condition Survey Contract and the proposed fee structure of the contract. Within thirty (30) days after the Port Authority's notice to the Lessee, the Lessee shall advise the Port Authority in writing of its concurrence or objection to the proposed Condition Survey Contract. In the event the Lessee fails to respond during the said time period, said nonresponse shall be deemed a concurrence and the Port Authority shall proceed with the said Condition Survey Contract for purposes of performing a Condition Survey. In the event the Lessee notifies the Port Authority of its objections to the proposed Condition Survey Contract or Condition Survey Contractor, the parties hereby agree to consult with each other in good faith to resolve such dispute. If such resolution is not reached within a reasonable period of time not to exceed thirty (30) days, then the Port Authority, if it so elects, shall make a determination as to the issue or issues in dispute. The parties hereby agree that the Port Authority's determination of said issues, including the Condition Survey Contract and the Condition Survey Contractor shall be final.

(c) It is hereby expressly understood and agreed that the selection of each Condition Survey Contractor for the purposes of a Condition Survey and including the award of any Condition Survey Contract to such Condition Survey Contractor shall be subject to and consistent with the Port Authority's policies and practices for the selection and award of similar

contracts and the Port Authority shall have as full a right to require the use of competitive bidding and award, or other basis of award, for any such Condition Survey Contract as if the work on such contract were being performed solely for the Port Authority; and further that the Condition Survey Contract shall contain terms and conditions which are standard to Port Authority contracts or consistent with such standard provisions.

(d) With respect to each Condition Survey, all Costs of the Condition Survey shall be shared equally between the Port Authority and the Lessee. Accordingly, the Lessee hereby agrees to pay to the Port Authority of the Costs of the Condition Survey with respect to each Condition Survey as follows:

(1) The Lessee shall pay to or reimburse the Port Authority for the Costs of the Condition Survey as follows: The Port Authority shall after the completion of the Condition Survey work under a Condition Survey Contract and, if it elects, also from time to time during the course of the performance of the Condition Survey work under such Condition Survey Contract, submit to the Lessee a certificate or certificates setting forth the Costs of the Condition Survey at the date of each such certificate together with copies of all invoices in the possession of the Port Authority for that portion of the Costs of the Condition Survey covered by such certificate. Within thirty (30) days after the delivery of each such certificate, the Lessee shall pay to the Port Authority an amount representing (Ex 2.a.) of said Costs of the Condition Survey as such amount is set forth in said certificate. Upon its final determination of the Costs of the Condition Survey, the Port Authority shall submit to the Lessee a certificate marked "Final" setting forth the final determination of the Costs of the Condition Survey with respect to each Condition Survey Contract as reduced by any previous payment with respect to such Condition Survey Contract together with copies of all invoices in the possession of the Port Authority for the Costs of the Condition Survey not previously provided to the Lessee by the Port Authority, and the Lessee shall and hereby agrees to pay to the Port Authority within thirty (30) days of such certificate an amount representing (Ex 2.a.) of said Costs of the Condition Survey as such amount is set forth in said certificate; provided, however, that neither the foregoing nor any certificate delivered by the Port Authority, nor any payment made by the Lessee shall waive, affect, or impair any right of the Port Authority of review and audit with respect to the Costs of the Condition Survey and with respect to each Condition Survey Contract and provided, further, however, that in the event any such review or audit by the Port Authority requires an adjustment of the Costs of the Condition Survey the Lessee shall be promptly credited with or shall pay to the Port Authority all amounts required by such adjustment.

(2) Without limiting any of the terms and provisions of Section 16 hereof entitled "Additional Rent and Charges", any and all amounts required to be paid by the Lessee hereunder may be added to any installment of rent thereafter due under this Section and each and every part of the same shall be and become additional rent, recoverable by the Port Authority in the same manner and with like remedies as if it were part of the rent as set forth in Section 4 hereof entitled "Rental".

(e) The Lessee hereby agrees to and shall commence within ninety (90) days after the Report Date all items and all action required or recommended to be taken as set forth in each Contract Condition Survey Report that are necessary or required to meet the Lessee's

maintenance or repair or any other of its obligations, duties or responsibilities under this Agreement and the written notice of the Port Authority delivering said Report, unless the Port Authority expressly advises the Lessee to the contrary as to any particular item(s), and the Lessee shall diligently continue the same to completion; provided, however, that if the Lessee notifies the Port Authority within thirty (30) day's after the Report Date that it believes an item or action required or recommended to be taken by the Condition Survey Report is not based upon sound engineering principles together with the basis upon which the Lessee believes that such item or action is not so based, the Lessee shall not be required to commence such item or action unless and until the Port Authority shall have notified the Lessee that the Chief Engineer of the Port Authority has determined that such item or action is required or recommended based upon sound engineering principles, provided, further, however, that notwithstanding the foregoing any and all items, action or work related to or affecting or involving fire safety, health, structural integrity, life safety, security and other emergency response systems shall be promptly commenced.

(f) The Lessee hereby agrees that the Condition Survey Contractor shall have all rights of entry to the Premises during all reasonable times as appropriate or required to perform or complete the Condition Survey and the Condition Survey Report under the Condition Survey Contract.

(g) It is expressly understood and agreed that neither the provisions of this Section including without limitation the right of the Port Authority to have the Lessee perform and complete the work required by the Condition Survey Report, the obligation of the Lessee so to perform and complete such work, or any such performance thereof by the Lessee, any failure of the parties to select a Condition Survey Contractor, any failure of any Condition Survey Contractor to perform and complete a Condition Survey Contract, nor any failure by the Lessee or the Port Authority to pay the Costs of the Condition Survey with respect to any Condition Survey Contract, or any portion thereof, shall or shall be deemed to release, waive, affect, restrict or impair any of the obligations, duties, responsibilities or liabilities of the Lessee under any term, provision, covenant or condition of this Agreement nor to limit, waive, affect, restrict or impair any right or remedy of the Port Authority including without limitation any right of the Port Authority to terminate the letting hereunder whether before or after the Report Date. Without limiting the foregoing, it is expressly understood and agreed that the Lessee shall not postpone or delay any action, maintenance, rebuilding or repair or other item or thing required to be taken by the Lessee under any other section of this Agreement.

(h) Notwithstanding anything to the contrary, the Port Authority shall have the right, exercisable in its sole and complete discretion, to exclude from the scope of a Condition Survey with respect to any Condition Survey Contract those items covered by Section 53 hereof for or during such period or periods, if any, when the Port Authority has elected to exercise its rights under Section 53 hereof to perform the Assumable Maintenance and Repair.

Section 55. Condition of the Premises

The Lessee accepts the Premises in its "as is" condition and the Port Authority shall not have any responsibility for any work or installation to the Premises to make the same usable by the Lessee, to place it in any particular condition or to reimburse the Lessee for any

work or installation as may be made by or on behalf of the Lessee except as expressly set forth in Sections 2, 28, 56 and 87 hereof, the Lessee having exclusive responsibility therefore. The Lessee hereby acknowledges that it has not relied upon any representation or statement of the Port Authority or its Commissioners, officers, employees or agents as to the condition of the Premises. The Lessee, prior to any portion of the Premises becoming a part of the Premises hereunder, thoroughly examined or shall examine, as the case shall be, such portion of the Premises and determined it to be suitable for the Lessee's operations under the Lease.

Section 56. Environmental Obligations

(a) For the purposes of this Lease, the following terms shall have the respective meaning provided below:

(1) "*Additional Baseline*" shall mean a report prepared by the Port Authority summarizing all test results from the soil and groundwater samples taken as part of Additional Baseline Work and as set forth in paragraphs (9) and (10) of Exhibit 56.1 and showing all the calculations to determine for each Additional Zone and each Zone that has been reconfigured as a result of the creation of an Additional Zone, the Soil Threshold Level and the Ground Water Threshold Level for each Analyzed Item in accordance with paragraph (j) of Section 56 of the Lease.

(2) "*Additional Baseline Work*" shall mean the subsurface testing of the soil and ground water of the Premises, the Terminal 4 Parcel and the Terminal 6 Parcel performed by the Port Authority to delineate the extent of Free Product that is identified in the Initial Post Construction Baseline. Such testing shall be performed in accordance with paragraphs 5, 7, 8, 9 and 10 of Exhibit 56.1.

(3) "*Analyzed Item*" shall mean each of the parameters set forth in paragraph 9 of Exhibit 56.1 and for which test results are set forth in the Initial Post Construction Baseline.

(4) "*Condition Exceptions*" shall mean the following:

(i) The remediation or removal (including investigation conducted as part of such remediation or removal but in no event shall the performance or costs of the testing and the preparation of the report performed as part of the Exit Baseline or the Initial Post Construction Baseline Work, as opposed to the results, be a Condition Exception) of the Existing Condition;

(ii) The remediation or removal (including investigation conducted as part of such remediation or removal but in no event shall performance or costs of the testing and the preparation of the report performed as part of the Exit Baseline or the Initial Post Construction Baseline Work, as opposed to the results, be a Condition Exception) of Hazardous Substances in the soil or ground water in, on or under the Premises caused by the sole acts or omissions of the Port Authority on or after the Effective Date,

(iii) Fines and penalties arising out of the Existing Condition if the fines and penalties are imposed due to the failure to have remediated or removed the Existing

Condition, provided, however, if the Lessee shall not have complied with the terms and conditions of paragraph (l) of this Section or of Section 17 hereof, then the foregoing shall not be a Condition Exception;

(iv) The remediation or removal of Migrated Hazardous Substances; and

(v) For the period from and after the Initial Post Construction Baseline Effective Date only, the remediation or removal of any Hazardous Substance discovered subsequent to the Initial Post Construction Baseline Effective Date (x) that is not an Analyzed Item and (y) that the Lessee is able to establish or prove to the reasonable satisfaction of the Port Authority existed in or on the Premises prior to the Effective Date and, if such Hazardous Substance existed on the Premises prior to the Effective Date, that its presence on the Premises was not caused by or resulted from a Lessee's Act.

(5) "*Exhibit 56.1*" shall mean the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 56.1" and entitled "Initial Post Construction Baseline Investigation".

(6) "*Exhibit 56.2*" shall mean the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 56.2" and entitled "Sampling Locations for the Initial Post-Construction Baseline".

(7) "*Exhibit 56.3*" shall mean the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 56.3" and entitled "JFK Terminal 5 - Sampling Zones and Subzones".

(8) "*Exhibit 56.4*" shall mean the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 56.4 and entitled "JFK Terminal 5 - Historical Port Authority Analyzed Items".

(9) "*Existing Condition*" shall mean:

(i) for the period from and including the Effective Date to and including the day prior to the Initial Post Construction Baseline Effective Date for any portion of the Premises, the Existing Condition shall mean the levels and types of Hazardous Substances in the soil and ground water located in, on and under the Premises except for Lessee Hazardous Substances or Hazardous Substances which were added to the Premises or the ground water in or thereunder on or after the Effective Date, and

(ii) for the period from and after the Initial Post Construction Baseline Effective Date and subject to the terms and provisions of paragraph (q) of this Section, with respect to the soil within each Zone, the Soil Threshold Level for each Analyzed Item in such Zone and with respect to the ground water within each Zone, the Ground Water Threshold Level for each Analyzed Item for such Zone.

(10) "*Exit Baseline*" shall mean the sampling and testing of the soil and groundwater in, on and under the Premises between eight and six months immediately preceding the expiration of the letting hereunder or, in the case of an earlier termination of the letting hereunder, then within ninety (90) days the effective date of such termination and the preparation of the Exit Baseline Report, such sampling, testing and report to be performed and prepared in accordance with the terms and conditions set forth in paragraph (v) of this Section, the following additional requirements and in accordance with such further standards, methods, protocol and procedures as shall be required by the Port Authority in it sole discretion. Such sampling, testing and the preparation of any associated report shall be performed by a New York State certified independent consultant and laboratory. Soil and water samples shall be taken from not less than one location within each area identified on Exhibit 56.3 and in not less than the number of locations in each Additional Zone upon which the Existing Condition for such Additional Zone is based. Each sample shall be tested for all Analyzed Items. If the Lease has not been terminated by the Port Authority, then the Port Authority shall consult with the Lessee on the standards, methods, protocol and procedures to be used in the Exit Baseline and the Lessee shall select the sampling locations in those areas that are shown in shading on Exhibit 56.3 and the Port Authority shall select the sampling locations in all the remainder of the areas identified on Exhibit 56.3, except, however, the Lessee shall select half of the sampling locations in each Additional Zone and the Port Authority shall select half of the sampling locations in each Additional Zone.

(11) "*Exit Baseline Report*" shall mean a report summarizing all of the test results from the soil and groundwater samples taken as part of the Exit Baseline compiled and entered into both Excel spreadsheets as well as electronic data deliverable format for import into EquIS database and if Excel and or EquiIS database are no longer available then in such spreadsheet and format as shall be determined by the Port Authority. All test results from samples taken within a Zone shall be grouped into sub-data sets. The sampling results that fall within the boundaries of a Zone shall be associated with that Zone. Additionally, such report shall show all the calculations to determine for each Zone the Exit Soil Threshold Level and the Exit Ground Water Threshold Level for each Analyzed Item in accordance with paragraph (v) of this Section.

(12) "*Free Product*" shall mean ground water that contains free phase petroleum hydrocarbons having a thickness of 0.01 feet or greater.

(13) "*Initial Post Construction Baseline Work*" shall mean the subsurface testing of the soil and ground water in and under the Premises, the Terminal 4 Parcel and Terminal 6 Parcel and the preparation of the Initial Post Construction Baseline performed in accordance with the terms and conditions set forth in paragraph (m) of this Section and in Exhibit 56.1, Exhibit 56.2 and Exhibit 56.3.

(14) "*Lessee's Act*" shall mean any act or omission of the Lessee or of any affiliated company of the Lessee or of any of their agents, contractors, sublessees, representatives, or others on the Premises with the consent of the Lessee or any affiliated company of the Lessee (excluding, however, use by third parties of any right of way through the Premises granted by this Agreement) or over whom the Lessee has control.

(15) "*Lessee's Cost of the Exit Baseline*" shall mean the sum of the amounts paid by the Lessee to independent third party engineers, architects, consultants and other professionals, construction supervisors and contractors for work actually performed and labor and materials actually furnished in connection with the Exit Baseline inclusive of sales, use and like taxes where applicable, and such amounts only (but only to the extent such amounts are included in the Exit Baseline Certificate, as such amounts may be adjusted pursuant to the provisions of subparagraph (8) of paragraph (v) of this Section) actually paid by the Lessee for the Exit Baseline, to the extent that the inclusion of the same is permitted by generally accepted accounting principles consistently applied, provided, however, (x) the Lessee's Cost of the Exit Baseline shall be limited to work covered by the Exit Baseline Certificate submitted by the Lessee pursuant to and in accordance with subparagraph (4) of paragraph (v) of this Section; and (y) it is specifically understood and agreed that no amounts paid for or in connection with any trade fixtures or other personal property of the Lessee or any payment or payments on account of any administrative or other overhead costs of the Lessee whether or not allocated to the Exit Baseline by the Lessee's own accounting practices shall be included in the Lessee's Cost of the Exit Baseline; and (z) the Lessee's Cost of the Exit Baseline shall not include any payment to a firm or corporation wholly or partially owned by or in common ownership with the Lessee or any Exit Baseline that is not performed in accordance with all of the terms and provisions of this Agreement.

(16) "*Lessee's Cost of the Initial Post Construction Baseline* " shall mean the sum of the amounts paid by the Lessee to independent third party engineers, architects, consultants and other professionals, construction supervisors and contractors for work actually performed and labor and materials actually furnished in connection with the Initial Post Construction Baseline inclusive of sales, use and like taxes where applicable, and such amounts only (but only to the extent such amounts are included in the Initial Post Construction Baseline Certificate, as such amounts may be adjusted pursuant to the provisions of subparagraph (7) of paragraph (m) of this Section) actually paid by the Lessee for the Initial Post Construction Baseline, to the extent that the inclusion of the same is permitted by generally accepted accounting principles consistently applied, provided, however, (x) the Lessee's Cost of the Initial Post Construction Baseline shall be limited to work covered by the Initial Post Construction Baseline Certificate submitted by the Lessee pursuant to and in accordance with subparagraph (3) of paragraph (m) of this Section; and further (y) it is specifically understood and agreed that no amounts paid for or in connection with any trade fixtures or other personal property of the Lessee or any payment or payments on account of any administrative or other overhead costs of the Lessee whether or not allocated to the Initial Post Construction Baseline Work by the Lessee's own accounting practices shall be included in the Lessee's Cost of the Initial Post Construction Baseline; and (z) the Lessee's Cost of the Initial Post Construction Baseline shall not include any payment to a firm or corporation wholly or partially owned by or in common ownership with the Lessee or any Initial Post Construction Baseline Work that is not performed in accordance with all of the terms and provisions of this Agreement.

(17) "*Migrated Hazardous Substances*" shall mean (i) any Hazardous Substance that has migrated onto the Premises from outside the Premises and (ii) any Hazardous Substance constituting a part of the Existing Condition that has migrated within or from the

Premises, provided, however, in each case, except in the case of excavated soils used or redeposited at the Redevelopment Work Sites pursuant to and in accordance with the all Environmental Requirements, including without limitation the Remedial Action Work Plan, Migrated Hazardous Substances shall in no event include any Hazardous Substances that have migrated as a result of or in connection with any Lessee's Act.

(18) "*Port Authority's Cost of the Exit Baseline*" shall mean and include all amounts paid and expenses incurred by the Port Authority, including all interest, costs, damages and penalties, in accordance with the provisions of Section 16 entitled "Additional Rent and Charges" for, relating to or in connection with the Exit Baseline.

(19) "*Post Construction Baseline* " shall mean the Initial Post Construction Baseline, as the same may be supplemented and amended pursuant and subject to paragraph (n) of this Section by the test results set forth in all Remediation Completion Reports and/or by the test results in all Additional Baselines.

(20) "*Zone*" shall mean each of the 8 zones identified in Exhibits 56.2 and 56.3 and each Additional Zone.

(b) (1) Without limiting the generality of any of the other terms and provisions of this Lease and subject to the terms and provisions of paragraph (b)(2) of this Section, the Lessee hereby expressly agrees to assume all responsibility for, relieve the Port Authority from, and reimburse the Port Authority for, any and all risks, claims, penalties, costs and expenses of any kind whatsoever caused by, arising out of or in connection with, the condition of the Premises whether any aspect of such condition existed prior to, on or after the Lease Commencement Date, including without limitation all Environmental Requirements and all Environmental Damages and to indemnify and hold harmless the Port Authority for all such risks, claims, penalties, responsibilities, costs and expenses.

(2) It is hereby agreed and understood that except as set forth in paragraphs (k), (q) and (r) of this Section and in Sections 2(g)(12) and 87 of this Lease, the Lessee shall not be responsible for the Condition Exceptions.

(c) Without limiting the Lessee's obligations elsewhere under this Agreement to comply with all laws, ordinances, governmental rules, regulations and orders which were or at any time are in effect during the term of the letting under this Agreement, the Lessee understands and agrees that, except with respect to the Condition Exceptions for which the Lessee is not responsible for pursuant to paragraph (b)(2) of this Section, it shall be obligated, at its cost and expense, to comply with and relieve the Port Authority from compliance with all Environmental Requirements which are applicable to or which affect (i) the Premises with the exception only of Migrated Hazardous Substances, (ii) the operations of, or work performed by, the Lessee or others with the consent of the Lessee at the Premises or the Lessee's operations at the Airport, (iii) the occupancy and use of the Premises by the Lessee or by others with its consent or (iv) any Hazardous Substance which has migrated from the Premises with the exception only of Migrated Hazardous Substances and shall in accordance with and subject to the provisions of Section 2 hereof entitled "Construction by the Lessee" or Section 33 hereof entitled "Other Construction of the Lessee", as the case shall be, perform all remediation, containment and clean-up of

Hazardous Substances required in order to fully satisfy the compliance obligations set forth herein. Nothing in the foregoing shall be construed as a submission by the Port Authority to the application to itself of any Environmental Requirements; provided, however, that no immunity or exemption of the Port Authority from any Environmental Requirements shall excuse compliance or be grounds for noncompliance on the part of the Lessee. Except with respect to the Condition Exceptions for which the Lessee is not responsible for pursuant to paragraph (b)(2) of this Section and without limiting the generality of the foregoing and as part of the Lessee's fulfillment of the foregoing obligations, the Lessee shall be responsible, at its sole cost and expense and subject to the direction of the Port Authority, for:

(1) the preparation of and submission to all applicable Governmental Authorities of any notice, negative declaration, remedial action workplan, no further action letter, remediation agreement or any other documentation or information;

(2) the obtaining of any surety bond or the giving of any other financial assurances; and

(3) complying with the provisions of all Environmental Requirements becoming effective on or relating to the termination, expiration or surrender of the letting of the Premises or of any portion thereof under this Agreement, or on the closure or transfer of the Lessee's operations at the Premises.

(d) In addition to and without limiting the generality of the obligations of the Lessee set forth above and elsewhere in this Agreement, the Lessee shall, at its sole cost and expense and in accordance with and subject to the provisions of Section 33 of this Agreement, upon notice from the Port Authority, promptly take all actions to:

(1) (i) completely remove and remediate (i) all Hazardous Substances in, on and under the Premises and at the Airport resulting from or in connection with the use and occupancy of the Premises by the Lessee or any affiliated company of the Lessee or which have been or permitted to be disposed of, released, discharged or otherwise placed in, on or under the Airport by the Lessee or any affiliated company of the Lessee and (ii) all Hazardous Substances which have been disposed of, released, discharged or otherwise placed in, on or under the Premises during the term of the letting of the Premises under this Agreement or during the term of any previous agreement between the Lessee or any affiliated company of the Lessee and the Port Authority covering the Lessee's or any such affiliated company's use and/or occupancy of the Premises or any portion thereof, except for Hazardous Substances caused by the sole acts or omissions of the Port Authority or Port Authority contractors on or after the Effective Date, provided, however, Port Authority contractors shall for the purpose of this paragraph (d) shall in no event include the System Operator even when acting as the contractor of the Port Authority, and further, provided, however, that the redepositing of soil in compliance with Section 2 hereof in the performance of the Construction Work shall not be or be deemed to resulting from or in connection with the use and occupancy of the Premises or a Hazardous Substance disposed of, released, discharged or otherwise placed in, on or under the Premises for the purposes of this paragraph (d)(1);

(2) except with respect to the Condition Exceptions which the Lessee is not responsible for pursuant to paragraph (b)(2) of this Section, remove and remediate all Hazardous Substances in, on or under the Premises or which have migrated from or from under the Premises to any other property which any Governmental Authority or any Environmental Requirement or any violation thereof require to be remediated or removed; and

(3) except with respect to the Condition Exceptions which the Lessee is not responsible for pursuant to paragraph (b)(2) of this Section, remove and remediate all Hazardous Substances which were in, on or under the Premises and which have migrated from or from under the Premises necessary to mitigate any Environmental Damages.

(e) The obligations set forth in paragraphs (c) and (d) of this Section shall include but not be limited to the investigation of the environmental condition of the area to be remediated, the preparation of feasibility studies, reports and remedial plans and the performance of any removal, remediation, containment, operation, maintenance, monitoring or restoration work and shall be performed in a good, safe and workmanlike manner. The Lessee shall promptly provide the Port Authority with copies of all test results and reports generated in connection with such obligations. The Lessee shall seal or cap all monitoring wells and test holes as required by all Environmental Requirements, remove all associated equipment and restore the remediated property.

(f) Subject to the terms and conditions of paragraph (u) of this Section and without limiting the Port Authority's remedies under this Agreement or at law or in equity, the Port Authority shall have the right during and after the term of the letting of the Premises under this Agreement to such equitable relief, including restraining injunctions and declaratory judgments, to enforce compliance by the Lessee of its environmental obligations under this Agreement including without limitation all the Lessee's obligations under this Section. In the event that the Lessee fails to comply with or perform any of such obligations, the Port Authority at any time during the term or subsequent to the termination, expiration or surrender of the letting of the Premises or any portion thereof may elect (but shall not be required) to perform such obligations and upon demand the Lessee shall pay to the Port Authority as additional rent its costs thereof, including all overhead costs as determined by the Port Authority. For the purposes of this paragraph, the term "cost" shall be as defined in Section 16 of this Agreement.

(g) Without limiting any other of the Lessee's obligations under the Lease and except with respect to the Condition Exceptions which the Lessee is not responsible for pursuant to paragraph (b)(2) of this Section, the Lessee shall provide the General Manager of the Airport at the cost and expense of the Lessee with such information, documentation, records, correspondence, notices, reports, tests, results, and certifications and any other information as the Port Authority shall request in connection with any Environmental Requirements which the Lessee is obligated to comply with pursuant to this Agreement or Environmental Damages and the Lessee shall promptly acknowledge, swear to (if required), sign or otherwise fully execute the same. The Lessee agrees that any of the foregoing may be filed by the Port Authority with the appropriate Governmental Authority on behalf of the Lessee at the Lessee's cost and expense. Further, the Lessee agrees unless directed otherwise by the Port Authority, to provide the General Manager of the Airport with copies of all information, documentation, records,

correspondence, notices, certifications, reports, test results and all other submissions provided by the Lessee to a Governmental Authority and by a Governmental Authority to the Lessee within five (5) days that the same are made available to or received by the Lessee with respect to any Environmental Requirements or any Environmental Damages.

(h) Without limiting the generality of any other provision contained in this Agreement and except with respect to Condition Exceptions which the Lessee is not responsible for pursuant to paragraph (b)(2) of this Section, the Lessee shall indemnify, hold harmless and reimburse the Port Authority, its Commissioners, officers, employees and representatives from all claims, demands, penalties, fines, liabilities (including strict liability), settlements, attorney and consultant fees, investigation and laboratory fees, removal and remediation costs, court costs and litigation expenses, damages, judgments, losses, costs and expenses of whatsoever kind or nature and whether known or unknown, contingent or otherwise, just or unjust, groundless, unforeseeable or otherwise, arising or alleged to arise out of or in any way related to any Environmental Damages or any Environmental Requirement which the Lessee is obligated to comply with pursuant to this Agreement, or the risks and responsibilities assumed hereunder by the Lessee for the condition of the Premises or a breach or default of the Lessee's obligations under this Section and under paragraphs (b)(2)(iii)(bb), (b)(2)(viii)(dd), (g)(12), (g)(25), (g)(26), (g)(30), (g)(32), (g)(33), (g)(34) and (o) of Section 2 hereof. If so directed, the Lessee shall at its own expense defend any suit based upon the foregoing, and in handling such it shall not, without obtaining express advance permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provisions of any statutes respecting suits against the Port Authority.

(i) (1) Without limiting the generality of any provision of this Agreement, in the event that any Environmental Requirement sets forth more than one compliance standard, the Lessee agrees that the standard or standards to be applied in connection with any obligation it may have under this Agreement with respect to said Environmental Requirement shall be that which requires or permits the lowest level of a Hazardous Substance, provided, however, in the event such lowest level of a Hazardous Substance requires or allows the imposition of any restriction of any nature whatsoever upon the use or occupancy of the Premises or any other portion of the Airport or upon any operations or activities conducted or to be conducted on the Premises or the Airport or upon the transfer of the Premises or the Airport, then the Lessee shall remediate to such a level so that there is no such restriction placed upon the use and occupancy of the Premises or the Airport or upon any operations or activities conducted or to be conducted on the Premises or the Airport.

(2) Nothing in this paragraph (i) shall require or be construed to require the Lessee to remediate below the Existing Condition except as otherwise required by or as set forth in this Agreement including without limitation as required by or as set forth in paragraphs (k), (q) and (r) of this Section and Section 2 hereof.

(j) From and after the Initial Post Construction Baseline Effective Date, the methodology to be used to determine the Ground Water Threshold Level for each and every

Analyzed Item within each Zone and to determine the Soil Threshold Level for each and every Analyzed Item within each Zone shall be as follows:

(1) Only the ground water and soil test results set forth in the Post Construction Baseline shall be used to calculate the Ground Water Threshold Levels and the Soil Threshold Levels.

(2) No test results from soil samples containing any Lessee Hazardous Substance shall be used to calculate any Soil Threshold Level and no test results from ground water samples containing any Lessee Hazardous Substance shall be used to calculate any Ground Water Threshold Level.

(3) Analyzed Items not detected for a given ground water sample shall be assigned a concentration equal to half of the ground water detection limit for such Analyzed Item and Analyzed Items not detected for a given soil sample shall be assigned a concentration equal to half of the soil detection limit for such Analyzed Item.

(4) The maximum concentration of each Analyzed Item in the ground water samples taken from a location shall be used to represent the concentration of that Analyzed Item in the ground water at that location and the maximum concentration of each Analyzed Item in the soil samples taken from a location shall be used to represent the concentration of that Analyzed Item in the soil at that location.

(5) The mean concentration of an Analyzed Item in the ground water (i.e. the "WM") shall be calculated for each Zone using the following equation: $WM = (X_1 + X_2 + \ldots.. + Xn) / n$; where "X" shall equal the maximum concentration of an Analyzed Item in the ground water at one sample location and "n" shall equal the number of ground water sample locations in such Zone.

(6) The mean concentration of an Analyzed Item in the soil (i.e. the "SM") shall be calculated for each Zone using the following equation: $SM = (Y_1 + Y_2 + \ldots.. + Yn) / n$; where "Y" shall equal the maximum concentration of an Analyzed Item in the soil at one sample location and "n" shall equal the number of soil sample locations in such Zone.

(7) The standard deviation for each Analyzed Item in the ground water shall be calculated for each Zone using the following equation: $SD = \{ [(X_1 - WM)^2 + (X_2 - WM)^2 + \ldots + (Xn - WM)^2] / (n -1) \}^{1/2}$

(8) The standard deviation for each Analyzed Item in the soil shall be calculated for each Zone using the following equation: $SD = \{ [(Y_1 - SM)^2 + (Y_2 - SM)^2 + \ldots + (Yn - SM)^2] / (n -1) \}^{1/2}$

(9) A ground water threshold level for each Analyzed Item shall be calculated for each Zone using the following equation: Ground Water Threshold Level = 1.3 x (WM + SD). The ground water threshold level as so calculated for each Analyzed Item in ground water of a Zone is herein called a "*Ground Water Threshold Level*").

(10) A soil threshold level for each Analyzed Item shall be calculated for each Zone using the following equation: Soil Threshold Level = 1.3 x (SM + SD). The soil threshold level as so calculated for each Analyzed Item in soil of a Zone is herein called a "*Soil Threshold Level*").

(k) (1) Except as provided in paragraph (g)(12) of Section 2 and in Section 87 hereof, it is expressly understood and agreed that the proper handling, delivery, treatment, storage, transportation, disposal and depositing (all of the foregoing being hereinafter collectively called "*Disposal*"), whether on or off the Airport, of any soil, dirt, sand, silt, water, asbestos, lead, PCB's, demolition or construction debris or other matter (hereinafter collectively called the "*Matter*") excavated, disturbed or removed by the Lessee (or by any contractor or contractors of the Lessee) at, from or under the Premises (or any other area of the Airport) at any time or times and regardless of the nature or composition of such Matter, including without limitation, any and all Disposal of said Matter in connection with the performance of the Construction Work or the repair, replacement or rebuilding of the Premises as required under Section 10 of this Agreement, and any and all remediation and Disposal of said Matter and any and all other remediation and Disposal (whether soil, upper aquifer or otherwise) necessary, required or appropriate as a result of, caused by, incidental to or triggered by such excavation, disturbance or removal of the Matter or arising therefrom, and the taking or doing of any and all other action or actions necessary, required or appropriate in connection therewith shall be the sole and complete responsibility of the Lessee, including, without limitation, all costs and expenses thereof and any and all Environmental Damages, applicable Environmental Requirements, claims, penalties and other expenses relating thereto. The foregoing obligations of the Lessee shall obtain and apply with full force and effect irrespective of the nature or source of any contaminant, pollutant, chemical, waste or other substance or whether any of the same is a Hazardous Substance or whether any of the same is at a level or levels above or below the Existing Condition or whether there has or has not been any decrease or increase in such level or levels. The Lessee shall perform all of the foregoing in accordance with and subject to all the terms, provisions, covenants and conditions of this Agreement.

(2) Without limiting the generality of any other term or condition of this Agreement, title to any Matter on the Premises or the Airport excavated or removed by the Lessee and not used at the Premises shall vest in the Lessee upon the excavation or removal thereof, except as set forth in paragraph (g)(12) of Section 2 hereof, and all such Matter shall be delivered and deposited by the Lessee at the Lessee's sole cost and expense to a location off the Airport in accordance with the terms and conditions of this Agreement and all applicable Environmental Requirements.

(3) In the event the Lessee discovers any Hazardous Substance in, on or under the Premises, the Lessee in reporting such Hazardous Substance shall direct such report to the attention of such individual at the subject governmental authority as the General Manager of the Airport shall require in order to assure consistency in the environmental management of the Airport, provided, however, notwithstanding the foregoing in no event shall the Lessee be required by this paragraph (k)(3) to violate any Environmental Requirement.

(4) Promptly upon final disposition by the Lessee of any Hazardous Substance from the Premises or the Airport, the Lessee shall submit to the Port Authority a "Certification of Final Disposal" stating the type and amount of material disposed, the method of disposal and the owner and location of the disposal facility. The format of such certification shall follow the requirements, if any, of governmental agencies having jurisdiction as if the Port Authority were a private organization and the name of the Port Authority shall not appear on any certificate or other document as a generator or owner of such material, except as provided in paragraph (g)(12) of Section 2 hereof.

(l) Without limiting the foregoing and without limiting the generality of the provisions of Section 17 of this Lease and subject to and in accordance with said Section 17, the Port Authority and its designees, shall have the right but not the obligation to enter upon the Premises upon forty-eight (48) hours' notice to the Lessee or on such shorter notice if any Environmental Requirement or the DEC or other governmental entity should require more immediate action by the Port Authority, to conduct testing and related activities from existing wells, if any, to make additional wells and borings and to conduct testing and related activities therefrom and to perform such activities as shall be necessary to remediate the Existing Condition, including but not limited to, conducting pumping operations from said wells. In the exercise of the foregoing rights the Port Authority and its designees shall not unreasonably interfere with the use and occupancy of the Premises by the Lessee. From and after the use of any Gate, if any of the foregoing activities are required to be performed in the vicinity of such Gate, the Port Authority and its designees shall at a minimum, have unrestricted access to such Gate and adjoining areas daily between the hours of 11:00 p.m. and 5:00 a.m.

(m) Initial Post Construction Baseline:

(1) Establishment of Initial Post Construction Baseline Sampling Locations:

In the event that during the period from the Effective Date to the date that the last sample is taken as part of the Initial Post Construction Work (the "*Initial Post Construction Baseline Effective Date*"), both dates inclusive, an Unknown Environmental Condition shall have been discovered and such Unknown Environmental Condition shall not contain any Lessee Hazardous Substances, then in addition to the locations set forth in Exhibits 56.2 and 56.3, the Initial Post Construction Baseline Work shall include, at a minimum, the installation of one monitoring well and the taking of one soil and one ground water sample and the testing thereof as provided in this paragraph (m) and in Exhibit 56.1 hereof from such location or locations as shall be determined by the Port Authority within the area where the Unknown Environmental Condition was recorded pursuant to paragraph (g)(12) of Section 2 hereof (each such location an "*Additional Sampling Location*").

(2) Performance of the Initial Post Construction Baseline:

The Lessee shall perform the Initial Post Construction Baseline Work in accordance with the terms and conditions set forth in this paragraph (m), Section 33 hereof and in Exhibit 56.1, Exhibit 56.2 and Exhibit 56.3. Such post construction baseline shall

be performed on the Premises, the Terminal 4 Parcel and Terminal 6 Parcel as soon as practicable subsequent to the completion of the Airside Civil Work or a portion thereof that is to be performed on the Premises as part of the Redevelopment Work but not later than the earlier to occur of the date of delivery of the first certificate delivered by the Lessee pursuant to paragraph (n)(2)(ii) of Section 2 hereof for the Airside Civil Work and the date that the first Enplanement shall occur. The draft post construction baseline test results referred to in Exhibit 56.1 shall be delivered by the Lessee to the Port Authority within ninety (90) days after the last sample is taken in the performance of the Initial Post Construction Baseline Work and, subject to the terms and conditions of paragraph (n) of this Section, from and after the Initial Post Construction Baseline Effective Date, the Initial Post Construction Baseline shall be and become the test results used to calculate the Existing Condition in accordance with this Section.

(3) Payment for the Cost of the Initial Post Construction Baseline:

The Lessee's Cost of the Initial Post Construction Baseline shall be shared equally between the Port Authority and the Lessee. Accordingly, the Port Authority shall pay to the Lessee an amount equal to (Ex.2a) of the Lessee's Cost of the Initial Post Construction Baseline within ninety (90) days after the date that the Lessee shall have delivered to the Port Authority the Initial Post Construction Baseline Certificate.

(4) Initial Post Construction Baseline Certificate:

The Lessee shall deliver to the Port Authority within ninety (90) days after the Initial Post Construction Baseline Effective Date a notarized certificate of the Lessee covering the Lessee's Cost of the Initial Post Construction Baseline meeting all the requirements set forth in this paragraph (m)(4) (such certificate meeting all of the requirements of this paragraph (m)(4) and which is delivered to the Port Authority on or before the ninetieth (90th) day after the Initial Post Construction Baseline Effective Date is hereinafter referred to as the "*Initial Post Construction Baseline Certificate*"), which certificate shall be signed by a responsible fiscal officer of the Lessee, notarized and shall further:

(i) set forth, in reasonable detail, the amounts paid to specified independent third party contractors and the amounts of payments made to other specified Persons for the Lessee's Cost of the Initial Post Construction Baseline and certify that such amounts constitute portions of the Lessee's Cost of the Initial Post Construction Baseline;

(ii) have attached thereto reproduction copies or duplicate originals of the invoices of such independent third party contractors and other Persons and an acknowledgment by such independent contractors and other Persons of the receipt by them of such amounts and payments;

(iii) certify that the amounts and payments therein set forth constitute all of the Initial Post Construction Baseline Work; that the Initial Post Construction Baseline covered by the certificate has been accomplished and that it has been performed in accordance with all the terms and provisions of this Lease; and that the work covered by the

certificate was performed by the Lessee prior to the Initial Post Construction Baseline Effective Date; and

(iv) certify there is no outstanding indebtedness known to the Lessee, after due and diligent inquiry, then due on account of the Initial Post Construction Baseline Work which, if unpaid, might become the basis of a vendor's, mechanic's, laborer's or materialmen statutory or other lien or alleged lien upon the Airport or any part thereof, or upon the Lessee's leasehold interest therein, provided that the foregoing shall not limit or impair Section 20 hereof or any rights or remedies of the Port Authority under this Lease or otherwise.

(5) Nothing contained herein shall be deemed or construed as a submission by the Port Authority to the application to itself of any lien described in this paragraph (m) or to limit or impair Section 20 hereof or any rights or remedies of the Port Authority under this Lease or otherwise.

(6) The Lessee shall promptly supply to the Port Authority such supporting documents, agreements, contracts and records as the Port Authority shall deem necessary to substantiate the matters set forth in the Initial Post Construction Baseline Certificate.

(7) No amount paid by the Port Authority to the Lessee pursuant to this paragraph (m) shall be deemed final until the Lessee's Cost of the Initial Post Construction Baseline has been finally determined by the Port Authority. Such final determination shall occur only after the Port Authority has examined and approved the Initial Post Construction Baseline Certificate and the Lessee's Books and Records covering the Initial Post Construction Baseline Work. In no event whatsoever shall the cost of any portion of the Lessee's Cost of the Initial Post Construction Baseline as finally determined and computed in accordance with the provisions of this Section include any expenses, outlays or charges whatsoever by or for the account of the Lessee for or in connection with the performance of any Initial Post Construction Baseline Work unless such work is actually performed nor the costs of any work which is secured by liens, mortgages, other encumbrances or conditional bills of sale, it being understood that the foregoing prohibition on liens, mortgages, other encumbrances and conditional bills of sale is not meant to apply to equipment which is used to perform the Initial Post Construction Baseline Work.

(8) In the event that a Port Authority audit completed within three (3) years after the date that the Lessee shall have delivered a complete Initial Post Construction Baseline Certificate to the Port Authority meeting all the requirements set forth in this paragraph (m), shall disclose that the amount of the Lessee's Cost of the Initial Post Construction Baseline is not the amount set forth in the Initial Post Construction Baseline Certificate, then the Lessee's Cost of the Initial Post Construction Baseline shall be recalculated as determined by the Port Authority audit and in the event that the Lessee's Cost of the Initial Post Construction Baseline as so recalculated is less than the amount of the Lessee's Cost of the Initial Post Construction Baseline paid by the Port Authority to the Lessee, the amount of any excess payment received by the Lessee on account of the Initial Post Construction Baseline Work resulting from such recalculation shall be immediately payable by the Lessee to the Port Authority upon demand and in the event that the Lessee's Cost of the Initial Post Construction Baseline as so recalculated is

more than the amount of the Lessee's Cost of the Initial Post Construction Baseline paid by the Port Authority to the Lessee, the amount of such excess resulting from such recalculation shall be credited by the Port Authority to the Lessee's Ground Rental payments under Section 4 hereof.

(9) If the Lessee has included in any portion of the Lessee's Cost of the Initial Post Construction Baseline any item as having been incurred, but which in the reasonable opinion of the Port Authority was not so incurred, or which in the reasonable opinion of the Port Authority if so incurred is not an item properly chargeable to such element of cost under sound accounting practice or to the Lessee's Cost of the Initial Post Construction Baseline, or does not represent an appropriate division of the costs of a particular contract according to time of performance or delivery and the parties have been unable to resolve their differences within ninety (90) days after the Port Authority gives its notice to the Lessee objecting to the same, then such dispute shall be decided by the Chief Engineer of the Port Authority.

(n) Adjustments to the Existing Condition:

(1) If the Port Authority wishes to revise any Ground Water Threshold Level or any Soil Threshold Level after any Person performs remediation on the Premises and such remediation is performed or completed after the date that the last sample was taken in the performance of the Initial Post Construction Baseline Work, then the Port Authority, may but shall not be obligated to, supplement or amend any of the Ground Water Threshold Levels and Soil Threshold Levels as follows: The Port Authority may but shall not be obligated to take soil and water samples from such areas, test such samples for one or more Analyzed Items and set forth any or all of such test results in a report. If any such report is delivered by the Port Authority to the Lessee, upon the date of such delivery each such report shall be referred to for purposes of this Agreement as a "*Remediation Completion Report*"). The tests results set forth in each Remediation Completion Report shall supersede and replace the test results in the existing Post Construction Baseline if such test results are of samples of Analyzed Items taken from the same well or boring or a new well or boring which is immediately adjacent to such well or boring and shall supplement and be in addition to the test results in the existing Post Construction Baseline if such test results are of samples of Analyzed Items taken from any other location on the Premises. Further for each Remediation Completion Report, the Port Authority shall recalculate all of the Ground Water Threshold Levels and the Soil Water Threshold Levels in each Zone for which test results are set forth in such Remediation Completion Report. Such recalculation shall be based upon the Post Construction Baseline as the same has been supplemented and amended by the test results set forth in such Remediation Completion Report in accordance with paragraph (j). Such calculations of the new Ground Water Threshold Levels and Soil Threshold Levels shall be set forth in such Remediation Completion Report. Further, from and after the delivery of such Remediation Completion Report to the Lessee the Existing Condition for each such Zone shall be determined on the basis of such recalculated Ground Water Threshold Levels and Soil Thresholds Levels.

(2) In the event that any ground water test result of a sample taken in any Zone as part of the Initial Post Construction Baseline Work shows the presence of Free Product, the Port Authority may but shall not be obligated to delineate the extent of such Free

Product. If the Port Authority wishes that such delineated area become an Additional Zone, it shall perform Additional Baseline Work for such area and prepare an Additional Baseline. Upon the delivery of such Additional Baseline covering such Additional Baseline Work, which baseline report shall contain the coordinates of such delineated area, such delineated area shall become an "*Additional Zone*". Additionally, upon such delivery any portion of such Additional Zone that was formerly a portion of one or more existing Zones shall no longer be a portion of such Zone. Each Additional Baseline shall further set forth the calculation of new Soil Threshold Levels and Ground Water Thresholds for the Additional Zone and each of the reconfigured Zones. From and after the delivery of such Additional Baseline Report to the Lessee the Existing Condition for such Zones shall be determined on the basis of such recalculated Ground Water Threshold Levels and Soil Threshold Levels.

(o) Protection of Wells:

Without limiting the generality of the provisions of Section 10 of the Lease, from and after DBO the Lessee agrees to protect and maintain the accessibility of all ground monitoring wells installed as part of the Initial Post Construction Baseline Work or installed by the Port Authority on the Premises pursuant to any Environmental Requirement, including without limitation the Remedial Action Work Plan, and to repair any damage thereto not caused by the activities of the Port Authority or its designee(s). Upon notice from the Port Authority, the Lessee shall close all such wells in accordance with all Environmental Requirements at its sole cost and expense except for wells installed by the Port Authority and in addition to the requirements of paragraph (g) of this Section, provide the Port Authority with all documentation and any other information required to close out such wells in accordance with all Environmental Requirements.

(p) The terms and conditions of this Section are intended to allocate the obligations and responsibilities between the Lessee and the Port Authority, and nothing in this Section or elsewhere in this Lease shall, or shall be deemed to, limit, modify waive or otherwise alter the rights, claims and remedies which the Port Authority or the Lessee may have against third parties at law, equity or otherwise.

(q) Notwithstanding any other term or provision of this Agreement, the Existing Condition shall in no event include and the Condition Exceptions shall not apply to any Hazardous Substance whose presence in, on or under the Premises was caused by or resulted from the use and occupancy of the Premises by the Lessee or by any affiliated company of the Lessee, or the performance of any work by any of them, or the acts or omissions of the Lessee, its officers, agents or employees, or the acts or omissions of any affiliated company of the Lessee or of any sublessees or others who occupied the Premises with the permission of the Lessee or with the permission of an affiliated company of the Lessee or their officers, agents or employees or any Hazardous Substance that was added to or under the Premises on or after the Effective Date and was not added by the sole acts or omissions of the Port Authority (any for the foregoing Hazardous Substance is herein referred to as a "*Lessee Hazardous Substance*"), it being understood that for the purposes of this paragraph (q) that the act of reusing and re-depositing soil that is excavated as part of the Construction Work in compliance with the terms and conditions of Section 2 hereof shall not be or be deemed to have been caused by or resulted from

the use and occupancy of the Premises by the Lessee or by any affiliated company of the Lessee, or the performance of any work by any of them, or the acts or omissions of the Lessee, its officers, agents or employees, or the acts or omissions of any affiliated company of the Lessee or of any sublessees or others who occupied the Premises with the permission of the Lessee or with the permission of an affiliated company of the Lessee or their officers, agents or employees.

(r) Notwithstanding any other term or condition of this Agreement, it is hereby understood and agreed that the Lessee's obligations under this Agreement for remediation and removal of Hazardous Substances shall not be nor be deemed to be affected in any way whatsoever if the Existing Condition or any portion thereof, is or will be remediated or removed by the Lessee in whole or in part in the fulfillment of any of the Lessee's obligations under this Agreement, whether due to the fact the Lessee cannot remediate or remove one or more Hazardous Substances for which it is responsible to remediate or remove without remediating or removing one or more Hazardous Substances for which it is not responsible for remediating or removing or due to cost or expedience or for any other reason or that it is responsible for removing a Hazardous Substance to a related Ground Water Threshold Level or Soil Threshold Level and it can not do so without removing a Hazardous Substance to or below its related Ground Water Threshold Level or Soil Threshold Level, and in no event shall the Port Authority have any responsibility for such remediation or removal, including without limitation, any obligation to share in the cost of such remediation or removal except as set forth in Section 2(g)(12) and Section 87 hereof.

(s) The Port Authority has advised the Lessee that it is the intention of the Port Authority with respect to the application of pollution prevention programs, "best management practices plans" and other voluntary programs adopted and agreements made by the Port Authority with any governmental agencies, departments, commissions, boards, bureaus or instrumentalities of the United States, states and political subdivisions thereof constituting Environmental Requirements that the Port Authority will treat the Lessee in a similar manner as similarly situated Persons at the Airport.

(t) In addition to and without limiting any other term or condition of this Lease, including without limitation, Sections 6, 9 and 26 hereof and any other term or condition of this Section, the Exit Ground Water Threshold Level for each Analyzed Item within each Zone shall be compared to the Ground Water Threshold Level for such Analyzed Item within such Zone and if any Exit Ground Water Threshold Level exceeds the Ground Water Threshold Level for such Analyzed Item within such Zone, the Lessee shall on or before the cessation of the letting hereunder or any portion thereof and subject to the provisions of Section 33 hereof, remediate such Analyzed Item within such Zone to the Ground Water Threshold Level for such Analyzed Item, and the Exit Soil Threshold Level for each Analyzed Item within each Zone shall be compared to the Soil Threshold Level for such Analyzed Item within such Zone and if any Exit Soil Threshold Level exceeds the Soil Threshold Level for such Analyzed Item within such Zone, the Lessee shall on or before the cessation of the letting hereunder or any portion thereof and subject to the provisions of Section 33 hereof, remediate such Analyzed Item within such Zone to the Soil Threshold Level for such Analyzed Item.

(u) Without limiting any other term or provision hereof, all the obligations of the Lessee under this Section shall survive the expiration or termination of the letting of the Premises or any portion thereof, provided, however, the obligations of the Lessee under this Section in connection with or arising out of Hazardous Substances that were not caused by a Lessee's Act shall expire and terminate on the tenth (10th) anniversary of such termination or expiration except that that the foregoing shall not release the Lessee from any obligations or liabilities which may independently arise or accrue at law or in equity, provided, further, however, the Lessee shall not be responsible for any Hazardous Substances in, on, under or about the Premises which the Lessee can prove occurred after the date that the Lessee shall have surrendered the Premises to the Port Authority and were not due to a Lessee's Act.

(v) (1) Performance of the Exit Baseline by the Lessee:

Unless the Port Authority shall have notified the Lessee that it has elected to perform the Exit Baseline as provided for in subparagraph (v)(2) of this paragraph, subject to the terms and provisions of Section 33 hereof entitled "Other Construction by the Lessee" the Lessee shall perform the Exit Baseline between the eight month and sixth month immediately preceding the expiration of the letting hereunder or, in the case of an earlier termination of the letting hereunder, within three months after the effective date of such termination. The Lessee shall deliver the Exit Baseline to the Port Authority within ninety (90) days after the completion of the Exit Baseline by the Lessee.

(2) Right of Port Authority to Perform the Exit Baseline:

The Port Authority shall have the right to elect to perform the Exit Baseline upon notice given to the Lessee on the later to occur of (x) nine (9) months prior to the expiration date of the term of the letting hereunder or (y) on or prior to the termination of such letting. In the event such notice shall be given to the Lessee, the Port Authority shall perform the Exit Baseline in accordance with the terms and conditions set forth in this paragraph (v). Such Exit Baseline shall be performed by the Port Authority within six (6) months after the earlier to occur of the expiration or termination of the Lease. The Port Authority shall deliver the Exit Baseline to the Lessee within ninety (90) days after the completion of the Exit Baseline by the Port Authority.

(3) Payment for the Cost of the Exit Baseline:

If the Port Authority shall not have elected to perform the Exit Baseline and the Lessee shall have performed the Exit Baseline, the Lessee's Cost of the Exit Baseline shall be shared equally between the Port Authority and the Lessee. Accordingly, the Port Authority shall pay to the Lessee an amount equal to 50% of the Lessee's Cost of the Exit Baseline within ninety (90) days after the date that the Lessee shall have delivered to the Port Authority the Exit Baseline Certificate. If the Port Authority shall have performed the Exit Baseline, the Port Authority's Cost of the Exit Baseline shall be shared equally between the Port Authority and the Lessee. Accordingly, the Lessee shall pay to the Port Authority fifty percent (50%) of the Port Authority's Cost of the Exit Baseline after demand therefor by the Port Authority.

(4) Exit Baseline Certificate:

If the Port Authority shall not have elected to perform the Exit Baseline and the Lessee shall have performed the Exit Baseline, the Lessee shall deliver to the Port Authority within ninety (90) days after the Lessee shall have completed the Exit Baseline a notarized certificate of the Lessee covering the Lessee's Cost of the Exit Baseline meeting all the requirements set forth in this paragraph (v) (such certificate meeting all of the requirements of this paragraph (v)(4) and which is delivered to the Port Authority on or before ninety (90) days after the Lessee shall have completed the Exit Baseline is hereinafter referred to as the "*Exit Baseline Certificate*"), which certificate shall be signed by a responsible fiscal officer of the Lessee and notarized and further shall:

(i) set forth, in reasonable detail, the amounts paid to specified independent third party contractors and the amounts of payments made to other specified Persons for the Lessee's Cost of the Exit Baseline and certify that such amounts constitute portions of the Lessee's Cost of the Exit Baseline;

(ii) have attached thereto reproduction copies or duplicate originals of the invoices of such independent third party contractors and other Persons and an acknowledgment by such independent contractors and other Persons of the receipt by them of such amounts and payments;

(iv) certify that the amounts and payments therein set forth constitute all or a portion of the Exit Baseline; that the Exit Baseline covered by the certificate has been accomplished and that it has been performed in accordance with all the terms and provisions of this Lease; and

(v) certify there is no outstanding indebtedness known to the Lessee, after due and diligent inquiry, then due on account of the Exit Baseline which, if unpaid, might become the basis of a vendor's, mechanic's, laborer's or materialmen statutory or other lien or alleged lien upon the Premises or any part thereof, or upon the Lessee's leasehold interest therein, provided that the foregoing shall not limit or impair Section 20 hereof or any rights or remedies of the Port Authority under this Lease or otherwise.

(5) Nothing contained herein shall be deemed or construed as a submission by the Port Authority to the application to itself of any lien described in this paragraph (v) or to limit or impair Section 20 hereof or any rights or remedies of the Port Authority under this Lease or otherwise.

(6) The Lessee shall promptly supply to the Port Authority such supporting documents, agreements, contracts and records as the Port Authority shall deem necessary to substantiate the matters set forth in the Exit Baseline Certificate.

(7) No amount paid by the Port Authority to the Lessee pursuant to this paragraph (v) shall be deemed final until the Lessee's Cost of the Exit Baseline has been

finally determined by the Port Authority. Such final determination shall occur only after the Port Authority has examined and approved the Exit Baseline Certificate and the Lessee's Books and Records covering the Exit Baseline. In no event whatsoever shall the cost of any portion of the Lessee's Cost of the Exit Baseline as finally determined and computed in accordance with the provisions of this Section include any expenses, outlays or charges whatsoever by or for the account of the Lessee for or in connection with the performance of any Exit Baseline unless such work is actually performed nor the costs of any work which is secured by liens, mortgages, other encumbrances or conditional bills of sale, it being understood that the foregoing prohibition on liens, mortgages, other encumbrances and conditional bills of sale is not meant to apply to equipment which is used to perform the Exit Baseline.

(8) In the event that a Port Authority audit completed within three (3) years after the date that the Lessee shall have delivered a complete Exit Baseline Certificate to the Port Authority meeting all the requirements set forth in this paragraph (v), shall disclose that the amount of the Lessee's Cost of the Exit Baseline is not the amount set forth in the Exit Baseline Certificate, then the Lessee's Cost of the Exit Baseline shall be recalculated as determined by the Port Authority audit and in the event that the Lessee's Cost of the Exit Baseline as so recalculated is less than the amount of the Lessee's Cost of the Exit Baseline paid by the Port Authority to the Lessee, the amount of any excess payment received by the Lessee on account of the Exit Baseline resulting from such recalculation shall be immediately payable by the Lessee to the Port Authority upon demand and in the event that the Lessee's Cost of the Exit Baseline as so recalculated is more than the amount of the Lessee's Cost of the Exit Baseline paid by the Port Authority to the Lessee, the amount of such excess resulting from such recalculation shall at the election of the Port Authority be credited against amounts owed by the Lessee to the Port Authority or the Port Authority shall pay such excess to the Lessee.

(9) If the Lessee has included in any portion of the Lessee's Cost of the Exit Baseline any item as having been incurred, but which in the reasonable opinion of the Port Authority was not so incurred, or which in the reasonable opinion of the Port Authority if so incurred is not an item properly chargeable to such element of cost under sound accounting practice or to the Lessee's Cost of the Exit Baseline, or does not represent an appropriate division of the costs of a particular contract according to time of performance or delivery and the parties have been unable to resolve their differences within ninety (90) days after the Port Authority gives its notice to the Lessee objecting to the same, then such dispute shall be decided by the Chief Engineer of the Port Authority.

(10) It is hereby understood and agreed that the Exit Baseline and the test results therefrom may be used by the Lessee to evidence that a Hazardous Substance in, on or under the Premises occurred after the date that the Lessee shall have surrendered the Premises to the Port Authority and that the Exit Baseline and the test results therefrom may be used by the Port Authority to evidence that a Hazardous Substance in, on or under the Premises occurred on or prior to the date that the Lessee shall have surrendered the Premises to the Port Authority.

(11) The methodology to be used to determine the Exit Ground Water Threshold Level for all Analyzed Items within each Zone and to determine the Exit Soil Threshold Level for all Analyzed Items within each Zone shall be as follows:

(i) Only the ground water and soil test results set forth in the Exit Baseline Report shall be used to calculate the Exit Ground Water Threshold Levels and the Exit Soil Threshold Levels.

(ii) Analyzed Items not detected for a given ground water sample shall be assigned a concentration equal to half of the ground water detection limit for such Analyzed Item and Analyzed Items not detected for a given soil sample shall be assigned a concentration equal to half of the soil detection limit for such Analyzed Item.

(iii) The maximum concentration of each Analyzed Item in the ground water samples taken from a location shall be used to represent the concentration of that Analyzed Item in the ground water at that location and the maximum concentration of each Analyzed Item in the soil samples taken from a location shall be used to represent the concentration of that Analyzed Item in the soil at that location.

(iv) The mean concentration of an Analyzed Item in the ground water (i.e. the "WM") shall be calculated for each Zone using the following equation: $WM = (X_1 + X_2 + \ldots.. + Xn) / n$; where "X" shall equal the maximum concentration of an Analyzed Item in the ground water at one sample location and "n" shall equal the number of ground water sample locations in such Zone.

(v) The mean concentration of an Analyzed Item in the soil (i.e. the "SM") shall be calculated for each Zone using the following equation: $SM = (Y_1 + Y_2 + \ldots.. + Yn) / n$; where "Y" shall equal the maximum concentration of an Analyzed Item in the soil at one sample location and "n" shall equal the number of soil sample locations in such Zone.

(vi) The standard deviation for each Analyzed Item in the ground water shall be calculated for each Zone using the following equation: Ground Water $SD = \{ [(X_1 - WM)^2 + (X_2 - WM)^2 + \ldots + (Xn - WM)^2] / (n - 1) \}^{1/2}$.

(vii) The standard deviation for each Analyzed Item in the soil shall be calculated for each Zone using the following equation: Soil $SD = \{ [(Y_1 - SM)^2 + (Y_2 - SM)^2 + \ldots + (Yn - SM)^2] / (n - 1) \}^{1/2}$.

(viii) An exit ground water threshold level for each Analyzed Item shall be calculated for each Zone using the following equation: Exit Ground Water Threshold = (WM + Ground Water SD). The exit ground water threshold levels as so calculated for each Analyzed Item in the soil of a Zone is herein called an "*Exit Ground Water Threshold Level*".

(ix) An exit soil threshold level for each Analyzed Item shall be calculated for each Zone using the following equation: Exit Soil Threshold = (SM + Soil SD). The exit ground water threshold level as so calculated for each Analyzed Item in the soil of a Zone is herein called an "*Exit Soil Threshold Level*".

(w) In the event of the termination or surrender of a portion of the Premises then all of the terms and conditions of paragraphs (u) and (v) shall apply to such termination or surrender.

(x) Exhibit 56.4 may be used by either party to establish the presence or non-presence of any Hazardous Substance on the Premises prior to, on or after the Effective Date.

Section 57. Late Charges

If the Lessee should fail to pay any amount required to be paid by the Lessee under this Agreement when due to the Port Authority, including without limitation any payment of rental or any payment of utility or other charges or if any such amount is found to be due as the result of an audit, then, in such event, the Port Authority may impose (by statement, bill or otherwise) a late charge with respect to each such unpaid amount for each late charge period (hereinbelow described) during the entirety of which such amount remains unpaid, each such late charge not to exceed an amount equal to eight tenths of one percent of such unpaid amount for each late charge period. There shall be twenty-four late charge periods on a calendar year basis; each late charge period shall be for a period of at least fifteen (15) calendar days except one late charge period each calendar year may be for a period of less than fifteen (but not less than thirteen) calendar days. Without limiting the generality of the foregoing, late charge periods in the case of amounts found to have been owing to the Port Authority as the result of Port Authority audit findings shall consist of each late charge period following the date the unpaid amount should have been paid under this Agreement. Each late charge shall be payable immediately upon demand made at any time therefor by the Port Authority. No acceptance by the Port Authority of payment of any unpaid amount or of any unpaid late charge amount shall be deemed a waiver of the right of the Port Authority of payment of any late charge or late charges payable under the provisions of this Section with respect to such unpaid amount. Each late charge shall be and become additional rent, recoverable by the Port Authority in the same manner and with like remedies as if it were originally a part of the rental. Nothing in this Section is intended to, or shall be deemed to, affect, alter, modify or diminish in any way (i) any rights of the Port Authority under this Agreement, including without limitation the Port Authority's rights set forth in Section 20 hereof entitled "Termination by the Port Authority" or (ii) any obligations of the Lessee under this Agreement. In the event that any late charge imposed pursuant to this Section shall exceed a legal maximum applicable to such late charge, then in such event such charge payable under this Agreement shall be payable instead at such legal maximum.

Section 58. Airport Transportation Facilities and Operations Use of Portions of the Premises

(a) The Lessee understands that the Port Authority has constructed certain ground transportation facilities at the Airport including, but not limited to, a light rail passenger distribution system ("AirTrain"). The Lessee acknowledges and agrees that the AirTrain is intended to be a benefit and enhancement to the Airport and to the Lessee's operations thereon.

(b) (1) The Lessee understands that the construction and operation of the AirTrain may require the location on the terminal of a passenger station (including pedestrian access between it and the passenger terminal building) and, in addition, requires the use of a

portion or portions of the Premises for and in connection with the construction, maintenance or operation of other portions of the AirTrain. The Lessee agrees that it shall make available to the Port Authority upon demand such use for or in connection with the construction, maintenance and operation of the AirTrain for such purposes as may be required or be appropriate therefor and, where such portion of the AirTrain exclusively serves the Premises, the same shall be made available by the Lessee without abatement of rental or charges hereunder or any payments by the Port Authority to the Lessee therefor. Where such portion of the AirTrain does not exclusively serve the Premises then the rental hereunder shall be abated in accordance with the rental abatement provisions of this Lease.

(2) Without limiting the terms and provisions of paragraph (b)(1) above, the Lessee shall comply with the provisions of Section 2 hereof entitled "Construction by the Lessee" with respect to the coordination of the AirTrain with the Construction Work as set forth in said Section 2.

(c) The Lessee understands that the Port Authority considers the construction, operation and maintenance of the AirTrain of the utmost importance to the efficient operation of the Airport and to the fulfillment of the Port Authority's governmental function to provide, maintain, develop and operate the Airport; that the efficient use and operation of the AirTrain will require that the Lessee in the operation and use of its passenger terminal facilities under this Lease shall utilize and cooperate in the operation of the AirTrain to the end that the AirTrain shall be utilized to the fullest extent possible so that its advantages and efficiencies can be fully realized; and that the Port Authority does not by this Lease intend to enter into any agreement, understanding or commitment which will interfere with, limit, restrict, hinder or prevent in any way the development, construction, maintenance, operation or efficient use of the AirTrain.

(d) The Lessee also understands and acknowledges that the cost of planning, design, construction, maintenance and operation of the AirTrain will be accorded the same cost recovery treatment as the similar elements of the Air Terminal Highway is accorded in the JFK Flight Fees Agreements for calculation of the flight fees under the JFK Flight Fees Agreements and the same cost recovery treatment as the Air Terminal Highway is accorded for the calculation of other fees and charges under other existing agreements and policies at the Airport, and under any agreements which may be entered into in the future including agreements to replace such existing agreement(s) or the JFK Flight Fees Agreements.

(e) The Port Authority has also advised the Lessee that it is the intention of the Port Authority that with respect to the maintenance, operation, use and payment for the AirTrain all Aircraft Operators at the Airport which are similarly situated will be treated in a similar manner including the treatment of the cost, if any, of each in connecting its airport terminal facility to the AirTrain.

(f) Without limiting any other provisions of this Section the Lessee understands and agrees that changes and modifications to certain provisions of the Lease including, but not limited to, Section 45 hereof entitled "Ingress and Egress", and Section 68 hereof entitled "Ground Transportation Within the Central Terminal Area" and Section 46 hereof entitled "Restrictions on Use of Passenger Terminal Frontage Roadways - Use of Airport Taxi

Dispatchers and Roadway Frontage Management", may be required or appropriate to conform the provisions of these Sections to the operation of the AirTrain and the Lessee agrees that upon the presentation to it of a form of supplemental agreement to this Lease which includes such modifications it will execute and return the same to the Port Authority. The Port Authority and the Lessee agree that each will consult with the other, from time to time, and will provide information to the other, from time to time, with respect to the study, planning, design, construction, maintenance and operation of the AirTrain and its interconnection with the Lessee's passenger terminal facilities at the Premises.

Section 59. Club Rooms

In the event the Lessee provides any rooms or space for the special handling of or the furnishing of special services to any of its passengers, guests or invitees it shall furnish such rooms or space at its expense and without cost to the Port Authority. The Lessee agrees that any food, alcoholic or non-alcoholic beverages and similar items sold or furnished to the Lessee's passengers, guests or invitees shall be obtained by the Lessee from a Restaurant Operator who has been authorized by the Port Authority to operate establishments for the sale of food, alcoholic and non-alcoholic beverages and similar items for consumption in passenger terminal facilities at the Airport. All monies paid or payable to a Restaurant Operator for such sales shall be included in the Gross Receipts of such Restaurant Operator. In the event the Lessee wishes to use its own personnel for serving food, alcoholic or non-alcoholic beverages and similar items it may do so; provided that the food, alcoholic and non-alcoholic beverages are obtained by the Lessee from a Person who has been issued a permit by the Port Authority granting such Person permission to provide such food and beverages and provided that monies paid therefor, in that event, shall not be included in the Gross Receipts of such Person. If the Lessee uses its own personnel for serving food, alcoholic or non-alcoholic beverages and similar items, the Lessee will not be obligated to pay a fee to the Port Authority which would be greater than the fee that would be retained by the Port Authority if the food, alcoholic or non-alcoholic beverages and similar items were served by a Restaurant Operator.

Section 60. Lessee's Service Standards

Subject to and without limiting or affecting any other term or provision of the Lease, the Lessee agrees to provide services at the Premises for the benefit of the traveling public in a manner consistent with generally accepted airline industry standards for airport terminals, and to use good faith efforts to comply with the existing Port Authority Airport Standards Manuals (copies available from the Aviation Department) in effect at the time, and such reasonable future airport standards (including amendments or supplements) as the Port Authority may from time to time promulgate in the public interest and in the interest of health, safety, noise, sanitation, good order and customer service and statisfaction. The Lessee agrees to cooperate with the Port Authority and other airlines serving the traveling public at the Airport in maintaining these standards through organized airport service improvement working groups.

Section 61. Storage Tanks

(a) (1) The Lessee shall not use any of the underground or above ground storage tanks installed in the Premises as of the Lease Commencement Date and its or their

appurtenances, pipes, lines, fixtures and other related equipment (which tanks and appurtenances, pipes, lines, fixtures and equipment are hereinafter collectively called the "*Existing Tanks*" and singularly called an "*Existing Tank*"). In the event that notwithstanding the foregoing the Lessee shall use any of the Existing Tanks, then such use shall be subject to all of the terms and conditions of this Section. For the purpose of the foregoing, "use" shall not include the removal or abandonment of any Tanks performed as part of the Redevelopment Work.

(2) Each Existing Tank used by the Lessee and all underground storage tanks and all above ground storage tanks installed in the Premises during the term of the letting hereunder or during the letting or use of the Premises by the Lessee under any previous agreement, and its or their appurtenances, pipes, lines, fixtures and other related equipment are hereinafter collectively called the "*Lessee's Tanks*" and singularly called a "*Lessee Tank*". Notwithstanding any other facts or circumstances to the contrary including without limitation any vesting of title to the Lessee's Tanks in the City of New York pursuant to any construction or alteration application or otherwise, the Lessee hereby agrees that title and ownership of the Lessee's Tanks shall be and remain in the Lessee, that all Lessee's Tanks shall be registered by the Lessee in the name of the Lessee as operator and owner and that the Lessee shall have full and sole responsibility for all the Lessee's Tanks, and shall release and relieve the Port Authority from all costs and responsibility for the Lessee's Tanks. The Port Authority has made no representations or warranties with respect to the Lessee's Tanks or their location and shall assume no responsibility for the Lessee's Tanks. All Lessee's Tanks installed by the Lessee shall be installed pursuant to the terms and conditions of the Lease including without limitation Section 33 hereof entitled "Other Construction by the Lessee" and nothing in this Section shall or shall be deemed to be permission or authorization to install any Lessee's Tanks.

(b) Without limiting the generality of any of the provisions of the Lease, the Lessee agrees that it shall be solely responsible for maintaining, testing and repairing the Lessee's Tanks. The Lessee shall not perform any servicing, repair or non-routine maintenance to the Lessee's Tanks without the prior written approval of the Port Authority. In addition, the Lessee, at its sole cost and expense, shall make all modifications to the Lessee's Tanks and take all other actions so that the Lessee's Tanks shall at all times comply with all applicable Environmental Requirements.

(c) (1) The Lessee shall remove all the Lessee's Tanks from the Premises on or before the expiration of the Lease (unless the Lessee shall have received the prior written approval of the Port Authority to have abandoned a tank in place and such abandonment continues to meet all applicable Environmental Requirements) and the Lessee agrees to dispose of the Lessee's Tanks off the Airport in accordance with all applicable Environmental Requirements.

(2) Any removal of the Lessee's Tanks shall be performed pursuant to an alteration application prepared by the Lessee and submitted to the Port Authority for the Port Authority's approval and in connection with such removal, the Lessee shall restore the Premises to the same condition existing prior to the installation of the Lessee's Tanks, shall perform such testing of the Lessee's Tanks and of the soil, sub-soil and ground water in the vicinity of the

Lessee's Tanks as shall be required by the Port Authority and shall clean-up and remediate any Discharge disclosed by said testing. In the event the Lessee does not remove the Lessee's Tanks as required by subparagraph (l) above, the Port Authority may enter upon the Premises and effect the removal and disposal of the Lessee's Tanks, restoration of the Premises and such remediation and the Lessee hereby agrees to pay all costs and expenses of the Port Authority arising out of such removal, disposal, restoration and remediation.

(d) Without limiting the generality of any other term or provision of the Lease, the Lessee shall at its cost and expense comply with all Environmental Requirements applicable to the Lessee's Tanks, including without limitation any modifications or closures required thereby, and any Discharge (as defined in paragraph (i) hereof) including without limitation testing the Lessee's Tanks and registering the Lessee's Tanks in the name of the Lessee as owner and operator, submitting all required clean-up plans, bonds and other financial assurances, performing all required clean-up and remediation of Discharges and filing all reports, making all submissions to, providing all information required by, and complying with all requirements of, all Governmental Authorities pursuant to all such Environmental Requirements. Nothing in the foregoing shall be construed as a submission by the Port Authority to the application to itself of the Environmental Requirements, provided, however, no immunity or exemption of the Port Authority from the Environmental Requirements shall excuse the compliance therewith by the Lessee or shall be grounds for non-compliance therewith by the Lessee.

(e) (1) Without limiting the terms and provisions of Section 2 hereof entitled "Construction by the Lessee" and Section 13 hereof entitled "Indemnity and Liability Insurance", the Lessee hereby assumes all risks arising out of or in connection with the Lessee's Tanks and all Discharges whether or not foreseen or unforeseen and shall indemnify and hold harmless the Port Authority, its Commissioners, officers, agents and employees from and against (and shall reimburse the Port Authority for their costs and expenses including without limitation penalties, fines, liabilities, settlements, damages, attorney and consultant fees, investigation and laboratory fees, clean-up and remediation costs, court costs and litigation expenses), all claims and demands, just or unjust, of third persons (such claims and demands being hereinafter in this Section referred to as "*Claims*" and singularly referred to as a "*Claim*") including but not limited to those for personal injuries (including death), property damages, or environmental impairment, arising or alleged to arise out of or in any way related to, the failure of the Lessee to comply with each and every term and provision of the Lease relating to the Lessee's Tanks or to any Discharge, or the Lessee's Tanks, or any Discharge, or any lawsuit brought or threatened, settlement reached or any governmental order relating to the Lessee's Tanks or a Discharge, or any violation of any Environmental Requirement or demands of any Governmental Authority based upon or in any way related to the Lessee's Tanks or a Discharge, and whether such arise out of the acts or omissions of the Lessee or of the contractors of the Lessee or of third persons or out of the acts of God or the public enemy or otherwise including Claims by the City of New York against the Port Authority pursuant to the provisions of the Basic Lease whereby the Port Authority has agreed to indemnify the City against claims. It is understood the foregoing indemnity shall cover all claims, demands, penalties, settlements, damages, fines, costs and expenses of or imposed by any Governmental Authority under the aforesaid Environmental Requirements.

(2) If so directed the Lessee shall at its expense defend any suit based upon any such Claim (even if such Claim is groundless, false or fraudulent) and in handling such it shall not without first having express advance permission from the General Counsel of the Port Authority raise any defense involving in any way the jurisdiction of the tribunal over the person of the Port Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority or the provisions of any statutes respecting suits against the Port Authority.

(3) The terms and conditions of this paragraph (e) are intended to allocate obligations and responsibilities between the Lessee and the Port Authority only, and nothing in this paragraph (e) shall limit, modify or otherwise alter the rights and remedies which the Port Authority or the Lessee may have against third parties at law, equity or otherwise.

(f) Without limiting or affecting the terms and provisions of Section 23 hereof entitled "Survival of the Obligations of the Lessee", the Lessee's obligations under this Section shall survive the expiration or earlier termination of the Lease as provided in Section 56 hereof.

(g) In addition to the requirements of Section 6 hereof entitled "Compliance with Governmental Regulations" and paragraph (d) of this Section, the Port Authority shall have the right upon notice to the Lessee to direct the Lessee, at the Lessee's sole cost and expense, (i) to perform such reasonable testing of the Lessee's Tanks as the Port Authority shall direct and to perform such testing of the soil, subsoil and ground water of the Premises and of such surrounding area as the Port Authority shall direct, and (ii) to clean-up and remediate any Discharge, regardless of whether any Environmental Requirement or Governmental Authority shall require such testing, clean-up or remediation, which testing, clean-up and remediation shall be performed pursuant to an alteration application prepared by the Lessee and submitted to the Port Authority for the Port Authority's approval.

(h) In the Lessee's use and operation of the Lessee's Tanks, the Lessee shall not permit any Hazardous Substance from entering the ground including without limitation (subject to Section 33 hereof entitled "Other Construction by the Lessee") by the Lessee installing appropriate spill and overfill devices and placing an impervious material, such as asphalt or concrete, over the ground area above or under, as the case shall be, and in the vicinity of the Lessee's Tanks.

(i) As used in this Section, "*Discharge*" shall mean the presence, pumping, pouring, venting, emitting, emptying, leakage, deposit, spill, discharge or other release of Hazardous Substances from the Lessee's Tanks or in connection with their use, operation, maintenance, testing or repair.

Section 62. Non-Discrimination

(a) Without limiting the generality of any of the provisions of this Agreement, the Lessee, for itself, its successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree as a covenant running with the land that (1) no person on the

ground of race, creed, color, sex or national origin shall be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of the Premises, (2) that in the construction of any improvements on, over, or under the Premises and furnishing of services thereon, no person on the ground of race, creed, color, sex or national origin shall be excluded from participation in, denied the benefits of, or otherwise be subject to discrimination, (3) that the Lessee shall use the Premises in compliance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the Department of Transportation-Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended, and any other present or future laws, rules, regulations, orders or directions of the United States of America with respect thereto which from time to time may be applicable to the Lessee's operations at the Airport, whether by reason of agreement between the Port Authority and the United States Government or otherwise.

(b) The Lessee shall include the provisions of paragraph (a) of this Section in every sublease, agreement or concession it may make pursuant to which any Person or Persons, other than the Lessee, operates any facility at the Airport providing services to the public and shall also include therein a provision granting the Port Authority a right to take such action as the United States may direct to enforce such covenant.

(c) The Lessee's noncompliance with the provisions of this Section shall constitute a material breach of this Agreement. In the event of the breach by the Lessee of any of the above nondiscrimination provisions the Port Authority may take appropriate action to enforce compliance; or in the event such noncompliance shall continue for a period of twenty (20) days after receipt of written notice from the Port Authority, the Port Authority shall have the right to terminate this Agreement and the letting hereunder with the same force and effect as a termination under Section 20 hereof entitled "Termination by the Port Authority", or may pursue such other remedies as may be provided by law; and as to any or all the foregoing, the Port Authority may take such action as the United States may direct.

(d) The Lessee shall indemnify and hold harmless the Port Authority from any claims and demands of third persons, including the United States of America resulting from the Lessee's noncompliance with any of the provisions of this Section and the Lessee shall reimburse the Port Authority for any loss or expense incurred by reason of such noncompliance.

(e) Nothing contained in this Section shall grant or shall be deemed to grant to the Lessee the right to transfer or assign this Agreement, to make any agreement or concession of the type mentioned in paragraph (b) hereof, or any right to perform any construction on the Premises.

Section 63. Affirmative Action

The Lessee assures that it will undertake an affirmative action program as required by 14 CFR Part 152, Subpart E, to insure that no person shall on the grounds of race, creed, color, national origin, or sex be excluded from participating in any employment activities covered in 14 CFR Part 152, Subpart E. The Lessee assures that no person shall be excluded on these grounds from participating in or receiving the services or benefits of any program or

activity covered by this subpart. The Lessee assures that it will require that its covered suborganizations provide assurances to the Lessee that they similarly will undertake affirmative action programs and that they will require assurances from their suborganizations, as required by 14 CFR Part 152, Subpart E, to the same effect.

Section 64. <u>The Lessee's Ongoing Affirmative Action, Equal Opportunity AndLocal Business Enterprises Commitment</u>

I. The Lessee's Ongoing Affirmative Action and Equal Opportunity Commitment

(a) In addition to and without limiting any other term or provision of this Agreement, the Lessee shall not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status and shall undertake or continue existing programs of affirmative action to ensure that minority group persons and women are afforded equal employment opportunity without discrimination in connection with the operation, repair and maintenance of the Premises by the Lessee. Such programs shall include, but not be limited to, recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, rates of pay or other forms of compensation, and selections for training or retraining, including apprenticeship and on-the-job training.

(b) In addition to and without limiting the foregoing, and without limiting the provisions of Section 62 hereof entitled "Non-Discrimination" and Schedule E, it is hereby agreed that the Lessee in connection with its continuing operation, maintenance and repair of the Premises, or any portion thereof, and in connection with every award or agreement for concessions or consumer services at the Airport, shall throughout the term of the letting hereunder commit itself to and use good faith efforts to implement an extensive program of affirmative action, including specific affirmative action steps to be taken by the Lessee, to ensure maximum opportunities for employment and contracting by minorities and women, and by Minority Business Enterprises ("MBE") and Women-owned Business Enterprises ("WBE"). In meeting the said commitment the Lessee agrees to submit to the Port Authority for its review and approval its said extensive affirmative action program, including the specific affirmative action steps to be taken by the Lessee to meet its aforesaid commitment, within sixty (60) days after the Lease Commencement Date. The Lessee shall incorporate in its said affirmative action program such revisions and changes which the Port Authority initially or from time to time may reasonably require. The Lessee throughout the term of the Lease shall document its efforts in implementing the said program, shall keep the Port Authority fully advised of the Lessee's progress in implementing the said affirmative action program and shall supply to the Port Authority such information, data and documentation with respect thereto as the Port Authority may from time to time and at any time reasonably request, including but not limited to annual reports.

(c) Good faith efforts to include meaningful participation by MBEs and WBEs shall include at least the following:

(1) Dividing the work to be subcontracted into smaller portions where feasible.

(2) Actively and affirmatively soliciting bids for subcontracts from MBEs and WBEs, including circulation of solicitations to minority and female contractor associations. The Lessee shall maintain records detailing the efforts made to provide for meaningful MBE and WBE participation as called for in paragraph (b) above, including the names and addresses of all MBEs and WBEs contacted and, if any such MBE or WBE is not selected as a joint venturer or subcontractor, the reason for such decision.

(3) Making plans and specifications for prospective work available to MBEs and WBEs in sufficient time for review.

(4) Utilizing the list of eligible MBEs and WBEs maintained by the Port Authority or seeking minorities and women from other sources for the purpose of soliciting bids for subcontractors.

(5) Encouraging the formation of joint ventures, partnerships or other similar arrangements among subcontractors, where appropriate, to insure that the Lessee will meet its obligations hereunder.

(6) Insuring that provisions are made to provide progress payments to MBEs and WBEs on a timely basis, preferably biweekly, and that retainage it paid to MBEs and WBEs when they have completed their work.

(7) Submitting quarterly reports to the Port Authority Office of Business and Job Opportunity detailing its compliance with the provisions hereof.

(8) Requiring each contractor to submit to the Lessee with each payment request evidence that all MBE and WBE contractors have been paid in accordance with their contract.

(d) The Lessee's non-compliance with the provisions of this Section shall constitute a material breach of this Agreement. In the event of the breach by the Lessee of any of the above provisions the Port Authority may take any appropriate action to enforce compliance; or in the event such non-compliance shall continue for a period of twenty (20) days after receipt of written notice from the Port Authority, the Port Authority shall have the right to terminate this Agreement and the letting hereunder with the same force and effect as a termination for default by the Lessee in the performance or observance of any other term or provision of this Agreement, or may pursue such other remedies as may be provided by law.

(e) In the implementation of this Section, the Port Authority may consider compliance by the Lessee with the provisions of any federal, state or local law concerning affirmative action equal employment opportunity which are at least equal to the requirements of this Section, as effectuating the provisions of this Section. If the Port Authority determines that by virtue of such compliance with the provisions of any such federal, state or local law that the

provisions hereof duplicate or conflict with such law the Port Authority may waive the applicability of the provisions of this Section to the extent that such duplication or conflict exists.

(f) Nothing herein provided shall be construed as a limitation upon the application of any laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents.

(g) Nothing in this Section shall grant or be deemed to grant the Lessee the right to make any agreement or award for concessions or consumer services at the Airport.

II. The Lessee's Local Business Enterprise Commitment

The Lessee in connection with any construction work on the Premises, or any portion thereof, shall throughout the term of the letting hereunder commit itself to and use good faith efforts to implement an extensive program to utilize Local Business Enterprises in accordance with and as set forth in Schedule F.

Section 65. Books and Records

(a) The Lessee shall maintain, in English and in accordance with generally accepted accounting principles full and complete records and books of account for at least seven (7) years or such longer period with respect to certain record and books of account as required in other terms and provisions of this Agreement, (unless any such records and books are material to litigation initiated within that time in which event they shall be maintained until final determination of the controversy), which records and books shall include without limitation all agreements and all source documents such as but not limited to original invoices, invoice listings, timekeeping records, and work schedules and the records and books that the Lessee is required to keep pursuant to Section 2 hereof entitled "Construction by the Lessee", Section 56 hereof entitled "Environmental Obligations", Section 73 hereof entitled "Consumer Services" and Section 87 hereof entitled "Port Authority Payments for the Cost of the Redevelopment Work", and shall record (i) all matters which the Lessee is required to certify to the Port Authority pursuant to this Lease, (ii) all transactions of the Lessee at, through, or in anyway connected with the Airport, and outside the Airport if the order therefor is received at the Airport, in connection with all activities conducted by the Lessee or a third person relating to the Cost of the Redevelopment Work, In-Flight Meals (including without limitation all payments by the Lessee to its independent contractors which furnish In-Flight Meals or any portion thereof), services provided to Handled Airlines, ground transportation, subleasing of the Premises or any other activity at the Airport or outside the Airport if the order therefor is received at the Airport and which may require pursuant to the terms of this Lease, any other agreement between the Lessee and the Port Authority except for the JFK Flight Fees Agreement or otherwise the payment by the Lessee to the Port Authority of fees, rentals or other amounts in connection with the conduct thereof, and (iii) any other matter concerning the Lessee's operations at the Airport with respect to which the Port Authority may reasonably need information to fulfill its obligations or exercise its rights under this Lease whether or not of the type enumerated above and whether or not an express obligation to keep books and records with regard thereto is expressly set forth elsewhere in this Lease, which records and books of account shall be kept at all times within the Port of New York District and shall separately state and identify each of the

foregoing items, matters, transactions and activities, it being understood and agreed that nothing in this Section shall grant or shall be deemed to have granted any rights in the Lessee or any third person to conduct any business, privilege or other activity or transaction at the Airport or off the Airport, provided, however, on the condition that the Lessee shall comply with all of the terms and conditions of paragraph (e)(ii) hereof, the Lessee may maintain said books and records and make them available to the Port Authority at the Lessee's principal office, which currently is located at 19 Old Kings Highway South, Suite 23, Darien, Connecticut.

(b) The Lessee shall cause any Affiliate, if any such Affiliate performs services similar to those performed by the Lessee, to maintain, in English and in accordance with accepted accounting practice full and complete records and books of account for at least seven (7) years (unless such records and books are material to litigation initiated within that time in which event they shall be maintained until final determination of the controversy), which records and books of account shall include without limitation all agreements and all source documents such as but not limited to original invoices, invoice listings, timekeeping records, and work schedules and shall record all transactions of each Affiliate at, through, or in anywise connected with the Airport, which records and books of account shall be kept at all times within the Port of New York District and shall separately state and identify each activity performed at the Airport and off the Airport if the order therefor is received at the Airport;

(c) The Lessee shall permit and/or cause to be permitted in ordinary business hours during the term of the letting under this Lease, for one (1) year thereafter, and during such further period as is mentioned in the preceding paragraphs (a) and (b), the examination and audit by the officers, employees and representatives of the Port Authority of all the records and books of account of the Lessee (including without limitation all corporate records and books of account which the Port Authority in its sole discretion believes may be relevant for the identification, determination or calculation of all fees, rentals and other amounts paid or payable to the Port Authority, all amounts paid or payable by the Port Authority to the Lessee under this Lease and of all agreements, and all source documents) and all the records and books of account of all Affiliates (including without limitation all corporate records and books of account which the Port Authority in its sole discretion believes may be relevant for the identification, determination or calculation of all fees, rentals and other amounts paid or payable to the Port Authority, all agreements, and all source documents) (all of the foregoing records and books described in this paragraph (c) being hereinafter collectively referred to as the "*Books and Records*") within ten (10) days following any request by the Port Authority from time to time and at any time to examine and audit any Books and Records; it being specifically understood that the Port Authority shall not be bound by any prior audit or examination conducted by it.

(d) The Lessee shall install and use such equipment and devices, including without limitation computerized record keeping systems, for recording orders taken, or services rendered, as may be appropriate to the Lessee's business and necessary or desirable to keep accurate Books and Records, and without limiting the generality of the foregoing, for any activity involving cash sales, install and use cash registers or other electronic cash control equipment that provides for non-resettable totals and shall permit the inspection by the officers, employees and representatives of the Port Authority of any equipment used by the Lessee, including but not limited to any of the foregoing equipment. In those situations where the Books

and Records have been generated from computerized data (whether mainframe, minicomputer, or PC-BASED computer systems), the Lessee agrees to provide, or cause to be provided, to the Port Authority's representative extracts of data files in a computer readable format on data disks, E-mail with attached files or alternative computer data exchange formats suitable to the Port Authority in its sole discretion.

(e) Without implying any limitation on the right of the Port Authority to terminate this Lease, including but not limited to, for breach of any term, condition or provision of paragraphs (a) through (d) above, the Lessee understands that the full reporting and disclosure to the Port Authority of all of the information described in paragraphs (a) through (d) above and provided by the equipment and devices set forth in paragraphs (a) through (d) above and the Lessee's compliance with all the provisions of said paragraphs (a) through (d) are of the utmost importance to the Port Authority. In the event any Books and Records are maintained outside the Port of New York District or in the event of the failure of the Lessee to comply with all the provisions of paragraphs (a) through (d) above then, in addition to all, and without limiting any other, rights and remedies of the Port Authority under this Lease or otherwise and in addition to all of the Lessee's other obligations under this Lease:

(i) the Port Authority may estimate any amount paid or payable to the Port Authority on any basis that the Port Authority, in its sole discretion, shall deem appropriate, such estimation to be final and binding on the Lessee and the amounts payable to the Port Authority based thereon shall be payable to the Port Authority when billed; and/or

(ii) if any Books and Records are maintained outside of the Port of New York District, then the Port Authority in its sole discretion may (x) require on ten (10) days' notice to the Lessee that any such Books and Records be made available to the Port Authority within the Port of New York District for examination and audit pursuant to paragraph (c) hereof and/or (y) examine and audit any such Books and Records pursuant to paragraph (c) hereof at the location(s) they are maintained and if such Books and Records are maintained within the contiguous United States the Lessee shall pay to the Port Authority when billed all travel costs and related expenses, as determined by the Port Authority, for Port Authority auditors and other representatives, employees and officers in connection with such examination and audit (all the foregoing costs and expenses being hereinafter referred to as the "*Contiguous Travel Costs*"), and if such Books and Records are maintained outside the contiguous United States the Lessee shall pay to the Port Authority when billed all costs and expenses of the Port Authority, as determined by the Port Authority, of such examination and audit, including but not limited to, salaries, benefits, travel costs and related expenses, overhead costs, and fees and charges of third party auditors retained by the Port Authority for the purpose of conducting such audit and examination (all the foregoing costs and expenses together with the Contiguous Travel Costs being hereinafter referred to as the "*Travel Costs*"). Upon the request of the Lessee, the Port Authority shall provide to the Lessee copies of invoices that the Port Authority has in its possession, if any, for the Travel Costs and a certificate of the Port Authority setting forth the Travel Costs.

(f) Without implying any limitation on the rights or remedies of the Port Authority under this Lease or otherwise including without limitation the right of the Port

Authority to terminate the Lease for breach of any term or provision of this Section and in addition thereto, in the event any of the Books and Records are not maintained in English, then the Lessee shall pay to the Port Authority when billed, all costs and expenses of the Port Authority, as determined by the Port Authority, to translate such Books and Records into English.

(g) In the event that, upon conducting an examination and audit as described in this Section, the Port Authority determines that unpaid fees and/or costs thereon are due and payable to the Port Authority by the Lessee, in addition to any other amounts required by this Section to be paid by the Lessee to the Port Authority, the Lessee shall pay to the Port Authority a service charge in an amount equal to five percent (5%) of the amount determined by the Port Authority to be unpaid. Such service charge shall be payable by the Lessee upon demand therefor by the Port Authority and is exclusive of any and all other moneys due to the Port Authority by the Lessee under this Lease or otherwise.

(h) Without limiting the generality of Section 16 hereof entitled "Additional Rent and Charges", the foregoing auditing costs, expenses and amounts of the Port Authority set forth in paragraphs (e), (f) and (g) above shall be deemed rentals hereunder payable to the Port Authority with the same force and effect as the rentals payable to the Port Authority pursuant to Section 4 hereof entitled "Rental".

Section 66. Ground Transportation Services

(a) The Lessee shall make available within the Premises at reasonable rental rates, such counter spaces, wall telephone installations and self service telephone kiosks at such locations as may be determined by the Port Authority and the Lessee for use by limousine, bus, car rental, taxi and other ground transportation operators at the Airport, all of the foregoing being hereinafter called the "*Ground Transportation Operators*". The Lessee shall enter into an agreement only with Ground Transportation Operators designated or approved by the Port Authority, covering the occupancy of said counter space, which agreement may provide for the payment of a basic rental (but no other rental, charge or fee of any kind) to the Lessee for the counter space, provided that such basic rental shall represent a fair and reasonable rental for the counter space. The Port Authority shall have the right to, in its agreement with any Ground Transportation Operator, impose obligations on the Ground Transportation Operator with respect to its operation at the counter space, including but not limited to the dissemination of information applicable to said service, and may charge such fees payable to the Port Authority as it may determine.

(b) (1) In lieu of the provisions of paragraph (a) of this Section obligating the Lessee to make available counter spaces, wall telephone installations and self service telephone kiosks with respect to limousine, bus and other Ground Transportation Operators at the Airport (but not including car rental operators as to which the provisions of paragraph (a) shall be and continue in full force and effect) the Lessee shall provide to the Port Authority or its contractor, without charge, such counter space at such locations as may be specified by the Port Authority within the Premises as may reasonably be required for use as consolidated ground transportation reservation and information counters (hereinafter called the "*Consolidated Counters*") to be operated by the Port Authority or its contractors.

(2) The Lessee agrees to provide access to and from the public ways outside the Premises to the Port Authority, its employees and its contractors and the ground transportation patrons and other users of the Consolidated Counters; to permit use of such portions of the public pedestrian circulation areas of the Premises as may reasonably be required for the operation of the Consolidated Counters and the accommodation of the users thereof; and to permit the installation of such telephone and other communication lines, cables and conduits on and across the Premises as may be required for the operation of the Consolidated Counters. The Lessee acknowledges and agrees that the Consolidated Counters shall at all times be a part of the Premises under this Agreement and subject to all the terms and provisions thereof including, but not limited to indemnity, the payment of rentals, repair and maintenance (it being understood that this shall not be deemed to limit the liability of any independent contractor providing such service). The Lessee shall, at its sole cost and expense, supply all utilities necessary for the operation of the Consolidated Counters including but not limited to heat, light, ventilation, air conditioning and electricity on a twenty-four (24) hour, seven (7) day a week basis. The Lessee shall not be required to provide telephone service to the Consolidated Counters hereunder.

(3) The Port Authority shall have the right at any time, without cause, on one hundred eighty (180) days' notice to the Lessee to terminate and discontinue the operation of the Consolidated Counters and from and after the effective date stated in said notice the operation of the Consolidated Counters shall terminate and cease and the provisions of this paragraph (b) shall be null, void and of no further force and effect and the provisions of paragraph (a) of this Section and the Lessee's obligations as set forth therein with respect to limousine, bus, car rental and other Ground Transportation Operators shall be deemed reinstated and in full force and effect.

(c) The Lessee shall provide appropriate seating for the public waiting for Ground Transportation Operators, such seating to be conveniently located to the Consolidated Counters and the counter spaces, wall telephone installations and self service telephone kiosks described in paragraphs (a) and (b) of this Section.

Section 67. Ground Transportation

(a) The Lessee may arrange for the transportation to and from the Airport of its employees and their baggage (and such employees and baggage only) either directly or by contract with a surface carrier or carriers (hereinafter called the *"Employee Surface Carrier(s)"*) of its choice, provided, that such Employee Surface Carrier(s) are at all times Ground Carrier Permittees of the Port Authority as defined in paragraph (b) hereof and provided, further, that ten percent (10%) or such lesser percentage as may be set pursuant to paragraph (e) hereof of the Gross Receipts received from the ground transportation of employees and their baggage by the Employee Surface Carrier(s) providing such service, or by the Lessee, including all advertising and any other revenues of any type arising out of or in connection with said service (excluding only local, state and federal transportation taxes which are separately stated to and paid by the passengers and are directly payable to the taxing authority by the Lessee or by the Employee Surface Carrier(s)) shall be paid to the Port Authority. No fee shall be paid by the Lessee to the Port Authority in connection with the ground transportation of employees and their baggage if

the Lessee operates the service itself and if the Lessee makes no charge to its employees and their baggage therefor.

(b) The Port Authority shall endeavor to issue permits to at least twelve (12) qualified surface carriers (herein called the "*Ground Carrier Permittees*") which permits shall grant to said Ground Carrier Permittees the privilege of providing a service for the transportation to and from the Airport of employees and their baggage of all Aircraft Operators at the Airport. Each permit shall provide that the Port Authority shall have the right at any time to revoke the permit granted to any Ground Carrier Permittee with or without cause and regardless of whether any such Ground Carrier Permittee is an Employee Surface Carrier(s) of the Lessee and regardless of any agreement between the Lessee and its Employee Surface Carrier(s). Without limiting the foregoing right, if the Ground Carrier Permittee selected by the Lessee shall at any time fail to pay the Port Authority ten percent (10%) or such other percentage of its Gross Receipts as established pursuant to paragraph (e) hereof as required under the permit, the Port Authority shall have the right in addition to all other rights and remedies, to deny such Permittee entrance upon the Airport for the purpose of transporting employees and their baggage as aforesaid to and from the Airport and the Lessee shall no longer use the same. In the event that there should at any time during the term of this Lease be less than twelve (12) Ground Carrier Permittees in operation at the Airport the Lessee shall have the right to engage an Employee Surface Carrier(s) of its choice to provide the service set forth in paragraph (a) hereof, subject, however, to the prior and continuing approval of the Port Authority, and provided that such Employee Surface Carrier(s) agrees to become a permittee of the Port Authority and to pay a percentage of its Gross Receipts to the Port Authority in accordance with paragraphs (a) and (e) hereof and only for so long as such permittee observes and complies with the terms of its permit, it being understood that said Employee Surface Carrier(s) may be restricted to serving the Lessee at the Airport. At such time thereafter as there is in operation at the Airport at least twelve (12) Ground Carrier Permittees, the permit with the said Employee Surface Carrier(s) may be revoked by the Port Authority and the Lessee shall thereupon select an Employee Surface Carrier(s) from the Ground Carrier Permittees of the Port Authority. Nothing contained hereunder shall be deemed to preclude the Port Authority from issuing from time to time during the term of the Lease permits to more than twelve (12) Ground Carrier Permittees. The Permits with the Ground Carrier Permittees may contain privileges other than those set forth in this paragraph (b), including but not limited to the privilege to transport passengers and baggage of Aircraft Operators. All permits shall contain such terms or provisions as the Port Authority may deem from time to time necessary or desirable.

(c) The Port Authority hereby states its intention to attempt to incorporate, into all existing leases and into all new leases with all Scheduled Aircraft Operators covering passenger terminal facilities within the Central Terminal Area, provisions having the same effect as the provisions of paragraphs (a) and (b) of this Section. The provisions of this Section shall be applicable as well to Aircraft Operators who may be occupying space within the Central Terminal Area pursuant to a sublease, subuse or Handling Agreement with any unit terminal lessee or with the Lessee hereunder or with any sublessee thereof (the foregoing not to waive the requirement for Port Authority consent).

(d) The Lessee may arrange for the transportation to and from the Airport of passengers and their baggage (and such passengers and baggage only) either directly or by contract with a surface carrier or carriers (hereinafter called "*Passenger Surface Carrier or Carriers*") of its choice, subject, however, to the prior and continuing approval of the Port Authority and provided, that such Passenger Surface Carrier or Carriers agree to become Permittees of the Port Authority and provided, further, that ten percent (10%) or such lesser percentage as may be set pursuant to paragraph (e) hereof of the Gross Receipts received from the ground transportation of passengers and baggage by the Passenger Surface Carrier or Carriers providing such service or by the Lessee, including all advertising and any other revenues of any type arising out of or in connection with said service (excluding only local, state and federal transportation taxes which are separately stated to and paid by and are directly payable to the taxing authority by the Lessee or by the Passenger Surface Carrier or Carriers) shall be paid to the Port Authority. If the Passenger Surface Carrier designated by the Lessee shall at any time fail to pay to the Port Authority ten percent (10%) or such lesser percentage as may be set pursuant to paragraph (e) hereof of its Gross Receipts as aforesaid when billed therefor by the Port Authority, the Port Authority shall have the right to deny such carrier entrance upon the Airport for the purpose of transporting passengers and baggage as aforesaid to and from the Airport and the Lessee shall no longer use the same.

(e) It is recognized that the Port Authority has established a five percent (5%) fee with respect to the service covered by paragraphs (a) and (d) hereof in lieu of the ten percent (10%) fee therein stated. It is hereby specifically understood and agreed that the fact that said fee is presently five percent (5%) shall not constitute a waiver by the Port Authority of its right to impose a percentage fee of ten percent (10%) as provided in paragraphs (a) and (d). It is hereby specifically agreed that the Port Authority shall have the right at any time and from time to time during the term of this Lease to revise the percentage fee it shall charge the Employee Surface Carrier(s), other permittees and the Lessee as provided in paragraphs (a) and (d) hereof but in no event shall said fee be greater than ten percent (10%). The Port Authority shall notify the Lessee of any such revision.

(f) The Lessee may arrange for the transportation to and from the Airport of freight and other cargo of the Lessee either directly or by contract with the surface carrier or carriers of its choice. No permit or fee shall be required of the Lessee or its contractor for the picking up from or the delivery to of freight or other cargo from or to the Lessee. No fee shall be paid to the Port Authority by the Lessee or its contractor for the privilege of transporting freight or cargo of the Lessee on the surface as aforesaid. If such contractor of the Lessee enters into a Lease or other agreement with the Port Authority for space and/or privileges at the Airport, the rent or other compensation payable to the Port Authority shall not be measured by the amount of freight or other cargo of the Lessee transported on the surface by such contractor.

(g) The right of the Lessee to arrange transportation to and from the Airport of its airline passengers as hereinabove provided shall not be construed as being applicable to any establishment or operation by the Lessee of facilities outside the Airport for the handling of airline passengers of the Lessee arriving at or departing from the Airport.

(h) As used in this Section, reference to passengers, baggage, freight or other cargo of the Lessee shall be construed to mean persons, baggage, freight or cargo transported or to be transported on aircraft of the Lessee.

(i) The Ground Carrier Permittee of the Lessee's choice, its Passengers Surface Carrier or Carriers or any other contractor used by it shall not solicit business on the public areas of the Airport and the Lessee shall prohibit any such activity on the Premises or on any other area at the Airport occupied by the Lessee. The use, at any time, either on the Premises or elsewhere on the Airport of hand or standard megaphones, loudspeakers or any electric, electronic or other amplifying devices is hereby expressly prohibited and any advertising or signs shall be subject to continuing Port Authority approval.

Section 68. Ground Transportation Within the Central Terminal Area

(a) The Port Authority has established at the Airport a Central Terminal Area generally as described in the exhibit attached hereto, hereby made a part hereof and marked "Exhibit 68.1" and hereinafter called "*Exhibit 68.1*". If at any time and from time to time during the term of the Lease, the Port Authority substantially revises the Central Terminal Area, it shall thereafter forward to the Lessee a revised exhibit showing the revised Central Terminal Area which revised exhibit shall replace Exhibit 68.1 and shall become a part of the Lease.

(b) (1) The Lessee hereby agrees that it will not directly, indirectly or by arrangement with any independent third party, operate any surface vehicles for the transportation of airline passengers to or from the Premises and the various other passenger terminal facilities or other locations within the Central Terminal Area. The prohibition hereinabove set forth in this paragraph (b) shall be in effect only during such periods as there is in operation at the Airport a CTA Ground Transportation Service as hereinafter defined to be provided by an independent third party contractor. The "*CTA Ground Transportation Service*" shall consist of the following: (i) a ground transportation service for the transportation of airline passengers and other persons between the various passenger terminal facilities, including the Premises, within the Central Terminal Area including the service of transporting a group of passengers where the Aircraft Operator must accommodate the group as a whole (hereinafter called the "*CTA Omnibus Service*") and (ii) a ground transportation service for the transportation of passengers of Aircraft Operators within the Central Terminal Area, but only for a disabled passenger, when a passenger must take a direct connection and for whom time is critical, and in the very limited instance where an Aircraft Operator must accommodate a particular passenger, the foregoing service being hereinafter called the "*CTA Supplementary Service*". It is understood furthermore that, notwithstanding the prohibition hereinabove set forth in this paragraph (b), the Lessee may directly, indirectly or by arrangement with an independent third party, operate surface vehicles for the transportation of its passengers to or from the Premises and such passenger terminal facility of the Lessee, if any, located outside the Central Terminal Area, provided, that the Lessee has the prior and continuing approval of the Port Authority to operate such passenger terminal facility outside the Central Terminal Area, that the aforesaid service shall not serve any passenger terminal facility or location within the Central Terminal Area other than the Premises and that if the Lessee utilizes a third party to provide the service, said third party shall be subject to the prior and continuing approval of the Port Authority, shall agree to become a permittee of the Port Authority and shall pay the percentage of its Gross Receipts to the Port Authority with

respect to said service as specified in said permit and shall comply with all the terms and conditions of its permit.

(2) Nothing contained in this paragraph (b) or paragraph (c) of this Section shall impose or be construed as imposing an obligation on the Port Authority to operate or cause to be operated the CTA Ground Transportation Service for the transportation of passengers and other persons between the various passenger terminal facilities, including the Premises, within the Central Terminal Area.

(c) (1) (i) It is hereby agreed that it is in the best interests of the Port Authority and all Participants as hereinafter defined that the CTA Omnibus Service be a good, proper and efficient service, able to adequately, timely and properly handle the ground transportation needs of airline passengers and other persons between the various passenger terminal facilities including the Premises within the Central Terminal Area. The parties recognize furthermore that the CTA Supplementary Service should be a service that would transport those persons authorized to be carried thereon in an adequate, proper and timely manner so as to meet their flight connections.

(ii) The Port Authority agrees that it shall meet and consult from time to time with the Participants with respect to the procedures, schedules, fares, prices and operations of the CTA Omnibus Service and shall, except in case of emergency, give the Participants prior written notice of any substantive changes with respect thereto. Notwithstanding the foregoing, it is hereby understood and agreed that the procedures, schedules, fares, prices, operations and other matters affecting the CTA Omnibus Service shall be determined by the Port Authority.

(iii) The Port Authority agrees that it shall meet and consult from time to time with the Participants with respect to the procedures, schedules, fares, prices and operations of the CTA Supplementary Service. Before adopting any initial procedures or schedules covering the operation of the CTA Supplementary Service and before putting into effect any modifications to any procedures or schedules then in effect with respect to the CTA Supplementary Service, except in case of emergency, the Port Authority shall submit the initial or the changed procedures and schedules (hereinafter called the "*Submissions*") to the Participants for their approval. If Participants representing more than fifty percent (50%) of the effective published passenger flight schedules to and from the Airport of all Participants for the calendar year prior to the year in which the Submissions are made to the Participants for their approval, approve the same, the Submissions shall be deemed to be approved for all purposes hereunder and said approval shall be deemed binding as well upon all other Aircraft Operators who may use or pay for the CTA Supplementary Service, notwithstanding the fact that said Submissions had not been submitted to them for their approval. Notwithstanding anything herein provided and without limiting the provisions of paragraph (b) hereof, it is hereby understood and agreed that the Port Authority shall have no obligation hereunder to itself operate the CTA Ground Transportation Service nor any obligation to operate said service through an independent contractor unless and until the Submissions with respect to the CTA Supplementary Service submitted as aforesaid to the Participants have been approved by the Participants in accordance with the foregoing provisions. The failure of any Participant to disapprove the

Submissions within twenty (20) days after submission thereof to it for approval shall constitute such Participant's approval hereunder to said Submissions.

(iv) It is hereby understood and agreed that the amount to be charged for the CTA Supplementary Service shall consist of an Initial Price and, if the Port Authority so elects from time to time during the term of the Lease, an Excess Price. The "*Initial Price*" shall be based upon the cost of the CTA Supplementary Service. The Lessee shall pay to the Port Authority as and representing the Initial Price its pro rata share of the cost to the Port Authority of providing the CTA Supplementary Service. The Lessee's pro rata share of the cost to the Port Authority of providing the CTA Supplementary Service shall be that proportion of said cost as the number of passengers of the Lessee who actually used the CTA Supplementary Service bears to the total number of passengers using the CTA Supplementary Service. Except as provided in subparagraph (c)(1)(v)(D) hereof, there will be no charge to the Lessee of either an Initial Price or an Excess Price if the Lessee does not have any passengers using the CTA Supplementary Service.

(v) (A) The Initial Price payable to the Port Authority pursuant to subparagraph (iv) hereof is for each calendar year, but in the event the term of the Lease expires or the provisions covering the CTA Supplementary Service are terminated on a day other than the last day of a calendar year, then in any such event the Initial Price payable to the Port Authority pursuant to subparagraph (iv) hereof shall, for the year during which such event occurs, be for such portion of said year during which the Port Authority provides the CTA Supplementary Service. In determining the Initial Price, the cost of the CTA Supplementary Service shall be computed, determined and ascertained for each calendar year (or portion thereof upon the occurrence of any of the events mentioned in the first sentence hereof) of the term of this Lease.

(B) Notwithstanding the foregoing and for current monthly or other periodical billing purposes as may from time to time be selected by the Port Authority, the Port Authority shall establish interim billing rates to cover the Initial Price for the CTA Supplementary Service. Such billing rates shall be based on determinations by the Port Authority of its estimate of the cost of the CTA Supplementary Service for the calendar year and the number of passengers to be using the CTA Supplementary Service for said calendar year. Such determinations shall be based upon the prior calendar year's experience, if any, and upon such other reasonable basis as the Port Authority may determine. The Port Authority may prospectively revise its billing rates during any calendar year. On the 20th day of each calendar month the Lessee shall pay to the Port Authority the amount due as the Initial Price for the preceding calendar month, which shall be determined by multiplying the interim billing rate per passenger for the Initial Price established by the Port Authority as aforesaid by the number of Lessee's passengers carried on the CTA Supplementary Service for the previous calendar month.

(C) As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the cost of the CTA Supplementary Service and the Initial Price payable therefor. Corrected billings based upon such

determination shall thereupon be rendered by the Port Authority and if any monies are due to the Port Authority they shall be promptly paid by the Lessee and if any monies are due to the Lessee they shall be promptly credited to it.

(D) In the event and only in the event that the CTA Supplementary Service for all or any portion of a calendar year has been provided by the Port Authority but there has been no use thereof by any of the Participants, then the Initial Price and the Excess Price shall be payable by all Participants and each Participant's share shall be based on the number of passengers on its outbound and inbound aircraft at the Airport compared to the total number of passengers on all inbound and outbound aircraft using the Airport of all Participants. The Port Authority agrees that, if as of the commencement of any calendar year there appears to be no use by the Participants of the CTA Supplementary Service, it will use all reasonable efforts to limit its payments to the contractor for the CTA Supplementary Service for such period where there appears to be no use.

(vi) (A) The Port Authority shall have full discretion in awarding a contract for the CTA Ground Transportation Service and may award the same to a contractor who has not proposed the lowest price for the CTA Supplementary Service or the CTA Omnibus Service. As stated in subparagraph (1)(iv) hereof the Port Authority shall have the right to charge the Lessee, in addition to the Initial Price for the CTA Supplementary Service, an additional amount herein called the "*Excess Price*", which amount shall be applied to offset any deficit in the CTA Omnibus Service.

(B) The amount representing the Excess Price shall be an amount payable only by the Lessee if it uses the CTA Supplementary Service and shall be an amount fixed for each passenger using the CTA Supplementary Service. The Port Authority shall advise the Participants prior to the beginning of each calendar year of the amount per passenger which shall constitute the Excess Price for said calendar year. On the 20th day of each calendar month during the term of this Lease and on the 20th day of the calendar month immediately following the end of the term of this Lease, the Lessee shall pay to the Port Authority the amount due as the Excess Price for the preceding calendar month, which shall be determined by multiplying the amount per passenger for the Excess Price established by the Port Authority as aforesaid by the number of Lessee's passengers carried on the CTA Supplementary Service for the previous calendar month. As soon as practicable after the expiration of each calendar year, the Port Authority shall determine the cost of the CTA Omnibus Service for said calendar year. If there is no deficit or if the deficit is less than the amount received by the Port Authority from users of the CTA Omnibus Service, then the total amount of the Excess Price if there is no deficit or the amount of the Excess Price which is over and above any deficit on the CTA Omnibus Service shall be refunded or credited to the Participants based on the portion of each Participant's payments of the Excess Price for said calendar year as compared to the total amount received as the Excess Price from all Participants. In determining whether or not there is a deficit or in determining the amount of the deficit, revenues from the CTA Omnibus Service shall be deemed to be 87.5% of the cost of the CTA Omnibus

Service whether or not the revenues actually received add up to 87.5%, but if said revenues exceed 87.5% of the cost, the actual amount of revenues received shall be used.

(vii) The Port Authority shall determine for each calendar year (or portion thereof, where applicable) the cost to the Port Authority of providing the CTA Omnibus Service and the cost to the Port Authority of providing the CTA Supplementary Service. Each such cost shall be determined in accordance with the Port Authority's normal accounting practice and shall consist of those of the following items, which are applicable to each such service:

(A) All payments made by the Port Authority to the independent contractor for providing the CTA Supplementary Service or the CTA Omnibus Service, as the case may be (it being understood that the Port Authority shall not impose any percentage charge or fee on the contractor for such services);

(B) On-the-job payroll costs of Port Authority employees working in any aspect of the CTA Supplementary Service or the CTA Omnibus Service, as the case may be, including but not limited to contributions to any retirement system or the cost of participation in any pension plans or the like, social security, old age, survivors, disability and employment insurance and other insurance costs, sick leave pay, holiday, vacation, authorized absence and severance pay, other employee fringe benefits and any other payments made or costs incurred whether pursuant to law or by Port Authority policy to or with respect to said employees;

(C) The cost (including rental charges) to the Port Authority of providing space, equipment, materials, facilities or services to or in connection with the CTA Omnibus Service or the CTA Supplementary Service, as the case may be;

(D) Payments of premiums (or to the extent of self-insurance an amount equivalent to what the premiums would have been) for insurance with respect to the CTA Omnibus Service or the CTA Supplementary Service, as the case may be, including without limitation thereto, fire and extended coverage, workmen's compensation and commercial general liability;

(E) Other direct costs as charged under the Port Authority's normal accounting practice;

(F) With respect to the CTA Omnibus Service, ten percent (10%) of the amounts paid to the contractor providing said service under item (A) hereof and with respect to the CTA Supplementary Service, twenty percent (20%) of the amount paid to the contractor providing said service under item (A) hereof.

(viii) In the event that any specific cost incurred or any specific amount expended for any of the items hereinabove set forth covers both the CTA Omnibus Service and the CTA Supplementary Service, then the Port Authority shall divide and allocate

any such cost or amount as between the CTA Omnibus Service and the CTA Supplementary Service in accordance with its normal accounting principles.

(2) (i) If at any time during the term of the Lease the Port Authority receives a written notice from at least two Participants (as hereinafter defined) representing more than thirty percent (30%) of the effective published passenger flight schedules to and from the Airport of all Participants for the calendar year prior to the year during which the notice was given, which notice shall be either (x) to the effect that the service being provided by the contractor furnishing the CTA Ground Transportation Service does not satisfy the standards set forth in item (i) of subparagraph (1) hereof and specifying whether it is the CTA Omnibus Service or the CTA Supplementary Service, or both, which is at fault, and further specifying the nature and extent of the failure or (y) to the effect that the Participants serving the notice are dissatisfied for any reason with the service, the Port Authority shall endeavor in the case of item (x) of this subparagraph (2)(i) to rectify the conditions complained of either by the existing contractor doing so or by engaging a new contractor to provide the CTA Ground Transportation Service or by a combination of both.

(ii) If the Port Authority receives, by a date no earlier than one hundred twenty (120) days and no later than one hundred eighty (180) days after its receipt of either notice covered by subparagraph (c)(2)(i) hereof, a written notice from at least two Participants representing more than fifty percent (50%) of the effective published passenger flight schedules to and from the Airport of all Participants for the year prior to the year during which the notice is given, which notice is to the effect that the Participants sending the notice continue to be dissatisfied with the CTA Ground Transportation Service whether provided by the old contractor, or if said contractor has been replaced, by the new contractor, then the Port Authority agrees that, effective no later than sixty (60) days after its receipt of said notice (said date to be established by written notice to the Participants) the provisions of this Section covering the CTA Ground Transportation Service shall be terminated and shall no longer be in effect and from and after said date the Lessee shall have the right directly or by arrangement with an independent third party to operate surface vehicles for the transportation of airline passengers to and from the Premises and the various other passenger terminal facilities or other locations within the Central Terminal Area, provided, however, that the same shall be used exclusively for the transportation of disabled passengers, passengers who must make a direct connection and where time is critical, in the very limited instances where an airline must accommodate particular passengers, and for the transportation of passengers traveling as a group where an airline must accommodate the group as a whole, it being understood that the foregoing limitation on the right of the Lessee shall be in effect only during such periods as there is in operation at the Airport a CTA Omnibus Service as defined in paragraph (b) hereof (the Port Authority having no obligation so to do), excluding the transportation of passengers traveling as a group, and provided, however, that if the Lessee utilizes a third party to provide said service, that said third party shall be subject to the prior and continuing approval of the Port Authority, shall agree to become a permittee of the Port Authority and shall pay the percentage of its Gross Receipts to the Port Authority with respect to its service as specified in said permit and shall comply with all the terms and conditions of its permit.

(d) (1) The Port Authority hereby states its intention to attempt to incorporate into all new leases and into all existing leases which may not already include the same with all Persons covering passenger terminal facilities within the Central Terminal Area provisions having the same effect as the provisions of this Section. The term "*Participants*" shall mean all Persons (including for the purposes hereof, the Lessee) who have executed leases with the Port Authority covering passenger terminal facilities within the Central Terminal Area and containing provisions having the same effect as the provisions of this Section

(2) All Aircraft Operators who may be occupying space within the Central Terminal Area pursuant to a sublease, subuse or Handling Agreement with any Participant (including the Lessee hereunder) shall be obligated to comply with all obligations of this Section which are applicable to the Participants, but said Aircraft Operators shall not be or be deemed to be Participants within the meaning of subparagraph (1) of this paragraph (d), but their activities, operations and payments hereunder shall be deemed to be those of the Participants whose space they are using.

(e) The agreement by the Lessee under paragraph (b) hereof as well as the agreement by the Lessee under paragraph (c)(2) hereof, in the event the provisions covering the CTA Ground Transportation Service are terminated and are no longer in effect, are of the essence of this Section and the Lessee agrees that the Port Authority shall be entitled to a decree against the Lessee requiring the specific performance thereof in any court of equity having jurisdiction. The aforesaid remedy shall not constitute the exclusive or sole remedy which may be available to the Port Authority hereunder in the event the Lessee breaches its agreement.

Section 69. Helicopter Operations

The Lessee hereby acknowledges that the Lease does not grant to it any right and the Lessee does not have any right to use or permit the use of any portion of the Premises for the landing or taking off of helicopters, rotary wing, tilt rotor or other similar aircraft. In the event that the Port Authority determines that approval for such use will be given at any time hereafter, the same shall be granted only in accordance with such terms and conditions, including but not limited to fees, charges and rights of user, as the Port Authority may set forth in a supplement to the Lease, which is duly executed by the Lessee and the Port Authority.

Section 70. Itinerant Aircraft

(a) The Port Authority hereby grants to the Lessee the privilege of permitting the occasional use of the Premises by air taxi, corporate and private aircraft (sometimes hereinafter called the "*Itinerant Aircraft*") for the sole purpose of discharging or picking up passengers, business guests and other invitees of the Lessee. All operations of such Itinerant Aircraft shall be in compliance with all the terms and provisions of this Lease and with the Rules and Regulations of the Port Authority. The Lessee shall be completely responsible for all acts and omissions of said Itinerant Aircraft as if said acts and omissions were the acts or omissions of the Lessee.

(b) The Port Authority shall have the right to cancel the privilege granted to the Lessee as set forth in paragraph (a) hereof in whole or in part or with respect to any particular

Itinerant Aircraft at any time and from time to time and without cause upon thirty (30) days' written notice to the Lessee, and upon the effective date of such notice the Lessee shall no longer have the right to permit all or any specific Itinerant Aircraft as specified in the notice to use the Premises as hereinabove provided, but the same shall not affect the Lease or any of the terms, rentals, fees, provisions or agreements hereof, all of which shall continue in full force and effect.

Section 71. Construction Letter Agreement

The parties have heretofore entered into a letter agreement dated May 6, 2005 (as the same shall be amended herein called the "*Construction Letter Agreement*") covering the Lessee's performance of certain portions of the Construction Work covered by Port Authority construction applications nos. Y-7530.03, Y-7530.04 and Y-7530.05 (the work performed under and covered by the Construction Letter Agreement being herein referred to as the "*Prior Work*"). The Port Authority and the Lessee hereby agree that notwithstanding anything in the Letter Agreement, Sections 2, 6, 7, 28, 30, 32, 35, 36, 56, 62, 63, 65, 84, 85, 87 and 93 of this Agreement shall supercede the Construction Letter Agreement and said Sections 2, 6, 7, 28, 30, 32, 35, 36, 56, 62, 63, 65, 84, 85, 87and 93 shall cover and apply to the performance of all of the Prior Work.

Section 72. In-Flight Meals

(a) (1) If the Lessee desires to prepare, for its exclusive use, In-Flight Meals for consumption by passengers and crew on board aircraft operated by the Lessee and to deliver such In-Flight Meals to such aircraft it shall have the right to do so, individually or through a contractor of its own choice (which contractor shall not be another Person engaged in the business of transportation by aircraft). If the Lessee does so directly, it shall do so only on space located outside the Central Terminal Area. The foregoing, however, shall create no obligation on the part of the Port Authority to provide such space and shall in no way be deemed a commitment by the Port Authority that any such space shall be available. If the Lessee chooses to use an independent contractor, such contractor shall be a regular "*In-Flight Meal Operator*" by which is meant an operator authorized by the Port Authority to provide In-Flight Meals to Aircraft Operators at the Airport unless, in the opinion of the Lessee, all regular In-Flight Meal Operators are unsatisfactory to the Lessee, in which case the Lessee may employ any other contractor (other than another Person engaged in the business of transportation by aircraft), satisfactory to the Port Authority, who will accept a permit from the Port Authority on the same terms and conditions including the same rates, fees or charges as imposed upon and required of the Port Authority's In-Flight Meal Operators.

(2) The Lessee shall have the further right, either directly or through an independent contractor of its choice, satisfactory to the Port Authority, or by arrangements, jointly with one or more other users at the Airport, to employ a contractor, satisfactory to the Port Authority, to prepare outside the Airport and to deliver at the Airport to aircraft operated by the Lessee, In-Flight Meals for consumption by passengers and crew on board such aircraft, provided, however, that if the Lessee employs a contractor either alone, or, by arrangement, jointly with one or more other users at the Airport for the preparation, outside the Airport, of In-Flight Meals, then the Lessee shall cause such contractor to pay to the Port Authority the rate or rates which would be payable to the Port Authority by a regular Port Authority In-Flight Meal

Operator for the off-Airport preparation or delivery, or both, of such In-Flight Meals to aircraft for consumption by passengers and crews on board such aircraft.

(b) (1) The Lessee has advised that it may use more than one independent contractor to furnish its In-Flight Meals at the Airport but may not wish to have all of said contractors become permittees of the Port Authority under permits which require, as aforesaid, the permittees to pay fees at the rates imposed on the Port Authority's In-Flight Meal Operators upon Gross Receipts based on amounts the Lessee pays said contractors.

(2) Should the Lessee elect not to have all its independent contractors be Port Authority permittees as aforesaid, it shall serve a written notice on the Port Authority to such effect which notice shall state that it elects the method of additional payment as hereinafter set forth and thereupon the Port Authority shall consent thereto provided that, in addition to all other amounts payable to the Port Authority under paragraph (a) above, the Lessee shall pay and the Lessee hereby agrees to pay to the Port Authority an amount determined by applying the rates referred to in paragraph (b)(1) above to the amounts payable by the Lessee to said independent contractors for its In-Flight Meals or any part thereof delivered to the Lessee's aircraft at the Airport (whether such delivery be by said independent contractor, the Lessee or another). The foregoing payments by the Lessee shall be made monthly on the twentieth (20th) day of the month commencing with the first (1st) month immediately following the Lessee's notice and continuing each month thereafter up to and including the twentieth (20th) day of the month following the Expiration Date. The Lessee at anytime on at least thirty (30) days' prior written notice to the Port Authority may change from its selection above and the Lessee may at any time advise the Port Authority that this paragraph (b) no longer applies to it based upon its representation that it then shall make, that all payments made by it for In-Flight Meals shall be made to its contractors who are permittees of the Port Authority as In-Flight Meal Operators.

(3) It is hereby expressly recognized that the procedures allowed under this paragraph (b) are not included within the contemplation of the provisions of paragraph (a) above and that the inclusion of the same within this paragraph (b) shall not constitute or be deemed to constitute any concession or agreement by the Port Authority that said procedures are not in violation of paragraph (a) hereof.

Section 73. Consumer Services

(a) The Lessee shall use its best efforts to develop and operate at the Premises a premier world-class retail program that will support and advance the role of the Premises in providing a convenient and comfortable arrival to and departure from the Airport, consistent with the image and status of New York City as a foremost domestic gateway and America's foremost international gateway. The Lessee's retail program shall embody the Lessee's full commitment to quality, value and customer service, evidence operations in accordance with the best industry practices, evidence compliance with the Port Authority's maximum standards with regard to service, health, sanitation and safety, and evidence the Lessee's full commitment to the maximum financial return to the Lessee and the Port Authority. A "premier world-class" retail program is one that consistently scores within the top ten percent (10%) of industry-recognized surveys, including without limitation the International Airline Transport Association (IATA)

Airport Monitor and Port Authority-sponsored surveys, which contain evaluations or ratings of passenger terminal retail programs, or specific components thereof, of the same type or class.

(b) (1) The Lessee acknowledges that various portions of the Premises will be utilized for consumer services and said portions which receive the concurrence of the Lessee and the Port Authority, as hereinafter provided, are herein referred to as the "*Concession Areas*". Without limiting the provisions of Section 64 hereof entitled "The Lessee's Ongoing Affirmative Action, Equal Opportunity and Local Business Enterprises Commitment", the Lessee shall develop and submit to the Port Authority, in accordance with the schedule described in the second paragraph of this paragraph (b)(1), for its approval a comprehensive plan for consumer services, setting forth, *inter alia*: (i) the types of concessions to be placed there and the number of each type and size, designated location, and configuration of each concession, as well as the overall plan of the portions of the Premises designated for consumer service operations; (ii) the minimum rentals/fees required for each type of concession; (iii) the structure and level of any common area maintenance fees, marketing fees, delivery fees, and utility recoveries (to the extent permitted) to be charged to concession operators ; (iv) the Lessee's plans to provide retail opportunities for Minority Business Enterprises and Women-owned Business Enterprises (as defined in Schedule E hereto); (v) the Lessee's quality and service standards and required hours of operation; (vi) the Lessee's specific plans to monitor and enforce the "Street Pricing" policy (defined in paragraph (f)(1) of this Section), quality and service standards and required hours of operation; (vii) any other basic business terms including, but not limited to, any mandatory investment and refurbishing requirements; (viii) a customer service program that incorporates the mission and vision of the Port Authority's Aviation Department as set forth in the Airport Standards Manual provided to the Lessee; and (ix) such other information as the Port Authority may deem appropriate to its review and determination if it will approve the proposed plan. The types of concessions to be placed in the Concession Areas shall include those set forth in Sections 74 through 79 hereof, and the Lessee agrees that it will at all times throughout the term of the letting hereunder keep said comprehensive plan updated and that said updated plan shall be submitted to and be subject to the continuing approval of the Port Authority. The Port Authority shall furnish to the Lessee guidelines including those set forth in the Airport Standards Manual to be utilized by the Lessee with respect to all matters affecting consumer services in the Concession Areas including the aforesaid Lessee's comprehensive plan. The Lessee agrees to meet and consult with the Port Authority, and provide representatives to meet and consult with the Port Authority and representatives of other airlines operating at the Airport, when requested to do so in order to discuss the Lessee's performance in meeting the standards required by paragraph (a) of this Section and its implementation of the Port Authority guidelines on matters affecting consumer services in the Concession Areas.

The Lessee shall submit the comprehensive plan for consumer services in accordance with the following schedule: (1) within eighteen (18) months following the Lease Commencement Date, the required information to the extent available but in all events a comprehensive plan identifying the amount and location of the square footage to be allocated to consumer services in the Terminal, (2) within six (6) months after the expiration of eighteen (18) months following the Lease Commencement Date, and at six-month intervals thereafter, a revised comprehensive plan containing the required information to the extent available and (3) within thirty (30) months following the Lease Commencement Date, the full and complete

comprehensive plan containing the required information listed in clauses (i)-(ix) of the preceding paragraph.

(2) The comprehensive plan shall be subject to the approval of the Port Authority, as provided in this Section. The Lessee shall submit to the Port Authority for its written approval at annual intervals, on each anniversary of the Lease Commencement Date beginning with the third (3rd) anniversary thereof, during the term of the letting hereunder (or more frequently if desired by the Lessee or if reasonably requested by the Port Authority) a revised comprehensive consumer services plan, which shall contain the items of information enumerated in subparagraph (1) above. The Port Authority shall, after its receipt of a proposed revised comprehensive plan, advise the Lessee in writing of the Port Authority's approval, conditional approval or disapproval. In the event of disapproval or conditional approval, the reasons therefor shall be stated, and the Lessee may thereafter submit for Port Authority approval an appropriately modified proposed revised comprehensive plan. Unless and until a revised comprehensive plan shall have been approved by the Port Authority in the foregoing manner, the comprehensive plan previously approved and then in effect shall continue in effect.

(c) After approval by the Port Authority of the Lessee's comprehensive plan for consumer services the Lessee shall pursue any one of (or a combination of) the following alternatives (each an *"Alternative"*, collectively the *"Alternatives"*), in furtherance of the comprehensive plan for consumer services.

(1) The Lessee shall enter into a written agreement with a subsidiary wholly-owned by the Lessee (*"Related Entity"*) or with a concession manager which is not an Affiliate of the Lessee (*"Non-Related Entity"*; the Related Entity and Non-Related Entity being hereinafter referred to as the *"Concession Manager"*), either as an independent contractor or, alternatively, as a subtenant of the Lessee, to manage the Lessee's concession program at the Premises. The Concession Manager may be a retail asset manager or a developer. The Concession Manager shall thereafter enter into operating agreements with third parties, who shall operate as concession operators, providing products and services in concession spaces at the Premises (*"Alternative 1"*). Any such agreement with a Concession Manager, and all operating agreements entered into with third party operators, shall require the prior written consent of the Port Authority as described herein. The Lessee shall not finalize negotiations with any proposed Concession Manager, and the Lessee's Concession Manager shall not finalize negotiations with any proposed operator, until receipt of notice from the Port Authority that said arrangement is acceptable to the Port Authority, and any executed agreement with any proposed manager or operator, as applicable, shall not be effective until said manager or operator, as applicable, has entered into the appropriate contractual agreement with the Port Authority, in form and substance satisfactory to the Port Authority in its sole discretion which grants consent and approval to such Concession Manager, as follows: (a) among the Lessee, the Concession Manager, and the Port Authority and (b) among the Concession Manager, the third party operator, and the Port Authority to be consented to by the Lessee. Alternative 1 is more fully described in paragraph (k) of this Section.

(2) The Lessee shall enter into direct agreements with each concession operator to provide products and services in Concession Areas at the Premises as part of the Lessee's concession program at the Premises (*"Alternative 2"*). The Lessee shall not finalize

negotiations with any operator until it has received notification from the Port Authority that said arrangement is acceptable to the Port Authority and any agreement the Lessee executes with any proposed operator shall not be effective until said operator has entered into the appropriate contractual agreement with the Port Authority, in form and substance satisfactory to the Port Authority in its sole discretion.

(3) The Lessee shall enter into agreements for the operation of concessions at the Premises which evidence agreements other than those described in subparagraphs (c)(1), (c)(2) or (c)(4) of this Section ("*Alternative 3*"). It is acknowledged that an agreement whereby an unaffiliated third party of the Lessee is selected by the Lessee to both manage and operate a category or categories of concessions (e.g., food-and-beverage concessions (including restaurants and bars); retail concessions (including services such as currency services, ATMs, specialty retail, and newsstands)) shall fall within this Alternative 3. The Lessee shall not finalize negotiations with any Person under this subparagraph until it has received notification from the Port Authority that said arrangement is acceptable to the Port Authority and any agreement the Lessee executes with such Person shall not be effective until said third party has entered into the appropriate contractual agreement with the Port Authority, in form and substance satisfactory to the Port Authority in its sole discretion.

(4) Only with the prior written consent of the Port Authority, the Lessee shall have the right to both manage and operate concessions, using its own employees, providing products and services in concession spaces at the Premises. The Lessee shall not enter into subleases or agreements with third parties to either manage or operate concessions under this Alternative ("*Alternative 4*"). Notwithstanding the privilege that may be granted to the Lessee by the Port Authority under this Alternative 4, the Port Authority must approve, in advance, all aspects of the Lessee's concessions program through the approval process set forth in connection with the comprehensive plan, described in this Section, including but not limited to the products and services to be provided as part of the concessions program. If and to the extent that the Lessee desires to cause any of its obligations under this Section to be performed by employees of a third party unaffiliated with the Lessee, the Lessee and the unaffiliated third party shall be obligated to obtain the prior written consent of the Port Authority, to be evidenced by Port Authority agreement; provided, however, that any such third party arrangement shall not qualify as, i.e., take the form of, any of the other Alternatives described in this Lease. The Lessee's obligations as a manager and operator of concessions shall be consistent with the terms of this Lease and shall be evidenced by a written agreement to be entered into between the Lessee and the Port Authority on terms acceptable to the Port Authority in its sole discretion, it being understood that nothing in this Section shall relieve the Lessee of its obligation to comply with all other terms and provisions of this Lease.

(5) The Port Authority's approval of a comprehensive plan, or modifications thereto, shall in no way diminish the applicability of this paragraph (c). The effectiveness of the Lessee's agreement with a proposed manager or operator, and further agreements between the Lessee's Concession Manager and proposed operators shall be subject to the Port Authority's prior written consent, as contained in the aforesaid appropriate contractual agreement, and the Lessee's agreement as well as the Concession Manager's agreements shall state the same. The foregoing procedure will be followed throughout the term of the letting

hereunder. It is expressly understood and agreed that the provisions of this Section shall not limit or be deemed to limit the provisions of Section 64 hereof and the Lessee's on-going affirmative action commitment with respect to the consumer services awards and agreements provided for herein.

(d) (1) The Port Authority hereby reserves exclusively to itself and its designees the right on the Premises to implement, conduct, control and receive any rents, fees or profits with respect to any of the following uses, operations or installations (collectively, the "*Reserved Uses*"):

(i) advertising, provided that the Lessee shall retain the right to control the placement of the particular advertising within the Premises and the right to reject any proposed advertising at the Premises,

(ii) public telephones (sometimes also referred to as "pay phones" "pay telephones" or "public telephones"), pre-paid phone cards, facsimile transmission machines and other public communications services and facilities, including without limitation, public communications services and facilities that operate within the licensed spectrum radio frequency allocations and including in particular, but without limitation, "cellphone"/cellular technology and any technology that substitutes for, replaces or is used in conjunction with cellphone/cellular technology, and also including all Port Authority-owned or operated information and communications technology infrastructure for common Airport use, provided that the Lessee shall retain the right to control the location of the placement within the Premises of telephones, phone banks, phone kiosks, facsimile transmission machines and internet kiosks, only, and the right to deny, upon reasonable grounds, the placement of a particular pay phone facility, facsimile transmission machine or internet kiosk, only; notwithstanding that the Lessee has developed its own wireless data communications services system that utilizes the technology commonly known as "Wi-Fi," the Lessee covenants and agrees to meet with representatives of the Port Authority and its neutral-host wireless telecommunications network access system provider, New York Telecom Partners, LLC ("NYPT"), and/or its parent entity, Concourse Communications Group, LLC ("Concourse"), and to use commercially reasonable efforts to negotiate with NYTP/Concourse to provide NYTP/Concourse an unfettered right of access to the Premises for the purpose of installing, operating and maintaining equipment and facilities to provide Wi-Fi service to the public in the Premises.

(iii) vending machines dispensing anything including, but not limited to, catalog and electronic sales (except in non-public areas of the Premises for products then permitted to be sold on the Premises under agreements or subleases approved by the Port Authority as required under this Lease), provided that the Lessee shall retain the right to control the placement of vending machines within the Premises and the right to reject any vending machine at the Premises,

(iv) ground transportation (including vehicle rentals) reservations, as provided in Section 66 entitled "Ground Transportation Services" hereof,

(v) provision of on-airport baggage carts (other than shopping carts made available free of charge to retail shoppers within the Concession Areas) or other on-airport baggage-moving devices, provided that the Lessee shall retain the right to control the placement of baggage cart stations within the Premises and the right to reject any on-airport baggage carts at the Premises.

If and when the Port Authority elects to share with the other unit terminal operators at the Airport the revenues from the activities set forth in items (ii), (iii), (iv) and/or (v) of this paragraph (d)(1), the Lessee acknowledges and agrees that the Port Authority shall not be required to share such revenues with the Lessee and the Lessee hereby relinquishes and waives all rights and claims to receive any portion of such revenues.

(2) The Port Authority (and any party specifically authorized thereby) may engage in the Reserved Uses and install, operate, maintain and repair the property used in connection therewith, in such locations as may be determined by the Lessee. The Lessee, at its expense, shall provide the necessary wires and conduits for the supply of electricity and telephone and other communications interconnections for the Reserved Uses.

(3) The Port Authority shall direct that the Lessee be remitted, out of the fees or rents actually paid by the third party operator(s) pursuant to agreements for item (i) of subparagraph (d)(1) above and allocable to the Premises, 50% of such fees or rents. The balance of all such fees or rents shall be paid to and retained by the Port Authority. Except as specifically provided in the foregoing sentence, the Port Authority shall have the right to all revenues derived from the Reserved Uses without compensating the Lessee in any manner on account of such uses or revenues.

(e) Except to the extent modified by and in accordance with an effective comprehensive consumer services plan, the Lessee shall under Alternative 4, and the Lessee shall require (i) in its management agreement under Alternative 1, (ii) in its subleases under Alternative 2, (iii) in its agreement under Alternative 3 and (iv) in any and all other agreements which require or permit concession operation, the following with respect to hours and days of operation:

(1) Retail food and beverage service shall be made available to the public at one or more locations continuously each day during the hours commencing no later than one hour prior to the first scheduled aircraft departure from the Premises and continuing until at least the completion of boarding for the last actual departure from the Premises of a flight therefrom the same day. At least fifty percent (50%) of the concessions in any food service area at any one time shall operate continuously throughout the hours specified above.

(2) Commencing no later than one hour prior to the first scheduled aircraft departure at the Premises each day and continuing until at least the last actual departure at the Premises of a flight for departure thereat the same day, at least one retail newsstand shall be continuously open for business and at least one area accessible to "meeters and greeters" shall be open.

(3) Certain foreign currency exchange services, through a staffed location or an automated currency exchange machine, shall be continuously provided to the public in the Foreign Inspection Services area, if any, and at least one other central location in the Premises during the hours commencing no later than one hour prior to the first scheduled aircraft departure from the Premises and continuing at least until the later of (i) the completion of boarding for the last actual departure from the Premises of a flight scheduled for departure therefrom the same day and (ii) one hour after the last actual arrival at the Premises of a flight scheduled for arrival thereat the same day.

(4) In the arrival area and one other central location in the Premises, there shall be at least one automated teller machine fully operational and accessible to the public twenty-four (24) hours a day with cash in quantities sufficient to meet reasonably anticipated demand and providing access to at least one of the two largest banking networks available in the Port of New York District.

(5) In any instance in which no minimum hours have been set forth above and as to all other concession operators (including without limitation concession operators under Alternative 3), the concession operators shall be required to be open for business and operate their respective businesses as provided in the comprehensive consumer services plan.

(6) The Lessee shall require all concession operators (including without limitation concession operators under Alternative 3) to operate their respective businesses so as to maximize their revenues in accordance with best industry practices and standards observed generally by first-class business enterprises of regional or national scope which operate at other major airports.

(f) (1) The agreement with (i) the Concession Manager (if and to the extent the Lessee pursues Alternative 1), (ii) any other third party if and to the extent the Lessee pursues Alternative 3, (iii) the concession operator (if and to the extent the Lessee pursues Alternative 2) and (iv) the Lessee (if and to the extent the Lessee is permitted by the Port Authority to pursue Alternative 4) shall also provide that such Concession Manager, third party, concession operator or Lessee, as the case may be, that the concession operator in its operations pursuant to its agreement, shall not charge prices to its customers in excess of "*Street Prices*", defined as follows:

(i) If the concession operator conducts a similar business in off-airport location(s) in the Greater New York City-Northern New Jersey Metropolitan Area (the *"Metro Area"*), *"Street Prices"* shall mean the price regularly charged by the concession operator for the same or similar item in the Metro Area;

(ii) If the concession operator does not conduct a similar business in off-airport location(s) in the *Metro Area*, *"Street Prices"* shall mean the average price regularly charged in the Metro Area by similar concession operators for the same or similar item;

(iii) If neither the concession operator nor other similar concession operators sell a particular item in the *Metro Area*, *"Street Prices"* shall mean the price regularly charged by the concession operator or similar concession operators for the same or similar item in any other geographic area with a reasonable adjustment for any cost-of-living variance between such area and the Metro Area; and

(iv) If a concession operator is in the business of selling duty-free goods, *"Street Prices"* shall mean the price regularly charged by the concession operator or other similar concession operator for the same or similar duty-free item at other major airports serving large urban areas in the Northeast region of the United States, including but not limited to the Airport.

(2) Notices in form and substance reasonably satisfactory to the Port Authority shall be conspicuously displayed in each concession operator's space to the effect that the concession operator adheres to the foregoing *"Street Pricing"* policy.

(g) (1) Each Port Authority agreement with a concession operator, and each agreement under Alternatives 1, 2, 3 and 4, shall also provide, that the concession operator and/or Concession Manager, and/or other third party, and/or Lessee, as the case may be, shall:

(i) use its best efforts in every proper manner to develop and increase the business conducted by it under the aforedescribed consumer services agreement ;

(ii) not divert, or cause or allow to be diverted, any business from the Premises or the Airport;

(iii) maintain, in English and accordance with accepted accounting practice, during the term of the applicable agreement and for one (1) year after the expiration or earlier termination or surrender thereof, and for a further period extending until receipt of written permission from the Port Authority to do otherwise, full and complete records and books of account recording all transactions of the concession operator at, through, or in any way connected with its operations at the Premises or elsewhere at the Airport, and outside the Airport if the order therefor is received at the Airport, which records and books of account shall be kept at all times within the Port of New York District and shall separately state and identify each activity performed at the Airport and off the Airport if the order therefor is received at the Airport, provided, however, on the condition that the Lessee shall comply with all of the terms and conditions of subparagraph (2)(ii) of this paragraph (g), the Lessee may maintain said books and records and make them available to the Port Authority at the Lessee's office located at 19 Old Kings Highway South, Suite 23, Darien, Connecticut;

(iv) the concession operator shall cause any of its Affiliates which performs services similar to those performed by the concession operator to maintain, in English and accordance with accepted accounting practice, during the term of the relevant consumer service agreement and for one (1) year after the expiration or earlier termination or surrender thereof, and for a further period extending until the concession operator shall receive written permission from the Port Authority to do otherwise, full and complete records and books

of account recording all transactions of each such Affiliate at, through, or in any way connected with its operations at the Premises or elsewhere at the Airport, and outside the Airport if the order therefor is received at the Airport, which records and books of account shall be kept at all times within the Port of New York District and shall separately state and identify each activity performed at the Airport and off the Airport if the order therefor is received at the Airport;

(v) permit and/or cause to be permitted in ordinary business hours during the term of the aforedescribed consumer services agreement and for one (1) year thereafter, and during such further period as is mentioned in the preceding subparagraphs (1)(iii) and (1)(iv), the examination and audit by the officers, employees and representatives of both the Port Authority and those of the Lessee of such records and books of account and also any records and books of account of any Affiliate if said Affiliate performs services similar to those performed by the concession operator anywhere in the Port of New York District (including without limitation all corporate records and books of account which the Port Authority in its sole discretion believes may be relevant for the identification, determination or calculation of all fees, rentals and other amounts paid or payable to the Port Authority, all agreements, and all source documents), within twenty (20) days following any request by the Port Authority from time to time and at any time to examine and audit said books and records;

(vi) install and use such cash registers, sales slips, invoicing machines and any other equipment and devices, including without limitation computerized record-keeping systems, for recording orders taken, or services rendered, as may be appropriate to the concession operator's business and necessary or desirable to keep accurate books and records as aforesaid, and without limiting the generality of the foregoing, for any activity involving cash sales, install and use cash registers or other electronic cash control equipment that provides for non-resettable totals;

(vii) in those situations where the books and records have been generated from computerized data (whether mainframe, minicomputer, or PC-BASED computer systems), provide, or cause to be provided, to the Port Authority's representative extracts of data files in a computer readable format on data disks, E-mail with attached files or alternative computer data exchange formats suitable to the Port Authority in its sole discretion.

(viii) permit the inspection by the officers, employees and representatives of the Port Authority and those of the Lessee of any equipment used by the concession operator including, but not limited to, any of the equipment described in subparagraph (1)(vi) above; and

(ix) furnish good, prompt and efficient service hereunder, adequate to meet all demands therefor at the Premises; furnish said service on a fair, equal and non-discriminatory basis to all users thereof; and charge fair, reasonable and non-discriminatory prices for each unit of sale or service, provided, however, that the concession operator may make reasonable and non-discriminatory discounts, rebates or other similar types of price reductions to volume purchasers.

(2) Without implying any limitation on the right of the Port Authority to revoke its agreement with a concession operator, or Concession Manager, other third party (under Alternative 3), or Lessee (under Alternative 4), as the case may be), in the event of the failure of the concession operator (or Concession Manager, other third party or Lessee (under Alternative 4), as the case may be) to maintain, keep within the Port District or make available for examination and audit the required books and records in the manner and at the times or location as provided in paragraph (g)(1) above then, in addition to all and without limiting any other rights and remedies of the Port Authority, the Port Authority may:

(i) Estimate the Gross Receipts of the concession operator on any basis that the Port Authority, in its sole discretion, shall deem appropriate, such estimation to be final and binding on the concession operator and the concession operator's fees based thereon to be payable to the Port Authority when billed; or

(ii) If any such books and records have been maintained outside of the Port District, but within the Continental United States then the Port Authority in its sole discretion may (A) require such books and records to be produced within the Port District or (B) examine such books and records at the location at which they have been maintained and in such event the concession operator shall pay to the Port Authority when billed all travel costs and related expenses, as determined by the Port Authority for Port Authority auditors and other representatives, employees and officers in connection with such examination and audit, or

(iii) If any such books and records have been maintained outside the continental United States then, in addition to the costs specified in subparagraph (2)(ii) above, the concession operator shall pay to the Port Authority when billed all other costs of the examination and audit of such books and records including without limitation salaries, benefits, travel costs and related expenses, overhead costs and fees and charges of third party auditors retained by the Port Authority for the purpose of conducting such audit and examination.

(3) The foregoing auditing costs, expenses and amounts set forth in subparagraphs (2)(ii) and (2)(iii) of this paragraph (g) shall be deemed fees and charges under the Port Authority's consumer services agreement payable to the Port Authority with the same force and effect as all other fees and charges thereunder.

(4) The requirements of paragraphs (e) and (f) above and this paragraph (g) shall apply fully to the Lessee under Alternative 4 as if the Lessee was a concession operator, and similarly apply fully to a Concession Manager or other third party as described herein.

(h) The Lessee shall employ or retain under Alternative 2 and Alternative 4, or cause to be employed or retained under Alternative 1 and Alternative 3, a full time trained professional staff at all times during the term of the letting hereunder of sufficient size, expertise, ability, suitability and experience to carry out its responsibilities under this Section.

(i) On a continuing basis through the end of the term of the letting hereunder, the Lessee shall undertake and execute through a variety of media, in a manner acceptable to the Port Authority, such advertising and promotional programs as shall bring to the attention of the public, generally, and actual and potential enplaning passengers and their escorts and guests and the aviation and tourist industries, in particular, the positive features of the consumer services program managed, or caused to be managed, by the Lessee as provided in this Lease and such other information to be presented in such style and format as shall project, consistent with the truth, a desirable image of such consumer services program, the Premises and the Airport. The Port Authority shall not have any responsibility for, and shall not bear any of the costs of, the foregoing.

(j) Without limiting the generality of the provisions of Sections 74 through 80 herein, the following shall apply with respect to each of the concessions described in said Sections:

(1) The Lessee agrees that it will furnish to the concession operator sufficient and suitable space within the Premises to carry on any operation as may be required of or desired by the Lessee.

(2) The Lessee shall bring to the perimeter of the space to be occupied by the concession operator, and shall install, the necessary pipes, wires and conduits (including to any food service area), for the supply of electricity and HVAC for such operations (including but not limited to electricity to machines and displays with respect to permitted vending machines, public telephones, advertising displays and insurance counters), all without charge to the concession operator or the Port Authority, except for electricity to the Restaurant Operator (as herein defined) which may be charged to the third party operator at cost. With respect to any Restaurant Operator, the Lessee shall also provide and install pipes, wires and conduits for the supply of gas and water together with necessary steam and waste lines for use in connection with the operation. The Lessee shall supply said utilities and services to the concession operator, including to any storage areas provided to the concession operator as required herein, and shall not charge the concession operator or the Port Authority for any portion of same (except electricity to the Restaurant Operator as aforesaid).

(3) Any agreement with a concession operator shall provide that such concession operator shall furnish at its expense all necessary fixtures, equipment, furniture and other personal property required in connection with the operation and all construction work necessary to accommodate such installations, except that, under Alternative 3, the Lessee reserves the right to assume the cost and expense for all or part of the aforesaid personal property. With respect to in-line spaces, the agreement shall also provide that the concession operator will perform all work necessary or required to finish off the space, including the finishing of the floors and ceilings from the structural slab and the walls from the rough partitions, the decor and color scheme of the concession area and the facilities and fixtures therein as well as the location of fixtures thereon, which shall be subject to the approval of the Lessee and compliance with the Port Authority Tenant Construction or Alteration Application process.

(4) If the Lessee desires to have a Person or entity conduct such operations other than the Port Authority's proposed concession operator, except for goods and services which constitute Reserved Uses, the Lessee may employ any other Person of its choice (which other Person may not be the Lessee or an Affiliate thereof unless the same is specifically consented to in writing by the Port Authority) to do so, provided, however, such other Person first obtains a permit from the Port Authority authorizing such Person to operate the establishment in a portion or portions of the Premises as designated by the Lessee with the prior approval of the Port Authority. Prior to the issuance of any such permit by the Port Authority, such Person may be required to submit to the Port Authority evidence satisfactory to the Port Authority of its qualifications, the scope of its proposed operations and the standards of service it will provide. Any such permit shall provide that such concession operator will conduct its operations thereunder in a first-class manner in accordance with the best practices in the industry and shall comply with the maximum Port Authority standards with respect to service, health, sanitary and safety measures. Paragraph (k)(2)(vi) of this Section shall apply with respect to any inconsistency between the terms of the permit and the terms of the agreement between the Lessee and the concession operator. Without limiting the foregoing, prior to the issuance of the permit the Port Authority shall make a copy of the same available to the Lessee and, upon the execution of the permit by the proposed concession operator, the same shall be consented to in writing by the Lessee. Such other Person shall be required to pay to the Port Authority a fee but such fee shall not in any event exceed the fees or charges that would be retained by the Port Authority if such establishment were operated by a regular concession operator of the Port Authority. The Port Authority permit described in this Paragraph (j)(4) will not be revoked without cause by the Port Authority, without the prior consent of the Lessee. The preceding sentence is intended to apply with respect to individual concession operators agreements, and nothing in the preceding sentence shall mean or imply, or be deemed to mean or imply, that the Lessee's consent shall be required for the Port Authority to revoke its permit with, or other agreement containing its consent to, a Concession Manager (or other concession manager under Alternative 3), or an agreement entered into pursuant to Alternative 4, and such Lessee's consent shall not be required in any of such circumstances.

(5) The contract between a concession operator and the Port Authority, or the permit between the concession operator and the Port Authority where such concession operator has entered into an agreement with the Lessee in accordance with this Lease, shall contain appropriate provisions permitting cancellation of such contract on short notice with and without cause. The Lessee's agreement with the concession operator shall contain appropriate provisions permitting cancellation of such contract on short notice with and without cause. In the event of such cancellation without cause by the Port Authority (consistent with the penultimate sentence of subparagraph (4) above regarding the prior consent of the Lessee, it being understood that the same excepts goods and services which constitute Reserved Uses) or the Lessee, as the case may be, the Lessee agrees (and its agreement with the concession operator shall provide that the Lessee agrees) to reimburse the concession operator for its unamortized investment in the interior finishes and trade fixtures and title to such trade fixtures shall thereupon vest in the Lessee; provided, however, where such agreement is canceled expressly on the basis of the failure of the concession operator to keep, perform or observe any of the terms and provisions of said agreement on its part to be kept, performed or observed or on the basis of

one or more event or events of default as specified in said agreement such provision for Lessee reimbursement shall not obtain or apply.

(k) Concession Managers:

(1) In connection with Alternative 1 and/or Alternative 3, throughout the term of the letting hereunder, the Lessee may request Port Authority approval to employ at the Premises, at Lessee's sole cost and expense, on a full-time basis, a concession manager, subject in all respects to the terms and conditions of this Section 73. Any fee or other compensation to be paid to said concession manager shall be paid by the Lessee directly or out of revenues derived by the Lessee from consumer services, and no portion of such fee or compensation shall be paid out of the Port Authority's share of revenue from consumer services or shall offset, reduce, be credited against or otherwise adversely affect the amount of any fees, rent or other revenue to be paid or payable to the Port Authority under this Lease or to which the Port Authority may be otherwise entitled. Nor shall the Lessee (or a concession manager under Alternative 1 or Alternative 3) be entitled to impose charges on concession operators, whether in the form of key money, chargebacks or otherwise, or to pass along or recoup the aforesaid fee or other compensation to be paid to said concession manager, without the prior written consent of the Port Authority. Notwithstanding references in this Paragraph (k) to Concession Manager, this Paragraph (k) shall apply to both a Concession Manager as well as to any third party which may manage concessions pursuant to Alternative 3.

(2) Any concession manager agreement between the Lessee and a proposed Concession Manager shall state among other things, and the Lessee agrees, that:

(i) said agreement is subject and subordinate to this Lease (as the same may be amended, supplemented or extended);

(ii) said agreement shall not take effect without the prior written consent of the Port Authority thereto to be embodied in the contractual agreement referred to above (executed by and among the Port Authority, the Lessee and the Concession Manager);

(iii) any amendment, supplement or extension of the said agreement which does not have the express written approval of the Port Authority shall be void *ab initio* and of no effect whatsoever; that if this Lease is terminated on any account prior to the expiration of the term of the said agreement then the said agreement shall terminate simultaneously with such termination of this Lease unless the Port Authority shall notify the Concession Manager and the Lessee at or prior to such effective date of termination of this Lease that the Port Authority shall and does assume the rights and obligations of the Lessee thereunder from and after such effective date of termination, it being understood that the Port Authority shall have the right, but not the obligation, to be assigned and to assume the Lessee's rights and obligations under the concession manager agreement and, further, it being understood that the Port Authority shall have no obligation to enter into any form of non-disturbance or recognition agreement with any concession operator;

(iv) the Port Authority shall have the right to revoke its consent, or terminate any agreement containing its consent, to the concession manager agreement at any time without cause on thirty (30) days' prior notice and such revocation or termination shall not require the concurrence of the Lessee;

(v) all fees, rent and other moneys due and payable to the Port Authority and the Lessee (whether such amounts are paid or payable by the Concession Manager as an operator at the Premises, or are collected or to be collected from the concession operators which amounts in turn shall be based on fees and rent paid or payable by the concession operators at the Premises) shall be held by the Concession Manager without deduction, credit or offset for arrearages and shall be held by it solely as described in this subparagraph and thereafter remitted by the Concession Manager on a monthly basis directly to the Port Authority and the Lessee. Said Concession Manager is deemed a collection agent of the funds for the Port Authority and the Lessee to the extent of its interest and the Concession Manager has no ownership or possessory interest in such funds, which would otherwise be paid directly to the Port Authority and the Lessee, other than as a trustee for the Port Authority to the extent of its interest. In accordance with the foregoing capacity as collection agent: (1) the Concession Manager shall be deemed, and shall hold itself out as, a fiduciary vis-à-vis the Port Authority and the Lessee, (2) the Concession Manager shall hold all revenues received by, from or on behalf of concession operator or operations, as the case may be, in a separate account established in trust for the Port Authority and the Lessee in which the Concession Manager must not commingle such rent, fees and other moneys with any other funds, at an institution acceptable to the Port Authority having an office in the Port of New York District and qualified to do business in the State of New York, (3) Concession Manager shall obtain additional protections on behalf of the Port Authority and the Lessee providing for access by the Port Authority and the Lessee to the revenues on deposit in such account (to the extent of its interest) in the event of insolvency, appointment of a receiver, bankruptcy or creditors' liens affecting the Concession Manager, (4) the Concession Manager shall obtain insurance protecting against employee dishonesty, embezzlement, theft, and the like in amounts and otherwise in a form acceptable to the Port Authority, and naming the Port Authority and the Lessee as additional loss payee thereunder, (5) the Concession Manager's fees to be paid by the Lessee may not be withheld at any time by the Concession Manager from the rentals, fees and other moneys due to the Port Authority, and (6) the Concession Manager shall comply with any other requirements of the Port Authority and any other reasonable requirements of the Lessee.

(vi) in the event of any inconsistency between the concession manager agreement and this Lease, or between any retail sublease or retail license (the terms retail "sublease" and retail "license" being used interchangeably for purposes of Section 73 through Section 80, and the terms retail "sublessee", "licensee" and "concession operator", being used interchangeably for purposes of Section 73 through Section 80) and this Lease, or between the Concession Manager agreement and the agreement containing the Port Authority consent thereto, or between a retail sublease and the agreement containing the Port Authority consent thereto, then in each and every such instance the Lease or the Port Authority consent agreement, as the case may be, shall supercede and control.

(vii) Any and all monthly and annual reports which set forth Gross Receipts (as defined herein, it being understood that the term Operator in such definition shall mean concession operator (whether a sublessee, licensee, concession operator or otherwise) for purposes of Sections 73 to 82), in the aggregate and on a concession operator-by-concession operator basis, shall be provided simultaneously directly to each of the Port Authority and the Lessee (except not to the Lessee under Alternative 4). The Lessee shall provide, or shall cause to be provided, to the Port Authority the following: (1) on or before the twentieth (20th) day of each month following the commencement date of any consumer service operation a statement, certified by an authorized officer of the concession operator, of Gross Receipts arising out of operations of the concession operator under its consumer service agreement for the preceding month, and (2) on or before April 15 of each calendar year during the term of the consumer service agreement a statement of Gross Receipts arising out of the operations of the concession operator for the preceding year certified, at the concession operator's sole expense, by a certified public accountant. It is acknowledged that under Alternative 4, only the Lessee's Gross Receipts arising out of or relating to the consumer service program at the Premises (as opposed to the Lessee's aircraft operations) shall be the subject of monthly and annual reports.

(3) Any Concession Manager shall have sufficient authority and support, staff and appropriate equipment, supplies and means to manage and administer those consumer service agreements and other agreements with the concession operators and other entities to which the Lessee is a party, or by which it is bound, relating to the consumer services program at the Premises, to monitor and compel performance by all concession operator and other entities and to serve as on-site liaison with the Port Authority. Said Concession Manager shall have the power and authority on behalf of the Lessee to resolve all operational issues concerning the consumer services program at the Premises but shall have no power or authority to amend or modify this Lease or any agreement embodying a Port Authority consent. In all events, an employee of the Lessee with managerial authority shall be available for a minimum time span of sixteen (16) hours each day during concession operation hours to meet with Port Authority representatives in person at the Premises and available at other times by telephone, with the ability in an emergency situation relating to retail concession matters to arrive at the Airport by car within two hours after being called.

(4) Neither a Concession Manager nor any Affiliate thereof shall conduct or have any interest whatsoever in any entity conducting a consumer service operation in any Concession Area, unless the Port Authority has explicitly approved in writing specific exceptions after having been furnished such information as it may require and subject to such qualifications, conditions, limitations and restrictions as part of any such approval; provided, however, Alternative 3 contemplates that a concession manager may both manage and operate consumer service operations at the Premises and Alternative 4 contemplates that the Lessee would both manage and operate consumer service operations at the Premises.

(5) The Lessee shall not knowingly either employ or permit the employment of any management, supervisory or other personnel of the Lessee (including but not limited to such Concession Manager or any contractor or subcontractor, representative or agent of the Lessee), whose employment constitutes a conflict of interest or whose actions are inconsistent with the highest level of honesty, ethical conduct or public trust or are adverse to the

public interest. Notwithstanding the foregoing, the Lessee shall be under no obligation to refrain from hiring any Person if to do so would be a violation of law, or to terminate any Person if to do so would be a violation of law or of any applicable right of such Person, contractual or otherwise.

(6) Any agreement entered into between the Lessee and the Port Authority to implement Alternative 4 shall contain no lower standards or lesser requirements for the Lessee's performance than those described in this Paragraph (k).

(l) Port Authority Fees:

The fees, rent and other consideration paid or payable to the Port Authority under Alternatives 1, 2, 3 and 4 shall be specifically consented to in all agreements entered into with the Port Authority, however without limiting the generality of the foregoing, such amounts shall be based on Gross Receipts (it being understood that pursuant to Alternative 4 the Gross Receipts of the Lessee shall mean only those which arise out of or relate to the consumer service operations at the Premises as opposed to its aircraft operations at the Premises). Under all of Alternatives 1, 2, 3 and 4, the Port Authority shall be paid no less than (1) twenty percent (20%) of the amounts paid or payable by each concession operator with respect to food and beverage concessions (pursuant to its agreement as consented to by the Port Authority) and (2) fifty percent (50%) of the amounts paid or payable by each concession operator with respect to all other consumer services (pursuant to its agreement as consented to by the Port Authority), it being understood the Lessee shall be deemed to be the concession operator under Alternative 4 and the specific fee/rental structure in such instance shall be as consented to in the Lessee's written agreement with the Port Authority. For purposes of this paragraph, concession operators shall include Additional Operators described in Section 80 and any concession manager under Alternative 3. Notwithstanding any specific references in Sections 74 and 76 to 80 to basic rent, percentage rent and fixed fees to be paid by concession operators, the amounts paid or payable by the concession operator under its agreement (and accordingly the fees, rent and other consideration which are the subject of this subparagraph (l)) shall include, and be deemed to include, without limitation, late fees and interest, liquidated damages, delinquency amounts, fines, retail display allowances and other promotional incentives, and the like, and shall exclude only rentals and fees which are strictly pass-through charges for expenses actually incurred by the Lessee (and its concession manager, if any); provided, however, that the Lessee (and its concession manager, if any) shall be prohibited from imposing or adding an administrative charge or other up-charge to such pass-through charges and expenses.

(m) The Port Authority's permit or consent agreements with concession operators shall provide, and the Lessee's agreements (or the Concession Manager's agreements) with concession operators, shall provide, that a breach or default by the concession operator in its obligations under one agreement shall also constitute a breach or default by the concession operator of its obligations under the other agreement. In the event of such breach or default, the Lessee shall enforce the payment obligations of the concession operator on behalf of the Lessee and the Port Authority, and exercise all necessary remedies in connection therewith; provided, however, that the same shall not limit or affect the rights of the Port Authority to enforce such payment obligations on behalf of both the Port Authority and the Lessee, and the Port Authority

shall not be obligated to incur any expense or to commence any legal proceeding to enforce such payment obligations.

(n) The provisions of Sections 74 and 77 through 81 hereof shall be understood in the context of Alternatives 1, 2, 3 and 4, defined in this Section.

Section 74. Restaurant and Bar

(a) (i) The Lessee shall select and thereafter enter into a contract or agreement with one or more qualified restaurant operators (each such restaurant operator being hereinafter referred to in this Section as the *"Restaurant Operator"*) authorizing the Restaurant Operator to operate in the Premises facilities for the sale of food, alcoholic and non-alcoholic beverages and similar items for consumption in the Premises, subject in all respects to Section 73 hereof including, but not limited to, the requirement to obtain a permit from the Port Authority authorizing such Restaurant Operator to operate a restaurant service in a portion of the Premises hereunder.

(ii) The agreement between the Restaurant Operator and the Lessee and the permit issued by the Port Authority may not call for any fixed rental or fee.

(iii) The agreement between the Restaurant Operator and the Lessee and the permit issued by the Port Authority to the Restaurant Operator shall require the Restaurant Operator to pay a percentage fee based upon the Gross Receipts of the Restaurant Operator from the sale of food, alcoholic and non-alcoholic beverages, which fee shall be subject to the prior written approval of the Port Authority. It is hereby understood and agreed that at least 20% of the percentage fee paid or payable by the Restaurant Operator shall be paid to and retained by the Port Authority.

(iv) There shall be no other payments by the Restaurant Operator to the Lessee except for appropriate payments for any electricity which may be furnished to the Restaurant Operator by the Lessee.

(b) (i) The Lessee's agreement with the Restaurant Operator shall provide that any breach or default by the Restaurant Operator under its permit with the Port Authority shall also constitute a material event of default under said agreement with the Lessee and, without limiting the generality of any other provision of this Section, that in the event any of the terms, provisions, covenants and conditions of the Lessee's agreement with the Restaurant Operator shall be contrary to, or conflict or be inconsistent with, the terms, provisions, covenants and conditions of the permit issued by the Port Authority, the terms, provisions, covenants and conditions of the Port Authority Permit shall be controlling, effective and determinative.

(ii) The Lessee's agreement with the Restaurant Operator shall cover the arrangements for the space to be used in for restaurant service within the Premises including the amount, type and location of the space.

(iii) The agreement between the Lessee and the Restaurant Operator shall include provisions covering the arrangements set forth in this Section.

(c) In the event the Restaurant Operator selected by the Lessee to provide food, alcoholic and non-alcoholic beverages and similar items for sale and consumption on the Premises is the same concession operator providing in-flight meals to the Lessee and is a wholly owned subsidiary of the Lessee, the fees to be paid to the Port Authority shall apply only to the Gross Receipts of the Restaurant Operator from the sale of food, alcoholic and non-alcoholic beverages on the Premises.

Section 75. Vending Machines, Public Telephones, Advertising Displays

(a) If requested by the Lessee the Port Authority, by itself or through contractors, lessees, or permittees, shall install and maintain in the Premises vending machines, public telephones, and/or advertising displays, at such locations and to such extent as requested by the Lessee.

(b) The Port Authority shall require its contractors, lessees, or permittees to pay a fee, which may be a percentage fee subject to a minimum amount, based upon the Gross Receipts received from such vending machines, public telephones, and advertising displays or a fixed fee.

(c) The Port Authority shall provide in its agreement for the Lessee to be remitted an annual fee equivalent to fifty percent (50%) of the fee payable by its advertising contractors, lessees, or permittees and the 50% balance shall be paid to and retained by the Port Authority. No fees are to be remitted to the Lessee relating to vending machines and public telephones.

Section 76. Insurance Covering Air Transportation

(a) The Port Authority may enter into permits with qualified insurance vendors requiring such vendors to sell or arrange for the sale, at the Premises, of insurance covering air transportation, of such types and coverages as may be required by the Lessee.

(b) (i) Both the agreement between the Lessee and the insurance vendor and the permit to be issued by the Port Authority shall include provisions covering the arrangements set forth in this Section including without limitation that: (1) if the Lessee so requests, the vendor shall provide a general information service to the public; and (2) the vendor shall not be required to provide a counter for the sale of insurance if, in its opinion, there will be insufficient patronage to support such a counter; and (3) the vendor shall not be required to continue to provide at any designated location vending machines for the sale of insurance when the gross premiums from any such machines at any such location is less than $200 per month, provided, however, if twenty-four (24) hour counter coverage is not provided there shall be at least one machine in the Premises; and (4) the provisions of insurance policies and the minimum coverage offered shall be acceptable to the Lessee.

(ii) The contract between the insurance vendor and the Port Authority and between the insurance vendor and the Lessee shall provide that such vendor shall pay a fixed basic rental for the space occupied by such vendor in the Premises in connection with

the sale of such insurance. The amount of the fixed basic rental to be paid by the vendor shall be agreed upon between the Port Authority and the Lessee.

(iii) The contract and the permit shall further provide that the vendor shall pay an amount equal to a percentage of the vendor's gross premiums from the sale of such insurance, less the amount of any fixed basic rental paid by the vendor. Fifty percent (50%) of the basic rental and percentage fees payable by the insurance vendor shall be paid to and retained by the Port Authority.

(iv) There shall be no payments by the insurance vendor to the Lessee for any utilities which may be furnished to the insurance vendor by the Lessee.

(c) The location of insurance counters and insurance vending machines shall be determined by the Lessee subject to the approval of the Port Authority and in accordance with the Lessee's comprehensive plan. The Lessee shall not require unreasonably frequent moves of insurance counters and insurance vending machines hereunder.

Section 77. Newsstands

(a) (i) The Lessee shall select and thereafter enter into an agreement or agreements with a qualified newsstand operator or operators (each such newsstand operator being hereinafter referred to in this Section as the "*Newsstand Operator*") authorizing such operators to operate newsstands in the Premises for the sale at retail of such of the following items as may be approved by the Port Authority: newspapers, magazines, cigarettes, cigars and other tobacco supplies, candy, chewing gum, playing cards and paper-bound books, to the extent required by the Lessee, subject in all respects to Section 73 hereof including, but not limited to, the requirement to obtain a permit from the Port Authority authorizing such Newsstand Operator to operate a newsstand service in a portion of the Premises hereunder. The Port Authority shall require such operator or operators to sell at retail from its or their locations, such other items or furnish such other services as may be approved by the Port Authority and as are requested by the Lessee.

(ii) The agreement between the Newsstand Operator and the Lessee and the permit issued by the Port Authority to the Newsstand Operator shall require the Newsstand Operator(s) to pay a fixed basic rental for the space occupied by such Newsstand Operator in the Premises in connection with the operation of the newsstand. The amount of the fixed basic rental to be paid by the Newsstand Operator(s) shall be agreed upon between the Port Authority and the Lessee.

(iii) The agreement and permit with the Newsstand Operator(s) shall further require the Newsstand Operator to pay a percentage fee of the Gross Receipts derived by the Newsstand Operator from all sales made by the Newsstand Operator less the amount of the basic rental paid by the Newsstand Operator. Fifty percent (50%) of the basic rental and percentage fees payable by the Newsstand Operator shall be paid to and retained by the Port Authority.

(iv) The Lessee's agreement with the Newsstand Operator(s) shall further provide that the Newsstand Operator will be permitted to sell at retail only such merchandise as is normally sold at newsstands in operation at Port Authority Airports. If there is a demand or need by travelers and other users of the Premises for other merchandise and there is no other tenant, permittee or licensee of the Port Authority available to provide such merchandise the scope of the newsstand's operation may be increased; provided, however, that no merchandise objectionable to the Lessee or the Port Authority shall be sold.

(v) There shall be no payments by the Newsstand Operator to the Lessee for any utilities which may be furnished to the Newsstand Operator by the Lessee.

(b) The agreement between the Lessee and the Newsstand Operator shall include provisions covering the arrangements set forth in this Section.

(c) The Lessee's agreement with the Newsstand Operator shall provide that any breach or default by the Newsstand Operator under its permit with the Port Authority shall also constitute a material event of default under said agreement with the Lessee and, without limiting the generality of any other provision of this Section, that in the event any of the terms, provisions, covenants and conditions of the Lessee's agreement with the Newsstand Operator shall be contrary to, or conflict or be inconsistent with, the terms, provisions, covenants and conditions of the permit issued by the Port Authority, the terms, provisions, covenants and conditions of the Port Authority Permit shall be controlling, effective and determinative.

(d) The Lessee agrees that it shall furnish to the Newsstand Operator sufficient and suitable space for conducting and carrying on its aforesaid operation. The Lessee shall furnish without additional charge, a reasonable amount of storage space for the use of the Newsstand Operator. The location of newsstands and appropriate storage space for the use of the Newsstand Operator(s) shall be determined by the Lessee subject to the approval of the Port Authority and in accordance with the Lessee's comprehensive plan.

Section 78. Foreign Currency Exchange

(a) (i) The Lessee shall select and thereafter enter into an agreement or agreements with a qualified foreign currency exchange operator or operators (which Person or entity is sometimes hereinafter referred to as the "*Currency Exchange Operator*") providing for the Currency Exchange Operator to operate an establishment in the Premises for the exchange, purchase and sale of domestic and foreign currencies (hereinafter called the "*Foreign Currency Exchange Service*"), subject in all respects to Section 73 hereof including, but not limited to, the requirement to obtain a permit from the Port Authority authorizing such Currency Exchange Operator to operate a Foreign Currency Exchange Service.

(ii) The agreement between the Currency Exchange Operator and the Lessee and the permit issued by the Port Authority to the Currency Exchange Operator shall not call for any fixed rental or fee.

(iii) The agreement and permit with the Currency Exchange Operator shall further require the Currency Exchange Operator to pay a percentage fee of the Gross

Receipts derived by the Currency Exchange Operator from all sales made by the Currency Exchange Operator. Fifty percent (50%) of the percentage fees payable by the Currency Exchange Operator shall be paid to and retained by the Port Authority.

(iv) There shall be no payments by the Currency Exchange Operator to the Lessee for any utilities which may be furnished to the Currency Operator by the Lessee.

(b) The agreement between the Lessee and the Currency Exchange Operator shall include provisions covering the arrangements set forth in this Section.

(c) The Lessee's agreement with the Currency Exchange Operator shall provide that any breach or default by the Currency Exchange Operator under its permit with the Port Authority shall also constitute a material event of default under said agreement with the Lessee and, without limiting the generality of any other provision of this Section, that in the event any of the terms, provisions, covenants and conditions of the Lessee's agreement with the Currency Exchange Operator shall be contrary to, or conflict or be inconsistent with, the terms, provisions, covenants and conditions of the permit issued by the Port Authority, the terms, provisions, covenants and conditions of the Port Authority Permit shall be controlling, effective and determinative.

(d) The Lessee agrees that it shall furnish to the Currency Exchange Operator sufficient and suitable space for conducting and carrying on its aforesaid operation.

Section 79. Retail Banking

(a) (i) The Lessee shall select and thereafter enter into an agreement or agreement with a qualified retail banking operator or operators (which Person or entity is sometimes hereinafter referred to as the "*Retail Bank Operator*") providing for such Retail Bank Operator to operate a service, within Concession Areas, performing one or more of the following functions as agreed between them: the maintaining of accounts, receipt and/or disbursement of funds and including automatic teller machine service and foreign currency exchange (hereinafter called the "*Retail Banking Service*"), subject in all respects to Section 73 hereof including, but not limited to, the requirement to obtain a permit from the Port Authority authorizing such Retail Bank Operator to operate a Retail Banking Service.

(ii) The agreement between the Retail Bank Operator and the Lessee and the permit issued by the Port Authority to the Retail Bank Operator shall require the Retail Bank Operator to pay a fixed rental for the space occupied by such Retail Bank Operator in the Premises in connection with the operation of the Retail Banking Service. The amount of the fixed rental to be paid by the Retail Bank Operator shall be agreed upon between the Port Authority and the Lessee. Fifty percent (50%) of such fix rental payable by the Retail Bank Operator shall be paid to and retained by the Port Authority.

(iii) There shall be no payments by the Retail Bank Operator to the Lessee for any utilities which may be furnished to the Retail Bank Operator by the Lessee.

(b) The agreement between the Lessee and the Retail Bank Operator shall include provisions covering the arrangements set forth in this Section.

(c) The Lessee's agreement with the Retail Bank Operator shall provide that any breach or default by the Retail Bank Operator under its permit with the Port Authority shall also constitute a material event of default under its agreement with the Lessee and, without limiting the generality of any other provision of this Section, that in the event any of the terms, provisions, covenants and conditions of the Lessee's agreement with the Retail Bank Operator shall be contrary to, or conflict or be inconsistent with, the terms, provisions, covenants and conditions of the permit issued by the Port Authority, the terms, provisions, covenants and conditions of the Port Authority Permit shall be controlling, effective and determinative.

(d) The Lessee agrees that it shall furnish to the Retail Bank Operator sufficient and suitable space for conducting and carrying on its aforesaid operation.

Section 80. Other Consumer Services

(a) If the Lessee requests that additional consumer services be provided in the Premises for the sale of other items or the furnishing of other services, the Lessee shall either (i) request that the Port Authority secure qualified tenants, permittees or licensees (hereinafter each referred to as the "*Additional Operator*"), to furnish such consumer services and the Port Authority shall endeavor to secure such Additional Operator and to enter into contracts or agreements with such Additional Operator requiring it to furnish the item or services to the extent required by the Lessee, or (ii) notify the Port Authority in writing that the Lessee is seeking such Additional Operator (including the proposed contractual arrangements, if any, between the Lessee and the proposed Additional Operator), satisfactory to the Port Authority and subject to its approval, provided that the Lessee complies with all the terms and provisions of Section 73 hereof, including without limitation its prior submittal to the Port Authority of an updated comprehensive plan for consumer services covering such proposed Additional Operator in accordance with and subject to said Section 73, and in compliance with the provisions covering the selection of the Additional Operator as described in Sections 73 (c) and 73(j) hereof and also subject to Sections 64, 81 and 82 hereof.

(b) Each such Additional Operator must enter into an appropriate contractual arrangement with the Port Authority, as described in Sections 73(c) and 73(j) hereof, including without limitation an appropriate Port Authority permit authorizing such Additional Operator to operate the consumer services at the Premises.

(c) (i) The agreement between the Additional Operator and the Lessee and the permit issued by the Port Authority to the Additional Operator shall require the Additional Operator(s) to pay a fixed basic rental for the space occupied by such Additional Operator in the Premises in connection with the furnishing of consumer services. The amount of the fixed basic rental to be paid by the Additional Operator(s) shall be agreed upon between the Port Authority and the Lessee.

(ii) The agreement and permit with the Additional Operator(s) shall further require the Additional Operator to pay a percentage fee based upon the Gross

Receipts derived by the Additional Operator from the operation of such consumer service, less the amount of the basic rental paid by the Additional Operator. Fifty percent (50%) of the basic rental and percentage fees payable by the Additional Operator shall be paid to and retained by the Port Authority.

(iii) There shall be no payments by the Additional Operator to the Lessee for any utilities which may be furnished to the insurance vendor by the Lessee.

(d) The agreement between the Lessee and the Additional Operator shall include provisions covering the arrangements set forth in this Section.

(e) The Lessee's agreement with the Additional Operator shall provide that any breach or default by the Additional Operator under its permit with the Port Authority shall also constitute a material event of default under said agreement with the Lessee and, without limiting the generality of any other provision of this Section, that in the event any of the terms, provisions, covenants and conditions of the Lessee's agreement with the Additional Operator shall be contrary to, or conflict or be inconsistent with, the terms, provisions, covenants and conditions of the permit issued by the Port Authority, the terms, provisions, covenants and conditions of the Port Authority permit shall be controlling, effective and determinative.

(f) Notwithstanding the foregoing provisions of paragraphs (a), (b) and (c) above, the contract between the Port Authority and the Additional Operator may provide that the Additional Operator will pay to each of the Port Authority and the Lessee a basic minimum rental plus a percentage of Gross Receipts (with or without an annual exemption amount) to be shared equally between the Port Authority and the Lessee and will also pay to the Lessee an equal amount as such basic minimum rental, with such payments of the basic minimum rental and percentage fee to be made by the Additional Operator directly to the Port Authority and directly to the Lessee.

(g) The Additional Operator will furnish and install at its expense all necessary fixtures, stands, counters and equipment required in connection with its operation and all construction work necessary to accommodate such installations.

(h) The Port Authority may require the contract with the Additional Operator to include limitations as to the scope of the activities of such Additional Operator in light of the availability of similar services in the concession area or Premises.

(i) The Lessee understands and agrees that it may not itself nor will the Port Authority install or cause to be installed coin-operated lockers on the Premises.

Section 81. Subletting of the Premises for Consumer Services

(a) Irrespective of whether the Persons selected in accordance with this Agreement to furnish the consumer services set forth in Sections 74, 75, 76, 77, 78, 79, and 80 hereof have contracts with or are contractors or permittees of the Port Authority, the Lessee may require that such Persons enter into separate agreements or subleases with the Lessee as a condition precedent to the occupancy of space within and the operation of such establishments

upon the Premises, provided, however, that all such Persons must have first obtained a permit from the Port Authority authorizing them to operate such establishments. The terms and provisions of the said agreements or subleases shall not be inconsistent with the terms of this Agreement except that the same may provide for cancellation by the Lessee on short notice in the event the services furnished by such Persons are unsatisfactory to the Lessee.

(b) Section 73(j) shall fully apply with respect to subleases and other agreements entered into between the Lessee and a Person pursuant to this Section, including but not limited to the requirement of such Persons to pay to the Port Authority a fee, with such fee not in any event to exceed the fees or charges that would be retained by the Port Authority if their respective establishments were operated by regular concession operators of the Port Authority.

Section 82. Obligations in Connection with Consumer Services Agreements

The Port Authority shall administer all contracts and agreements with its tenants, licensees or permittees furnishing consumer services at the Premises. The Port Authority does not guarantee the payments of rentals and fees required to be paid by the tenant, licensee, permittee, concession operator or operator pursuant to the provisions of Sections 74, 75, 76, 77, 78, 79 and 80 hereof and shall have no obligation to the Lessee to make any payments to the Lessee under any circumstances. Each of the Port Authority and the Lessee, with respect to its own contracts and agreements for consumer services at the Premises, if so requested by the other party, will advise the other party of all accounts remaining delinquent for more than sixty (60) days and will consult with the other party as to the appropriate steps to effect collection. A default by the Port Authority in observing the provisions of the preceding sentence shall not result in the imposition of any liability on the Port Authority with respect to the Lessee.

Section 83. Termination by the Lessee

(a) If any one or more of the following events shall occur:

(1) If the Lessee shall be prevented from operating its air transportation system to and from the Airport by reason of its inability to use a substantial part of all of the Runways and Taxiways,

(i) for a period of longer than thirty (30) consecutive days, resulting from any condition of the Airport not due to the fault of the Lessee; or

(ii) for a period of longer than ninety (90) consecutive days, resulting from a permanent injunction issued by any court of competent jurisdiction; or

(iii) for a period of longer than ninety (90) consecutive days, resulting from any order, rule or regulation of the Federal Aviation Administration, or other governmental agency having jurisdiction over the operations of the Lessee with which the Lessee is unable to comply at reasonable cost or expense; or

(2) The Port Authority shall fail to perform any of its obligations under this Lease within twenty (20) days after receipt of notice of default thereunder from the Lessee (except where fulfillment of its obligation requires activity over a period of time and the Port Authority shall commence to perform whatever may be required for fulfillment within twenty (20) days after the receipt of notice and continues such performance without interruption, except for causes beyond its control);

then upon the occurrence of any such event or at any time thereafter during the continuance of the condition, the Lessee may by twenty (20) days' notice terminate the letting, such termination to be effective upon the date set forth in such notice and to have the same effect as if the term of the letting had on that date expired. No waiver by the Lessee of any default on the part of the Port Authority in performance of any of the terms, covenants or conditions hereof to be performed, kept or observed by the Port Authority shall be or be construed to be a waiver by the Lessee of any other or subsequent default in performance of any of the said terms, covenants and conditions.

(b) The payment of rentals by the Lessee for the period or periods after the Lessee shall have a right to terminate under this Section but before any such default of the Port Authority has been cured, shall not be or be construed to be a waiver by the Lessee of any such right of termination.

(c) The rights of termination described above shall be in addition to any other rights of termination provided in this Agreement and in addition to any rights and remedies that the Lessee would have at law or in equity consequent upon any breach of this Agreement by the Port Authority, and the exercise by the Lessee of any right of termination shall be without prejudice to any other such rights and remedies.

Section 84. Memorandum of Agreement

(a) The Lessee agrees that it shall, subject to the terms and conditions of Section 33 hereof, install, operate and maintain at its sole cost and expense a minimum of two (2) electronic ticketing kiosks in Building No. 60 upon notice to do so from the Port Authority at such locations as shall be set forth in such notice and shall monitor the usage of such kiosks, all in compliance with the MOA. Further, the Lessee shall provide public access between the Premises and Building No. 60 through the Flight Wing I Tube and the Flight Wing II Tube during such hours as shall be required by the Port Authority in its sole discretion including without limitation all appropriate signing as required by the Port Authority and the MOA. The Lessee shall operate and maintain all equipment and utilities serving the Flight Wing 1 Tube that it installed as part of the Redevelopment Work, the access doors to the vestibules in which the Flight Wing 1 Tube and the Flight Wing II Tube terminate, and all vertical circulation equipment providing access to the Flight Wing I Tube and the Flight Wing II Tube.

(b) The Lessee shall cooperate and coordinate with the Port Authority in the Port Authority's compliance with the MOA as such compliance pertains and relates to the Redevelopment Work, the Premises and the Lessee's operations thereat and further the Lessee shall cooperate and coordinate with any Person that is leasing, using, operating, restoring or occupying Building No. 60 with the permission of the Port Authority in providing access to and

from the Premises and the Flight Wing Tubes, the installation, operation and maintenance of the kiosks referred to in paragraph (a) of this Section.

(c) Notwithstanding anything to the contrary elsewhere in this Lease, including without limitation Section 10 hereof, the Lessee shall maintain any portions of Building No. 60, including without limitation the "trumpets", that are incorporated into the New Passenger Terminal (the "*Historic Elements*") in good condition and as required by the MOA and any governmental requirement, law, rule or regulation, such as, but not limited to, preparing maintenance and preservation guidelines for the treatment of the Historic Elements. The guidelines shall address the replacement and repair of the Historic Elements, on-going maintenance and cleaning. The guidelines shall prescribe periodic inspections and maintenance of the Historic Elements on a five-year cycle. The guidelines shall be submitted to the Port Authority for review and approval promptly following the Terminal Work Completion Date. Further, after the Terminal Work Completion Date, the Lessee shall perform an inspection of the Historic Elements every five years in accordance with the foregoing maintenance and preservation guidelines as approved by the Port Authority and submit a certified copy of the report to the Port Authority for approval. The inspection shall be conducted by an architect or engineer experienced in the restoration of historic structures.

Section 85. No Waiver by the Lessee

No failure by the Lessee to insist upon the strict performance of any agreement, term, covenant or condition of the Lease or to exercise any right or remedy consequent upon a breach or default thereof, and no extension, supplement or amendment of the Lease during or after a breach thereof, unless expressly stated to be a waiver, and no payment to the Port Authority of rentals, fees, charges or other payments in whole or in part after or during the continuance of any such breach or default, shall constitute a waiver of any such breach or default of such agreement, term, covenant or condition. No agreement, term, covenant or condition of the Lease to be performed or complied with by the Port Authority, and no breach or default thereof, shall be waived, altered or modified except by a written instrument executed by the Lessee. No waiver by the Lessee of any default or breach on the part of the Port Authority in performance of any agreement, term, covenant or condition of this Lease shall affect or alter the Lease, but each and every agreement, term, covenant and condition thereof shall continue in full force and effect with respect to any other then existing or subsequent breach or default thereof.

Section 86. Roads-No Restriction of Port Authority Right

Neither the provisions of Section 2 hereof entitled "Construction by the Lessee", nor the construction thereunder by the Lessee of any roadways located off of the Premises nor any payment of costs thereof by the Lessee shall prevent or restrict the right of the Port Authority to designate or to not designate, at its sole discretion, such roadways as part of the Air Terminal Highways, upon the Lessee's completion of the construction thereof, and to make the same available to the general public for general or limited highway in accordance with and subject to its policy or policies governing or which may govern such matters.

Section 87. Port Authority Payments For the Cost of the Redevelopment Work

(a) For the purposes of this Lease, the following terms shall have the respective meanings provided below:

(1) "*Allocable Elements of Work*" shall mean the Airside Civil Work, the Landside Civil Work, the Passenger Terminal Work, the Parking Garage Work and the Terminal 5 AirTrain Connector Work.

(2) "*Building No. 60 AirTrain Connector Work*" shall mean the work to plan, design, and construct an enclosed or covered connector from the Terminal 5/6 AirTrain Station to Building No. 60 which meets the requirements of the MOA as determined by the Port Authority.

(3) "*Carrying Cost*" shall mean an amount equal to the capitalized "Financial Expense" of the Port Authority attributed to the Cost of the Lessee's Redevelopment Work Elements as such Financial Expense is computed and recorded by the Port Authority's accounting system.

(4) "*Cost of the Airside Civil Work*" shall mean the sum of the following amounts, and such amounts only, actually paid or payable by the Lessee to the extent that the inclusion of the same is permitted by generally accepted accounting practices consistently applied (it being understood that the Cost of the Airside Civil Work shall in no event include any of the Cost of the Lessee's $80 Million Work or any of the Temporary Facilities Cost or any of the Lessee's Shared Environmental Costs):

(aa) amounts actually paid or payable by the Lessee to independent third party contractors for work actually performed, labor actually furnished, and materials and equipment actually furnished and installed (except as otherwise approved by the Port Authority pursuant to paragraph (m) of this Section) in connection with the Airside Civil Work (all such amounts in this Item A being herein referred to as the "*Airside Civil Work Item A Costs*"); and

(bb) Soft Costs directly charged or allocated to the Cost of the Airside Civil Work pursuant to paragraph (k) of this Section; and

(cc) General Construction Costs directly charged or allocated to the Cost of the Airside Civil Work pursuant to paragraph (l) of this Section.

(5) "*Cost of the Building No. 60 AirTrain Connector Work*" shall mean an amount equal to the actual costs of the Building No. 60 AirTrain Connector Work as computed and recorded by the Port Authority's accounting system including without limitation the lump sum amount for the Port Authority Requested Change Order covering such work, or in the event the parties cannot agree on the lump sum amount, the cost of the work as determined by time and materials in an amount not to exceed an agreed upon maximum cost for the Building No. 60 AirTrain Connector Work, provided, however, if the Cost of the Building No. 60

AirTrain Connector Work shall not have been determined on or prior to the Final Payment Date, the Cost of the Building No. 60 AirTrain Connector Work shall mean an amount equal to the sum of the actual costs of the Building No. 60 AirTrain Connector Work as computed and recorded by the Port Authority's accounting system as of the Final Payment Date and the cost estimate for the all or the remainder of the Cost of the Building No. 60 AirTrain Connector Work, as the case shall be, as determined by the Chief Engineer of the Port Authority. The Port Authority shall provide to the Lessee the amount of the Cost of the Building No. 60 AirTrain Connector Work if requested by the Lessee in a notice given by the Lessee on or after the Final Payment Date, such estimate to be provided by the Port Authority to the Lessee within ninety (90) days's after the Port Authority's receipt of such notice.

(6) "*Cost of the Landside Civil Work*" shall mean the sum of the following amounts, and such amounts only, actually paid or payable by the Lessee to the extent that the inclusion of the same is permitted by generally accepted accounting practices consistently applied (it being understood that the Cost of the Landside Civil Work shall in no event include any of the Cost of the Lessee's $80 Million Work or any of the Temporary Facilities Cost or any of the Lessee's Shared Environmental Costs):

(aa) amounts actually paid or payable by the Lessee to independent third party contractors for work actually performed, labor actually furnished and materials and equipment actually furnished and installed (except as otherwise approved by the Port Authority pursuant to paragraph (m) of this Section) in connection with the Landside Civil Work (all such amounts in this Item (aa) being herein referred to as the "*Landside Civil Work Item A Costs*"); and

(bb) Soft Costs directly charged or allocated to the Cost of the Landside Civil Work pursuant to paragraph (k) of this Section; and

(cc) General Construction Costs directly charged or allocated to the Cost of the Landside Civil Work pursuant to paragraph (l) of this Section.

(7) "*Cost of the Lessee's Redevelopment Work Elements*" shall mean an amount equal to the sum of the Cost of the Airside Civil Work, the Cost of the Landside Civil Work, the Cost of the Parking Garage Work, the Cost of the Passenger Terminal Work, the Cost of the Terminal 5 AirTrain Connector Work, the Lessee's Shared Environmental Costs, the Lessee's Administrative Amount, the Cost of Port Authority Construction Inspection, the Cost of Port Authority Garage Materials Inspection and the Carrying Cost, provided, however, the Cost of the Lessee's Redevelopment Work Elements shall in no event include any of the Cost of the Lessee's $80 Million Work or any of the Temporary Facilities Cost.

(8) The "*Cost of the MOA Curtain Wall Work*" shall mean the lesser of the amounts set forth in subparagraph (aa) below and the amounts set forth in subparagraph (bb) below, and such amounts only, to the extent that the inclusion of the same is permitted by generally accepted accounting practices consistently applied (it being understood that the Cost of the MOA Curtain Wall Work shall in no event include any of the Cost of the Lessee's $80 Million Work or any of the Temporary Facilities Cost):

(aa) amounts actually paid or payable by the Lessee to independent third party contractors for work actually performed, labor actually furnished and materials and equipment actually furnished and installed in connection with the construction of that portion of the façade and curtain wall of the New Passenger Terminal which faces Building No. 60 in excess of $75.00 per square foot, but only if such excess costs are required solely to satisfy the requirements of the MOA and paragraph (c) of Section 2 of this Lease, and

(bb) amounts actually paid or payable by the Lessee to independent third party contractors for work actually performed, labor actually furnished and materials and equipment actually furnished and installed in connection with the construction of that portion of the façade and curtain wall of the New Passenger Terminal which faces Building No. 60 in excess of the estimated cost of thereof as shown and specified in the work and materials of the facade and curtain wall proposed by JetBlue in the 100% contract drawings dated 8/12/05 as such estimated cost shall be determined by the Chief Engineer of the Port Authority, but only if such excess costs are required solely to satisfy the requirements of the MOA and paragraph (c) of Section 2 of this Lease.

(9) "*Cost of the Parking Garage Work*" shall mean the sum of the following amounts, and such amounts only, actually paid or payable by the Lessee to the extent that the inclusion of the same is permitted by generally accepted accounting practices consistently applied (it being understood that the Cost of the Parking Garage Work shall not include any of the Lessee's Shared Environmental Costs, any of the Cost of the Lessee's $80 Million Work or any of the Temporary Facilities Costs):

(aa) amounts actually paid or payable by the Lessee to independent third party contractors for work actually performed, labor actually furnished, and materials and equipment actually furnished and installed (except as otherwise approved by the Port Authority pursuant to paragraph (m) of this Section) in connection with the Parking Garage Work (all such amounts in this Item (aa) being herein referred to as the "*Parking Garage Work Item A Costs*"); and

(bb) Soft Costs directly charged or allocated to the Cost of the Parking Garage Work pursuant to paragraph (k) of this Section; and

(cc) General Construction Costs directly charged or allocated to the Cost of the Parking Garage Work pursuant to paragraph (l) of this Section.

(10) "*Cost of the Passenger Terminal Work*" shall mean the sum of the following amounts, and such amounts only, actually paid or payable by the Lessee to the extent that the inclusion of the same is permitted by generally accepted accounting practices consistently applied (it being understood that the Cost of the Passenger Terminal Work shall in no event include any of the Cost of the Lessee's $80 Million Work, any of the Temporary Facilities Cost, any of the Cost of the MOA Curtain Wall Work or any of the Lessee's Shared Environmental Costs):

(aa) amounts actually paid or payable by the Lessee to independent third party contractors for work actually performed, labor actually furnished and materials and equipment actually furnished and installed (except as otherwise approved by the Port Authority pursuant to paragraph (m) of this Section) in connection with the Passenger Terminal Work (all such amounts in this Item (aa) being herein referred to as the "*Passenger Terminal Work Item A Costs*"), provided, however, Passenger Terminal Work Item A Costs shall not include any of the Lessee's $80 Million Work, any of the Temporary Facilities Work, any of the Cost of the MOA Curtain Wall Work or any of the work included in the Lessee's Shared Environmental Costs;

(bb) Soft Costs directly charged or allocated to the Cost of the Passenger Terminal Work pursuant to paragraph (k) of this Section; and

(cc) General Construction Costs directly charged or allocated to the Cost of the Passenger Terminal Work pursuant to paragraph (l) of this Section.

(11) "*Cost of Port Authority Construction Inspection*" shall mean the lesser (i) [redacted] (Ex. 2.a.) and (ii) the product derived by multiplying the amount of [redacted] by a fraction the numerator of which shall be the Cost of the Lessee's Redevelopment Work Elements and the denominator of which shall be

(12) "*Cost of the Port Authority Redevelopment Work Elements*" shall mean an amount equal to the sum of the Port Authority's Eligible Below Ground Asbestos Disposal Costs, the Port Authority's Shared Soil Disposal Costs, the Port Authority's Incremental Dewatering Costs, the Port Authority's Backfill Costs, the Port Authority's Non-shared Soil Disposal Costs and the Net Cost of Port Authority Requested Change Orders.

(13) "*Cost of Port Authority Garage Materials Inspection*" shall mean the lesser of: (x) the amount of [redacted] (Ex. 2.a.) and (y) the cost of the Port Authority for materials inspections for the Parking Garage Work, excluding HVAC, elevators, escalators and surveys, as such cost is computed and recorded by the Port Authority's accounting system.

(14) "*Cost of Port Authority Requested Change Order*" shall mean for each Port Authority Requested Change Order and "*Cost of Port Authority Requested Change Orders*" shall collectively mean for all Port Authority Requested Change Orders (it being understood between the parties that if the MOA Curtain Wall Work and/or the MOA Flight Wing II Work and/or the Building No. 60 AirTrain Connector Work are performed by the Lessee, such work shall be performed pursuant to a Port Authority Requested Change Order) either (x) the all inclusive lump sum amount agreed to by the Lessee and the Port Authority for the work required of such Port Authority Requested Change Order or (y) in the event the parties cannot agree on the lump sum amount, the cost of the work as determined by time and materials, not to exceed an agreed upon maximum cost, actually paid or payable by the Lessee plus Port

Authority Delay Costs , provided, however, and notwithstanding the foregoing, if the work, materials or equipment covered by a Port Authority Requested Change is part of the Element Budget for the Cost of the Lessee's Redevelopment Work Elements, then only the incremental cost of such Port Authority Requested Change Order shall be included in any Cost of the Port Authority Requested Change Order or in the Cost of the Port Authority Redevelopment Work Elements and the remainder of the amounts paid or payable under such Port Authority Requested Change Order shall be included in the Cost of the Lessee's Redevelopment Work Elements.

(15) "*Cost of the Lessee's $80 Million Work*" shall mean the amounts, and such amounts only, actually paid or payable by the Lessee to the extent that the inclusion of the same is permitted by generally accepted accounting practices consistently applied (it being understood that the Cost of the Lessee's $80 Million Work shall in no event include any of the Temporary Facilities Cost, any of the Cost of the MOA Curtain Wall Work or any of the Lessee's Shared Environmental Costs):

(aa) the lesser of the amount of (Ex.2.a.) and the amount actually paid or payable by the Lessee to independent third party contractors for work actually performed, labor actually furnished and materials and equipment actually furnished and installed (except as otherwise approved by the Port Authority pursuant to paragraph (m) of this Section) in connection with the Lessee's $80 Million Work ;

(bb) an amount equal to five percent (5%) of the amounts in (aa) (the Lessee's $80 Million Work Soft Costs"); and

(cc) an amount equal to twelve percent (12%) of the amounts in (aa) (the Lessee's $80 Million Work General Construction Costs");

as the above mentioned amounts are evidenced by a notarized certificate of a responsible fiscal officer of the Lessee and delivered to the Port Authority on or before the Tentative Final Certificate Date, which certificate shall:

(aa) set forth, in reasonable detail, the amounts paid to specified independent third party contractors and the amount of payments made to other specified Persons for the Lessee's $80 Million Work and identify and explain how these amounts are excluded from the amount of Item A Costs for the purpose of determining the Cost of the Redevelopment Work;

(bb) have attached thereto reproduction copies or duplicate originals of the invoices of such independent third party contractors and other Persons and an acknowledgment by such independent contractors and other Persons of the receipt by them of such amounts and payments;

(cc) set forth the amounts of the Lessee's $80 Million Work Soft Costs and the Lessee's $80 Million Work General Construction Costs and identify and explain how these amounts are to be excluded from the amount of the Soft Costs and

the amount of the General Construction Costs for the purpose of determining the Cost of the Redevelopment Work; and

(dd) certify that the amounts and payments therein set forth constitute all or a portion of the Lessee's $80 Million Work and that none of the amounts and payments have been or will be included in the Cost of the Redevelopment Work or in any of the certificates submitted by the Lessee pursuant to paragraph (d) of this Section.

The Cost of the Lessee's $80 Million Work shall include only Shell Completion Work performed by the Lessee in accordance with all the terms and provisions of this Lease and on or prior to the Tentative Final Certificate Date. It is specifically understood and agreed that the Lessee's $80 Million Work shall not include any payment or payments on account of any administrative or other overhead costs of the Lessee whether or not allocated to the Lessee's $80 Million Work by the Lessee's own accounting practices.

(16) "*Cost of the Redevelopment Work*" shall mean an amount equal to the sum of (i) the Cost of the Port Authority Redevelopment Work Elements, (ii) the Port Authority's Share of the Cost of the Lessee's Redevelopment Work Elements and (iii) the Port Authority's Share of the Lessee's Project Contingency Costs, provided, however, as used in paragraphs (c), (d) and (g) of this Section with respect to amounts that the Port Authority is to pay the Lessee, "Cost of the Redevelopment Work" shall be deemed to not include Carrying Costs, the Cost of Port Authority Garage Materials Inspection and the Cost of Port Authority Construction Inspection.

(17) "*Cost of the Terminal 5 AirTrain Connector Work*" shall mean the sum of the following amounts, and such amounts only, actually paid or payable by the Lessee to the extent that the inclusion of the same is permitted by generally accepted accounting practices consistently applied (it being understood that the Cost of the Terminal 5 AirTrain Connector Work shall in no event include any of the Cost of the Lessee's $80 Million Work or any of the Temporary Facilities Cost or any of the Lessee's Shared Environmental Costs):

(aa) amounts actually paid or payable by the Lessee to independent third party contractors for work actually performed, labor actually furnished and materials and equipment actually furnished and installed (except as otherwise approved by the Port Authority pursuant to paragraph (m) of this Section) in connection with the Terminal 5 AirTrain Connector Work (all such amounts in this Item (aa) being herein referred to as the "*Terminal 5 AirTrain Connector Work Item A Costs*"); and

(bb) Soft Costs directly charged or allocated to the Cost of the Terminal 5 AirTrain Connector Work pursuant to paragraph (k) of this Section; and

(cc) General Construction Costs directly charged or allocated to the Cost of the Terminal 5 AirTrain Connector Work pursuant to paragraph (l) of this Section.

(18) "*Element of Cost*" shall mean each of and "*Elements of Costs*" shall mean all of the following: the Port Authority's Eligible Below Ground Asbestos Disposal Costs; the Port Authority's Shared Soil Disposal Costs; the Port Authority's Incremental

Costs; the Port Authority's Shared Soil Disposal Costs; the Port Authority's Incremental Dewatering Costs; the Port Authority's Non-shared Soil Disposal Costs; the Port Authority's Backfill Costs; the Lessee's Shared Environmental Costs; the Net Cost of Port Authority Requested Change Orders; the Cost of the Airside Civil Work; the Cost of the Landside Civil Work; the Cost of the Parking Garage Work; the Cost of the Passenger Terminal Work; the Cost of the Terminal 5 AirTrain Connector Work; the Carrying Cost; the Lessee's Administrative Amount; the Cost of Port Authority Garage Materials Inspection; and the Cost of Port Authority Construction Inspection.

(19) "*Final Date*" shall mean the last day of the month in which the second (2nd) anniversary of the Tentative Final Certificate Date shall occur.

(20) "*General Construction Costs*" shall mean amounts actually paid or payable by the Lessee to independent third parties for general conditions, construction management and field supervision, performance and payment bonds, insurance, testing, inspection and surveys in connection with the Redevelopment Work (without duplication and excluding any amounts included in Item (A) Costs and Soft Costs).

(21) "*Item A Costs*" shall mean the amounts set forth in Item (aa) of the definitions of each of the Cost of the Airside Civil Work, the Cost of the Landside Civil Work, the Cost of the Passenger Terminal, the Cost of the Parking Garage Work and the Cost of the Terminal 5 AirTrain Connector Work.

(22) "*Lessee's Administrative Amount*" shall mean the lesser of (i) and (ii) the product derived by multiplying the amount of (Ex.2.a.) by a fraction the numerator of which shall be the Cost of the Lessee's Redevelopment Work Elements and the denominator of which shall be

(23) "*Lessee's $80 Million Work*" shall mean that portion of the Shell Completion Work that is included in the first Shell Completion Work performed after the Shell Completion Date but on or prior to the Tentative Final Certificate Date, is included in the Cost of the Lessee's $80 Million Work and is set forth in a notarized certificate of a responsible officer of the Lessee and delivered to the Port Authority on or before the Tentative Final Certificate Date, which certificate shall clearly list, specify and set forth a complete description and location of the Lessee's $80 Million Work as shall be necessary to appropriately identify the Lessee's $80 Million Work from the rest of the Redevelopment Work, including without limitation serial numbers, quantities and model numbers.

(24) "*Net Cost of Port Authority Requested Change Orders*" shall mean an amount equal to cumulative total, after taking into account all credits and extras, of the Cost of Port Authority Requested Change Orders.

(25) "*Outstanding Claim*" shall mean any claim and demand of a third person arising out of the performance of the Port Authority Payment Work which claim and demand if paid by the Lessee would be included as part of the Cost of the Redevelopment Work

and such claim and demand is being disputed by the Lessee in a court of competent jurisdiction and the dispute has not been settled or finally adjudicated.

(26) "*Port Authority Delay Costs*" shall mean identifiable and quantifiable additional costs arising solely because of a schedule delay due to a Port Authority Requested Change Order provided that such costs are included in the Port Authority Requested Change Order as approved by the Port Authority. In the event that the Lessee shall have submitted an estimate for a Port Authority Requested Change that includes proposed amounts for Port Authority Delay Costs which the Port Authority Director of Redevelopment disagrees with, the Chief Engineer of the Port Authority shall determine the amount of Port Authority Delay Costs for such Port Authority Requested Change and such determination by the Chief Engineer of the Port Authority shall be the amount of Port Authority Delay Costs included in the Port Authority Requested Change Order.

(27) "*Port Authority Payment*" shall mean each payment made by the Port Authority to the Lessee for the Cost of the Redevelopment Work pursuant to paragraph (d) of this Section.

(28) "*Port Authority Payment Work*" shall mean that portion of the Redevelopment Work that is included in the Cost of the Redevelopment Work as such term is used in paragraphs (c), (d) and (g) of this Section.

(29) "*Port Authority's Share of the Cost of the Lessee's Redevelopment Work Elements*" shall mean the lesser of (x) the amount equal to the difference obtained by subtracting from the amount of (Ex.2.a.) an amount equal to the sum of the Carrying Cost, the Cost of Port Authority Construction Inspection and the Cost of Port Authority Garage Materials Inspection, and (y) the amount equal to the difference obtained by subtracting from the Cost of the Lessee's Redevelopment Work Elements an amount equal to the sum of the Carrying Cost, the Cost of Port Authority Construction Inspection and the Cost of Port Authority Garage Materials Inspection.

(30) "*Port Authority's Share of the Lessee's Project Contingency Costs*" shall be zero unless both the following events shall have occurred: (x) the Cost of the Lessee's Redevelopment Work Elements shall exceed the amount of (Ex.2.a.) and (y) the Port Authority shall have received notice from the Lessee that the Lessee requests that the Port Authority reimburse the Lessee for the Port Authority's Share of the Lessee's Project Contingency Costs pursuant to and as provided in this Section 87; then upon the occurrence of both events set forth in the foregoing clauses (x) and (y) having occurred, "*Port Authority's Share of the Lessee's Project Contingency Costs*" shall mean an amount equal to the lesser of

(A) the amount obtained by subtracting from the amount of (Ex.2.a.), the difference obtained by subtracting the sum of the Carrying Cost, the Cost of Port Authority Construction Inspection and the Cost of Port Authority Garage Materials Inspection at the time that the Cost of the

Lessee's Redevelopment Work Elements first exceeds the amount of (Ex.2.a.) from the sum of the Carrying Cost, the Cost of Port Authority Construction Inspection and the Cost of Port Authority Garage Materials Inspection, and

(B) the amount obtained by subtracting from the Cost of the Lessee's Redevelopment Work Elements, the sum of (x) (Ex.2.a.) (y) the difference obtained by subtracting the sum of the Carrying Cost, the Cost of Port Authority Construction Inspection and the Cost of Port Authority Garage Materials Inspection at the time that the Cost of the Lessee's Redevelopment Work Elements first exceeds the amount of (Ex.2.a.) from the sum of the Carrying Cost, the Cost of Port Authority Construction Inspection and the Cost of Port Authority Garage Materials Inspection .

(31) "*Project Contingency Payment*" shall mean each of and "*Project Contingency Payments*" shall mean all of the Port Authority Payments made to the Lessee for the Port Authority's Share of the Lessee's Project Contingency Costs.

(32) "*Redevelopment Work Certificate*" shall mean each certificate submitted by the Lessee pursuant to and in accordance with paragraph (d) hereof which meets all of the requirements of paragraph (d) hereof.

(33) "*Shell Completion Work*" shall mean those components of the Redevelopment Work set forth in the exhibit attached hereto, hereby made a part and marked "Exhibit 87.1" (herein referred to as "*Exhibit 87.1*").

(34) "*Shell Completion Date*" shall mean the date the Port Authority shall determine that the headhouse roof and exterior walls are sufficiently water tight that the Lessee can commence performance of on site construction or installation of any Shell Completion Work, as such date shall be set forth in a notice given by the Port Authority to the Lessee.

(35) "*Soft Costs*" shall mean the lesser of (x) (Ex.2.a.) and (y) amounts actually paid or payable by the Lessee to independent third parties for planning, design, engineering, architectural, project management and program management and the Lessee's Cost of the Initial Post Construction Baseline (all of the Lessee's Cost of the Initial Post Construction Baseline to be allocated to the Cost of the Airside Civil Work) in connection with the Redevelopment Work without duplication of any other Cost of the Redevelopment Work, including without limitation, the inclusion therein of any General Construction Costs, the Lessee's Administrative Amount, the Cost of Port Authority Garage Materials Inspection and the Cost of Port Authority Construction Inspection and shall not include any amounts included in the Cost of the Lessee's $80 Million Work or the Temporary Facilities Cost.

(36) "*Temporary Facilities Cost*" shall mean all costs incurred by the Lessee to perform the Temporary Terminal Work except for the amounts actually paid or

payable by the Lessee to independent third party contractors for the purchase of the jet bridges and lounge furniture that are installed at the New Passenger Terminal. None of the Temporary Facilities Cost shall be a part of the Cost of the Redevelopment Work.

(37) "*Tentative Final Certificate Date*" shall mean the earlier to occur of (i) the day prior to the first anniversary of Completion Date, if the Completion Date is the first day of the month, and if not, then the last day of the calendar month in which the first anniversary of the Completion Date shall occur and (ii) the sixth (6th) anniversary of the Lease Commencement Date if the Lease Commencement Date is the first day of the month, and if not, then the last day of the calendar month in which the sixth (6th) anniversary of the Lease Commencement Date shall occur.

(b) It is specifically understood and agreed that notwithstanding anything to the contrary herein, costs and expenses of the Redevelopment Work shall be reimbursed by the Port Authority as provided herein and only to the extent provided for herein and properly includable in (i) the Cost of the Port Authority Redevelopment Work Elements to the extent such costs and expenses are properly incurred by the Lessee, or (ii) the Port Authority's Share of the Cost of the Lessee's Redevelopment Work Elements to the extent such costs and expenses are properly incurred by the Lessee, or (iii) the Port Authority's Share of the Lessee's Project Contingency Costs to the extent such costs and expenses are properly incurred by the Lessee; and the Lessee shall perform all of the Redevelopment Work at its sole cost and expense without any payment thereof by the Port Authority except as expressly set forth in this Section.

(c) (1) The Cost of the Redevelopment Work shall include only Port Authority Payment Work performed by the Lessee in accordance with all the terms and provisions of this Lease and the Redevelopment Work Construction Applications.

(2) It is specifically understood and agreed that the Cost of the Redevelopment Work shall not include:

(i) any amounts paid for or in connection with any trade fixtures or other personal property of the Lessee, provided, however, the Cost of the Redevelopment Work may include trade fixtures that are not part of the Lessee's $80 Million Work provided that such trade fixtures are not proprietary and can be used by any Scheduled Aircraft Operator without any modification thereto, it being understood and agreed that title to all such trade fixtures shall have passed to the City of New York as provided for in paragraph (k) of Section 2 hereof; or

(ii) any payment or payments on account of any administrative or other overhead costs or any payment to employees of the Lessee whether or not allocated to the Cost of the Redevelopment Work by the Lessee's own accounting practices in excess of the Lessee's Administrative Amount; or

(iii) any amounts paid to a firm or corporation wholly or partially owned by or in common ownership with the Lessee, provided, however, amounts paid or payable to LiveTV, LLC for any services, equipment, materials or other items which are not

proprietary and are not in excess of the fair market value thereof may be included in the Cost of the Redevelopment Work; or

(iv) any equipment, fixture or improvements which are secured by liens, mortgages, other encumbrances or conditional bills of sale; or

(v) any amounts for the Lessee's $80 Million Work; or

(vi) any Temporary Facilities Cost.

(d) The Port Authority shall reimburse the Lessee for the Cost of the Redevelopment Work to the extent such costs and expenses are properly incurred by the Lessee and to the extent and subject to and in accordance with the terms and provisions of this Section, including without limitation, as follows:

(1) On or before the twentieth (20th) day of the calendar month following the month in which the Lease Commencement Date shall occur, and on or before the twentieth (20th) day of each calendar month thereafter up to and including the calendar month in which the Tentative Final Certificate Date shall occur, provided, however, in the event that there shall be any Outstanding Claims as of the Tentative Final Certificate Date the costs of which the Lessee's wishes to be paid for pursuant to this Section, and only in such event, then with respect to those Redevelopment Work Certificates solely covering such Outstanding Claims, then up to and including the calendar month in which the Final Date shall occur, the Lessee shall, but not more often than once a month, deliver to the Port Authority a notarized certificate which shall be signed by a responsible fiscal officer of the Lessee and shall:

(i) certify and set forth the amounts of actual payments made by the Lessee and the amounts actually due and payable from the Lessee to its independent third party contractors contained in the certificate for work actually performed, labor actually furnished and materials and equipment actually furnished and installed (except as approved by the Port Authority pursuant to paragraph (m) of this Section) for the Port Authority Payment Work for each of the Elements of Costs;

(ii) separately certify and state the amounts of actual payments made by the Lessee and the amounts due and payable from the Lessee to its independent third party contractors in connection with the Port Authority Payment Work contained in the certificate for planning, design, engineering, architectural, project management, program management, general conditions, construction management, field supervision, performance and payment bonds, testing, inspection and surveys and separately certify and state the foregoing for each of the Elements of Costs;

(iii) have attached thereto reproduction copies or duplicate originals of the invoices of such independent third party contractors and other persons (whether such invoices are paid or unpaid) and for such invoices which have been paid, an acknowledgment by such independent contractors and other persons of the receipt by them of such amounts and payments;

(iv) have attached thereto appropriate AIA forms such as but not limited to Form 702/CMa and Form 703 with a breakdown of each of the aforesaid amounts, payments and expenses which constitute portions of the Cost of the Redevelopment Work, listed separately by contract (or other agreement) (with sufficient detail as to identification of costs and retainage) for each contractor or other person to whom payment has been made separately setting such breakdown for each of the Elements of Costs; it being expressly understood and agreed that each Redevelopment Work Certificate shall be for amounts net of retainage with respect to each contract and each Redevelopment Work Certificate shall state the amounts of such retainage on a cumulative basis as to each and every such contract and subcontract.

(v) certify that all due and payable amounts included by the Lessee in all certificates against which a Port Authority Payment has been made to the Lessee (with exception of the certificate submitted by the Lessee for the immediately preceding calendar month) have been paid by the Lessee and shall have attached thereto or included therein such verification as shall be required by the Port Authority that all such amounts have been paid;

(vi) certify the total cumulative payments made by the Lessee from the commencement of the Port Authority Payment Work to the date of each certificate for the Port Authority Payment Work and the total cumulative payments made by the Lessee from the commencement of the Port Authority Payment Work to the date of each certificate for each of the Elements of Costs;

(vii) contain a representation by the Lessee that the Lessee will apply the Port Authority Payment only against expenses actually payable as Cost of the Redevelopment Work and for no other purpose whatsoever;

(viii) certify that the amounts and payments therein set forth constitute the Cost of the Redevelopment Work;

(ix) certify that the work for which payment is requested has been accomplished, that the amounts requested have been paid or are due and payable to the Lessee's contractors, and, subject to the concurrence of the Port Authority, that such work is in place and has a value of not less than the amount requested to be paid (except as otherwise approved by the Port Authority pursuant to paragraph (m) of this Section);

(x) certify that each portion of the Port Authority Payment Work covered by such certificate has been performed in accordance with the terms of this Lease, the Redevelopment Work Construction Applications and the applicable contract;

(xi) have attached thereto accurate, readable and complete copies of all change order logs, extra work authorization logs, design change authorization logs and purchase orders in connection with the Port Authority Payment Work;

(xii) have attached thereto a certification signed by the Lessee's licensed Architect(s) of Record or licensed Engineer(s) of Record that the applicable portion of

the work is in compliance with the Redevelopment Work Construction Applications and the plans and specifications forming a part thereof as approved by the Port Authority;

(xiii) certify that except for the amount, if any, stated in such Redevelopment Work Certificate to be due for work, services and materials, there is no outstanding indebtedness known to the person signing such Redevelopment Work Certificate, after due inquiry, then due on account of the purchase of any equipment or fixtures described in the Redevelopment Work Certificate or for labor, wages, materials, supplies or services in connection with any Redevelopment Work whether or not described in or covered by such Redevelopment Work Certificate which, if unpaid, might become the basis of a vendor's, mechanic's, laborer's or materialmen statutory or similar lien or alleged lien upon such work or upon the Redevelopment Work Sites or any portion thereof, or upon the Lessee's leasehold interest in the Premises, nor are any of the improvements, equipment or fixtures described in such Redevelopment Work Certificate secured by any liens, mortgages, security interests or other encumbrances, provided, however, nothing contained herein shall be deemed or construed as a submission by the Port Authority to the application to itself of any such lien;

(xiv) if the certificate covers materials and equipment stored at off-site locations approved by the Port Authority, then have attached thereto all of the evidence required by paragraph (h) of this Section;

(xv) if the certificate covers equipment for which the Lessee has requested progress payments or payment for long lead order placement be made as set forth in paragraph (m) of this Section, then the Lessee shall certify the amounts representing the value of the equipment at the time of request or the actual amount of the payment for long lead order placement and have attached thereto all documentation required by such paragraph (m) and such other documentation as may be required by the Port Authority;

(xvi) if the certificate covers the Initial Post Construction Baseline, then have attached thereto all of the information required by paragraph (m)(4) of Section 56 hereof;

(xvii) for each item of personal property covered by the certificate, a bill of sale therefore showing ownership of such personal property in the Port Authority and identifying the same by serial number or other similar identification number and the location where the same was installed as a part of the Redevelopment Work;

(xviii) if certificate covers retainage to be released pursuant to the provisions of paragraph (n) of this Section , then a copy of a duly executed copy of a release in the form attached hereto as Exhibit 87.2; and

(xix) contain such further information and documentation with respect to the Cost of the Redevelopment Work as the Port Authority may from time to time require, which information, documentation and certification shall be given on such forms as may be adopted by the Port Authority.

(2) In addition to and without limiting the foregoing, and in addition to any and all other information required to be submitted pursuant to this Lease, the Lessee shall furnish to the Port Authority information concerning budget, costs, costs estimates, plans and specifications, timing, scheduling and performance of the Port Authority Payment Work as may be requested by the Port Authority, from time to time including but not limited to the following:

(i) the Lessee's original detailed cost estimates for each of the Elements of Costs, prepared by an independent engineering consultant, independent licensed architect or independent construction management firm specializing in cost estimating and budgeting, that the cost estimates for each of the Elements of Costs submitted by the Lessee are consistent with standard engineering practices, and that the same represent reasonable prices for the work in question;

(ii) reports of the Lessee's full-time resident engineer or licensed architect referred to in paragraph (g) of Section 2 of this Lease as to activity conducted in connection with the Redevelopment Work for each and every day from the commencement of the work to the date of submission;

(iii) certifications signed by the Lessee's Construction Manager, Engineer(s) of Record, or Architect(s) of Record certifying the value of work in place;

(iv) certifications signed by the Lessee's licensed Architect(s) of Record or licensed professional Engineer(s) of Record that the applicable portion of the Redevelopment Work is in compliance with the plans and specifications therefore as approved by the Port Authority;

(v) true copies of all reports of and schedules of any type submitted or kept, or required to be submitted or kept, by the Lessee or any contractor, architect, engineer or other consultant of the Lessee, which reports must contain reports as to activity conducted in connection with the Redevelopment Work on a continuing basis from the commencement of the Redevelopment Work to the date of submission;

(vi) true copies of any and all of the items described in and required under paragraph (d)(3) of this Section; and

(vii) accurate, readable and complete copies of any or all Change Orders, extra work authorizations, design change authorizations, and purchase orders in connection with the Redevelopment Work.

(3) Except with respect to the payment of amounts covered by the Tentative Final Redevelopment Work Certificate and the Final Redevelopment Work Certificate, if any, which payments shall be made by the Port Authority as set forth in subparagraph (5) of this paragraph (d), within thirty (30) days after the delivery of each duly submitted Redevelopment Work Certificate by the Lessee satisfying in full the requirements of this paragraph (d) as determined by the Port Authority, the Port Authority shall pay to the Lessee the

following amounts to the extent that such amounts or any portion thereof have not been included in any prior Redevelopment Work Certificate:

(i) an amount on account of the Lessee's Administrative Amount of this Section to the extent that such amount or any portion thereof is part of the Cost of the Redevelopment Work and has not theretofore been included in any prior Redevelopment Work Certificate, and

(ii) the amounts paid by the Lessee or payable by the Lessee to independent third parties, as certified in such Redevelopment Work Certificate, to the extent that such amounts or any portion thereof are part of the Cost of the Redevelopment Work and have not theretofore been included in any prior Redevelopment Work Certificate, less (x) retainage, and (y) the amount of any claims made against the Port Authority by subcontractors, materialmen or workmen, if any, in connection with any of the work described in such certificate.

(4) In addition to and without limiting the foregoing provisions and without limiting or impairing or waiving any other right or remedy of the Port Authority under this Lease or otherwise, the Port Authority shall have the right, in its discretion, to withhold from any of the aforesaid payments to the Lessee the amounts of any or all items contained in a Redevelopment Work Certificate if any the following shall have occurred:

(i) if the Port Authority's inspection and/or audit does not substantiate the contents of such certificate, but the Port Authority shall have no obligation to conduct any such inspection or audit;

(ii) in the event this Lease is not in full force and effect, or the Lessee shall be under a notice of termination of the Lease, or in default under any term or provision thereof, provided, however, no payment or withholding of a Port Authority Payment shall be or be deemed to be a waiver of any rights of the Port Authority with respect to the termination of the Lease, or to a default by the Lessee under any term or provision thereof, or to the withholding or payment of future Port Authority Payments.

(iii) all due and payable amounts included on all previously submitted Redevelopment Work Certificates and for which a Port Authority Payment has been made, have not been paid by the Lessee and the payment thereof verified to the satisfaction of the Port Authority (unless such amounts are being withheld by the Lessee pursuant to paragraph (g) of Section 2 of this Agreement, and the amount so withheld shall have been deducted from the amount of a Port Authority Payment);

(iv) any contractor or other Person included or covered by the Redevelopment Work Certificate is in default or under a notice of termination with respect to its contract or agreement, or has not complied with all of the applicable terms or provisions of its contract or agreement;

(v) the Redevelopment Work Certificate or any of the certifications and documentation and other items required to be contained therein, attached thereto or submitted therewith is not in accord with the terms of this Lease or the applicable contract, or is not complete or is otherwise improper or inadequate, or the same fails to include or omits required items;

(vi) inadequate or defective work or work not in accordance with this Lease or the Redevelopment Work Construction Applications, or materials and equipment are not properly stored or protected;

(vii) claims related to the Port Authority Payment Work made by the Port Authority against a contractor included in such Redevelopment Work Certificate which are outstanding; or

(viii) work not performed but for which a Redevelopment Work Certificate has been submitted.

(5) Tentative Final Certificate and Final Certificate:

(i) (aa) If there are no Outstanding Claims on the Tentative Final Certificate Date, the Lessee shall mark as "final" its last Redevelopment Work Certificate submitted on or before the Tentative Final Certificate Date and if there are Outstanding Claims on the Tentative Final Certificate Date, the Lessee shall mark as "tentatively final" its last Redevelopment Work Certificate submitted on or before the Tentative Final Certificate Date. Unless there are one or more Outstanding Claims on the Tentative Final Certificate Date, the Lessee shall submit no further certificates hereunder for the Port Authority Payment Work after the Tentative Final Certificate Date and if there are Outstanding Claims on the Tentative Final Certificate Date, the Lessee shall submit no further certificates hereunder for the Port Authority Payment Work after the Tentative Final Certificate Date except for certificates covering such Outstanding Claims.

(bb) With respect to amounts withheld by the Lessee pursuant to paragraph (g) of Section 2 of this Lease which have been deducted from a Redevelopment Work Certificate and which have subsequently been paid by the Lessee, such final and/or tentatively final certificate shall have attached thereto or included thereon such verification as shall be required by the Port Authority that such withheld and deducted amounts have been paid by the Lessee and to the extent such withheld and deducted amounts have been so paid, such withheld and deducted amounts shall be included in the amount of the Port Authority Payment made pursuant to such Redevelopment Work Certificate, except with respect to any portion of the Port Authority Payment Work for which there is an Outstanding Claim.

(ii) (aa) If there are Outstanding Claims on the Tentative Final Certificate Date, the Lessee shall mark as "final" its last Redevelopment Work Certificate submitted on or before the Final Date. Such certificate shall only cover Outstanding Claims existing on the Tentative Final Certificate Date. The Lessee shall submit no further certificates hereunder for the Port Authority Payment Work after the Final Date.

(bb) With respect to amounts withheld by the Lessee pursuant to paragraph (g) of Section 2 of this Lease which have been deducted from a Redevelopment Work Certificate, were part of the Port Authority Payment Work subject to an Outstanding Claim on the Tentative Final Certificate Date and which have subsequently been paid by the Lessee, such final certificate shall have attached thereto or included thereon such verification as shall be required by the Port Authority that such withheld and deducted amounts have been paid by the Lessee and to the extent such withheld and deducted amounts have been so paid, such withheld and deducted amounts shall be included in the amount of the Port Authority Payment made pursuant to such Redevelopment Work Certificate.

(6) The final Port Authority Payment for the Cost of the Redevelopment Work shall not be made to the Lessee unless and until the Lessee has, to the satisfaction of the Port Authority, fully complied with all of the terms of this Section and all other applicable terms of this Agreement, submitted to the Port Authority all certifications, documentation and the like required under this Section and Section 2, including without limitation any certifications, warranties, maintenance contracts, documentation, releases or waivers the Port Authority may require in connection therewith; submitted to the Port Authority such evidence of title to the Redevelopment Work in accordance with the provisions of this Agreement. No such final payment by the Port Authority shall constitute any waiver of claims or release by the Port Authority against the Lessee or any of its contractors, subcontractors, construction managers, architects, engineers, or others, nor any waiver of the Port Authority's rights of audit and inspection, nor any waiver of any other rights or remedies, legal or equitable, of the Port Authority.

(7) No Port Authority Payment made by the Port Authority hereunder shall mean or be deemed to mean that the amount of such Port Authority Payment is correct or that all the requirements set forth herein with respect to the payment by the Port Authority to the Lessee for the Cost of the Redevelopment Work have been met.

(8) (i) If there are no Port Authority's Share of the Lessee's Project Contingency Costs, then the entire obligation of the Port Authority under this paragraph (d) to pay to the Lessee the Cost of the Redevelopment Work shall be limited in an amount equal to the sum of the Cost of the Port Authority Redevelopment Work Elements and the Port Authority's Share of the Cost of the Lessee's Redevelopment Work Elements.

(ii) If there are any Port Authority's Share of the Lessee's Project Contingency Costs, then the entire obligation of the Port Authority under this paragraph (d) to pay to the Lessee the Cost of the Redevelopment Work shall be limited in an amount equal to the sum of the Cost of the Port Authority Redevelopment Work Elements, the Port Authority's Share of the Cost of the Lessee's Redevelopment Work Elements and the Port Authority's Share of the Lessee's Project Contingency Costs.

(iii) The obligation of the Port Authority to make Port Authority Payments shall be limited in time to Redevelopment Work Certificates properly submitted by the Lessee in accordance with and under this Section on or prior to the Tentative Final Certificate

Date, provided, however, in the event that there shall be any Outstanding Claims on the Tentative Final Certificate Date with respect to the Cost of the Redevelopment Work, the obligation of the Port Authority under this paragraph (d) to reimburse the Lessee for the amount of such Outstanding Claims shall not be limited to the Tentative Final Certificate Date but instead such obligation with respect to those Redevelopment Work Certificates solely covering such Outstanding Claims shall be limited in time to such Redevelopment Work Certificates properly submitted by the Lessee in accordance with and under this Section on or prior to the Final Date.

(9) The Lessee shall promptly submit to the Port Authority further information, including but not limited to its estimate of the amounts and times of the various payments it will be making for the Cost of the Redevelopment Work as the Port Authority may from time to time, and at any time, request, and shall be available itself or cause its architect or engineer to be available for consultation in connection with the Redevelopment Work Certificates submitted by this Lessee pursuant to this paragraph (d).

(10) It is understood that, except for the Lessee's Administrative Amount, the Port Authority shall pay the Lessee pursuant to and in accordance with this Section 87 for amounts paid or payable by the Lessee for the Port Authority's Share of the Lessee's Cost of the Redevelopment Work Elements paid or payable by the Lessee prior to the Effective Date.

(e) Without limiting any other provision of this Lease, the Books and Records that the Lessee shall be required to keep and maintain pursuant to this Lease and as set forth in Section 65 hereof shall include, without limitation, any and all invoices and supporting documentation relating to the Redevelopment Work or any portion thereof and any and all contracts covering each portion of the Redevelopment Work including but not limited to the Lessee's contracts and agreements with its architects, engineers, and construction managers and other contractors.

(f) In the event that a Port Authority audit shall disclose, based upon Redevelopment Work Certificates or otherwise, that a Port Authority Payment should not have been made or that amounts paid by the Port Authority pursuant to this Section 87 exceed the amounts that are required to by paid by the Port Authority to the Lessee pursuant to this Section 87, then, upon thirty (30) days demand, the Lessee shall immediately pay to the Port Authority an amount equal to the excess amount paid by the Port Authority; the foregoing shall not be or be deemed to be any limitation, impairment or waiver of any other right or remedy of the Port Authority under the Lease or otherwise.

(g) If the Lessee has included in any portion of the Cost of the Redevelopment Work any item as having been incurred, but which in the opinion of the Port Authority was not so incurred, or which in the opinion of the Port Authority if so incurred is not an item properly chargeable to the Cost of the Redevelopment Work under generally accepted accounting practice, or does not represent an appropriate allocation of the costs of a particular contract which are required to be designated in accordance with Section 2 of this Lease and the parties have been unable to resolve their differences within 90 days after the Port Authority gave its

notice objecting to the same, the decision of the Chief Engineer of the Port Authority as to the nature of the items in question shall be final.

(h) In order for the Lessee to receive Port Authority Payments for materials and equipment stored at an off-site storage location, such location must have received the prior written approval of the Port Authority and the Lessee shall have submitted (i) evidence that all materials and equipment stored at an off-site storage locations approved by the Port Authority are adequately protected and insured, (ii) evidence that title to all such materials and/or equipment has vested in the City of New York free and clear of any security interests, or other encumbrances, (iii) an inventory control schedule covering such materials and equipment, (iv) evidence that such materials and/or equipment (as well as any shop drawings required by the Port Authority) have been approved by the Port Authority, (v) such documentation that the Port Authority may request in order for it to determine the actual incurred costs of the materials and equipment which are the subject of a Redevelopment Work Certificate, (vi) such documentation that the Port Authority is adequately protected and against any loss or damage to the equipment or materials through insurance and such other means acceptable to the Port Authority, and (vii) such other documentation as may be reasonably required by the Port Authority.

(i) It is hereby understood and agreed that nothing in this Section shall be or shall be deemed for the benefit of any contractor of the Lessee or other third party and nothing contained herein shall operate or give to any such contractor or third party any claim or right of action against the Port Authority and its Commissioners, officers, agents and employees.

(j) The Port Authority's Construction Inspection Costs shall be allocated among the Allocable Elements of Work as follows: each of the Cost of the Airside Civil Work, the Cost of the Landside Civil Work, the Cost of the Passenger Terminal Work, the Cost of the Parking Garage Work and the Cost of the Terminal 5 AirTrain Connector Work, the amounts equal to the Port Authority Construction Inspection Costs shall be multiplied by a fraction the numerator of which shall be the total of all of the Item A Costs for each of the Allocable Elements of Work and the denominator of which shall be the total of all of the Item A Costs for all Elements of Work.

(k) To the extent possible, Soft Costs shall be directly charged and accumulated for each of the individual Allocable Elements of Work. When such direct charging and accumulating Soft Costs is not possible, the non-direct Soft Costs shall be allocated among the Allocable Elements of Work as follows: for each of the Cost of the Airside Civil Work, the Cost of the Landside Civil Work, the Cost of the Passenger Terminal Work, the Cost of the Parking Garage Work and the Cost of the Terminal 5 AirTrain Connector Work, an amount equal to all of the non-direct Soft Costs shall be multiplied by a fraction the numerator of which shall be the total of all of the Item A Costs for each of the Allocable Elements of Work and the denominator of which shall be the total of all of the Item A Costs for all Elements of Work.

(l) To the extent possible, General Construction Costs shall be directly charged and accumulated for each of the Allocable Elements of Work. When such direct charging and accumulating of General Construction Costs is not possible, the non-direct General Construction Costs shall be allocated among the Allocable Elements of Work as follows: for

each of the Cost of the Airside Civil Work, the Cost of the Landside Civil Work, the Cost of the Passenger Terminal Work, the Cost of the Parking Garage Work and the Cost of the Terminal 5 AirTrain Connector Work, an amount equal to all of the non-direct General Construction Costs shall be multiplied by a fraction the numerator of which shall be the total of all of the Item A Costs for each of the Allocable Elements of Work and the denominator of which shall be the total of all of the Item A Costs for all Elements of Work.

(m) In the event that the Lessee is required to make a payment for specifically identified equipment or materials for the Redevelopment Work that requires a long lead time to procure, and the Lessee wishes to receive Port Authority Payments based on progress of manufacture in the factory or manufacturer required payments for long lead order placement to reserve a place in the production queue, the Lessee shall make such request to the Resident Engineer. If the Port Authority consents to making progress payments or payments to reserve a place in the production queue for any such equipment or materials, then (i) all documentation related to the purchase of the equipment, including without limitation the purchase contract showing amounts, rights, schedule for manufacture and delivery, etc., must be provided to the Port Authority for its review and approval prior to entering into the contract, (ii) the contract between the Lessee and the contractor manufacturing such equipment must protect the Port Authority from and against any loss or damage to the equipment through insurance and such other means acceptable to the Port Authority, (iii) the contract between the Lessee and the contractor manufacturing such equipment must be assigned to the Port Authority pursuant to the Assignment Form of Agreement, and (iv) the Port Authority must receive copies of all executed and supporting documentation and such other documentation as may be requested by the Port Authority. If the Port Authority agrees to make Port Authority Payments for progress of manufacture, the equipment will be subject to inspection and confirmation by the Port Authority of the value covered by each such Port Authority Payment. The foregoing requirements must be documented and clearly identified in each certificate submitted by the Lessee pursuant to paragraph (d)(1) of this Section covering any such payments.

(n) It is anticipated that due to the duration of the construction period and need for multiple contracts it is likely that some contracts will be completed well before the Completion Date. In order to not delay the closeout of contracts completed to the satisfaction of the Lessee and the Port Authority prior to the Tentative Final Certificate Date, the Lessee may want to pay the contractor retainage withheld in accordance with this Section for work performed and completed in compliance with such contracts and this Lease. If all of the work covered by a contractor has been completed in accordance with this Lease and the contract covering the work, the Lessee may request that the Port Authority inspect such work. If such inspection of the Port Authority confirms that such work has been so completed, then the Lessee may include in a certificate submitted by the Lessee to the Port Authority pursuant to paragraph (d)(1) hereof prior to the Tentative Final Certificate Date that the retainage withheld by the Port Authority pursuant to paragraph (d)(3) of this Section be paid to the Lessee. The Lessee shall include with such certificate a release from the Lessee and from each contractor of all liens or rights of lien for labor, materials or equipment provided for the specific contract and a release and discharge of any and all actions, causes of actions, claims and demands of whatsoever nature or character with respect to the specific contract in the form attached hereto, hereby made a part hereof and marked "Exhibit 87.2". The Port Authority may, at its sole discretion, include the amount of such

retainage in the Port Authority Payment made with respect to the Redevelopment Work Certificate covering such retainage.

(o) The Lessee's Administrative Amount shall be allocated among the Allocable Elements of Work as follows: for each of the Cost of the Airside Civil Work, the Cost of the Landside Civil Work, the Cost of the Passenger Terminal Work, the Cost of the Parking Garage Work and the Cost of the Terminal 5 AirTrain Connector Work, the amounts equal to the Lessee's Administrative Amount shall be multiplied by a fraction the numerator of which shall be the total of all of the Item A Costs for each of the Allocable Elements of Work and the denominator of which shall be the total of all of the Item A Costs for all Elements of Work.

Section 88. Parking Garage

The Lessee expressly understands and agrees that (1) all use and operation of the Parking Garage shall be within the sole and exclusive control of the Port Authority (or of Port Authority permittees, licensees, contractors or tenants authorized by separate agreement with the Port Authority to use and or operate the same), (2) that the Lessee shall have no right or claim whatsoever, legal or equitable, under this Lease or otherwise, to the Parking Garage or to any income or revenues therefrom, and (3) neither this Agreement nor the Lessee's payment of any costs or expenses for or relating to the Parking Garage Work or any portion thereof, or otherwise, shall or shall be deem to grant or constitute any right, interest or claim of the Lessee in the Parking Garage or the use or control thereof or the revenues or income therefrom.

Section 89. Additional Right of the Port Authority to Terminate a Portion of the Premises

(a) Without limiting any other rights of termination of the Port Authority under the Lease, in addition to all of the rights of termination of the Port Authority under this Lease, the Port Authority shall have the right to terminate this Agreement and the letting thereunder with respect to that portion of the Premises shown in broken horizontal hatching on Exhibit 89.1 (which portion of the Premises is herein called "*Parcel T*"), without cause, at any time on ninety (90) days' prior notice to the Lessee (the "*Parcel T Termination Notice*") in connection with the use of Terminal 6, the redevelopment of the Terminal 6 site or the construction or reconstruction of roadways associated with Terminal 6.

(b) Effective as of the date and time stated in the Parcel T Termination Notice (which date and time are hereinafter in this Section collectively called the "*Parcel T Surrender Date*"), the Lessee shall and be deemed to have granted, bargained, sold, surrendered and yielded up and by these presents have granted, bargained, sold, surrendered and yielded up unto the Port Authority, its successors and assigns, forever, its rights in Parcel T and the term of years with respect thereto under the Lease yet to come and shall and be deemed to have given, granted, surrendered and by these presents does give, grant and surrender to the Port Authority, its successors and assigns, all the rights, rights of renewal, licenses, privileges and options of the Lessee granted by the Lease with respect to Parcel T, all to the intent and purpose that the said term under the Lease and the said rights of renewal, licenses, privileges and options may be wholly merged, extinguished and determined on the Parcel T Surrender Date, with the same force and effect as if the said term were in and by the provisions of the Lease originally fixed to

expire on the Parcel T Surrender Date, but the Lease and the letting thereunder shall continue in full force and effect as to the remainder of the Premises under the Lease and in accordance with all the terms and provisions thereof.

TO HAVE AND TO HOLD the same unto the Port Authority, its successors and assigns forever.

(c) The Lessee hereby covenants on behalf of itself, its successors and assigns that (x) it has not done or suffered and will not do or suffer anything whereby Parcel T or the Lessee's leasehold therein, has been or shall be encumbered as of the Parcel T Surrender Date in any way whatsoever; (y) the Lessee is and will remain until the Parcel T Surrender Date the sole and absolute owner of the leasehold estate in Parcel T and of the rights, rights of renewal, licenses, privileges and options granted by the Lease with respect thereto and that the same are and will remain until the Parcel T Surrender Date free and clear of all liens and encumbrances of whatsoever nature; and (z) the Lessee has full right and power to make this Agreement.

(d) All promises, covenants, agreements and obligations of the Lessee with respect to Parcel T which under the provisions thereof would have matured upon the date originally fixed in the Lease for the expiration of the term thereof, or upon the termination of the Lease prior to the said date, or within a stated period after expiration or termination shall, notwithstanding such provisions, mature upon the Parcel T Surrender Date and shall survive the delivery of the Parcel T Termination Notice by the Port Authority to the Lessee.

(e) As of the Parcel T Surrender Date, the Lessee shall and shall have released and discharged and does by these presents release and discharge the Port Authority from any and all obligations on the part of the Port Authority to be performed under the Lease with respect to Parcel T. The Port Authority does by these presents release and discharge the Lessee from any and all obligations on the part of the Lessee to be performed under the Lease with respect to Parcel T for that portion of the term subsequent to the Parcel T Surrender Date; it being understood that nothing herein contained shall release, relieve or discharge the Lessee from any liability for rentals or for other charges that may be due or become due to the Port Authority for any period or periods prior to the Parcel T Surrender Date, or for breach of any other obligation on the Lessee's part to be performed under the Lease for or during such period or periods or maturing pursuant to the foregoing paragraph, nor shall anything herein be deemed to release the Lessee from any liability for rentals or other charges that may be due or become due to the Port Authority for any other portion of the Premises or for breach of any other obligation on the Lessee's part to be performed under the Lease.

(f) The Lessee hereby agrees to terminate its occupancy of Parcel T and to deliver actual, physical possession of Parcel T to the Port Authority, on or before the Parcel T Surrender Date, in the condition required by the Lease upon surrender. The Lessee further agrees that it shall remove all the Lessee's Personal Property from Parcel T prior to the Parcel T Surrender Date, and all the terms and conditions of Section 29 of the Lease with respect to termination of the letting shall apply to any of the Lessee's Personal Property not so removed.

(g) The Lessee hereby acknowledges that each and every term, provision and condition of the Lease shall continue to apply to the Premises remaining after the termination of the Parcel T

(h) From and after the day immediately following the Parcel T Surrender Date, the Lessee shall be entitled to an abatement of the First Ground Rental or the Second Ground Rental in accordance with Section 4 hereof.

Section 90. Waiver of Depreciation

(a) The Lessee hereby irrevocably elects in accordance with Section 142(b)(1)(B)(I) of the Internal Revenue Code of 1986 not to claim for purposes of federal, state or local taxation of income any depreciation deductions or investment credits, for which it may be eligible with respect to the Premises or the Redevelopment Work shall and shall execute such an election on the Lease Commencement Date and furnish an original counterpart thereof to the Port Authority. The Lessee further agrees that this irrevocable election shall be binding upon its successors in interest, if any, under this Agreement, and as a condition of any permitted sale or assignment of Lessee's interest under this Agreement any successor in interest shall furnish an irrevocable election to the Port Authority in the form executed by the Lessee on the Lease Commencement Date. The foregoing shall not grant or be deemed to grant to the Lessee the right to sell or assign, in any manner, its interests under this Agreement.

(b) In the event the Lessee records any documents in lieu of recording this Agreement, said documents shall incorporate the substance of paragraph (b) of this Section.

(c) Notwithstanding that any fee title to the Premises shall be in the City of New York, the Lessee shall not take any position for title, tax and accounting purposes which is inconsistent with the Port Authority being the owner of the Redevelopment Work. The foregoing is a special inducement and consideration to the Port Authority in entering into this Lease with the Lessee and forms the essence of this Agreement.

Section 91. Port Authority's Rights and the Lessee's Continuing Obligations with Respect to the Premises and the Terminal 6 Site

(a) Subject only to the appropriate written concurrence of the tenants or users of the Terminal 6 Site, from and after the Parcel T Surrender Date, the public areas of the Premises and the public areas of the Terminal 6 Site, including but not limited to arrivals and departure roadways and frontages, sidewalks, building entrances and doorways, lobbies, hallways, seating areas, rest rooms, Terminal 5/6 AirTrain Connector and other public facilities, shall be subject to a joint and mutual easement for pedestrian and vehicular access, as applicable, to, from and between the Premises and the Terminal 6 Site to be used jointly by the Lessee, the Port Authority and the lessees, permittees and other Persons who shall have the permission of the Port Authority now or in the future to use or occupy all or any portion of the Terminal 6 Site and such rights of easement for such purposes shall continue during the effective periods of the respective agreements covering or which may cover the same.

(b) Subject only to the appropriate written concurrence of the tenants or users of the Terminal 6 Site, from and after the Parcel T Surrender Date the area of the Premises as shown in stippled hatching on Exhibit 1.4 together with the contiguous area of land immediately abutting such portion of the Premises as shown in crosshatching on Exhibit 1.4 shall be subject to a joint and mutual easement for the taxiing, push-back, tug-in, turn around and other operations of aircraft to be used jointly by the Lessee and the lessees, permittees and other Persons who shall have the permission of the Port Authority now or in the future to use or occupy all or any portion of the Terminal 6 Site and such rights of easement for such taxiway purposes shall continue during the effective periods of the respective agreements covering or which may cover the same.

(c) In addition to all other terms or provisions of this Agreement, and without limiting any of the same and without limiting, impairing or diminishing any of the obligations, duties and liabilities of the Lessee under this Agreement, it is expressly understood and agreed that upon receipt by the Lessee of a notice from the Port Authority given after the Parcel T Surrender Date, the Lessee shall promptly commence and within twenty-four months thereafter complete the following work at its sole cost and expense, subject to the further terms and conditions of a tenant alteration application (TAA) which the Lessee, in accordance with Section 33 hereof, shall submit to the Port Authority for its approval:

(i) all work necessary or appropriate for the relocation of all lines, pipes, mains, cables, manholes, wires, conduits and other facilities required in connection with or relating to the mechanical, utility, electrical, storm sewer, sanitary sewer, communications, security, water, telephone, fire alarm, fire protection, gas and other systems including but not limited to all necessary relocations to all necessary valves and other equipment and accessories necessary to the use and operation of the heating, cooling, electrical, water, communications and other utility systems serving or which are to serve the Premises that are located on or within Parcel T so that none of the foregoing shall interfere with or obstruct the construction of the foundation structure required for the redevelopment of the Terminal 6 site;

(ii) all work necessary or appropriate to install and accommodate communication, annunciation and alarming between the fire alarm systems in the New Passenger Terminal and in the New Terminal 6; and

(iii) all work necessary or appropriate to provide for the passage of the public between the Terminal 5/6 AirTrain Connector and the New Terminal 6.

(d) Notwithstanding the surrender of Parcel T by the Lessee, and notwithstanding anything to the contrary herein or elsewhere in this Agreement, the Lessee shall continue to be responsible and liable for all environmental obligations with respect to Parcel T in accordance Section 56 hereof and for any and all costs or expenses that may be incurred by the Port Authority in connection therewith; the foregoing to not limit, alter or impair any of the indemnities from the Lessee to the Port Authority under this Agreement or otherwise or any other term or provision of this Agreement, or to limit, alter or impair any other right or remedy of the Port Authority, whether in law, equity or otherwise.

(e) In the event the Lessee shall not complete the work set forth in paragraph (c) of this Section within the 24 months referred to in paragraph (c) above, such work may be performed, at the Lessee's expense, by the Port Authority or any new tenant, developer or other occupant or user of Parcel T.

Section 92. Security Agreements

(a) As a condition to, and in consideration of, the Port Authority entering into this Lease, the Lessee shall execute an agreement in the form attached hereto, hereby made a part hereof and marked "Exhibit 92.1" (which security agreement as duly executed by the Port Authority and the Lessee, as the same may be amended and supplemented, is herein called "*Security Agreement AX-782*"). Without limiting the terms and conditions of the Security Agreement AX-782, the Lessee understands and agrees that a breach of the Security Agreement AX-782 shall be and be deemed be a breach of this Lease by the Lessee permitting the Port Authority to terminate this Lease for cause pursuant to Section 20 hereof.

(b) The Lessee shall notify the Port Authority approximately sixty (60) days' prior to the Shell Completion Date of the date when the Shell Completion Date is to occur, which notice is to request that the Port Authority notify the Lessee of the Initial Security Amount (the "*Notice of the Shell Completion Date*").

(c) (1) As used in this Lease the following terms shall have the respective meanings given below:

(i) "*Initial Security Amount*" shall mean the amount set forth in a notice to be given by the Port Authority to the Lessee within thirty (30) days after the Port Authority's receipt of the Notice of the Shell Completion Date, which Initial Security Amount shall not exceed the Maximum Security Amount for the calendar year in which the Shell Completion Date shall occur.

(ii) "*Maximum Security Amount*" shall mean with respect to each calendar year, an amount equal to the quotient obtained by dividing the sum of the following rentals payable during such calendar year (after taking into account all abatements and credits applicable thereto for such calendar year) by the whole number 6:

(aa) First Ground Rental,

(bb) Second Ground Rental,

(cc) Third Ground Rental,

(dd) Fourth Ground Rental,

(ee) Temporary Facility Ground Rental,

(ff) First Enplanement Rental,

(gg) Second Enplanement Rental,

(hh) First Additional Rental,

(ii) Third Additional Rental,

(jj) Fourth Additional Rental, and

(kk) Fifth Additional Rental;

as the same, solely for the purpose of determining the Maximum Security Amount, may be estimated prospectively for any calendar year by the Port Authority based upon any reasonable basis as shall be determined by the Port Authority.

(iii) "*Security Amount*" shall mean the Initial Security Amount as the same may be increased by the Port Authority pursuant to the provisions of paragraph (c)(10) of this Section.

(iv) "*Terminal 5 Letter of Credit*" shall mean each letter of credit delivered by the Lessee to the Port Authority pursuant to and in accordance with this paragraph (c).

(2) On the Shell Completion Date, the Lessee shall cause to be delivered to the Port Authority as security for the full, faithful and prompt performance of and compliance with, on the part of the Lessee, of all of the provisions, terms and conditions of this Lease on its part to be fulfilled, kept, performed or observed, including without limitation, the payment of all rentals, fees and other amounts, charges and obligations then or in the future to become due and owing to the Port Authority by the Lessee pursuant to this Lease (the "*Obligations*"), a clean irrevocable letter of credit in the Initial Security Amount issued to and in favor of the Port Authority by a banking institution acceptable to the Port Authority and having its main office or a corresponding branch within the Port of New York District, which letter of credit shall be payable in the Port of New York District. Such Terminal 5 Letter of Credit shall provide that it shall be effective as of the Shell Completion Date and shall continue throughout the period ending six (6) months after the last to occur of the expiration or earlier termination of this Lease (the "*Effective Period*"); such continuance may be by provision for automatic renewal or by delivery to the Port Authority of a substitute letter of credit satisfactory to the Port Authority and meeting all the requirements set forth in this paragraph (c) in an amount so that at all times during the Effective Period the Port Authority shall have a Terminal 5 Letter of Credit or Terminal 5 Letters of Credit in the Security Amount. The form and terms of each Terminal 5 Letter of Credit, as well as the institution issuing it, shall be subject to the prior and continuing approval of the Port Authority. If requested by the Port Authority, any Terminal 5 Letter of Credit delivered pursuant to this paragraph (c) shall be accompanied by a letter expressing the opinion of counsel for the banking institution issuing the Terminal 5 Letter of Credit that the issuance of said Terminal 5 Letter of Credit is an appropriate and valid exercise by the banking institution of the corporate power conferred upon it by law.

(3) Upon notice of cancellation of a Terminal 5 Letter of Credit or upon notice that a Terminal 5 Letter of Credit will not be extended the Lessee agrees that unless, by a date thirty (30) days prior to the effective date of such cancellation or expiration, such Terminal 5 Letter of Credit is replaced by another letter of credit satisfactory to the Port Authority and meeting all the requirements of subparagraph (c)(2) above in an amount so that at all times during the Effective Period the Port Authority shall have a Terminal 5 Letter of Credit or Terminal 5 Letters of Credit in the Security Amount, the Port Authority may draw down the full amount thereof and thereafter the Port Authority will hold the same as security under this Agreement.

(4) In addition to any and all other remedies available to it, the Port Authority shall have the right, at its option at any time and from time to time, with or without notice, to draw upon each Terminal 5 Letter of Credit or any part thereof in whole or partial satisfaction of any of its claims or demands against the Lessee. There shall be no obligation on the Port Authority to exercise such right and neither the existence of such right nor the holding of a Terminal 5 Letter of Credit or Terminal 5 Letters of Credit shall cure any default or breach of this Lease.

(5) If at any time any bank shall fail to make any payment to the Port Authority in accordance with any Terminal 5 Letter of Credit issued by any such bank, the Lessee shall cause to be delivered to the Port Authority on demand another letter of credit satisfactory to the Port Authority and meeting all the requirements set forth in paragraph (c)(2) above in an amount so that at all times during the Effective Period the Port Authority shall have a Terminal 5 Letter of Credit or Terminal 5 Letters of Credit in the Security Amount.

(6) If at any time and from time to time during the Effective Period a payment is made to the Port Authority under any Terminal 5 Letter of Credit, the Lessee within ten (10) days thereafter shall bring the Terminal 5 Letter of Credit back up to the Security Amount or shall cause to be delivered to the Port Authority an additional letter of credit satisfactory to the Port Authority and meeting all the requirements set forth in paragraph (c)(2) above, in such an amount so that at all times during the Effective Period the Port Authority shall have a Terminal 5 Letter of Credit or Terminal 5 Letters of Credit in the Security Amount.

(7) No action by the Port Authority pursuant to the terms of any Terminal 5 Letter of Credit, or receipt by the Port Authority of funds from any bank issuing any Terminal 5 Letter of Credit, shall be or be deemed to be a waiver of any breach or default by the Lessee of this Lease and all rights and remedies under this Lease, or otherwise consequent upon such breach or default shall not be affected by the existence of or recourse to any such Terminal 5 Letter of Credit.

(8) After the expiration of the Effective Period, and upon the condition that the Lessee shall then be in no wise in default of any of the Obligations, and upon written request therefor by the Lessee, the Port Authority will return to the Lessee the Terminal 5 Letter of Credit or Terminal 5 Letters of Credit which have been caused to be delivered to the Port

Authority by the Lessee hereunder and are in the possession of the Port Authority less the amount by partial or full drawings of any and all unpaid claims and demands (including estimated damages) of the Port Authority by reason of any default or breach by the Lessee of the Obligations.

(9) The Lessee agrees that it will not assign or encumber any Terminal 5 Letter of Credit and any such assignment or encumbrance shall be void as to the Port Authority.

(10) In the event that the Maximum Security Amount shall exceed the existing Security Amount, the Security Amount may be increased by the Port Authority, but not more often than once in a calendar year, upon thirty (30) days' notice to the Lessee to such amount as shall be set forth in such notice, which amount shall not exceed the Maximum Security Amount. Prior to the expiration of such thirty (30) day period, the Lessee shall bring the Terminal 5 Letter of Credit up to the new Security Amount set forth in such notice or shall cause to be delivered to the Port Authority another letter of credit satisfactory to the Port Authority and meeting all the requirements set forth in paragraph (c)(2) above in such amount so that the Port Authority shall have a Terminal 5 Letter of Credit or Terminal 5 Letters of Credit in the new Security Amount set forth in such notice.

(11) For purposes of this Section, the Lessee hereby certifies that its I.R.S. Employer Identification No. is: 87-061-7894.

(d) In the event that the Lessee has entered into any other agreement with the Port Authority that provides that any security held by the Port Authority shall apply to and be available for such other agreement, it is hereby agreed that notwithstanding the terms and conditions of any such other agreement, the security held by the Port Authority pursuant this paragraph (c) or pursuant to Agreement AX-782 shall not be held or available for such other agreements.

Section 93. Effect of Termination by the Lessee

(a) If the Lessee terminates the letting pursuant to the provisions of paragraph (a)(1) of Section 83 hereof entitled "Termination by Lessee" then the Port Authority may at its option, pay to the Lessee the Lessee's Unamortized Investment. Such option shall be evidenced by notice in writing to the Lessee by the Port Authority within sixty (60) days after the Lessee has given notice of termination. The failure of the Port Authority to exercise the said option will impose no obligation upon it to relet the Premises.

(b) If the Lessee terminates the letting pursuant to the provisions of paragraph (a)(2) of Section 83 hereof entitled "Termination by Lessee" then the Port Authority may, at its option, pay to the Lessee the Lessee's Unamortized Investment. Such option shall be evidenced by notice in writing to the Lessee by the Port Authority within sixty (60) days after the Lessee has given notice of termination. If the Port Authority fails to exercise such option, then the Port Authority shall use its best efforts to relet the Premises.

(c) If the Port Authority relets the Premises prior to the date upon which this Lease would have expired but for such termination, then the net rent paid by the new tenant to the Port Authority (after deducting any costs and expenses incurred by the Port Authority in securing said new tenant and in complying with the terms of the lease to such tenant, including but not limited to costs of alteration and decoration of such Premises, in the event of termination pursuant to the provisions of paragraph (a)(1) of Section 83 hereof entitled "Termination by Lessee", and after deducting any costs and expenses incurred by the Port Authority for the maintenance of said Premises or for services furnished to the new tenant and after deducting the amounts which would have been payable as rent by the Lessee but for such termination) shall be paid over by the Port Authority to the Lessee until said amounts paid over equal the Lessee's Unamortized Investment as of the date of termination. The obligation of the Port Authority to pay over to the Lessee any net rent received from such new tenant shall endure only while such new tenant continues to pay rent and occupy such Premises, and only while the Lessee's Unamortized Investment is unamortized, and in no event is such obligation to pay over to endure beyond the date upon which this Lease would have expired but for such termination.

Section 94. Definitions

For the purposes of this Lease the following terms shall have the respective meanings given below:

"$.01 Work Cost Savings Sub-total" shall have the meaning given such term in Subdivision (II)(b) of Section 4 hereof.

"$.008 Work Cost Savings Sub-total" shall have the meaning given such term in Subdivision (II)(b) of Section 4 hereof.

"$.01 Work Cost Savings" shall have the meaning given such term in Subdivision (II)(b) of Section 4 hereof.

"$.008 Work Cost Savings" shall have the meaning given such term in Subdivision (II)(b) of Section 4 hereof.

"5kV Electrical Power and Sanitary Sewer Work" shall have the meaning given such term in paragraph (m) of Section 2 hereof.

"Abandoned Fuel Lines" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Acceptance Date" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Accommodated Handled Airline" shall mean a Scheduled Aircraft Operator to whom the Lessee provides Accommodations pursuant to Section 42 or Section 43 hereof and with whom the Lessee has entered into a Handling Agreement and with whom the Lessee and the Port Authority have entered into a written consent agreement covering the Port Authority's consent to such Handling Agreement.

"Accommodated Sublessee Airline" shall mean a Scheduled Aircraft Operator to whom the Lessee provides Accommodations pursuant to Section 42 or Section 43 hereof and with whom the Lessee has entered into a sublease agreement and with whom the Lessee and the Port Authority have entered into a written consent agreement covering the Port Authority's consent to such sublease agreement.

"Accommodations" shall mean and include:

(i) Use by a Requesting Airline, Accommodated Handled Airline or Accommodated Sublessee Airline of Gate(s) and Gate Related Premises, on an exclusive or non-exclusive basis, for its scheduled passenger flight operations;

(ii) Utilities, janitorial services, security, maintenance and repair and other services and facilities necessary or desirable in connection with the use described in clause (i) above of this definition;

(iii) Relocation of one or more of the scheduled flight operations of the Lessee to accommodate such Requesting Airline, Accommodated Handled Airline or Accommodated Sublessee Airline; and

(iv) The towing by the Lessee of aircraft of the Lessee from a Gate if such Gate is needed to accommodate the scheduled passenger flight operations of a Requesting Airline, Accommodated Handled Airline or Accommodated Sublessee Airline.

"Accommodations Agreement" shall mean each agreement entered into between the Lessee and a Scheduled Aircraft Operator covering the Lessee's provision of Accommodations at the Premises pursuant to Section 42 or Section 43 hereof, each of which shall be subject to the prior written consent of the Port Authority in accordance with this Lease.

"Activity Based First Enplanement Rental" shall have the meaning given such term in Subdivision(II)(b) of Section 4 hereof.

"Additional Baseline" shall have the meaning given such term in paragraph (a) of Section 56 hereof.

"Additional Baseline Work" shall have the meaning given such term in paragraph (a) of Section 56 hereof.

"Additional Operator" shall have the meaning given such term in paragraph (a) of Section 80 hereof.

"Additional Sampling Location" shall have the meaning given such term in paragraph (m) of Section 56 hereof.

"Additional Zone" shall have the meaning given such term in paragraph (n) of Section 56 hereof.

"Adjusted Per Enplanement Rental Rate" shall have the meaning given such term in Subdivision (II)(b) of Section 4 hereof.

"Adjustment Period" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Affiliate" shall mean in the singular and "Affiliates" shall mean in the plural any Person that directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with the Lessee and any Person in which the Lessee or a shareholder of the Lessee has an ownership, licensor/licensee or franchiser/franchisee interest or relationship, but if the Lessee shall be a corporation whose Voting Securities shall be registered with the Securities and Exchange Commission and publicly traded on a regular basis then only such shareholder of the Lessee having an ownership interest greater than five percent (5%). As used in this definition, the term "control" (including the terms controlling, controlled by and under common control with) shall mean the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of the Person, whether through the ownership of Voting Securities, by contract or otherwise.

"Affiliated Scheduled Aircraft Operator" shall have the meaning given such term in paragraph (b) of Section 19 hereof.

"Affiliated Scheduled Aircraft Operator Arrangement" shall have the meaning given such term in paragraph (b) of Section 19 hereof.

"Agreement" shall mean this Agreement of Lease.

"Air Terminal Highway" and "Air Terminal Highways" shall mean those portions of the Airport designated and made available temporarily or permanently by the Port Authority to the public for general or limited highway use.

"Aircraft" shall mean airplanes, helicopters and every other contrivance now or hereafter used for the navigation of or flight in air or space.

"Aircraft Operator" shall mean (a) a Person owning one or more aircraft which are not leased or chartered to any other Person for operation, or (b) a Person to whom one or more aircraft are leased or chartered for operation whether the aircraft so owned, leased or chartered are military or non-military, or are used for private business, pleasure or governmental business, or for carrier or non-carrier operations, or for scheduled or non-scheduled operations or otherwise. Said phrase shall not mean the pilot of an aircraft unless he or she is also the owner or lessee thereof or a Person to whom such aircraft is chartered.

"Airline Terminal Portion" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Airline Terminal Portion of the Work" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Airport" shall mean John F. Kennedy International Airport, consisting of certain premises identified as "John F. Kennedy International Airport" on Sheet JFK-1 of Exhibit A, and more particularly described in Exhibit B, annexed to the Basic Lease, and such other property as may be acquired in connection with and added to such premises pursuant to the terms of the Basic Lease.

"Airport Central Taxi Stack" shall have the meaning given such term in paragraph (b) of Section 46 hereof.

"Airport Fueling Agreements" " shall have the meaning given such term in paragraph (o) of Section 2 hereof.

Airside Civil Work" shall have the meaning given in paragraph (b) of Section 2 hereof.

"Airside Civil Work Item A Costs" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"AirTrain" shall have the meaning given such term in paragraph (a) of Section 58 hereof.

"AirTrain Moving Sidewalk Maintenance Contract" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"AirTrain Vertical Circulation Maintenance Contract" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Allocable Elements of Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Alternative" and "Alternatives" shall have the meaning given such terms in paragraph (c) of Section 73 hereof.

"Alternative 1" shall have the meaning given such term in paragraph (c) of Section 73 hereof.

"Alternative 2" shall have the meaning given such term in paragraph (c) of Section 73 hereof.

"Alternative 3" shall have the meaning given such term in paragraph (c) of Section 73 hereof.

"Alternative 4" shall have the meaning given such term in paragraph (c) of Section 73 hereof.

"Analyzed Item" shall have the meaning given such term in paragraph (a) of Section 56 hereof.

"Annual Capital Cost" shall have the meaning given such term in paragraph (a) of Section 53 hereof.

"Annual Period" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Anticipated Monthly Expenditure Schedule" shall have the meaning given such term in paragraph (e) of Section 2 hereof.

"ASDO" shall have the meaning given such term in Schedule F attached hereto.

"ASM" shall have the meaning given such term in paragraph (b) of Section 49 hereof.

"Assignment of Redevelopment Work Contracts and Documents" shall have the meaning given such term in paragraph (q) of Section 2 hereof.

"Associated Carrying Costs" shall have the meaning given such term in Subdivision (II)(b) of Section 4 hereof.

"Assumable Maintenance and Repair" shall have the meaning given such term in paragraph (a) of Section 53 hereof.

"Assumable Maintenance and Repair Date" shall have the meaning given such term in paragraph (b) of Section 53 hereof."

"Authorized Change Order" shall have the meaning given such term in paragraph (d) of Section 2 hereof.

"Base Enplanement Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Base Percentage" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Basic Lease" shall mean the Amended and Restated Agreement of Lease of the Municipal Air Terminals between The City of New York, as Landlord, and the Port Authority, as Tenant, dated as of November 24, 2004 and recorded in the office of the City Register of the City on December 3, 2004 under City Register File No. 2004000748687, as the same from time to time may have been or may be supplemented, amended and/or restated.

"BASIS" shall have the meaning given such term in Schedule F attached hereto.

"Bid Conditions" shall have the meaning given such term in Schedule E attached hereto.

"Books and Records" shall have the meaning given such term in Section 65 hereof entitled "Books and Records".

"Building No. 60" shall mean have the meaning given such term in paragraph (a) of Section 2 hereof.

"Building No. 60 AirTrain Connector Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Business Day" shall mean any day occurring Monday through Friday except Business Day shall not include any New York State Legal Holidays or any other days on which the executive offices of the Port Authority are closed.

"Calculated Fourth Additional Rent Amount" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Capital Cost" shall have the meaning given such term in paragraph (a) of Section 53 hereof.

"Carrying Cost" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Central Terminal Area" or "CTA" shall have the meaning given such term in paragraph (a) of Section 68 hereof.

"Change Date" shall have the meaning given such term in paragraph (g) of Section 43 hereof.

"Change Order" shall have the meaning given such term in paragraph (d) of Section 2 hereof.

"Change in Control" shall have the meaning given such term in paragraph (a) of Section 50 hereof.

"Change of Control Date" shall have the meaning given such term in paragraph (a) of Section 50 hereof.

"Changes in Landlord Rights" shall have the meaning given such term in Section 51 hereof.

"Chilled Water" shall have the meaning given such term in paragraph (a) of Section 39 hereof.

"City" and "City of New York" shall mean the municipal corporation of the State of New York known as the City of New York.

"City Insureds" shall mean for any type of insurance required under this Lease, the City, the City's officials and employees (but only if the Port Authority's officials and employees are likewise insured), and the New York City Economic Development Corporation, a local development corporation formed pursuant to Section 1411 of the Not-for-Profit Corporation Law of the State of New York, or such successor entity as may be designated by the City.

"Civil Aircraft Operator" shall mean a Person engaged in civil transportation by aircraft or otherwise operating aircraft for civilian purposes, whether governmental or private. If any such Person is also engaged in the operation of aircraft for military, naval or air force purposes, he or she shall be deemed to be a Civil Aircraft Operator only to the extent that he or she engages in the operation of aircraft for civilian purposes.

"Claim" and "Claims" shall have the meaning given such terms in paragraph (e) of Section 61 hereof.

"Cogeneration Agreement" shall have the meaning given such term in paragraph (a) of Section 39 hereof.

"Cogeneration Facility" shall have the meaning given such term in paragraph (a) of Section 39 hereof.

"Completion Date" shall have the meaning set forth in paragraph (n) of Section 2 hereof.

"Comprehensive Plan" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Concession Areas" shall have the meaning given such term in paragraph (b) of Section 73 hereof.

"Concession Manager" shall have the meaning given such term in paragraph (c) of Section 73 hereof.

"Concourse" shall have the meaning given such term in paragraph (d) of Section 73 hereof.

"Condition Exceptions" shall have the meaning given such term in paragraph (a) of Section 56 hereof.

"Condition Survey" shall have the meaning given such term in paragraph (a) of Section 54 hereof.

"Condition Survey Contract" shall have the meaning given such term in paragraph (a) Section 54 hereof.

"Condition Survey Contractor" shall have the meaning given such term in paragraph (a) of Section 54 hereof.

"Condition Survey Report" shall have the meaning given such term in paragraph (a) of Section 54 hereof.

"Consolidated Counters" shall have the meaning given such term in paragraph (b) of Section 66 hereof.

"Construction Letter Agreement" shall have the meaning given such term in Section 71 hereof.

"Construction Work" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Construction Work Dewatering" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Construction Work Indemnified Claim" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Construction Work Indemnified Party" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Contiguous Travel Costs" shall have the meaning given such term in paragraph (e) of Section 65 hereof.

"Contractor" shall have the meaning given such term in Schedule E attached hereto.

"Contract Documents" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Cost Category" shall have the meaning given such term in paragraph (e) of Section 2 hereof.

"Cost of Assumable Maintenance and Repair" shall have the meaning given such term in paragraph (a) of Section 53 hereof.

"Cost of Port Authority Construction Inspection" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Cost of Port Authority Garage Materials Inspection" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Cost of Port Authority Requested Change Order" and "Cost of Port Authority Requested Change Orders" shall have the meaning given such terms in paragraph (a) of Section 87 hereof.

"Cost of the Airside Civil Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Cost of the $.01 Work" shall have the meaning given such term in paragraph (II)(b) of Section 4 hereof.

"Cost of the $.008 Work" shall have the meaning given such term in paragraph (II) of Section 4 hereof.

"Cost of the Building No. 60 AirTrain Connector Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Costs of the Condition Survey" shall have the meaning given such term in paragraph (a) of Section 54 hereof.

"Cost of the Landside Civil Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Cost of the Lessee's $80 Million Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Cost of the Lessee's Redevelopment Work Elements" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Cost of the MOA Curtain Wall Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Cost of the Parking Garage Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Cost of the Passenger Terminal Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Cost of the Port Authority Redevelopment Work Elements" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Cost of the Redevelopment Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Cost of the Terminal 5 AirTrain Connector Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"CPI" or "Consumer Price Index" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"CPI Change" shall have the meaning given such term in Exhibit 49.1 hereof.

"CPI Percentage Increase" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"CTA" shall have the meaning given such term in paragraph (a) of Section 46 hereof.

"CTA Ground Transportation Service" shall have the meaning given such term in paragraph (b) of Section 68 hereof.

"CTA Omnibus Service" shall have the meaning given such term in paragraph (b) of Section 68 hereof.

"CTA Supplementary Service" shall have the meaning given such term in paragraph (b) of Section 68 hereof.

"Currency Exchange Operator" shall have the meaning given such term in paragraph (a) of Section 78 hereof.

"Date of the Taking" shall have the meaning given such term in paragraph (a) of Section 18 hereof.

"DBO" and "Date of Beneficial Occupancy" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Debt" shall have the meaning given such term in Exhibit 49.1 hereof.

"Debt Financings" shall have the meaning given such term in Exhibit 49.1 hereof.

"DEC" shall mean the New York State Department of Environmental Conservation.

"DEC Required Remediation" shall have the meaning given such term in paragraph (s) of Section 2 hereof.

"Defect" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Design Development Documents" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Direct or Indirect Beneficial Ownership" shall have the meaning given such term in paragraph (a) of Section 50 hereof.

"Director of Aviation" shall have the meaning given such term in Subdivision (II)(b) of Section 4 hereof.

"Director of Redevelopment of the Port Authority" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Discharge" shall have the meaning given such term in paragraph (i) of Section 61 hereof.

"Disposal" shall have the meaning given such term in paragraph (k) of Section 56 hereof.

"Distribution Portion of the System" shall mean the Distribution Portion of the System as described in the Airport Fueling Agreements.

"Distribution Portion Work" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"EEO" shall have the meaning given such term in Schedule E hereof.

"Effective Date" shall have the meaning given such term in the first paragraph hereof.

"Effective Period" shall have the meaning given such term in paragraph (c) of Section 92 hereof.

"Element Budget shall have the meaning given such term in paragraph (e) of Section 2 hereof.

"Element of Cost" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Element of Work" and "Elements of Work" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Eligible Below Ground Asbestos" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Eligible Below Ground Asbestos Disposal Cost" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Employee Surface Carrier(s)" shall have the meaning given such term in paragraph (a) of Section 67 hereof.

"Enplanement" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Enplanement Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Environmental Damages" shall mean any one or more of the following: (i) the presence in, on, or under the Premises of any Hazardous Substance whether such presence occurred prior to or during the term of the letting under this Agreement or resulted from any act or omission of the Lessee or others, and/or (ii) the disposal, discharge, release or threatened release of any Hazardous Substance from the Premises or of any Hazardous Substance from under the Premises and/or (iii) the presence of any Hazardous Substance in, on or under other property at the Airport as a result of (a) the Lessee's use and occupancy of the Premises or the performance of the Construction Work or any other work or activities at the Premises or (b) a migration of a Hazardous Substance from the Premises or from under the Premises or (c) the Lessee's operations at the Airport, and/or (iv) any personal injury, including wrongful death, or property damage, arising out of or related to any Hazardous Substance described in (i), (ii) or (iii) above, and/or (v) the violation of any Environmental Requirement pertaining to any Hazardous Substance described in (i), (ii) or (iii) above, the Premises and/or the activities thereon.

"Environmental Requirement" shall mean in the singular and "Environmental Requirements" shall mean in the plural all common law and all past, present and future laws, statutes, enactments, resolutions, regulations, rules, directives, ordinances, codes, licenses, permits, orders, memoranda of understanding and memoranda of agreement, guidances, approvals, plans, authorizations, concessions, franchises, requirements and similar items of all governmental agencies, departments, commissions, boards, bureaus or instrumentalities of the United States, states and political subdivisions thereof, all pollution prevention programs, "best management practices plans", and other programs adopted and agreements made by the Port Authority (whether adopted or made with or without consideration or with or without compulsion), with any government agencies, departments, commissions, boards, bureaus or instrumentalities of the United States, states and political subdivisions thereof, and all judicial, administrative, voluntary and regulatory decrees, judgments, orders and agreements relating to the protection of human health or the environment, and in the event that there shall be more than one compliance standard, the standard for any of the foregoing to be that which requires the lowest level of a Hazardous Substance, the foregoing to include without limitation:

(i) All requirements pertaining to reporting, licensing, permitting, investigation and remediation of emissions, discharges, releases or threatened releases of Hazardous Substances into the air, surface water, groundwater or land, or relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Substances, or the transfer of property on which Hazardous Substances exist;

(ii) All requirements pertaining to the protection from Hazardous Substances of the health and safety of employees or the public; and

(iii) The Atomic Energy Act of 1954 , 42 U.S.C. Section 2011 et. seq.; the Clean Water Act also known as the Federal Water Pollution Control Act, 33 U.S.C. Section 1251 et. seq.; the Clean Air Act, 42 U.S.C. Section 7401 et. seq.; the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. Section 136 et. seq.; the Comprehensive Environmental

Response, Compensation, and Liability Act, 42 U.S.C. Section 9601 et. seq.; the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), Section 2701 et. seq. ; the Emergency Planning and Community Right to Know Act, 42 U.S.C. Section 11001 et. seq.; the Occupational Safety and Health Act, 29 U.S.C. Section 651 et. seq.; the Hazardous Materials Transportation Act, 49 U.S.C. Section 5101 et. seq.; the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et. seq.; the Toxic Substances Control Act, 15 U.S.C. Section 2601 et. seq.; the Safe Drinking Water Act of 1974, 42 U.S.C. Sections 300f-300h-11 et. seq.; the New York State Environmental Conservation Law; the New York State Navigation Law; together, in each case, with any amendment thereto, and the regulations adopted, guidances, memoranda and publications promulgated thereunder and all substitutions thereof.

"Equal Employment Opportunity" or "EEO" shall have the meaning given such term in Schedule E hereof.

"Event of Default" shall have the meaning given such term in Exhibit 92.1 hereof.

"Excess Price" shall have the meaning given such term in paragraph (c) of Section 68 hereof.

"Exhibit 1.1" shall have the meaning given such term in paragraph (a) of Section 1 hereof.

"Exhibit 1.3" shall have the meaning given such term in paragraph (c) of Section 1 hereof.

"Exhibit 1.4" shall have the meaning given such term in paragraph (c) of Section 1 hereof.

"Exhibit 2.1" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Exhibit 2.2" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Exhibit 2.4" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Exhibit 2.5" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Exhibit 2.6" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Exhibit 2.7" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Exhibit 2.8" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Exhibit 2.9" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Exhibit 2.10" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Exhibit 2.11" shall have the meaning given such term in paragraph (e) of Section 2 hereof.

"Exhibit 2.12" shall have the meaning given such term in paragraph (e) of Section 2 hereof.

"Exhibit 2.13" shall have the meaning given such term in paragraph (e) of Section 2 hereof.

"Exhibit 2.14" shall have the meaning given such term in paragraph (e) of Section 2 hereof.

"Exhibit 2.15" shall have the meaning given such term in paragraph (e) of Section 2 hereof.

"Exhibit 2.16" shall have the meaning given such term in paragraph (e) of Section 2 hereof.

"Exhibit 2.17" shall have the meaning given such term in paragraph (m) of Section 2 hereof.

"Exhibit 2.18" shall have the meaning given such term in paragraph (q) of Section 2 hereof.

"Exhibit 2.19" shall have the meaning given such term in paragraph (t) of Section 2 hereof.

"Exhibit 49.1" shall have the meaning given such term in paragraph (a) of Section 49 hereof.

"Exhibit 56.1" shall have the meaning given such term in paragraph (a) of Section 56 hereof.

"Exhibit 56.2" shall have the meaning given such term in paragraph (a) of Section 56 hereof.

"Exhibit 56.3" shall have the meaning given such term in paragraph (a) of Section 56 hereof.

"Exhibit 56.4" shall have the meaning given such term in paragraph (a) of Section 56 hereof.

"Exhibit 68.1 " shall have the meaning given such term in paragraph (a) of Section 68 hereof.

"Exhibit 87.1" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Exhibit 87.2" shall have the meaning given such term in paragraph (d) of Section 87 hereof.

"Existing Condition" shall have the meaning given such term in paragraph (a) of Section 56 hereof.

"Existing Tank" and "Existing Tanks" shall have the meaning given such terms in paragraph (a) of Section 61 hereof.

"Exit Baseline" shall have the meaning given such term in Section 56 hereof.

"Exit Baseline Certificate" shall have the meaning given such term in paragraph (v) of Section 56 hereof.

"Exit Baseline Report" shall have the meaning given such term in Section 56 hereof.

"Exit Ground Water Threshold Level" shall have the meaning given such term in Section 56 hereof.

"Exit Soil Threshold Level" shall have the meaning given such term in Section 56 hereof.

"Expiration Date" shall have the meaning given such term in paragraph (a) of Section 3 hereof.

"Extended Second Enplanement Rental Abatement End Date" shall have the meaning given such term in Subdivision (II)(b) of Section 4 hereof.

"Fifth Accrued Amount" shall have the meaning given such term in Subdivision (II)(e) of Section 4 hereof.

"Fifth Additional Rental" shall have the meaning given such term in Subdivision (II)(e) of Section 4 hereof.

"Fifth Additional Rental Amount" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Fifth Base Factor" shall have the meaning given such term Subdivision (II)(c) of Section 4 hereof.

"Fifth Base Factor Product" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Fifth Ground Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Fifth Project Contingency Payment" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Fifth Rental Factor" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Fifth Variable Per Enplanement Rental Rate" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Final Date" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Final Payment Date" shall have the meaning given such term in Subdivision (I) in Section 4 hereof.

"First Additional Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"First Adjustment Period" shall have the meaning given such term in Subdivision(I) of Section 4 hereof.

"First Commencement Period" shall have the meaning given such term in paragraph (a) of Section 43 hereof.

"First Enplanement Date" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"First Enplanement Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"First Ground Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"First Temporary Enplanement Date" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"First Variable Per Enplanement Rental Rate" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Flight Wing I Tube" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Flight Wing II Tube" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Foreign Currency Exchange Service" shall have the meaning given such term in paragraph (a) of Section 78.

"Fourth Additional Monthly Percentage" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Fourth Additional Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Fourth Additional Rental Adjustment" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

Fourth Additional Rental Commencement Date" shall have the meaning given such term in Subdivision (II) of Section 4 hereof.

"Fourth Pre-DBO Rental Factor" shall have the meaning given such term in Subdivision (II) of Section 4 hereof.

"Fourth Ground Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Fourth Pre-DBO Rental Factor" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Fourth Variable Per Enplanement Rental Rate" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Free Product" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Fuel Line Risks" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Fuel Line Work" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Full Enplanement Rental Commencement Date" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Gate" shall mean in the singular an airline passenger aircraft loading and unloading building gate position at the Premises and "Gates" shall mean in the plural more than one airline passenger aircraft loading and unloading building gate position at the Premises.

"Gate Related Premises" shall mean as to each Gate in the Premises, all related (as determined by the Port Authority) aircraft ramp and gate position capacity and related passenger terminal space and facilities including, but not limited to, passenger ticketing, passenger check-in, baggage handling and flight information systems, passenger lounge and waiting areas, holding rooms, loading bridges, baggage claims and appropriate signage and public identification, and such other facilities reasonably required for the functional use of a Gate or Gates.

"General Airport Agreement" shall mean those certain agreements and leases of premises entitled "John F. Kennedy International Airport," dated as of January 1, 1953 entered into by the Port Authority with various Aircraft Operators (as the same may have been supplemented, amended and extended) which governed the rights, privileges, duties and obligations of and between the parties thereto with respect to the Airport and which continue to govern the rights, privileges, duties and obligations of and between the Port Authority and the Aircraft Operators at the Airport with respect to the Airport hydrant fueling system and fueling fees, as the same has been extended by the Standstill Agreement and the Second Standstill Agreement.

"General Constructions Costs" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"General Contractor" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"General Manager of the Airport" shall mean the person or persons from time to time designated by the Port Authority to exercise the powers and functions vested in the said General Manager by this Agreement; but until further notice from the Port Authority to the Lessee it shall mean the General Manager (or the temporary or acting General Manager) of the Airport for the time being, or his duly designated representative or representatives.

"Governmental Authority", "Governmental Board" and "Governmental Agency" shall each mean federal, state, municipal and other governmental authorities, boards and agencies of any state, nation or government, except that they shall not be construed to include The Port Authority of New York and New Jersey, the lessor under this Agreement.

"Gross Receipts" shall mean and include all monies paid or payable to an Operator for sales made and for services rendered at or from the Premises, and outside the Premises, if the

order therefor is received at the Premises, and any other revenues of any type arising out of or in connection with the Operator's operations at the Premises, provided, however, that any taxes or other governmental charges imposed by law which are separately stated to and paid by a customer and directly payable to the taxing authority by the Operator, shall be excluded therefrom, provided, further, however, with respect Alternative 4, the term "Gross Receipts" as such term is used in Sections 59, 73, 74, 75, 77, 78 and 80 hereof shall mean with respect to the Lessee monies paid or payable to the Lessee for sales made and for services rendered by the Lessee pursuant to or in connection with Sections 59 and 73 through 82 hereof.

"Ground Carrier Permittees" shall have the meaning given such term in paragraph (b of Section 67 hereof.

"Ground Rental Base Rate" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Ground Transportation Operators" shall have the meaning given such term in paragraph (a) of Section 66 hereof.

"Group VI Aircraft" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Ground Water Threshold Level" shall have the meaning given such term in paragraph (j) of Section 56 hereof.

"Guaranteed Annual Enplanements" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Guide" shall have the meaning given such term in paragraph (f) of Section 43 hereof.

"Handled Airlines" shall mean any Requesting Airline, Accommodated Handled Airlines, Accommodated Sublessee Airlines and any other Scheduled Aircraft Operators who are operating at the Airport pursuant to accommodations provided by the Lessee, whether pursuant to a sublease agreement, Handling Agreement or a combination of both, which agreement has been consented to by the Port Authority and which consent remains in full force and effect.

"Handling Agreement" shall mean a ground handling or handling agreement, as such terms are used and understood in the aviation industry, or any other agreement entered in to between the Lessee and an Aircraft Operator whereby the Lessee provides the types of services provided by a handling Aircraft Operator to a handled Aircraft Operator under a ground handling or handling agreement, it being understood and agreed that the Lessee shall have no right to enter into a Handling Agreement without the prior written consent of the Port Authority.

"Hazardous Substance" shall mean and include in the singular and "Hazardous Substances" shall mean and include in the plural any pollutant, contaminant, toxic or hazardous waste, dangerous substance, noxious substance, toxic substance, flammable, explosive or radioactive material, urea formaldehyde foam insulation, asbestos, polychlorinated biphenyls

("PCBs"), chemicals known to cause cancer, endocrine disruption or reproductive toxicity, petroleum and petroleum products and other substances which have been or in the future shall be declared to be hazardous or toxic, or the removal, containment or restriction of which have been or in the future shall be required, or the manufacture, preparation, production, generation, use, maintenance, treatment, storage, transfer, handling or ownership of which have or in the future shall be restricted, prohibited, regulated or penalized by any federal, state, county, or municipal or other local statute or law now or at any time hereafter in effect as amended or supplemented and by the regulations adopted and publications promulgated pursuant thereto.

"Hazardous Waste" shall have the meaning given such term in Section 261.3 of 40 CFR Part 261, Subpart A, as such meaning may be amended from time to time in paragraph (a) of Section 2 hereof.

"Hot Water" shall have the meaning given such term in paragraph (a) of Section 39 hereof entitled "Hot Water and Chilled Water Requirements".

"Immaterial Change" shall have the meaning given such term in paragraph (d) of Section 2 hereof.

"Immaterial Change Order" shall have the meaning given such term in paragraph (d) of Section 2 hereof.

"Incremental Dewatering Cost" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Incremental Per Ton Cost of the Shared Soil Disposal Work" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Incremental Soil Disposal Costs" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Indebtedness" shall have the meaning given such term in Exhibit 49.1 hereof.

"Indemnified Claim" shall have the meaning given such term in paragraph (a) of Section 13 hereof.

"Indemnified Party" shall have the meaning given such term in paragraph (a) of Section 13 hereof.

"In-Flight Meal Operator" shall have the meaning given such term in paragraph (a) of Section 72 hereof.

"In-Flight Meals" as used in the air transportation industry and in this Agreement is a term of art and includes food, beverages, snacks, non-reusable supplies, materials, dry goods and all services rendered in connection therewith.

"Initial Base Enplanement Rental" shall have the meaning given such term in paragraph (I) of Section 4 hereof.

"Initial Base Guaranteed Annual Enplanements" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Initial Fourth Ground Rental Abatement Rate" shall have the meaning given such term in Subdivision (III)(d) of Section 4 hereof.

"Initial Minimum Enplanement Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Initial Post Construction Baseline" shall have the meaning given such term in Exhibit 56.1 attached hereto.

"Initial Post Construction Baseline Certificate" shall have the meaning given such term in paragraph (m) of Section 56 hereof.

"Initial Post Construction Baseline Effective Date" shall have the meaning given such term in Section 56 hereof.

"Initial Post Construction Baseline Work" shall have the meaning given such term in Section 56 hereof.

"Initial Second Ground Rental Abatement Rate" shall have the meaning given such term in Subdivision (III)(b) of Section 4 hereof.

"Initial Security Amount" shall have the meaning given such term in paragraph (c) of Section 92 hereof.

"Initial Third Ground Rental Abatement Rate" shall have the meaning given such term in Subdivision (III) of Section 4 hereof.

"Initial Price" shall have the meaning given such term in paragraph (c) of Section 68 hereof.

"Item A Costs" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Itinerant Aircraft" shall have the meaning given such term in paragraph (a) of Section 70 hereof.

"JFK Flight Fees Agreements" shall mean the separate agreements designated therein as JFK Flight Fees Agreements effective as of January 1, 2004 entered into between the Port Authority and various Aircraft Operators at the Airport (described therein as "Signatory

Airlines") covering the payment of flight fees at the Airport and the other matters covered thereby.

"JFK SPDES Permit" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"KIAC" shall have the meaning given such term in paragraph (a) of Section 39 hereof.

"Landside Civil Work" shall have the meaning given in paragraph (b) of Section 2 hereof.

"Landside Civil Work Item A Costs" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Lease" shall mean this Agreement of Lease.

"Lease AYD-265" shall have the meaning given such term in paragraph (g) of Section 1 hereof.

"Lease Commencement Date" shall have the meaning given such term in the initial Witnesseth paragraph hereof.

"Leased Premises" shall have the meaning given such term in Exhibit 87.1 hereof.

"Lessee" shall mean JetBlue Airways Corporation, a corporation of the State of Delaware.

"Lessee Change Order" shall have the meaning given such term in paragraph (d) of Section 2 hereof.

"Lessee Environmental Representative" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Lessee Hazardous Substance" shall have the meaning given such term in paragraph (q) of Section 56 hereof.

"Lessee Proposed Change" shall have the meaning given such term in paragraph (d) of Section 2 hereof.

"Lessee Tank" and "Lessee's Tanks" shall have the meaning given such terms in paragraph (a) of Section 61 hereof.

"Lessee's $80 Million Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Lessee's Act" shall have the meaning given such term in paragraph (a) of Section 56 hereof.

"Lessee's Administrative Amount" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Lessee's Basic Schedule for 2009" shall have the meaning given such term in paragraph (b) of Section 43 hereof.

"Lessee's Commencement Basic Schedule" shall have the meaning given such term in paragraph (a) of Section 43 hereof.

"Lessee's Cost of the Exit Baseline" shall have the meaning given such term in Section 56 hereof.

"Lessee's Cost of the Initial Post Construction Baseline" shall have the meaning given such term in Section 56 hereof.

"Lessee's Dewatering Permit" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Lessee's Dewatering System" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Lessee's Eligible Below Ground Asbestos Disposal Costs" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Lessee's Incremental Dewatering Costs" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Lessee's Personal Property" shall have the meaning given such term in paragraph (a) of in Section 29 hereof.

"Lessee's Shared Environmental Costs" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Lessee's Soil Disposal Costs" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Lessee's Unamortized Investment" shall mean an amount equal to the lesser of (x) Eighty Million Dollars and No Cents ($80,000,000.00) or (y) the s Cost of the Lessee's $80 Million Work, after deduction from such lesser amount, of an amount equivalent to an allowance for depreciation and amortization; such allowance to be computed on a straight-line basis from the earlier of (i) the fifth (5th) anniversary of the Lease Commencement Date or (ii) DBO to the end of the average useful life thereof (as determined under generally accepted United States accounting principles) or the Expiration Date, whichever is the shorter. The foregoing computation to be made shall not take into consideration the effect of accelerated amortization, if

any, granted to or taken by the Lessee on its books or otherwise under the provisions of Section 168(a) of Title 26 USCA or similar legislation hereafter enacted.

"Letter of Credit" shall have the meaning given such term in Exhibit 92.1 hereof.

"Local Business Enterprise" or "LBEs" shall have the meaning given such term in Schedule F attached hereto.

"Long Island Well Permit" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Material Change" shall have the meaning given such term in paragraph (d) of Section 2 hereof.

"Material Change Order" shall have the meaning given such term in paragraph (d) of Section 2 hereof.

"Material Part" shall have the meaning given such term in paragraph (a) of Section 18 hereof.

"Matter" shall have the meaning given such term in paragraph (k) of Section 56 hereof.

"Maximum Security Amount" shall have the meaning given such term in paragraph (c) of Section 92 hereof.

"Meaningful Participation" shall have the meaning given such term in Schedule E hereof.

"Measuring Period" shall have the meaning given such term in paragraph (f) of Section 43 hereof.

"Memorandum of Agreement" and "MOA" shall mean the memorandum of agreement entered into between and among the Port Authority, the New York State Historic Preservation Office, the Federal Aviation Administration and the Advisory Council on Historic Preservation for the rehabilitation, restoration, and adaptive reuse of Building No. 60, a copy of which is attached hereto, hereby made a part hereof and marked "Exhibit 94".

"Metro Area" shall have the meaning given such term in paragraph (f) of Section 73 hereof.

"Migrated Hazardous Substances" shall have the meaning given such term in paragraph (a) of Section 56 hereof.

"Minimum Enplanement Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Minimum First Enplanement Rental" shall have the meaning given such term in Subdivision (II)(b) of Section 4 hereof.

"Minority" shall have the meaning given such term in Schedule E hereof.

"Minority Business Enterprise" or "MBE" shall have the meaning given such term in Schedule E.

"MOA Curtain Wall Work" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

" MOA Flight Wing II Work" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Monthly Percentage" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Monthly Period" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Net Cost of Port Authority Requested Change Orders" shall have the meaning given to such term in paragraph (a) of Section 87 hereof.

"New Airport Fueling Agreements" shall mean such of the separate agreements or agreements if and when entered into by the Port Authority and airlines granting at the Airport which would cover the operations of the Airport Fuel Storage and Distribution System in replacement of the aviation fuel provisions of the General Airport Agreement.

"New Isolation Valve Pit" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"New Passenger Terminal" shall have the meaning given in paragraph (a) of Section 2 hereof.

"New System Components" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Newsstand Operator" shall have the meaning given such term in paragraph (a) of Section 77.

"Non-Related Entity" shall have the meaning given such term in paragraph (c) of Section 73 hereof.

"Notice of Shell Completion Date" shall have the meaning given such term in paragraph (b) of Section 92 hereof.

"Notice of Termination" shall have the meaning given such term in paragraph (a) of Section 20 hereof.

"NYPT" shall have the meaning given such term in paragraph (d) of Section 73 hereof.

"Obligations" shall have the meaning given such term in paragraph (c) of Section 92 hereof.

"Obligor" shall have the meaning given such term in Exhibit 92.1 hereof.

"Off-Premises Utility Service Line Work" shall have the meaning given such term in paragraph (m) of Section 2 hereof.

"Operation and Maintenance Cost" shall have the meaning given such term in paragraph (a) of Section 53 hereof.

"Operator" shall mean and include each and every Retail Manager, Restaurant Operator, Newsstand Operator, Currency Exchange Operator, Retail Bank Operator, Additional Operator, Employee Surface Carrier, Ground Carrier Permittee, Passenger Surface Carrier, In-flight Meal Operator and any other Person who conducts any business or operations on or at the Premises and for which the Port Authority shall impose a fee or rental on the conduct of such business and operations.

"Optional Expiration Date" shall have the meaning given such term in paragraph (b) of Section 3 hereof.

"Other Users" shall mean the meaning given such term in paragraph (o) of Section 2 hereof.

"Outstanding Claim" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Parcel T" shall have the meaning given such term in paragraph (a) of Section 89 hereof.

"Parcel T Surrender Date" shall have the meaning given such term in paragraph (b) of Section 89 hereof.

"Parcel T Termination Notice" shall have the meaning given such term in paragraph (a) of Section 89 hereof.

"Parcel Z" shall have the meaning given such term in paragraph (c) of Section 5 hereof.

"Parcel Z Approval Plan" shall have the meaning given such term in paragraph (c) of Section 5 hereof.

"Parking Garage" shall have the meaning given in paragraph (a) in Section 2 hereof.

"Parking Garage Basis of Design" shall have the meaning given in paragraph (a) of Section 2 hereof.

"Parking Garage Circulation Facilities" shall have the meaning given in paragraph (b) Section 2 hereof.

"Parking Garage DEC Delay" shall have the meaning given such term in paragraph (s) of Section 2 hereof.

"Parking Garage DEC Delay Costs" shall have the meaning given such term in paragraph (s) of Section 2 hereof.

"Parking Garage Fire Safety Equipment Maintenance Contract" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Parking Garage Site" shall have the meaning given in paragraph (a) in Section 2 hereof.

"Parking Garage Vertical Circulation Maintenance Contract" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Parking Garage Work" shall have the meaning given in paragraph (b) of Section 2 hereof.

"Parking Garage Work Completion Date" shall have the meaning given such term in paragraph (n) of Section 2 hereof.

"Parking Garage Work Item A Costs" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Participants" shall have the meaning given such term in paragraph (d) of Section 68 hereof.

"Passenger Surface Carrier or Carriers" shall have the meaning given such terms in paragraph (d) of Section 67 hereof.

"Passenger Terminal Work" shall have the meaning set forth in paragraph (b) of Section 2.

"Passenger Terminal Work Item A Costs" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Per Enplanement Rental Rate" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Per Ton Cost of the Shared Soil Disposal Work" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Period of Underutilization" shall have the meaning given such term in paragraph (d) of Section 43 hereof.

"Permitted Modification" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Person" shall mean not only a natural person, corporation or other legal entity, but also two or more natural persons, corporations or other legal entities acting jointly as a firm, partnership, unincorporated association, consortium, joint adventurers or otherwise.

"Port Authority" shall mean the Port Authority of New York and New Jersey, a body corporate and politic, established by Compact between the States of New Jersey and New York with the consent of the Congress of the United States of America.

"Port Authority Backfill Costs" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Port Authority Delay Costs" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Port Authority Eligible Below Ground Asbestos Disposal Costs" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Port Authority Incremental Dewatering Costs" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Port Authority Non-Shared Soil" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Port Authority Non-Shared Soil Disposal Costs" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Port Authority Payment" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Port Authority Payment Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Port Authority Requested Change" shall have the meaning set forth in paragraph (d) of Section 2 hereof.

"Port Authority Requested Change Order" shall have the meaning set forth in paragraph (d) of Section 2 hereof.

"Port Authority Service Contract" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Port Authority Shared Soil" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Port Authority's Cost of the Exit Baseline" shall have the meaning given such term in Section 56 hereof.

"Port Authority's Share of the Cost of the Lessee's Project Contingency Costs" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Port Authority's Share of the Cost of the Lessee's Redevelopment Work Elements" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Port Authority's Shared Soil Disposal Costs"" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Port of New York District" shall have the meaning set forth in Article II of the Compact.

"Post Construction Baseline" shall have the meaning given such term in paragraph (a) of Section 56 hereof.

"Post-DBO Accrued Amount" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Post-DBO Additional Rental Commencement Date" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Post-DBO Base Factor" shall have the meaning given such term in Subdivision II (c) of Section 4 hereof.

"Post-DBO Base Factor Product" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Post-DBO Project Contingency Payment" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Post-DBO Rental Factor" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Post-DBO Third Additional Rental Amount" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Pre-DBO Additional Rental Amount" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Pre-DBO Base Factor" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Pre-DBO Base Factor Product" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Pre-DBO Payment Accrued Amount" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Pre-DBO Project Contingency Payment" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Pre-DBO Rental Factor" shall have the meaning given such term in Subdivision (II)(d) in Section 4 hereof.

"Premises" shall have the meaning given such term in paragraph (a) of Section I hereof.

"Premises Circulation Facilities" shall have the meaning set forth in paragraph (b) of Section 2 hereof.

"Premises Distribution Line" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Prior Work" shall have the meaning given such term in Section 71 hereof.

"Project Budget" shall have the meaning given such term in paragraph (e) of Section 2 hereof.

"Project Contingency Payment" and "Project Contingency Payments" shall have the meanings given such terms in paragraph (a) of Section 87 hereof.

"Project Costs" " shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Proposed Change" shall have the meaning given such term in paragraph (d) of Section 2 hereof.

"Pro-Rata Share" shall mean with respect to each Gate at the Premises, 3.84615%.

"Public Aircraft Facilities" shall mean the following facilities, as they may from time to time be provided and maintained by the Port Authority at the Airport for public and common use, including use by Civil Aircraft Operators, for the following purposes and which (except as provided in Section 12.12 of the General Airport Agreement or Section 14 of the JFK Flight Fees

Agreement, as applicable) are usable for such purposes regardless of whether or not they are actually used or usable in whole or in part by the Lessee:

(i) Public Aircraft Parking and Storage Area; and

(ii) Public Ramp and Apron Area; and

(iii) Runways; and

(iv) Taxiways; and

(v) Facilities Incidental to the Runways, Ramp and Apron Area, Aircraft Parking and Storage Area and Taxiways.

"Public Aircraft Parking and Storage Space" shall mean space at the Airport for the purpose of parking and storing Aircraft, for the purpose of servicing Aircraft with fuel and lubricants and other supplies for use thereon, and for the purpose of making minor or emergency repairs to Aircraft.

"Public Landing Area" shall mean the area of land at the Airport including Runways, Taxiways and the areas between and adjacent to Runways and Taxiways, designated and made available from time to time by the Port Authority for the landing and taking off of aircraft.

"Public Ramp and Apron Area" shall mean the area adjacent to the Public Landing Area designated and made available from time to time by the Port Authority for common use for the loading or unloading of passengers or cargo to or from aircraft using the Public Landing Area.

"QF Status" shall have the meaning given such term in paragraph (b) of Section 39 hereof.

"Qualified Assignee" shall have the meaning given such term in paragraph (a) of Section 19 hereof.

"RAC" and "Redevelopment Advisory Committee" shall have the meaning given such term in paragraph (c) of Section 2 hereof.

"RCS" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Re-designated Airline Terminal Portion of the System" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Redesignation Date" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Redevelopment of Terminal 5/6 FONSI/ROD" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Redevelopment Work" shall have the meaning set forth in paragraph (b) of Section 2 hereof.

"Redevelopment Work Certificate" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Redevelopment Work Contract" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Redevelopment Work Contracts and Documents" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Redevelopment Work Contractor" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Redevelopment Work Construction Applications" shall have the meaning given in paragraph (a) of Section 2 hereof.

"Redevelopment Work Project Schedule" shall have the meaning given such term in paragraph (e) of Section 2 hereof.

"Redevelopment Work Site" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Reference Month" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Related Entity" shall have the meaning given such term in paragraph (c) of Section 73 hereof.

"Relocation Work" shall have the meaning given such term in paragraph (m) of Section 2 hereof.

"Remedial Action Work Plan" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Remediation Completion Report" shall have the meaning given such term in paragraph (n) of Section 56 hereof.

"Removed Material" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Report Date" shall have the meaning given such term in paragraph (a) of Section 54 hereof.

"Requesting Airline" shall have the meaning given such term in paragraph (a) of Section 42 hereof.

"Reserved Uses" shall have the meaning given such term in paragraph (d) of Section 73 hereof.

"Resident Engineer" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Restaurant Operator" shall have the meaning given such term in paragraph (a) of Section 74 hereof.

"Retail Bank Operator" shall have the meaning given such term in paragraph (a) of Section 79 hereof.

"Retail Banking Service" shall have the meaning given such term in paragraph (a) of Section 79 hereof.

"Return Date of the Assumable Maintenance and Repair" shall have the meaning given such term in paragraph (f) of Section 53 hereof.

"Revenue Seats Daily Average" shall have the meaning given such term in paragraph (f) of Section 43 hereof.

"RPM" shall have the meaning given such term in paragraph (b) of Section 49 hereof.

"Runways" shall mean runways (including aerial approaches) at the Airport used for the purpose of the landing and taking-off of Aircraft.

"Satellite Portion Work" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Schedule E" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Schedule F" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Scheduled Aircraft Operator" shall mean a Civil Aircraft Operator engaged in transportation by aircraft operated wholly or in part on regular flights to and from the Airport in accordance with published schedules; but so long as the Federal Aviation Act of 1958, or any similar federal statute providing for the issuance of Foreign Air Carrier Permits or Certificates of Public Convenience and Necessity or substantially similar permits or certificates, is in effect, no Person shall be deemed to be a Scheduled Aircraft Operator within the meaning of this Agreement unless it also holds such a permit or certificate.

"Second Additional Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Second Enplanement Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Second Enplanement Rental Abatement End Date" shall have the meaning given such term in Subdivision (II)(b) of Section 4 hereof.

"Second Ground Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Second Ground Rental Commencement Date" shall have the meaning given such term in Subdivision (II)(a) of Section 4 hereof.

"Second Standstill Agreement" shall mean the certain agreement entered into between the Port Authority and the Lessee covering the extension of the General Airport Agreement through September 30, 2004, or through such later date as may thereafter be agreed upon by extension, restatement or modification of such agreement, with the extension of the fuel fee provisions of the General Airport Agreement extended through December 31, 2004, or through such later date as may thereafter be agreed upon by

"Second Variable Per Enplanement Rental Rate" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Section 42 Gate Termination Date" shall have the meaning given such term in paragraph (d) of Section 42 hereof.

"Section 42 Gate Termination Notice" shall have the meaning given such term in paragraph (d) of Section 42 hereof.

"Section 42 Notice to Provide Accommodations" shall have the meaning given such term in paragraph (b) of Section 42 hereof.

"Section 42 Notice Period" shall have the meaning given such term in paragraph (b) of Section 42 hereof.

"Section 42 Terminated Gate" shall have the meaning given such term in paragraph (d) of Section 42 hereof.

"Section 43 Gate Termination Notice" shall have the meaning given such term in paragraph (c) of Section 43 hereof.

"Section 43 Gate Termination Date" shall have the meaning given such term in paragraph (e) of Section 43 hereof.

"Section 43 Notice to Provide Accommodations" shall have the meaning given such term in paragraph (c) of Section 43 hereof.

"Section 43 Terminated Gate" shall mean each Gate and its Gate Related Premises for which the letting is terminated pursuant to the provisions of Section 43 hereof.

"Security Agreement AX-782" shall mean have the meaning given such term in paragraph (a) of Section 92 hereof.

"Security Amount" shall have the meaning given such term in paragraph (c) of Section 92 hereof.

"Shared Soil" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Shell Completion Work" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Shell Completion Date" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Soft Costs" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Soil Threshold Level" shall have the meaning given such term in paragraph (j) of Section 56 hereof.

"Soil Management Plan" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Specified Amount" shall have the meaning given such term in Exhibit 49.1 hereof.

"Staging Area" shall have the meaning given such term in paragraph (t) of Section 2 hereof.

"Staging Area Termination Date" shall have the meaning given such term in paragraph (t) of Section 2 hereof.

"Standstill Agreement" shall mean the certain agreement entered into between the Port Authority and the Lessee covering the extension of the General Airport Agreement through March 31, 2004.

"Standstill Agreements" shall mean collectively the Standstill Agreement and the Second Standstill Agreement.

"Street Prices" shall have the meaning given such term in paragraph (f) of Section 73 hereof.

"Street Pricing" shall have the meaning given such term in paragraph (f) of Section 73 hereof.

"Submissions" shall have the meaning given such term in paragraph (c) of Section 68 hereof.

"Subsidiary" shall mean any corporation or other Person of which securities or other interests having the power to elect a majority of the corporation's or other Person's board of directors or similar governing body, or otherwise having the power to direct the business and policies of that corporation or other Person, are held by the Lessee or one or more of its Subsidiaries.

"Sum of the Pre-DBO Base Factor Products" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof.

"Sum of the Fifth Base Factor Products" shall have the meaning given such term in Subdivision (II)(c) of Section 4 hereof

"Sum of the Post-DBO Base Factor Products" shall have the meaning given such term in Subdivision (II) of Section 4 hereof.

"Supplemental Treatment" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Supplemental Treatment Disposal Cost" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Supplemental Treatment Waste" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"System" shall have the meaning given such term in paragraph (o) in Section 2 hereof.

"System Costs" shall have the meaning given such term in paragraph (o) in Section 2 hereof.

"System License" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"System Operator" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Tank Removal Work" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Taxi Dispatcher Period" shall have the meaning given such term in paragraph (b) of Section 46 hereof.

"Taxiways" shall mean taxiways at the Airport for the purpose of the ground movement of Aircraft to, from and between the Runways, the Public Ramp and Apron Area, the Public Aircraft Parking and Storage Area and other portions of the Airport (not including, however, any taxilanes, the exclusive use of which is granted to the Lessee or any other Person by lease, permit or otherwise).

"TDS" shall have the meaning given such term in paragraph (a) of Section 39 hereof.

"Temporary Facilities" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Temporary Facilities Cost" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Temporary Facilities Work" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Temporary Facilities Work Completion Date" shall have the meaning given such term in paragraph (n) of Section 2 hereof.

"Temporary Facility Ground Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Tentative Final Certificate Date" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Term" shall have the meaning given such term in paragraph (a) of Section 3 hereof.

"Terminal 4", "Terminal 6" and "Terminal 7" shall have the meaning given such terms in paragraph (a) of Section 2 hereof.

"Terminal 4 Parcel" shall have the meaning given such term in Section 1 hereof.

"Terminal 4 Parcel Tender Date" shall have the meaning given such term in Section 1 hereof.

"Terminal 4 Notice" shall have the meaning given such term in Section 1 hereof.

"Terminal 4 Surrendered Parcel" shall have the meaning given such term in of Section 1 hereof.

"Terminal 5 AirTrain Connector" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Terminal 5 AirTrain Connector Site" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Terminal 5 AirTrain Connector Work" shall have the meaning given such term in paragraph (b) of Section 2 hereof.

"Terminal 5 AirTrain Connector Work Item A Costs" shall have the meaning given such term in paragraph (a) of Section 87 hereof.

"Terminal 5 Letter of Credit" shall have the meaning given such term in paragraph (c) of Section 92 hereof.

"Terminal 5 MOA Requirements" shall have the meaning given such term in paragraph (c) Section 2 hereof.

"Terminal 5 Redevelopment Basis of Design" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Terminal 5/6 AirTrain Connector " shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Terminal 5/6 AirTrain Station" shall have the meaning given such term in paragraph (a) of Section 2 hereof.

"Terminal 6 Parcel" shall have the meaning given such term in Section 1 hereof.

"Terminal 6 Parcel Tender Date" shall have the meaning given such term in Section 1 hereof.

"Terminal 6 Site" shall mean that portion of the CTA that is designated by the Port Authority from time to time for use as a passenger terminal and which includes some or all of the premises under that certain agreement of lease entered into between the Port Authority and the Lessee as of the 1st day of November, 2002 and bearing Port Authority lease number AYD-265 together with such additional areas as the Port Authority shall determine shall be a part of the Terminal 6 Site.

"Terminal Work" shall have the meaning given such term in paragraph (n) of Section 2 hereof.

"Terminal Work Completion Date" shall have the meaning given such term in paragraph (n) of Section 2 hereof.

"Third Additional Rental" shall have the meaning given such term in Subdivision I of Section 4 hereof.

"Third Additional Rental Commencement Date" shall have the meaning given such term in paragraph (II)(c) of Section 4 hereof.

"Third Ground Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Third Variable Per Enplanement Rental Rate" shall have the meaning given such term in paragraph (I) of Section 4 hereof.

"Total Fifth Amount" shall have the meaning given such term in paragraph (II)(c) of Section 4 hereof.

"Total Fifth Project Contingency Payment" shall have the meaning given such term in paragraph (II) of Section 4 hereof.

"Total Post-DBO Amount" shall have the meaning given such term in paragraph (II)(c) of Section 4 hereof.

"Total Post-DBO Project Contingency Payment" shall have the meaning given such term in paragraph (II)(c) Section 4 hereof.

"Total Pre-DBO Amount" shall have the meaning given such term in paragraph (II)(c) of Section 4 hereof.

"Total Pre-DBO Project Contingency Payment" shall have the meaning given such term in paragraph (II) Section 4 hereof.

"Total Revenue Seats" shall have the meaning given such term in Section 43 hereof.

"Traffic Systems" shall have the meaning given such term in paragraph (d) Section 10 hereof.

"Travel Costs" shall have the meaning given such term in paragraph (e) of Section 65 hereof.

"Triggering Event" and "Triggering Events" shall have the meaning given such terms in Exhibit 49.1 hereof.

"Unknown Environmental Condition" shall have the meaning given such term in paragraph (g) of Section 2 hereof.

"Users" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Utility Servicing" shall have the meaning given such term in paragraph (b) of Section 17 hereof entitled "Rights of Entry Reserved".

"Variable Enplanement Rental" shall have the meaning given such term in Subdivision (I) of Section 4 hereof.

"Voting Security" or "Voting Securities" shall have the meaning given such terms in Section 50 hereof.

"Warranty" shall have the meaning given such term in paragraph (o) of Section 2 hereof.

"Women-owned Business Enterprise" or "WBE" shall have the meaning given such terms in Schedule E.

"Zone" shall have the meaning given such term in Section 56 hereof.

Section 95. Entire Agreement

This Agreement consists of the following: Sections 1 through 95 inclusive , the Exhibits listed on the Table on Contents to this Agreement, Schedule E and Schedule F attached hereto. It constitutes the entire agreement of the parties on the subject matter hereof and may not be changed, modified, discharged or extended except by written instrument duly executed by the Port Authority and the Lessee. The Lessee agrees that no representations or warranties shall be binding upon the Port Authority unless expressed in writing in this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed as of the Effective Date.

ATTEST:

Asst. Secretary

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

By _____

(Title) Director of Aviation

(Seal)

ATTEST:

Secretary

JETBLUE AIRWAYS CORPORATION

By _____

(Title) Vice President CEO

APPROVED

FORM	TERMS

SCHEDULE F

LOCAL BUSINESS ENTERPRISES COMMITMENT

As a matter of policy the Port Authority hereby requires the Lessee and the Lessee shall require any Contractor utilized by the Lessee to perform construction work on the Premises to comply with the provisions set forth hereinafter in this Schedule F.

(1) The Lessee and each Contractor shall use every good faith effort to maximize the participation of Local Business Enterprises (LBEs) in all construction work on the Premises, including without limitation the Redevelopment Work. In order to assure familiarity with the services and materials provided by LBEs, the Contractor shall attend such meetings as may be called by the General Manager of the Airport on LBEs and shall contact the Queens Air Services Development Office (ASDO), located at John F. Kennedy International Airport, Building 141, First Floor, Jamaica, NY 11430 to obtain LBE Vendor Profiles and access ASDO's on-line vendor retrieval system (BASIS). The Port Authority has not checked the references, capabilities or financial background of the LBEs registered with the ASDO, but is referring the Contractor to the ASDO and BASIS solely for the purpose of advising Contractors of LBDs who may be interested in providing services and/or materials to the Contractor.

(2) Good faith efforts to include participation by LBEs in construction work shall include at least the following:

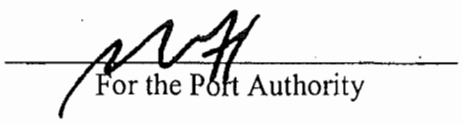
(i) Dividing the work to be subcontracted and services and materials to be procured into small portions, where feasible.

(ii) Soliciting bids on portions of the work to be subcontracted and services and materials to be procured from LBE's registered with ASDO and such other LBEs as the Contractor deems appropriate.

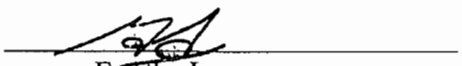
(3) The Port Authority is committed to making employment opportunities available to local residents and expects that the Contractor will utilized LBEs.

(4) It is specifically understood and agreed that the requirements set forth herein for the participation of LBEs shall not alter, limit, diminish or modify any of the obligations under this Lease including, without limitation, the obligation to put into effect the affirmative action program and the MBE and WBE programs in accordance with the provisions set forth above in Schedule E hereof.

Initialed:



For the Port Authority



For the Lessee

SCHEDULE E

AFFIRMATIVE ACTION-EQUAL OPPORTUNITY---MINORITY BUSINESS ENTERPRISES ---WOMEN-OWNED BUSINESS ENTERPRISES REQUIREMENTS

PART I. Affirmative Action Guidelines - Equal Employment Opportunity

I. As a matter of policy the Port Authority hereby requires the Lessee and the Lessee shall require the Contractor, as hereinafter defined, to comply with the provisions set forth hereinafter in this Schedule E and in Section 2 (g) (21) of the Lease to which this Schedule is attached. The provisions set forth in this Part I are similar to the conditions for bidding on federal government contract adopted by the Office of Federal Contract Compliance and effective May 8, 1978.

The Lessee as well as each bidder, contractor and subcontractor of the Lessee and each subcontractor of a contractor at any tier of construction (herein collectively referred to as the "Contractor") must fully comply with the following conditions set forth herein as to each construction trade to be used on the construction work or any portion thereof (said conditions being herein called "Bid Conditions"). The Lessee hereby commits itself to the goals for minority and female utilization set forth below and all other requirements, terms and conditions of the Bid Conditions. The Lessee shall likewise require the Contractor to commit itself to the said goals for minority and female utilization set forth below and all other requirements, terms and conditions of the Bid Conditions by submitting a properly signed bid.

II. The Lessee and the Contractor shall each appoint an executive of its company to assume the responsibility for the implementation of the requirements, terms and conditions of the following Bid Conditions:

(a) The goals for minority and female participation expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work are as follows:

(1)	Minority participation	
	Minority, except laborers	30%
	Minority, laborers	40%
(2)	Female participation	
	Female, except laborers	6.9%
	Female, laborers	6.9%

These goals are applicable to all the Contractor's construction work performed in and for the Premises.

The Contractor's specific affirmative action obligations required herein of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make good faith efforts to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole

purpose of meeting the Contractor's goals shall be a violation of the contract. Compliance with the goals will be measured against the total work hours performed.

(b) The Contractor shall provide written notification to the Lessee and the Lessee shall provide written notification to the Port Authority's Aviation Department and Office of Business and Job Opportunity within fifteen (15) days of award of any construction subcontract in excess of $10,000 at any tier for construction work. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

(c) As used in these specifications:

(1) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941:

(2) "Minority" includes:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

(ii) Hispanic (all persons of Mexican, Puerto Rican, Dominican, Cuban, Central or South American culture or origin, regardless of race);

(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(d) Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the construction work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 those provisions which include the applicable goals for minority and female participation.

(e) The Contractor shall implement the specific affirmative action standards provided in subparagraphs (1) through (16) of Paragraph (h) hereof. The goals set forth above are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the Premises. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

(f) Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations hereunder.

(g) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training subject to the availability

of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(h) The Contractor shall take specific affirmative actions to ensure equal employment opportunity ("EEO").

The evaluation of the Contractor's compliance with these provisions shall be based upon its good faith efforts to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

(1) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each phase of the construction project. The Contractor, shall specifically ensure that all foremen, superintendents, and other supervisory personnel at the Premises are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at the Premises.

(2) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

(4) Provide immediate written notification to the Lessee when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and training programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under subparagraph (2) above.

(6) Disseminate the Contractor's EEO Policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the Contractor's newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female

employees at least once a year; and by posting the Contractor's EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

(7) Review, at least every six months the Contractor's EEO policy and affirmative action obligations hereunder with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decision including specific review of these items with on-premises supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at the Premises. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

(9) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations and to State-certified minority referral agencies serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the Premises and in areas of a Contractor's workforce.

(11) Tests and other selecting requirements shall comply with 41 CFR Part 60-3.

(12) Conduct, at least every six months, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

(13) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations hereunder are being carried out.

(14) Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

(15) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least every six months, of all supervisors' adherence to and performance under the Contractors' EEO policies and affirmative action obligations.

(i) Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (subparagraphs (1)-(16) of Paragraph (h) above). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under Paragraph (h) hereof provided that: the Contractor actively participates in the group, makes good faith efforts to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes good faith efforts to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's non-compliance.

(j) A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation hereof if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation hereof if a specific minority group of women is underutilized).

(k) The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.

(l) The Contractor shall not enter into any subcontract with any Person or firm debarred from Government contracts pursuant to Executive Order 11246.

(m) The Contractor shall carry out such sanctions and penalties for violation of this clause including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered by the Lessee. Any Contractor who fails to carry out such sanctions and penalties shall be in violation hereof.

(n) The Contractor, in fulfilling its obligations hereunder shall implement specific affirmative actions steps, at least as extensive as those standards prescribed in paragraph (h) hereof so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of these provisions, the Lessee shall proceed accordingly.

(o) The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanical apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at

which the work is performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

(p) Nothing herein provided shall be construed as a limitation upon the application of any laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

(q) Without limiting any other obligation, term or provision under the Lease, the Contractor shall cooperate with all federal, state or local agencies established for the purpose of implementing affirmative action compliance programs and shall comply with all procedures and guidelines established or which may be established by the Port Authority.

PART II. Minority Business Enterprises And Women-Owned Business Enterprises

As a matter of policy the Port Authority requires the Lessee and the Lessee shall itself and shall require the general contractor or other construction supervisor and each of the Lessee's contractors to use every good faith effort to provide for meaningful participation by Minority Business Enterprises (MBEs) and Women-owned Business Enterprises (WBEs) in the construction work that is being performed in connection with the Premises pursuant to the provisions of this Schedule E. For purposes hereof, "Minority Business Enterprise" "(MBE)" shall mean any business enterprise which is at least fifty-one percentum owned by, or in the case of a publicly owned business, at least fifty-one percentum of the stock of which is owned by citizens or permanent resident aliens who are minorities and such ownership is real, substantial and continuing. For the purposes hereof, "Women-owned Business Enterprise" "(WBE)" shall mean any business enterprise which is at least fifty-one percentum owned by, or in the case of a publicly owned business, at least fifty-one percentum of the stock of which is owned by women and such ownership is real, substantial and continuing. A minority shall be as defined in paragraph II(c) of Part I of this Schedule E. "Meaningful participation" shall mean that at least seventeen percent (17%) of the total dollar value of the construction contracts (including subcontracts) covering the construction work are for the participation of Minority Business Enterprises and Women-owned Business Enterprises, of which at least twelve percent (12%) are for the participation of Minority Business Enterprises. Good faith efforts to include meaningful participation by MBEs and WBEs shall include at least the following:

(a) Dividing the work to be subcontracted into smaller portions where feasible.

(b) Actively and affirmatively soliciting bids for subcontracts from MBEs and WBEs, including circulation of solicitations to minority and female contractor associations. The Contractor shall maintain records detailing the efforts made to provide for meaningful MBE and WBE participation in the work, including the names and addresses of all MBEs and WBEs contacted and, if any such MBE or WBE is not selected as a joint venturer or subcontractor, the reason for such decision.

(c) Making plans and specifications for prospective construction work available to MBEs and WBEs in sufficient time for review.

(d) Utilizing the list of eligible MBEs and WBEs maintained by the Port Authority or seeking minorities and women from other sources for the purpose of soliciting bids for subcontractors.

(e) Encouraging the formation of joint ventures, partnerships or other similar arrangements among subcontractors, where appropriate, to insure that the Lessee and Contractor will meet their obligations hereunder.

(f) Insuring that provision is made to provide progress payments to MBEs and WBEs on a timely basis, preferably bi-weekly, and that retainage is paid to MBEs and WBEs when they have completed their work.

(g) Not requiring bonds from and/or providing bonds and insurance for MBEs and WBEs, where appropriate.

(h) Requiring each contractor to submit to the Lessee with each payment request evidence that all MBE and WBE Contractors have been paid in accordance with their contract.

Certification of MBEs and WBEs hereunder shall be made by the Office of Business and Job Opportunity of the Port Authority. If the Contractor wishes to utilize a firm not already certified by the Port Authority, it shall submit to the Port Authority a written request for a determination that the proposed firm is eligible for certification. This shall be done by completing and forwarding such form as may be then required by the Port Authority. All such requests shall be in writing addressed to the Office of Business and Job Opportunity, the Port Authority of New York and New Jersey, One Riverfront Plaza, 9th Floor, Newark, New Jersey 07102 or such other address as the Port Authority may specify by notice to the Lessee. Certification shall be effective only if made in writing by the Director in charge of the Office of Business and Job Opportunity of the Port Authority. The determination of the Port Authority shall be final and binding.

The Port Authority has compiled a list of the firms that the Port Authority has determined satisfy the criteria for MBE and WBE certification. This list may be supplemented and revised from time to time by the Port Authority. Such list shall be made available to the Contractor upon request. The Port Authority makes no representation as the financial responsibility of such firms, their technical competence to perform, or any other performance-related qualifications.

Only MBE's and WBE's certified by the Port Authority will count toward the MBE and WBE goals.

Please note that only sixty percent (60%) of expenditures to MBE or WBE suppliers will count towards meeting the MBE and WBE goals. However, expenditures to MBE or WBE manufacturer's (i.e. suppliers that produce goods from raw materials or substantially alter them before resale) are counted dollar for dollar.

Initialed:

For the Port Authority

For the Lessee

Final Dated November 22, 2005

For the Port Authority

STATE OF NEW YORK)
) ss
COUNTY OF NEW YORK)

On the 22nd day of November in the year 2005, before me, the undersigned, a Notary Public in and for said state, personally appeared George Sauer, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

(Notarial seal and stamp)

For the Lessee

TIMOTHY G. STICKELMAN
Notary Public, State of New York
No. 02ST6086913
Qualified in Suffolk County
Commission Expires on February 3, 2007

STATE OF NEW YORK)
) ss
COUNTY OF NEW YORK)

On the 22nd day of November in the year 2005, before me, the undersigned, a Notary Public in and for said state, personally appeared William DeLeta, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

(notarial seal and stamp)

TIMOTHY G. STICKELMAN
Notary Public, State of New York
No. 02ST6086913
Qualified in Suffolk County
Commission Expires on February 3, 2007

Lease No. AYD-350

between

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

and

JETBLUE AIRWAYS CORPORATION

Volume II of VI

EXEMPTION (4) – DRAWINGS OF NON-PUBLIC AREAS

jetBlue AIRWAYS

JFK International Airport Terminal 5 Redevelopment

Basis of Design – Parking Garage

November 15, 2005

ARUP
Design Manager

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY
JOHN F. KENNEDY INTERNATIONAL AIRPORT

INITIALED:
FOR THE PORT AUTHORITY
FOR THE LESSEE

EXHIBIT 2.2

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1. EXECUTIVE SUMMARY

1.1 Overview

As part of JetBlue's expansion program at JFK international Airport it is their intention to design and construct a 1500 space (minimum) parking garage in the Yellow Quadrant on behalf of the Port Authority of New York and New Jersey (PANYNJ). The garage will serve JetBlue's proposed Terminal 5 and connect directly into the existing Airtrain Station. The parking garage and Airtrain station will connect into the terminal via a skywalk connection.

The garage will incorporate three (3) entry lanes and eight (8) exit lanes. Access to five (5) above grade floors will be via a series of straight ramps.

All elements of the parking garage will be designed to perform at a minimum Level of Service C.

The garage will be procured by JetBlue under a Design and Build contract. The garage will be subject to a thorough VE review effort as the design progresses to ensure the budget cost estimate of $96.5m is achieved. This review will not compromise the number of spaces below the stated minimum of 1500 agreed nor will it reduce the Level of Service for any element of the garage below the agreed LoS C.

1.2 General Design Criteria

1. The site is the current Yellow Quadrant Parking Lot No. 4, and limited by existing Airtrain guideway and airport access roads.
2. Garage to accommodate a minimum of 1,500 cars on ground plus 5 elevated floors.
3. Pedestrian access to be provided to terminals via elevated connector at Airtrain station. At grade pedestrian connection to Terminals 5 and 6 as well as the Saarinen Building will be provided.
4. Vehicular access and egress to be accommodated between the airport roadway network and the garage.
5. No provision for future additional parking deck(s).
6. One garage floor plate to approximately align with elevation of Airtrain station rotunda.
7. 18' X 9' parking stalls and 24' wide drive isles. Limousine parking bays shall be 10'x30' and ADA stalls shall be in compliance with published requirements (nominally 13.5'x18')
8. Traffic operations at design peak to be Level of Service C or better.
9. Elevators and shafts to be glass enclosed.
10. Sloped parking decks are not to be included.
11. Dead-end drive isles are not to be included.
12. Number and size of elevators sized for short term parking mix and minimum Level of Service C. Analysis to be provided as design progresses.
13. Illuminated signage for easy identification and reading by customers.
14. 14'6" headroom to accommodate construction vehicles to access ground level of the garage.
15. Underground utilities will be relocated where they conflict with garage foundations and bridging over them with the foundations is not possible.
16. All entrance plazas and crash gates will have horizontal warning bars above each lane. Ramp entrance to upper levels will also have horizontal warning bar.
17. An automated pay-on-foot prepaid parking system is not to be accommodated within the garage.
18. The Parking Structure will operate at a minimum Level of Service C.
19. The elevated parking decks will be level with vehicular movements between grade and the decks accommodated by a series of external ramps located in the western section of the site. Pedestrian vertical circulation will be by elevators and stairs with connections at both grade and at the Airtrain Station rotunda
20. The architectural treatment of the facade shall be consistent with the other parking structures within the CTA.
21. The first floor of the garage will have a minimum clear height, in one direction, of 14'-6" to accommodate both emergency vehicles and maintenance vehicles for repair or replacement of underground utilities located under the garage's first floor.
22. The garage's structural components will be supported on piles but may be of either concrete or steel construction.
23. Elevators will be traction type units with glass-enclosed cabs and shaftway.
24. The ground floor plate, as well as the entrance and exit roadways will be paved with asphalt.
25. Sanitary and potable water systems will be provided to accommodate employee and maintenance needs.
26. Where necessary, elevated garage decks will be drained into a scupper system that will be piped to the underground drainage system. The ground floor will be drained to catch basins that in turn will be conveyed to the underground drainage system.
27. The garage will be equipped with a fire hydrant ring around the perimeter of the site.
28. A dedicated electrical service and sub-station will be provided for the garage that will accommodate the lighting, elevator service, as well as electronic fee transactions.

29. The garage as well as the tollbooths will be designed to accommodate E-Z Pass which will be installed under a separate contract. Canopies will be provided at the Entry/Exit plazas. Toll Booths and canopies shall be designed to JFK standard.
30. Emergency lighting will be provided as well as emergency power to the elevators, life safety systems, and revenue control systems.
31. Public and emergency communication systems will be provided as well as a fire alarm system and closed circuit television cameras at critical areas.
32. The site around the garage will be landscaped and hardscaped as appropriate and consistent with other CTA garage sites.
33. The current connection between the blue and yellow parking lots will be maintained.

2. PLANNED CAPACITY

2.1 Vehicle Count

As described in the Lease Agreement between the PANYNJ and JetBlue, 1500 parking spaces will be provided in the garage (ground level plus five suspended levels), including 26 ADA spaces and 22 limousine spaces. ADA parking spaces shall be located adjacent to the elevator core. Limousine spaces shall be located at the ground level. The supporting analysis below is generated from a series of empirical data and design load factors, which inherently carry interpretive assumptions and estimates.

2.2 Traffic Flow

The garage and access roadways and entry and exit plazas shall be designed to accommodate a peak traffic flow of 550vph

2.3 Planning analysis

An hour-by-hour entry-exit analysis showed that approximately 1,581 parking spaces are needed in the T5 sector to serve the 26-gate schedule. This accounts for the peak occupancy of 1,446 vehicles at 19:10, and a short-term parking inefficiency factor, *f*, of 0.80, which is described further in Section 2.4.2 below.

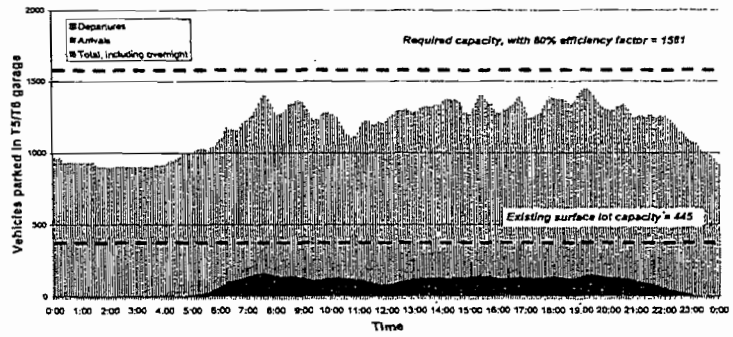

Figure 1. 24-hour parking accumulation pattern, Terminal 5

2.4 Methodology

2.4.1 Hour-by-hour Entry-exit analysis

A parking demand model was constructed to forecast public parking demand in the Terminal 5 sector, using the parameters described in Section 2 of the Terminal 5 Basis of Design report. The model was used to calculate the total number of vehicles that entered the parking garage based on departing and arriving customers at curb. It assumed that vehicles remained in the garage for 110 minutes (the median short-term parking duration observed at Terminal 6), and then exited. A running sum of the entries and exits gave the accumulation of short-term parking vehicles in the garage. The maximum accumulation is 543 short-term vehicles.

Overnight parking in the garage was accounted for by calculating the total daily number of overnight parking entries and multiplying by their length of stay in days. This gave the total number of overnight vehicles in the garage. The total number of vehicles in the garage at the peak was the sum of the variable hourly parking accumulation and the lump sum of overnight parking vehicles. The maximum accumulation is 902 overnight vehicles.

2.4.2 Parking inefficiency

For the purposes of calculating parking capacity requirements, it is assumed that in peak hours 80% of the parking spaces in the garage will be full. This is done by applying an inefficiency factor, *f*, to convert the peak short-term vehicle occupancy (in this case, 543 vehicles), to the peak space requirement to serve these vehicles (in this case, 679 spaces).

The value of *f* is typically set to 0.80 for multistory parking garages like the one proposed for the Terminal 5 landside. It is consistent with the PA's observation of other parking garages in the CTA, including the Blue Garage. Because parking inefficiency stems from short-term parkers entering and leaving spaces in the lot, the factor is applied only to short-term vehicle, not long-term vehicles.

2.5 Area of Garage (Approximate)

Parking Level	Square Foot
Ground	90000
Second	90000
Third	90000
Fourth	90000
Fifth (connector)	90000
Sixth (roof)	90000
Total	540000

3. STRUCTURAL SYSTEM

The garage structure shall span 60ft in one direction across each double loaded drive aisle. The structure may be constructed of steel, concrete or a hybrid.

The columns supporting the main structure and the ramps shall be supported by a piled foundation system. The pile system will transfer the gravity and lateral loads to the deeper denser soil and accommodate the loss of any lateral capacity in any liquefiable soil layer below the surface stratum.

3.1 CODES, AND STANDARDS

- New York City Building Code, 2004
- ACI 318-99 where applicable
- PCI Design Handbook- 5th Edition
- AISC Steel Construction Manual- 9th Edition
- ASCE "Minimum Design Loads for Buildings and Other Structures", for design requirements not covered by the New York City Building Code
- "Guide for the Design of Durable Parking Structures". ACI 363, 1 R-94

3.2 DESIGN LOADS AND CRITERIA

3.2.1 Live Loads

- Typical supported level and ramps (cars) 50 psf
- Stairways 100 psf
- Storage areas 125 psf
- Office 100 psf
- Luggage Handling areas 150 psf
- Mechanical mezzanines 150 psf
- Equipment rooms 150 psf
- Lobbies (including elevator lobbies) 100 psf
- Sidewalks 100 psf
- Snow Load (includes roof of stairways) 30 psf
- Wind load on full facade - per NYC code Min 20 psf or ASCE 7-98, whichever is more stringent where:
  - i. Basic wind speed V= 120mph
  - ii. Importance Factor I = 1.0
  - iii. Exposure Category = C
  - iv. Enclosure Classification = Open
  - v. Design wind loads for the main wind force resisting Systems
  - vi. Design wind load for components and cladding Elements
- Earthquake - per NYC Code: I = 1.0, Z = 0.15, S2 = 1.2 ,Rw = 6 (steel), 4 (concrete)

3.2.2 Dead Loads

Self weight of materials - density per NYC Code, AISC Handbook- Latest edition, PCI Design Handbook- Latest Edition

3.2.3 Temperature loads

Use maximum = 60 degree Fahrenheit for design (range) Per NYC Building Code for expansion and contraction.

3.2.4 Snow Removal

Roof, framing systems and foundation shall be designed to accommodate the stockpiling of snow for an average height of six feet in parking stall areas. Placement of temporary snow melting equipment is to be accommodated in the design of the structure.

3.2.5 Barrier walls

Barrier walls or railing shall be designed for a minimum ultimate load of 10,000 pounds applied at a height of 1'-6" above the floor at any point along the structure.

3.2.6 Precast Concrete

All Precast Concrete calculations including lateral load analysis and drawings shall be stamped by a Professional Engineer registered in the State of New York.

3.3 MATERIALS:

3.3.1 Structural Steel

1. ASTM A 572 Grade 50 - main structural members
2. Anchor Bolts- ASTM A193 B with heavy hex nuts and washers (galvanized)
3. ASTM A325 SC (Slip Critical - galvanized)
4. Welds- AWS E70XX Electrodes

3.3.2 Concrete General

1. Foundations- Pile caps,. grade beams, tie beams fc= 4000 psi
2. Caissons and Caps (Drilled shafts) fc= 5000 psi
3. Superstructure cast-in-place ramps, washes, curbs fc= 5000 psi
4. Precast/Prestressed Double Tees Min fc= 5000 psi
5. Slabs on Grade fc= 4000 psi

3.3.3 Reinforcing steel

1. Standard - ASTM A615, Grade 60
2. WWF - ASTM 185, Fy = 60 ksi
3. Prestressing Strands - ASTM A416,270K strands
4. Epoxy coating- all cast-in-place and Precast/prestressed floor elements

3.3.4 Concrete Mixes

All concrete mixes will be in accordance with PA standard specifications

3.4 DESIGN PROCEDURES AND ASSUMPTIONS:

3.4.1 Structural Steel

Structural Steel design, fabrication and erection shall conform to the American Institute of Steel Construction Manual of Steel Construction, latest edition, Allowable Stress Design.

All steel details and connections shall be in accordance with the requirements of the AISC Specifications for Structural Steel Buildings, Allowable Stress Design.

Shear connections for beams and girders shall be designed in accordance with allowable stress design for 60% of the total allowable uniform load as computed from the allowable uniform loads on beams.

3.4.2 Structural Concrete

Strength method based on ACI 318-99 requirements and NYC Building Code Seismic Criteria.

Loading patterns causing maximum shear and moment in each member shall be utilized.

3.4.3 Precast Prestressed Concrete

Design all beams and tees for self weight, superimposed dead load of 10 psf, additional superimposed local and snow loads and live loads indicated above.

3.4.4 Design Load Combinations

Load combinations shall be as referenced in the NYCBC 2004 and the PANYNJ Tennant Construction Review Manual and associated referenced applicable codes for the proposed structural system.

3.5 Structural Systems

Based on the grid chosen for the structure, it is feasible that the structural system may be either a concrete or steel frame system.

3.6 Foundations

The foundation design will be based on a piled solution. The capacity, number and arrangement of the piles will be selected by the Design/ Build Contractor. The design of the piles will be selected to offer the best value for the project while meeting code and serviceability criteria.

3.7 Other Structural Design Requirements

The following structural elements will also form part of the parking garage design:

- Antenna mounts and system equipment
- Design of garage support structures including but not limited to electrical substation, communications rooms, electrical rooms, and other support spaces.
- Design of large underground manholes and chambers
- Design of foundations for tollbooths
- Design of sign support structures
- Design of Toll Plaza canopy foundations

4. CIVIL DESIGN CRITERIA

Roadways, parking lots, other open paved vehicle and pedestrian areas, exterior pedestrian sidewalks, storm water drainage, sanitary sewers and water supply shall be in accordance with the current edition of the PANYNJ Civil Engineering Design Guidelines.

4.1 Roadways

Roadways shall meet the geometric design requirements of the current version of A.A.S.H.T.O. 'A Policy on Geometric Design of Highways and Streets'.

Asphalt pavement shall be standard Type I-2 mix for the base course and I-4 for the top course. All curbs, with the exception of curbing at pedestrian ramps and driveways, shall be non-mountable type with an eight-inch maximum height and a six-inch minimum height. Roads shall have a minimum longitudinal slope of 0.5%.and a minimum cross-slope of 2% to facilitate drainage.

4.2 Parking Areas

Roadways shall meet the geometric design requirements of the current version of A.A.S.H.T.O. 'A Policy on Geometric Design of Highways and Streets'.

Pavement shall be two inches of asphalt concrete top course (type I-4) on six-inches of dense graded aggregate base course.

All curbs, with the exception of curbing at pedestrian ramps and driveways, shall be non-mountable type with an eight-inch maximum height and a six-inch minimum height.

Parking lots shall have a minimum grade of 1.0% and an absolute maximum of 3% with a desirable maximum of 2%.

4.3 Pedestrian Sidewalks and Islands

Geometry and other requirements for access for the handicapped shall comply with the American with Disabilities Act (A.D.A.).

Sidewalks and islands shall be four-inches of Portland cement concrete on four-inches of aggregate base course.

Sidewalks shall be sloped towards the roadways and parking lot at a minimum of 2% and a maximum of 5%.

Sidewalks shall be a minimum of 5 feet in width

4.4 Storm Drainage

All paved surfaces shall be positively drained by catch basins, scuppers or trench drains. The minimum level of protection is ten years where the design runoff is assumed to be produced by the corresponding frequency rainfall, (ten year rainfall). The Rational Method will be used to determine the quantity of surface runoff. Runoff coefficients for the Rational Method are 0.95 for paved and roofed surfaces and 0.30 for unpaved surfaces.

Rainfall intensity will be calculated using the Standard Port Authority intensity formula:

$i = 120/(t + 20)$

where i = rainfall intensity (inches per hour) and

t = time of concentration (minutes)

Minimum time of concentration is five minutes.

The maximum desirable catchment area for parking lots is one acre. For roadways, catch basins are spaced to control the spread of water in the traveled lane. The maximum distance between inlets shall not exceed 350 feet. Reinforced concrete pipe (R.C.P.), Class V, shall be used except in areas of shallow cover where Ductile Iron Pipe (D.I.P.) will be used.

4.5 Sanitary Sewer

Pipes shall be designed assuming steady, uniform flow using the Manning equation with a coefficient (n) of 0.013.

Pipes shall be sized to flow half-full, or less at the design peak flow.

The minimum half-full velocity shall be 2.5 ft/sec (desirable) with an absolute minimum of 2.0 ft/sec. The maximum velocity is 10 ft/sec.

Pipe material shall be ductile iron pipe, acrylonitrile-butadiene-styrene composite, or reinforced concrete pipe.

Manholes shall be provided at the ends of the sewer line and at all pipeline intersections, changes in grade or alignment, and whenever the pipe sizes change. In addition, manholes shall be spaced no further than every 300 LF for 0" to 15" diameter pipes and 500 LF for 18" or greater diameter pipes.

Sanitary lines shall be designed to cross under water mains insofar as possible.

4.6 Water Supply

Pipes shall be designed assuming steady, uniform flow using the Hazen-Williams formula. Pipes shall be ductile iron with the exception of service connections, which will be copper.

Hydrants shall be spaced at a maximum of 250-feet apart and a maximum of 300-feet from the building face.

Sectionalizing valves shall be provided.

Minimum depth of cover shall be four feet.

5. MECHANICAL

Provide four (4), 6000 lbs. passenger traction elevators, with glass cab and hoistway, servicing six landings, Each unit will be powered by a 60 HP motor and travel the 65.5 feet height at a speed of 350 fpm

The elevator hoistway, the garage electrical substation, generator rooms and elevator machine room will be ventilated.

The elevator cabs and elevator control room will be air conditioned.

The electrical substation and generator rooms will be heated and vented.

Provide HVAC units for eight (8) tollbooths.

Relocate existing underground hot water and chilled water piping as necessary to avoid foundations.

5.1 Design and Performance Requirements

The design and performance of the mechanical systems shall comply with the applicable provisions of the codes, standards, recommendations of the entities listed below:

1. Underwriters Laboratories Inc. (UL)
2. American Society of Mechanical Engineers (ASM)
3. Anti-Friction Bearing Manufactures Association (AFBMA)
4. Air Movement and Control Association (AMKA)
5. American National Standard Institute (AN)
6. American Society for Testing and Materials (ASTM)
7. American Welding Society (AWS)
8. Steel Structures Painting Council (SSPC)
9. NYC Building Code
10. National Elevator Industry, Inc. (NEMI)
11. National Fire Protection Association (NFPA)
12. Occupational Safety and Health Administration (OSHA)
13. National Electric Code (NEC)
14. American Society of Mechanical Engineers (ASME)
15. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)
16. Air Conditioning Institute (ARI)
17. CALPINE Design Guidelines for KIAC Underground utility pipes.

5.2 Relocation of Underground Piping

The following assumptions will be used to establish the extent of the underground utility relocation works.

No underground utility lines can remain below the piled foundations. Whenever a new column foundation interferes with existing piping, either the existing piping will be relocated around it or the pipe will be bridged by the foundation.

Existing hot water and chilled water distribution piping may remain below the ground floor of the other areas of the garage as long as adequate access to this piping is provided. This requires that the clear height from the ground floor to the beams of the floor above, in one direction, and the height of the ground floor garage entrances be 14 ft 6 in to permit passage of the vehicles and other machinery required for pipe repair work.

6. PLUMBING

6.1 Codes and Standards

- New York City Building Code
- American Water Works Association (AWWA)
- Cast Iron Soil Pipe Institute (CISPI)
- PANYNJ Tenant Construction Review Manual

6.2 Storm Drain System

The storm drainage system will include roof drains at the top floor low points connected to internal leaders. The leaders will connect to an external collection system and into the existing CTA network.

Floor drains will be located at the low points on all floors and connected into the external system.

6.3 Sanitary and Potable Water System

A sanitary drainage and potable water system will be provided if required to all sanitary fixtures shown on the final architectural design. The sanitary drainage will connect into the existing CTA sanitary network.

The potable water system will connect into an adjacent water main. A meter and backflow preventer will be required in accordance with the NYC building code.

6.4 Materials

6.4.1 Piping

All above ground sanitary and storm water piping shall be galvanized steel pipe with threaded or no-hub fittings.

All potable water piping shall be type L copper with copper solder fittings.

Under ground water piping shall be type K copper with copper solder fittings.

6.4.2 Valves

Valves will be provided in accordance with the New York City Code.

All underground valves shall be (left hand close) resilient seated gate valves.

6.5 Testing

All plumbing system shall be tested per the requirements of the New York City Plumbing Code.

7. FIRE PROTECTION

7.1 Codes and Standards

- New York City Building Code
- American Water Works Association (AWWA)
- National Fire Protection Association (NFPA) Standards shall be used in areas not covered by the New York City Code
- PANYNJ Tenant Construction Review Manual

7.2 Standpipe System

As the open parking structure is approximately 67 above grade (roof deck at 81.00 feet minus grade at 14.00 feet), and does not therefore exceed the code maximum of 75 feet, a wet standpipe system will not be required per NYC Building Code section 27-932. A dry standpipe system will be installed

8. ELECTRICAL

8.1 Codes and Standards

- National Electrical Code
- New York City Electrical Code
- New York City Building Code
- New York State Energy Conservation Construction Code
- National Electrical Safety Code (ANSY1EEE C2)
- Requirements of the Americans with Disabilities Act - ADA
- American National Standards Institute - ANSI
- American Society for Testing and Materials - ASTM
- Association of Edison Illuminating Companies - AEIC
- Illuminating Engineering Society - IES
- Institute of Electrical and Electronic Engineers - IEEE
- Insulated Cable Engineers Association - ICEA
- National Fire Protection Association - NFPA
- Authority Specifications, Design Standards and Tenant Construction Review Manual
- National Electrical Manufacturers Association - NEMA
- Underwriters' Laboratories, Inc. - U.L.
- Occupational Safety and Health Act - OSHA
- Electrical Testing Laboratories - ETL
- Certified Ballast manufacturers – CBM

8.2 General

Electrical power shall be picked up by JetBlue at locations to be provided by the PANYNJ immediately adjacent to the garage site. All metering wiring shall be shown on the drawings.

Medium Voltage (over 600 volts) switchgear, transformers, and splicing chambers, that are installed indoors, shall be installed in vaults. Construction over existing duct banks and manholes shall be avoided.

Existing duct banks which fall within the piled foundation footprints shall be relocated prior to commencing construction.

Exploded-view drawings of electrical manholes in which the contractor performs any work shall be submitted.

8.3 Medium Voltage Power

The incoming service shall be designed with a minimum of two (2) 5 KV feeders. The service shall be Secondary Selective.

Primary switchgear switch shall be provided with a grounding switch, arranged to ground the incoming feeder (line side of switch). Switchgear shall be as manufactured by S&C. Interlocks shall be provided to prevent closing the grounding switch if the feeder is energized. The interrupting rating shall be 270MVA.

All incoming feeder cable shall be flat strap cable insulated (133% insulation level), copper conductor, polyethylene-jacketed cable. Cables shall be manufactured by a factory approved by Con Edison.

Transformers shall be dry type, vacuum pressure impregnated. For outdoor locations, transformers shall be cast coil construction (primary and secondary).

One-line diagram shall show all primary connections, switching and interlocks, power source and feeder designations, size and type of feeder and conduit, KVA rating; types and voltages of all transformers, and all load data in justification of the amount of power requested.

8.4 Power Requirements

Power requirements for feeders, panel boards/ switchgear, electric room and closets as spares and spaces shall be based on code requirements and actual load requirements.

A complete electrical installation, including all conduits, wires, auxiliary material, and equipment shall be provided for all equipment described elsewhere in this Basis of Design document, (ie Mechanical, HVAC, Fire Protection, etc.).

8.5 Power Distribution

Shall include the following:

a) Indoor 5KV Substation.

b) Two (2) 5kV circuits.

c) Two (2) 2000A Switchgear @ 480V w/secondary Selective Service.

d) Electrical Closets.

e) Grounding System (All Structures and Electrical Systems).

8.6 Emergency Power

Emergency power shall be provided for the following:

a) Lighting.

b) Life Safety Systems.

c) Elevators.

d) Revenue Control System

8.7 Lighting

Garage Lighting shall be as follows:

a) Fluorescent Lighting for general lighting on each floor

b) Average Foot-candles = 10 FC.

c) Minimum Foot-candles = 5 FC.

d) Uniformity = 2 to 1 or better.

e) Power Consumption = 0.5W/Sq-Ft.

f) Exit and Entrance Roadway Lighting with an average of 2 FC.

8.8 Lighting Control

1) All lighting circuits shall be controlled by means of a Lighting Control Cabinet Equipment with all switching hardware and logic controls.

2) Each level shall have early hour circuitry (2/3 of floor from center out) and nighttime circuitry (1/3 of the floor area at the perimeters).

3) The upper level shall have night light circuitry and normal hour circuitry.

4) All lighting fixture patterns shall be alternately circuited so that the failure of a circuit will not leave an area in darkness.

5) Exit stairs shall be on separate circuits.

9. COMMUNICATIONS

Provisions shall be made for the following:

a) Emergency Phones at each stairwell and in elevator lobby at each floor.

b) Emergency Phones in Elevators.

c) Public Phones in Elevator Lobbies (Only).

d) Communication Closets as appropriate.

e) Backboards and dedicated receptacles in each Communications closet.

f) Separate and independent conduit system for public and emergency telephone systems.

10. FIRE ALARM

Provisions shall be made for the following:

Digital Addressable Fire Alarm System.

Fire Alarm System reports to Police Desk, remote panel to be located in one of the grade level communications closets.

Elevator Recall from Fire Alarm Control Panel (FACP).

Provide Remote Annunciator.

10.1 Closed Circuit Television

Provide cameras at the following locations:

a) Elevators.

b) Elevator lobbies.

c) Connectors.

The CCTV system will be monitored in two locations, at the JFK1A Security and Landside Operations Office in Building 14 and at the OOC in the GAT.

Provide a 24 Hour recording of video in a grade level communications closet.

11. TOLL PLAZA POWER COMMUNICTIONS & LIGHTING

Provide Power and Communication Infrastructure for Revenue Control System including E-Z Pass Plus and License Plate Recognition. A service building will be provided for the toll plaza power and communications services

Provide Canopy Lighting for Exit and Entrance Plazas.

12. DUCTBANKS AND CONDUITS

Remove & Relocate Existing Medium Voltage, Low Voltage and Communication Ductbanks under garage piled foundation structures where it is not possible to bridge and leave insitu.

Install Ductbanks System from the available power Manhole to provide power to the Parking Structure. The main feeder shall originate at the Central Substation.

All wiring shall be in conduits.

All above ground conduits shall be rigid galvanized steel. All underground conduits shall be concrete encased PVC-H. 5kV underground ducts shall be FRE concrete encased.

13. LIGHTNING PROTECTION SYSTEM

Provide Lightning Protection for the Parking Structure.

14. ELECTRICAL OUTLETS AND WIRING

Shall be provided throughout the garage including all communication and electrical closets.

Secure covers shall be provided in public spaces.

All 600V wires, run underground and outdoor shall be type USE,EPR insulation with heavy duty thermosetting chlrosulphanated polyethylene or heavy duty neoprene jacket.

All 600V wires inside the garage shall be type XHHW.

15. ELEVATORS

Four (4) 6,000 lb. Elevators (60HP each @ 480V-3PH).

16. HVAC

Unit Heaters and Fans will be provided for the Substation.

Unit Heaters, Fans and AC Units will be provided for Elevator Equipment and Rooms.

17. ANTENNAS

Antennas for Radio and CCTV. Electrical service will be provided for the antenna system along with the necessary signal cables and equipment rooms.

18. LANDSCAPING

All landscaping, irrigation and maintenance work will be provided within the project specific budget of $0.5m

Provide landscaping consistent with other garages in the CTA while providing a minimum of attractants to birds.

All Landscape contractual work is subject to approval by the FAA/USDA wildlife damage control division

Any installed landscaping measures shall be maintained by the contractor for 2 years following final acceptance.

18.1 Design Parameters

The front and east face of the garage is dominated by the Airtrain elevated station and guideway. The presence of the guideway eliminates any opportunity for planted landscaping beneath and witbin 5-feet of the guideway and will therefore be paved.

Large irregular islands at the rear of the garage will contain ornamental trees as well as a few specimen canopy trees in order to add a sense of maturity and to match the scale of the elevated roads, parking garage, elevated guideway and roads.

Salt splash shall consist of eight-inch hexagonal asphalt pavers laid out in a random pattern composed of two different color aggregates, CP-Central Park Formula and RBB-Reading Brown with Brown sand. Salt splash shall be three feet wide. Any islands and strips of land not suitable for planting will be paved with the hexagonal asphalt block pavement.

A river-blend gravel mulch will be used under elevated roadways

Security fencing will be a tubular steel construction four feet in height, finished in black.

18.2 Design Criteria

18.2.1 TREES

Trees shall be selected that meet the following criteria:

a) To withstand pollution and tough urban environments,

b) To tolerate excessive road de-icing salts and salt-laced prevailing winds.

c) To be unattractive to birds as a food source and meet FAA approval.

d) To be unattractive to birds as a roosting site and meet FAA approval.

e) To be primarily deciduous, since evergreen trees are an ideal bird habitat.

f) To have interesting flowers, fall color, size, shape or habit.

g) To be obtainable on the commercial market.

Sample List :

Gleditsia triacanthos 'Halka' Moraine Honeylocus

Platanus acerifolia 'Bloodgood'	Bloodgood London Plane Tree
Quercus phellos	Willow Oak
Quercus robur 'Fastigiata'	Fastigiate English Oak
Zelkova serrata	Japanese Zelkova

18.2.2 ORNAMENTALTREES

Ornamental trees shall meet the same criteria as trees.

Sample List

Chionanthus virginicus	Fringe Tree
Cornus x Ruth Ellen	Stellar White Dogwood
Koelreuteria paniculata	Golden Raintree
Malus Spring Snow	Spring Snow Crabapple
Parrotia persica	Persian Parrotia
Syringa reticulata 'Ivory Silk'	Ivory Silk Lilac

18.2.3 SHRUBS AND GROUNDCOVER

Shrubs and groundcovers shall meet the same criteria as trees.

Sample List

Abelia x grandiflora	Glossy Abelia
Euonymus data 'Compacta'	Dwarf Winged Euonymus
Hamamelis 'Arnold Promise'	Arnold Promise Witchhazel
Juniperus chinensis sargenti	Sargent's Chinese Juniper
Rosa x 'Noamel'	Appleblossom Carpet Rose
Spiraea nipponica ' Snowmound'	Snowmound Spirea
Taxus x media wardii	Ward's Yew

18.2.4 SEASONAL DISPLAY

Sample List

Caryopteris x clandonensis	'Blue Mist' Blue Mist Caryopteris
Echinacea purpurea 'Magnus'	Magnus Purple Coneflower
Eupatorium purpurewn 'Big Umbrella'	Big Umbrella Joe Pye Weed
Eupatorium purpureum 'Gateway'	Gateway Joe Pye Weed
Eupatorium rugosum ' Chocolate'	Chocolate Boneset
Eupatorium ageratum 'Cori'	Perennial Ageratum
Hemerocallis 'Happy Returns'	Happy Returns Daylily
Hemerocallis 'Black-eyed Stella'	Black-eyed Stella Daylily
Nepeta faassenii 'Walkers Low'	Catmint
Pennisetum alopcuroides 'Cassian'	Cassian Fountain Grass
Rudebeckia hlgida ' Goldsturm'	Black-eyed Susan
Sedum x 'Autumn Joy'	Autumn Joy Sedum
Stachys byzantina 'Helene von Stein'	Lambs Ear

18.2.5 BULBS

Daffodil x 'Ice Follies'	Ice Follies Daffodil
Daffodil x 'King Alfred'	King Alfred Daffodil

18.2.6 LAWN

Select cultivars that can thrive on low nutrient, low water availability and that are " 90% endophyte enhanced" variety.

18.3 General

A landscape design least likely to attract birds should have the following qualities:

1. Avoid plant material and design features that provide birds with a source of FOOD, WATER, COVER and SPATIAL DOMAIN.
2. Canopy trees should be planted in linear rows, canopies spaced 15-20 feet apart at maturity. (Adjacent canopies should never be touching)
3. Shrubs and small trees should be used moderately and not be planted under or directly adjacent to canopy trees.
4. Shrub beds should be small in size and discontinuous.
5. Flowering ornamental trees should be limited in quantity.
6. Groundcover should be well-manicured, healthy, dense, moderately tall lawn, a hitless low growing groundcover, and gravel or bark mulch.
7. All plants should be planted at the same size and time.

18.4 Irrigation

The irrigation control system will be RainBird Maxicom automated system and will be consistent with the systems provided elsewhere within the CTA.

Seasonal display areas and landscaped areas adjacent to pedestrian nodes should be irrigated with automatic sprinklers.

Trees, shrubs and groundcover shall be irrigated with automatic sprinklers.

Trees not handled by automatic sprinklers shall be irrigated with tree gaters for the first two years after installation and whenever the automatic irrigation system is down due to construction or repair.

Lawn shall be irrigated with permanent irrigation using mist sprinkler heads.

Water supply will be from connections to the existing water mains. The water will be metered and supplied with a backflow preventer.

Where necessary, 8" sleeves will be installed below new roadways to accommodate the irrigation system.

18.5 Asphalt Block Pavers

Salt splash shall consist of eight-inch hexagonal asphalt pavers laid out in a random pattern composed of two different color aggregates, CP-Central Park Formula and RB/B-Reading Brown with Brown sand.

18.6 Fence

Fence shall consist of black powder-coated round tubular steel post and pickets and square tubular rails. Fence posts shall be 6-feet on-center.

18.7 Gravel Mulch

Gravel mulch shall be composed of 1 " to 2" size Delaware River Blend #186.

19. WALKING PATTERNS

Parking bays to be oriented to allow pedestrians to walk along the drive aisles toward the elevator tower.

20. FLOOR HEIGHT

The parking structure floor-to-floor heights are controlled by the need to meet the Airtrain connector at Level 5. Connection to the pedestrian bridge from the LRS station to the terminals is at the 4th level of the garage. The ground floor to 2nd level height shall provide 14'-6" available clear height in one direction to accommodate maintenance equipment and is set at 17'-6" nominal, with the remaining floors set at 12' floor to floor.

21. SIGNS

Overhead signage consistent with PANYNJ CTA signage standards will direct motorists and pedestrians throughout the parking structure.

22. CONSTRUCTION & STAGING

1. The construction of the garage is to be staged/phased so as to accommodate an internal shuttle bus service, provided by the PANYNJ from the Blue Parking Garage to Terminal 6 at all times during construction.
2. The construction of the garage is to be staged/phased so as to accommodate the flow of pedestrians to/from the AirTrain and Terminal 6 at all times during construction.
3. The construction of the garage is to be staged/phased so as to accommodate the flow of pedestrians to/from the AirTrain and the Saarinen Building at all times during construction.
4. The construction of the garage is to be staged/phased so as to allow the flow of pedestrians to/from the Blue Parking Lot and Terminal 6 at all times during construction.