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REMEDIATION WORK PLAN FOR PARCEL 9 QUEENS WEST DEVELOPMENT

PREPARED FOR:

QUEENS WEST DEVELOPMENT CORPORATION

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AUGUST 1998

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REMEDIATION WORK PLAN FOR QUEENS WEST DEVELOPMENT - PARCEL 9

I. INTRODUCTION

The Queens West Development Corporation (QWDC) is implementing the development plan for the waterfront of the Hunters Point section of Queens, New York. QWDC is a subsidiary of the New York State Urban Development Corporation(UDC) dba as the Empire State Development Corporation (ESDC). The General Project Plan creates 19 development parcels on 74.5 upland acres along the shore of the East River to be developed for residential, commercial, and ancillary uses. The plan was approved by the New York City Board of Estimate and the New York State Urban Development Corporation in 1990 after an environmental review under the State Environmental Quality Review Act (SEQRA) and an Uniform Land Use Review Procedure (ULURP) review by the City of New York. An Environmental Impact Statement (EIS) was prepared for the project with a Final Environmental Impact Statement (FEIS) published in June of 1990, and findings were adopted by UDC in 1991.

A Remediation Plan for the entire Stage I area of the Queens West Development property has been reviewed and approved by the New York State Department of Environmental Conservation (DEC). The plan, dated March 1995, was implemented during construction activities on Parcel 10, and the development of the infrastructure and waterfront park between 48th and 50th Avenues. The purpose of this Remediation Work Plan is to establish the appropriate remedial activities for the residential development of Parcel 9. As shown on the attached figure 1, parcel 9 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 remediation work described in this plan will begin when Queens West Development Corporation (QWDC) becomes the owner of the existing properties comprising Parcel 9 and the ground lessee executes a lease with QWDC.

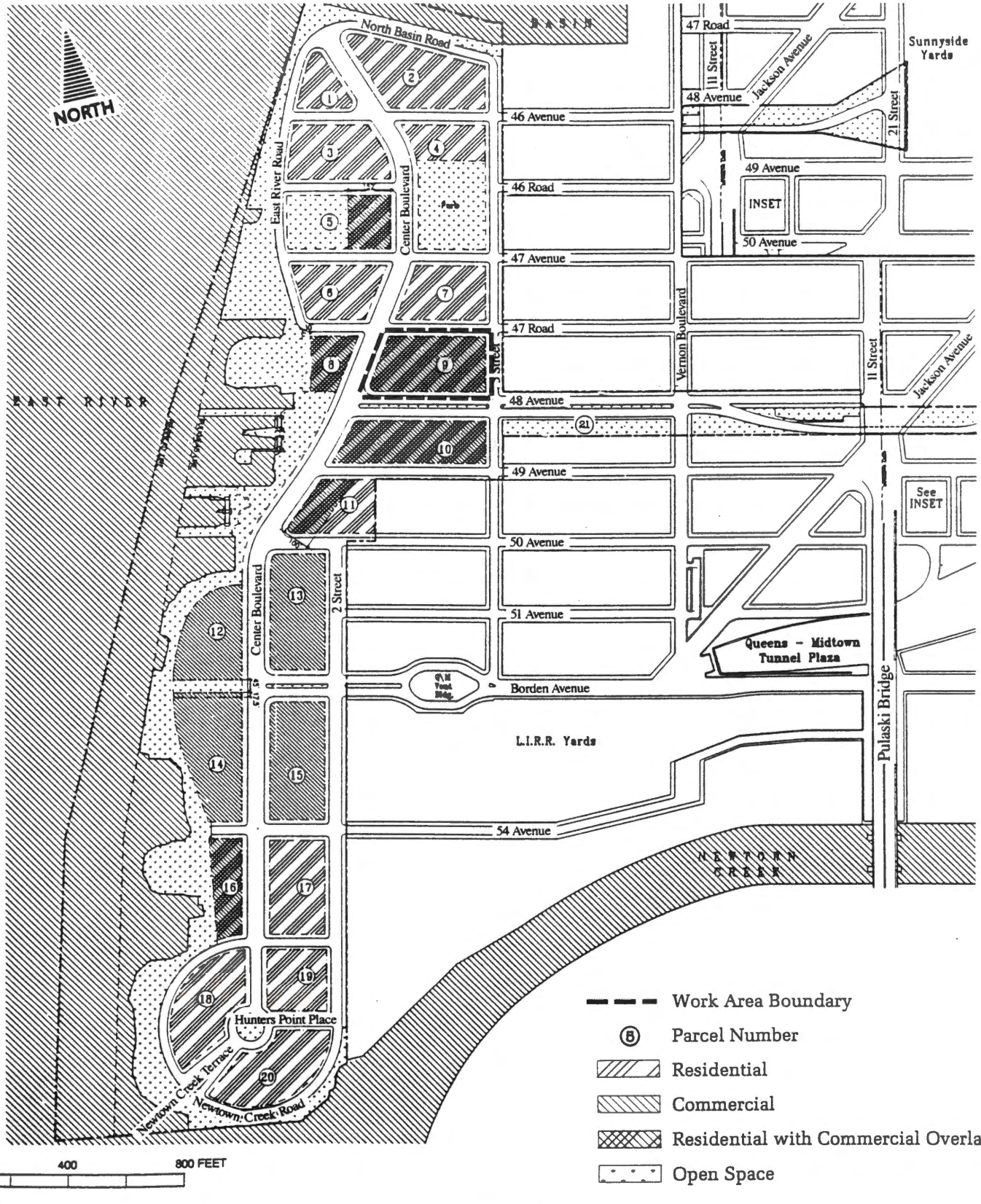
As part of the environmental review process for the project, several extensive programs of soil and groundwater testing were performed between 1985 and 1990. The results of these studies are reported in the FEIS for the entire Queens West Development site, and were transmitted to the DEC for review. Because the studies showed the presence of elevated levels of potentially hazardous materials at some locations on the site, the project sponsors committed to incorporate mitigation measures into the site development program. The mitigation measures specified in the FEIS include the use of construction methods that minimize soil and groundwater disturbance, the implementation of a construction health and safety plan, and the use of appropriate remediation measures at specific locations of concern.

II. CURRENT CONSTRUCTION PLANS

Parcel 9 will undergo residential development, and will be almost entirely paved or covered with buildings, with no exposed native soil. The residential buildings will be constructed on-grade with no basements or other subsurface spaces other than building infrastructure such as utility hookups (sewer, storm-water, water, etc.) and installation of elevator pits and/or transformer vaults.

The site will be covered with a 6 to 12 inch layer of crushed stone (prior to capping) upon which the pile driving will take place. After the piles are in place, the pile caps will be installed. All excavated soils from foundation construction or excavation of elevator pits or utility trenches will be disposed of on the site under the structural slab of the building, under paving and ramps of parking areas, or at an appropriate off-site facility.

Parcelization and Land Use Plan



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

III. SUMMARY OF 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 in Figure 2. Analytical results are tabulated in Appendix A. 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 on Figure 2, 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.

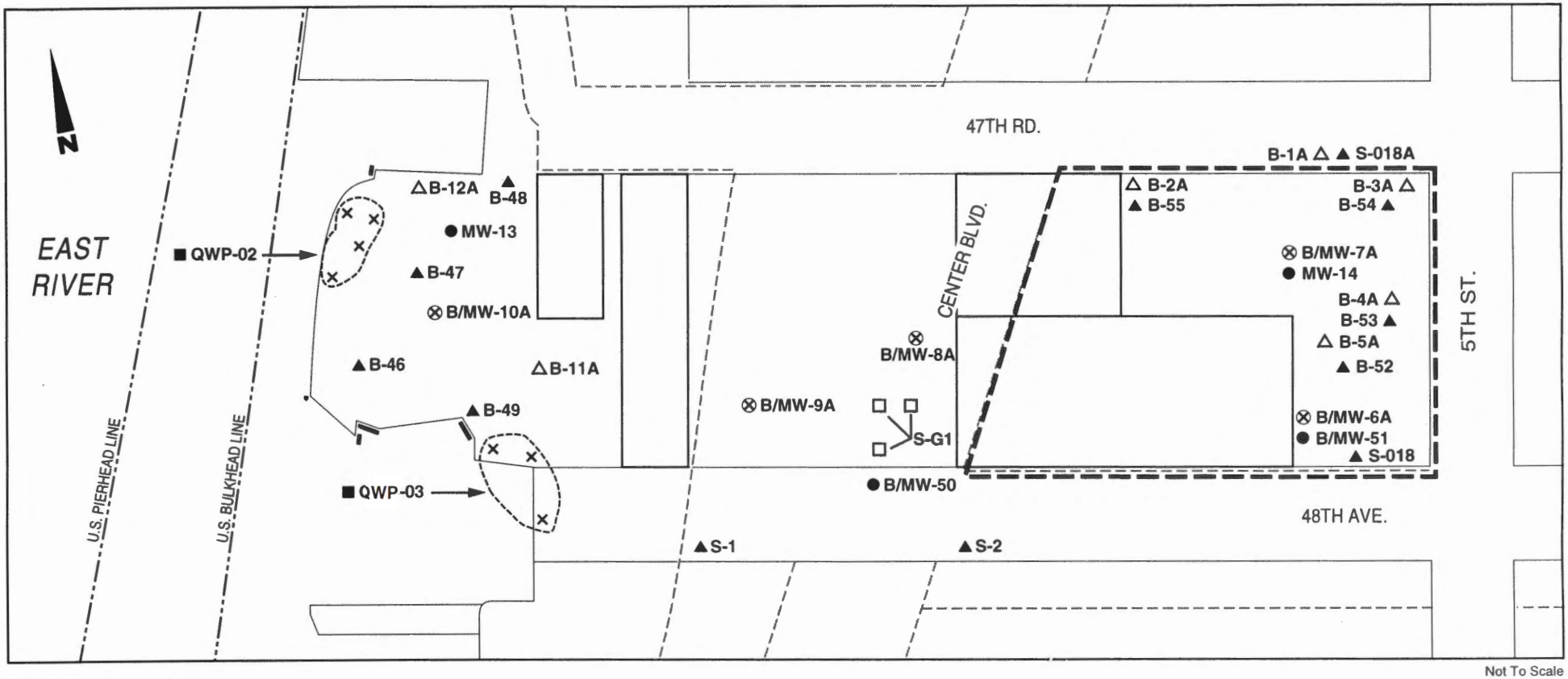
1989 Sampling Program

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 on Figure 2). 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 collected and 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 was performed of surface soil located 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



Not To Scale

- Work Area Boundary
- Proposed Street
- ⊗ 1998 Soil/Groundwater Sampling Location
- △ 1998 Soil Sampling Location
- □ 1998 Soil Gas Location
- ● Previous Soil/Groundwater Sampling Location (1989 Testing Program)
- ▲ Previous Soil Sampling Location (1984-85, 1989 Testing Program)
- ■ Composite Sampling (1994 Testing Program)
- × Discrete Sampling Location (1994 Testing Program)
- Area of Composite Sampling (1994 Testing Program)

Figure 2

Prior Sampling Locations

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 will not be covered by pavement or at least two feet of clean fill have been excavated and disposed of off-site at an appropriate off-site waste disposal 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.

Figures 3, 4 and 5 show the results of the 1998 testing program. 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.

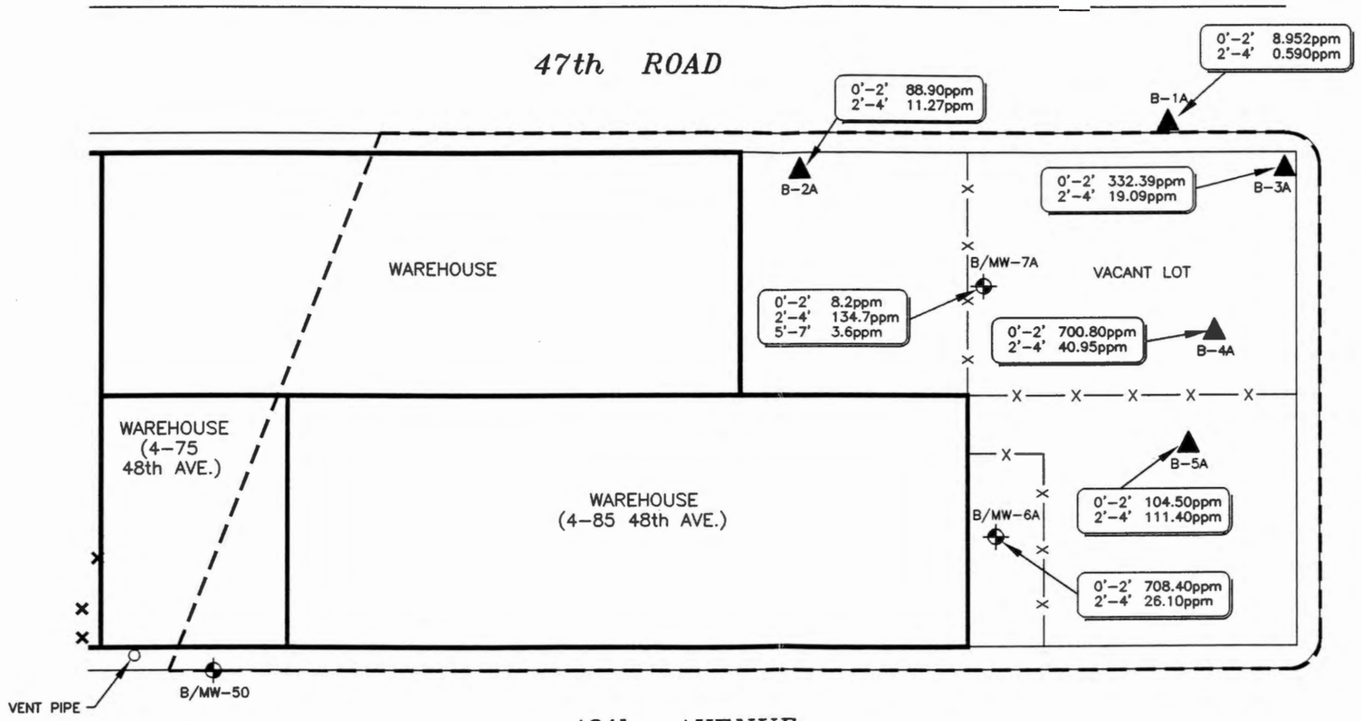
IV. HAZARD ASSESSMENT

The issues of concern within or immediately adjacent to Parcel 9 are:

- Elevated levels of PAHs in the soils and,

- Elevated levels of leachable lead and/or total lead and mercury.

- Petroleum-related contaminants including benzene, toluene, ethylbenzene, and xylene.



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0' 30' 60' 120'
SCALE: 1"=60'

Legend:

—X—X—X—	CHAIN LINK FENCE
B/MW-8A	BORING/MONITORING WELL LOCATION
B-2A	BORING LOCATION
SG-1	SOIL GAS LOCATION
- - - - -	APPROXIMATE WORK AREA BOUNDARY

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PARCEL 9

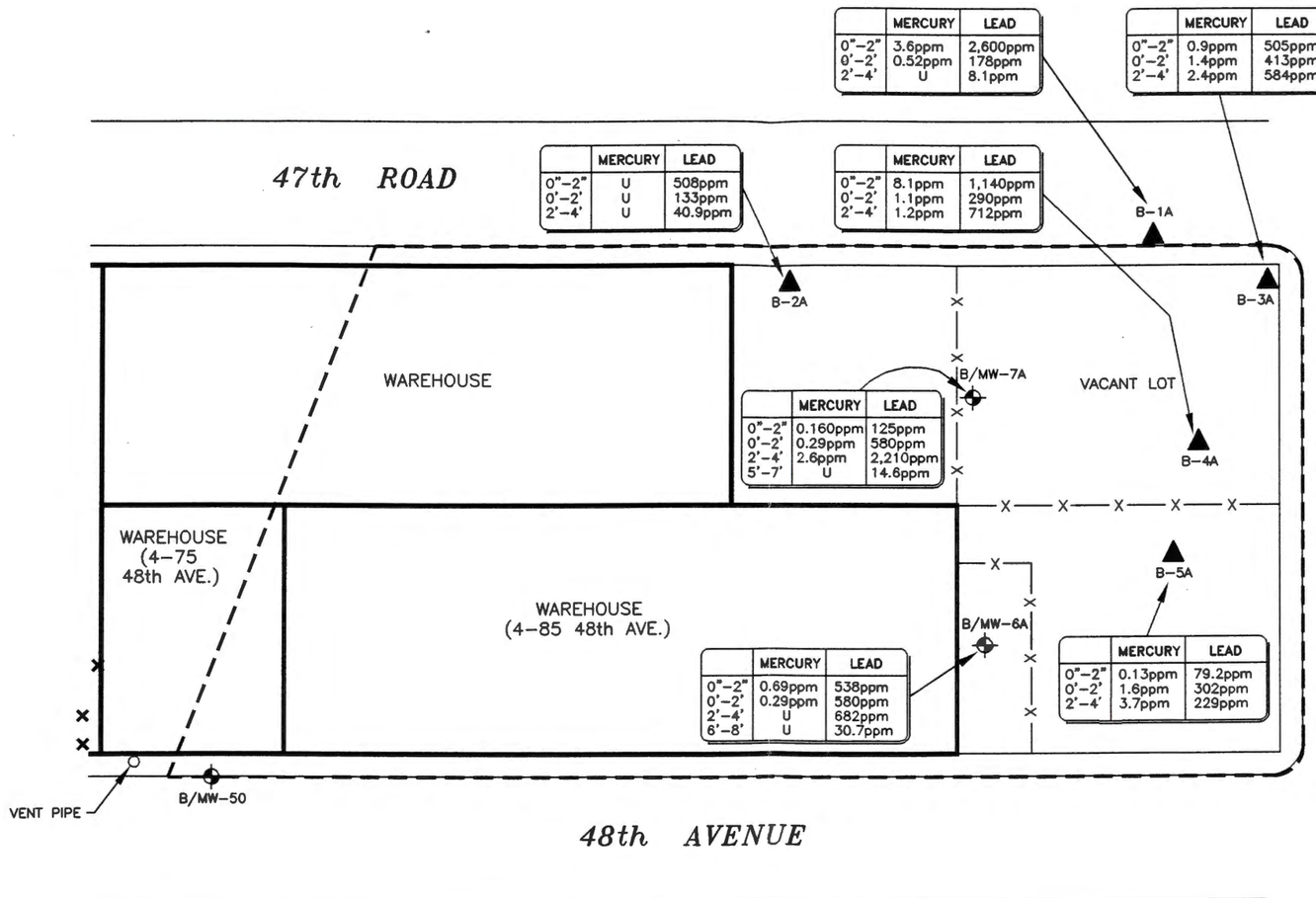
LEVELS OF TOTAL PAHs
PARTS PER MILLION (ppm)

DATE 8/3/98

SCALE 1"=60'

PROJECT No. 03653

FIGURE No. 3



0' 30' 60' 120'

SCALE: 1"=60'

Legend:

- —X—X—X— CHAIN LINK FENCE
- B/MW–8A BORING/MONITORING WELL LOCATION
- B–2A BORING LOCATION
- SG–1 SOIL GAS LOCATION
- – – – – – APPROXIMATE WORK AREA BOUNDARY

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PARCEL 9

LEVELS OF TOTAL LEAD, MERCURY
PARTS PER MILLION (ppm)

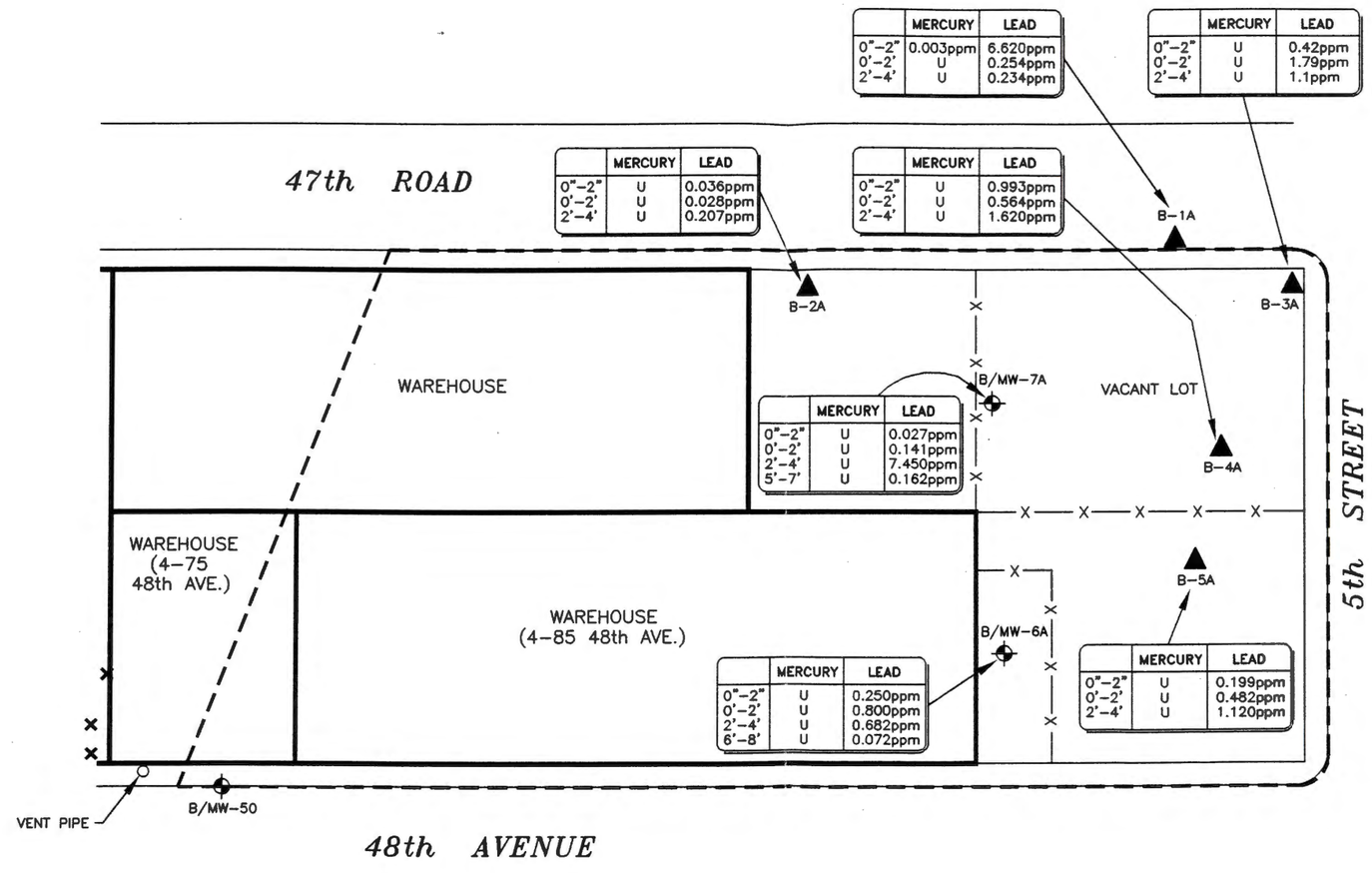
DATE 8/3/98

SCALE 1"=60'

PROJECT No. 03653

FIGURE No. 4

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0' 30' 60' 120'

SCALE: 1"=60'

Legend:

- —X—X—X— CHAIN LINK FENCE
- B/MW–8A BORING/MONITORING WELL LOCATION
- B–2A BORING LOCATION
- SG–1 SOIL GAS LOCATION
- – – – – – APPROXIMATE WORK AREA BOUNDARY

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PARCEL 9

LEVELS OF TCLP LEAD, MERCURY
PARTS PER MILLION (ppm)

DATE 8/3/98

SCALE 1"=60'

PROJECT No. 03653

FIGURE No. 5

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occurrence of PAHs in groundwater was limited to the immediate areas having elevated levels of PAHs in the soil. The downgradient monitoring wells nearest to the East River, for example, (MW-10A) had no or trace levels of PAHs below GA standards or guidance values (Refer to Groundwater Assessment Section). Thus, the only likely and significant concern posed by the elevated levels of PAHs in the soil would involve the affected areas where excavation may occur. Without remediation, the elevated levels of PAHs in the soil may represent a potential health and safety hazard to construction workers and the surrounding community during construction.

Mercury, arsenic and lead are toxic heavy metals. Exposure to these heavy metals can result in a number of human illnesses, including, but not limited to, kidney disease, lung and lymphatic cancer, liver damage, skin irritation, chest pains, fatigue, weight loss, and dyspnea (difficulty breathing). Potential routes of human exposure to heavy metals are through direct contact, ingestion or inhalation of dust. Because the solubility of heavy metals is low, off-site migration via groundwater is not a primary concern (Refer to Groundwater Assessment Section).

Benzene, toluene, ethylbenzene, and xylene are volatile organic compounds found in gasoline and other petroleum products. Benzene is a known human carcinogen, and all these compounds can irritate the eyes and affect the central nervous system, kidneys, and liver. Potential routes of human exposure are through inhalation of vapors, ingestion, or direct contact.

V. GROUNDWATER ASSESSMENT

As requested in DEC's letter of June 1, 1998, a groundwater assessment was conducted to determine the potential for groundwater discharging from the entire block (Parcels 8 and 9, Center Boulevard) to cause exceedance of applicable surface water standards in the East River. The following methodology, similar to that used in the Hudson River for the Route 9A Reconstruction Project, was used:

1. For all parameters (including arsenic) which *soil* concentrations during the 1998 soil sampling program exceeded TAGM 4046 values, the highest *groundwater* concentration in any of the on-site wells was recorded (see Table 1, Column B).
2. A chemical-independent dilution factor of 14,562 was calculated as shown on the lower half of Table 1. This factor is a conservative estimate of the ratio of the average volume of water flowing past the site (calculated based on the average speed of water in the river) to the average amount of groundwater flowing into the river from the site (calculated from the levels of water in the wells and the soil parameters).
3. The estimated incremental loading to surface water due to groundwater discharging from the site (Table 1, Column C) was then calculated as Column B divided by the dilution factor.
4. The existing surface water concentration for each parameter was obtained (where available) from the 1991/2 New York Harbor Water Quality Survey (Table 1, Column D), using the closest sampling location (East River opposite East 42nd Street). Later Surveys have not undertaken water column sampling for metals. No data were found for semi-volatile organic compounds (except PCBs).
5. The estimated resulting surface water concentration (Table 1, Column E) was then calculated as the increment due to the site plus the existing concentration.

The New York State Ambient Water Quality Standards and Guidance Values for Class I

Can fill form panel 11 on
panel 827.
Installer substitutes utilities.

Panel 11 – x Residents door
+ parking garage above
ground
+ single story house.
Sect 202 – + small
units
dwellings.

827 Developer is in the process
of negotiating what is or is not
Infrastructures for bridge, water + sewers.

All phone for Ford
917-865-6048

Some of the PAHs detected in soil samples are known or suspected carcinogens. Potential routes of human exposure are through direct contact, ingestion, or inhalation of dust. Off-site migration is not a primary concern since the solubility of PAHs is low. Furthermore, the occurrence of PAHs in groundwater was limited to the immediate areas having elevated levels of PAHs in the soil. The downgradient monitoring wells nearest to the East River, for example, (MW-10A) had no or trace levels of PAHs below GA standards or guidance values (Refer to Groundwater Assessment Section). Thus, the only likely and significant concern posed by the elevated levels of PAHs in the soil would involve the affected areas where excavation may occur. Without remediation, the elevated levels of PAHs in the soil may represent a potential health and safety hazard to the construction workers and the surrounding community during construction.

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6. The New York State Ambient Water Quality Standards and Guidance Values for Class I Waters (the designation for this portion of the East River) are listed in Column F.

Since none of the resulting concentrations exceed the Class I Standards or Guidance Values, the conclusions of this assessment is that soils above TAGM values remaining on site will not result in violations of applicable water quality standards or guidance values.

VI. REMEDIATION PLAN

Based upon findings of the testing program and subsequent comments by the DEC, an appropriate remedial work plan for Parcel 9 would comprise the following:

1. A subsurface investigation will be performed to characterize the soil under the three warehouse buildings where sampling has not been performed: 4-75 48th Avenue, 4-85 48th Avenue, and 4-62 47th Road. A total of approximately five soil borings will be advanced in these areas. The locations of the borings will be determined during the demolition of the buildings when the slabs may be examined. The borings will be targeted at locations of floor drains, sumps, stains, and other indicators of potential contamination. Soil samples will be analyzed for full Target Analyte List/Target Compound List parameters and TCLP metals. A sampling protocol will be submitted to DEC for review and approval prior to implementation of this investigation. Results of the investigation will be transmitted to DEC and the remediation plan will be appropriately modified if any samples exceed DEC cleanup levels.
2. Excavation and off-site disposal of all on-site soil and immediately adjacent soil that has levels of leachable lead greater than 5 ppm. Areas with such levels of lead on or immediately adjacent to Parcel 9 are at B-1A and B/MW-7A. Confirmatory post-excavation samples, in accordance with DEC's Spill Technology and Remediation Series (STARS) Memo #1, will be collected from the side walls and bottom to verify the completeness of the excavation. Additional material will be excavated if leachable lead levels in any of the post-excavation samples exceed the standard.
3. Excavation and off-site disposal of all on-site soil with total levels of mercury greater than 23 ppm, the cleanup objective standard established by the US EPA Region III Risk-Based screening values for soil ingestion at residential properties. The only area on Parcel 9 where total mercury levels exceeded 23 ppm is at B/MW-8A.
4. To minimize the hazards posed by PAHs, all soil will be covered with pavement, buildings, or two feet of clean fill.
5. Groundwater assessment has been conducted to determine the site's overall impact to the nearby East River. The groundwater assessment has included a calculation of the contaminant mass discharged into the East River. This calculation indicates that no further remediation is necessary for the protection of the water quality of the East River. Monitoring well MW-7A will be redeveloped and resampled to confirm the lead and mercury levels detected in the most recent testing program.
6. All corrective action requested by the DEC, as expressed in its letter dated June 1, 1998, will be performed with regards to inactive and active petroleum underground storage tanks and evidence of petroleum spills, if such action has not previously been performed by the current owner. This corrective action for underground storage tanks will include:

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5. Groundwater assessment has been conducted to determine the site's overall impact to the nearby East River. The groundwater assessment has included a calculation of the contaminant mass discharged into the East River. This calculation indicates that no further remediation is necessary for the protection of the water quality of the East River.

6. All corrective action requested by the DEC, as expressed in its letter dated June 1, 1998, will be performed with regards to inactive and active petroleum underground storage tanks and evidence of petroleum spills, if such action has not previously been performed by the current owner. This corrective action for underground storage tanks will include:

Table 1 - Groundwater Assessment

	A	B	C	D	E	F	G
1		Maximum Groundwater Concentration	Incremental Loading	Existing Surface Water Concentration	Resulting Surface Water Concentration	Class I Standard or Guidance Value	
2		(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	
3							
4	Naphthalene	13000	0.9	NA	0.9	NA	
5	4-Chloro-3-methylphenol	0.2	0.00001	NA	0.00001	NA	
6	Dibenzofuran	400	0.027	NA	0.027	NA	
7	Benzo(b)fluoranthene	0.6	0.00004	NA	0.00004	NA	
8	Benzo(k)fluoranthene	0.7	0.00005	NA	0.00005	NA	
9	Benzo(a)pyrene	0.7	0.00005	NA	0.00005	0.0006	
10	Indeno(1,23-cd)pyrene	0.4	0.00003	NA	0.00003	NA	
11	Dibenz (a,h) anthracene	ND	ND	NA	ND	NA	
12	Arsenic *	112	0.008	NA	0.008	36	
13	Barium	435	0.030	NA	0.030	NA	
14	Cadmium *	1.1	0.0001	0.104	0.1041	2.7	
15	Chromium *	1.7	0.0001	NA	0.0001	NA	
16	Lead *	2.3	0.0002	2.64	2.6402	8.6	
17	Mercury	0.2	0.00001	0.004	0.00401	0.1	
18	Selenium *	42.9	0.003	NA	0.003	NA	
19							
20	**Notes**						
21	*	maximum dissolved groundwater concentration used since water quality standards based on water/acid soluble measurements					
22	ND	below detection limit					
23	NA	not available					
24							
25	**CALCULATIONS**						
26	**Flow of Groundwater into East River per second**						
27	Hydraulic Conductivity, k	0.001	feet/s	conservative estimate based on boring logs			
28	Hydraulic Gradient, I	0.006		based on 3.83' difference in groundwater elevations at locations 7A and 10A			
29	Effective Porosity, n	0.25		conservative estimate			
30	Width of Site, w	210	feet				
31	Depth of aquifer discharging, d	32.7	feet	depth of river from NOAA Chart 12335 + half of mean tidal range (2.7 feet)			
32							
33							
34	k*I*w*d/n	0.16	cubic feet per second				
35							
36							
37	**Volume of Water Flowing Past Site per second**						
38	Average speed of flow, v	0.8	feet/s	0.5 knots (from tide tables, maximum speeds exceed 1 knot)			
39	Depth, d	30	feet	from NOAA Chart 12335			
40	Length, I	100	feet	conservative estimate			
41							
42	v x d x I	2,400	cubic feet per second				
43							
44	**Dilution Factor (Flow/Volume)**	**14,562**					

- All petroleum storage tanks at the site will be located (approximate locations of petroleum storage tanks on the project site are indicated on the site figures),
- All petroleum storage tanks will be registered by filing a transfer of ownership application to NYSDEC, Region 2 Office,
- Since the petroleum storage tanks will not be used, they will be closed out permanently according to 6 NYCRR part 613.9 (b) and (c). At the time of permanent tank closure, a site assessment will be performed in accordance with 40 CFR Part 280 to determine if there was a release of petroleum products into the environment, and if so, to provide the basis for scoping appropriate remediation,
- A diesel fuel spill has been observed on the north end of Parcel 9 requiring investigation and excavation of contaminated soil,
- All petroleum releases will be fully delineated in soils and groundwater and appropriate remedial measures approved by the DEC will be implemented.

6. Demolition of all on-site structures and disposal of material from demolition will be performed in accordance with applicable local, state and federal regulations, including New York City's Asbestos Control Program.

VII. REMEDIATION PROCEDURES

As described below, remedial action will include excavation and off-site disposal of soil exhibiting the toxic characteristic for lead or with mercury levels exceeding EPA health-based risk levels, excavation of PAH-contaminated soil in the areas of subsurface utilities, and capping of the entire parcel to minimize the risk posed by PAHs.

Hot-Spot Removal

Soil having elevated levels of leachable lead (greater than 5 parts per million) and total lead, and mercury will be excavated and disposed at an appropriate off-site disposal facility. The hot-spot removal areas are shown in Figure 6, and corresponds to a 15-foot radius centered around borings B-1A, B/MW-7A, and B/MW-8A. Approximate initial extent and depth of excavation for each location is summarized in the below table. During excavation, appropriate field screening instrumentation will be used for directing the removal of soil. This instrumentation will include a Jerome Meter for detecting mercury and test kits or modified XRF detector for measuring lead. Post-excavation samples will be collected from the sidewalls and bottom of the excavated area and analyzed for TAL metals and characteristics of toxicity by TCLP to confirm that the excavation activities have removed all affected soil. If necessary, additional excavation will be conducted until post-excavation sampling results indicate that the hot-spot has been removed. Post-excavation sampling will meet the DEC protocol established for petroleum spills (STARS Memo #1). Laboratory results of post-excavation sampling will be consistent with Category B deliverables. All excavation activities for the hot-spot removal will follow a site-specific Health & Safety Plan for the protection of workers and the general public. A copy of this health & safety plan for remediation is presented in Appendix B.

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PARCEL 9

HOT-SPOT REMOVAL AREA

DATE
8/3/98

SCALE
1"=60'

PROJECT No.
03653

FIGURE No.
6

Table 2
Initial Extent of Hot Spot Removal
Parcel 9

Location	Extent of Initial Excavation (Approx. 15-foot radius)	Depth of Excavation
B-1A	2,830 square feet	0-2 feet
B/MW-7A	2,830 square feet	0-4 feet

All excavated soil will be stockpiled temporarily on site in a manner that avoids contamination of the surrounding environment. The excavated soil will be placed, at a minimum, on two layers of plastic sheeting and covered by one layer of plastic sheeting. The stockpiled soil will be placed away from storm/sewer inlets and surface water. Waste classification samples will be collected from the stockpiled soil in accordance with DEC protocol (i.e. STARS). Based upon the results of the waste classification sampling, the soil excavated from the hot spots will be disposed at an appropriate off-site facility in accordance with all applicable regulations.

Building Infrastructure

To minimize the hazard of the PAHs in the soil to the construction workers installing subsurface utilities, all soil to be disturbed by this work will be excavated prior to the start of the construction activities. The excavation of this soil will be performed in accordance with the attached site-specific health & safety plan for construction activities in Appendix C and the relevant sections of the construction specifications. Significant elements of this health & safety plan include 40-hour hazardous waste training of all workers and implementation of an appropriate air monitoring program during the excavation of the soil and the installation of the utilities within the excavated trench. Typical components of the construction specifications for this work would include surveying and flagging of the areas and sheathing of the sidewalls.

The excavated soil from the utility lines will be disposed as follows:

1. If sufficient space exists, the excavated soil will be placed on-site in an area which will be covered by at least two feet of clean fill, pavement, or a building.

2. If insufficient space exists on-site, the excavated soil will be disposed of off-site at an appropriate facility for PAH-contaminated soil. The Queens West Development Corporation and/or Empire State Development Corporation (ESDC) shall reserve the right to review and approve of any such disposal facility.

Groundwater generated by any dewatering process will be discharged to the New York City sewer system. Discharges to the the municipal sewer system are regulated under Chapter 19 of the Regulations of the City of New York (RCNY) - *Use of the Public Sewers Including Sewer Surcharges*. These regulations allow for the discharge of groundwater to the city sewers requiring a permit for discharges of over 10,000 gallons per day (gpd). It is anticipated that the dewatering flow from the infrastructure installation will be well under the 10,000 gpd threshold and will not require a permit.

The sewer use ordinance also contains pretreatment requirements that prohibit several substances that have been found to interfere with the operation of the treatment facilities or cause the facility to exceed its permit limits. Liquids with greater than 50 ppm of petroleum hydrocarbons are specifically prohibited from the sewers. The ordinance also prohibits any flammable or explosive liquids from the sewers including gasoline and benzene. The groundwater

samples from the project site contained dissolved benzene with a maximum concentration of 990 ppb. This benzene level would not be flammable or explosive and, therefore, not prohibited from the sewers. A list of toxic substances conditionally accepted into the system is contained in the sewer use ordinance as follows:

Cadmium	2 mg/l
Chromium (hexavalent)	5 mg/l
Copper	5 mg/l
Cyanide (amenable)	0.2 mg/l
Lead	2 mg/l
Mercury	0.05 mg/l
Nickel	3 mg/l
Zinc	5 mg/l

The groundwater at the site was sampled in 1989 as a part of the Environmental Impact Statement (EIS) for the project and again in 1998 at a total of 6 locations. The average concentration of the metals listed in the sewer use ordinance in the sites groundwater are as follows:

Parameter	Filtered	Unfiltered
Cadmium	0.0011 mg/l	0.0017 mg/l
Chromium (hexavalent)	0.0011 mg/l	0.0179 mg/l
Copper	0.0045 mg/l	0.2110 mg/l
Cyanide (amenable)	N.S.	N.S.
Lead	3.340 mg/l	0.0023 mg/l
Mercury	N.D.	0.0051 mg/l
Nickel	0.0063 mg/l	0.0377 mg/l
Zinc	0.0278 mg/l	0.8900 mg/l

N.D. = Non-detected
N.S. = Not sampled

Except for lead in one sample, all groundwater samples meet the allowable levels of toxics contained in the sewer use ordinance. The sewer use ordinance also includes provision for the Commissioner of the Department of Environmental Protection to require treatment of groundwater prior to discharge into the city sewers. To meet the local sewer ordinance for lead, de-watered groundwater will enter into a settling tank prior to being discharged into the municipal sewer.

An elevated level of arsenic was detected in one monitoring well. Arsenic is not specifically listed in the sewer use ordinance. Dewatering at the site would result in the discharge of less than 10,000 gallons per day to NYC's Bowery Bay Treatment Plant (BBTP). Since BBTP's dry weather flows are approximately 125 million gpd (1995 data), flows from the site would be diluted at least 12,500 fold, prior to discharge at the plant. Since the highest level of arsenic in any of the site's monitoring wells was 125 ppb, the resultant incremental impact to BBTP's effluent would be no more than 0.01 ppb. (125 divided by 125,000).

Site Capping

All areas of Parcel 9 will be capped by pavement, buildings, or two feet of clean fill. The type of foundations and the shallow excavations used in the construction of the Parcel 9 buildings minimize the exposure of workers to the site soils during construction. At the start of construction, Parcel 9 will be covered with a layer of crushed stone to minimize worker contact with the site soils. All excavated soils from the construction on this parcel will be disposed of on site or covered by paved areas or buildings minimizing the potential for contact with these soils. After construction, the developed site will be mostly covered with buildings or paving. Areas of

Parcel 9 not covered with buildings or pavement will have at least two feet of clean soil suitable to support the landscaping. Thus, there will be no exposed native soils on the site upon completion of the site construction. No de-watering is anticipated at this time for construction on Parcel 9.

To assure worker safety during construction, all deep excavation (8 feet or greater below the existing grade, exclusive of the piles of construction debris) will be performed under the Construction Health and Safety Plan presented in Appendix C. Significant elements of this health & safety plan include 40-hour hazardous waste training of all workers and implementation of an appropriate air monitoring program during the deep excavation of the soil and the installation of the utilities within the excavated trench. Typical components of the construction specifications for this work would include surveying and flagging of the areas and sheathing of the sidewalls.

Transformers and other potential PCB-Containing Equipment

Any transformers and other electrical equipment lacking pertinent labeling information within the current building occupying the site will be tested to determine if they contain Polychlorinated Biphenyls (PCBs). Based upon testing results, the equipment and/or its contents will be disposed of at an appropriate off-site facility as per applicable local, state, and federal regulations.

VIII. SEQUENCING OF REMEDIATION ACTIVITIES

The remediation activities described in this plan will be performed in conjunction with development of the site as follows:

- The supplemental subsurface investigation in the area of the warehouse buildings will be performed after demolition but prior to the beginning of foundation construction.
- Hot spot removal within Parcel 9 will be performed after DEC review of the results of the supplemental subsurface investigation and prior to the beginning of foundation construction.
- Excavation work for building infrastructure, elevator pits, etc. will be performed prior to the completion of the pouring of the foundation.

APPENDIX A

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

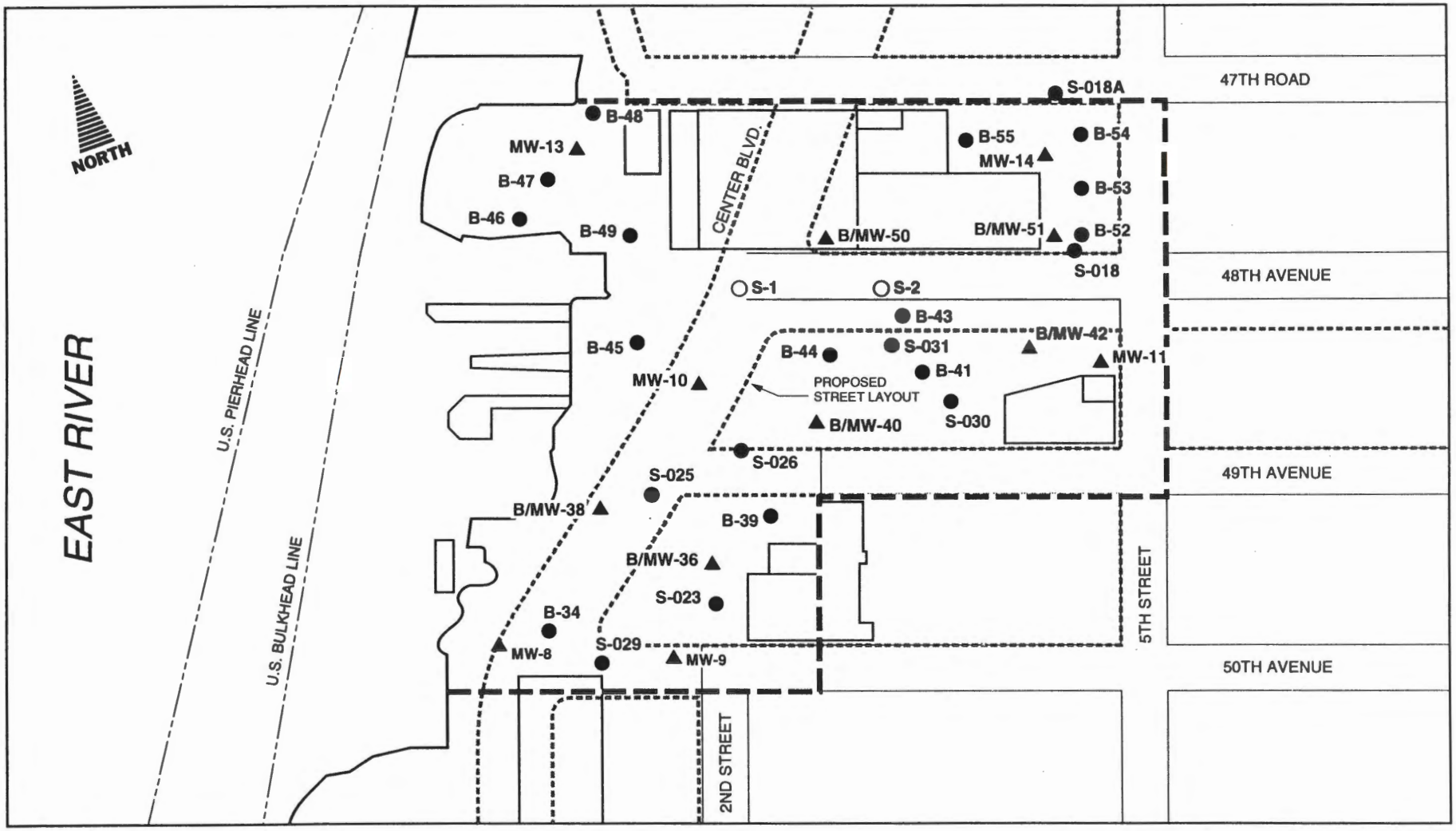


Figure 3

Previous Work Area Sampling Locations

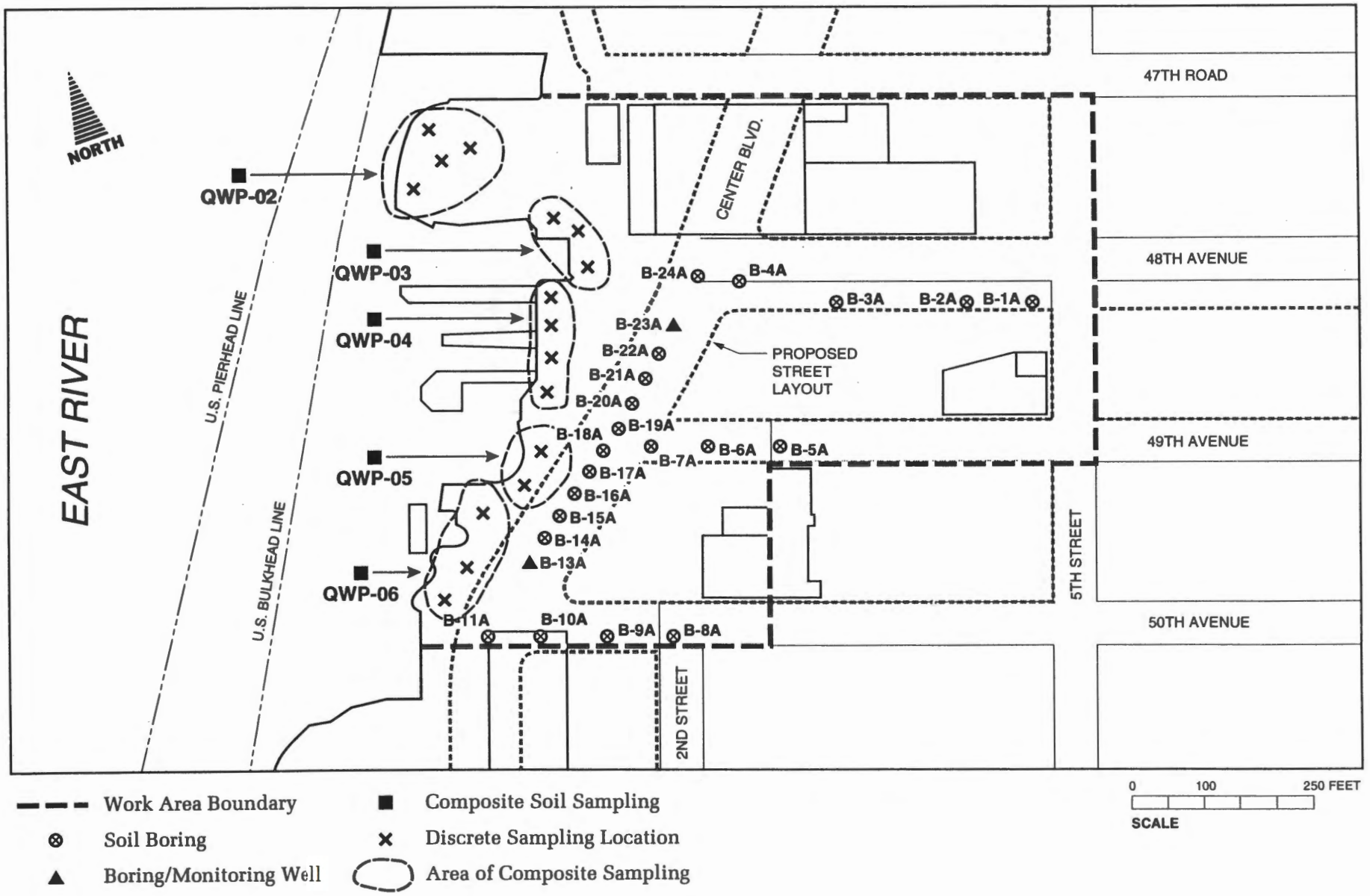


Figure 4

Sampling Areas — March/April 1994 Sampling Program

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

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM

Volatile Organics

(parts per million; ppm)

	B-34 (0-2)	B-34 (4-6)	B/MW-36 (0-2)	B/MW-36 (2-4)	B/MW-36 (Grab)	B/MW-38 (0-2)	B/MW-38 (2-4)	B-39 (0-2)	B-39 (2-4)	B/MW-40 (0-2)	B/MW-40 (2-4)
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	11	.022	U	.0095	.120	.044	.035	.029
Acetone	U	U	U	U	.750	U	U	.130	U	U	U
Carbon Disulfide	U	U	U	U	U	U	U	.030	U	.0072	.011
1,1-Dichloroethene	U	U	U	U	U	U	U	.021	U	U	.0086
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	.019	U	U	.0077
Chloroform	U	U	U	U	U	U	U	.011	U	U	.074
1,2-Dichloroethene (total)	U	U	U	U	U	U	U	U	U	U	U
2-Butanone	U	U	U	U	.071	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	.020	.012	.065	.018
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	.470	U	U	.010	U	U	.0064
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	.061	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	1.20	U	U	.0083	U	U	U
Chlorobenzene	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	U	U	U	U	1.30	U	U	U	U	U	U
Styrene	U	U	U	U	U	U	U	U	U	U	U
m-Xylene	U	U	U	U	1.90	U	U	U	U	U	U
o,p-Xylene	U	U	U	U	1.70	U	U	U	U	U	U
Total dichlorobenzene	U	U	U	U	U	U	U	U	U	U	U

U = Not Detected

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

(Parts per Million)

EP-Toxicity Metals

	Regulatory Levels	B-34 (0-2)	B-34 (4-6)	B/MW -36 (0-2)	B/MW -36 (2-4)	B/MW -36 (Grab)	B/MW -38 (0-2)	B/MW -38 (2-4)	B-39 (0-2)	B-39 (2-4)
Arsenic	5	U	U	U	U	U	U	U	U	U
Barium	100	.304	U	U	U	U	U	U	U	U
Cadmium	1	U	U	U	U	U	U	U	U	U
Chromium	5	U	U	0.010	U	U	U	U	U	U
Lead	5	0.134	.008	0.0149	0.009	0.160	0.025	0.045	U	0.018
Mercury	0.2	U	U	U	U	U	U	U	U	U
Selenium	1	U	U	U	U	U	U	U	U	U
Silver	5	.011	U	U	U	U	U	U	U	U

	Regulatory Levels	B/MW -40 (0-2)	B/MW -40 (2-4)	B-41 (0-2)	B-41 (2-4)	B/MW -42 (0-2)	B/MW -42 (2-4)	B-43 (0-2)	B-43 (2-4)	B-44 (0-2)
Arsenic	5	U	U	U	U	U	U	U	U	U
Barium	100	U	U	U	U	U	U	U	U	1.4
Cadmium	1	U	U	U	U	U	U	U	U	U
Chromium	5	U	0.011	U	U	U	U	0.012	U	U
Lead	5	0.008	0.280	0.013	0.062	U	U	0.015	0.0051	0.015
Mercury	0.2	U	U	U	U	U	U	U	U	U
Selenium	1	U	U	U	U	U	U	U	U	U
Silver	5	U	U	U	U	U	U	U	U	U

U=Unidentified

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM

(Parts per Million)

EP-Toxicity Metals

	Regulatory Levels	B-44 (2-4)	B-45 (0-2)	B-45 (2-4)	S-1 (0-2)	S-2 (0-2)	B-46 (0-2)	B-47 (0-2)
Arsenic	5	U	U	U	U	U	U	U
Barium	100	U	U	U	0.221	U	0.175	0.204
Cadmium	1	U	U	U	U	U	U	U
Chromium	5	0.010	0.012	U	U	U	U	0.0089
Lead	5	0.151	.0074	U	U	U	U	0.0061
Mercury	0.2	U	U	U	U	U	U	U
Selenium	1	U	U	U	U	U	U	U
Silver	5	U	U	U	U	U	U	U

	Regulatory Levels	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)
Arsenic	5	U	U	0.0071	U	U	U	U	U
Barium	100	0.329	0.261	0.280	0.402	0.436	.593	0.473	0.263
Cadmium	1	U	U	U	0.011	0.010	0.012	0.005	U
Chromium	5	U	0.0068	U	0.020	U	U	0.011	0.023
Lead	5	0.0099	0.0086	U	0.075	0.008	0.047	0.042	0.044
Mercury	0.2	U	U	U	U	U	U	U	U
Selenium	1	U	U	U	0.150	U	U	U	U
Silver	5	U	U	U	0.0234	U	0.011	0.012	U

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM

(Parts per Million)

Metals

	B-34 (0-2)	B-34 (4-6)	B/MW -36 (0-2)	B/MW -36 (2-4)	B/MW -36 (Grab)	B/MW -38 (0-2)	B/MW -38 (2-4)	B-39 (0-2)	B-39 (2-4)	B/MW -40 (0-2)	B/MW -40 (2-4)
Aluminum	5,710.0	2,130.0	5,790.0	3,620.0	3,830.0	5,790.0	2,790.0	1,630.0	9,880.0	2,510.0	4,860.0
Antimony	U	U	U	U	U	U	U	U	7.7	U	U
Arsenic	1.7	6.8	6.1	20.0	4.6	2.8	8.7	1.7	4.0	12.2	5.2
Barium	122.0	69.2	81.7	140.0	60.5	263.0	178.00	63.7	62.3	119.0	66.8
Beryllium	0.6	0.6	0.5	0.7	0.9	0.8	0.7	0.9	1.1	0.9	1.0
Cadmium	U	U	U	U	U	0.8	U	U	U	U	U
Calcium	103,700.0	1,530.0	2,460.0	5,800.0	2,250.0	57,000.0	22,400.0	3,290.0	625.0	4,200.0	642.0
Chromium	15.8	8.2	14.0	6.3	4.3	21.0	23.4	34.2	11.4	17.2	9.3
Cobalt	U	U	U	13.2	U	7.4	U	U	U	U	12.5
Copper	599.0	63.0	141.0	130.0	69.0	23.9	101.0	143.0	82.4	151.0	306.0
Iron	6,720.0	9,610.0	19,100.0	14,000.0	11,800.0	4,240.0	10,300.0	18,400.0	24,200.0	19,300.0	17,300.0
Lead	98.6	252.0	258.0	391.0	344.0	281.0	482.0	191.0	289.0	311.0	820.0
Magnesium	3,610.0	837.0	856.0	4,750.0	U	3,570.0	1,670.0	1,390.0	U	916.0	1,350.0
Manganese	122.0	74.0	201.0	541.0	157.0	115.0	97.5	179.0	161.0	152.0	292.0
Mercury	0.1	0.3	0.2	0.4	0.1	0.9	0.7	0.1	0.3	0.3	0.2
Nickel	9.8	U	10.5	15.7	11.2	10.4	8.6	12.0	U	10.0	11.8
Potassium	2,170.0	659.0	U	U	U	801.0	U	U	U	U	U
Selenium	U	U	U	U	U	U	U	U	U	U	U
Silver	U	U	U	U	U	U	U	U	U	U	U
Sodium	U	U	U	U	U	3,470.0	U	U	U	U	U
Thallium	U	U	U	U	U	U	U	U	U	U	U
Vanadium	23.3	11.6	28.9	12.6	8.3	68.3	39.8	27.9	9.7	44.9	12.4
Zinc	189.0	33.6	126.0	253.0	152.0	259.0	166.0	2,090.0	43.5	104.0	161.0

	B-41 (0-2)	B-41 (2-4)	B/MW -42 (0-2)	B/MW -42 (2-4)	B-43 (0-2)	B-43 (2-4)	B-44 (0-2)	B-44 (2-4)	B-45 (0-2)	B-45 (2-4)	S-1 (0-2)
Aluminum	3,080.0	4,280.0	1,260.0	2,710.0	1,870.0	4,700.0	5,190.0	2,790.0	7,340.0	5,470.0	5,600.0
Antimony	U	U	15.9	U	U	U	U	U	U	U	U
Arsenic	13.9	1.6	5.4	72.9	5.5	7.8	2.6	5.6	13.3	1.8	U
Barium	62.3	27.2	120.0	107.0	74.5	174.0	73.9	37.4	378.0	63.7	100.0
Beryllium	1.0	0.5	1.1	1.0	0.8	.63	0.7	0.5	0.6	9.2	1.4
Cadmium	U	U	U	U	U	U	U	U	U	U	U
Calcium	1,380.0	949.0	2,710.0	4,160.0	20,500.0	2,450.0	19,500.0	18,800.0	18,000.0	3,460.0	13,200.0
Chromium	8.4	10.6	14.5	6.3	21.0	9.8	21.1	14.2	17.1	52.3	14.5
Cobalt	9.6	U	U	8.9	U	U	U	U	7.7	38.3	9.2
Copper	175.0	20.9	142.0	83.6	131.0	33.9	77.3	40.1	39.1	582.0	78.3
Iron	20,600.0	9,750.0	22,800.0	17,400.0	15,600.0	10,300.0	12,000.0	8,140.0	10,900.0	29,100.0	9,960.0
Lead	567.0	33.9	288.0	120.0	204.0	48.3	132.0	50.2	277.0	543.0	136.0
Magnesium	719.0	2,120.0	1,270.0	1,160.0	10,100.0	2,520.0	6,150.0	7,860.0	5,180.0	3,460.0	3,370.0
Manganese	291.0	114.0	132.3	331.0	229.0	226.0	224.0	295.0	182.0	292.0	289.0
Mercury	0.2	0.1	0.1	U	0.2	0.1	0.2	0.2	0.3	0.1	0.1
Nickel	20.0	17.8	15.8	18.9	15.3	16.5	14.6	14.2	15.3	84.6	24.4
Potassium	U	U	U	U	U	U	1,060.0	U	2,850.0	1,730.0	1,090.0
Selenium	U	U	U	U	U	U	U	U	U	U	U
Silver	1.3	U	U	U	1.5	U	U	U	U	1.2	0.6
Sodium	U	U	U	U	U	U	U	U	U	U	U
Thallium	U	U	U	U	U	U	U	U	U	U	U
Vanadium	11.3	11.6	28.6	13.7	96.0	14.9	34.3	14.7	31.7	34.4	21.0
Zinc	312.0	196.0	44.8	59.0	141.0	236.0	148.0	175.0	309.0	3,850.0	474.0

U= Unidentified

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM

(Parts per Million)

Metals

	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)	B/MW -50 (4-6)
Aluminum	5,420.0	5,760.0	6,270.0	5,810.0	7,990.0	4,710.0	7,540.0	2,170.0	9,380.0	12,600.0	19,300.0
Antimony	U	U	U	U	U	U	U	U	U	U	U
Arsenic	U	4.0	4.5	1.4	1.5	2.8	14.6	16.7	5.6	24.8	2.9
Barium	67.4	132.0	294.0	204.0	116.0	129.0	83.3	241.0	46.3	133.0	77.9
Beryllium	0.7	U	U	U	U	U	U	U	U	U	U
Cadmium	U	U	U	U	U	U	U	U	U	U	U
Calcium	7,130.0	18,200.0	14,200.0	9,890.0	4,730.0	56,600.0	11,700.0	16,500.0	3,100.0	19,000.0	2,650.0
Chromium	15.1	20.5	22.8	17.1	19.7	14.1	14.8	8.8	22.4	26.9	25.6
Cobalt	5.8	9.5	5.1	7.6	7.6	5.4	6.0	5.0	6.3	9.8	9.8
Copper	36.1	55.8	60.5	46.3	63.5	182.0	168.0	122.0	120.0	138.0	117.0
Iron	8,140.0	18,500.0	49,200.0	18,900.0	19,200.0	21,800.0	15,400.0	39,600.0	26,900.0	34,100.0	30,400.0
Lead	74.7	125.0	346.0	177.0	105.0	136.0	216.0	445.0	39.8	188.0	39.7
Magnesium	3,350.0	8,610.0	3,610.0	3,180.0	2,650.0	5,250.0	2,280.0	5,030.0	4,210.0	4,160.0	4,070.0
Manganese	214.0	246.0	575.0	213.0	290.0	365.0	159.0	206.0	181.0	330.0	250.0
Mercury	0.1	0.2	0.5	0.3	0.3	1.2	0.6	3.4	0.4	2.0	U
Nickel	20.9	23.7	27.6	19.5	25.5	22.0	23.9	24.0	17.9	34.7	28.1
Potassium	1,600.0	810.0	737.0	2,180.0	1,570.0	874.0	756.0	U	2,790.0	902.0	2,020.0
Selenium	U	U	U	U	U	U	U	U	U	U	U
Silver	U	U	U	U	U	U	U	U	U	U	U
Sodium	U	315.0	452.0	288.0	443.0	337.0	1,410.0	190.0	1,880.0	296.0	307.0
Thallium	U	U	U	U	U	U	U	U	U	U	U
Vanadium	18.4	25.1	27.2	21.4	22.5	34.1	32.8	15.5	25.3	46.3	33.5
Zinc	211.0	194.0	361.0	365.0	235.0	787.0	460.0	858.0	615.0	538.0	1,010.0

	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)
Aluminum	1,560.0	9,260.0	1,500.0	10,700.0	10,100.0	16,800.0	15,200.0	10,600.0	11,800.0	5,560.0	3,570.0
Antimony	U	U	U	U	U	U	U	U	U	U	U
Arsenic	4.1	10.5	8.2	10.4	3.5 (B)	4.0	33.0	5.0	5.8	2.5	9.2
Barium	57.3	164.0	889.0	200.0	61.6 (B)	530.0	71.4 (B)	210.0	256.0	60.6	75.3
Beryllium	U	U	U	U	U	U	U	U	U	2.4	U
Cadmium	U	U	U	U	U	U	U	U	U	U	U
Calcium	2,940.0	16,600.0	10,000.0	78,900.0	4,360.0	69,200.0	1,840.0	18,900.0	49,400.0	40,400.0	13,600.0
Chromium	27.3	54.6	49.4	27.9	24.9	32.9	25.1	84.4	169.0	16.5	18.3
Cobalt	10.6	9.7 B	20.1 (B)	6.9 (B)	9.3 (B)	7.1 (B)	15.3 (B)	10.5 (B)	8.2B	6.5	10.4
Copper	402.0	84.4	960.0	117.0	87.8	122.0	223.0	121.0	86.8	98.3	422.0
Iron	39,000.0	21,100.0	64,300.0	18,000.0	26,200.0	12,300.0	29,400.0	25,200.0	18,700.0	10,800.0	50,300.0
Lead	66.7	181.0	2,750.0	762.0	68.8	464.0	146.0	226.0	770.0	64.0	448.0
Magnesium	5,280.0	11,100.0	2,790.0	9,230.0	3,460.0	17,800.0	4,880.0	8,500.0	11,700.0	3,920.0	960.0
Manganese	467.0	598.0	108,000.0	2,190.0	609.0	1,360.0	842.0	446.0	437.0	153.0	193.0
Mercury	U	4.3	U	1.1	U	2.4	U	0.4	0.7	0.1	1.2
Nickel	40.4	69.9	25.8	21.5	16.2	22.6	37.0	31.5	24.9	80.5	87.5
Potassium	2,900.0	1,230 B	1,710 (B)	1,340 (B)	1,040 (B)	1,910 (B)	1,830 (B)	2,550.0	1,620 (B)	369.0	417.0
Selenium	U	U	U	U	U	U	U	U	U	U	U
Silver	U	U	10.2	5.1	U	U	U	U	U	U	U
Sodium	678.0	220 B	341 B	509 (B)	138 (B)	789 (B)	172 (B)	285.0(B)	988 (B)	541.0	436.0
Thallium	U	U	U	U	U	U	U	U	U	U	U
Vanadium	38.4	52.3	60.9	45.9	27.9	68.0	30.9	54.7	49.4	227.0	26.4
Zinc	1,640.0	380.0	688.0	629.0	341.0	507.0	1,150.0	404.0	620.0	312.0	1,090.0

U= Unidentified

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM

Semivolatiles

(parts per million; ppm)

	B-34 (0-2)	B-34 (4-6)	B/MW -36 (0-2)	B/MW -36 (2-4)	B/MW -36 (Grab)	B/MW -38 (0-2)	B/MW -38 (2-4)	B-39 (0-2)	B-39 (2-4)
Naphthalene	U	U	U	U	391.0	U	1.6	U	U
2-Methylnaphthalene	U	U	U	U	138.0	U	1.9	U	U
Acenaphthlyene	U	3.2	U	U	35.5	U	U	U	U
Acenaphthene	0.4	U	U	9.0	213.0	U	0.6	U	U
Fluorene	0.5	U	U	8.2	235.0	U	0.7	U	U
Phenanthrene	3.6	11.8	7.7	44.7	966.0	3.0	5.0	2.6	12.0
Anthracene	1.3	4.5	2.0	15.7	582.0	0.9	1.3	U	3.1
Fluoranthrene	4.7	14.1	6.7	52.8	995.0	5.6	6.0	2.4	15.0
Pyrene	5.8	16.9	8.3	39.5	1,100.0	4.9	7.0	2.4	14.0
Benzo(a)Anthracene	3.6	18.4	4.3	24.3	696.0	2.9	4.2	U	6.5
Chrysene	2.8	13.8	3.8	22.7	618.0	2.7	4.2	U	6.4
Benzo(b)Fluoranthene	2.6	22.3	2.8	19.8	420.0	2.2	3.3	U	5.6
Benzo(k)Fluoranthene	1.7	10.3	2.4	12.0	242.0	2.0	3.5	U	3.1
Benzo(a)Pyrene	2.3	24.2	3.1	18.5	455.0	2.6	3.7	U	5.0
Indeno (1,2,3-cd)Pyrene	1.6	23.2	2.3	10.5	208.0	1.6	2.4	U	2.4
Dibenz(a,h)Anthracene	0.9	12.7	U	6.8	138.0	0.8	1.3	U	U
Benzo(g,h,i)Perylene	2.1	22.8	2.6	10.5	232.0	1.6	2.6	U	2.5
PaB-eqivalent	4.0	43.4	4.1	30.9	728.4	4.1	5.9	0.0	6.5

U=Undetected

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM

Semivolatiles

(parts per million; ppm)

	B/MW -40 (0-2)	B/MW -40 (2-4)	B-41 (-0-2)	B-41 (2-4)	B/MW -42 (0-2)	B/MW -42 (2-4)	B-43 (0-2)	B-43 (2-4)	B-44 (0-2)
Naphthalene	0.5	1.6	0.5	U	1.3	1.5	0.6	2.6	U
2-Methylnaphthalene	0.5	0.6	U	U	1.2	0.7	U	1.1	U
Acenaphthlyene	U	U	U	U	U	U	U	U	U
Acenaphthene	U	1.2	0.6	0.7	U	0.7	0.6	1.4	U
Fluorene	U	1.4	0.6	0.8	U	0.7	0.5	1.5	U
Phenanthrene	3.6	12.0	5.5	4.6	3.3	6.0	2.9	3.6	U
Anthracene	0.7	3.1	1.3	1.5	4.4	1.8	0.8	1.2	U
Fluoranthrene	3.1	15.2	5.9	4.2	4.4	9.1	5.7	2.5	10.0
Pyrene	3.3	12.0	5.9	3.4	3.6	13.0	4.8	1.6	9.0
Benzo(a)Anthracene	1.8	5.9	2.8	1.7	2.2	5.9	2.2	0.5	5.6
Chrysene	1.7	4.6	2.7	1.5	3.0	5.9	2.4	0.5	4.5
Benzo(b)Fluoranthene	1.1	3.3	2.2	1.3	2.9	4.2	1.6	U	4.6
Benzo(k)Fluoranthene	0.7	2.4	1.5	0.7	1.5	3.0	1.3	U	4.1
Benzo(a)Pyrene	10.0	3.3	2.3	1.2	1.8	5.1	1.6	U	4.1
Indeno (1,2,3-cd)Pyrene	0.7	2.3	1.0	0.5	1.2	2.5	0.8	U	U
Dibenz(a,h)Anthracene	0.4	1.2	0.4	U	0.6	1.4	U	U	U
Benzo(g,h,i)Perylene	0.9	2.3	1.0	0.5	1.1	2.8	0.8	U	U
PaB-eqivalent	10.8	5.7	3.4	1.6	3.0	7.8	2.1	0.1	5.2

U=Undetected

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM

Semivolatiles

(parts per million; ppm)

	B-44 (2-4)	B-45 (0-2)	B-45 (2-4)	S-1 (0-2)	S-2 (0-2)	B-46 (0-2)	B-46 (2-4)	B-47 (0-2)	B-47 (2-4)
Naphthalene	U	U	0.7	U	U	1.1 J	1.5	0.2 J	U
2-Methylnaphthalene	U	U	0.4	U	U	3.2	0.9 J	0.1 J	U
Acenaphthlyene	U	U	U	U	U	U	1.0 J	0.2 J	U
Acenaphthene	U	U	0.5	U	U	2.0	2.8	0.3 J	U
Fluorene	U	U	0.6	U	U	2.5	2.4	0.3 J	0.1 J
Phenanthrene	U	1.3	4.0	1.0	U	11.0	22.0	3.3	1.3
Anthracene	U	U	1.1	U	U	3.1	5.5	0.9 J	0.3
Fluoranthrene	U	1.4	4.6	1.6	1.1	8.3	22.0	4.5	1.5
Pyrene	U	1.7	4.4	1.6	1.1	6.8	18.0	3.8	1.2
Benzo(a)Anthracene	U	0.8	3.1	0.8	0.8	4.2	11.0	2.1	0.6 J
Chrysene	U	0.7	2.4	0.8	0.8	5.1	14.0	2.5	0.8
Benzo(b)Fluoranthene	U	0.7	2.0	0.8	0.6	4.6	14.0	3.2	0.8
Benzo(k)Fluoranthene	U	0.5	2.3	0.6	0.5	2.0	3.8	U	0.3 J
Benzo(a)Pyrene	U	0.7	1.9	0.8	0.7	4.0	10.0	2.2	0.6 J
Indeno (1,2,3-cd)Pyrene	U	0.6	1.7	0.4	U	2.6	7.3	1.4	0.4 J
Dibenz(a,h)Anthracene	U	U	0.9	U	U	0.8 J	1.9	0.4 J	0.1 J
Benzo(g,h,i)Perylene	U	0.7	1.9	0.5	0.4	2.6	6.9	1.4	0.4 J
PaB-eqivalent	0.0	0.9	3.5	1.0	0.8	5.9	15.2	3.3	0.9

U=Undetected

J=Estimated Value

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM

Semivolatiles

(parts per million; ppm)

	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)		B/MW -51 (0-2)		B/MW -51 (6-8)	
Naphthalene	0.1	J	0.1	J	0.2	J		U	1.3	J	5.3		220.0	D		U		U
2-Methylnaphthalene	0.1	J	0.1	J	0.2	J		U	0.9	J	4.9		99.0	D		U		U
Acenaphthlyene	0.1	J	0.1	J	0.7	J		U	1.4	J	0.4	J		U		U		U
Acenaphthene	0.2	J	0.2	J	0.2	J		U	4.0		17.0		170.0		0.3	J		U
Fluorene	0.2	J	0.1	J	0.2	J		U	3.6	J	13.0		130.0	D	0.3	J		U
Phenanthrene	1.7		2.1		4.3		0.2	J	35.0		46.0		350.0	D	5.4		0.3	J
Anthracene	0.6	J	0.5	J	1.4	J	0.1	J	10.0		15.0		52.0	D	1.1	J	0.0	J
Fluoranthrene	2.5		2.7		7.7		0.3	J	39.0		24.0		120.0	D	7.5		0.2	J
Pyrene	2.3		2.8		8.5		0.2	J	45.0		24.0		85.0	D	6.4		0.2	J
Benzo(a)Anthracene	1.3		1.3		4.9		0.2	J	23.0		12.0		15.0	JD	4.6		0.2	J
Chrysene	1.6		1.7		6.1		0.3	J	29.0		13.0		15.0	JD	5.7			U
Benzo(b)Fluoranthene	1.5		2.3		5.9		0.9		30.0		13.0		5.9	JD	5.1		0.2	J
Benzo(k)Fluoranthene	0.5	J		U	2.6			U	6.1		1.8	J		U	3.1		0.2	J
Benzo(a)Pyrene	1.3		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	0.9	J	3.4		0.4	J	11.0		3.7			U	3.4		0.2	J
Dibenz(a,h)Anthracene	0.3	J	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	0.9	J	1.1	J	3.6		0.5		12.0		4.0			U	3.6		0.1	J
PaB-eqivalent	2.0		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

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

Volatile Organics

(parts per million; ppm)

	B-41 (0-2)	B-41 (2-4)	B/MW-42 (0-2)	B/MW-42 (2-4)	B-43 (0-2)	B-43 (2-4)	B-44 (0-2)	B-44 (2-4)	B-45 (0-2)	B-45 (2-4)	S-1 (0-2)	S-2 (0-2)
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	.013	.010	U	U	.020	U	.043	.014	U	.015	U	U
Acetone	U	U	U	U	.073	U	U	U	U	U	U	U
Carbon Disulfide	U	U	U	U	.010	U	.012	U	U	U	U	U
1,1-Dichloroethene	U	U	U	U	.0093	U	.010	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	.0083	U	.0068	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	U	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	11	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	U	U	U	U	U	U	U	U	U
Benzene	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
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	U	U	U	U	U	U	U	U	U	U
Toluene	U	U	U	.0078	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	.0068	U	U	U	U	U	U
Styrene	U	U	U	U	U	U	U	U	U	U	U	U
m-Xylene	U	U	U	U	U	.029	U	U	U	U	U	U
o,p-Xylene	U	U	U	U	U	.034	U	U	U	U	U	U
Total dichlorobenzene	U	U	U	U	U	U	U	U	U	U	U	U

U = Not Detected

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM

Volatile Organics
(parts per million; ppm)

	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)
Chloromethane	U	U	U	U	U	U	U	U	U	U
Bromomethane	U	U	U	U	U	U	U	U	U	U
Vinyl Chloride	U	U	U	U	U	U	U	U	U	U
Chloroethane	U	U	U	U	U	U	U	U	U	U
Methylene Chloride	U	U	U	U	U	U	U	U	U	U
Acetone	U	U	U	U	U	U	U	U	U	U
Carbon Disulfide	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethene	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U	U	U	U	U	U
Trans-1,2-dichloroethene	U	U	U	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethene (total)	U	U	U	U	U	U	U	U	U	U
2-Butanone	U	U	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	U	U	U	U	U	U	U	U	U	U
Carbon Tetrachloride	U	U	U	U	U	U	U	U	U	U
Vinyl Acetate	U	U	U	U	U	U	U	U	U	U
Bromodichloromethane	U	U	U	U	U	U	U	U	U	U
1,2-Dichloropropene	U	U	U	U	U	U	U	U	U	U
cis-1,3-dichloropropene	U	U	U	U	U	U	U	U	U	U
Trichloroethene	U	U	U	U	U	U	U	U	U	U
Benzene	U	U	U	U	U	U	U	U	U	.007
Dibromochloromethane	U	U	U	U	U	U	U	U	U	U
trans-1,3-Dichloropropene	U	U	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U	U	U
Bromoform	U	U	U	U	U	U	U	U	U	U
4-Methyl-2-pentanone	U	U	U	U	U	U	U	U	U	U
2-Hexanone	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
Tetrachloroethene	U	U	U	U	U	U	U	U	U	U
Toluene	U	U	U	U	U	U	U	U	U	.016
Chlorobenzene	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	U	U	U	U	U	U	U	U	U	.004 J
Styrene	U	U	U	U	U	U	U	U	U	U
Total Xylenes	U	U	U	U	U	U	U	U	U	.024

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

SOIL ANALYSIS DATA -1989 SAMPLING PROGRAM

Volatile Organics

(parts per million; ppm)

	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
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	.018 BJ	.040	U	U	.008 B	U	.006 B	.007 B	U	U
Acetone	U	U	U	U	U	.024	U	U	U	.019	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	.002 J	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	.016	U	U	U	U	U	U	U	U
Benzene	.021 J	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	.60	.210	.014	U	.005 J	U	U	.011	U	U
Toluene	.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
Ethylbenzene	.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
Total Xylenes	.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

PCBs /Total Petroleum Hydrocarbons

(Parts per million; ppm)

PCBs:

	B-34 (0-2)	B-34 (4-6)	B/MW-36 (0-2)	B/MW-36 (2-4)	B/MW-36 Grab	B/MW-38 (0-2)	B/MW-38 (2-4)	B-39 (0-2)	B-39 (2-4)	B/MW-40 (0-2)	B/MW-40 (2-4)
Aroclor-1016	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1221	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1232	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1242	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1248	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1254	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1260	U	U	U	U	U	U	U	4.2	U	U	U

PCBs:

	B-41 (0-2)	B-41 (2-4)	B/MW-42 (0-2)	B/MW-42 (2-4)	B-43 (0-2)	B-43 (2-4)	B-44 (0-2)	B-44 (2-4)	B-45 (0-2)	B-45 (2-4)	S-1 (0-2)
Aroclor-1016	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1221	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1232	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1242	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1248	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1254	U	U	U	U	U	U	U	U	U	.490	U
Aroclor-1260	U	U	U	U	U	U	U	U	U	U	U

PCBs:

	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
Aroclor-1221	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1232	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1242	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1248	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1254	U	U	U	U	U	U	U	U	U	U	U
Aroclor-1260	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

METALS

(parts per billion; ppb)

	NYS DEC Standard	NYS DEC Guidance Value	B/MW-36		B/MW-38	
			Total	Dissolved	Total	Dissolved
Aluminum			7140.0	368.0	46300.0	1,350.0
Antimony		3	U	U	U	U
Arsenic	25		17.5	U	127.0	12.2
Barium	1,000		515.0	89.0	1430.0	568.0
Beryllium		3	U	U	9.0	U
Cadmium	10		U	U	U	4.1
Calcium			68,600.0	59,800.0	296,000.0	249,000.0
Chromium	50		15.0	U	108.0	U
Cobalt			U	U	84.0	U
Copper	200		250.0	U	1,710.0	U
Iron	300		46,700.0	219.0	14,200.0	703.0
Lead	25		659.0	7.8	5290.0	38.3
Magnesium		35,000	20,700.0	16,700.0	161,000.0	160,000.0
Manganese	300		8,150.0	7,130.0	4,380.0	3,000.0
Mercury	2		0.5	U	17.5	U
Nickel			U	U	117.0	U
Potassium			14,600.0	14,300.0	51,700.0	47,500.0
Selenium	10		U	U	U	U
Silver	50		U	U	U	U
Sodium	20,000		40,000.0	31,600.0	1,070,000	1,080,000
Thallium		4	U	U	U	U
Vanadium			U	U	359.0	139.0
Zinc	300		584.0	72.0	5,610.0	212.0

U=Undetected

GROUNDWATER ANALYSIS DATA -1989 SAMPLING PROGRAM

METALS

(parts per billion; ppb)

	NYS DEC Standard	NYS DEC Guidance Value	B/MW-40		B/MW-42	
			Total	Dissolved	Total	Dissolved
Aluminum			18,700.0	1,320.0	15,500.0	1,910.0
Antimony		3	U	U	U	U
Arsenic	25		10.6	U	20.9	U
Barium	1,000		288.0	138.0	212.0	U
Beryllium		3	U	1.0	U	U
Cadmium	10		5.2	7.8	U	U
Calcium			280,000.0	260,000.0	453,000.0	442,000.0
Chromium	50		35.0	U	U	U
Cobalt			58.0	50.0	U	U
Copper	200		216.0	U	242.0	U
Iron	300		43,600.0	761.0	54,400.0	947.0
Lead	25		714.0	16.2	755.0	15.3
Magnesium		35,000	126,000.0	110,000.0	414,000.0	403,000.0
Manganese	300		4,900.0	3,510.0	1,730.0	630.0
Mercury	2		U	U	1.2	U
Nickel			194.0	109.0	132.0	48.0
Potassium			10,700.0	8,330.0	19,700.0	18,300.0
Selenium	10		U	U	U	U
Silver	50		U	U	10.0	U
Sodium	20,000		17,800.0	17,700.0	50,000.0	50,700.0
Thallium		4	U	U	U	U
Vanadium			162.0	103.0	366.0	304.0
Zinc	300		2,760.0	1,420.0	891.0	203.0

U=Undetected

GROUNDWATER ANALYSIS DATA -1989 SAMPLING PROGRAM

METALS

(parts per billion; ppb)

	NYS DEC Standard	NYS DEC Guidance Value	MW-9		MW-10	
			Total	Dissolved	Total	Dissolved
Aluminum			5,250.0	8,989.0	6,020.0	1,120.0
Antimony		3	U	U	U	U
Arsenic	25		17.1	U	U	U
Barium	1,000		526.0	69.0	146.0	125.0
Beryllium		3	U	U	U	U
Cadmium	10		3.3	U	U	U
Calcium			154,000.0	129,000.0	247,000.0	199,000.0
Chromium	50		14.0	U	39.0	20.0
Cobalt			U	U	U	U
Copper	200		101.0	U	115.0	U
Iron	300		64,300.0	969.0	2,120.0	133.0
Lead	25		784.0	18.3	185.0	6.5
Magnesium		35,000	31,400.0	33,800.0	572,000.0	509,000.0
Manganese	300		1,320.0	975.0	662.0	515.0
Mercury	2		1.8	U	1.1	U
Nickel			U	U	64.0	39.0
Potassium			27,700.0	260,000.0	179,000.0	162,000.0
Selenium	10		U	U	U	U
Silver	50		U	U	10.0	8.0
Sodium	20,000		93,400.0	95,400.0	4,510,000.0	3,650,000
Thallium		4	U	U	U	U
Vanadium			55.0	U	442.0	380.0
Zinc	300		828.0	61.0	321.0	75.0

U=Undetected

GROUNDWATER ANALYSIS DATA -1989 SAMPLING PROGRAM

METALS

(parts per billion; ppb)

	NYS DEC Standard	NYS DEC Guidance Value	MW-13		MW-14	
			Total	Dissolved	Total	Dissolved
Aluminum			1,530.0	632.0	13,000.0	2,770.0
Antimony		3	U	U	U	U
Arsenic	25		U	U	7.8 B	9.3 B
Barium	1,000		437.0	108.0 B	459.0	2,610.0
Beryllium		3	U	U	U	U
Cadmium	10		U	U	U	U
Calcium			182,000.0	187,000.0	213,000.0	209,000.0
Chromium	50		6.4 B	15.8	50.3	11.2
Cobalt			U	U	35.8 B	17.8 B
Copper	200		78.1	U	463.0	U
Iron	300		1,730.0	655.0	58,100.0	35,400.0
Lead	25		187.0	36.0	48.6	12.8
Magnesium		35,000	554,000.0	561,000.0	47,700.0	41,000.0
Manganese	300		118.0	120.0	3,110.0	2,830.0
Mercury	2		3.5	1.6	0.35	U
Nickel			U	U	87.1	25.2 B
Potassium			194,000.0	198,000.0	26,600.0	21,100.0
Selenium	10		U	U	U	U
Silver	50		U	U	U	U
Sodium	20,000		4,700,000.0	4,340,000.0	49,600.0	49,500.0
Thallium		4	U	U	U	U
Vanadium			14.3 B	14.3 B	84.5	29.7 B
Zinc	300		481	105.0	2,280.0	382.0

U=Undetected

B=Below Detection Limit

GROUNDWATER ANALYSIS DATA -1989 SAMPLING PROGRAM

METALS

(parts per billion; ppb)

	NYS DEC Standard	NYS DEC Guidance Value	B/MW-50		B/MW-51	
			Total	Dissolved	Total	Dissolved
Aluminum			19,700.0	325.0	19,600.0	1,350.0
Antimony		3	U	U	U	U
Arsenic	25		12.5	U	7.6 B	U
Barium	1,000		121.0 B	U	193.0 B	244.0
Beryllium		3	U	U	U	U
Cadmium	10		U	U	U	U
Calcium			90,300.0	86,900.0	138,000.0	128,000.0
Chromium	50		46.2	6.3 B	178.0	8.4 B
Cobalt			17.3 B	U	25.1 B	U
Copper	200		105.0	17.8 B	178.0	13.3 B
Iron	300		35,000.0	1,460.0	43,200.0	6,310.0
Lead	25		36.0	U	5.1	U
Magnesium		35,000	26,800.0	20,900.0	29,600.0	22,800.0
Manganese	300		1,000.0	607.0	2,990.0	2,110.0
Mercury	2		4.6	2.2	U	U
Nickel			38.9 B	U	119.0	U
Potassium			34,100.0	32,400.0	15,900.0	13,800.0
Selenium	10		U	U	U	U
Silver	50		10.0	U	U	U
Sodium	20,000		83,700.0	97,600.0	29,700.0	27,500.00
Thallium		4	U	U	U	U
Vanadium			55.7	U	57.6	15.4 B
Zinc	300		249.0	95.5	727.0	85.6

U=Undetected

B=Below Detection Limit

GROUNDWATER ANALYSIS DATA -1989 SAMPLING PROGRAM

Semivolatiles
(parts per billion)

	NYS DEC STANDARD	NYS DEC GUIDANCE VALUES	B/MW-36	B/MW-38	B/MW-40	B/MW-42	MW-9
Naphthalene		10	62	U	U	U	U
2-Methylnaphthalene			52	U	U	U	U
Acenaphthylene			U	U	U	U	U
Acenephthene	20		71	U	U	U	U
Fluorene		50	81	U	U	U	U
Phenanthrene		50	140	14	U	13	U
Anthracene		50	71	U	U	U	U
Fluoranthrene		50	150	24	U	37	U
Pyrene		50	150	14	U	29	U
Benzo(a)Anthracene		0.07	86	11	U	16	U
Chrysene		0.002	80	10	U	17	U
Benzo (b) Fluoranthene		0.002	55	13	U	10	U
Benzo(k)Fluoranthene		0.002	46	12	U	10	U
Benzo(a)Pyrene			61	16	U	11	U
Indeno(1,2,3-cd)Pyrene		0.002	26	11	U	U	U
Dibenz(a,h)Anthracene			20	U	U	U	U
Benzo(g,h,i)Perylene			21	11	U	U	U

U = Unidentified

	NYS DEC STANDARD	NYS DEC GUIDANCE VALUES	MW-10	MW-13	MW-14	B/MW-50	B/MW-51
Naphthalene		10	U	3	U	1200	U
2-Methylnaphthalene			U	U	4	370	U
Acenaphthylene			U	U	U	U	U
Acenephthene	20		U	U	18	450	U
Fluorene		50	U	U	10	340	U
Phenanthrene		50	U	U	U	370	U
Anthracene		50	U	U	U	37	U
Fluoranthrene		50	U	2	U	70	U
Pyrene		50	U	3	U	32	U
Benzo(a)Anthracene		0.07	U	U	U	U	U
Chrysene		0.002	U	U	U	U	U
Benzo (b) Fluoranthene		0.002	U	U	U	U	U
Benzo(k)Fluoranthene		0.002	U	U	U	U	U
Benzo(a)Pyrene			U	U	U	U	U
Indeno(1,2,3-cd)Pyrene		0.002	U	U	U	U	U
Dibenz(a,h)Anthracene			U	U	U	U	U
Benzo(g,h,i)Perylene			U	U	U	U	U

U = Unidentified

GROUNDWATER ANALYSIS DATA -1989 SAMPLING PROGRAM

Volatile Organics
(parts per billion; ppb)

	NYS DEC STANDARD	NYS DEC GUIDANCE VALUES	B/MW-36	MW-B38	B/MW-40	B/MW-42	MW-9
Chloromethane			U	U	U	U	U
Bromomethane	5		U	U	U	U	U
Vinyl Chloride	2		U	U	U	U	U
Chloroethane	5		U	U	U	U	U
Methylene Chloride	5		U	U	U	U	U
Acetone		50	U	U	U	U	U
Carbon Disulfide			U	U	U	U	U
1,1-Dichloroethene	5		U	U	U	U	U
1,1-Dichloroethane	5		U	U	U	U	U
Trans-1,2-dichloroethene			U	U	U	U	U
Chloroform	7		U	U	U	U	U
1,2-Dichloroethane	5		U	U	U	U	U
2-Butanone			U	U	U	U	U
1,1,1-Trichloroethane	5		U	U	U	U	U
Carbon Tetrachloride	5		U	U	U	U	U
Vinyl acetate			U	U	U	U	U
Bromodichloromethane		50	U	U	U	U	U
1,2-Dichloropropane	5		U	U	U	U	U
cis-1,3-Dichloropropene			U	U	U	U	U
Trichloroethene	5		11	U	U	U	U
Benzene	.7		1.4	6.5	U	U	U
Dibromochloromethane		50	U	U	U	U	U
Trans-1,3-Dichloropropene			U	U	U	U	U
1,1,2-Trichloroethane	5		U	U	U	U	U
Bromoform		50	U	U	U	U	U
4-Methyl-2-pentanone			U	U	U	U	U
2-Hexanone		50	4.2	U	U	U	U
1,1,2,2-Tetrachloroeth	5		U	U	U	U	U
Tetrachloroethene	5		U	U	U	U	U
Toluene	5		24	24	U	U	U
Chlorobenzene		5	U	U	U	U	U
Ethylbenzene	5		3.2	10	U	U	U
Styrene	5		U	U	U	U	U
m-Xylene	5		6.7	U	U	U	U
o,p-Xylene	5		2.8	U	U	U	U
Total dichlorobenze			U	U	U	U	U

U = Not Detected

GROUNDWATER ANALYSIS DATA -1989 SAMPLING PROGRAM

Volatile Organics
(parts per billion; ppb)

	NYS DEC STANDARD	NYS DEC GUIDANCE VALUES	MW-10	MW-13	MW-14	B/MW-50	B/MW-51
Chloromethane			U	U	U	U	U
Bromomethane	5		U	U	U	U	U
Vinyl Chloride	2		U	U	U	U	U
Chloroethane	5		U	U	U	U	U
Methylene Chloride	5		U	7 B	U	46	81
Acetone		50	U	U	U	71	U
Carbon Disulfide			U	U	U	U	U
1,1-Dichloroethene	5		U	U	U	U	U
1,1-Dichloroethane	5		U	U	U	U	U
'1,2-Dichloroethene (total)			U	U	U	U	140
Chloroform	7		U	U	U	U	U
1,2-Dichloroethane	5		U	U	U	U	U
2-Butanone			U	U	U	U	U
1,1,1-Trichloroethane	5		U	U	U	U	U
Carbon Tetrachloride	5		U	U	U	U	U
Vinyl acetate			U	U	U	U	U
Bromodichloromethane		50	U	U	U	U	U
1,2-Dichloropropane	5		U	U	U	U	U
cis-1,3-Dichloropropene			U	U	U	U	U
Trichloroethene	5		U	U	U	U	95
Dibromochloromethane		50	U	U	U	U	U
1,1,2-Trichloroethane	5		U	U	U	U	U
Benzene	.7		U	U	6	390	U
Trans-1,3-Dichloropropene			U	U	U	U	U
Bromoform		50	U	U	U	U	U
4-Methyl-2-pentanone			U	U	U	U	U
2-Hexanone		50	U	U	U	U	U
Tetrachloroethene	5		U	U	U	U	400
1,1,2,2-Tetrachloroeth	5		U	U	U	U	U
Toluene	5		U	U	U	110	U
Chlorobenzene		5	U	U	U	U	U
Ethylbenzene	5		U	U	U	77	U
Styrene	5		U	U	U	U	U
Total Xylenes	5		U	U	U	720	U
			U				
U = Not Detected			U				
B=Detected in Method Blank							

SOIL ANALYSIS DATA -1994 SAMPLING PROGRAM

Semivolatiles

(parts per million; ppm)

	B1A-I (8-10)	B3A-I (2-4)	B3A-I (8-10)	B5A-I (2-4)	B8A-I (6-8)	B9A-I (8-10)	B11A-I (8-10)	B14A-I (10-12)	B17A-I (8-10)	B19A-I (8-10)
N-Nitrosodimethylamine	U	U	U	U	U	U	U	U	U	U
bis(2-Chloroethyl)Ether	U	U	U	U	U	U	U	U	U	U
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	U	U
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	U	U
bis(2-Chloroisopropyl)ether	U	U	U	U	U	U	U	U	U	U
N-Nitroso-Di-n-Propylamine	U	U	U	U	U	U	U	U	U	U
Hexachloroethane	U	U	U	U	U	U	U	U	U	U
Nitrobenzene	U	U	U	U	U	U	U	U	U	U
Isophorone	U	U	U	U	U	U	U	U	U	U
bis(-2-Chloroethoxy)Methane	U	U	U	U	U	U	U	U	U	U
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	U	U
Naphthalene	0.72 J	780.00	5.50	U	U	U	U	U	U	U
Hexachlorobutadiene	U	U	U	U	U	U	U	U	U	U
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	U	U	U
2-Chloronaphthalene	U	U	U	U	U	U	U	U	U	U
Dimethylphthalate	U	U	U	U	U	U	U	U	U	U
Acenaphthlyene	0.52 J	200.00	4.50	0.53 J	U	U	U	U	U	U
2,6-Dinitrotoluene	U	U	U	U	U	U	U	U	U	U
Acenaphthene	2.10	U	U	U	U	.5 J	U	U	U	U
2,4-Dinitrotoluene	U	U	U	U	U	U	U	U	U	U
Diethylphthalate	U	U	U	U	U	U	U	U	U	U
4-Chlorophenyl-phenyether	U	U	U	U	U	U	U	U	U	U
Fluorene	2.20	200.00	4.80	0.49 J	U	0.38 J	U	U	U	U
N-Nitrosodiphenylamine		U	U	U	U	U	U	U	U	U
1,2-Diphenylhydrazine (Azobenzene)	U	U	U	U	U	U	U	U	U	U
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	U	U	U

U= Undetected
J = Below Method Detection Limit

SOIL ANALYSIS DATA -1994 SAMPLING PROGRAM

Semivolatiles

(parts per million; ppm)

	B1A-1 (8-10)	B-3A-I (2-4)	B-3A-I (8-10)	B-5A-I (2-4)	B-8-I (6-8)	B-9A-I 8-10)	B-11A-I (8-10)	B-14A-I (10-12)	B-17A-I (8-10)	B19A-I (8-10)
Hexachlorobenzene	U	U	U	U	U	U	U	U	U	U
Phenanthrene	12.00	700.00	19.00	5.10	0.37 J	2.30	10.00 J	5.30 J	4.30 J	11.00
Anthracene	4.80	270.00	6.20	1.50	U	0.69 J	3.10 J	1.50 J	U	0.30 J
Di-n-butylphthalate	U	U	0.69 J	U	U	U	U	U	U	U
Fluoranthene	20.00	520.00	13.00	6.80	1.40	3.20	12.00 J	5.50 J	5.60 J	1.40
Benzidine	U	U	U	U	U	U	U	U	U	U
Pyrene	20.00	420.00	11.00	5.80	1.20	2.00	14.00	3.50 J	3.80 J	1.40
Butylbenzylphthalate	U	U	U	U	U	0.99 J	14.00	U	U	U
3,3-Dichlorobenzidene	U	U	U	U	U	U	U	U	U	U
Benzo(a)anthracene	11.00	U	5.40	3.10	0.71 J	1.40	6.50 J	2.50 J	U	0.72 J
Chrysene	11.00	190.00	5.10	3.00	0.74 J	1.30	7.00 J	2.50 J	U	0.78 J
bis(2-Ethylhexyl)phthalate	U	U	0.58 J	U	U	24.00	11.00	8.90	U	U
Di-n-octylphthalate	U	U	U	U	U	4.70	26.00	U	U	U
Benzo(b)fluoranthene	29.00	270.00	9.00	4.90	1.60	2.50	15.00	6.30	3.00 J	1.90
Benzo(k)fluoranthene	U	U	U	U	0.38 J	0.51 J	U	1.70 J	U	U
Benzo(a)pyrene	19.00	280.00	7.40	4.10	1.20	1.40	11.00	4.80 J	4.00 J	1.10
Indeno(1,2,3-cd)pyrene	4.70	94.00	2.20	9.10 J	0.43 J	0.40 J	3.40 J	2.30 J	U	0.34 J
Dibenz(a,h)anthracene	2.40	38.00 J	0.83 J	0.47 J	0.19 J	U	U	U	U	U
benzo(g,h,i)perylene	4.90	79.00	1.70	0.90 J	0.40 J	U	U	U	U	0.39 J
2-Chlorophenol	U	U	U	U	U	U	U	U	U	U
2-Nitrophenol	U	U	U	U	U	U	U	U	U	U
Phenol	U	160.00	U	U	U	U	U	U	U	U
2,4-Dimethylphenol	U	50.00 J	U	U	U	U	U	U	U	U
2,4- Dichlorophenol	U	U	U	U	U	U	U	U	U	U
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	U	U	U
Pentachlorophenol	U	U	U	U	U	U	U	U	U	U
2,4-Dinitrophenol	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
4-Nitrophenol	U	U	U	U	U	U	U	U	U	U
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	U	U	U
Total Non-Target Compounds	80.90	2917.00	53.33	20.04	191.54	89.00	4348.00	346.90	831.00	7.60
PaB-eqivalent	25.88	354.59	9.90	6.28	1.67	1.84	13.50	5.93	4.30	1.40

U= Undetected

J = Below Method Detection Limit

SOIL ANALYSIS DATA -1994 SAMPLING PROGRAM

Semivolatiles

(parts per million; ppm)

	20A-I (8-10)	B23A-I (8-10)	FB	QW-P-02	QW-P-03	QW-P-04	QW-P-05	QW-P-06	FB
N-Nitrosodimethylamine	U	U	U	U	U	U	U	U	U
bis(2-Chloroethyl)Ether	U	U	U	U	U	U	U	U	U
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	U
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	U
bis(2-Chloroisopropyl)ether	U	U	U	U	U	U	U	U	U
N-Nitroso-Di-n-Propylamine	U	U	U	U	U	U	U	U	U
Hexachloroethane	U	U	U	U	U	U	U	U	U
Nitrobenzene	U	U	U	U	U	U	U	U	U
Isophorone	U	U	U	U	U	U	U	U	U
bis(-2-Chloroethoxy)Methane	U	U	U	U	U	U	U	U	U
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	U
Naphthalene	0.35 J	210.00	U	U	0.68 J	5.40	7.40	0.39 J	U
Hexachlorobutadiene	U	U	U	U	U	U	U	U	U
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	U	U
2-Chloronaphthalene	U	U	U	U	U	U	U	U	U
Dimethylphthalate	U	U	U	U	U	U	U	U	U
Acenaphthlyene	U	U	U	U	U	0.37 J	U	0.32 J	U
2,6-Dinitrotoluene	U	U	U	U	U	U	U	U	U
Acenaphthene	2.80	300.00	U	U	2.70	5.90	22.00	1.50	U
2,4-Dinitrotoluene	U	U	U	U	U	U	U	U	U
Diethylphthalate	U	U	U	U	U	U	U	U	U
4-Chlorophenyl-phenyether	U	U	U	U	U	U	U	U	U
Fluorene	2.60	280.00	U	U	2.80	7.50	24.00	1.50	U
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	U	U
1,2-Diphenylhydrazine (Azobenzene)	U	U	U	U	U	U	U	U	U
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	U	U

U= Undetected

J = Below Method Detection Limit

SOIL ANALYSIS DATA -1994 SAMPLING PROGRAM

Semivolatiles
(parts per million; ppm)

	B20A (8-10)	B23A (8-10)	FB	QW-P-02	QW-P-03	QW-P-04	QW-P-05	QW-P-06	FB
Hexachlorobenzene	U	U	U	U	U	U	U	U	
Phenanthrene	4.70	760.00	U	0.49 J	32.00	47.00	180.00	11.00	
Anthracene	2.50	84.00	U	U	6.40	11.00	50.00	2.90	
Di-n-butylphthalate	U	U	U	U	U	U	U	U	
Fluoranthene	9.20	280.00	U	0.93	33.00	43.00	180.00	13.00	
Benzidine	U	U	U	U	U	U	U	U	
Pyrene	5.30	150.00	U	1.00	40.00	44.00	170.00	17.00	
Butylbenzylphthalate	U	U	U	U	U	U	1.00 J	1.00	
3,3-Dichlorobenzidene	U	U	U	U	U	U	U	U	
Benzo(a)anthracene	3.80	44.00	U	0.44 J	15.00	20.00	76.00	6.90	
Chrysene	3.60	50.00	U	0.52 J	17.00	20.00	74.00	7.70	
bis(2-Ethylhexyl)phthalate	U	U	U	0.59 J	1.80 J	0.79 J	2.70	3.00	
Di-n-octylphthalate	U	U	U	U	U	U	U	U	
Benzo(b)fluoranthene	7.10	39.00 J	U	0.99	30.00	37.00	160.00	14.00	
Benzo(k)fluoranthene	U	11.00 J	U	U	U	U	U	U	
Benzo(a)pyrene	4.90	37.00 J	U	0.56 J	16.00	19.00	72.00	7.20	
Indeno(1,2,3-cd)pyrene	1.60	13.00 J	U	0.20 J	4.00	4.60	18.00	2.10	
Dibenz(a,h)anthracene	0.45 J	U	U	U	15.00 J	1.90	10.00	0.73 J	
benzo(g,h,i)perylene	1.40	14.00 J	U	0.18 J	4.20	4.20	17.00	2.10	
Total Non-Target Compounds	194.10	2018.00			73.90	62	154	20.28	0
BaP-equivalent	6.60	46.76	0.00	0.72	35.92	27.08	107.474	10.24	0

U = Undetected
J = Below Method Detection Limit
FB=Field Blank

SOIL ANALYSIS DATA -1994 SAMPLING PROGRAM

Volatile Organics

(parts per million; ppm)

	B1A-I (8-10)	B3A-I (2-4)	B3A-I (8-10)	B5A-I (2-4)	B8A-I (6-8)	B9A-I (8-10)	B11A-I (8-10)	B14A-I (10-12)	B17A-I (8-10)	B19A-I 8-10)	B20A-I (8-10)	B23A-I (8-10)	FB	TB
Chloromethane	U	U	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	U	U
Vinyl Chloride	U	U	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	U	U
Methylene Chloride	U	U	.008	.005JB	.110	U	U	U	U	.008	U	U	.015	.016
Trichlorofluoromethane	U	U	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	U	U
1,1-Dichloroethane	U	U	U	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	U	U	U
Chloroform	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethane	U	U	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	U	U
Carbon Tetrachloride	U	U	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	U	U
1,2-Dichloropropane	U	U	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	U	U
2-Chloroethyl vinyl ether	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Trichloroethene	U	.006	.009	U	U	U	U	U	U	U	U	U	U	U
Dibromochloromethane	U	U	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	U	U
Benzene	U	.020	.033	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	U	U
Bromoform	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Tetrachloroethene	U	U	U	.032	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	U	U
Toluene	U	4.60	56	U	U	U	.740	U	U	U	U	U	U	U
Chlorobenzene	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	U	2.2	.026	U	U	U	.280J	U	U	U	U	.110	U	U
Total xylenes	U	9.4	.480	U	U	U	.580	1.40	U	U	U	1.0	U	U
Total Non-Target Compounds		30.5												

U = Not Detected

J = Below detection Limit

FB=Field Blank

TB=Trip Blank

SOIL ANALYSIS DATA -1994 SAMPLING PROGRAM

PCBs

(Parts per million; ppm)

	B1A-I (8-10)	B3A-I (2-4)	B3A-I (8-10)	B5A-I (2-4)	B8A-I (6-8)	B9A-I (8-10)	B11A-I (8-10)	B14A-I (10-12)	B17A-I (8-10)
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

	QW-P-02 (0-2)	QW-P-03 (0-2)	QW-P-04 (0-2)	QW-P-05 (0-2)	QW-P-06 (0-2)	B19A-I (8-10)	B20A-I (8-10)	B23A-I (8-10)	FB
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	.240	U	U	U

U=Undetected

SOIL ANALYSIS DATA -1994 SAMPLING PROGRAM
TCLP ANALYSIS
(parts per million; ppm)

	B16A-I	B23A-I	QW-P-02	QW-P-03	QW-P-04	QW-P-05	QW-P-06
VOLATILES							
Vinyl chloride	U	U	U	U	U	U	U
1, 1-Dichloroethene	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U
1, 2-Dichloroethane	U	U	U	U	U	U	U
Methyl ethyl ketone	U	U	U	U	U	U	U
Carbon tetrachloride	U	U	U	U	U	U	U
Trichloroethene	U	U	U	U	U	U	U
Benzene	U	U	U	U	U	U	U
Teterachloroethene	U	U	U	U	U	U	U
Chlorobenzene	U	U	U	U	U	U	U
SEMIVOLATILES	U	14J	U	14J	U	U	U
Pyridine	U	U	U	U	U	U	U
1, 4-Dichlorobenzene	U	U	U	U	U	U	U
Hexachloroehane	U	U	U	U	U	U	U
Nitrobenzene	U	U	U	U	U	U	U
Hexachlorobutadiene	U	U	U	U	U	U	U
2,4-Dinitrotoluene	U	U	U	U	U	U	U
Hexchlorobenzene	U	U	U	U	U	U	U
Pentachlorophenol	U	U	U	U	U	U	U
2, 4, 5-Trichlorophenol	U	U	U	U	U	U	U
2, 4, 6-Trichlorophenol	U	U	U	U	U	U	U
2-Methylphenol	U	U	U	U	U	U	U
3&4-Methylphenol	U	U	U	U	U	U	U
PEST/HERB							
Endrin	U	U	U	U	U	U	U
Lindane	U	U	U	U	U	U	U
Methoxychlor	U	U	U	U	U	U	U
Toxaphene	U	U	U	U	U	U	U
Chlordane	U	U	U	U	U	U	U
Heptachlor	U	U	U	U	U	U	U
Heptachlor epoxide	U	U	U	U	U	U	U
2, 4-D	U	U	U	U	U	U	U
2, 4, 5-TP (Silvex)	U	U	U	U	U	U	U
METALS							
Arsenic	U	U	U	U	U	U	U
Barium	0.547	0.439	0.432	0.470	0.513	0.469	0.486
Cadmium	U	U	0.005	0.011	0.007	U	U
Chromium	U	U	U	U	U	U	U
Lead	0.050	1.79	0.057	0.340	U	U	0.07
Mercury	U	U	U	U	U	U	U
Selenium	U	U	U	U	U	U	U
Silver	U	U	U	0.021	U	U	U
INORGANIC PARAMETERS							
REACTIVITY							
Cyanide	U	U					
Sulfide	U	U					
CORROSIVITY (pH)	7.18	7.65					
IGNITABILITY	***	***					

U=Undetected
J=detected
*** Sample does not exhibit the characteristics of ignitability

GROUNDWATER ANALYSIS DATA -1994 SAMPLING PROGRAM

Metals

(parts per billion; ppb)

	NYS DEC Standard	NYS DEC Guidance Value	MW-B13A Total	MW-B13A Dissolved	MW-B23A Total	MW-B23A Dissolved	FB
Antimony		3	U	U	U	U	U
Arsenic	25		346	U	55	U	U
Beryllium		3	7	U	U	U	U
Cadmium	10		8	U	U	U	U
Chromium	50		273	10	52	U	U
Copper	200		1,350	U	128	U	4,760
Lead	25		10,700	U	275	U	12
Mercury	2		106	U	U	U	U
Nickel			301	U	75	U	U
Selenium	10		U	U	U	U	U
Silver	50		U	U	U	U	U
Thallium		4	U	35	U	U	U
Zinc	300		5770	U	430	40	98

U=Undetected
FB=Field blank

GROUNDWATER ANALYSIS DATA -1994 SAMPLING PROGRAM

Volatile Organics

(parts per billion; ppb)

	NYS DEC STANDARD	NYS DEC GUIDANCE VALUES	MW-B13A	MW-B23A	FB	TB
Chloromethane			U	U	U	U
Bromomethane	5		U	U	U	U
Vinyl Chloride	5		U	U	U	U
Chloroethane	5		U	U	U	U
Methylene Chloride	5		U	U	15	20
Trichlorofluoromethane	5		U	U	U	U
1,1-Dichloroethene			U	U	U	U
1,1-Dichloroethane	5		U	U	U	U
1,2-Dichloroethene (total)			U	U	U	U
Chloroform	7		U	U	U	U
1,2-Dichloroethane	5		U	U	U	U
1,1,1-Trichloroethane	5		U	U	U	U
Carbon Tetrachloride	5		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
2-Chloroethyl vinyl ether			U	U	U	U
Trichloroethene	5		U	U	U	U
Dibromochloromethane		50	U	U	U	U
1,1,2-Trichloroethane	5		U	U	U	U
Benzene	.7		U	U	U	U
Trans-1,3-Dichloropropene			U	U	U	U
Bromoform		50	U	U	U	U
Tetrachloroethene	5		U	U	U	U
1,1,2,2-Tetrachloroethane	5		U	U	U	U
Toluene	5		U	U	U	U
Chlorobenzene		5	U	U	U	U
Ethylbenzene	5		U	10	U	U
Total xylenes	5		U	99	U	U
Total Non-Target Compounds			0	873	0	0

U = Not Detected
FB=Field Blank
TB=Trip Blank

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Target Compound List Volatile Organics (TCL-VOCs)in subsurface soils (2-4' or greater)
(parts per billion; ppb)

	B/MW-6A (6-8') 01/28/98	BMW-7A (5-7') 01/28/98	Trip Blank 01/28/98	Trip Blank 01/26/98	Field Blank
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
Methylene Chloride	U	U	16.0	U	U
Acetone	U	13	U	U	U
Carbon Disulfide	U	U	U	U	U
1,1-Dichloroethene	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U
1,2-Dichloroethene (total)	U	U	U	U	U
Chloroform	U	U	4 J	U	U
1,2-Dichloroethane	U	U	U	U	U
2-Butanone	U	U	U	U	U
1,1,1-Trichloroethane	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
Cis-1,3-dichloropropene	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-Dichloropropene	U	U	U	U	U
Bromoform	U	U	U	U	U
4-Methyl-2-Pentanone	U	U	U	U	U
2-Hexanone	U	U	U	U	U
Tetrachloroethene	2 J	U	U	.8 J	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U
Toluene	U	U	U	U	U
Chlorobenzene	U	U	U	U	U
Ethylbenzene	U	U	U	U	U
Styrene	U	U	U	U	U
Xylenes (total)	U	U	U	U	U
Total Target Compounds	**0**	**13**	**16**	**0**	**0**

U= Undetected
J = Below Method Detection Limit

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Target Compound List Semivolatiles (TCL-SVOCs), including PAHs, in shallow (0-2') and subsurface (2-4' or deeper) soils

(parts per billion; ppb)

	B-1A 0-2'		B-1A (2-4')		B-2A (0-2')		B-2A (2-4')		B-3A (0-2)		B-3A (2-4')		B-4A (0-2')		B-4A (2-4')		B-5A (0-2')		B-5A (2-4')		B/MW-6A 0-2'	
Phenol	U		U		U		U		U		U		U		U		U		U		U	
bis(2-Chloroethyl)Ether	U		U		U		U		U		U		U		U		U		U		U	
2-Chlorophenol	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	
1,4-Dichlorobenzene	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	
2-Methylphenol	U		U		U		U		U		U		U		U		U		U		U	
2,2' -oxybis (1-Chloropropane)	U		U		U		U		U		U		U		U		U		U		U	
4-Methylphenol	U		U		U		U		U		U		U		U		U		U		U	
N-Nitroso-Di-n-Propylamine	U		U		U		U		U		U		U		U		U		U		U	
Hexachloroethane	U		U		U		U		U		U		U		U		U		U		U	
Nitrobenzene	U		U		U		U		U		U		U		U		U		U		U	
Isophorone	U		U		U		U		U		U		U		U		U		U		U	
2-Nitrophenol	U		U		U		U		U		U		U		U		U		U		U	
2,4-Dimethylphenol	U		U		U		U		U		U		U		U		U		U		U	
bis(-2-Chloroethoxy)Methane	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	
1,2,4-Trichlorobenzene	U		U		U		U		U		U		U		U		U		U		U	
Naphthalene	63	J	U		3,800		740		3,100	J	U		4,800	J	420	J	U		1,200	J	19,000	
4-Chloroaniline	U		U		U		U		U		U		U		U		U		U		U	
Hexachlorobutadiene	U		U		U		U		U		U		U		U		U		U		U	
4-Chloro-3-methylphenol	U		U		3,300	J	U		U		U		U		U		U		U		U	
2-Methylnaphthalene	33	J	U		U		2,300		1,500	J	U		2,900	J	260	J	U		680	J	16,000	J
Hexachlorocyclopentadiene	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	
2,4,5-Trichlorophenol	U		U		U		U		U		U		U		U		U		U		U	
2-Chloronaphthalene	U		U		U		U		U		U		U		U		U		U		U	
2-Nitroaniline	U		U		U		U		U		U		U		U		U		U		U	
Dimethylphthalate	U		U		U		U		U		U		U		U		U		U		U	
Acenaphthlyene	26	J	U		1,100	J	330	J	580	J	U		U		120	J	U		500	J	3,600	J
2,6-Dinitrotoluene	U		U		U		U		U		U		U		U		U		U		U	
3-Nitroaniline	U		U		U		U		U		U		U		U		U		U		U	
Acenaphthene	97	J	U		1,700	J	120	J	8,400		U		16,000		820	J	1,700	J	2,100	J	14,000	J
Total PAHs	**8,952**		**590**		**88,900**		**11,270**		**332,380**		**19,090**		**700,800**		**40,950**		**104,500**		**111,400**		**708,400**	

U= Undetected

J = Below Method Detection Limit

B = Detected in the laboratory method blank

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Semivolatiles, including PAHs, in shallow (0-2') and subsurface (2-4' or deeper) soils

(parts per billion; ppb)

	B-1A 0-2'		B-1A (2-4')		B-2A (0-2')		B-2A (2-4')		B-3A (0-2)		B-3A (2-4')		B-4A (0-2')		B-4A (2-4')		B-5A (0-2')		B-5A (2-4')		B/MW-6A 0-2'	
2,4-Dinitrophenol	66	J		U		U		U		U		U		U		U		U		U		U
4-Nitrophenol		U		U		U		U		U		U		U		U		U		U		U
Dibenzofuran		U		U		U		U	4,000	J		U	6,900	J	520	J		U	1,200	J	10,000	J
2,4-Dinitrotoluene		U		U		U		U		U		U		U		U		U		U		U
Diethylphthalate		U		U		U		U		U		U		U		U		U		U	1,700	J
4-Chlorophenyl-phenyether		U		U		U		U		U		U		U		U		U		U		U
Fluorene	86	J		U	2,000	J	140	J	6,900	J		U	14,000	J	870	J	1,900	J	2,100	J	26,000		
4-Nitroaniline		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
N-Nitrosodiphenylamine (1)		U		U		U		U		U		U		U		U		U		U		U
4-Bromophenyl-phenylether		U		U		U		U		U		U		U		U		U		U		U
Hexachlorobenzene		U		U		U		U		U		U		U		U		U		U		U
Pentachlorophenol		U		U		U		U		U		U		U		U		U		U		U
Phenanthrene	1,200		45	J	13,000		630		47,000		2,200	J	80,000		5,800		14,000	J	14,000		130,000	
Anthracene	260	J	12	J	4,400		260	J	12,000		490	J	23,000		1,400	J	3,800	J	4,000		34,000	
Carbazole	120	J		U		U		U	7,600			U	15,000		680	J	1,700	J	1,700	J	6,000	J
Di-n-butylphthalate		U		U		U		U	380	J		U	1,100	J		U		U		U		U
Fluoranthene	1,100		70	J	7,900		780		48,000		2,800	J	85,000		5,400		17,000	J	14,000		88,000	
Pyrene	1,300		88	J	17,000		1,900		50,000		2,800	J	110,000		6,400		16,000	J	18,000		120,000	
Butylbenzylphthalate		U		U		U		U		U		U		U		U		U		U		U
3,3'-Dichlorobenzidine		U		U		U		U		U		U		U		U		U		U		U
Benzo(a)anthracene	750		47	J	6,800		740		32,000		1,600	J	64,000		4,200		9,100	J	10,000		61,000	
Chrysene	790		51	J	7,500		820		31,000		1,700	J	61,000		4,000		9,300	J	9,500		57,000	
bis(2-Ethylhexyl)phthalate	170	J	90	J	1,500	J	2,400		6,100	J	42,000		4,800	J	670	J	77,000		12,000			U
Di-n-octylphthalate		U		U		U		U		U		U		U		U	4,600	J		U		U
Benzo(b)fluoranthene	580		39	J	3,600	J	480		23,000		1,300	J	45,000		2,500		6,700	J	6,500		30,000	
Benzo(k)fluoranthene	620		42	J	3,400	J	370	J	20,000		1,200	J	47,000		2,900		7,500	J	8,200		38,000	
Benzo(a)pyrene	710		56	J	8,300		1,100		19,000		1,500	J	54,000		2,200		7,800	J	8,300		43,000	
Indeno(1,23-cd)pyrene	750		47	J	6,000		1,000		20,000		1,400	J	49,000		2,300		7,200	J	7,700		26,000	
Dibenz (a,h) anthracene	280	J		U		U	360	J	8,300			U	16,000		1,100	J	2,500	J	2,700	J	8,800	J
Benzo(g,h,i)perylene	340	J	93	J	2,400	J	1,500		3,100	J	2,100	J	32,000		520	J		U	2,600	J	10,000	J

U= Undetected

J = Below Method Detection Limit

B = Detected in the laboratory method blank

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Semivolatiles, including PAHs, in shallow (0-2') and subsurface (2-4' or deeper) soils

(parts per billion; ppb)

	B/MW-6A (2-4')		B/MW-7A (0-2')		B/MW-7A (2-4')		B/MW-7A (5-7')		B/MW-8A (1.5-3.5')		B/MW-8A (3.5-5.5')		B/MW-9A (1-3')		B/MW-9A (3-5')		B/MW10A (0-2')		B/MW10A (2-4')		B-11A (0-2')		B-12A (0-2')	
Phenol		U		U		U		U	50	J	24	J		U		U		U		U		U		U
bis(2-Chloroethyl)Ether		U		U		U		U	32	J		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		U		U		U
1,2-Dichlorobenzene		U		U		U		U	31	J		U		U		U		U		U		U		U
2-Methylphenol		U		U		U		U		U		U		U		U		U		U		U		U
2,2' -oxybis (1-Chloropropane)		U		U		U		U		U		U		U		U		U		U		U		U
4-Methylphenol		U		U		U		U	50	J		U		U		U		U		U		U		U
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		U		U		U		U		U		U		U		U		U		U		U		U
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	370	J	52	J	1,100	J	24	J	240	J	27	J	200	J	40,000	J	52	J	68	J	69	J	62	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	240	J	34	J	560	J		U	190	J	98	J	120	J	20,000	J	37	J	130	J	57	J	39	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
Dimethylphthalate		U		U		U		U		U		U		U		U		U		U		U		U
Acenaphthlyene	150	J	34	J	190	J	69	J	130	J	6	J	320	J	7,600	J	46	J	59	J	120	J	61	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	330	J	94	J	3,300	J		U	110	J	11	J	240	J	52,000		42	J	120	J	43	J	43	J
Total PAHs	**26,100**		**8,160**		**134,690**		**3,641**		**27,799**		**3,126**		**57,980**		**1,743,600**		**6,069**		**9,732**		**6,366**		**6,111**	

U= Undetected

J = Below Method Detection Limit

B = Detected in the laboratory method blank

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Semivolatiles, including PAHs

(parts per billion; ppb)

	B/MW-6A (2-4')		B/MW-7A (0-2')		B/MW-7A (2-4')		B/MW-7A (5-7')		B/MW-8A (1.5-3.5')		B/MW-8A (3.5-5.5')		B/MW-9A (1-3')		B/MW-9A (3-5')		B/MW10A (0-2')		B/MW10A (2-4')		B-11A (0-2')		B-12A (0-2')	
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	200	J	52	J	1,500	J	31	J	160	J	28	J	240	J	45,000		31	J	73	J	37	J	28	J
2,4-Dinitrotoluene		U		U		U		U		U		U		U		U		U		U		U		U
Diethylphthalate	61	J		U		U		U	29	JB	17	JB	32	JB		U	18	JB	18	JB	15	JB	17	JB
4-Chlorophenyl-phenyether		U		U		U		U		U		U		U		U		U		U		U		U
Fluorene	490	J	100	J	3,000	J	65	J	78	J	15	J	160	J	54,000		42	J	140	J	31	J	36	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 (1)		U		U		U		U		U		U		U		U		U		U		U		U
4-Bromophenyl-phenylether		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	3,100		980		16,000		460		2,700		440		3,500		320,000		440		1,200		560		400	
Anthracene	810		250	J	5,200		130	J	500	J	44	J	1,100	J	84,000		120	J	330	J	130	J	110	J
Carbazole	190	J	120	J	2,600	J	64	J	200	J	24	J	340	J	21,000	J	45	J	100	J	45	J	40	J
Di-n-butylphthalate		U	28	J		U		U	26	JB	16	JB	52	JB		U	22	JB	21	JB	20	JB	20	JB
Fluoranthene	3,300		950		16,000		520		4,300		560		7,900		270,000		960		1,600		1,000		840	
Pyrene	4,300		1,300		20,000		570		3,100		300	J	6,600		240,000		1,400		1,900		720		1,800	
Butylbenzylphthalate		U		U		U		U		U		U		U		U		U		U		U		U
3,3'-Dichlorobenzidine		U		U		U		U		U		U		U		U		U		U		U		U
Benzo(a)anthracene	2,700		740		12,000		320	J	2,600		250	J	6,000		120,000		600		920		660		460	
Chrysene	2,500		770		12,000		320	J	3,100		420		6,200		130,000		520		850		670		350	
bis(2-Ethylhexyl)phthalate	240	J	590			U	190	J	2,100	B	1,500	B	3,000	B	2,400	JB	990	B	380	B	570	B	1,700	B
Di-n-octylphthalate		U		U		U		U		U		U		U		U		U		U		U		U
Benzo(b)fluoranthene	1,600		590		7,800		220	J	3,900		480		9,400		100,000		630		800		770		470	
Benzo(k)fluoranthene	1,800		460		10,000		280	J	2,900		380	J	5,700		86,000		510		720		660		580	
Benzo(a)pyrene	2,100		650		10,000		270	J	2,800		160	J	7,400		130,000		530		780		710		560	
Indeno(1,2,3-cd)pyrene	1,400		620		9,300		220	J	700	J	24	J	1,800	J	56,000		110	J	150	J	140	J	130	J
Dibenz (a,h) anthracene	510	J	230	J	3,400	J	77	J	290	J	9	J	670	J	21,000	J	43	J	55	J	49	J	49	J
Benzo(g,h,i)perylene	640	J	340	J	5,400		96	J	320	J		U	790	J	33,000	J	24	J	40	J	34	J	160	J

U= Undetected

J = Below Method Detection Limit

B = Detected in the laboratory method blank

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Pesticides in Surficial Soils (0-2")
(parts per billion; ppb)

	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")
alpha-BHC	U	U	U	U	U	U	U
beta-BHC	U	U	U	U	U	U	U
delta-BHC	U	U	U	U	U	U	U
gamma-BHC (Lindane)	U	U	U	U	U	U	U
Heptachlor	U	0.82 JP	U	16.0 JP	U	U	U
Aldrin	U	U	U	U	U	U	U
Heptachlor Epoxide	U	U	U	U	U	U	U
Endosulfan I	U	U	U	U	U	U	U
Dieldrin	U	2.9 JP	U	28.0 J	1.3 JP	9.7 J	U
4, 4' -DDE	540.0	6.9 J	13.0	210.0	10.0	22.0 JP	59.0
Endrin	U	3.4 JP	U	U	U	U	U
Endosulfan II	U	0.98 JP	2.8 JP	49.0 JP	U	U	U
4, 4' -DDD	U	U	1.4 JP	85.0	1.4 JP	11.0 JPB	U
Endosulfan Sulfate	U	U	U	U	U	U	U
4, 4' -DDT	190.0 J	3.9 JP	16.0 P	340.0 P	4.7 P	52.0 PB	24.0 JP
Methoxychlor	U	U	U	U	U	53.0 JP	U
Endrin Ketone	U	U	U	U	U	U	39.0
Endrin Aldehyde	U	10.0 P	U	U	U	U	U
alpha-Chlordane	U	15.0 P	14.0 P	130.0 P	3.2 P	18.0 JP	U
gamma-Chlordane	U	13.0	8.0	84.0	1.5 J	9.1 J	6.2 J
Toxaphene	U	U	U	U	U	U	U

U= Undetected
J = Below Method Detection Limit
B = Detected in the laboratory method blank
P = greater than 25 percent difference for detected concentrations between the two GC columns

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Pesticides in shallow (0-2') and subsurface (2-4' or deeper) soils
(parts per billion; ppb)

	B-1A (0-2')	B-1A (2-4')	B-2A (0-2')	B-2A (2-4')	B-3A (0-2')	B-3A (2-4')	B-4A (0-2')	B-4A (2-4')	B-5A (0-2')	B-5A (2-4')	B/MW-6A (0-2')
alpha-BHC	U	U	U	U	U	U	U	U	U	U	U
beta-BHC	U	U	U	U	U	U	U	U	U	U	U
delta-BHC	U	U	U	U	U	U	U	U	U	U	U
gamma-BHC (Lindane)	U	U	U	U	U	U	U	U	U	U	U
Heptachlor	U	U	0.54 JP	U	U	U	U	U	2.8 JP	2.3 JP	U
Aldrin	U	U	U	U	U	U	U	U	U	U	U
Heptachlor Epoxide	U	U	U	U	U	U	U	U	U	U	U
Endosulfan I	U	U	U	U	U	U	U	U	U	U	U
Dieldrin	U	U	U	U	U	U	9.7 JP	U	U	U	U
4, 4' -DDE	9.6	1.4 JP	25	8.8	68.0	19.0 P	100.0	26.0	36.0	48.0	110.0
Endrin	U	U	U	6.3 JP	U	U	U	U	U	U	U
Endosulfan II	U	U	U	U	U	U	U	U	U	U	U
4, 4' -DDD	U	U	14 JP	4.6 JP	U	4.5 JP	23.0 JP	2.2 JP	34.0 P	4.8 JP	U
Endosulfan Sulfate	U	U	U	U	U	U	U	U	U	U	U
4, 4' -DDT	3.3 JP	1.2 J	74 P	10 P	49.0	24.0 P	40.0 P	12.0 JP	34.0 P	18.0 P	22.0 JP
Methoxychlor	U	U	U	U	U	U	U	U	U	U	U
Endrin Ketone	9.0 P	U	U	U	U	U	U	U	30.0 P	51.0 P	U
Endrin Aldehyde	U	U	15 JP	U	U	U	U	U	U	U	U
alpha-Chlordane	U	U	8.2 JP	1.3 JP	U	12.0 P	40.0 P	U	57.0 P	18.0 P	U
gamma-Chlordane	U	U	4.3 JP	1.3 JP	5.2 JP	5.5 JP	17.0 J	U	35.0 P	9.1 J	U
Toxaphene	U	U	U	U	U	U	U	U	U	U	U

U= Undetected
J = Below Method Detection Limit
B = Detected in the laboratory method blank
P = greater than 25 percent difference for detected concentrations between the two GC columns

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Pesticides in shallow (0-2') and subsurface (2-4' or deeper) soils
(parts per billion; ppb)

	B/MW-6A (2-4')	B-7A (0-2')	B-7A (2-4')	B-7A (5-7')	B/MW-8A (1.5-3.5')	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')
alpha-BHC	U	U	U	U	U	U	U	U	U	U	U	U
beta-BHC	U	U	U	U	U	U	U	U	U	U	U	U
delta-BHC	U	U	U	U	U	U	U	U	U	U	U	U
gamma-BHC (Lindane)	U	U	U	U	U	U	U	U	U	U	U	U
Heptachlor	U	U	U	U	U	U	U	U	U	U	0.2 JP	0.4 JP
Aldrin	U	U	U	U	U	U	U	U	U	U	U	U
Heptachlor Epoxide	U	U	U	U	U	U	U	U	U	U	U	U
Endosulfan I	U	U	U	U	U	U	U	U	U	U	U	U
Dieldrin	U	U	U	U	U	U	U	U	U	U	U	1.0 J
4, 4' -DDE	18.0	3.1 JP	72.0	1.5 JP	19.0	5.4 P	22.0 JP	240.0	3.2 JP	4.0 JB	7.2 P	3.9
Endrin	U	U	U	U	U	U	U	U	3.2 JP	U	U	U
Endosulfan II	U	U	U	U	U	U	U	U	U	U	U	1.2 JP
4, 4' -DDD	U	1.5 JP	U	U	U	U	U	U	3.9 PB	2.5 JPB	U	3.6 PB
Endosulfan Sulfate	U	U	U	U	U	U	U	U	U	U	U	U
4, 4' -DDT	U	0.97 JP	21.0 JP	1.1 JP	U	U	U	93.0 B	8.2 B	5.8 JPB	8.6 PB	6.0 PB
Methoxychlor	U	3.8 JP	U	U	U	U	U	360.0 JB	U	U	U	U
Endrin Ketone	12.0 P	U	U	U	21.0 P	U	U	U	U	U	U	U
Endrin Aldehyde	U	1.0 JP	U	U	U	U	U	U	U	U	U	U
alpha-Chlordane	U	U	U	U	U	U	U	U	2.3 P	2.8 JP	2.3 P	3.1 P
gamma-Chlordane	U	U	U	U	U	U	U	U	1.4 JP	1.4 J	1.4 J	1.7 JP
Toxaphene	U	U	U	U	U	U	U	U	U	U	U	U

U= Undetected
J = Below Method Detection Limit
B = Detected in the laboratory method blank
P = greater than 25 percent difference for detected concentrations between the two GC columns

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

PCBs in shallow (0-2') and subsurface (2-4' or deeper) soils

(Parts per billion; ppb)

	B/MW-10A (0-2')	B/MW-10A (2-4')	B-11A (0-2')	B-12A (0-2')
Aroclor-1016	U	U	U	U
Aroclor-1221	U	U	U	U
Aroclor-1232	U	U	U	U
Aroclor-1242	U	U	U	U
Aroclor-1248	U	U	U	U
Aroclor-1254	38	42 JP	45	27 JP
Aroclor-1260	100 P	U	180	U

U= Undetected

J = Below Method Detection Limit

P = greater than 25 percent difference for detected concentrations between the two GC columns

SOIL ANALYSIS DATA -1998 SAMPLING PROGRAM

Volatile Organic Compounds (STARS Parameters)
(parts per billion; ppb)

	Method Blank	Field Blank	SG-1(3-5)
Benzene	U	U	U
Ethylbenzene	U	U	9
Toluene	U	U	U
Xylenes (total)o	U	U	2
Xylenes (total)mp	U	U	9
Isopropylbenzene	U	U	13
Propylbenzene	U	U	7
p-Isopropyltoluene	U	U	5
1,2,4-Trimethylbenzene	U	U	25
1,3,5-Trimethylbenzene	U	U	14
Butylbenzene	U	U	U
Sec-Butylbenzene	U	U	2
Naphthalene	U	U	120
Methyl tert-Butyl Ether	U	U	U

U= Undetected
J = Below Method Detection Limit

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

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

TCLP Metals in Surficial Soils (0-2")

(parts per billion; ppb)

	Regulatory Limit	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	5,000	17.8	9.3 B	4 B	3.7 B	U	3.6 B	2.7
Barium	100,000	526 E	381 E	644 E	500 E	375 E	463 E	424
Cadmium	1,000	74.7	3.5 B	21.2	25.9	5.1	45.9	5 B
Chromium	5,000	13.9	3.7 B	4.8 B	4.7 B	2.9 B	12.4	1.2 B
Lead	5,000	6,620	35.6	421	993	199	250	27.1 E
Mercury	200	2.5	U	U	U	U	U	U
Selenium	1,000	4.4 B	10.8	9.8	6.6	8	9.8	6.7
Silver	5,000	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

TCLP Metals in shallow (0-2') and subsurface (2-4' or deeper) soils
(parts per billion; ppb)

	Regulatory Limit	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	5,000	U	U	5 B	3.2 B	3.6 B	6.6 B
Barium	100,000	804	396	443	700	576	379
Cadmium	1,000	8	2.1 B	2.4 B	2.4 B	13.9	23.1
Chromium	5,000	39	9.5 B	3 B	8.6 B	2.5 B	2.1 B
Lead	5,000	254 E	23.4 E	28.4 E	207 E	1,790 E	1,110 E
Mercury	200	U	U	U	U	U	U
Selenium	1,000	6.6	7.3	8.4	7.7	7.6	7.9
Silver	5,000	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

TCLP Metals in shallow (0-2') and subsurface (2-4' or deeper) soils
(parts per billion; ppb)

	Regulatory Limit	B-4A (0-2')	B-4A (2-4')	B-5A (0-2')	B-5A (2-4')	B/MW-6A (0-2')
Arsenic	5,000	2.8 B	18.2	3.5 B	2.7 B	4.6 B
Barium	100,000	404	269	600	492	449
Cadmium	1,000	13.4	8.0	14.5	9.0	24.2
Chromium	5,000	3.7 B	1.6 B	8.7 B	3.7 B	19.3
Lead	5,000	56.4 E	1,620 E	482 E	1,120 E	800 E
Mercury	200	U	U	U	U	U
Selenium	1,000	7.4	7.8	6.6	7.8	10
Silver	5,000	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

TCLP Metals in shallow (0-2') and subsurface (2-4' or deeper) soils
(parts per billion; ppb)

	Regulatory Limit	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	5,000	3.9 B	U	U	2.9 B	U	7.9 B
Barium	100,000	582	263	450	253	201	585 E
Cadmium	1,000	17.7	U	5.7	6.4	1.3 B	8.2
Chromium	5,000	3.2 B	8.8 B	1.8 B	12.3	1.4 B	8.3 B
Lead	5,000	682 E	71.9 B	141 E	7,450 E	16.2 E	61
Mercury	200	U	U	U	U	U	70.4
Selenium	1,000	6.6	52.8 B	6.7	7.8	7.4	38.1
Silver	5,000	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

TCLP Metals in shallow (0-2') and subsurface (2-4' or deeper) soils
(parts per billion; ppb)

	Regulatory Limit	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	5,000	4.5 B	U	2.3 B	2.6 B	4.4 B	U	U
Barium	100,000	384 E	521 E	388 E	456 E	409 E	607 E	549 E
Cadmium	1,000	4.0 B	7.7	5.2	4.0 B	4 B	6.4	3.8 B
Chromium	5,000	2.7 B	9.4 B	2.2 B	1.4 B	2.6 B	U	U
Lead	5,000	2.3 B	21.6	11,700	98.4	89.5	26.1	30.1
Mercury	200	U	U	U	U	U	U	U
Selenium	1,000	28	10.7	12.3	8.7	3.7 B	8.5	7.5
Silver	5,000	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

GROUNDWATER ANALYSIS DATA -1998 SAMPLING PROGRAM

Target Compound List Volatile Organics
(parts per billion; ppb)

	NYS DEC STANDARD	NYS DEC GUIDANCE VALUES	B\MW-6A	B\MW-7A	B\MW-8A	B\MW-9A	B\MW-10A	B\MW-50	Trip Blank	Field Blank
Chloromethane			U	U	U	U	U	U	U	U
Bromomethane	5		U	U	U	U	U	U	U	U
Vinyl Chloride	5		U	U	U	U	U	U	U	U
Chloroethane	5		U	U	U	U	U	U	U	U
Methylene Chloride	5		U	U	U	U	6 J	U	U	U
Acetone			U	U	U	U	140.0	3 J	U	1.0
Carbon Disulfide			U	U	U	U	U	U	U	U
1,1-Dichloroethene			U	U	U	U	U	U	U	U
1,1-Dichloroethane	5		U	U	U	U	U	U	U	U
1,2-Dichloroethene (total)			5 J	U	U	U	U	U	U	U
Chloroform	7		U	U	U	U	U	U	U	U
1,2-Dichloroethane	5		U	U	U	U	U	U	U	U
2-Butanone			U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	5		U	U	U	U	3 J	U	U	U
Carbon Tetrachloride	5		U	U	U	U	U	U	U	U
Bromodichloromethane		50	U	U	U	U	U	U	U	U
1,2-Dichloropropane	5		U	U	U	U	U	U	U	U
Cis-1,3-dichloropropene			U	U	U	U	U	U	U	U
Trichloroethene	5		U	U	U	U	U	U	U	U
Dibromochloromethane		50	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	5		U	U	U	U	U	U	U	U
Benzene	.7		U	1 J	370	990	U	86	U	U
Trans-1,3-Dichloropropene			U	U	U	U	U	U	U	U
Bromoform		50	U	U	U	U	U	U	U	U
4-Methyl-2-Pentanone			U	U	U	U	U	U	U	U
2-Hexanone			U	U	U	U	U	U	U	U
Tetrachloroethene	5		U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	5		U	U	U	U	U	U	U	U
Toluene	5		U	U	650	4,000	U	43	U	U
Chlorobenzene		5	U	U	U	U	U	U	U	U
Ethylbenzene	5		U	U	540	2,200	U	200	U	U
Styrene			U	U	88 J	340	U	3 J	U	U
Xylenes (total)	5		U	U	5,500	8,000	U	270	U	U
Total Target Compounds			**5**	**1.0**	**6,778**	**15,530**	**146**	**605**	**U**	**U**

U = Not Detected
J = Concentration below the minimum detection limit but is greater than zero

GROUNDWATER ANALYSIS DATA -1998 SAMPLING PROGRAM

Target Compound List Semivolatiles, including PAHs

(parts per billion; ppb)

	NYS DEC Standard	NYS DEC Guidance	MW-6A	MW-7A	MW-8A	MW-9A	MW-10A	MW-50	FB
Phenol	1		U	U	U	U	U	U	U
bis(2-Chloroethyl)Ether	1		U	U	U	U	U	U	U
2-Chlorophenol	1		U	U	U	U	U	U	U
1,3-Dichlorobenzene	5		U	U	U	U	U	U	U
1,4-Dichlorobenzene	4.7		U	U	U	U	U	U	U
1,2-Dichlorobenzene	4.7		U	U	U	U	U	U	U
2-Methylphenol	1		U	U	U	U	U	U	U
2,2' -oxybis (1-Chloropropane)			U	U	U	U	U	U	U
4-Methylphenol	1		U	U	U	U	U	U	U
N-Nitroso-Di-n-Propylamine			U	U	U	U	U	U	U
Hexachloroethane	5		U	U	U	U	U	U	U
Nitrobenzene	5		U	U	U	U	U	U	U
Isophorone		50	U	U	U	U	U	U	U
2-Nitrophenol	1		U	U	U	U	U	U	U
2,4-Dimethylphenol	1		U	U	U	150 J	U	U	U
bis(-2-Chloroethoxy)Methane			U	U	U	U	U	U	U
2,4-Dichlorophenol	4.7		U	U	U	U	U	U	U
1,2,4-Trichlorobenzene	5		U	U	U	U	U	U	U
Naphthalene		10	1 J	U	11,000	13,000	U	2000	2 J
4-Chloroaniline			U	U	U	U	U	U	U
Hexachlorobutadiene	5		U	U	U	U	U	U	U
4-Chloro-3-methylphenol	1		U	U	U	U	U	U	0.2 J
2-Methylnaphthalene			0.2 J	U	740 J	1,600 J	U	310 J	U
Hexachlorocyclopentadiene	5		U	U	U	U	U	U	U
2,4,6-Trichlorophenol	1		U	U	U	U	U	U	U
2,4,5-Trichlorophenol	1		U	U	U	U	U	U	U
2-Chloronaphthalene		10	U	U	U	U	U	U	U
2-Nitroaniline	5		U	U	U	U	U	U	U
Dimethylphthalate		50	U	U	U	U	U	U	U
Acenaphthlyene			U	U	U	25 J	U	U	U
2,6-Dinitrotoluene	5		U	U	U	U	U	U	U
3-Nitroaniline	5		U	U	U	U	U	U	U
Acenaphthene		20	1.0 J	21.0	87 J	460 J	U	680	U
Total Target Compounds			**37**	**77**	**12,292**	**17,294**	**1**	**4,374**	**6**

U= Undetected

J = Below Method Detection Limit

B = Detected in the laboratory method blank

FB =Field Blank

GROUNDWATER ANALYSIS DATA -1998 SAMPLING PROGRAM

Target Compound List Semivolatiles, including PAHs

(parts per billion; ppb)

	NYS DEC Standard	NYS DEC Guidance	MW-6A		MW-7A		MW-8A		MW-9A		MW-10A		MW-50		FB	
2,4-Dinitrophenol	1.0			U		U		U		U		U		U		U
4-Nitrophenol	1.0			U		U		U		U		U		U		U
Dibenzofuran				U	8	J	90	J	400	J		U	390	J	0.4	JB
2,4-Dinitrotoluene	5.0			U		U		U		U		U		U		U
Diethylphthalate		50.0		U	0.6	JB		U		U		U		U		U
4-Chlorophenyl-phenyether				U		U		U		U		U		U		U
Fluorene		50.0		U	15		64	J	340	J		U	260	J		U
4-Nitroaniline	5.0			U		U		U		U		U		U		U
4,6-Dinitro-2-methylphenol	1.0			U		U		U		U		U		U		U
N-Nitrosodiphenylamine (1)		50.0		U		U		U		U		U		U		U
4-Bromophenyl-phenylether				U		U		U		U		U		U		U
Hexachlorobenzene		0.35		U		U		U		U		U		U		U
Pentachlorophenol	1.0			U		U		U		U		U		U		U
Phenanthrene		50.0	0.4	J	5	J	97	J	660	J		U	450		0.1	J
Anthracene		50.0	0.1	J	6	J	94	J	120	J		U	31	J		U
Carbazole				U	0.5	J	120	J	190	J		U	110	J	0.08	J
Di-n-butylphthalate	50.0		0.2	JB	0.3	JB		U		U	1.0	J		U	0.6	JB
Fluoranthene		50.0	0.1	J	7	J		U	160	J		U	78	J		U
Pyrene		50.0	0.1	J	6	J		U	120	J		U	49	J		U
Butylbenzylphthalate		50.0		U		U		U		U		U		U		U
3,3'-Dichlorobenzidine	5.0			U		U		U		U		U		U		U
Benzo(a)anthracene		0.002		U	1	J		U	34	J		U	8	J		U
Chrysene		0.002		U	1	J		U	35	J		U	8	J		U
bis(2-Ethylhexyl)phthalate	50.0		34		3	J		U		U		U		U	3	J
Di-n-octylphthalate		50.0		U		U		U		U		U		U		U
Benzo(b)fluoranthene		0.002		U	0.6	J		U		U		U		U		U
Benzo(k)fluoranthene		0.002		U	0.7	J		U		U		U		U		U
Benzo(a)pyrene				U	0.7	J		U		U		U		U		U
Indeno(1,23-cd)pyrene		0.002		U	0.4	J		U		U		U		U		U
Dibenz (a,h) anthracene				U		U		U		U		U		U		U
Benzo(g,h,i)perylene				U	0.4	J		U		U		U		U		U

U= Undetected

J = Below Method Detection Limit

B = Detected in the laboratory method blank

FB =Field Blank

GROUNDWATER ANALYSIS DATA -1998 SAMPLING PROGRAM

Target Analyte List Metals (TAL-Metals)

(parts per billion; ppb)

	NYS DEC Standard	NYS DEC Guidance Value	MW-6A		MW-7A		MW-8A	
			Total	Dissolved	Total	Dissolved	Total	Dissolved
Aluminum			3,340	21.2 B	9,760	27.0 B	1,930	19.9 B
Antimony		3	U	3 B	17.2 B	12.4 B	U	3.3 B
Arsenic	25		22	U	19.1	U	125.0	112.0
Barium	1,000		190 B	72.3 B	277	77.6 B	146 B	105 B
Beryllium		3	U	U	1.7 B	U	U	U
Cadmium	10		U	U	U	U	U	U
Calcium			166,000	152,000	177,000	174,000	57,800	50,500
Chromium	50		6.1 B	U	29	U	6.2 B	U
Cobalt			2.6 B	U	21.7 B	1.9 B	1.9 B	U
Copper	200		10.8 B	U	211	U	20.9 B	U
Iron	500		37,300	75 B	25,800	48.6 B	3,480	U
Lead	25		20	U	3,340	2.3 B	13	U
Magnesium		35,000	36,000	33,200	16,900	15,900	89,200	85,600
Manganese	300		1,840	1,540	1,440	630	109	52.80
Mercury	2		UN	UN	2.3 N	UN	5.1 N	0.20 UN
Nickel			5.4 B	4.9 B	37.7 B	6.3 B	11.8 B	6.3 B
Potassium			18,600 E	16,400 E	7,650 E	7,200 E	215,000 E	207,000 E
Selenium	10		U	U	4.4 B	3.8 B	36	42.9
Silver	50		U	U	U	U	U	U
Sodium	20,000		65,000	60,800 E	15,800 E	17,300 E	164,000 E	167,000 E
Thallium		4	U	U	U	U	U	U
Vanadium			13.6 B	U	78	U	21.9 B	9.7 B
Zinc	300		24	3.5 B	890	27.8	51.1	17.5 B

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

GROUNDWATER ANALYSIS DATA -1998 SAMPLING PROGRAM

Target Analyte List Metals (TAL-Metals)

(parts per billion; ppb)

	NYS DEC Standard	NYS DEC Guidance Value	MW-9A		M-W10A		MW-50	
			Total	Dissolved	Total	Dissolved	Total	Dissolved
Aluminum			7,700	14.1 B	134.B	233	4,990	306
Antimony		3	3.6 B	4.1 B	U	3.3B	3.9 B	6.7 B
Arsenic	25		9.6 B	2.5 B	2.7B	U	4.2 B	U
Barium	1,000		435.0	249	54.3B	56.8B	85.7 B	9.9 B
Beryllium		3	1.1B	U	2.2B	2.2B	U	U
Cadmium	10		U	U	U	1.1B	1.7 B	U
Calcium			102,000	97,000	271,000	282,000	40,200	16,000
Chromium	50		16.2	1.0 B	1.1B	1.7B	17.9	U
Cobalt			12.3 B	4.1 B	U	U	11.8 B	U
Copper	200		4.1 B	U	1.6B	4.5B	7.6 B	U
Iron	500		25100	562	926	1,910	10,800	386
Lead	25		139	U	U	U	29.8	2.0 B
Magnesium		35,000	74200	71,800	470,000	487,000	11,900	3,470 B
Manganese	300		3240	2880	152	160	380	129
Mercury	2		0.60 N	UN	U	U	0.29 N	0.20 UN
Nickel			17.7 B	4.1 B	3.5B	3.7B	11.1 B	2.7 B
Potassium			179,000 E	174,000 E	257,000	263,000	11,700 E	5,520 E
Selenium	10		U	U	U	U	U	U
Silver	50		U	U	U	U	U	U
Sodium	20,000		159000 E	161,000 E	93,300	91,000	41,500 E	21,700 E
Thallium		4	U	U	U	U	U	U
Vanadium			25.6 B	U	U	U	17.8 B	2.4 B
Zinc	300		136	20.9	17.4	23.1	53.7	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

HEALTH & SAFETY PLAN FOR REMEDIATION

(Excavation and Off-site Disposal of Soil having Elevated Levels of Heavy Metals)

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1. INTRODUCTION

The Queens West Development site is located in Long Island City, Queens New York (see Figure 1, Project Location Map). The project site consists of parcel 9 ("project site") and occupies 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 (See Figure 2, Project Site Map). This block has a long history of industrial use, including paint manufacturers and chemical companies. Concerns for the past industrial usage has prompted soil and groundwater testing on the project site in 1985-86, 1989, 1994, and 1998.

The most recent testing program identified areas with elevated total mercury, lead, arsenic and leachable lead greater than 5 parts per million. In accordance with the remediation plan for the site, these areas will be excavated and disposed at an appropriate off-site disposal facility. The hot-spot removal areas are shown in Figure 3, and correspond to a 15-foot radius centered around borings B-1A, B/MW-7A, and B/MW-8A. Approximate initial extent and depth of excavation for each location is summarized in the below table.

Initial Extent of Hot Spot Removal

Location	Extent of Excavation (Approx. 15-foot radius)	Depth of Excavation
B-1A	2,830 square feet	0-2 feet
B/MW-7A	2,830 square feet	0-4 feet

All excavated soil will be stockpiled temporarily on site in a manner that avoids contamination of the surrounding environment. The excavated soil will be placed, at a minimum, on two layers of plastic sheeting and covered by one layer of plastic sheeting. The stockpiled soil will be placed away from storm/sewer inlets and surface water. Waste classification samples will be collected from the stockpiled soil in accordance with DEC protocol (i.e. STARS #1). Based upon the results of the waste classification sampling, the soil excavated from the hot spots will be disposed at an appropriate off-site facility in accordance with all applicable regulations.

2. OBJECTIVE

The purpose of this Health and Safety Plan (HSP) is to establish practices and procedures to protect field personnel and the general public during the excavation of the hot-spot areas. This HSP is in conformance with the various Occupational Safety and Health Administration (OSHA) standards and other applicable regulations governing operations at inactive hazardous waste sites. This plan is not intended to supersede or replace any OSHA regulation and/or local and state construction code or regulation; rather, all on-site personnel involved in the project shall follow the applicable OSHA Construction standards. Lastly, the plan shall be implemented by the contractor.

3. APPLICABILITY

The provisions of the plan are mandatory for the contractors and subcontractors engaged in the removal of the hot-spots. The contractors and their subcontractors involved in this remediation project shall provide a copy of this health and safety plan for their employees, and shall complete all work in accordance with that plan. Contractors and subcontractors may select to develop their own plan or to adopt in full this plan. All contractors' and subcontractors' plans shall be no less protective

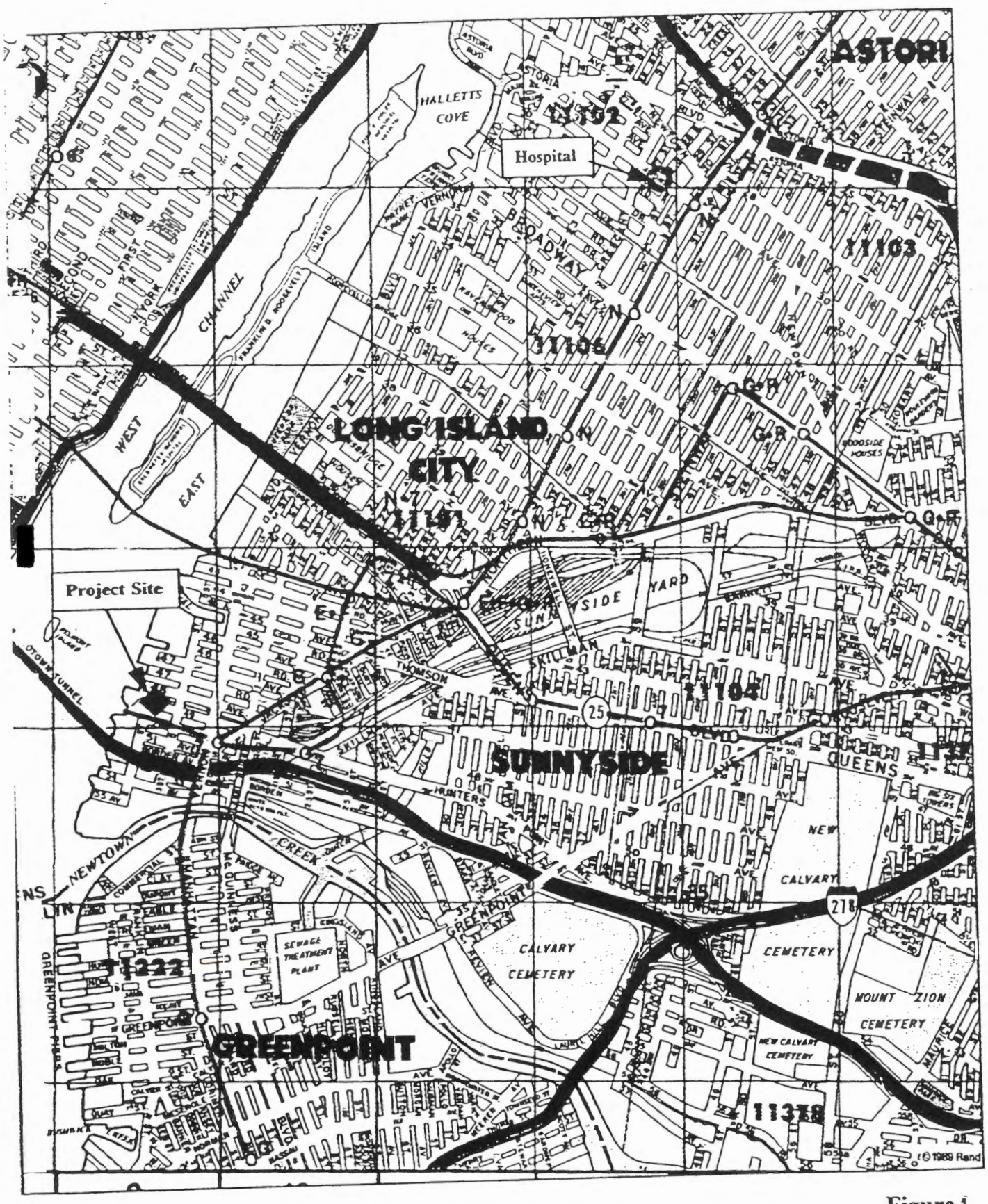
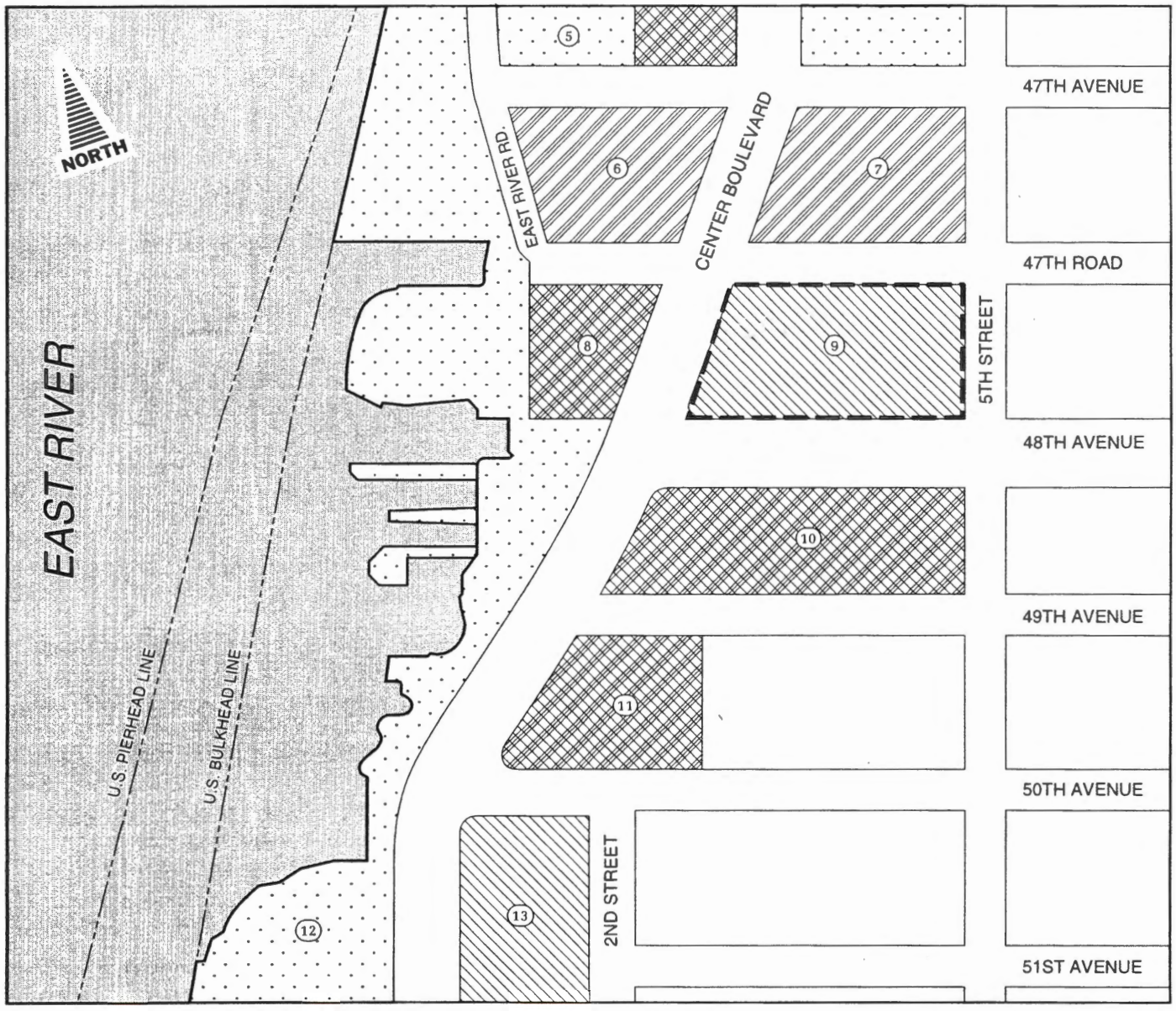


Figure 1
Project Site Location

Project Site Map



in minimizing potential exposure to hazardous materials than this Health & Safety Plan. Empire State Development Corporation and Queens West Development Corporation also reserves the right, in their sole discretion, to review and approve the health and safety plan developed by any contractor or subcontractor to ensure that it complies with the conditions set forth hereunder. The Empire State Development Corporation and Queens West Development Corporation shall not be liable for any action taken or omitted by either in good faith or for any mistake of fact or error of judgment related to or arising from its review and approval of any plan prepared by a contractor or subcontractor. Each contractor and subcontractor shall hold Empire State Development Corporation and Queens West Development Corporation harmless from, and indemnify them against, all liability, actions, claims, losses, damages or any other injury related to or arising from activities on the site.

4. HEALTH AND SAFETY GUIDELINES AND PROCEDURES

A. HAZARD EVALUATION

The principal potential environmental hazards identified in the soil by the prior sampling are as follows:

- Elevated levels of leachable and total lead,
- Elevated levels of total mercury, and
- Elevated levels of PAHs in the soils.

Lead:

Levels of leachable lead were greater than 5 ppm at boring locations B-1A , B/MW-7A (2-4'), and B/MW-9A (3-5'), from a depth of 0-2 inches, 2-4 feet, and 3-5 feet, respectively. Elevated levels of total lead also were detected at these boring locations. Likely routes of exposure to inorganic lead compounds include accidental ingestion or inhalation of lead-containing particulates, skin absorption, and skin or eye contact. Acute exposure to inorganic lead compounds can result in the following symptoms:

- Kidney disease
- Weakness,
- Abdominal pain,
- Insomnia,
- Anemia,
- Weight Loss, and
- Hypotension.

Mercury

Total mercury levels in the soil were as high as 60.2 parts per million (ppm). None of the leachable mercury levels in the soil, however, exceeded the regulatory level of 0.2 ppm. Locations with levels of total mercury greater than 23 ppm correspond to location B/MW-8A from a depth of 1.5 to 5.5 feet below the existing grade of the on-site building.

Based upon the known, past usage of the site as a paint manufacturer, mercury is most likely in the form of inorganic compounds. Likely routes of exposure to inorganic mercury compounds include inhalation of vapors, accidental ingestion, skin absorption, and skin or eye contact. Acute exposure to inorganic mercury compounds can result in the following symptoms:

- Skin irritation,

- Chest pains,
- Dyspnea (breathing difficulty),
- Bronchitis,
- Insomnia,
- Irritability,
- Indecision,
- Headache,
- Fatigue,
- Weakness,
- Salivation,
- Gastrointestinal Disturbance,
- Anorexia,
- Proteinuria (excess protein in urine) and
- Weight Loss

Polycyclic aromatic hydrocarbons (PAHs)

Some of the PAHs detected in soil samples are known or suspected carcinogens. Potential routes of human exposure are through direct contact, ingestion, or inhalation of dust.

B. DESIGNATED PERSONNEL

The remediation contractor will appoint one of its on-site personnel as the on-site Health and Safety Officer (HSO). This individual will be responsible for the implementation of the HSP. The HSO will have a 4-year college degree in occupational safety or a related science/engineering field, and 2 years of experience in implementation of air monitoring and hazardous materials sample programs. The HSO will have completed a 40-hour training course that meets OSHA requirements of 29 CFR Part 1910, Occupational Safety and Health Standards.

The HSO will be present on-site during the conduct of all field operations, and will be responsible for all health and safety activities and the delegation of duties to the field crew. The HSO has stop-work authorization, which he/she will execute on his/her determination of an imminent safety hazard, emergency situation, or other potentially dangerous situation. If the HSO must be absent from the field, he/she will designate a replacement who is familiar with the health and safety plan, air monitoring, and protection equipment.

C. TRAINING

Contractor's personnel performing the excavation, stockpiling, and loading of soil from the hot-spot areas shall have 40-hour hazardous waste training. Contractor personnel shall be able to wear and maintain a full-face respirator. Contractor shall be able to demonstrate that its employees or any subcontractor's employees have the ability to wear such respiratory protection.

In addition, all field personnel must attend a training program, whose purpose is to:

- Make them aware of the potential hazards they may encounter;
- Provide the knowledge and skills necessary for them to perform the work with minimal risk to health and safety;
- Make them aware of the purpose and limitations of safety equipment; and
- Ensure that they can safely avoid or escape from emergencies.

Each member of the field crew will be instructed in the above objectives before he/she goes onto the site. The HSO will be responsible for conducting the training program.

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0' 30' 60' 120'

SCALE: 1"=60'

VENT

5th STREET

Key:

—X— CHAIN LINK FENCE

MW-8A BORING/MONITORING WELL LOCATION

-2A BORING LOCATION

APPROXIMATE EXTENT OF EXCAVATION FOR HOT-SPOT REMOVAL

APPROXIMATE WORK AREA BOUNDARY

N

PARCEL 9

HOT-SPOT REMOVAL AREA

DATE 8/3/98

SCALE 1"=60'

PROJECT No. 03653

FIGURE No. 3

AKRF, Inc.
Environmental Consultants
117 East 29 Street New York, N.Y. 10016

D. MEDICAL SURVEILLANCE PROCEDURE

All contractor. and subcontractor personnel performing the hot-spot removal are required to have passed a complete medical surveillance examination in accordance with 29 CFR 1910.120 (f). A physicians medical release for work will be confirmed by the HSO before an employee can begin site activities. The medical examination will, at a minimum, be provided annually and upon termination of hazardous waste site work.

E. SITE WORK ZONES

The work area must be divided into various zones to prevent the spread of contamination, ensure that proper protective equipment is donned, and provide an area for decontamination. The Exclusion Zone is defined as all the hot-spot removal areas of Parcels 8 (See Figure 3). The Contamination Reduction Zone (CRZ) is the area where decontamination procedures take place and is located next to the Exclusion Zone. At a minimum, the CRZ will occupy a ten-foot radius around the exclusion zone, The Support Zone is the zone area where support-facilities-such as vehicles, a field phone, fire extinguisher, and first aid supplies-are located. The emergency staging area (part of the Support Zone) is the area where all workers on site would assemble in the event of an emergency. These zones shall be designated daily, depending on that day's activities. All field personnel will be informed of the location of these zones before work begins. Control measures such as "Caution" tape and traffic cones will be placed around the perimeter of the proposed sampling locations to prevent entrance onto the areas with exposed soil and/or groundwater.

F. DECONTAMINATION PROCEDURES

Decontamination of personnel and equipment will occur in the CRZ and will be consistent with the procedures described in DEC Technical Guidance Memorandum HWR-90-4008. Specifically, all personnel, equipment, gear, and tools will be steam cleaned or washed with Alquinox and, if necessary, chemically washed in a designated area before exiting the CRZ. The designated area will be prepared in a manner that will capture all waste from the decontamination procedures so that it can be tested and properly disposed in accordance with applicable local, state and federal regulations.

G. AIR MONITORING

This section fulfills the requirements of a community air monitoring program, as established by the New York State Department of Health (DOH). The purpose of the air monitoring program is to avoid or minimize exposure of the field personnel and the public to potential environmental hazards in the soil. Results of the air monitoring will be used to determine the appropriate response action, if needed. Air monitoring will be conducted for the duration of the hot-spot removal and will include the following:

- Continuous monitoring of volatile organic compounds at the downwind perimeter of the hot-spot removal.
- Continuous monitoring of particulates at the upwind, downwind, and within the hot-spot removals, and
- Monitoring within the work area for mercury vapors.

Air Monitoring Instrumentation

A real-time Photoionization Detector, (OVM), particulate monitor, and a Jerome Mercury Vapor

Meter will be used to perform air monitoring during the excavation, stockpiling, and loading of soil from the hot-spot areas. Real time air monitoring will be done, with the OVM, the particulate monitor and Jerome Meter, whenever remediation activities are being performed. The OVM will measure the airborne levels of volatile organic compounds associated with the PAHs and the possible petroleum releases on the project site. The Jerome Meter will measure airborne levels of mercury. The real-time particulate monitor will measure levels of airborne dust. Each day, all air monitoring instruments will be calibrated in accordance with the manufacturers recommendations.

Work Zone Air Monitoring

Measurements for airborne VOCs will be done continuously within the downwind perimeter of the work area during the excavation, stockpiling, and loading of soil from the hot-spot areas. Measurements for airborne particulate also will be performed continuously within the work area. Measurements of mercury will be taken prior to commencement of work and for at least 1 minute every 60 minutes during the work. Continuous monitoring for mercury will be undertaken when first excavating soil from each hot-spot. These measurements will be made as close to the workers as practical and at the breathing height of the workers. The HSO shall set up the equipment and confirm that it is working properly. His/her designee may oversee the air measurements during the day. The initial measurement for the day will be performed before the start of work and will establish the back-ground level for that day. The final measurement for the day will be performed after the end of work.

Community Air Monitoring

During work, when air monitoring in the work zone indicates a need to conduct perimeter air monitoring (See response actions), it will be performed as follows : air quality will be monitored at two locations at the perimeter of the work area. One will be immediately upwind and the other downwind of the activity. The downwind monitoring will be located at a distance of 200 feet or half the distance to the nearest residential or occupied commercial structure. Measurements will be taken continuously until organic vapor readings drop to acceptable levels.

Response Actions

The response actions for airborne VOCs, particulate, and mercury are listed below.

ACTION LEVEL	RESPONSE ACTION
Less than 5 ppm of VOCs above background.	Continue work.
Greater than 5 ppm above background at the downwind perimeter of work area, but below 5 ppm 200 feet downwind from the work area or half the distance to the nearest residential or commercial structure.	Continue work
Greater than 25 ppm of VOCs above background at the perimeter of the work area.	Stop work. Perform downwind monitoring within 20 feet of the nearest downwind residential and commercial structure. If efforts to abate emission source are unsuccessful and the levels persist for more than 30 minutes in the 20-foot zone of a residential and commercial structure, the major vapor emission response plan will be placed into effect.
Greater than 5 ppm of VOCs above background within 200 feet downwind from the work area or half the distance to the nearest residential or commercial structure	Stop work. Perform downwind monitoring within 20 feet of the nearest downwind residential and commercial structure. If efforts to abate emission source are unsuccessful and the levels persist for more than 30 minutes in the 20-foot zone of a residential and commercial structure, the major vapor emission response plan will be placed into effect.
Downwind level of particulate is 150 ug/m^3 greater than the upwind particulate level.	Stop work. Upgrade personal protection to Level C. Employ dust suppression techniques.
Greater than 0.1 mg/m^3 of mercury in the work area.	Stop work. Upgrade personal protection to Level C. Employ dust suppression techniques.

Major Vapor Emission Response Plan

As described by the DOH community air monitoring plan, the major vapor emission response plan will consist of:

1. All emergency response contacts will go into effect.
2. The local police authorities will immediately be contacted by the safety officer and advised of the situation.
3. Frequent air monitoring will be conducted at 30-minute intervals within the 20-foot zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Health & Safety Officer.

The contractor performing the hot-spot removal will respond to the results of the air monitoring in accordance with the actions specified above. Compliance with the specified response action for the

listed action levels will ensure the protection of the health and safety of personnel and others during the remediation activities.

H. PERSONAL PROTECTION EQUIPMENT

The personal protection equipment required for the hot-spot removal are based on 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, Appendix B, "General Description and Discussion of the Levels of Protection and Protective Gear."

All field personnel and other site personnel shall wear modified Level D personal protective equipment during the excavation, stock-piling, and loading of soil from the hot-zones. the implementation of the work plan. The protection will be upgraded to Level C if the results of the air monitoring indicates that Level C equipment is warranted.

Modified Level D	
Respiratory Protection:	None
Protective Clothing:	Disposable Tyvek suit, outer polyvinyl alcohol (PVA) gloves and inner vinyl gloves
Level C	
Respiratory Protection:	Air purifying respirator with organic vapor/particulate and/or mercury vapor cartridges.
Protective Clothing:	Same as modified Level D

I. GENERAL WORK PRACTICES

To protect the health and safety of the field personnel, all field personnel will adhere to the guide-lines listed below.

- Eating, drinking, chewing gum or tobacco, and smoking are prohibited, except in designated areas on the site. These areas will be designated by the HSO.
- Workers must wash their hands and face thoroughly on leaving the work area and before eating, drinking, or any other such activity. The workers should shower as soon as possible after leaving the site.
- Contact with exposed soil, groundwater or suspected surfaces should be avoided.
- Contact lenses should not be worn on-site.
- The buddy system should always be used; each buddy should watch for signs of fatigue, exposure, and heat stress.

J. EMERGENCY PROCEDURES AND EMERGENCY RESPONSE PLAN

The field crew will be equipped with emergency equipment, such as a first aid kit and disposable eye washes. In the case of a medical emergency, the HSO will determine the nature of the emergency and he/she will have someone call for an ambulance, if needed. If the nature of the injury is not serious—i.e., the person can be moved without expert emergency medical personnel—he/she should be driven to a hospital by on-site personnel. There will be an on-site field phone. The location of the nearest hospital, shown on Figure 1, is 25-10 30th Avenue, Long Island City, in Queens, New York. The Hospital is located at the intersection of 30th Avenue and Crescent Street, in Queens, New York. From the site, proceed north on Vernon Boulevard to 30th Avenue, turn east, and continue five blocks to the hospital

Telephone numbers are:

Police	911
Fire	911
Ambulance	911
Poison Control	(800) 562-8736
Nearest Hospital	(718) 482-1000

4. ACKNOWLEDGMENTS OF HSP

Below is an affidavit that must be signed by all workers who enter the site. A copy of the HSP must be on-site at all times and will be kept by the HSO.

AFFIDAVIT

I, _____ (name), of _____ (company name), have read the Health and Safety Plan (HSP) for the Development Parcels and 9 of the Queens West Development Site. I agree to conduct all on-site work in accordance with the requirements set forth in this HSP and understand that failure to comply with this HSP could lead to my removal from the site.

Signed: _____ Date: _____

APPENDIX C

HEALTH & SAFETY PLAN FOR CONSTRUCTION

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FIGURES

Figure 1 Project Site Location\Nearest Hospital
Figure 2 Project Site Map: Proposed Work Area

APPENDICES

Appendix I General Safety and Health Hazards
Appendix II Standard Safe Work Practices
Appendix III Forms

1.0 PURPOSE

The purpose of this plan is to establish practices and procedures to protect construction personnel and others during activities that will disturb soil and the groundwater within the construction area.

The plan is intended to minimize health and safety risks resulting from the presence of potentially hazardous materials in the soils on the site. This plan is not intended to supersede or replace any OSHA regulation and/or local and state construction code or regulation; rather, all on-site personnel involved in the project shall follow the applicable OSHA Construction standards. Lastly, the plan shall be implemented by the Contractor.

2.0 APPLICABILITY

The provisions of the plan are mandatory for the contractors and subcontractors engaged in any on-site construction activities that have the potential of exposure of their personnel to the existing soils on the site. Such activities will only occur in the trenching and dewatering for the installation of the subsurface utilities.

The contractors and their subcontractors involved in the construction project shall provide a copy of this health and safety plan for their employees whose work involves any potential exposure to the on-site chemical hazards in the soils, and shall complete all work in accordance with that plan. Contractors and subcontractors may select to develop their own plan or to adopt in full this plan. All contractors' and subcontractors' plans shall be no less protective in minimizing potential exposure to hazardous materials than this Health & Safety Plan. Queens West Development Corporation and Empire State Development Corporation also reserves the right, in their sole discretion, to review and approve the health and safety plan developed by any contractor or subcontractor to ensure that it complies with the conditions set forth hereunder. The Queens West Development Corporation and Empire State Development Corporation shall not be liable for any action taken or omitted by them in good faith or for any mistake of fact or error of judgment related to or arising from its review and approval of any plan prepared by a contractor or subcontractor. Each contractor and subcontractor shall hold Queens West Development Corporation and Empire State Development Corporation harmless from, and indemnify it against, all liability, actions, claims, losses, damages or any other injury related to or arising from activities on the site.

2.1 Safety Coordinator

Each contractor shall appoint one of its on-site personnel as the safety coordinator. This individual will be responsible for the implementation of this plan.

3.0 SITE DESCRIPTION

The construction site is located in Long Island City, Queens New York (see Figure 1). As shown in Figure 2, the work area consists of an entire city block bounded by 47th Road to the north, 48th Avenue to the south, 5th Street to the east, and the East River on the west.

4.0 HAZARD EVALUATION

Existing environmental conditions on the site were summarized in the Final Environmental Impact Statement (FEIS), dated June 1990. The FEIS included analytical results from sampling conducted in 1985-86 and 1989. In 1994 and 1998, additional samples were collected and analyzed from the area of construction. Results from the prior and recent investigations indicate that the areas where subsurface utilities will be installed contain subsurface "hot spots" with high levels of PAHs which would, without remediation, represent a potential health and safety hazard to the construction workers performing the work.

After the removal of the hot-spot areas, sampling results indicate that workers will not be exposed to hazardous waste as defined by US EPA regulations. Precautions will be taken to prevent or minimize exposure to excessive levels of airborne PAHs or PAHs in the surficial soil. Thus, personnel protection levels based upon an air monitoring program will be utilized to prevent excessive exposure or an unsafe working environment.

In addition to these potential environmental hazards, there are the "normal" hazards associated with outside work, including weather related hazards: cold/heat stress, illumination, trip and fall. A summary of these hazards are presented in Appendix I. A summary of standard safe work practices to avoid or minimize these and other hazards is contained in Appendix II.

5.0 EMERGENCY INFORMATION

Contact	**Telephone Number**
Police	911
Fire	911
Ambulance	911
Poison Control	(800) 562-8736

Hospital: Astoria General Hospital
25-10 30th Avenue
Long Island City
(718) 482-1000

In addition, Queens West Development Corporation, (212) 803-3250, should be notified of any emergency as soon as possible.

5.1 Emergency Route to Hospital

The nearest hospital to the project site is Astoria General Hospital of Queens, located at the intersection of 30th Avenue and Crescent Street, in Queens, New York.

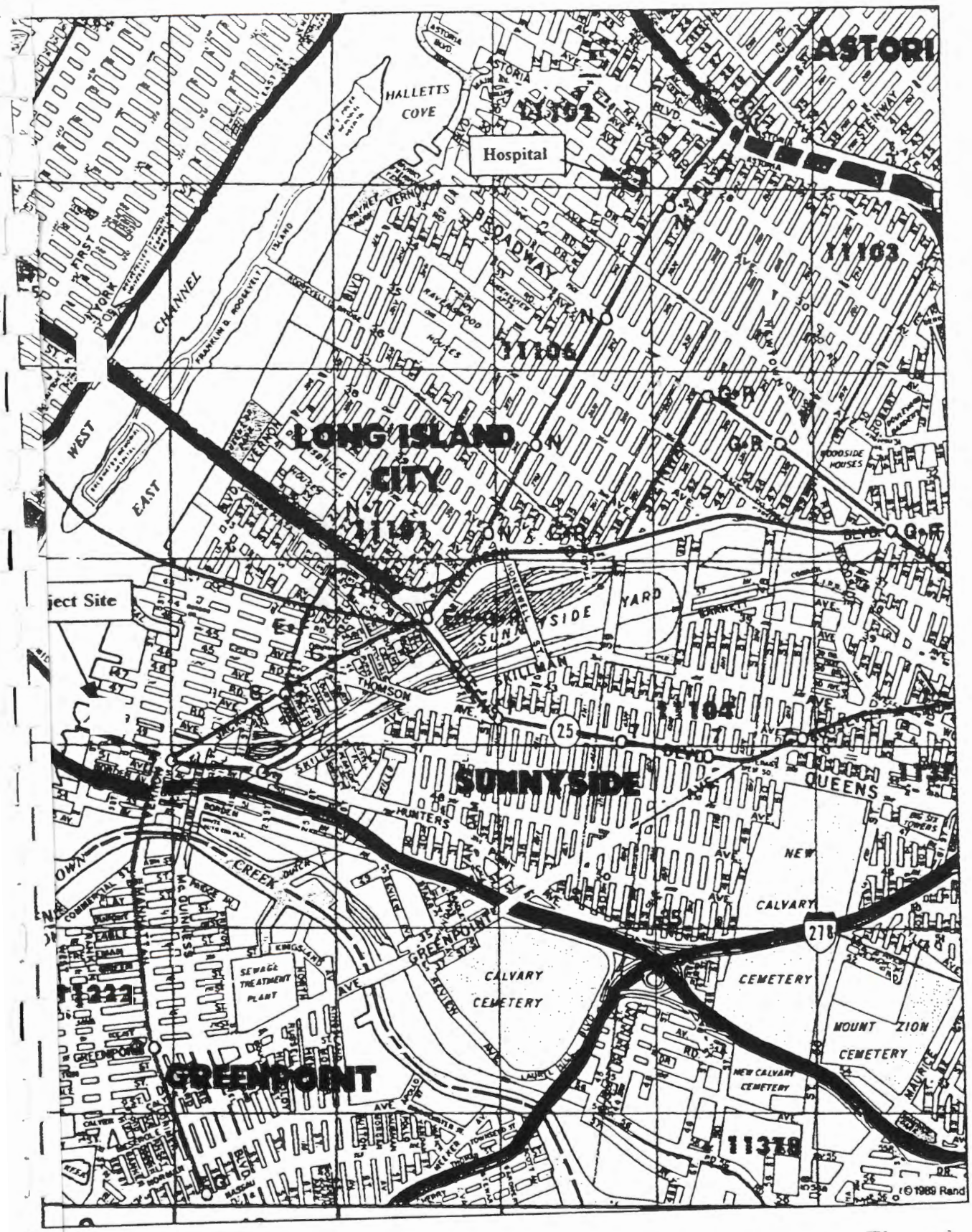
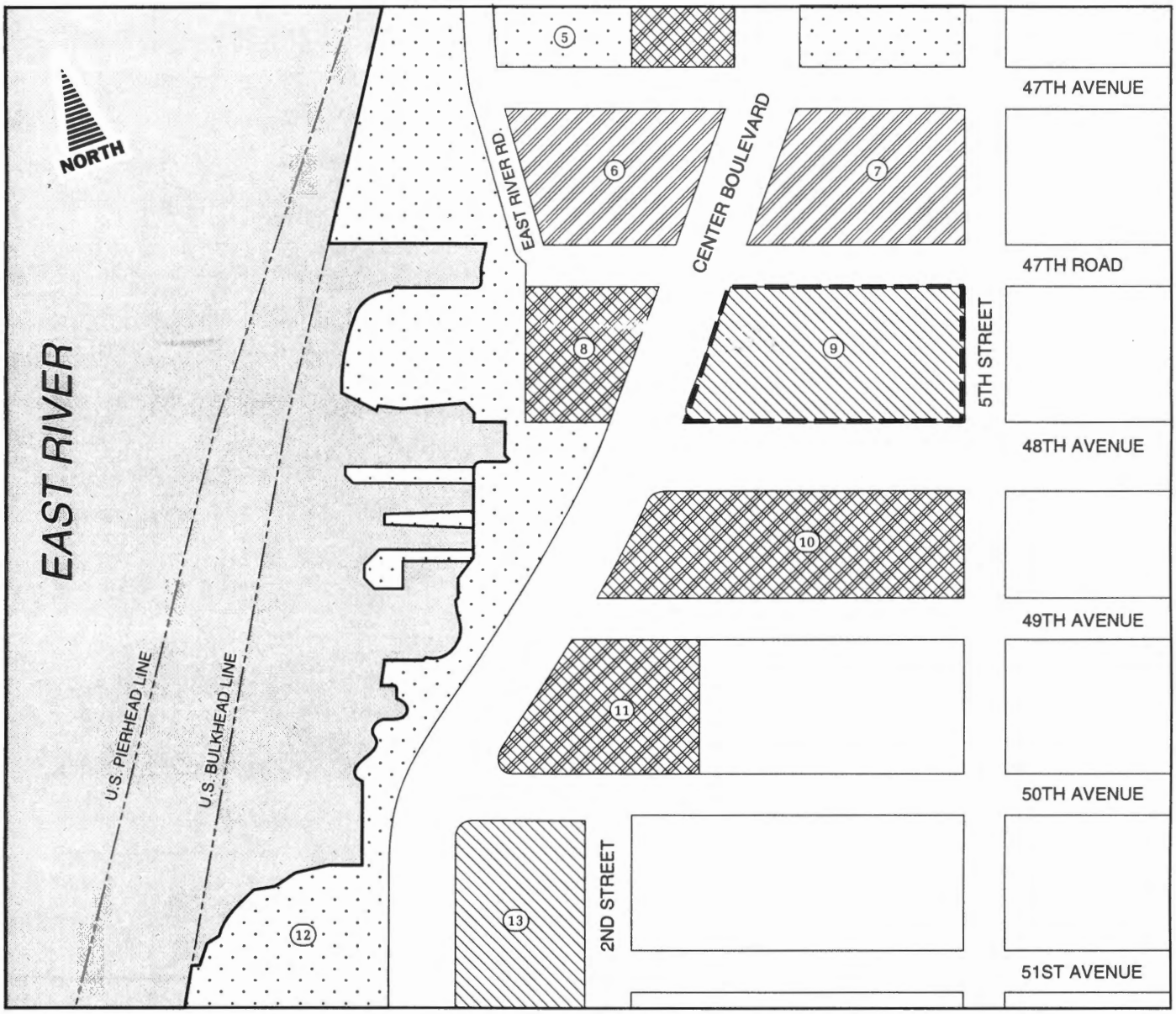


Figure 1
Project Site Location

Project Site Map



From the site, proceed north on Vernon Blvd to 30th Avenue. Turn east, continue five blocks to the hospital (see Figure 1).

5.2 Additional Articles to Be Available on-site

First aid kits and disposable eye washes will be provided at the construction site. These items will be provided by the Contractor.

6.0 TRAINING REQUIREMENTS

Contractor's personnel performing the trenching for the subsurface utilities shall have 40-hour hazardous waste training. Contractor personnel performing the dewatering for the subsurface utilities, and the installation of the utility lines shall be able to wear and maintain a full-face respirator. Contractor shall be able to demonstrate that its employees or any subcontractors's employees have the ability to wear such respiratory protection.

7.0 PERSONAL PROTECTIVE EQUIPMENT

The Contractor's personnel involved in the dewatering for the subsurface utility lines, and the installation of the utility lines shall normally wear Level D personal protective equipment, unless the results of the air monitoring indicates that Level C is warranted (See following sections 8.0 and 9.0. The Contractor's personnel involved in the deeper excavation for the installation of subsurface utilities shall normally wear a Modified Level D personal protective equipment, unless the results of the air monitoring indicates that Level C is warranted (See following sections 8.0 and 9.0. Contractor shall be responsible for providing its employees with any required personal protective equipment.

Level D

Respiratory Protection:	None
Protective Clothing:	Coveralls, appropriate work shoes, hardhat, vinyl gloves

Modified Level D

Respiratory Protection:	None
Protective Clothing:	Disposable Tyvek suit, appropriate work shoes, hardhat, inner vinyl gloves, and disposal outer gloves and booties.

Level C

Respiratory Protection:	Full-face, Air purifying respirator, with combination HEPA and organic vapor cartridges.
Protective Clothing:	Same as Level D, plus disposable Tyvec outer suits and disposable outer gloves and booties.

8.0 AIR MONITORING REQUIREMENTS

The Contractor shall perform atmospheric monitoring of the construction area in accordance with the frequency and instrumentation described herein. The purpose of this atmospheric monitoring is to avoid or minimize exposure of the workers and the public to the

known environmental hazards in the surficial soil. Specifically, results of the air monitoring will be used to determine the level of personal protection for the on-site personnel. See following section, Response Actions.

8.1 Instrumentation

The Contractor shall supply, operate, and calibrate the required instruments. The instruments required for this project include the following:

-- Photo Ionization Detector (PID) or Flame Ionization Detector (FID)

-- Combustible Gas Indicator (CGI)

-- Real-time Particulate (PM_{10}) Monitor

All air monitoring equipment shall be operated, calibrated and maintained according to the manufacturer's specifications.

8.2 Air Monitoring Frequency

Continuous air monitoring utilizing the CGI will be performed during the deeper excavation and de-watering for the subsurface utilities. Particulate levels will be monitored continuously during all excavation and earthmoving activities and integrated over a period not greater than 15 minutes. The air monitoring will be performed in the breathing zone immediately downwind of the site. Results of the air monitoring will be entered in the daily air monitoring form (see Forms in Appendix II.)

This frequency shall be increased if noticeable petroleum-related odors occur.

8.3 Confined Spaces

Confined spaces, as defined under OSHA 1910.146, represent a special hazard for on-site personnel. In confined spaces, the contractor shall monitor continuously for methane or any other combustible gas using the CGI (refer to instrumentation subsection). These "confined space" situations shall apply to the trenching for the subsurface utilities and the installation of these utilities.

8.4 Perimeter Air Monitoring

When elevated PID/FID or particulate readings, as defined below under Response Actions, are detected in the work area, perimeter air monitoring will be initiated. Perimeter air monitoring will be performed at the site boundary downwind of the work area. Continuous monitoring will be performed and results will be recorded on the daily air monitoring form.

9.0 RESPONSE ACTIONS

The Contractor shall respond to the results of the air monitoring in accordance with the Table II:

TABLE II
RESPONSE ACTION SUMMARY

Instrument	Action Level	Response Action
PID/FID	≤5 ppm over background	Level D
	>5 and <30 ppm over background	Level C, notify QWDC immediately, initiate perimeter monitoring
	>30 ppm over background in work area, or >5 ppm over background at perimeter	Stop work, wet area, resume work after levels drop below 30 ppm
CGI	20% of LEL	Stop work, evacuate area, allow area to vent
Particulate monitor	>100 ug/m^3 over background in work area	Apply dust suppression measures, initiate perimeter monitoring
	>150 ug/m^3 in work area or >75 ug/m^3 at perimeter	Stop work, apply additional dust suppression measures, resume work when concentrations drop below action levels

KEY: LEL = Lower Explosive Limit

10.0 WORK SITE LIMITATIONS

Since the levels of inorganic or organic compounds in the soils would not cause them to be classified as hazardous, a distinct delineation of the construction area is unnecessary (ie. Exclusion Zone, Contamination Reduction Zone, and Support Zone).

At this time, the only work site limitations required for the construction site shall consist of temporary fencing or similar control measures around the perimeter of the construction area. The function of this measure will be to discourage entrance onto the areas with exposed soil. Furthermore, there shall be no drinking, eating, or smoking within areas of exposed soil. These restrictions and other standard safe work practices are presented in Appendix I.

11.0 CLEAN-UP PROCEDURES

Since the level of inorganic or organic compounds would not cause the site soil to be classified as hazardous, stringent decontamination procedures

for personnel or equipment are unnecessary. Disposable gloves, coveralls, etc. may be disposed of as ordinary solid waste.

Clean-up of personnel and equipment shall take place in the designated clean-up areas of the construction site. Clean-up of personnel will consist of the following steps:

1. Removal or brushing of site soil from coveralls;
2. Field wash of hands and face.

In areas of the site where the soil would be classified as hazardous (i.e. hot spot removal areas), decontamination of personnel and equipment will be consistent with the procedures described in DEC Technical Guidance Memorandum HWR-90-4008.

APPENDIX I

GENERAL SAFETY AND HEALTH HAZARDS

GENERAL SAFETY AND HEALTH HAZARDS

Potential hazards are generally classified into physical, chemical, and biological. The specific chemical and/or biological hazards have been discussed in the plan, and therefore do not need to be discussed further.

PHYSICAL HAZARDS:

There can be numerous types of physical hazards at a construction site. These can may include holes, ditches, sharp objects, slippers surfaces, or uneven terrain. Some safety hazards are also a function of the work itself. Protective equipment, for example, can impair one's agility, hearing, or vision.

Heat and cold stress are common types of physical hazards that warrant further discussion.

Heat Stress

Heat stress can be a major hazard for workers wearing protective clothing. The same protective materials that shield workers from a potential contaminated medium also limits the dissipation of heat and moisture from the body. This can result in dizziness, fatigue, sickness, and in some extreme cases, even in death.

The rate of heat stress depends upon the ambient conditions and the actual work being done. Nonetheless, heat stress has been known to occur very rapidly -- in less than 15 minutes. All personnel entering the work site should be familiar with the signs and symptoms of heat stress.

1) Heat Exhaustion --Dizziness, lightheadedness, slurred speech, rapid pulse, confusion, fainting fatigue, copious perspiration, cool skin, and nausea.

Response: Rest in a shaded area and consume potable water. If heat exhaustion is observed frequently or in many individuals, a new work/rest regime shall be instituted.

2) Heat Stroke --Hot dry, flushed skin, delirium, and, in extreme cases, coma.

Response: Victim shall be taken immediately to the nearest hospital.

As indicated by the appropriate response for heat exhaustion, heat stress can be prevented by resting frequently in a shaded area and consuming large quantities of fresh, potable water.

Explosions and Fires

Obviously, fires and explosions represent a significant physical hazard. At a construction site, these can result from the following:

1. Chemical reactions that produce explosion, fire or heat

2. Ignition of explosive or flammable chemicals or gases

3. Ignition of materials due to oxygen enrichment

4. Agitation of shock - or friction sensitive compounds

5. Sudden release of materials under pressure

Explosions and fires may arise spontaneously. Frequently, they result from site activities. For example, moving of drums or the sparks from excavation equipment can cause a fire or explosion. Work in confined spaces represents a potentially explosive environment. Methane can enter and accumulate in confined spaces to the degree that an explosion or fire can result. Thus, workers shall follow the applicable OSHA regulations whenever working in a confined space situation.

The following general precautions should be taken to protect against potential fires or explosions:

1. A qualified individual shall monitor for explosive atmospheres and flammable vapors.

2. Keep all potential ignition sources away from an explosive or flammable environment

3. Use non-sparking, explosion-proof equipment

4. Follow safe practices when performing any task that might result in the agitation or release of chemicals.

APPENDIX II

STANDARD SAFE WORK PRACTICES

STANDARD SAFE WORK PRACTICES

1. GENERAL

A. Eating, drinking, chewing gum or tobacco, or smoking are prohibited in the contaminated or potentially contaminated area or where the possibility for the transfer or contamination exists.

B. Do not place monitoring equipment on potentially contaminated surface (e.g., ground, etc.).

C. Prevent, to the extent possible, spillage. In the event that a spillage occurs, contain liquid, if possible.

D. Prevent splashing of contaminated materials.

E. All field crew members shall make use of their senses (all senses) to alert them to potentially dangerous situations in which they should not become involved (e.g., presence of strong, irritating, or nauseating odors).

F. Field crew members shall be familiar with the physical characteristics of investigations, including:

- Wind direction in relation to the ground zero area;
- Communications;
- Areas of known or suspected contamination:
- Site access; and
- Nearest water sources.

G. The number of personnel and equipment in the areas of exposed soil should be minimized, but only to the extent consistent with workforce requirements of safe site operation.

H. All wastes generated during contractor activities at the site shall be disposed of as directed by the Project Site Engineer.

2. CONFINED SPACE ENTRY

All personnel shall treat Confined Space Entry in accordance with the current OSHA Standard (which at the time of composing this Health & Safety Plan is 1910.146).

3. "BUDDY" SYSTEM

A. All operations involving confined space entry shall be performed by a team of not less than two (2) persons with specific duties as follows:

Person No. 1: Securing of lifeline to winch or stationary object and entry into confined space to perform necessary operation(s). Maintain

communication with Person No. 2.

Person No. 2: Remain outside the confined space and observe and/or communicate with Person No. 1 until the operation is complete and Person No. 1 has exited the confined space.

During the period in which the confined space operation is being performed, Person No. 2 shall be equipped with a full-face positive pressure demand, self-contained breathing apparatus and safety harness with lifeline.

Person No. 2 shall tend to Person No. 1's lifeline during the entire operation.

B. Communications

Person No. 1 and Person No. 2 shall communicate with each other during the entire operation, if visual contact cannot be maintained. The following code shall be used when utilizing the lifeline.

Person No. 2 to Person No. 1	**Person No. 1 to Person No. 2**
1 Pull -- Are you okay?	1 Pull -- I am okay
2 Pulls -- Advance	2 Pulls -- I am going ahead
3 Pulls -- Back out	3 Pulls -- Keep slack out of line

If Person No. 1 does not respond to the pull code, assume that there is trouble and begin effecting emergency procedures.

C. Emergency Plan

If it becomes necessary to effect rescue efforts to remove a worker from a confined space, the following procedures shall be followed:

1. Person No. 2 shall communicate via two-way radio to a base station and request assistance. The following information shall be given:

   a. Location
   b. Bring emergency oxygen supply first-aid kit
   c. Bring self-contained air supply with full face mask, safety harness, and lifeline
   d. Call for professional medical assistance.

   BEFORE BEGINNING RESCUE, CONFIRM THAT COMMUNICATION WAS RECEIVED AS TRANSMITTED AND THAT ASSISTANCE IS FORTHCOMING.

2. If Person No. 1's lifeline is secured to a winch, begin hauling Person No. 1 out of the confined space. This procedure must be performed at speed that shall not further injure Person No. 1.

3. If the lifeline is not secured to a winch, Person No. 2 shall secure lifeline and enter the confined space, wearing self-contained breathing apparatus.

   ALWAYS SUMMON ASSISTANCE BEFORE BEGINNING A RESCUE ATTEMPT.

D. Reporting

On completion of the confined space entry operation, the permit should be completed indicating the amount of time and worker or workers who were inside the confined space. This report (permit) is sent to the Project Engineer.

APPENDIX III

FORMS

PLAN ACCEPTANCE FORM
CONSTRUCTION PHASE HEALTH AND SAFETY PLAN

Instructions: This form is to be completed by each firm or employer to work on Parcel 11 of the Queens West Development Site and returned to the Project Engineer.

Document: QUEENS WEST SUPPLEMENTAL CONSTRUCTION PHASE HEALTH AND SAFETY PLAN FOR PARCEL 11

I represent that I have read and understand the contents of the above plan and agree to perform my work in accordance with it.

_____
Signed

_____
Print Name

_____
Company/Office Location

_____
Date

AIR MONITORING
ACCIDENT REPORT FORM

SUPERVISOR'S REPORT OF ACCIDENT		DO NOT USE FOR MOTOR VEHICLE ACCIDENTS
TO	FROM TELEPHONE (include area code)	
NAME OF INJURED OR ILL EMPLOYEE		
DATE OF ACCIDENT	TIME OF ACCIDENT	EXACT LOCATION OF ACCIDENT
NARRATIVE DESCRIPTION OF ACCIDENT		
NATURE OF ILLNESS OR INJURY AND PART OF BODY INVOLVED		COST TIME YES ☐ NO ☐

PROBABLE DISABILITY (Check One)

FATAL	LOST WORK DAY WITH __ DAYS AWAY FROM WORK	LOST WORK DAY WITH ___ DAYS OF RESTRICTED ACTIVITY	NO LOST WORK DAY	FIRST AID ONLY
☐	☐	☐	☐	☐

CORRECTIVE ACTION TAKEN BY REPORTING UNIT	
CORRECTIVE ACTION THAT NEEDS TO BE TAKEN (by whom and by when)	
NAME OF SUPERVISOR	TITLE
SIGNATURE	DATE

AIR MONITORING

GENERAL INFORMATION

Name: _____
Date: _____
Time: _____
Project: _____
Job No.: _____

Background Level: _____
Weather Conditions: _____

Estimated Wind Direction: _____

Estimated Wind Speed (i.e., calm, moderate, strong, etc.): _____

Estimated Air Temperature and % Relative Humidity: _____

Location Where Background Level Was Obtained: _____

EQUIPMENT SETTINGS

HNU	EXPLOSIMETER
Range:	Alarm Trigger % LVL:
Span Pot: _____	Alarm Trigger % 02: _____
Calibration Gas: _____	Calibration Gas: _____
_____	_____

FIELD ACTIVITIES

Field Activities Conducted:

_____

_____

EXPLOSIMETER

TIME	HNU	%LVL	%02	DRAGER TUBE	RADIATION METER
	Equivalent			ppm-constituent	