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September 28, 2001

Mr. Vadim Brevdo
NYS DEC Region 2
47-40 21st Street
Long Island City, NY 11101

RE: Queens West Site 9 - Supplemental Study on Building Interiors

Dear Mr. Brevdo:

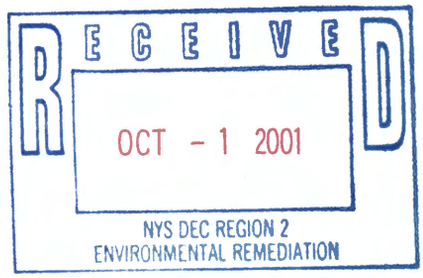
I am transmitting, attached, six copies of the report on the additional sampling performed on Site 9 of the Queens West Development Area. Although the soil and groundwater testing was performed last year, we have been unable to complete one portion of the scope, the groundwater elevation survey, because of subsequent petroleum spills, remedial actions, and demolition activities on the site.

Please call me at 212-340-9815 if you have any questions or comments.

Sincerely,
AKRF Engineering, PC

Andrew D. Rudko, Ph.D.

cc: Rachel Shatz, ESDC
Larry Ford, ESDC
Mark Chertok, Sive Paget & Riesel



SUPPLEMENTAL SITE ASSESSMENT REPORT
QUEENS WEST DEVELOPMENT SITE
PARCEL 9, BUILDING INTERIORS
QUEENS, NEW YORK

VOLUME I

Prepared By:

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September 2001

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ENVIRONMENTAL REMEDIATION

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1. INTRODUCTION

Supplemental testing was performed on Parcel 9 of the Queens West Development Site in response to concerns of the New York State Department of Environmental Conservation (DEC) regarding subsurface conditions within building interiors and the need to evaluate groundwater conditions at monitoring well location B/MW-7. As shown on the attached Figure 1, Parcel 9 will occupy the city block between the proposed Center Boulevard to the west, 5th Street to the east, 47th Road to the north, and 48th Avenue to the south. The on-site buildings correspond to the former warehouses located at 4-75 48th Avenue, 4-85 48th Avenue, and 4-62 47th Road.

A Voluntary Cleanup Agreement Remediation Work Plan for Parcel 9 of the Queens West Development Site has been reviewed and approved by the New York State Department of Environmental Conservation (DEC). This work plan specified the need to test inside the on-site buildings at five locations and to resample groundwater monitoring well B/MW-7A. Consistent with the approved Voluntary Cleanup Agreement Remediation Work Plan, a sampling work plan for the supplemental testing, dated August 1999, was prepared and submitted to the DEC for its review and approval. This sampling work plan was verbally approved by the DEC with the proviso that an additional soil boring be installed inside the on-site buildings. A letter from Empire State Development Corporation to the DEC, dated January 11, 2000, documented DEC's acceptance of the sampling work plan with the following revisions: installing a sixth soil boring to provide coverage in the center of the site, collecting soil samples at 0-2 feet and 2-4 feet below the bottom of the drains, and measuring groundwater elevations within three existing wells on the block to confirm the groundwater gradient.

Supplement testing was conducted in accordance with the amended sampling work plan.

II. SUMMARY OF PREVIOUS SAMPLING DATA

Soil and groundwater sampling in or adjacent to Parcel 9 occurred in 1985-86, 1989, 1994, and 1998. The first two rounds of sampling were performed as part of an overall assessment of the subsurface conditions throughout the development site. The 1994 sampling program focused upon subsurface conditions along the route of proposed underground utilities on south-adjacent parcels and the west-adjacent waterfront park. The final round of sampling in January and February of 1998 was requested by DEC in order to address issues raised by the previous testing programs and the proposed development of Parcels 8 and 9.

The sampling locations for the prior testing programs are shown on Figures in Appendix A. Analytical results are tabulated in Appendix A. Volume II of this report contains copies of the Field Notebook and full laboratory analyticals; Volume II is available upon request. The following subsections briefly describe the previous testing programs.

1985 Sampling Program

Roy F. Weston Inc. performed the initial testing of the area containing the project site in 1985-86 on behalf of the Port Authority. As shown in Appendix A, sample S-018A was collected on the sidewalk on 47th Road, near the northeast corner of the block containing the project site. This sample was reported to have a level of leachable mercury (0.56 parts per million) above the EP Toxicity Standard of 0.2 ppm. The results were reported in a memo in which no information on sampling depth or quality assurance/quality control (QA/QC) was presented. No leachable mercury was detected from the sample collected at location S-18 on the south side of the site. No mercury (total rather than leachable) was detected in the groundwater sample collected from MW-14. Based upon S-018A's exceedance of the EP Toxicity standard for mercury, the NYS DEC identified the site as a potential inactive hazardous waste site.

1989 Sampling Program

This testing program consisted of collecting soil samples at various depths from seven locations on the project block and installing two groundwater monitoring wells (Refer to B/MW-50, B/MW 51 and B-52 through B-55). Soil samples were analyzed for Target Compound List volatile organic compounds, Target Compound List semivolatile organic compounds, polychlorinated biphenyls (PCBs), Target Analyte List Metals, and EP Toxicity metals. Unfiltered groundwater samples were analyzed for Target Compound List volatile organic compounds, Target Compound List semivolatile organic compounds, PCBs, and Target Analyte List metals. Filtered groundwater samples were also analyzed for Target Analyte List metals.

Results of the retesting in 1989 found no soil samples exceeding the EP-Toxicity Standard for

mercury, and suggested that the mercury level found in the earlier sample S-018A was likely anomalous.

1994 Sampling Program

In 1994, limited additional testing of surface soil was performed immediately to the west of Parcel 8, along the area to be occupied by the waterfront park. The sampling program consisted of collecting discrete surficial soil samples (0-2 feet) along the area that would become the waterfront park. Soil samples were subsequently composited into two samples and analyzed for Target Compound List semivolatile organic compounds, PCBs, and full RCRA waste characterization parameters (toxic characteristic leaching procedure (TCLP), reactivity, ignitability, and corrosivity). Analytical results showed that surficial soil had none of the hazardous waste characteristics and contained no PCBs. However, the laboratory analysis identified elevated levels of polycyclic aromatic hydrocarbons (PAHs) in the soil. In accordance with the NYSDEC-approved Remediation Plan for the entire Stage I area of the Queens West Development site, the soil in areas of the waterfront park which were not covered by pavement or at least two feet of clean fill have been excavated and disposed of off-site at an appropriate facility.

1998 Sampling Program

Testing on the project block was performed in accordance with a work plan, titled Additional Sampling Work Plan, Parcels 8 and 9 -Queens West Development Site, Queens, New York, approved by the DEC and the New York State Department of Health (NYSDOH). The primary objectives of the 1998 study were to confirm the absence of hazardous levels of mercury on the project site, determine the nature and extent of any solvent contamination, delineate the extent of petroleum and PAH contamination, and establish current groundwater conditions on the project site. Borings/monitoring wells B/MW-6A and B/MW-7A, and borings B-2A, B-3A, B-4A, and B-5A were on Parcel 9. Boring/monitoring well B/MW-50 and boring B-1A were on the sidewalk adjacent to Parcel 9. Boring/monitoring well B/MW-8A was near the boundary between Parcel 9 and Center Boulevard.

The conclusions of this study, as described in the Site Assessment Report submitted to the DEC, were as follows:

- Levels of leachable mercury in the soil were nonhazardous. Levels of leachable lead exceeded the maximum concentration for the characteristic of Toxicity at the following three locations: B-1A (0-2"), B-MW-7A (2-4'), and B-MW-9A (3-5').
- Levels of PAHs in the shallow and subsurface soil were consistent with those found on other parcels of the Queens West Development Site. The highest level of total PAHs

was 1,743 ppm in sample B/MW-9A (3-5'); similarly, prior sampling in 1994 on the south-adjacent parcel 10 indicated total PAH levels in the subsurface and shallow soils ranging from 7.6 to 4,348 ppm.

- Only trace amounts of pesticides, Target Compound List volatile organic compounds and PCBs were found in the soil.

- Levels of total and dissolved Target Analyte List metals were representative of groundwater in urban areas. Although elevated levels of total metals, leachable lead, and Target Compound List semivolatile organic compounds were detected in the soil at some locations, no significant impact to groundwater conditions was noted in the downgradient monitoring well, MW-10A.

III. SAMPLING METHODOLOGY

Soil Sampling

Soil sampling was performed in accordance with NYSDEC sampling protocols, as described in Technical and Administrative Guidance Memorandum #4007: Phase II Investigation Generic Work Plan; DEC Division of Hazardous Waste Remediation, 1988. At each soil sampling location, soil samples were obtained by a steel, 24-inch long, 2-inch in diameter split-spoon sampler that was driven through the subsurface soils ahead of a hollow-stem (6-inch diameter) auger that bored into the soil to just above the desired sampling depth.

All samples were containerized and stored in accordance with NYSDEC sampling protocols. Soil samples were field screened for organic vapors by head-space analysis using a photoionization detector (PID). Each container was properly sealed, labeled, and placed in a refrigeration unit for transport to the laboratory. A record of each sample, including notation of any odors, color, or sample matrix, was kept in the sampler's field log book. A chain of custody was maintained throughout the field sampling, transport of samples to the laboratory, and during lab analysis.

Groundwater Sampling

Groundwater monitoring well B/MW-7A was replaced due to its being damaged. The replacement well was drilled using a hollow-stemmed auger and consisted of a 2-inch Schedule 40 PVC casing in a 61/4-inch augered hole. A 10-foot PVC screen (0.020 inch slot) was installed in the top eight feet of groundwater. A filter pack of sand (US Std sieve sizes 30 to 8) was placed in the annular space around the screens and extended two feet above the screen. The

annular area around the well casing was sealed with bentonite pellets for an interval of two feet above the filter pack. A grout, consisting of cement and bentonite mixture or an anti-shrink mixture, was extended from the bentonite pellet seal to two feet below the ground. The remaining annular space was sealed with a concrete cap and well apron (expanding cement). A locking well cap was installed upon completion of the well.

The replacement well was developed until the turbidity of the water sample, as measured by a nephelometer, becomes less than 50 Nephelometric Turbidity Units (NTU) or at least 15 well volumes of groundwater had been pumped out. The well was not sampled for at least seven days after development.

Before resampling replacement well B/MW-7, water levels were measured using an electronic water level indicator. A dedicated bailer or a submersible sample pump was used for sample collection. A minimum of three well volumes were purged from the well before sampling. Samples were not collected until the water was visually free of suspended materials and the pH, temperature, and conductivity readings had stabilized.

All water samples were containerized and stored in accordance with applicable EPA or NYSDEC analytical protocols. After collection, each container was properly labeled, sealed, and refrigerated for shipment to the laboratory. All sampling equipment was decontaminated before its use.

IV. ANALYTICAL METHODOLOGY

All soil samples and groundwater samples were analyzed at a New York State DOH-ELAP certified laboratory for CLP analyses for the parameters of concern, with category B deliverables. Soil samples were analyzed for TCL-VOCs by NYSDEC ASP Category 95-1, TCL-SVOCs by NYSDEC ASP Category 95-2, TAL-metals by NYSDEC ASP Category 6010A and 7451A for mercury and Toxic Characteristic Leaching Procedure (TCLP) by US EPA method 1311.

Unfiltered and filtered groundwater samples were analyzed for RCRA metals other than mercury by NYSDEC ASP Category 6010A and for mercury by 7470A.

V. RESULTS

All soil and groundwater testing on the project site occurred between January and March of 2000. A permanent groundwater well was also installed during this period and subsequently sampled one week after its installation. The approximate locations of the soil borings and replacement well B/MW-7A are shown in Figure 2.

Summaries of the soil and groundwater sampling results are included in Appendix B. Copies of the complete laboratory data package are available upon request. Descriptive logs of each soil boring and the construction design of the replacement monitoring well are included in Appendix C.

Soil Sampling Results

A brief discussion of the results for each parameter of concern is presented below.

Volatile Organic Compounds (NYSDEC ASP Category 95-1):

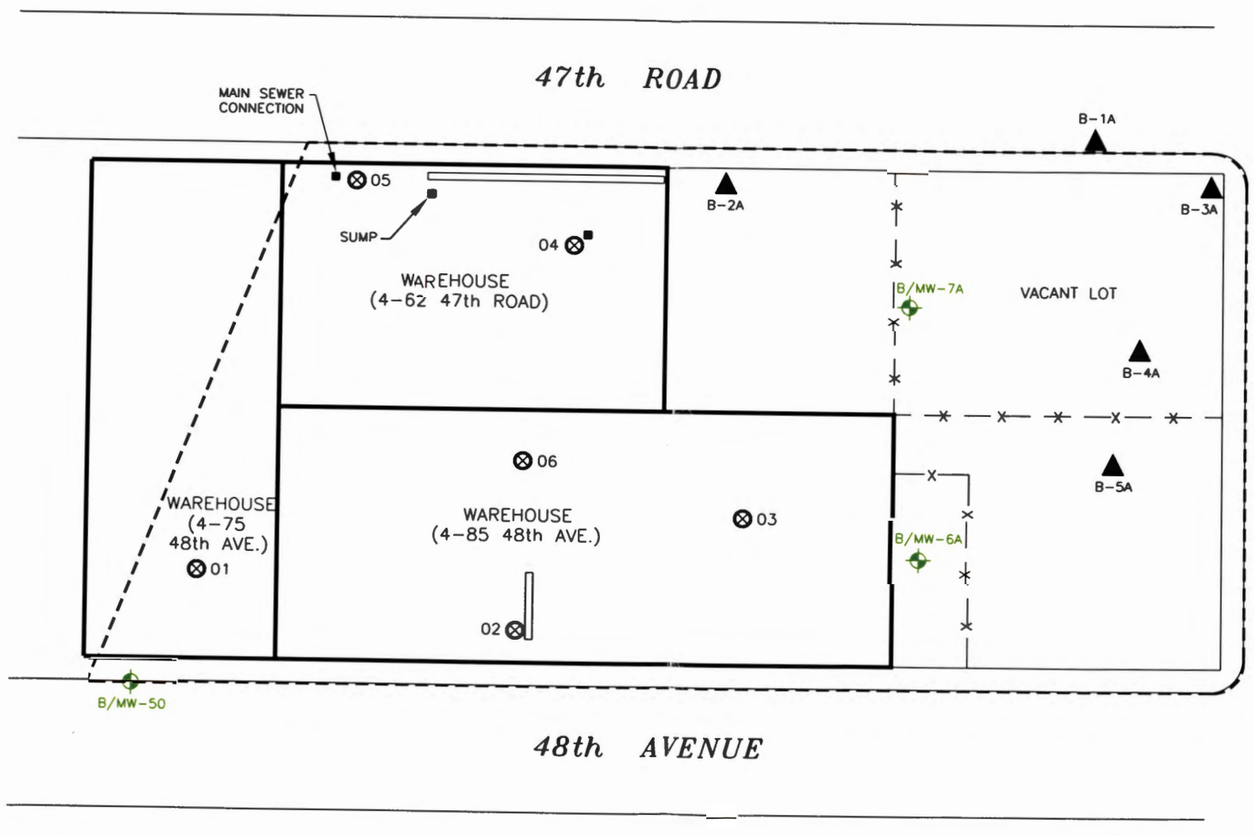
Levels of individual volatile organic compounds in all soil samples were all below 50 ppb. The highest level of any volatile organic compound was 37 ppb of xylene in sample B-05(1-3'). Trace amounts of benzene, ethylbenzene and toluene were detected in other samples. Trace amounts of 1,1,1-Trichloroethane and carbon tetrachloride below the reported detection limit of the laboratory equipment (1 and 2 ppb, respectively) were detected in sample B-6 (1.5-3.5). Trace amounts of tetrachloroethane below the quantification limit of the laboratory equipment (1 ppb) was detected in sample B-3 (3.5-5.5).

Acetone and carbon disulfide were detected in some samples; however, these chemicals also detected in the laboratory blank and therefore their presence in samples likely represents an artifact arising from laboratory contamination. Methylene chloride, chloroform, 2-butanone, and bromodichloromethane were detected in the field blank; consequently, their presence in some samples likely represents an artifact arising from field contamination.

No other volatile organic compounds were detected in the soil samples.

Semivolatile Organic Compounds (NYSDEC ASP Category 95-2):

Levels of total semivolatile organic compounds in shallow soil samples (0-2' beneath the floor drain bottom) ranged from 9.5 to 188 ppm. Levels of total semivolatile organic



Legend:

- CHAIN LINK FENCE
- B/MW-8A — PREVIOUS BORING/MONITORING WELL LOCATION
- B-2A — PREVIOUS BORING LOCATION
- 01 — PROPOSED SOIL BORING LOCATION
- FLOOR DRAIN
- TRENCH DRAIN
- APPROXIMATE WORK AREA BOUNDARY

0' 30' 60' 120'

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117 East 29th Street New York, N.Y. 10016

PARCEL 9 BUILDING INTERIOR
Queens, New York

SOIL BORING LOCATIONS

DATE
09.28.01

SCALE
1"=60'

PROJECT No.
03653

FIGURE No.
2

compounds in the subsurface soil samples (2-4' beneath the floor drain bottom) ranged from 9.2 to 664 ppm. Total levels of polycyclic aromatic hydrocarbons (PAHs) are shown in Figure 3.

Metals (NYSDEC ASP Category 6010A 6010A/7471):

Levels of total mercury in the soil samples ranged from 0.48 to 5.6 ppm. Levels of total lead in the soil samples ranged from 80.1 to 673 ppm. Levels of total lead and mercury are shown in Figure 4.

Ranges for other RCRA metals in the soil samples were as follows: arsenic, 2.7 to 13.9 ppm; barium, 63.4 to 477 ppm; cadmium, undetected to 2.0 ppm; chromium, 9.6 to 71.8 ppm; selenium, undetected to 1.5 ppm; and silver, undetected to 11.5 ppm.

TCLP Metals (US EPA method 1311)

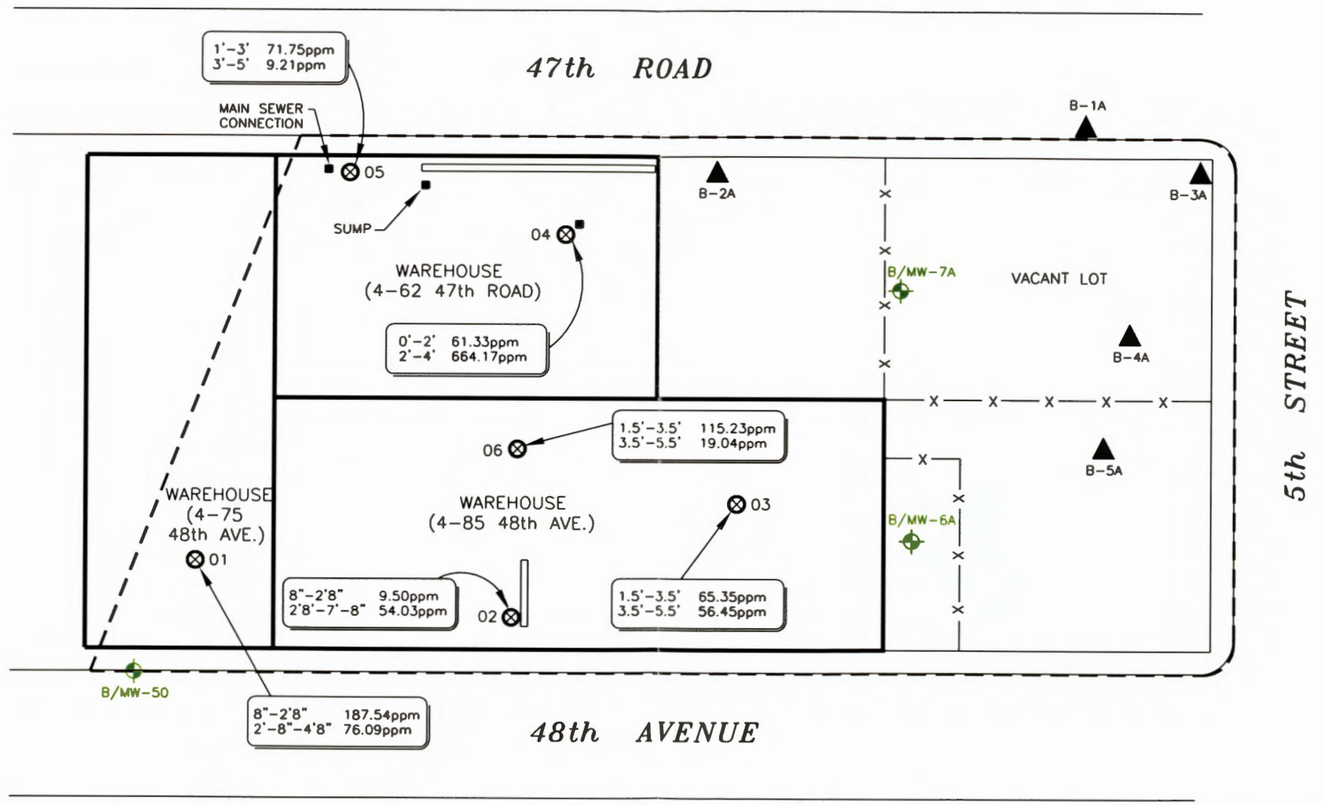
Levels of TCLP metals were below the toxic characteristic standard, as defined by the US EPA and New York State regulations. Levels of leachable lead and mercury are shown in Figure 5.

Groundwater Sampling Results

All groundwater samples from B/MW-7A were submitted to a New York State CLP and ELAP certified laboratory, American Environmental Network (AEN) of Monroe, Connecticut. Unfiltered and filtered groundwater samples were analyzed for TAL metals by EPA methods 6010A, and 7470A.

Levels of total barium, chromium, iron, lead, and manganese were above NYSDEC standards for GA class waters ("GA standards"). Levels of total beryllium, magnesium, sodium, and zinc were above GA class guidance values. Levels of dissolved iron and manganese exceeded GA standards. Levels of dissolved magnesium exceeded GA class guidance values.

A comparison between the mercury and lead levels of the 1998 and the current testing program for B/MW-7 is presented in Table 1.



Legend:

- CHAIN LINK FENCE
- B/MW-8A — PREVIOUS BORING/MONITORING WELL LOCATION
- B-2A — PREVIOUS BORING LOCATION
- 01 — PROPOSED SOIL BORING LOCATION
- FLOOR DRAIN
- TRENCH DRAIN
- APPROXIMATE WORK AREA BOUNDARY

0' 30' 60' 120'

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Queens, New York

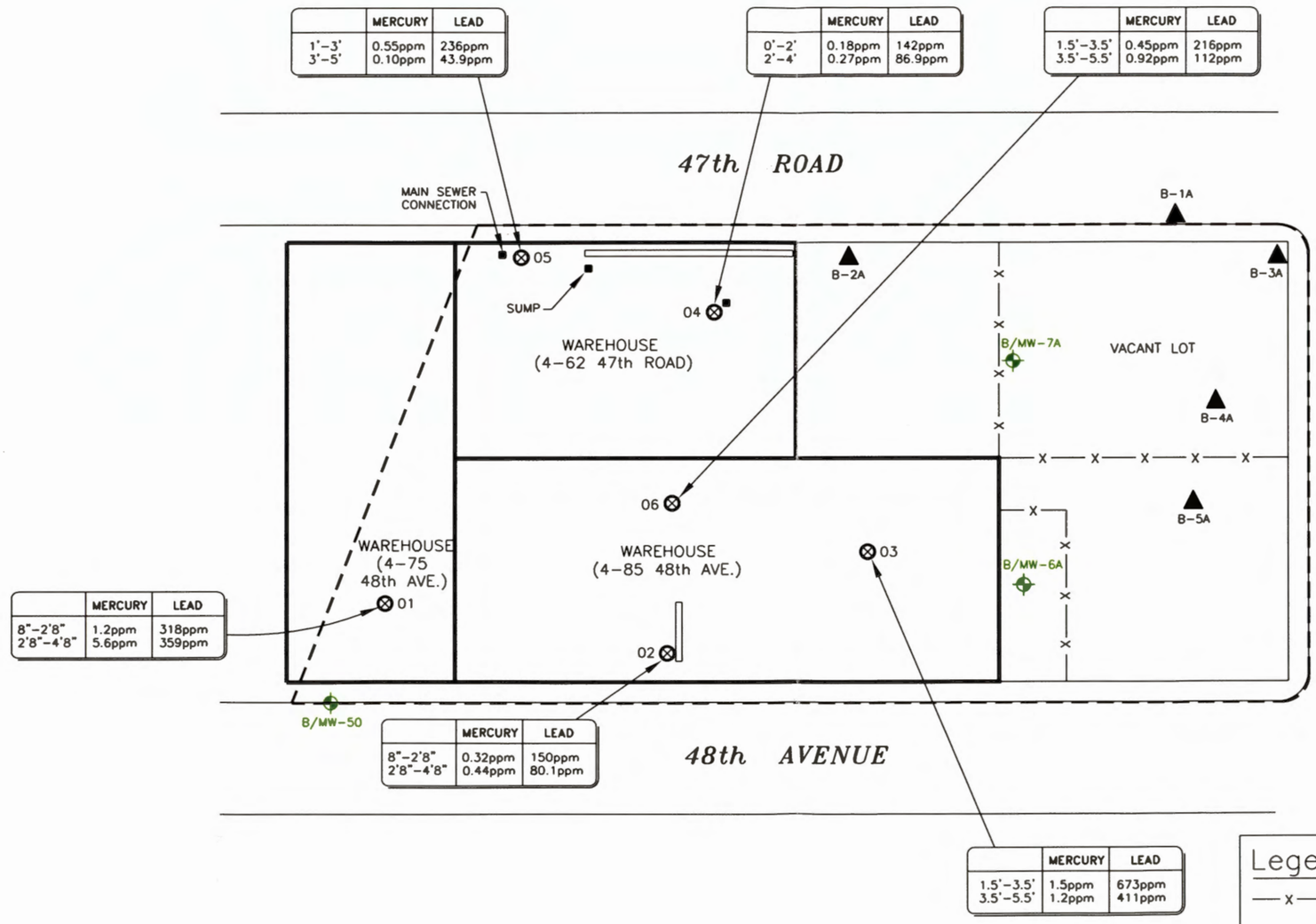
LEVELS OF TOTAL PAHs (ppm)

DATE
09.28.01

SCALE
1"=60'

PROJECT No.
03653

FIGURE No.
3



Legend:

- CHAIN LINK FENCE
- B/MW–8A — PREVIOUS BORING/MONITORING WELL LOCATION
- B–2A — PREVIOUS BORING LOCATION
- 01 — PROPOSED SOIL BORING LOCATION
- FLOOR DRAIN
- TRENCH DRAIN
- APPROXIMATE WORK AREA BOUNDARY

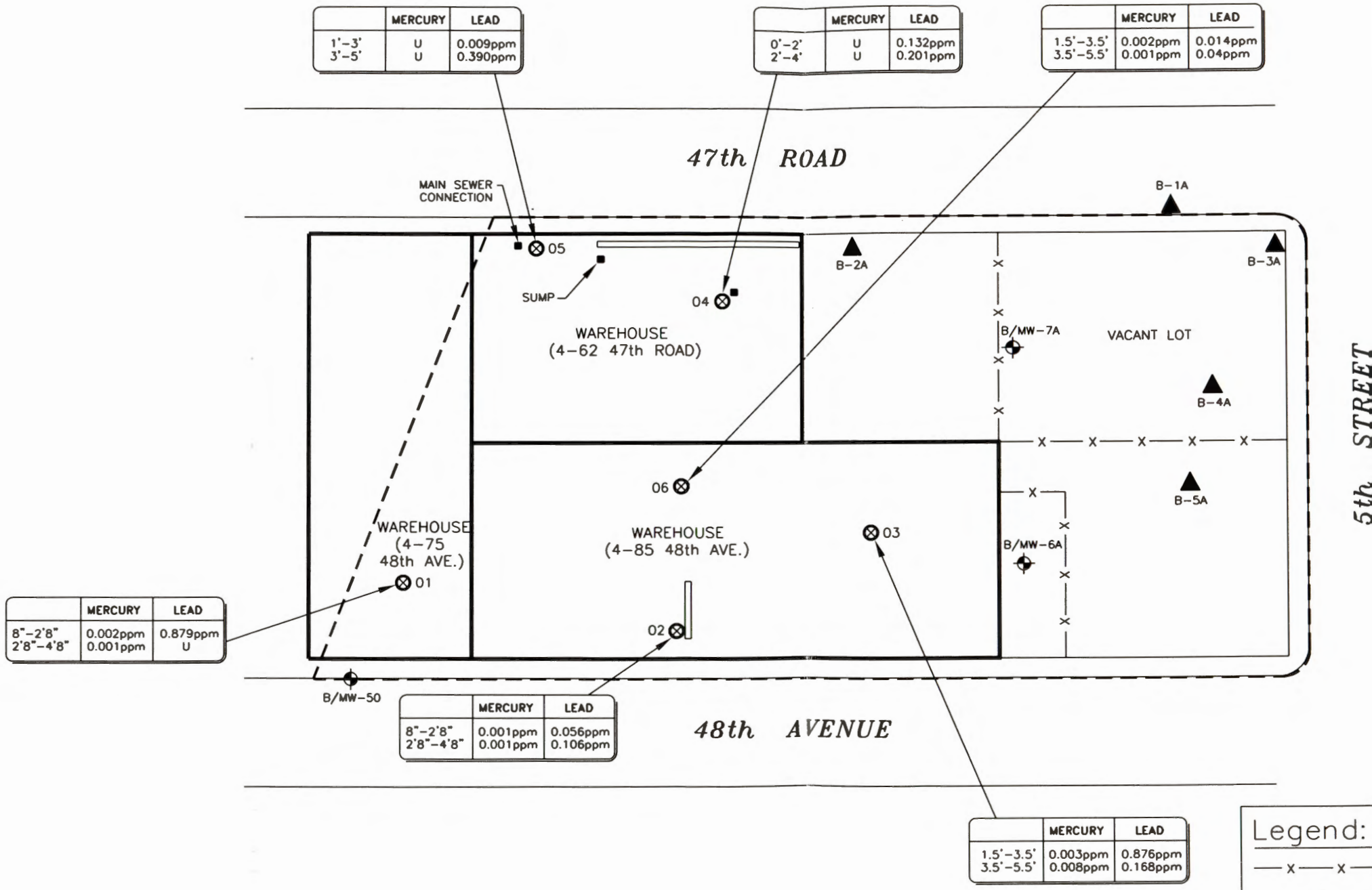
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PARCEL 9 BUILDING INTERIOR
Queens, New York

LEVELS OF TOTAL LEAD AND MERCURY (ppm)

DATE 09.28.01
SCALE 1"=60'
PROJECT No. 03653
FIGURE No. 4

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- X — CHAIN LINK FENCE

SA PREVIOUS BORING/MONITORING WELL LOCATION

PREVIOUS BORING LOCATION

PROPOSED SOIL BORING LOCATION

FLOOR DRAIN

TRENCH DRAIN

— — APPROXIMATE WORK AREA BOUNDARY

N

PARCEL 9 BUILDING INTERIOR

Queens, New York

AKRF, Inc

DATE
09.28

SCALE
1"=

PROJECT
036

FIGURE
5

Table 1
Comparison of lead and mercury levels from two sampling events for B/MW-7

Parameter	B/MW-7A 1998	B/MW-7A 2000
Lead (total)	3,340 ppb	124 ppb
Lead (dissolved)	Undetected	7.5 ppb
Mercury (total)	2.3 ppb	0.52 ppb
Mercury (dissolved)	Undetected	Undetected

Groundwater Elevations

Measurements of groundwater elevations could not be completed because floating product was discovered in one of the wells and a spill was reported. Because of subsequent demolition work on the site and further petroleum spill cleanups, which damaged additional wells, a new groundwater elevation map could not be completed. Prior groundwater measurements on adjacent blocks indicate that, as would be expected, groundwater flow is generally towards the East River, with some tidal fluctuation.

VI. CONCLUSIONS/RECOMMENDATIONS

1. No additional locations with TCLP lead levels exceeding the toxic characteristic standard were detected. As in the earlier studies, no soil samples exceeded the TCLP standard for mercury.

2. Trace levels of VOCs were detected in some soil borings. Levels of these VOCs were below DEC guidance values for petroleum contaminated soil except for sample B-04 (2-4'). At this location, benzene levels were 22 parts per billion (ppb), exceeding the guidance value of 14 ppb. As stated in the approved Remediation Work Plan for Parcel 9, any petroleum storage tanks and petroleum impacted soil will be removed as per applicable local, state and federal regulations during construction.

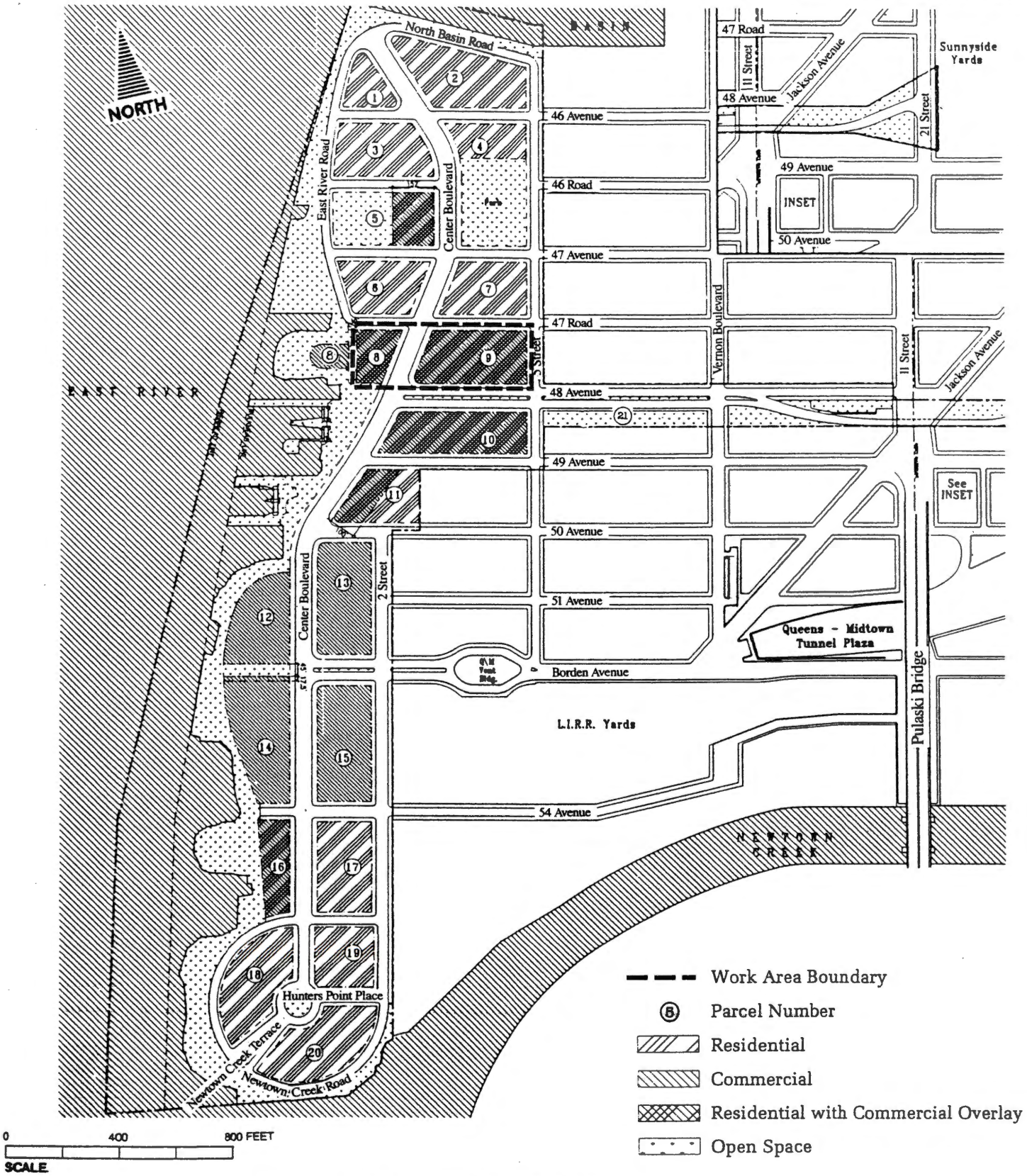
3. Levels of PAHs in the shallow and subsurface soil were consistent with those found on other parcels of the Queens West Development Site (See Site Assessment Report for Parcels 8 and 9, dated June 1998, for a detailed discussion of the PAH levels in the soil). The highest level of total PAH was 664 ppm in sample B-04 (2-4'), which was below the

highest levels found by the previous testing program (1,743 ppm in sample B/MW-9A (3-5'). In accordance with the approved Remedial Work Plan, these soils will be covered by pavement, buildings, or two feet of clean fill

4. Groundwater sampling results for dissolved metals revealed no exceedance of groundwater standards or guidance values other than for iron, mangesium, and manganese in B/MW-7A. As indicated by Table 1, levels of total lead in B/MW-7A were significantly lower than detected in the previous testing program.

Based upon the above findings of this investigation, no changes are warranted in the approved Remediation Work Plan for Parcel 9.

Parcelization and Land Use Plan



Source: Gruzen Samton Steinglass/Beyer Blinder Belle
Associated Planners and Architects

APPENDIX A

PREVIOUS SAMPLING RESULTS
(1985-86, 1989, 1994, and 1998 Testing Programs)

SOIL ANALYSIS DATA -1985 SAMPLING PROGRAM

(Parts per Million)

EP-Toxicity Metals

	Regulatory Levels	S-018	S-018A	S-023	S-025	S-026	S-029	S-030	S-031
Arsenic	5	U	U	U	U	U	U	U	U
Barium	100	1	8.1	1.5	U	U	1.4	U	1.4
Cadmium	1	0.01	U	0.01	U	U	U	U	U
Chromium	5	U	U	U	0.26	U	U	U	U
Lead	5	0.51	U	0.08	0.05	U	0.07	0.04	0.04
Mercury	0.2	U	0.56	U	U	U	U	U	U
Selenium	1	U	U	U	U	0.01	0.01	U	U
Silver	5	U	U	U	U	U	U	U	U
Total PCBs	50	U	U	0.06	0.09	U	U	0.04	0.17
Total Petroleum Hydrocarbons		5092	6659.5	4418.4	4399.4	8457.7	1758.4	4486.1	3186.9

GROUNDWATER ANALYSIS DATA -1985 SAMPLING PROGRAM

(Parts per Billion)

	NYS DEC STANDARD	NYS DEC GUIDANCE VALUES	MW-8	MW-9	MW-10	MW11	MW13	MW14
Acenaphthene	20		U	<0.001	U	U	23	0.013
Acenaphthylene			U	U	U	U	U	<0.001
Bis (2-ethylhexyl) Phthalate	50		460	110	U	U	U	U
Di-n-octyl Phthalate	50		20	40	U	U	U	<0.001
Napthalene		10	U	<0.001	U	U	U	U
Phenanthrene		50	U	<0.001	U	U	30	U
Flourene		50	U	U	U	U	18	U
Phenols	1.0		U	U	U	U	40	U
Phenols, Total	1.0		470	460	648	816	224	11
Pyrene		50	U	U	U	U	16	U
2,4 Dimethylphenol			U	U	U	U	85	U
Benzene	0.7		U	U	U	U	176	569
Ethylbenzene	5		U	U	U	U	48	U
Toluene	5		U	U	U	U	146	<0.001
Arsenic	25		510	390	189	134	163	3
Beryllium		3	20	21	U	U	U	U
Cadmium	10		65	20	20	U	7	U
Chromium	50		1,675	415	147	361	78	U
Copper	200		2,283	1,270	646	1,310	833	34
Lead	25		10,760	9,830	1,129	660	1,885	90
Mercury	2		36	29	3	1	20	U
Nickel			2,229	482	141	330	66	U
Selenium	10		255	137	U	U	96	5
Silver	50		56	26	113	110	U	U
Zinc	300		6,700	3,900	1,459	1,843	3,304	U
Petroleum Hydrocarbons			8,500	2,500	5,700	9,000	U	1,300

U = Unidentified

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM (PARCELS 8 & 9)

Volatile Organics

(parts per million; ppm)

	S-1 (0-2)	S-2 (0-2)	B-46 (0-2)	B-46 (2-4)	B-47 (0-2)	B-47 (2-4)	B-48 (0-2)	B-48 (2-4)	B-49 (0-2)	B-49 (4-6)	B/MW-50 (0-2)
Chloromethane	U	U	U	U	U	U	U	U	U	U	U
Bromomethane	U	U	U	U	U	U	U	U	U	U	U
Vinyl Chloride	U	U	U	U	U	U	U	U	U	U	U
Chloroethane	U	U	U	U	U	U	U	U	U	U	U
Methylene Chloride	U	U	U	U	U	U	U	U	U	U	U
Acetone	U	U	U	U	U	U	U	U	U	U	U
Carbon Disulfide	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethene	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U	U	U	U	U	U	U
Trans-1,2-dichloroethene	U	U	U	U	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethene (total)	U	U	U	U	U	U	U	U	U	U	U
2-Butanone	U	U	U	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	U	U	U	U	U	U	U	U	U	U	U
Carbon Tetrachloride	U	U	U	U	U	U	U	U	U	U	U
Vinyl Acetate	U	U	U	U	U	U	U	U	U	U	U
Bromodichloromethane	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloropropene	U	U	U	U	U	U	U	U	U	U	U
cis-1,3-dichloropropene	U	U	U	U	U	U	U	U	U	U	U
Trichloroethene	U	U	U	U	U	U	U	U	U	U	U
Benzene	U	U	U	U	U	U	U	U	U	U	U
Dibromochloromethane	U	U	U	U	U	U	U	U	U	U	U
trans-1,3-Dichloropropene	U	U	U	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U	U	U	U
Bromoform	U	U	U	U	U	U	U	U	U	U	U
4-Methyl-2-pentanone	U	U	U	U	U	U	U	U	U	U	U
2-Hexanone	U	U	U	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	U	U	U	U
Tetrachloroethene	U	U	U	U	U	U	U	U	U	U	U
Toluene	U	U	U	U	U	U	U	U	U	U	U
Chlorobenzene	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	U	U	U	U	U	U	U	U	U	U	U
Styrene	U	U	U	U	U	U	U	U	U	U	U
Total Xylenes	U	U	U	U	U	U	U	U	U	U	U

U = Not Detected
J=Estimated Value
B=Found in Blank

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM (PARCELS 8 & 9)

Volatile Organics

(parts per million; ppm)

	B/MW-50 (4-6)	B/MW-50 (17.5)	B/MW-51 (0-2)	B/MW-51 (6-8)	B-52 (0-2)	B-52 (6-8)	B-53 (0-2)	B-53 (8-10)	B-54 (0-2)	B-54 (2-4)	B-55 (0-2)	B-55 (2-4)
Chloromethane	U	U	U	U	U	U	U	U	U	U	U	U
Bromomethane	U	U	U	U	U	U	U	U	U	U	U	U
Vinyl Chloride	U	U	U	U	U	U	U	U	U	U	U	U
Chloroethane	U	U	U	U	U	U	U	U	U	U	U	U
Methylene Chloride	U	U	.018 BJ	.040	U	U	.008 B	U	.006 B	.007 B	U	U
Acetone	U	U	U	U	U	U	.024	U	U	U	.019	U
Carbon Disulfide	U	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethene	U	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U	U	U	U	U	U	U	U
Trans-1,2-dichloroethene	U	U	U	U	U	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethene (total)	U	U	U	.002 J	U	U	U	U	U	U	U	U
2-Butanone	U	U	U	U	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	U	U	U	U	U	U	U	U	U	U	U	U
Carbon Tetrachloride	U	U	U	U	U	U	U	U	U	U	U	U
Vinyl Acetate	U	U	U	U	U	U	U	U	U	U	U	U
Bromodichloromethane	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloropropene	U	U	U	U	U	U	U	U	U	U	U	U
cis-1,3-dichloropropene	U	U	U	U	U	U	U	U	U	U	U	U
Trichloroethene	U	U	U	.016	U	U	U	U	U	U	U	U
Benzene	.007	.021 J	U	U	U	U	U	U	U	U	U	U
Dibromochloromethane	U	U	U	U	U	U	U	U	U	U	U	U
trans-1,3-Dichloropropene	U	U	U	U	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U	U	U	U	U
Bromoform	U	U	U	U	U	U	U	U	U	U	U	U
4-Methyl-2-pentanone	U	U	U	U	U	U	U	U	U	U	U	U
2-Hexanone	U	U	U	U	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	U	U	U	U	U
Tetrachloroethene	U	U	.60	.210	.014	U	.005 J	U	U	.011	U	U
Toluene	.016	.015	U	U	U	U	U	U	U	U	.002 J	6.70 J
Chlorobenzene	U	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	.004 J	.120	U	U	U	U	U	U	U	U	.005 J	28.0
Styrene	U	U	U	U	U	U	U	U	U	U	U	U
Total Xylenes	.024	.20	U	U	U	U	U	U	U	U	.008	19.0

U = Not Detected
J=Estimated Value
B=Found in Field Blank

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM (PARCELS 8&9)

Semivolatiles

(parts per million; ppm)

	S-1 (0-2)	S-2 (0-2)	B-46 (0-2)	B-46 (2-4)	B-47 (0-2)	B-47 (2-4)	B-48 (0-2)
Naphthalene	U	U	1.1 J	1.5	0.2 J	U	0.1 J
2-Methylnaphthalene	U	U	3.2	0.9 J	0.1 J	U	0.1 J
Acenaphthlyene	U	U	U	1.0 J	0.2 J	U	0.1 J
Acenaphthene	U	U	2.0	2.8	0.3 J	U	0.2 J
Fluorene	U	U	2.5	2.4	0.3 J	0.1 J	0.2 J
Phenanthrene	1.0	U	11.0	22.0	3.3	1.3	1.7
Anthracene	U	U	3.1	5.5	0.9 J	0.3	0.6 J
Fluoranthrene	1.6	1.1	8.3	22.0	4.5	1.5	2.5
Pyrene	1.6	1.1	6.8	18.0	3.8	1.2	2.3
Benzo(a)Anthracene	0.8	0.8	4.2	11.0	2.1	0.6 J	1.3
Chrysene	0.8	0.8	5.1	14.0	2.5	0.8	1.6
Benzo(b)Fluoranthene	0.8	0.6	4.6	14.0	3.2	0.8	1.5
Benzo(k)Fluoranthene	0.6	0.5	2.0	3.8	U	0.3 J	0.5 J
Benzo(a)Pyrene	0.8	0.7	4.0	10.0	2.2	0.6 J	1.3
Indeno (1,2,3-cd)Pyrene	0.4	U	2.6	7.3	1.4	0.4 J	0.9 J
Dibenz(a,h)Anthracene	U	U	0.8 J	1.9	0.4 J	0.1 J	0.3 J
Benzo(g,h,i)Perylene	0.5	0.4	2.6	6.9	1.4	0.4 J	0.9 J
PaB-eqivalent	1.0	0.8	5.9	15.2	3.3	0.9	2.0

U=Undetected

J=Estimated Value

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM (PARCELS 8 & 9)

Semivolatiles

(parts per million; ppm)

	B-48 (2-4)		B-49 (0-2)		B-49 (4-6)		B/MW -50 (0-2)		B/MW -50 (4-6)		B/MW -50 (17.5)		B/MW -51 (0-2)		B/MW -51 (6-8)	
Naphthalene	0.1	J	0.2	J		U	1.3	J	5.3		220.0	D		U		U
2-Methylnaphthalene	0.1	J	0.2	J		U	0.9	J	4.9		99.0	D		U		U
Acenaphthlyene	0.1	J	0.7	J		U	1.4	J	0.4	J		U		U		U
Acenaphthene	0.2	J	0.2	J		U	4.0		17.0		170.0		0.3	J		U
Fluorene	0.1	J	0.2	J		U	3.6	J	13.0		130.0	D	0.3	J		U
Phenanthrene	2.1		4.3		0.2	J	35.0		46.0		350.0	D	5.4		0.3	J
Anthracene	0.5	J	1.4	J	0.1	J	10.0		15.0		52.0	D	1.1	J	0.0	J
Fluoranthrene	2.7		7.7		0.3	J	39.0		24.0		120.0	D	7.5		0.2	J
Pyrene	2.8		8.5		0.2	J	45.0		24.0		85.0	D	6.4		0.2	J
Benzo(a)Anthracene	1.3		4.9		0.2	J	23.0		12.0		15.0	JD	4.6		0.2	J
Chrysene	1.7		6.1		0.3	J	29.0		13.0		15.0	JD	5.7			U
Benzo(b)Fluoranthene	2.3		5.9		0.9		30.0		13.0		5.9	JD	5.1		0.2	J
Benzo(k)Fluoranthene		U	2.6			U	6.1		1.8	J		U	3.1		0.2	J
Benzo(a)Pyrene	1.5		5.5		0.6		22.0		8.7		3.2	JD	5.0		0.2	J
Indeno (1,2,3-cd)Pyrene	0.9	J	3.4		0.4	J	11.0		3.7			U	3.4		0.2	J
Dibenz(a,h)Anthracene	0.4	J	1.1	J	0.3	J	4.1		1.5	J		U	0.9	J	0.4	J
Benzo(g,h,i)Perylene	1.1	J	3.6		0.5		12.0		4.0			U	3.6		0.1	J
PaB-eqivalent	2.4		8.1		1.1		32.6		13.1		5.3		7.2		0.6	

U=Undetected

J=Estimated Value

D=Diluted

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM (PARCELS 8 & 9)

Semivolatiles

(parts per million; ppm)

	B-52 (0-2)	B-52 (6-8)	B-53 (0-2)	B-53 (8-10)	B-54 (0-2)	B-54 (2-4)	B-55 (0-2)	B-55 (2-4)
Naphthalene	U	U	1.2 J	0.1 J	U	0.3 J	1.4	6.3
2-Methylnaphthalene	U	U	1.3 J	0.1 J	U	U	0.2 J	3.8
Acenaphthlyene	U	U	U	0.0 J	U	0.3 J	U	0.4 J
Acenaphthene	0.4 J	U	8.8	0.2 J	0.2 J	0.7 J	U	0.3 J
Fluorene	0.3 J	0.0 J	6.1	0.2 J	0.2 J	0.7 J	0.0 J	0.7 J
Phenanthrene	4.3	0.2 J	45.0	2.2	2.5	8.3	0.3 J	2.8 J
Anthracene	0.9 J	0.0 J	12.0	0.5 J	0.6 J	2.2	0.1 J	0.7 J
Fluoranthrene	4.7	0.2 J	56.0	1.8	2.6	11.0	0.3 J	2.2
Pyrene	5.7	0.2 J	42.0	1.4	2.0	10.0	0.4 J	2.6
Benzo(a)Anthracene	2.5	0.1 J	24.0	0.9	1.5	4.6	U	1.0 J
Chrysene	3.1	0.2 J	28.0	1.2	1.8	4.9	0.2 J	1.4 J
Benzo(b)Fluoranthene	4.3	0.2 J	23.0	0.8	2.2	5.0	0.3 J	1.6 J
Benzo(k)Fluoranthene	U	U	16.0	0.6	U	2.5	U	U
Benzo(a)Pyrene	3.3	0.1 J	23.0	0.9	1.5	4.7	0.2 J	1.4 J
Indeno (1,2,3-cd)Pyrene	2.7	0.0 J	15.0	0.6	0.9 J	3.0	0.1 J	1.0 J
Dibenz(a,h)Anthracene	0.6 J	U	4.4 J	0.1 J	0.2 J	0.8 J	U	0.2 J
Benzo(g,h,i)Perylene	3.1	U	13.0	0.5	0.8 J	3.1	0.1 J	1.4 J
PaB-eqivalent	4.9	0.1	33.8	1.3	2.1	6.8	0.2	2.0

U=Undetected

J=Estimated Value

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM (PARCELS 8 & 9)

(Parts per Million)

EP-Toxicity Metals

	Regulatory Levels	S-1 (0-2)	S-2 (0-2)	B-46 (0-2)	B-47 (0-2)	B-48 (0-2)	B-49 (0-2)
Arsenic	5	U	U	U	U	U	U
Barium	100	0.221	U	0.175	0.204	0.329	0.261
Cadmium	1	U	U	U	U	U	U
Chromium	5	U	U	U	0.0089	U	0.0068
Lead	5	U	U	U	0.0061	0.0099	0.0086
Mercury	0.2	U	U	U	U	U	U
Selenium	1	U	U	U	U	U	U
Silver	5	U	U	U	U	U	U

	Regulatory Levels	B/MW -50 (0-2)	B/MW -51 (0-2)	B-52 (0-2)	B-53 (0-2)	B-54 (0-2)	B-55 (0-2)
Arsenic	5	0.0071	U	U	U	U	U
Barium	100	0.280	0.402	0.436	.593	0.473	0.263
Cadmium	1	U	0.011	0.010	0.012	0.005	U
Chromium	5	U	0.020	U	U	0.011	0.023
Lead	5	U	0.075	0.008	0.047	0.042	0.044
Mercury	0.2	U	U	U	U	U	U
Selenium	1	U	0.150	U	U	U	U
Silver	5	U	0.0234	U	0.011	0.012	U

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM (PARCELS 8&9)

PCBs /Total Petroleum Hydrocarbons

(Parts per million; ppm)

PCBs:

	S-1 (0-2)	S-2 (0-2)	B-46 (0-2)	B-47 (0-2)	B-48 (0-2)	B-49 (0-2)	B/MW-50 (0-2)	B/MW-51 (0-2)	B-52 (0-2)	B-53 (0-2)	B-54 (0-2)	B-55 (0-2)
Aroclor-1016	U	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1221	U	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1232	U	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1242	U	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1248	U	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1254	U	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1260	U	U	U	U	U	U	U	U	U	U	U	U

Total Petroleum Hydrocarbons (TPH):

	B-46 (0-2)	B-46 (2-4)	B-47 (0-2)	B-47 (2-4)	B-48 (0-2)	B-48 (2-4)	B-49 (0-2)	B-49 (4-6)	B/MW -50 (0-2)	B/MW -50 (4-6)	B/MW -50 (17.5)
TPH	2,510.0	961.0	714.0	19.0	375.0	64.6	476.0	28.2	476.0	224.0	427.0

Total Petroleum Hydrocarbons (TPH):

	B/MW -51 (0-2)	B/MW -51 (6-8)	B-52 (0-2)	B-52 (6-8)	B-53 (0-2)	B-53 (8-10)	B-54 (0-2)	B-54 (2-4)	B-55 (0-2)	B-55 (2-4)
TPH	1,410.0	748.0	9,710	335.0	858.0	127.0	1,770.0	2,140.0	979.0	7,980.0

U=Unidentified

GROUNDWATER ANALYSIS DATA -1989 SAMPLING PROGRAM (PARCELS 8 &9)

Volatile Organics
(parts per billion; ppb)

	NYS DEC STANDARD	NYS DEC GUIDANCE VALUES	MW-13	MW-14	B/MW-50	B/MW-51
Chloromethane			U	U	U	U
Bromomethane	5		U	U	U	U
Vinyl Chloride	2		U	U	U	U
Chloroethane	5		U	U	U	U
Methylene Chloride	5		7 B	U	46	81
Acetone		50	U	U	71	U
Carbon Disulfide			U	U	U	U
1,1-Dichloroethene	5		U	U	U	U
1,1-Dichloroethane	5		U	U	U	U
'1,2-Dichloroethene (total)			U	U	U	140
Chloroform	7		U	U	U	U
1,2-Dichloroethane	5		U	U	U	U
2-Butanone			U	U	U	U
1,1,1-Trichloroethane	5		U	U	U	U
Carbon Tetrachloride	5		U	U	U	U
Vinyl acetate			U	U	U	U
Bromodichloromethane		50	U	U	U	U
1,2-Dichloropropane	5		U	U	U	U
cis-1,3-Dichloropropene			U	U	U	U
Trichloroethene	5		U	U	U	95
Dibromochloromethane		50	U	U	U	U
1,1,2-Trichloroethane	5		U	U	U	U
Benzene	.7		U	6	390	U
Trans-1,3-Dichloropropene			U	U	U	U
Bromoform		50	U	U	U	U
4-Methyl-2-pentanone			U	U	U	U
2-Hexanone		50	U	U	U	U
Tetrachloroethene	5		U	U	U	400
1,1,2,2-Tetrachloroeth	5		U	U	U	U
Toluene	5		U	U	110	U
Chlorobenzene		5	U	U	U	U
Ethylbenzene	5		U	U	77	U
Styrene	5		U	U	U	U
Total Xylenes	5		U	U	720	U

U = Not Detected
B=Detected in Method Blank

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Total RCRA Metals in shallow (0-2') and subsurface (2-4' or deeper) soils
(parts per million; ppm)

	B-1A (0-2')		B-1A (2-4')		B-2A (0-2')		B-2A (2-4')		B-3A (0-2')		B-3A (2-4')	
Arsenic	4.4		1.1	B	6.9		0.90	B	4.8		6.5	
Barium	87.6		38.7	B	85.3		69.6		143		190	
Cadmium	0.26	B		U		U		U	1.1	B	2.5	
Chromium	26.5		15.2		49.0		12.2		31.3		17.7	
Lead	178		8.1		133		40.9		413		584	
Mercury	0.52	N		U		U		U	1.4	N	2.4	N
Selenium	1.1		0.95	B	1.3		1.2		1.4		1.1	B
Silver		U		U		U		U	0.41	B		U

U=Undetected
E= Estimated value because of interference
B = Analytical results between instrument detection limit (IDL) and contract required detection limit (CRDL)
N = Spiked sample recovery not within control limits

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Total RCRA Metals in shallow (0-2') and subsurface (2-4' or deeper) soils
(parts per million; ppm)

	B-4A (0-2')		B-4A (2-4')		B-5A (0-2')		B-5A (2-4')		B/MW-6A (0-2')	
Arsenic	4.8		29.8		5.4		7.4		4.2	
Barium	229		377		134		112		81.6	
Cadmium	1.6		1.0	B	0.80	B		U		U
Chromium	26.3		10.5		29.5		24.2		29.8	
Lead	290		712		302		229		580	
Mercury	1.1	N	1.2	N	1.6	N	3.7	N	0.29	N
Selenium	1.6		0.82	B	1.6		1.3		1.6	
Silver	0.47	B		U	0.44	B		U		U

U=Undetected
E= Estimated value because of interference
B = Analytical results between instrument detection limit (IDL) and contract required detection limit (CRDL)

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Total RCRA Metals in shallow (0-2') and subsurface (2-4' or deeper) soils
(parts per million; ppm)

	B/MW-6A (2-4')		B/MW-6A (6-8')		B/MW-7A (0-2')		B/MW-7A (2-4')		B/MW-7A (5-7')		B/MW-8A (1.5-3.5')	
Arsenic	3.9	B	5		4.2		8.7		1.0	B	53.4	
Barium	582		48.7	B	81.6		140		22.5	B	680	
Cadmium	17.7			U		U	0.7	B		U		U
Chromium	3.2	B	15.1		29.8		15.6		5.4		20.8	
Lead	682	E	30.7		580		2,210		14.6		143	
Mercury		U		U	0.29	N	2.6	N		UN	60.2	N
Selenium	6.6		2		1.6		2.0		0.99	B	12.1	
Silver	1.0	B		U		U		U		U		U

U=Undetected
E= Estimated value because of interference
B = Analytical results between instrument detection limit (IDL) and contract required detection limit (CRDL)
N = Spiked sample recovery not within control limits

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Total RCRA Metals in shallow (0-2') and subsurface (2-4' or deeper) soils
(parts per million; ppm)

	B/MW-8A (3.5-5.5')		B/MW-9A (1-3')		B/MW-9A (3-5')		B/MW-10A (0-2')		B/MW-10A (2-4')		B-11A (0-2')		B-12A (0-2')	
Arsenic	13.1		6.3		12.4		2.3		2.1		4.8		3.3	
Barium	72.7		219		110		48.2		44.8		116		71.7	
Cadmium	0.37	B		U		U		U		U	0.52	B		U
Chromium	14		23.3	B	11.9		9.8		9.9		10.1		8.2	
Lead	24.8	B	123		303		66		49.5		110		65.1	
Mercury	27.7	N	2.2	N	8.9	N		UN	0.11	N	1.8	N	0.15	N
Selenium	3.7		2.1		3.8		0.56	B	0.61	B	0.83	B	0.82	B
Silver		U		U		U		U		U		U		U

U=Undetected
E= Estimated value because of interference
B = Analytical results between instrument detection limit (IDL) and contract required detection limit (CRDL)
N = Spiked sample recovery not within control limits

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Total RCRA Metals in Surficial Soils (0-2")
(parts per million; ppm)

	B-1A (0-2")		B-2A (0-2")		B-3A (0-2")		B-4A (0-2")		B-5A (0-2")		B-6A (0-2")		B-7A (0-2")	
Arsenic	25		3.9		5.5		10.2		2.3		6.4		4.3	
Barium	911		94.2		623		280		61.3		198		67.0	
Cadmium	5.4			U	2.9		3.6			U	4.1		0.29	B
Chromium	182		15.3		44.6		61.4		9.2		126		16.4	B
Lead	2,600		508		505		1,140		79.2		538		125.0	
Mercury	3.6	N		UN	0.9	N	8.1	N	0.13	N	0.69	N	0.16	N
Selenium	2.4		1.8		1.6		1.5		0.62	B	1.8		1.6	
Silver	0.86	B		U	1.1	B	1.8	B		U	0.9	B		U

U=Undetected
E= Estimated value because of interference
B = Analytical results between instrument detection limit (IDL) and contract required detection limit (CRDL)
N = Spiked sample recovery not within control limits

APPENDIX B

SAMPLING RESULTS
(2000 Testing Program)

Queens West Development - Site 9
Volatile Organic Compounds in Soil Samples (ug/kg)
(See notes for qualifier definitions)

	B-1 (0.8-2.8)	B-1 (2.8-4.8)	B-2 (0.8-2.8)	B-2 (2.8-4.8)	B-3 (1.5-3.5)	B-3 (3.5-5.5)	B-4 (0-2)	B-4 (2-4)	B-5 (1-3)	B-5 (3-5)	B-6 (1.5-3.5)	B-6 (3.5-5.5)
Chloromethane	U	U	U	U	U	U	U	U	U	U	U	U
Bromomethane	U	U	U	U	U	U	U	U	U	U	U	U
Vinyl Chloride	U	U	U	U	U	U	U	U	U	U	U	U
Chloroethane	U	U	U	U	U	U	U	U	U	U	U	U
Methylene Chloride	6	2 J	2 J	2 J	1 J	4 J	U	U	U	U	3 J	4 J
Acetone	27 B	36 B	8 JB	20 B	85 B	34 B	41 B	U	90 B	67 B	26 B	89 B
Carbon Disulfide	1 J	U	U	U	2 J	3 J	U	U	U	3 J	U	3 J
Vinyl Acetate	U	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethene	U	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	U	U	U	U	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	U	U	U	U	U	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U	U	U	U	3 J	U
1,2-Dichloroethane	U	U	U	U	U	U	U	U	U	U	U	U
2-Butanone	U	U	U	U	19 B	2 JB	4 J	U	21	9 J	1 JB	28
1,1,1-Trichloroethane	U	U	U	U	U	U	U	U	U	U	1 J	U
Carbon Tetrachloride	U	U	U	U	U	U	U	U	U	U	2 J	U
Bromodichloromethane	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloropropane	U	U	U	U	U	U	U	U	U	U	U	U
cis-1,3-Dichloropropene	U	U	U	U	U	U	U	U	U	U	U	U
Trichloroethene	U	U	U	U	U	U	U	U	U	U	U	U
Dibromochloromethane	U	U	U	U	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U	U	U	U	U
Benzene	1 J	U	U	2 J	U	0.7 J	2 J	22	7	2 J	6	U
trans-1,3-Dichloropropene	U	U	U	U	U	U	U	U	U	U	U	U
Bromoform	U	U	U	U	U	U	U	U	U	U	U	U
4-Methyl-2-Pentanone	U	U	U	U	U	U	U	U	3 J	U	U	U
2-Hexanone	U	U	U	U	U	U	U	U	U	U	U	U
Tetrachloroethene	U	U	U	U	U	3 J	U	U	U	U	1 J	1 J
Toluene	1 J	U	U	U	U	0.8 J	1 J	19	20	6	5 J	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	U	U	U	U	U
Chlorobenzene	U	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	U	U	U	U	U	U	U	2 J	6	1 J	0.8 J	U
Styrene	U	U	U	U	U	U	U	U	U	U	U	U
Xylene (total)	0.6 J	U	U	U	U	2 J	1 J	16	37	12	3 J	U

Queens West Development - Site 9
Semivolatile Organic Compounds in Soil Samples (ug/kg) (part 1 of 2)
(See notes for qualifier definitions)

	B-1 (0.8-2.8)		B-1 (2.8-4.8)		B-2 (0.8-2.8)		B-2 (2.8-4.8)		B-3 (1.5-3.5)		B-3 (3.5-5.5)		B-4 (0-2)		B-4 (2-4)		B-5 (1-3)		B-5 (3-5)		B-6 (1.5-3.5)		B-6 (3.5-5.5)	
Phenol	1,500	J		U		U		U		U		U		U		U		U	17	JB		U	30	J
Bis(2-chloroethyl) ether		U		U		U		U		U		U		U		U		U		U		U		U
2-Chlorophenol		U		U		U		U		U		U		U		U		U		U		U		U
1,3-Dichlorobenzene		U		U		U		U		U		U		U		U		U		U		U		U
1,4-Dichlorobenzene		U		U		U		U		U		U		U		U		U	22	J		U		U
Benzyl alcohol		U		U		U		U		U		U		U		U		U		U		U		U
1,2-Dichlorobenzene		U		U		U		U		U		U		U		U		U		U		U		U
2-Methylphenol	680	J		U		U		U		U		U		U		U		U		U		U	11	J
2,2'-Oxybis(1-Chloropropane)		U		U		U		U		U		U		U		U		U		U		U		U
4-Methylphenol	2,600	J		U		U		U		U	100	J		U		U		U	15	J		U	330	J
N-Nitroso-Di-n-propylamine		U		U		U		U		U		U		U		U		U		U		U		U
Hexachloroethane		U		U		U		U		U		U		U		U		U		U		U		U
Nitrobenzene		U		U		U		U		U		U		U		U		U		U		U		U
Isophorone		U		U		U		U		U		U		U		U		U		U		U		U
2-Nitrophenol		U		U		U		U		U		U		U		U		U		U		U		U
2,4-Dimethylphenol	1,200	J		U		U		U		U		U		U		U		U	8	J		U	26	J
Benzoic acid		U		U		U		U		U		U		U		U		U		U		U	73	J
Bis(2-chloroethoxy) methane		U		U		U		U		U		U		U		U		U		U		U		U
2,4-Dichlorophenol		U		U		U		U		U		U		U		U		U		U		U		U
1,2,4-Trichlorobenzene		U		U		U		U		U		U		U		U		U		U		U		U
Naphthalene	740	J	1,500	J	75	J	160	J	390	J	430	J	180	JB	670	JB	430	JB	72	JB	380	J	170	J
4-Chloroaniline		U		U		U		U		U		U		U		U		U		U		U		U
Hexachlorobutadiene		U		U		U		U		U		U		U		U		U		U		U		U
4-Chloro-3-methylphenol		U		U		U		U		U		U		U		U		U		U		U		U
2-Methylnaphthalene	390	J	720	J	65	J	160	J	290	J	320	J	180	JB	930	JB	380	JB	78	JB	740	J	100	J
Hexachlorocyclopentadiene		U		U		U		U		U		U		U		U		U		U		U		U
2,4,6-Trichlorophenol		U		U		U		U		U		U		U		U		U		U		U		U
2,4,5-Trichlorophenol		U		U		U		U		U		U		U		U		U		U		U		U
2-Chloronaphthalene		U		U		U		U		U		U		U		U		U		U		U		U
2-Nitroaniline		U		U		U		U		U		U		U		U		U		U		U		U
Dimethyl phthalate		U		U		U		U		U		U		U		U		U		U		U		U

Queens West Development - Site 9
Semivolatile Organic Compounds in Soil Samples (ug/kg) (part 2 of 2)
(See notes for qualifier definitions)

	B-1 (0.8-2.8)		B-1 (2.8-4.8)		B-2 (0.8-2.8)		B-2 (2.8-4.8)		B-3 (1.5-3.5)		B-3 (3.5-5.5)		B-4 (0-2)		B-4 (2-4)		B-5 (1-3)		B-5 (3-5)		B-6 (1.5-3.5)		B-6 (3.5-5.5)	
Acenaphthylene	3,100	J	92	J	72	J	170	J	1,100	J	460	J	220	JB	2,700	JB	740	JB	70	JB	450	J	95	J
2,6-Dinitrotoluene		U		U		U		U		U		U		U		U		U		U		U		U
3-Nitroaniline		U		U		U		U		U		U		U		U		U		U		U		U
Acenaphthene	1,300	J	2,500		140	J	800	J	360	J	1,000	J	1,200	J	8,500	J	240	J	29	J	1,200	J	330	J
2,4-Dinitrophenol		U		U		U		U		U		U		U		U		U		U		U		U
4-Nitrophenol		U		U		U		U		U		U		U		U		U		U		U		U
Dibenzofuran	840	J	1,300	J	84	J	360	J	790	J	650	J	470	JB	4,400	JB	69	JB	21	JB	630	J	130	J
2,4-Dinitrotoluene		U		U		U		U		U		U		U		U		U		U		U		U
Diethyl phthalate		U		U	7	JB		U		U		U		U		U		U		U		U		U
4-Chlorophenyl phenyl ether		U		U		U		U		U		U		U		U		U		U		U		U
Fluorene	1,200	J	2,200		150	J	600	J	1,200	J	960	J	940	J	8,300	J	180	J	30	J	1,600	J	280	J
4-Nitroaniline		U		U		U		U		U		U		U		U		U		U		U		U
4,6-Dinitro-2-methylphenol		U		U		U		U		U		U		U		U		U		U		U		U
N-nitrosodiphenylamine		U		U		U		U		U		U		U		U		U		U		U		U
4-Bromophenyl phenyl ether		U		U		U		U		U		U		U		U		U		U		U		U
Hexachlorobenzene		U		U		U		U		U		U		U		U		U		U		U		U
Pentachlorophenol		U		U		U		U		U		U		U		U		U		U		U		U
Phenanthrene	8,700		11,000		1,200		5,400		8,100		7,500		8,800	B	86,000	B	2,800	JB	470	B	11,000		2,300	
Anthracene	6,700	J	3,600		370		1,600		2,700		2,300		2,200	J	25,000		960	J	140	J	3,400	J	710	
Carbazole	2,100	J	2,100		100	J	620	J	840	J	790	J	770	J	4,400	J	66	J	20	J	820	J	160	J
Di-n-butyl phthalate		U	40	JB	31	JB	31	JB	35	JB	68	JB		U		U		U	26	JB		U		U
Fluoranthene	16,000		11,000		1,400		7,500		8,500		8,100		8,200	B	110,000	B	5,300	B	650	B	14,000		1,700	
Pyrene	15,000		9,400		1,300		6,300		9,000		6,900		13,000	B	100,000		11,000	B	1,700	B	20,000		2,500	
Butyl benzyl phthalate		U		U		U		U		U		U	64	JB		U	130	JB	130	JB		U		U
3,3'-Dichlorobenzidine		U		U		U		U		U		U		U		U		U		U		U		U
Benzo(a)anthracene	9,200		6,000		740		5,200		5,100		4,400		4,800	U	56,000		4,900		640		10,000		1,800	
Chrysene	20,000		6,600		880		5,900		5,800		5,000		5,300	U	58,000		6,100		780		12,000		2,100	
Bis(2-ethylhexyl) phthalate	730	JB	160	JB	740	B	380	JB	1,300	JB	2,400	B	380	JB		U	1,500	JB	1,600	B	780	JB	670	JB
Di-n-octyl phthalate		U		U	19	JB		U		U		U		U		U		U		U		U		U
Benzo(b)fluoranthene	18,000		4,700		610		4,100		4,100		3,200		3,400	U	36,000		3,700		460		7,000		1,400	
Benzo(k)fluoranthene	10,000		4,500		630		3,900		4,800		3,700		3,900	U	47,000		3,600		460		9,200		1,300	
Benzo(a)pyrene	16,000		4,900		680		4,400		4,900		4,000		4,200	U	50,000		8,000		920		9,300		1,600	
Indeno(1,2,3-cd)pyrene	19,000		3,400		480		3,100		3,600		3,300		2,000	J	31,000		6,800		830		5,900		1,200	
Dibenzo(a,h)anthracene	8,600		1,100	J	210	J	1,400	J	1,500	J	1,200	J	690	J	110,000	J	3,000	J	260		2,400	J	450	
Benzo(ghi)perylene	34,000		3,600		570		3,500		4,200		4,000		2,300	J	34,000		14,000		1,700		7,400		1,100	
	197,580		80,412		10,553		55,581		68,605		60,778		63,194		772,900		73,895		11,148		118,200		20,565	

Queens West Development - Site 9
Metals in Soil Samples
(See notes for qualifier definitions)

	B-1 (0.8-2.8)	B-1 (2.8-4.8)	B-2 (0.8-2.8)	B-2 (2.8-4.8)	B-3 (1.5-3.5)	B-3 (3.5-5.5)	B-4 (0-2)	B-4 (2-4)	B-5 (1-3)	B-5 (3-5)	B-6 (1.5-3.5)	B-6 (3.5-5.5)
Aluminum	8650	6220	11700	7130	11300	11400	3160	5000	8800	10400	6690	9340
Antimony	1.4 UN	31.6 UN	3.7 BN	4.4 BN	5.3 BN	3.2 BN	1 B	2 B	1.6 B	0.8 B	4.7 BN	1.9 UN
Arsenic	12.6	13.9	7.4	4.5	8.6	7.5	2.7	4.5	5.5	4.6	4.9	5
Barium	70.2	272	86.8	64.9	477	312	67	44	109	35.3 B	78.3	139
Beryllium	0.22 B	0.16 U	0.2 B	0.2 U	0.2 B	0.16 U	0.18 U	0.2 U	0.22 U	0.33 B	0.16 U	0.42 B
Cadmium	0.16 U	0.16 U	0.16 U	0.2 U	1.4	0.99	0.18 UN	0.2 UN	0.22 UN	0.22 UN	2	1.3
Calcium	7080	42900	4680	8700	17500	24300	6140	2080	56000	7920	23400	17700
Chromium	15.3 N	18.8 N	28.3 N	14.2 N	23.9 N	19 N	9.6	16.7	16.8	15	14.2 N	22.3 N
Cobalt	25.2	6.1 B	15.8	6.2	10.8	8.9	3.2 B	7.5 B	6.6 B	8.2 B	4.3 B	7.2
Copper	135	268	318	63.6	1090	937	43.5	21.1	38.6	19.8	300	56.8
Iron	53100 *	37600 *	33400 *	31100 *	25300 *	23000 *	10500 *	23900 *	15800 *	32200 *	17300 *	13700 *
Lead	318	359	150	80.1	673	411	142 *	86.9 *	236 *	43.9 *	216	112
Magnesium	2840	2950	2630	2430	3840	4200	1520	3440	10800	2910	2980	1140
Manganese	217 *	183 *	649 *	383 *	393 *	386 *	104 *	207 *	322 *	778 *	182 *	165 *
Mercury	1.2	5.6	0.32	0.44	1.5	1.2	0.18	0.27	0.55	0.1	0.45	0.92
Nickel	32.4 N	20.4 N	24.7 N	15.8 N	21.2 N	17 N	8.6	21	15.6	20	12.8 N	16.3 N
Potassium	1060	1220	965	763 B	1230	1230	334 B	585 B	1330	674 B	680 B	1100
Selenium	2.1	2.1	1.1	0.98 U	0.95 U	0.78 U	0.53 U	0.75 B	0.68 U	0.66 U	0.78 U	1.1 U
Silver	0.31 U	0.31 U	0.32 U	0.39 U	0.54 B	0.4 B	0.3 B	0.2 U	0.22 U	0.22 U	0.31 U	0.42 U
Sodium	225 B	225 B	378 B	305 B	657 B	1140	79.1 B	119 B	502 B	275 B	857	1260
Thallium	4.8 N	4.8 N	2.2 N	2 UN	1.9 UN	1.6 UN	0.7 U	0.81 U	0.9 U	0.88 U	1.6 UN	2.1 UN
Vanadium	23.9 N	23.9 N	35.6 N	25.7 N	32.4 N	28.4 N	8.9	18.2	14.8	17.6	15.4 N	25.7 N
Zinc	159 *	159 *	387 *	107 *	1330 *	846 *	285 *	89.9 *	215 *	78.3 *	799 *	351 *

Queens West Development - Site 9
TCLP Metals in Soil Samples
(See notes for qualifier definitions)

	B-1 (0.8-2.8)	B-1 (2.8-4.8)	B-2 (0.8-2.8)	B-2 (2.8-4.8)	B-3 (1.5-3.5)	B-3 (3.5-5.5)	B-4 (0-2)	B-4 (2-4)	B-5 (1-3)	B-5 (3-5)	B-6 (1.5-3.5)	B-6 (3.5-5.5)
Arsenic	10.7	6.9 B	4.0 U	4.0 U	4.0 U	4.0 U	3.0 U	3.0 U	3.3 U	3.0 U	4.0 U	6.8 B
Barium	564	334	552	388	2000	1510	672	503	392	394	507	462
Cadmium	4.5 B	0.8 U	3.4 B	3.7 B	28.4	14.4	3.0 B	2.5 B	1.1 B	3.4 B	8.7 B	1.9 B
Chromium	2.0 U	6.8 B	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U
Lead	879	3 U	55.9	106	876	168	132	201	9.8	39.9	41.5	41.5
Mercury	1.6 BN	1.4 BN	1.1 BN	1.4 BN	3.3 N	7.8 N	1.0 U	1.0 U	1.0 U	1.0 U	1.1 BN	1.1 BN
Selenium	19.2	22.2	18.1	22.0	18.7	18.4	4.6 BN	7.8 N	5.9 N	10.7 N	15.4	15.4
Silver	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U

NOTES

Qualifiers for Organic Analyses

U - Not detected
J - Estimated value. Compound detected at concentration below specified minimum detection limit.
B - Compound detected in blanks as well as sample.

Qualifiers for Inorganic Analyses

U - Not detected
B - Detected at concentration below specified minimum detection limit.
N - Spiked sample recovery not within control limits.
* - Duplicate analysis not within control limit.

APPENDIX C

SOIL BORING LOGS

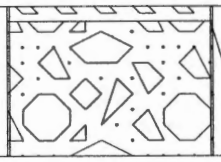
QUEENS WEST SITE

PROJECT NO: 03653-0014 **BORING NO.** B-1 **PROJECT NAME:** Queens West Site

DATE BEGAN: 01/20/2000 **DATE FINISHED:** 01/20/2000 **FIELD GEOLOGIST:** Mohamed Ahmed

GROUND SURFACE: NA **CONTRACTOR:** Envirotech Drilling

EXCAVATION EQUIPMENTS: Hollow Stem Augers

ELEV (FT)	DEPTH (FT)	SAMPLE TYPE AND NO.	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (ppm) FID	VOLATILE ORGANIC VAPORS (ppm) PID	REMARKS
0.0	0.0						
-1.0	-1.0						
-2.0	-2.0	S-1		CONCRETE			
-3.0	-3.0			FILL: Coal fragments, ash, wood, fine to medium sand			
-4.0	-4.0	S-2			0.0 ppm		
-5.0	-5.0						

QUEENS WEST SITE

PROJECT NO: 03653-0014 **BORING NO.** B-2 **PROJECT NAME:** Queens West Site

DATE BEGAN: 01/20/2000 **DATE FINISHED:** 01/20/2000 **FIELD GEOLOGIST:** Mohamed Ahmed

GROUND SURFACE: NA **CONTRACTOR:** Envirotech Drilling

EXCAVATION EQUIPMENTS: Hollow Stem Augers

ELEV (FT)	DEPTH (FT)	SAMPLE TYPE AND NO.	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (ppm) FID	VOLATILE ORGANIC VAPORS (ppm) PID	REMARKS
0.0	0.0						
-1.0	-1.0						
-2.0	-2.0	S-1		CONCRETE			
-3.0	-3.0			FILL: red brick, rubber, brown silty sand, metal fragments			
-4.0	-4.0	S-2			0.0 ppm		
-5.0	-5.0						

QUEENS WEST SITE

PROJECT NO: 03653-0014 **BORING NO.** B-3 **PROJECT NAME:** Queens West Site

DATE BEGAN: 01/20/2000 **DATE FINISHED:** 01/20/2000 **FIELD GEOLOGIST:** Mohamed Ahmed

GROUND SURFACE: NA **CONTRACTOR:** Envirotech Drilling

EXCAVATION EQUIPMENTS: Hollow Stem Augers

ELEV (FT)	DEPTH (FT)	SAMPLE TYPE AND NO.	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (ppm) FID	VOLATILE ORGANIC VAPORS (ppm) PID	REMARKS
0.0	0.0			CONCRETE			
-1.0	-1.0						
-2.0	-2.0						
-3.0	-3.0	S-1		FILL: red brick, and concrete fragments, silty sand, metal fragments	0.0 ppm		
-4.0	-4.0						
-5.0	-5.0	S-2					

QUEENS WEST SITE

PROJECT NO: 03653-0014 **BORING NO.** B-4 **PROJECT NAME:** Queens West Site

DATE BEGAN: 02/15/2000 **DATE FINISHED:** 02/15/2000 **FIELD GEOLOGIST:** Mohamed Ahmed

GROUND SURFACE: NA **CONTRACTOR:** Envirotech Drilling

EXCAVATION EQUIPMENTS: Hollow Stem Augers

ELEV (FT)	DEPTH (FT)	SAMPLE TYPE AND NO.	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (ppm) FID	VOLATILE ORGANIC VAPORS (ppm) PID	REMARKS
0.0	0.0	S-1		SAND: yellow, fine to medium sand			
-1.0	-1.0						
-2.0	-2.0						
-3.0	-3.0	S-2		FILL: Dark black silty sand, coal fragments, wood	0.0 ppm		
-4.0	-4.0						

QUEENS WEST SITE

PROJECT NO: 03653-0014 **BORING NO.** B-5 **PROJECT NAME:** Queens West Site

DATE BEGAN: 02.15/2000 **DATE FINISHED:** 02/15/2000 **FIELD GEOLOGIST:** Mohamed Ahmed

GROUND SURFACE: NA **CONTRACTOR:** Envirotech Drilling

EXCAVATION EQUIPMENTS: Hollow Stem Augers

ELEV (FT)	DEPTH (FT)	SAMPLE TYPE AND NO.	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (ppm) FID	VOLATILE ORGANIC VAPORS (ppm) PID	REMARKS
0.0	0.0			CONCRETE			
-1.0	-1.0						
-2.0	-2.0	S-1		SILTY SAND: fine to medium yellow sand	0.0 ppm		
-3.0	-3.0						
-4.0	-4.0	S-2					
-5.0	-5.0			SILTY SAND: dark black medium sand			

QUEENS WEST SITE

PROJECT NO: 03653-0014 **BORING NO.** B-6 **PROJECT NAME:** Queens West Site

DATE BEGAN: 01/20/2000 **DATE FINISHED:** 01/20/2000 **FIELD GEOLOGIST:** Mohamed Ahmed

GROUND SURFACE: NA **CONTRACTOR:** Envirotech Drilling

EXCAVATION EQUIPMENTS: Hollow Stem Augers

ELEV (FT)	DEPTH (FT)	SAMPLE TYPE AND NO.	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (ppm) FID	VOLATILE ORGANIC VAPORS (ppm) PID	REMARKS
0.0	0.0			CONCRETE			
-1.0	-1.0						
-2.0	-2.0			FILL: red brick, dark black silty sand			
-3.0	-3.0	S-1			0.0 ppm		
-4.0	-4.0						
-5.0	-5.0	S-2					