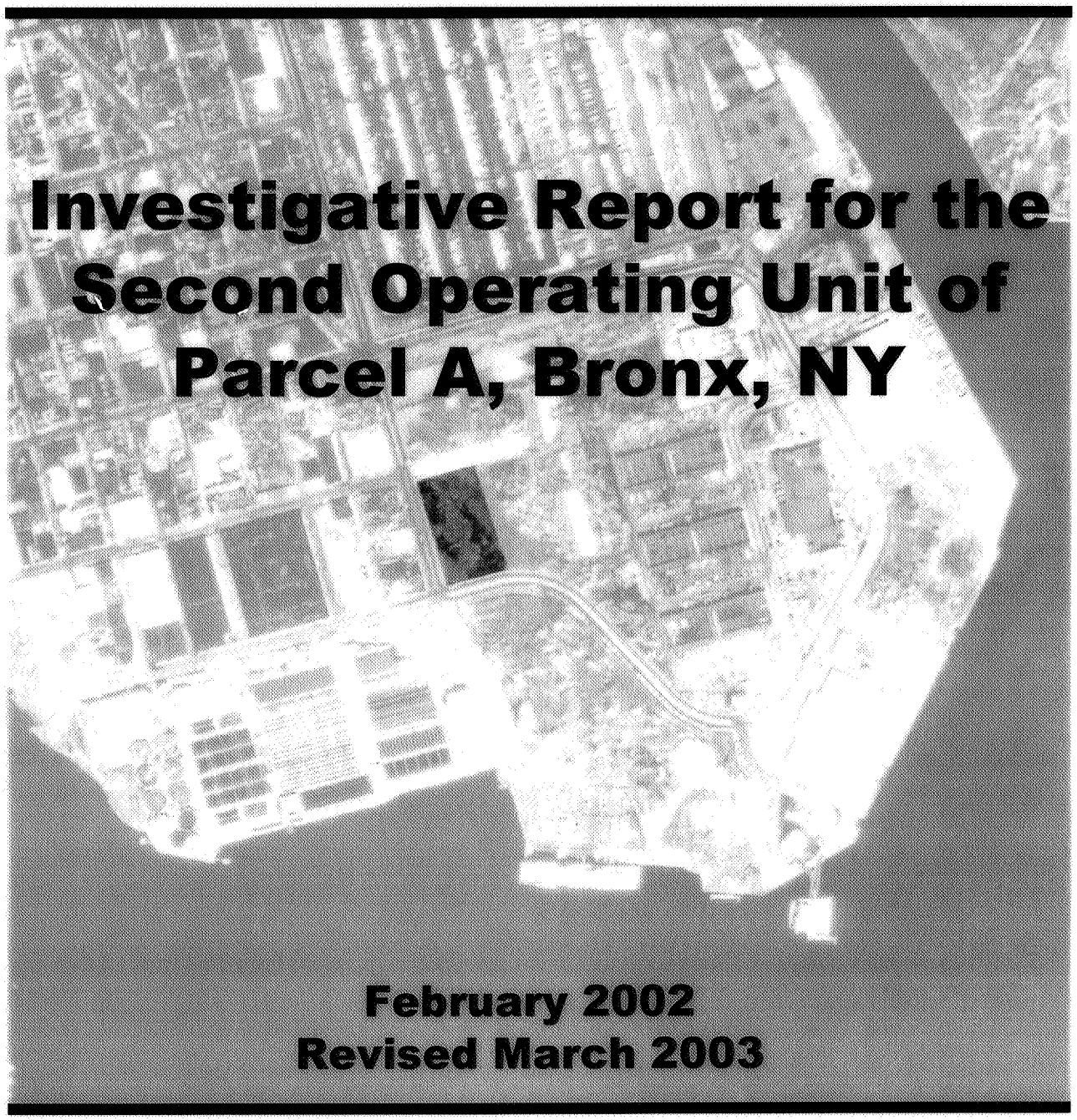
Historic Report

- Investigative Report for the Second Operating Unit Portion of Parcel A, Bronx, NY, Lawler, Matusky & Skelly Engineers LLP, 2002

Hunts Point Food Distribution Center
Redevelopment Plan



Investigative Report for the Second Operating Unit of Parcel A, Bronx, NY

February 2002
Revised March 2003

Prepared by

Lawler, Matusky & Skelly Engineers LLP
One Blue Hill Plaza • Pearl River, New York 10965

ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS

Hunts Point Cooperative Market Redevelopment Plan

Investigative Report for the Second Operating Unit Portion of Parcel A, Bronx, NY

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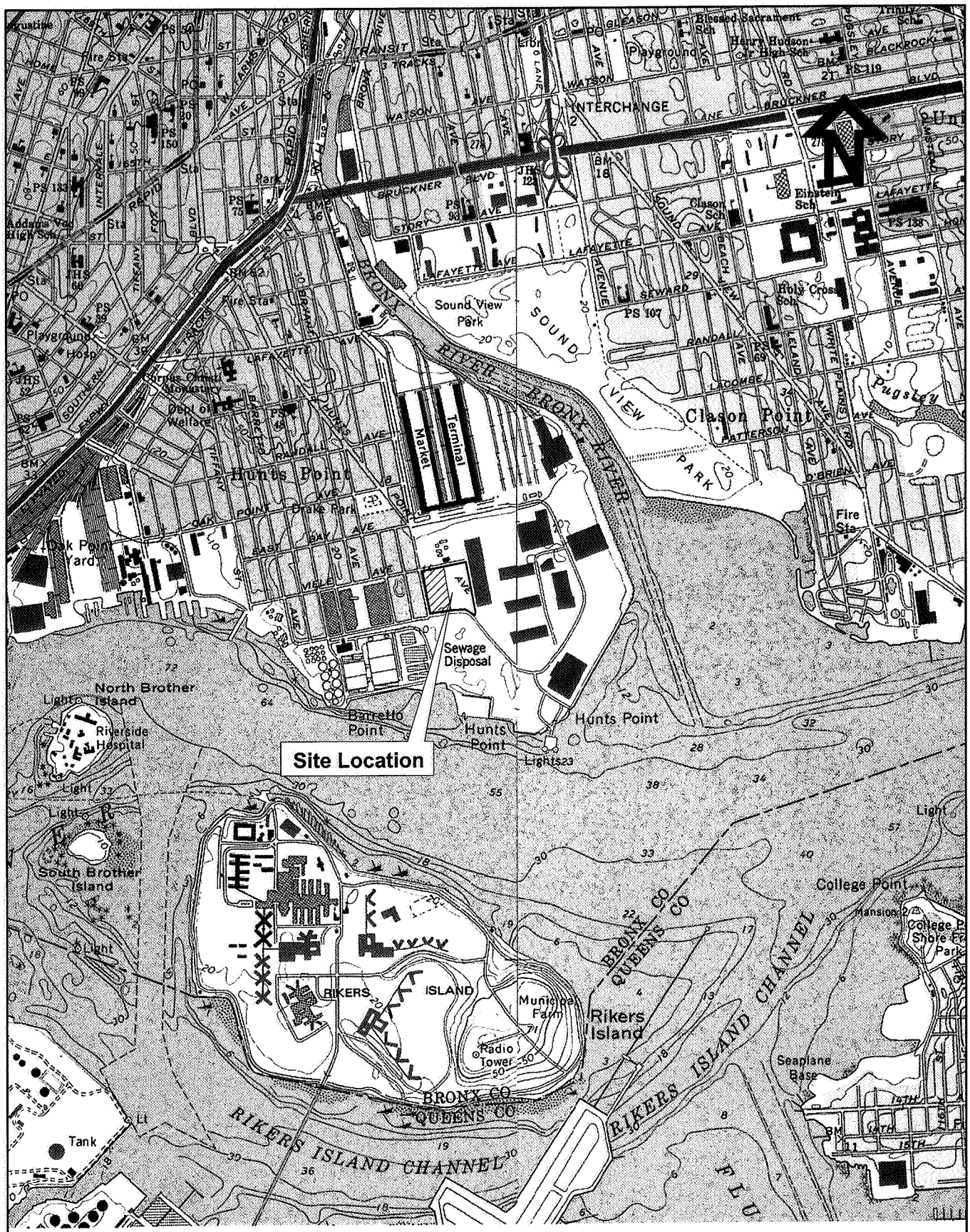
EXECUTIVE SUMMARY

Lawler, Matusky & Skelly Engineers LLP (LMS) under contract to New York City Economic Development Corporation (NYCEDC) performed a subsurface investigation program based on the New York State Department of Environmental Conservation (NYSDEC) approved Scope of Work (dated June 2000) entitled, Investigative Scope of Work for the Second Operating Unit Portion of Parcel A, Bronx, NY (SOW). This report presents the findings of the subsurface investigation for the Second Operating Unit (SOU) of Parcel A located in the northwestern portion of the Hunts Point Cooperative Market just south and west of Area E OU2 (see Figure 1). The purpose of the investigation was to determine areas of the SOU that are suitable for redevelopment under the proposed redevelopment plan, and identify specific areas that may require more detailed attention. The proposed redevelopment of the site includes general grading of the site and the importation of fill material to bring the site up to the final grade. Following the completion of grading, a portion of the property is proposed to be used as a temporary storage area for construction trailers for Site B and is ultimately slated for development as a parking lot for the existing meat market on adjacent Site A and the proposed Fulton Fish Market on Site B.

A review of site conditions and history was performed prior to preparation of the SOW. This review in combination with a physical site inspection was used to prepare the investigative workscope. Information reviewed to determine site history and physical setting included historic Sanborn fire insurance maps, aerial photographs, historic topographic maps, and Consolidated Edison Company of New York (Con Ed) site maps.

Overall, this parcel was part of a Con Ed coal gasification plant that was initially constructed between 1924 and 1932 and operated until the early 1960s. The plant was constructed to manufacture both oven gas and carbureted water gas as major products with coke, ammonium sulphate, coal tar, water gas tar, and light oil as by products. Approximately 46 buildings or structures existed on the site which were actively involved in gas production.

Site A is located in the northwestern end of the former coal gasification facility. Historic Con Ed maps prepared at the time the facility operated showed one storage building of steel truss construction in the far southeast corner of Site A with three associated underground storage tanks. The three tanks were all identified on the map as having a capacity of 550 gallons each; two were shown to hold gasoline and the third was unused. The remainder of the site was free of identified surface structures. The former road bed of Hunt's Point Avenue is identified on the supplied maps by Con Ed, and traversed the site from the northwest to the southeast, splitting the entire site into two unequal halves. A number of existing subsurface utilities are located in this right of way area of the former road and were avoided during site excavation activities.



Map source: USGS 7.5 minute quadrangle series, Central Park, NY-NJ, 1966, photorevised 1988.

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LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site Location** **Site A Second Operating Unit** **Hunts Point**	**Figure 1**

The investigation included the excavation and examination of on-site material and the collection of soil samples for chemical analysis, as well as the visual inspection and collection of groundwater samples. A total of five trenches were excavated in a west-east direction across the site and were spaced in order to provide maximum coverage of the area.

Each trench was extended to the water table. Following completion of the excavation for each trench, a determination was made that allowed for the collection of material and compositing of this material into a sample. Generally, the material which made up the composite was considered to be that which was most obviously contaminated with petroleum, coal tar compounds or fill material that appeared industrial in nature. The soil/fill samples were submitted to the contract analytical laboratory and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticide/PCBs, and target analyte list (TAL) metals and cyanide. Two groundwater samples were also collected from trenches in the areas which exhibited the most obvious signs of petroleum contamination. These samples were analyzed for the same parameters as the soil samples, with the addition of filtered metals and semivolatiles.

Upon completion of trenching activities, NYSDEC requested an additional soil and groundwater investigation (September 2001). Three piezometers, three deep borings and 13 shallow borings were installed in the area of the site found to exhibit the highest relative visual level of residual coal tar and semivolatiles. The results of the groundwater portion of this sampling effort raised a question regarding the results of turbidity on a sample and therefore a supplemental sampling event was conducted. This effort included the installation of three (3) additional piezometers in the southwestern corner of the property to monitor groundwater quality (November 2002).

The results of all of the excavation, inspection, sampling, analysis and data evaluation revealed that an upper layer of fill material that varies in thickness and composition is present across the site. Beneath the fill is a layer of coal ash and/or tar. Below that layer was a layer of incinerator ash and occasional organic clay.

The analytical data were compared to NYSDEC Technical Administrative Guidance Memorandum 4046 - Determination of Soil Cleanup Objectives and Cleanup Levels (TAGM).

INTRODUCTION:

The report presents the findings of the subsurface investigations for the Second Operating Unit (SOU) of Parcel A located in the northwestern portion of the Hunts Point Cooperative Market (Figure 1).

Site A is a rectangular piece of property that covers approximately 14.5 acres with the second operating portion of the site comprising approximately 7.5 acres. The Site is bounded on the north by the northern edge of Viele Avenue, on the south by

Food Center Drive, on the west by Halleck Street, and the east by what was designated in the 1951 Sanborn map as Laboratory Road (Figure 2). The operating portion of Site A was investigated in June 1999, the investigative report was submitted in July 1999, and the Response Plan was submitted in February 2000 (OU 1).

Historic Sanborn and topographic maps have been reviewed and a composite showing conditions which were identified on those maps is included as Figure 3. Historic aerial photographs were also reviewed and any conditions not shown on the Sanborn maps were taken into consideration during actual sampling activities of the second operating unit of Site A.

There were few deviations from the approved scope of work, any changes made in the field were discussed and approved by the NYSDEC site representative prior to being implemented. Changes made to the scope of work included not performing the community air monitoring program as dust emissions were not an issue during site sampling activities.

FIELD SAMPLING ACTIVITIES

LMS began this assignment by conducting a site inspection to identify the health and safety concerns for the site, access limitations, layout of control areas, preparation of a health and safety plan, and confirmation of utilities on the site with respect to the sampling locations.

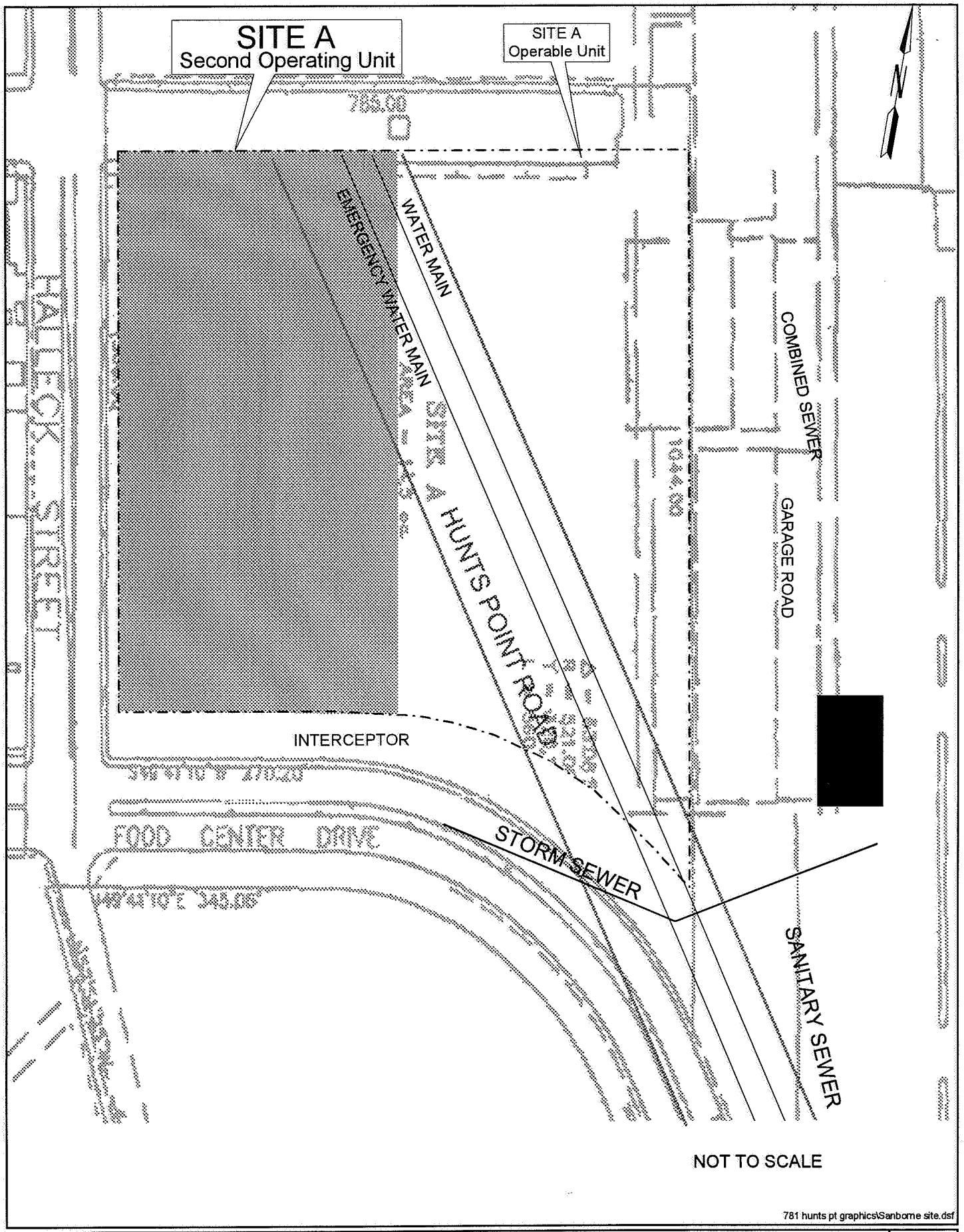
As was noted on the historical aerial photographs (Aerial Photos 1 through 5), and the historic Sanborn maps, the old road bed for Hunt's Point Road ran through the northeast portion of the SOU of Site A

Trench Installation

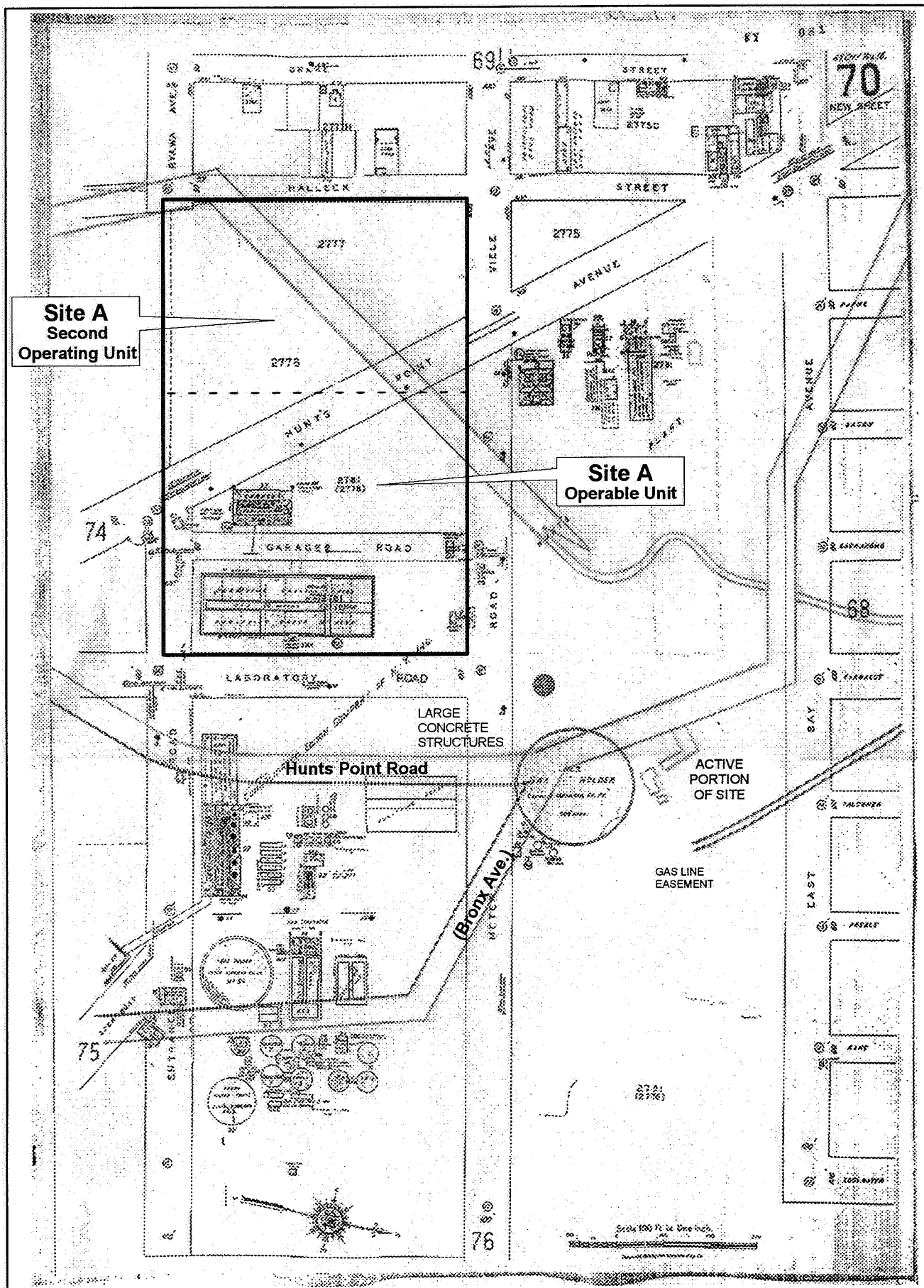
Sampling consisted of the installation of five trenches across the site in a west to east direction in the area of the SOU as illustrated in Figure 4. Trenches were installed to the water table using a tire mounted excavator operated by a 40-hour OSHA trained operator. Excavation at Site A SOU commenced on 8 August 2000 and was completed on 11 August 2000.

This form of sampling allowed for the visual inspection of the subsurface and for the collection of samples in a manner not normally available during the installation of test borings. An extensive subsurface evaluation was therefore able to be performed. The soil excavated from the trenches was scanned with a photoionization detector (PID) at regular intervals, or when an area of concern was encountered, no elevated readings were recorded at any of the trenches at Site A. Trenching activities were also described and logged by the on-site LMS geologist.

Soil samples were collected at three locations across each trench. Three grab samples were collected for target compound list volatile organics (TCL VOCs) analysis using EPA Method 8260. A composite sample was also collected from each



LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site A Second Operating Unit** **Hunts Point**	**Figure 2**



LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Historic Sanborn** **Site A Second Operating Unit** **Hunts Point**	**Figure 3**

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SCALE IN FEET

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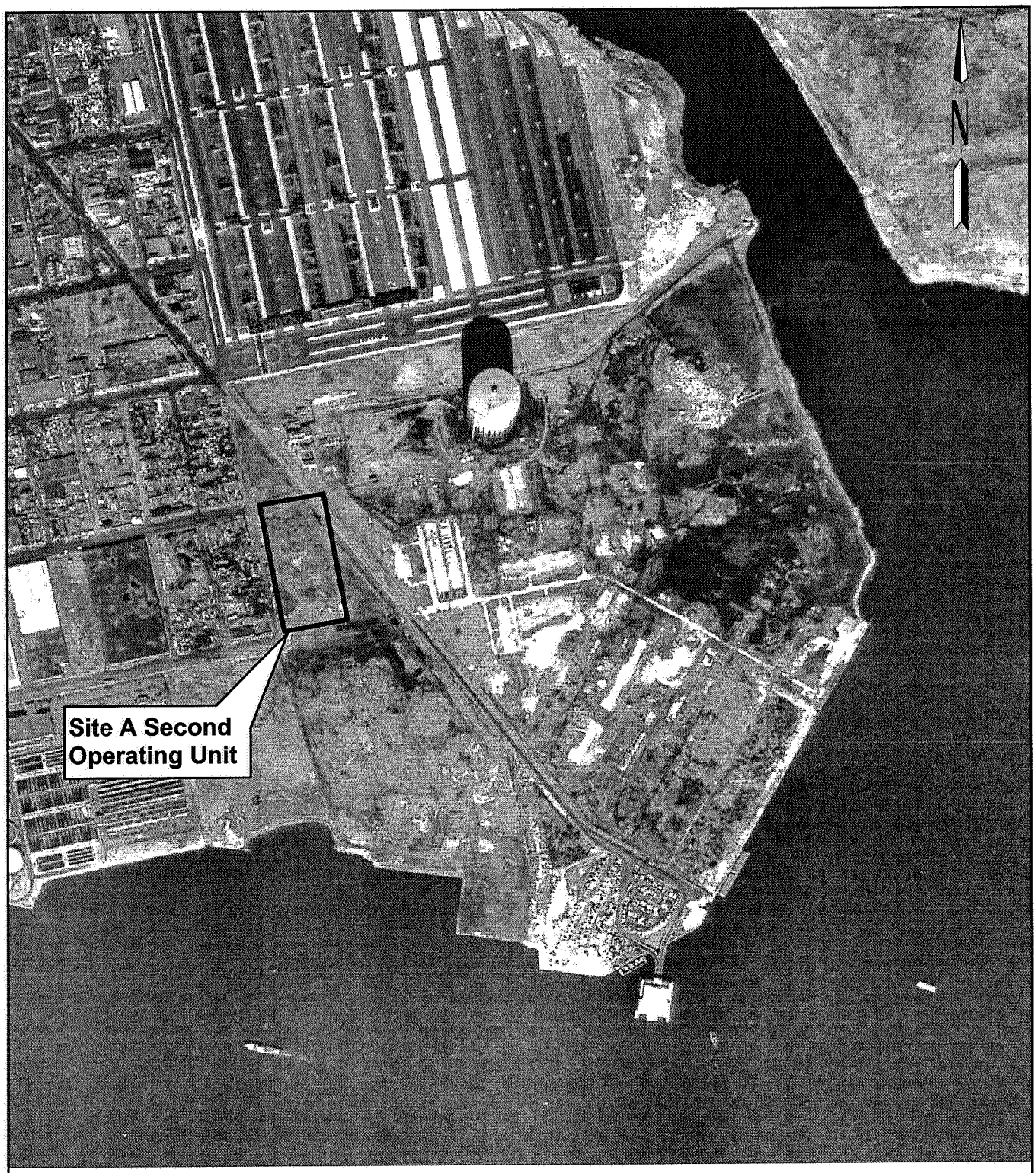
LMS **Lawler, Matusky & Skelly Engineers** LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Hunts Point Site A -** **1954 Aerial Photograph**	**Aerial Photo 1**



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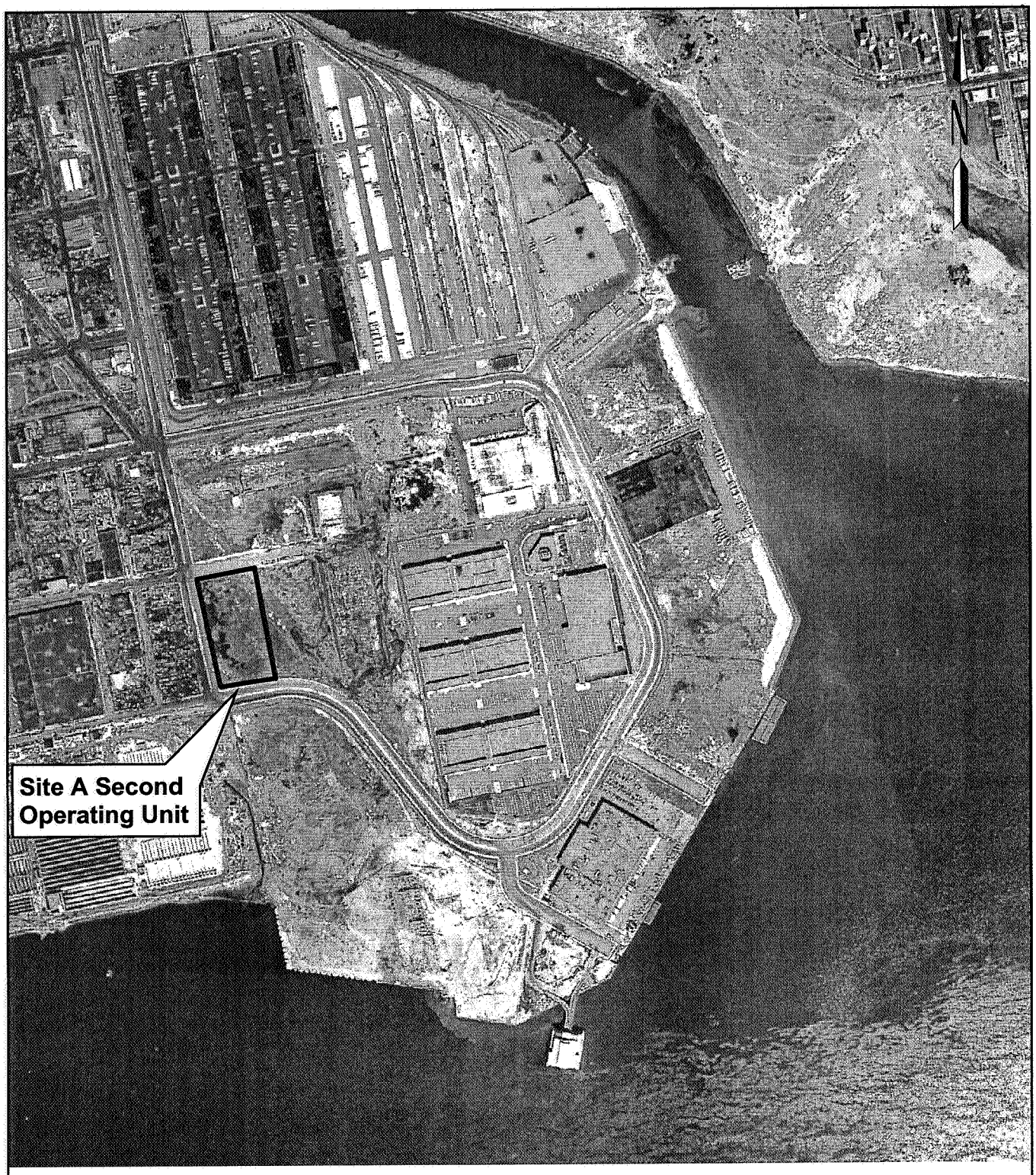
LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Hunts Point Site A - 1966 Aerial Photograph**	**Aerial Photo 2**



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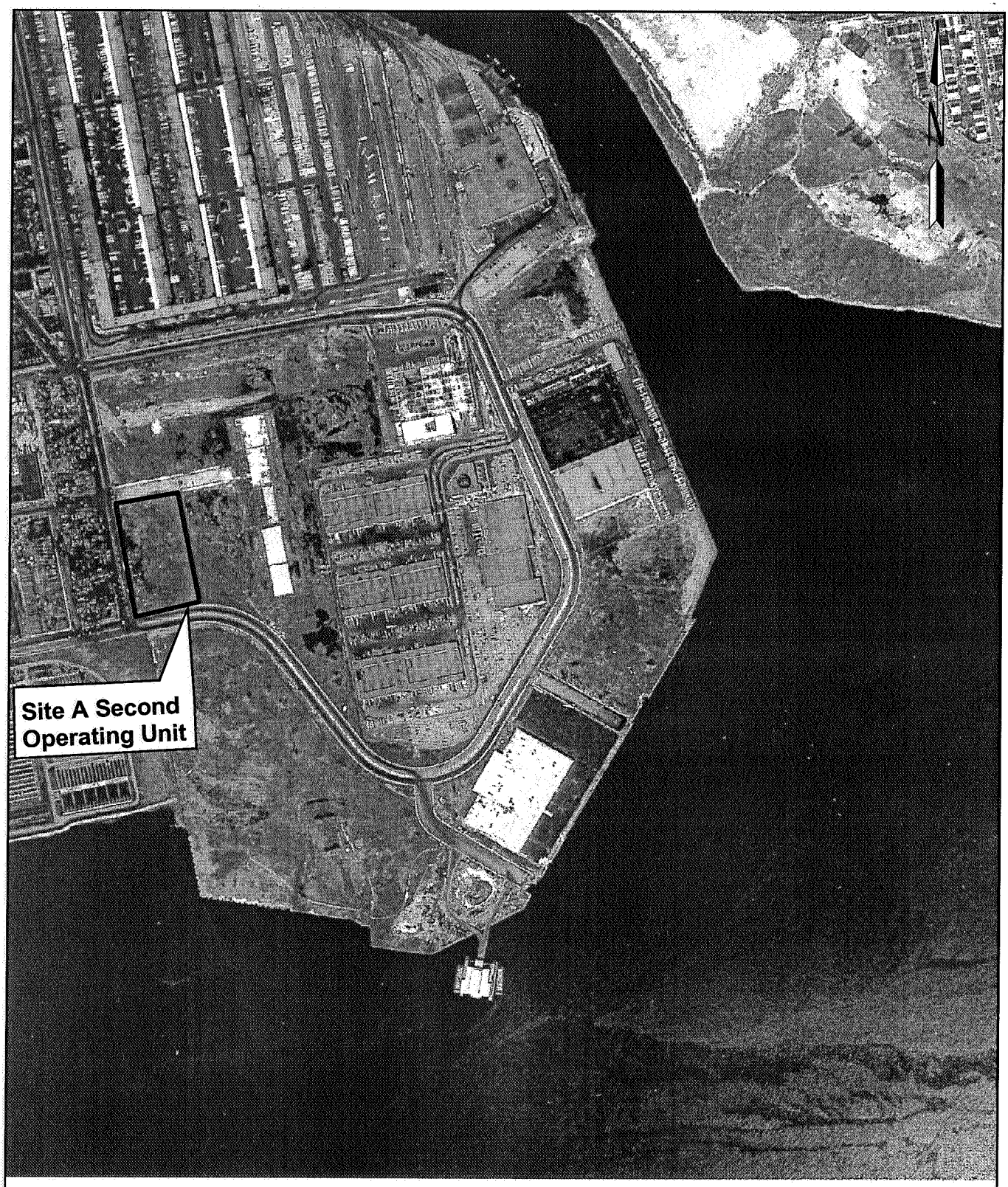
LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Hunts Point Site A - 1975 Aerial Photograph**	**Aerial Photo 3**



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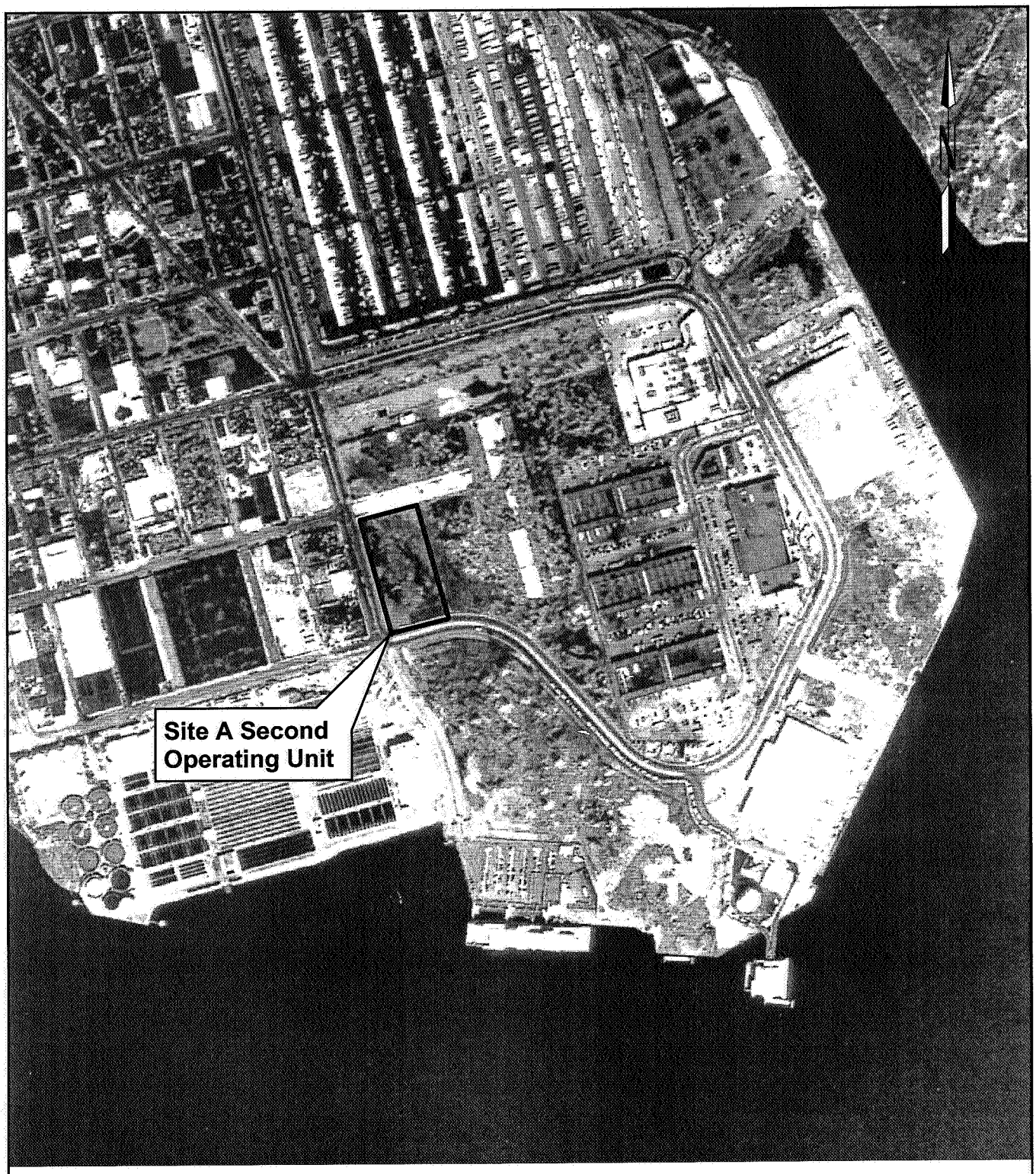
LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Hunts Point Site A - 1984 Aerial Photograph**	**Aerial Photo 4**



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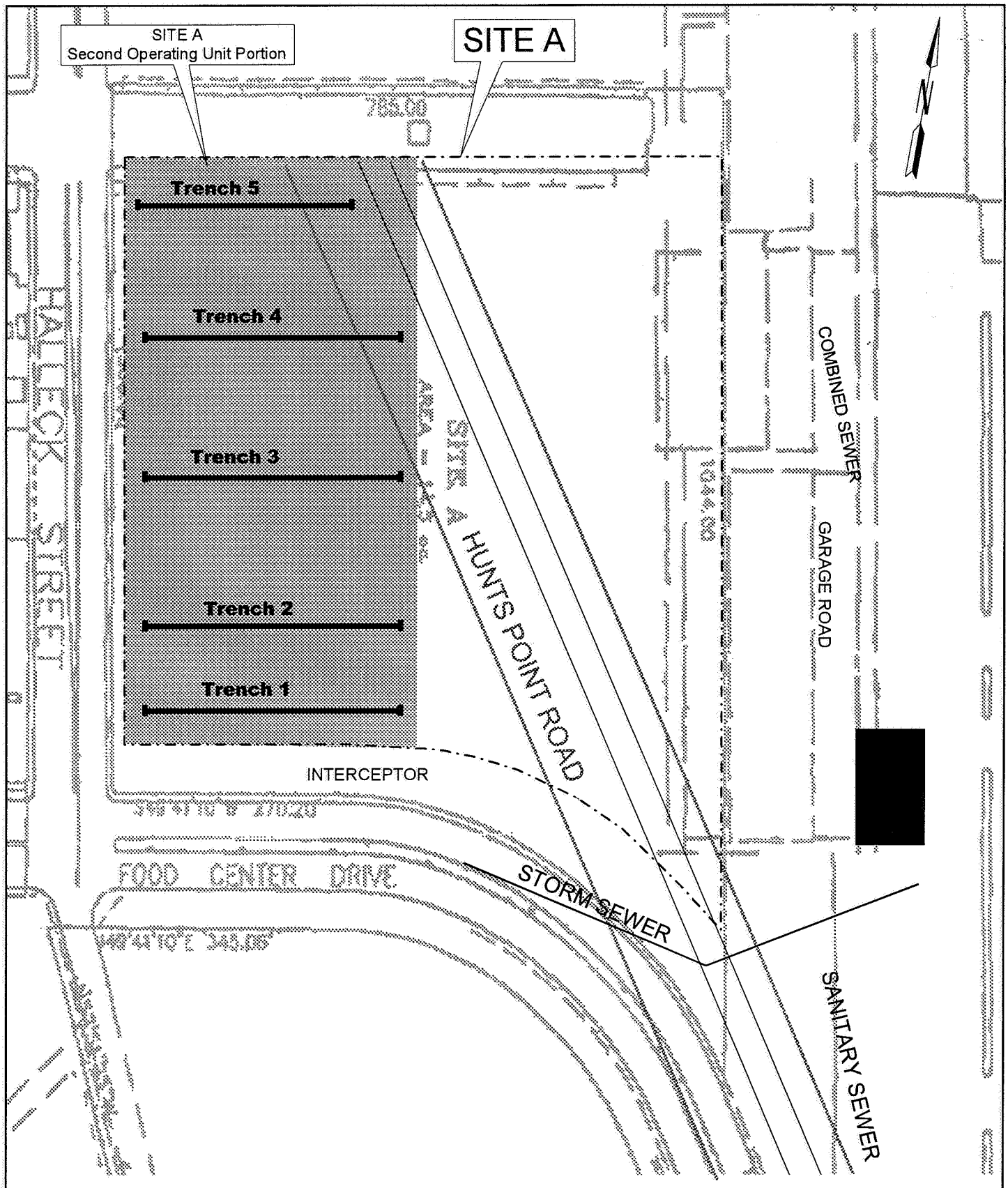
LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Hunts Point Site A - 1994 Aerial Photograph**	**Aerial Photo 5**



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LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site A Second Operating Unit Portion Trench Locations** **Hunts Point**	**Figure 4**

trench and submitted for analysis of semivolatile organic compounds (SVOCs), target analyte list (TAL) metals, cyanide, and pesticides/PCBs. Two additional samples of coal tar and purifier bed waste were collected to characterize the distinct types of waste encountered on site. Groundwater samples were collected directly from the trenches at two separate locations and submitted for analysis of TCL VOC, SVOC, Pesticide/PCB, metals and cyanide. The samples were filtered in the field for all metals using an inline filtration apparatus and then preserved prior to shipment to the laboratory. All samples were placed in the appropriate laboratory supplied containers and shipped at 4°C under chain-of-custody-protocol via overnight courier to the contract analytical laboratory.

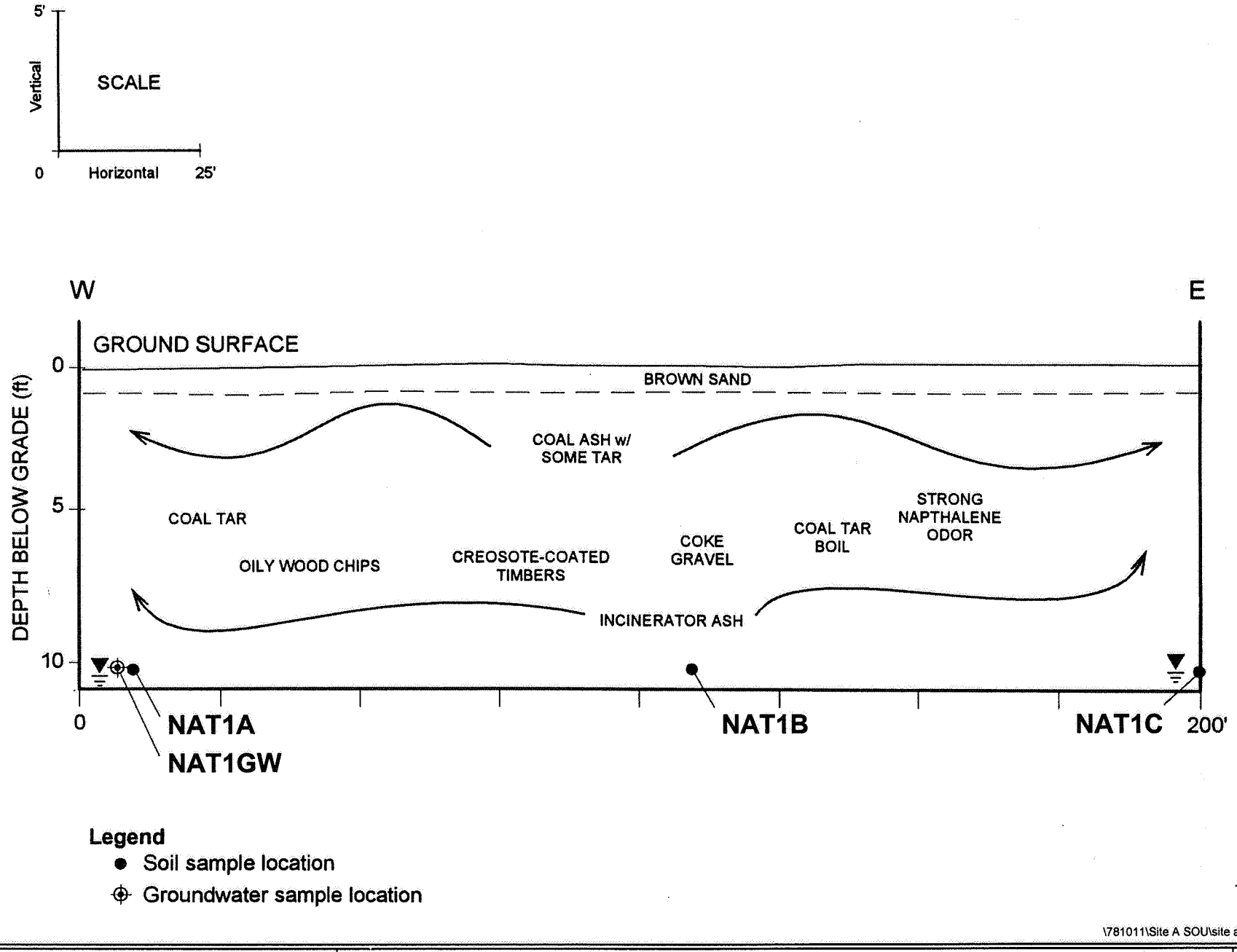
Typically, fill material consisted of an upper layer of coal ash, which overlaid a layer of incinerator ash. The depth and thickness of these layers varied in each trench as well as from trench to trench. Groundwater was encountered between 9 and 11 ft below grade. A brief description of each trench installed at the second operating unit of Site A follows.

Trench 1

Trench 1 was excavated at the southwestern most end of second operating unit of Site A, 50 ft. north of the fence at the property line (Figure 4). The trench was a total of 200 ft long and averaged 11ft in depth. A cross section describing the material and depths of the trench as well as sampling locations is illustrated in Figure 5. Fill material consisted of varying amounts of coal ash and tar, which overlaid a layer of incinerator ash. Groundwater was encountered at an average depth of 11 ft below grade. Along the trench at 11 linear ft from the western end, coal tar was encountered at a depth of 6 ft. The layer of coal tar was 3 ft thick and was present along the trench for 11 ft before pinching out at 22 linear ft from the western end of the trench. At 44 ft the coal ash layer thickened up to 6 ft in thickness, and the grain size was predominantly finer. Creosote coated timbers and planks were encountered 6 ft below grade, 72 linear ft from the western end of the trench. A boil of coal tar was present between 120 and 140 linear feet from the western end of the trench. Due to the presence of the tar boil, excavating did not exceed beyond 5 ft below grade to avoid digging tar out. The tar boil ended at 140 ft and the backhoe resumed excavating to a depth of 11 ft, at which point the fill had a noticeably strong naphthalene like odor. The odor became increasingly stronger as excavating continued eastward. A layer of fine black coal ash 5 ft thick began at the end of the tar boil at 140 ft. Some coal tar was mixed in with the coal ash. Beneath the layer of coal tar was a layer of incinerator ash. . No other significant evidence of soil or groundwater contamination was present in this trench

Trench 2

Trench 2 was excavated 100 ft north of Trench 1 (Figure 4). The trench extended a total of 200 ft and averaged in depth from 4 ft at the start of the western end of the trench to 10 ft in the middle of the trench and finished at the eastern portion of the trench at 12 ft below grade. A cross section describing the material and depths of the



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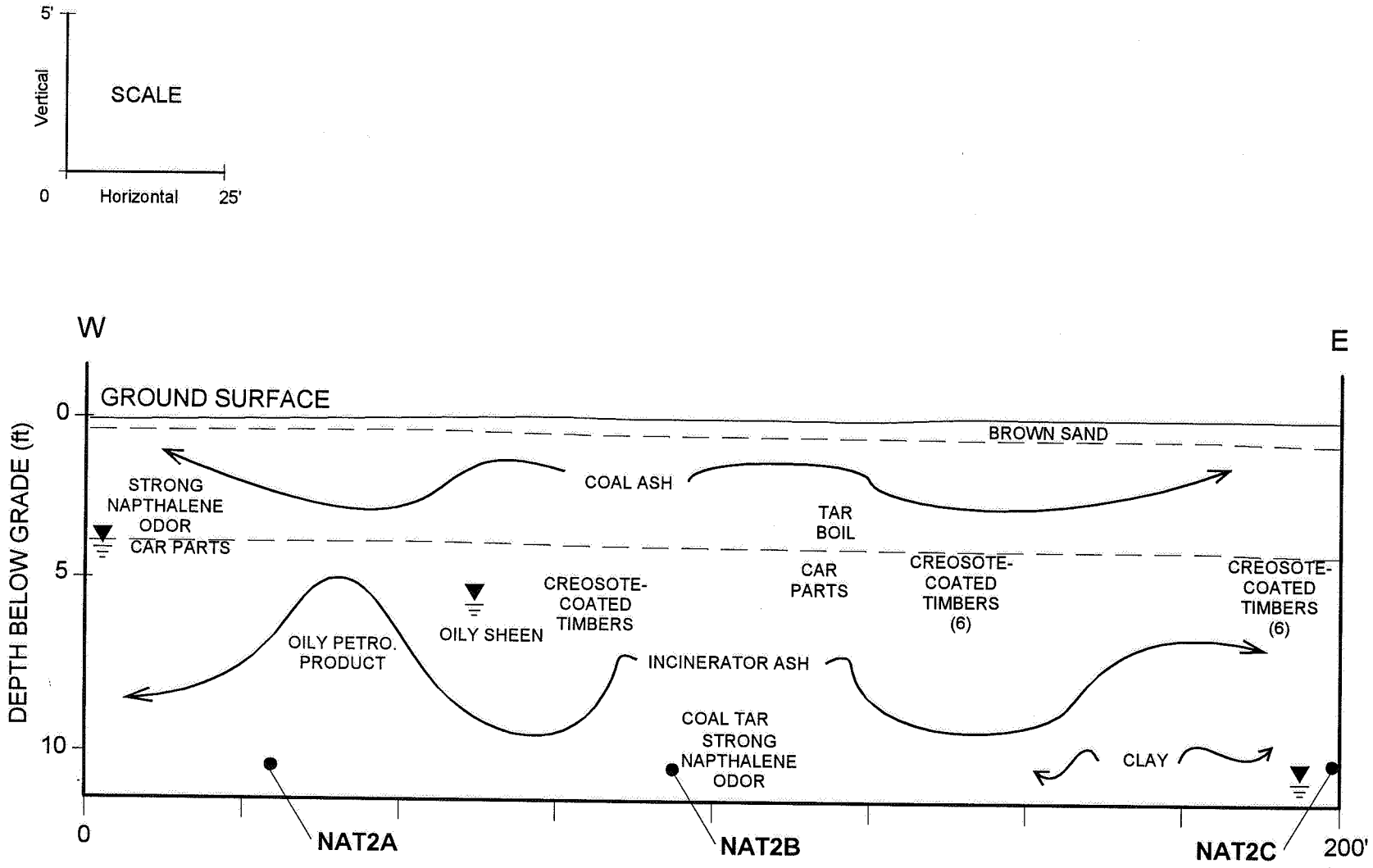
LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Trench 1 Site A** **Second Operating Unit** **Hunts Point**	**Figure 5**

trench as well as sampling locations is illustrated in Figure 6. At the onset of excavating Trench 2 a very distinct naphthalene odor was encountered. Initially fill material consisted of a 2 ft layer of brown topsoil followed by a 2 ft layer of black coal ash, slag and tar. Automobile parts such as rims, tires, and car seats were dispersed throughout this portion of the trench. Due to the presence of the automobile parts, excavating of the trench did not exceed 4 ft in depth. However, perched water was encountered in the fill at a depth of 4 ft water was encountered. A sheen was present on the water. The automobile parts extended for 20 ft from the western end of the trench, at which point the excavation was extended from a depth of 4 ft to 10 ft. The fill material also changed at this location. The first 2 ft consisted of coal ash and a soft tar which exhibited a strong naphthalene odor overlying grey silt. Water was perched above the grey silt at a depth of 4ft below grade. Incinerator ash was present below the silty layer. Water located just above the incinerator ash was very oily and had sheen on it. Petroleum product was encountered 34 ft from the western end of the trench at 6ft below grade. Due to the presence of oily product excavating did not continue below a depth of 6 ft. Trenching at this depth continued until 63 linear ft from the western end of the trench. Steel plates, possibly part of a tank as well as creosote coated timbers and pipes were encountered at 75 linear ft from the western end of the trench. A viscous liquefied coal tar with a strong naphthalene odor was encountered above the water table 8 ft below grade. Small amounts of tar were oozing out of the side of the excavation above the water table at an approximate depth of 8ft below grade and accumulating over time. Automobile parts, consisting of seats, tires, mufflers, and other metallic body parts were encountered 3 ft below grade in the coal ash layer at 100 ft and extended to 113 ft from the western end of the trench. A crushed steel tank with three fill ports was encountered at 100 ft from the western end of the trench. It was difficult to estimate the former size of the tank; however it appeared to be less than 1,000 gallons. A tar boil was encountered at 3 ft below grade from 113 ft to 120 ft from the western end of the trench. Six large creosote coated timbers exhibiting a distinct naphthalene odor were removed from at 130 linear ft from the western end of the trench. A clay layer was present just below the timbers. Groundwater was situated just above this clay layer at 11 ft below grade. At 149 ft from the western end of the trench, the fill material changed abruptly to brown incinerator ash and coal slag inter-layered with black coal ash and tar above grey organic clay. Creosote coated timbers were encountered at 200 ft from the western end of the trench. A strong naphthalene odor was present from 149 ft to 200 ft from the western end of the trench. No other significant evidence of soil or groundwater contamination was present in this trench.

Trench 3

Trench 3 was excavated 100 ft north of Trench 2 (Figure 4). The trench was a total of 200 ft in length and the average depth of the trench was 9 ft below grade. A cross section describing the depths, materials and sampling locations within the trench is included as Figure 7. Fill material consisted of a brown-black coal ash layer and a lower, black incinerator ash. Grey organic clay layer was present at 9 ft below grade; excavation did not extend below the clay layer. A strong organic odor was noted and



Legend

- ● Soil sample location
- ⊕ Groundwater sample location

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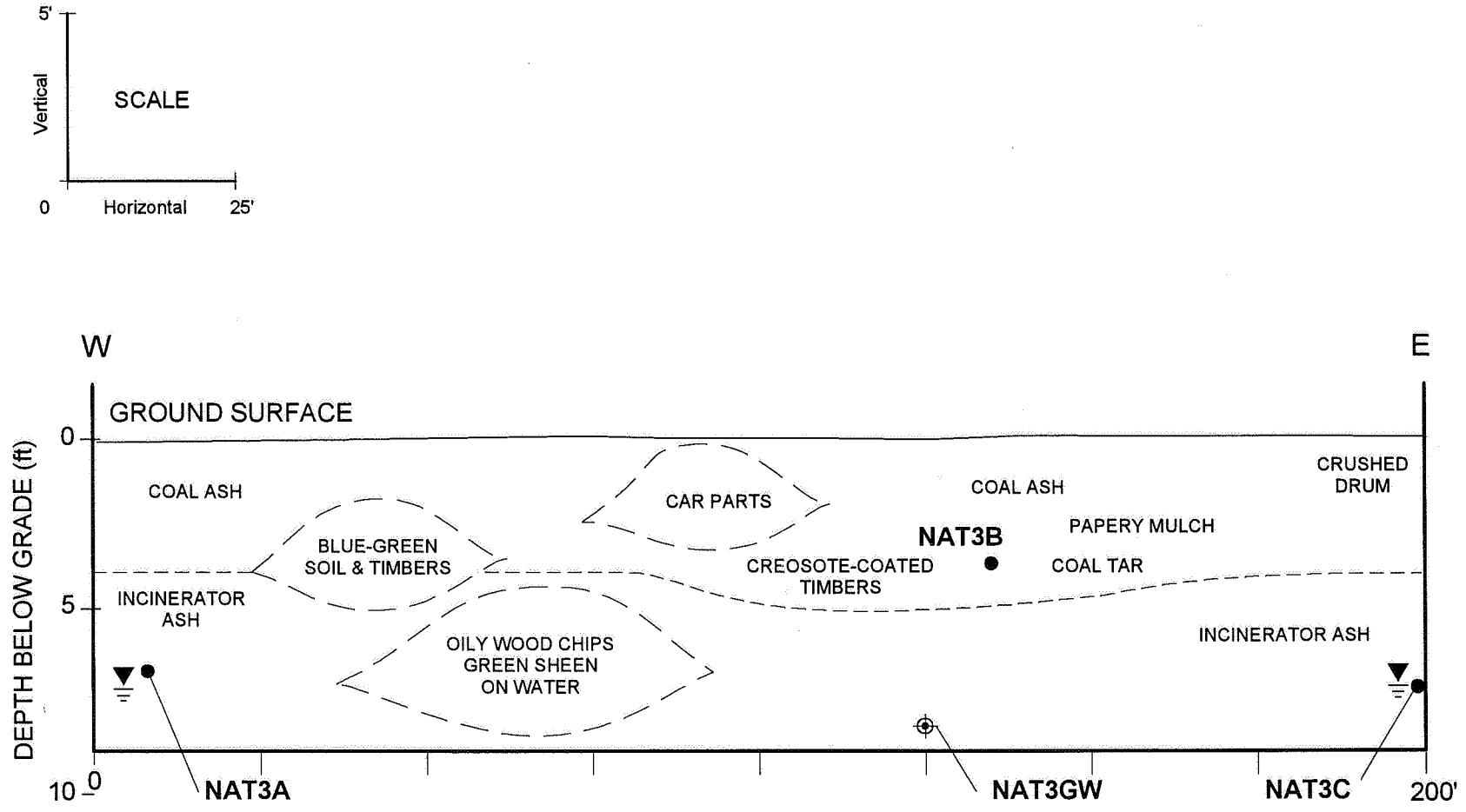
Trench 2 Site A
Second Operating Unit
Hunts Point

Figure 6



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- ● Soil sample location
- ⊕ Groundwater sample location

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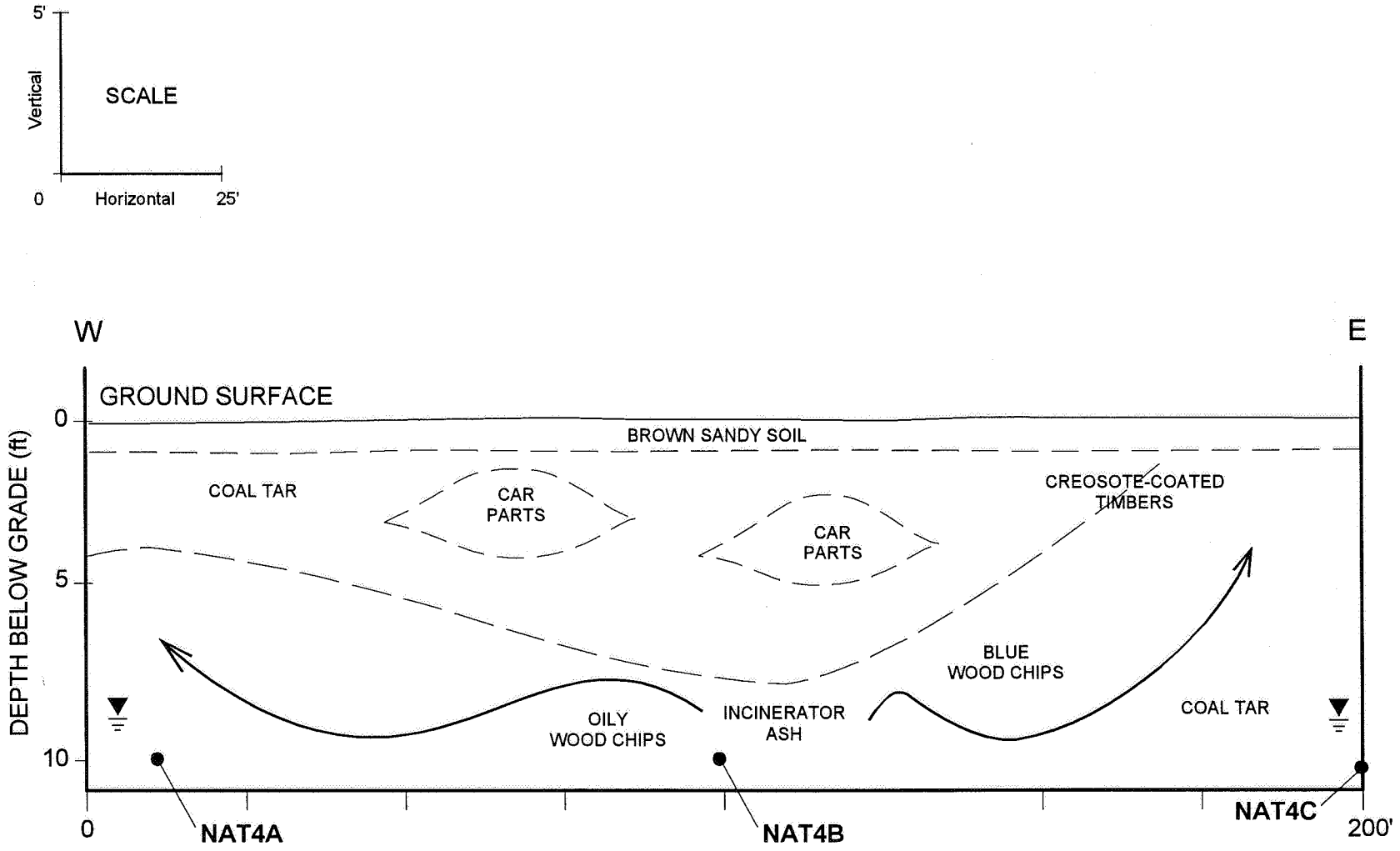
was attributed to the clay layer. Groundwater was present above the clay layer at 9 ft below grade. At the onset of excavation 6 ft below grade, a grey green silt was encountered which exhibited a more noticeable petroleum odor. The silt extended 6 linear ft along the trench. Creosote coated timbers were encountered at 27 linear ft and a distinct naphthalene odor was associated with this region of the trench. Blue-green stained soil and timbers, indicative of purifier bed wastes, were encountered between 33-36 linear ft, 4 ft below grade. Some small pipes were present in the timbers. At 49 ft from the western end of the trench, the black coal ash had a very distinct organic and naphthalene odor associated with it. At the same location 9 ft below grade oily wood chips were excavated. The wood chips also contained some incinerator ash, porcelain and glass. The water table at this location has a green sheen. Automobile parts such as tires, rims, and mufflers were encountered at 70 linear ft from the western end of the trench at a depth of 2-3 ft below grade. The automobile parts extended to 100 linear ft from the western end of the trench. Groundwater was present at 9 ft below grade, and from 49 to 100 linear feet from the western end of the trench exhibits a green oily sheen. Creosote coated timbers were encountered at 110 linear ft from the western end of the trench at depths of 4-8 feet below grade. A 6 inch diameter section of steel pipe was encountered 4 ft below grade at 122 ft from the western end of the trench. The composition of the fill material changed at this location. The first 2 ft consisted of a blend of coal tar, ash, and slag underlain by a 5 ft layer of incinerator ash. Below the incinerator ash, to a depth of 9 ft, timbers and coal tar are present. A very thin seam (less than 2 in.) of soft coal tar was encountered 4 ft below grade between 134 and 177 linear feet from the western end of the trench. Located directly above the coal tar is a 6 inch thick layer of pulp (papery material) present to the end of the trench at 200 ft. Also located at 134 ft is a 2 in diameter pipe 3 ft below grade. A groundwater sample was collected from this trench 4 ft below grade and 134 linear ft from the western end of the trench. A crushed drum was encountered at 190 linear ft from the western end of the trench. The drum was not noted to contain and contents or markings that would identify it.

Trench 4

Trench 4 was excavated 100 ft north of Trench 3 (Figure 4). The trench was a total of 200 ft long and averaged in depth from 9 ft at the western end of the trench to 11 ft at the eastern end of the trench. A cross section describing the material and depths of the trench as well as sampling locations is illustrated in Figure 8. Fill material consisted of an upper brown silty-sandy layer underlain by a layer of coal and incinerator ash. At the onset of excavation, a 2 ft layer of coal tar was encountered between 1 and 3 ft below grade. Water was perched above this tar layer. Groundwater was generally encountered between 9 and 10 ft below grade. At 24 linear ft from the western end of the trench, a 3 inch thick layer of coal tar exhibiting a naphthalene odor was encountered 2 ft below grade. Coal tar was again encountered 2 ft below grade from 42 to 50 linear ft from the western end of the trench. Automobile parts were encountered 2 ft below grade from 67 to 71 linear ft from the western end of the trench. Oily wood chips encountered from 81 to 86



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- Soil sample location

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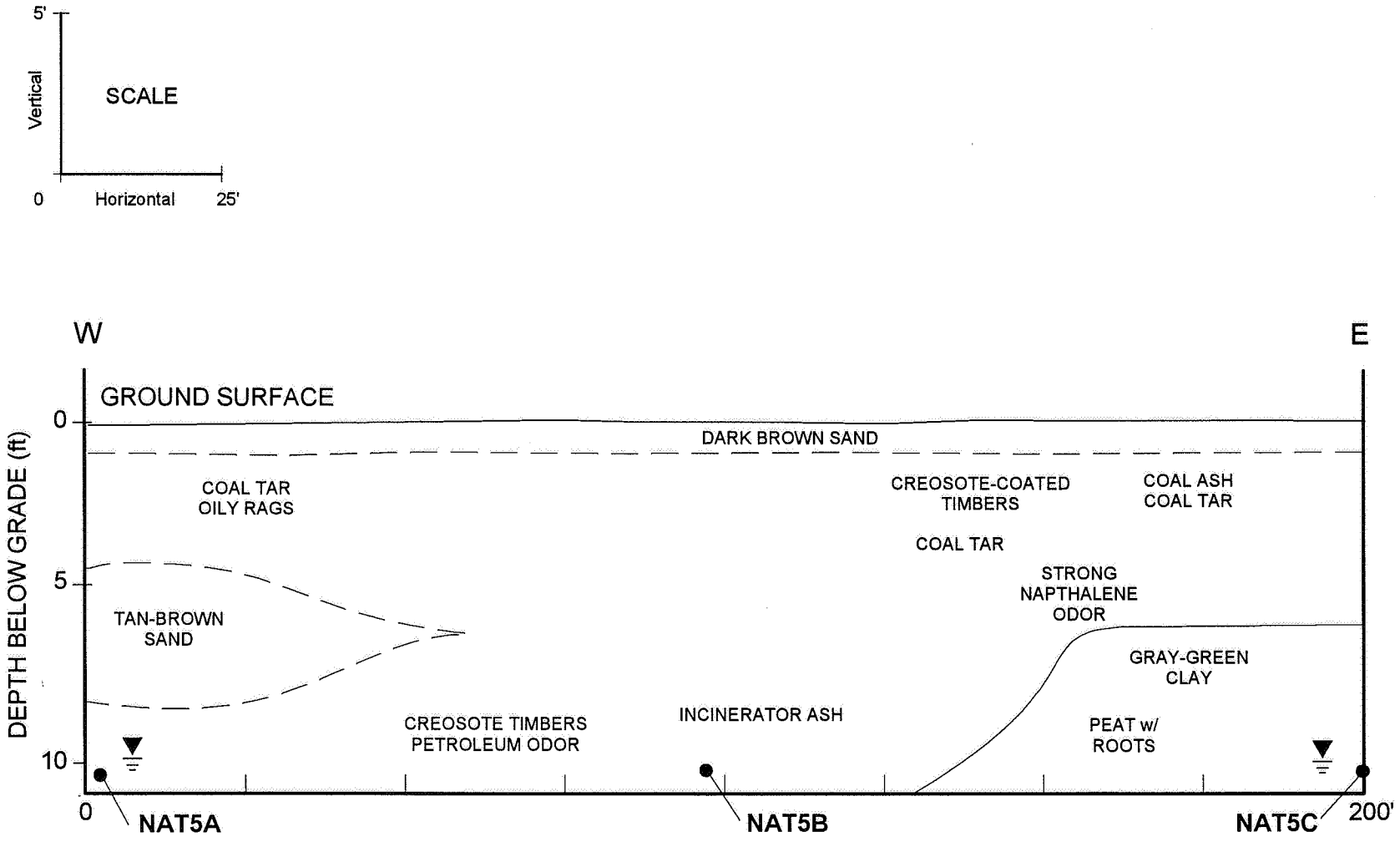
LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Trench 4 Site A** **Second Operating Unit** **Hunts Point**	**Figure 8**

linear feet from the western end of the trench at a depth of 9 ft below grade. At black to gray silty layer was encountered at 4 ft below grade from 94 to 110 linear feet from the western end of the trench. Automobile parts were encountered from 110 to 115 linear feet from the western end of the trench. At 110 linear feet from the western end of the trench, the upper layer of brown sandy soil thickened and contained little silt. The overall depth of the upper sandy layer ranged from the ground surface to 8 ft below grade. Incinerator ash is present below the sandy layer at depths from 8 to 11 feet below grade. A grey silty layer was encountered at 2 ft below grade, 116 linear feet from the western end of the trench. Tires, a crushed drum and a rug were encountered at 136 linear feet from the western end of the trench. Blue stained wood chips were encountered at 6 to 8 ft below grade from 136 to 147 linear feet from the western end of the trench. At 149 linear feet creosote coated timbers were encountered at 3 ft below grade. The upper sandy layer pinched out at 157 linear feet from the western end of the trench. The fill material from 157 to 200 linear feet from the western end of the trench was composed of coal and incinerator ash, coal slag and some glass and bricks. A layer of coal tar 6 inches thick at 10 ft below grade was encountered from 180 to 200 linear feet from the western end of the trench.

Trench 5

Trench 5 was located 150 ft north of Trench 4, 81 ft east of Halleck Street and 98 ft south of Viele Avenue. The trench extended a total of 168 ft (Figure 4). A cross section describing the material and depths of the trench as well as sampling locations is illustrated in Figure 9. Trench 5 had an average depth of 8 ft at the western end of the trench and 9 ft at the eastern end of the trench. Trench 5 had several stratigraphic layers that remained consistent throughout most of the trench. The upper layer consisted of dark brown sand containing some gravel. Below the upper sandy layer was a grey silty layer that was sandwiched between two thin coal ash layers. The lower layer consisted of coarse sand that was initially tan brown in color but changed abruptly to a grey color at 27 linear ft from the western end of the trench. Groundwater was encountered at 8 ft. Coal tar and oily rags were encountered at 1 ft below grade from 12 to 19 linear feet from the western end of the trench. Bricks and creosote coated timbers with a naphthalene odor were encountered 10 ft below grade 47 to 74 linear feet from the western end of the trench. Coal ash, some coal tar, creosote coated timbers, and some brick fragments were encountered at 1 to 2 ft below grade from 102 to 107 linear feet from the western end of the trench. A layer of grey green clay containing some shells along with some peat and meadow mat was encountered 7 ft below grade at 135 linear feet from the western end of the trench. Coal ash with some tar was encountered at 140 linear feet from the western end of the trench. The middle layer of silt began to pinch out and a clay layer was present at 168 linear feet at a depth of 5 ft below grade. No other significant evidence of soil or groundwater contamination was present in this trench.



Legend

- Soil sample location

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Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Trench 5 Site A** **Second Operating Unit** **Hunts Point**	**Figure 9**

Deep Boring Installation and Sampling Procedures

Three (3) deep borings were installed at the second operating portion of Site A utilizing a truck mounted probe rig (Figure 10). Deep borings were labeled with the prefix DB followed by the boring number designation (i.e.DB-1).

The purpose of the borings was to determine whether the subsurface had been affected by the former site activities, more specifically to determine whether dense non-aqueous phase liquid (DNAPL) was present.

Continuous soil samples were collected in 4 ft intervals from grade to the bottom depth of the boring. The borings were advanced to refusal on what is either bedrock or a layer of boulders. Samples were collected in dedicated acetate liners and upon removal from the sampling tube, each sample was closely inspected for physical characteristics including: color, material type and composition, relative grain size and distribution, presence of free moisture, potential confining characteristics, evidence of contamination, and degree and orientation of contaminated bedding. Soil descriptions were logged by the on-site geologist and are included as Attachment A. Probe equipment was decontaminated between sampling depths using cold wash techniques.

All three borings (DB-1, DB-2 and DB-3) were installed to a final depth of 40 ft below grade. DNAPL was not encountered in any of the borings

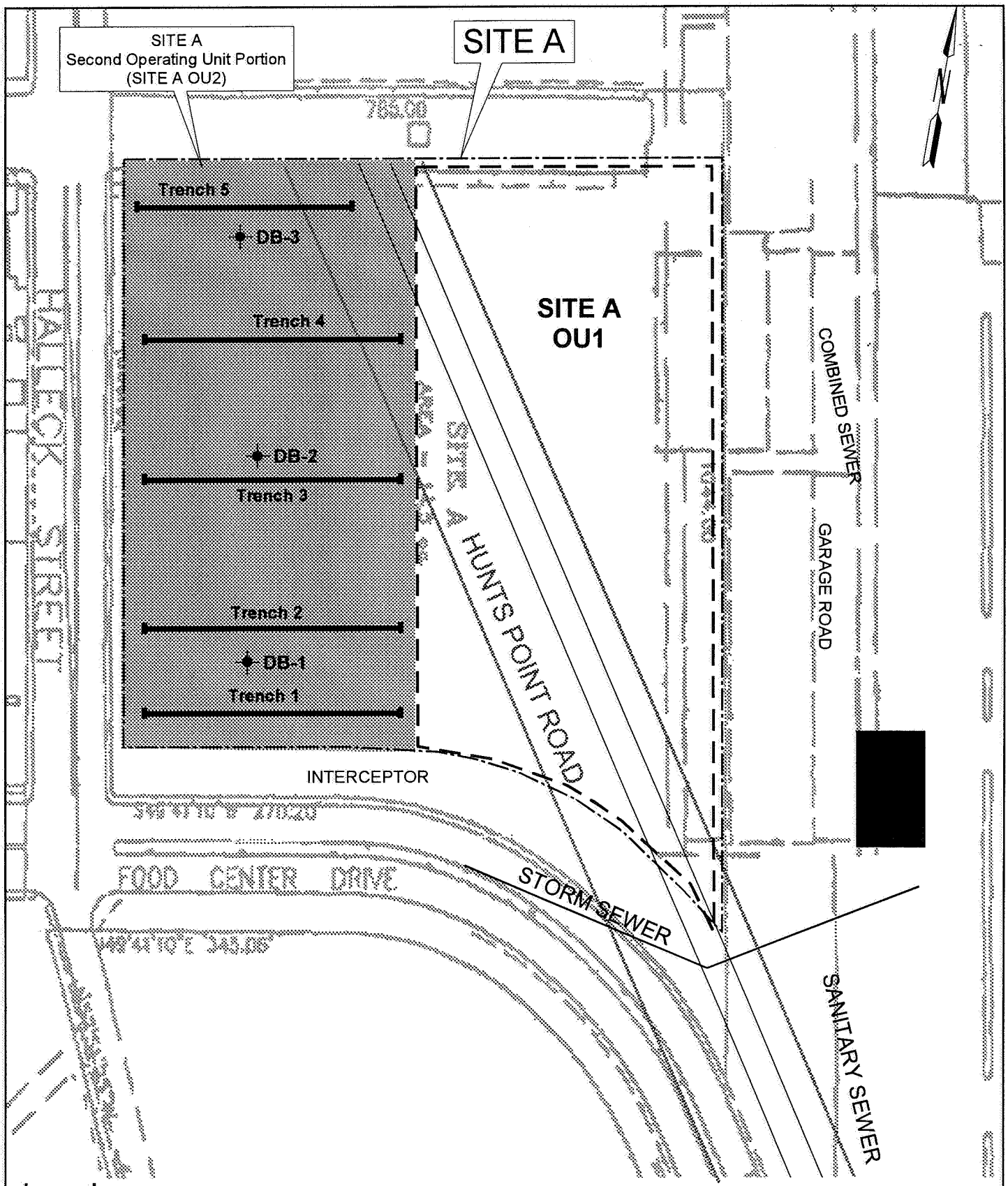
Following completion of each boring, sand and bentonite were placed in the borehole to grade. All down hole sampling equipment, including the deck of the probe rig was decontaminated using cold wash techniques before leaving the site.

Sampling Results

Soil Samples

A total of 17 grab samples and five composite samples were collected from the 5 trenches installed at Site A SOU (see Figures 4 through 9). Samples were collected from each trench at areas exhibiting the greatest degree of contamination. Sample results are included as Tables 1 through 5. Grab samples were submitted to the contract analytical laboratory for analysis of VOCs using EPA Method 8260. Composite samples were submitted for analysis of SVOCs using EPA Method 8270, TAL Metals, Pesticides/PCBs using EPA Methods 8081 and 8082, and cyanide. Volatile, semivolatile and pesticides/PCBs analyses results were compared to the NYSDEC TAGM (January 1994). Metals analyses results were compared to Eastern USA background and the TAGM criteria.

Soil samples were collected at set locations along each trench. Typically, the trenches were separated into three sections that allowed for the collection of three grab samples and one composite sample for each section. Each sample was labeled according to its location along the trench. As an example, Trench 1 was divided into three sections labeled A through C; the composite sample was labeled



Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site A Second Operating Unit Portion Deep Boring Locations** **Hunts Point**	**Figure 10**

with the suffix D. The samples were finally labeled with the Site identification and the section of the trench it was collected from. For example, the sample labeled NAT1A was collected from Site A SOU, Trench 1, section A.

A description of the sampling results for each trench follows.

Trench 1

Trench 1 was 200 ft long and was divided into 3 sampling sections labeled A through C. A total of 3 grab samples and 1 composite sample were collected from Trench 1. Results are summarized below and in Table 1.

Volatile Organic Compounds: Concentrations of VOCs were not detected in two (2) of the three (3) samples collected. Sample NAT1C was collected from an area containing coal tar and contained concentrations of VOCs that well exceeded the recommended soil cleanup objectives.

Semivolatile Organic Compounds: Concentrations of several SVOCs were detected at levels exceeding the recommended soil cleanup objectives in sample NAT1D. The compounds detected above the recommend soil cleanup objectives were indicative of coal ash and tar and included the following: phenol, 2-methylphenol, 4-methylphenol, naphthalene, 2-methylnaphthalen, acenaphthalene, acenapthene, dimethylphthalate, dibenzofuran, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, ideno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

Pesticides/PCBs: Pesticides and PCBs were not detected in the sample collected from Trench 1.

Metals: Several metals were detected above the recommended soil cleanup objectives in the sample collected from Trench 1. Compounds detected above the recommended soil criteria are as follows: arsenic, beryllium, cadmium, chromium, copper, iron, lead, mercury, nickel, and zinc

Trench 2

Trench 2 was 200 ft long and was divided into 3 sampling sections labeled A through C. An additional grab sample of coal tar (NAT2E) was collected for analysis of SVOCs. A total of 4 grab samples and 1 composite sample were collected from Trench 2. Results are summarized below and in Table 2.

Volatile Organic Compounds: Overall, concentrations of VOCs were low to non-detectable in the samples collected from Trench 2, with the exception of a few compounds. Acetone, a common laboratory contaminant, was detected above the recommended soil cleanup objectives in all 3 samples (NAT2A, NAT2B and NAT2C). Benzene, ethylbenzene, and total xylene concentrations exceeded the recommended soil criteria in samples NAT2A, NAT2B, and NAT2C. Concentrations

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #1

LMS Sample ID	NAT1A	NAT1B	NAT1C		RECOMMENDED
Lab Sample Number	219636-05	219636-06	219636-07		SOIL CLEANUP
Sampling Date	8/10/2000	8/10/2000	8/10/2000		OBJECTIVE (a)
Matrix	SOIL	SOIL	SOIL		
Units	mg/kg	mg/kg	mg/kg [DF 5:1]		
VOLATILE ORGANIC COMPOUNDS (mg/kg)					
Chloromethane	ND	ND	ND		1
Bromomethane	ND	ND	ND		1
Trichloroflouromethane	ND	ND	ND		1
Acetone	ND	ND	0.093		0.2
Carbon Disulfide	ND	ND	ND		2.7
Methylene Chloride	ND	ND	ND		0.1
Methyl tert-butyl ether	ND	ND	ND		1
2-Butanone	ND	ND	**21**	j	0.3
Benzene	ND	ND	**24**	**[DF 5:1]**	0.06
Trichloroethene	ND	ND	ND		0.7
4-Methyl-2-pentanone	ND	ND	ND		1
Toluene	ND	ND	**36**	**[DF 5:1]**	1.5
Tetrachloroethene	ND	ND	ND		1.4
Ethylbenzene	ND	ND	1.7	j [DF 5:1]	5.5
Xylene (Total)	ND	ND	**52**	**[DF 5:1]**	1.2
Styrene	ND	ND	13	[DF 5:1]	1
Isopropylbenzene	ND	ND	ND		1
n-Propylbenzene	ND	ND	ND		1
1,3,5-Trimethylbenzene	ND	ND	ND		1
tert-Butylbenzene	ND	ND	ND		1
1,2,4-Trimethylbenzene	ND	ND	ND		1
sec-Butylbenzene	ND	ND	ND		1
4-Isopropyltoluene	ND	ND	ND		1
1,3-Dichlorobenzene	ND	ND	ND		1.6
n-Butylbenzene	ND	ND	ND		1
1,2,4-Trichlorobenzene	ND	ND	ND		3.4
Hexachlorobutadiene	ND	ND	ND		1
Naphthalene	ND	ND	ND		13
1,2,3-Trichlorobenzene	ND	ND	ND		1
Total VOCs	**0**	**0**	**147.793**		

1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit
ND - Not detected at analytical detection limit

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #1

LMS Sample ID	NAT1D		RECOMMENDED
Lab Sample Number	219636-08		
Sampling Date	8/10/2000		
Matrix	SOIL		
Units	mg/kg		SOIL CLEANUP
	[DF 100:1]		OBJECTIVE (a)
SEMIVOLATILE ORGANIC COMPOUNDS (mg/kg)			
Phenol	**160**		0.03 or MDL
bis (2-Chloroethyl) Ether	ND		1
1,4-Dichlorobenzene	ND		8.5
2-Methylphenol	**52**		0.1 or MDL
4-Methylphenol	**150**		0.9
2,4-Dimethylphenol	44		NA
1,2,4-Trichlorobenzene	ND		3.4
Naphthalene	**1300**	[DF500:1]	13
2-Methylnaphthalene	**390**	[DF500:1]	36.4
Acenaphthylene	**290**		41
Acenaphthene	41		50
Dimethylphthalate	**8.1**	j	2
Dibenzofuran	**220**		6.2
Flourene	**300**		50
N-Nitrosodiphenylamine(1)	ND		1
Phenanthrene	**960**	[DF500:1]	50
Anthracene	**310**		50
Carbazole	ND		1
Flouranthene	**580**	[DF500:1]	50
Pyrene	**440**	[DF500:1]	50
Benzo (a) anthracene	**260**		0.224 or MDL
Chrysene	**210**		0.4
bis (2-Ethylhexyl) phthalate	ND		50
Di-n-octylphthalate	ND		50
Benzo (b) flouranthene	**270**		1.1
Benzo (k) flouranthene	**72**		1.1
Benzo (a) pyrene	**190**		0.061 or MDL
Indeno (1,2,3-cd) pyrene	**86**		3.2
Dibenz (a,h) anthracene	**33**	j	0.014 or MDL
Benzo (g,h,i) perylene	**65**		50
Total SVOCs	**6431.1**		

1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit
MDL - Method detection limit.
ND - Not detected at analytical detection limit
NA - Not Available

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #1

LMS Sample ID	NAT1D		RECOMMENDED SOIL CLEANUP OBJECTIVE (ppm)(a)
Lab Sample Number	219636-08		
Sampling Date	8/10/2000		
Matrix	SOIL		
Units	mg/kg		
METALS(mg/kg)			
Aluminum	4610	E	SB
Antimony	2.8	BN	SB
Arsenic	**14.9**		7.5 or SB
Barium	238		300 or SB
Beryllium	**0.43**	B	0.16 or SB
Cadmium	**1.6**	B	1 or SB
Calcium	3120		SB
Chromium	**23.4**		10 or SB
Cobalt	5.2	B	30 or SB
Copper	**160**		25 or SB
Iron	**18600**		2000 or SB
Lead	**496**	*N	SB****
Magnesium	2010	B	SB
Manganese	146	N	SB
Mercury	**4.6**		0.1
Nickel	**23.3**		13 or SB
Potassium	990	B	SB
Selenium	1.8		2 or SB
Silver	2	B	SB
Sodium	175	B	SB
Thallium	1.0 B	B	SB
Vanadium	30.8		150 or SB
Zinc	**375**	N	20 or SB
Cyanide, Total	23.2		***
Total Metals	**31054.03**		

*** - Site specific forms of Cyanide should be taken into consideration when establishing soil cleanup objective.
**** - Background levels for lead range from 4 - 61 ppm in undeveloped, rural areas to 200 - 500 ppm in metropolitan or suburban areas or near highways.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
B - Value is less than the contract-required detection limit but greater than the instrument detection limit
SB - Site background.
E - The Report Value is estimated because of the presence of interference.
N - Spiked sample recovery not within control limits.
* - Duplicate analysis not within control limits.

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #1

LMS Sample ID	NAT1D	
Lab Sample Number	219636-08	
Sampling Date	8/10/2000	RECOMMENDED
Matrix	SOIL	SOIL CLEANUP
Units	mg/kg [DF 20:1]	OBJECTIVE (a)
PESTICIDES/PCBs (mg/kg)		
alpha-BHC	ND	0.11
delta-BHC	ND	0.3
Aldrin	ND	0.041
Heptachlor epoxide	ND	0.02
Dieldrin	ND	0.044
Endrin	ND	0.1
Endosulfan sulfate	ND	1
4,4'-DDT	ND	2.1
Methoxychlor	ND	1
Endrin ketone	ND	1
Endrin aldehyde	ND	1
alpha-Chlordane	ND	0.54
gamma-Chlordane	ND	0.54
Aroclor-1254	ND	1.0/10*
Aroclor-1260	ND	1.0/10*

* - Suface/Sub-surface
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
ND - Not detected at analytical detection limit.

TABLE 2 (Page 1 of 4)

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #2

LMS Sample ID	NAT2A		NAT2B		NAT2C		
Lab Sample Number	219636-01		219636-02		219636-03		
Sampling Date	8/10/2000		8/10/2000		8/10/2000		RECOMMENDED
Matrix	SOIL		SOIL		SOIL		SOIL CLEANUP
Units	mg/kg		mg/kg		mg/kg		OBJECTIVE (a)
VOLATILE ORGANIC COMPOUNDS (mg/kg)							
Chloromethane	ND		ND		ND		1
Bromomethane	ND		ND		ND		1
Trichloroflouromethane	ND		ND		ND		1
Acetone	0.016		0.008	j	0.018		0.2
Carbon Disulfide	0.002	j	0.002	j	0.002	j	2.7
Methylene Chloride	ND		0.001	j	ND		0.1
Methyl tert-butyl ether	ND		ND		ND		1
2-Butanone	ND		ND		ND		0.3
Benzene	0.015		0.015		0.002	j	0.06
Trichloroethene	ND		ND		ND		0.7
4-Methyl-2-pentanone	ND		ND		ND		1
Toluene	ND		0.004	j	0.003	j	1.5
Tetrachloroethene	ND		ND		ND		1.4
Ethylbenzene	0.014		0.13		0.085		5.5
Xylene (Total)	0.034		0.38		0.13		1.2
Styrene	0.001	j	ND		0.007	j	1
Isopropylbenzene	ND		ND		ND		1
n-Propylbenzene	ND		ND		ND		1
1,3,5-Trimethylbenzene	ND		ND		ND		1
tert-Butylbenzene	ND		ND		ND		1
1,2,4-Trimethylbenzene	ND		ND		ND		1
sec-Butylbenzene	ND		ND		ND		1
4-Isopropyltoluene	ND		ND		ND		1
1,3-Dichlorobenzene	ND		0.001	j	ND		1.6
1,4-Dichlorobenzene	ND		0.002	j	ND		1
n-Butylbenzene	ND		ND		ND		1
1,2,4-Trichlorobenzene	ND		ND		ND		3.4
Hexachlorobutadiene	ND		ND		ND		1
Naphthalene	ND		ND		ND		13
1,2,3-Trichlorobenzene	ND		ND		ND		1
Total VOCs	**0.082**		**0.543**	**0**	**0.247**		

1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit
ND - Not detected at analytical detection limit

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #2

LMS Sample ID	NAT2D		NAT2E		RECOMMENDED
Lab Sample Number	219636-04		219636-09		SOIL CLEANUP
Sampling Date	8/10/2000		8/10/2000		OBJECTIVE (a)
Matrix	SOIL		SOIL		
Units	mg/kg		mg/kg		
	[DF 10:1]		[DF 10:1]		
SEMIVOLATILE ORGANIC COMPOUNDS (mg/kg)					
Phenol	**0.71**	j	**270**		0.03 or MDL
bis (2-Chloroethyl) Ether	ND		ND		1
1,4-Dichlorobenzene	ND		ND		8.5
2-Methylphenol	ND		**68**		0.1 or MDL
4-Methylphenol	0.61	j	**210**		0.9
2,4-Dimethylphenol	ND		59		NA
1,2,4-Trichlorobenzene	ND		ND		3.4
Naphthalene	12		**980**	[DF200:1]	13
2-Methylnaphthalene	3.7	j	**83**		36.4
Acenaphthylene	5.6		35	j	41
Acenaphthene	4.6		10	j	50
Dibenzofuran	4.1		**120**		6.2
Flourene	9.3		**250**		50
N-Nitrosodiphenylamine(1)	ND		ND		1
Phenanthrene	32		**5000**	[DF200:1]	50
Anthracene	10		**2300**	[DF200:1]	50
Carbazole	ND		ND		1
Flouranthene	45	[DF50:1]	**6500**	[DF200:1]	50
Pyrene	**51**	[DF50:1]	**5500**	[DF200:1]	50
Benzo (a) anthracene	**26**		**3000**	[DF200:1]	0.224 or MDL
Chrysene	**24**		**2300**	[DF200:1]	0.4
bis (2-Ethylhexyl) phthalate	ND		ND		50
Di-n-octylphthalate	ND		ND		50
Benzo (b) flouranthene	**33**		**2900**	[DF200:1]	1.1
Benzo (k) flouranthene	**13**		**1000**	[DF200:1]	1.1
Benzo (a) pyrene	**28**		**2300**	[DF200:1]	0.061 or MDL
Indeno (1,2,3-cd) pyrene	**16**		**1200**	[DF200:1]	3.2
Dibenz (a,h) anthracene	**4.8**		**230**	[DF200:1]	0.014 or MDL
Benzo (g,h,i) perylene	13		**860**	j[DF200:1]	50
Total SVOCs	**336.42**		**35175**		

1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
b - Found in associated blanks
d - Concentration recovered from diluted sample
j - Estimated concentration; compound present below quantitation limit
MDL - Method detection limit.
ND - Not detected at analytical detection limit
NA - Not Available

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #2

LMS Sample ID		NAT2D		RECOMMENDED SOIL CLEANUP OBJECTIVE (ppm)(a)
Lab Sample Number		219636-04		
Sampling Date		8/10/2000		
Matrix		SOIL		
Units		mg/kg		
METALS(mg/kg)				
Aluminum		2300	E	SB
Antimony		2.6	BN	SB
Arsenic		**17.3**		7.5 or SB
Barium		120		300 or SB
Beryllium		**0.32**	B	0.16 or SB
Cadmium		0.78	B	1 or SB
Calcium		2180		SB
Chromium		**17.9**		10 or SB
Cobalt		4.1	B	30 or SB
Copper		**283**		25 or SB
Iron		**16300**		2000 or SB
Lead		289	*N	SB****
Magnesium		926	B	SB
Manganese		110	N	SB
Mercury		**1**		0.1
Nickel		**15.6**		13 or SB
Potassium		549	B	SB
Selenium		**2.2**		2 or SB
Silver		1	B	SB
Sodium		73.7	B	SB
Thallium		ND		SB
Vanadium		48.3		150 or SB
Zinc		**149**	N	20 or SB
Cyanide, Total		8.9		***
	Total Metals	**23399.7**		

*** - Site specific forms of Cyanide should be taken into consideration when establishing soil cleanup objective.
**** - Background levels for lead range from 4 - 61 ppm in undeveloped, rural areas to 200 - 500 ppm in metropolitan or suburban areas or near highways.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
B - Value is less than the contract-required detection limit but greater than the instrument detection limit
ND - Not detected at analytical detection limit.
SB - Site background.
E - The Report Value is estimated because of the presence of interference.
N - Spiked sample recovery not within control limits.
* - Duplicate analysis not within control limits

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #2

LMS Sample ID Lab Sample Number Sampling Date Matrix Units	NAT2D 219636-04 8/10/2000 SOIL mg/kg [DF 20:1]	RECOMMENDED SOIL CLEANUP OBJECTIVE (a)
PESTICIDES/PCBs (mg/kg)		
alpha-BHC	ND	0.11
delta-BHC	ND	0.3
Aldrin	ND	0.041
Heptachlor epoxide	ND	0.02
Dieldrin	ND	0.044
Endrin	ND	0.1
Endosulfan sulfate	ND	1
4,4'-DDT	ND	2.1
Methoxychlor	ND	1
Endrin ketone	ND	1
Endrin aldehyde	ND	1
alpha-Chlordane	ND	0.54
gamma-Chlordane	ND	0.54
Aroclor-1254	ND	1.0/10*
Aroclor-1260	ND	1.0/10*

* - Suface/Sub-surface
1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
ND - Not detected at analytical detection limit.

of toluene exceeded the recommend soil cleanup objective in samples NAT2B and NAT2C. Methylene chloride was detected at a concentration exceeding the recommended soil criteria in NAT2B.

Semivolatile Organic Compounds: Concentrations of several SVOCs were detected at levels exceeding the recommended soil cleanup objectives in the composite sample NAT2D. The compounds detected above the recommend soil cleanup objectives were indicative of coal ash and tar and included the following: phenol, 4-methylphenol, naphthalene, 2-methylnaphthalen, acenaphthalene, acenapthene, dibenzofuran, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo (a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a) pyrene, ideno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

The sample NAT2E exhibited concentrations of compounds expected in a coal tar sample. Compounds exceeding the recommended soil cleanup objective included the following: phenol, 2-methylphenol, 4-methylphenol, naphthalene, 2-methylnaphthalene, acenaphthalene, acenapthene, dibenzofuran, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo (a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, ideno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

Pesticides/PCBs: Pesticides and PCBs were not detected in sample NAT2D collected from Trench 2.

Metals: Several metals were detected above the recommended soil cleanup objectives in the sample collected from Trench 2. Compounds detected above the recommended soil criteria are as follows: arsenic, beryllium, chromium, copper, iron, mercury, nickel, selenium, and zinc

Trench 3

Trench 3 was 200 ft long and was divided into 3 sampling sections labeled A through C. A total of 3 grab samples and 1 composite sample were collected from Trench 3. Results are summarized below and in Table 3.

Volatile Organic Compounds: Overall, concentrations of VOCs were low to non-detectable in the samples collected from Trench 3, with the exception of a few compounds. Acetone, a common laboratory contaminant, was detected above the recommended soil cleanup objectives in samples NAT3A and NAT3B. Concentrations of carbon disulfide exceeded the recommended soil criteria in sample NAT3A. Benzene exceeded the recommended soil cleanup objectives in samples NAT3A and NAT3C. Concentrations of toluene and total xylenes were detected above the recommended soil cleanup objectives in samples NAT3A and NAT3B. Chlorobenzene, ethylbenzene, 1,3-dichlorobenzene, and 1,4-dichlororbenzene were detected at concentrations that exceeded the recommended soil criteria in sample NAT3A.

TABLE 3 (Page 1 of 4)

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #3

LMS Sample ID	NAT3A		NAT3B		NAT3C		
Lab Sample Number	219636-19		219636-20		219636-21		
Sampling Date	8/10/2000		8/10/2000		8/10/2000		
Matrix	SOIL		SOIL		SOIL		
Units	mg/kg		mg/kg		mg/kg		RECOMMENDED SOIL CLEANUP OBJECTIVE (a)
VOLATILE ORGANIC COMPOUNDS (mg/kg)							
Chloromethane	ND		ND		ND		1
Bromomethane	ND		ND		ND		1
Trichloroflouromethane	ND		ND		ND		1
Acetone	0.013	j	0.002	j	ND		0.2
Carbon Disulfide	0.014		0.002	j	ND		2.7
Methylene Chloride	ND		ND		ND		0.1
Methyl tert-butyl ether	ND		ND		ND		1
2-Butanone	ND		ND		ND		0.3
Benzene	0.016		ND		0.001	j	0.06
Trichloroethene	ND		ND		ND		0.7
4-Methyl-2-pentanone	ND		ND		ND		1
Toluene	0.005	j	0.002	j	0.0006	j	1.5
Chlorobenzene	0.2		ND		ND		1.4
Ethylbenzene	0.14		0.005	j	ND		5.5
Xylene (Total)	0.36		0.013		ND		1.2
Styrene	0.001	j	ND		ND		1
Isopropylbenzene	ND		ND		ND		1
n-Propylbenzene	ND		ND		ND		1
1,3,5_Trimethylbenzene	ND		ND		ND		1
tert-Butylbenzene	ND		ND		ND		1
1,2,4-Trimethylbenzene	ND		ND		ND		1
sec-Butylbenzene	ND		ND		ND		1
4-Isopropyltoluene	ND		ND		ND		1
1,3-Dichlorobenzene	0.27		ND		ND		1.6
1,4-Dichlorobenzene	0.042		ND		ND		1
1,2-Dichlorobenzene	0.005	j	ND		ND		1
n-Butylbenzene	ND		ND		ND		1
1,2,4-Trichlorobenzene	ND		ND		ND		3.4
Hexachlorobutadiene	ND		ND		ND		1
Naphthalene	ND		ND		ND		13
1,2,3-Trichlorobenzene	ND		ND		ND		1
Total VOCs	**1.066**		**0.024**		**0.0016**		

1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit
ND - Not detected at analytical detection limit

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #3

LMS Sample ID	NAT3D		RECOMMENDED
Lab Sample Number	219636-22		
Sampling Date	8/10/2000		SOIL CLEANUP
Matrix	SOIL		OBJECTIVE (a)
Units	mg/kg [DF2:1]		
SEMIVOLATILE ORGANIC COMPOUNDS (mg/kg)			
Phenol	**0.2**	j	0.03 or MDL
bis (2-Chloroethyl) Ether	ND		[1]
1,4-Dichlorobenzene	ND		8.5
2-Methylphenol	ND		0.1 or MDL
4-Methylphenol	0.098	j	0.9
1,2,4-Trichlorobenzene	ND		3.4
Naphthalene	5.3		13
2-Methylnaphthalene	1.9		36.4
Acenaphthylene	4.2		41
Acenaphthene	0.9		50
Dibenzofuran	2.3		6.2
Flourene	4.8		50
N-Nitrosodiphenylamine(1)	ND		[1]
Phenanthrene	26	[DF50:1]	50
Anthracene	9.4	j[DF50:1]	50
Carbazole	ND		[1]
Flouranthene	38	[DF50:1]	50
Pyrene	33	[DF50:1]	50
Benzo (a) anthracene	**33**	j[DF50:1]	0.224 or MDL
Chrysene	**33**	j[DF50:1]	0.4
bis (2-Ethylhexyl) phthalate	33		50
Di-n-octylphthalate	33		50
Benzo (b) flouranthene	**33**	[DF50:1]	1.1
Benzo (k) flouranthene	**33**	j[DF50:1]	1.1
Benzo (a) pyrene	**33**	j[DF50:1]	0.061 or MDL
Indeno (1,2,3-cd) pyrene	**33**	j[DF50:1]	3.2
Dibenz (a,h) anthracene	**3.5**		0.014 or MDL
Benzo (g,h,i) perylene	33	j[DF50:1]	50
Total SVOCs	**426.598**		

1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit
MDL - Method detection limit.
ND - Not detected at analytical detection limit

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #3

LMS Sample ID	NAT3D		RECOMMENDED SOIL CLEANUP OBJECTIVE (ppm)(a)
Lab Sample Number	219636-22		
Sampling Date	8/10/2000		
Matrix	SOIL		
Units	mg/kg		
METALS(mg/kg)			
Aluminum	2830	E	SB
Antimony	1.8	BN	SB
Arsenic	11.8		7.5 or SB
Barium	137		300 or SB
Beryllium	0.28	B	0.16 or SB
Cadmium	0.92	B	1 or SB
Calcium	2190		SB
Chromium	**12.5**		10 or SB
Cobalt	4.9	B	30 or SB
Copper	**134**		25 or SB
Iron	16200		2000 or SB
Lead	317	*N	SB****
Magnesium	1400		SB
Manganese	146	N	SB
Mercury	**1.7**		0.1
Nickel	**29.8**		13 or SB
Potassium	728	B	SB
Selenium	1.1	B	2 or SB
Silver	1.6	B	SB
Sodium	105	B	SB
Thallium	ND		SB
Vanadium	36		150 or SB
Zinc	**223**	N	20 or SB
Cyanide	208		***
Total Metals	**24720.4**		

*** - Site specific forms of Cyanide should be taken into consideration when establishing soil cleanup objective.
**** - Background levels for lead range from 4 - 61 ppm in undeveloped, rural areas to 200 - 500 ppm in metropolitan or suburban areas or near highways.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
B - Value is less than the contract-required detection limit but greater than the instrument detection limit
ND - Not detected at analytical detection limit.
SB - Site background.
E - The Report Value is estimated because of the presence of interference.
N - Spiked sample recovery not within control limits.
* - Duplicate analysis not within control limits.

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #3

LMS Sample ID	NAT3D	
Lab Sample Number	219636-22	
Sampling Date	8/10/000	RECOMMENDED
Matrix	SOIL	SOIL CLEANUP
Units	mg/kg [DF 10:1]	OBJECTIVE (a)
PESTICIDES/PCBs (mg/kg)		
alpha-BHC	ND	0.11
delta-BHC	ND	0.3
Aldrin	ND	0.041
Heptachlor epoxide	ND	0.02
Dieldrin	ND	0.044
Endrin	ND	0.1
Endosulfan sulfate	ND	1
4,4'-DDT	ND	2.1
Methoxychlor	ND	1
Endrin ketone	ND	1
Endrin aldehyde	ND	1
alpha-Chlordane	ND	0.54
gamma-Chlordane	ND	0.54
Aroclor-1254	ND	1.0/10*
Aroclor-1260	ND	1.0/10*

* - Suface/Sub-surface
1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
concentrations between the two GC columns.
ND - Not detected at analytical detection limit.

Semivolatile Organic Compounds: Concentrations of several SVOCs were detected at levels exceeding the recommended soil cleanup objectives in the composite sample NAT3D. The compounds detected above the recommend soil cleanup objectives were indicative of coal ash and tar and included the following: phenol, 4-methylphenol, naphthalene, 2-methylnaphthalene, acenaphthalene, acenapthene, dibenzofuran, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo (a)anthracene, chrysene, bis(2-ethylhexyl)phthalate, di-n-octylphthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, ideno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

Pesticides/PCBs: Pesticides and PCBs were not detected in sample NAT3D collected from Trench 3.

Metals: Several metals were detected above the recommended soil cleanup objectives in the sample collected from Trench 3. Compounds detected above the recommended soil criteria are as follows: chromium, copper, mercury, nickel, and zinc

Trench 4

Trench 4 was 200 ft long and was divided into 3 sampling sections labeled A through C. An additional grab sample of purifier bed waste (NAT4E) was collected for analysis of metals. A total of 4 grab samples and 1 composite sample were collected from Trench 4. Results are summarized below and in Table 4.

Volatile Organic Compounds: Overall concentrations of VOCs were low to non-detectable in the samples collected from Trench 4, with the exception of a few compounds. Acetone, a common laboratory contaminant, was detected above the recommended soil cleanup objectives in all 3 samples NAT4A NAT4B, and NAT4C. Concentrations of carbon disulfide and 2-butanone exceeded the recommended soil criteria in sample NAT4A. Concentrations of benzene, toluene, ethylbenzene and total xylenes exceeded the recommended soil cleanup objectives in samples NAT4A, NTA4B, and NAT4C. Styrene was detected at a concentration that exceeded the recommended soil criteria in sample NAT4C.

Semivolatile Organic Compounds: Concentrations of several SVOCs were detected at levels exceeding the recommended soil cleanup objectives in the composite sample NAT4D. The compounds detected above the recommend soil cleanup objectives were indicative of coal ash and tar and included the following: phenol, 2-methylphenol, 4-methylphenol, naphthalene, 2-methylnaphthalene, acenaphthalene, acenapthene, dibenzofuran, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, ideno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i) perylene.

Pesticides/PCBs: Pesticides and PCBs were not detected in sample NAT4D collected from Trench 4.

TABLE 4 (Page 1 of 4)

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #4

LMS Sample ID	NAT4A		NAT4B		NAT4C		RECOMMENDED
Lab Sample Number	2193636-15		61230002		61230003		SOIL CLEANUP
Sampling Date	8/10/2000		8/10/2000		8/10/2000		OBJECTIVE (a)
Matrix	SOIL		SOIL		SOIL		
Units	mg/kg		mg/kg		mg/kg [DF 5:1]		
VOLATILE ORGANIC COMPOUNDS (mg/kg)							
Chloromethane	ND		ND		ND		1
Bromomethane	ND		ND		ND		1
Trichloroflouromethane	ND		ND		ND		1
Acetone	0.026		0.002	j	0.011	j	0.2
Carbon Disulfide	0.003	j	0.002	j	ND		2.7
Methylene Chloride	ND		ND		ND		0.1
Methyl tert-butyl ether	ND		ND		ND		1
2-Butanone	0.003	j	ND		ND		0.3
Benzene	**0.15**	[DF5:1]	0.006	j	**9.8**	[DF125:1]	0.06
Trichloroethene	ND		ND		ND		0.7
4-Methyl-2-pentanone	ND		ND		ND		1
Toluene	0.21	[DF5:1]	0.005	j	**15**	[DF125:1]	1.5
Tetrachloroethene	ND		ND		ND		1.4
Ethylbenzene	1	[DF5:1]	0.044		**71**		5.5
Xylene (Total)	**1.6**	[DF5:1]	0.12		**26**	[DF125:1]	1.2
Styrene	0.058		0.003	j	6.3	[DF125:1]	1
Isopropylbenzene	ND		ND		ND		1
n-Propylbenzene	ND		ND		ND		1
1,3,5_Trimethylbenzene	ND		ND		ND		1
tert-Butylbenzene	ND		ND		ND		1
1,2,4-Trimethylbenzene	ND		ND		ND		1
sec-Butylbenzene	ND		ND		ND		1
4-Isopropyltoluene	ND		ND		ND		1
1,3-Dichlorobenzene	0.004	j	ND		ND		1.6
1,4-Dichlorobenzene	0.004	j	ND		ND		8.5
n-Butylbenzene	ND		ND		ND		1
1,2,4-Trichlorobenzene	ND		ND		ND		3.4
Hexachlorobutadiene	ND		ND		ND		1
Naphthalene	ND		ND		ND		13
1,2,3-Trichlorobenzene	ND		ND		ND		1
Total VOCs	**3.058**		**0.182**		**128.111**		

1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit
ND - Not detected at analytical detection limit

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #4

LMS Sample ID	NAT4D		RECOMMENDED
Lab Sample Number	219636-18		
Sampling Date	8/10/2000		SOIL CLEANUP
Matrix	SOIL		OBJECTIVE (a)
Units	mg/kg		
	DF[2:1]		
SEMIVOLATILE ORGANIC COMPOUNDS (mg/kg)			
Phenol	**5.8**		0.03 or MDL
bis (2-Chloroethyl) Ether	ND		1
1,4-Dichlorobenzene	ND		8.5
2-Methylphenol	**0.88**		0.1 or MDL
4-Methylphenol	**5.4**		0.9
2,4-Dimethylphenol	2100		NA
1,2,4-Trichlorobenzene	ND		3.4
Naphthalene	**150**	[DF50:1]	13
2-Methylnaphthalene	17	j[DF50:1]	36.4
Acenaphthylene	34	[DF50:1]	41
Acenaphthene	5.2		50
Dibenzofuran	**27**	[DF50:1]	6.2
Flourene	45	[DF50:1]	50
N-Nitrosodiphenylamine(1)	ND		1
Phenanthrene	**130**	[DF50:1]	50
Anthracene	**53**	[DF50:1]	50
Carbazole	ND		1
Flouranthene	**97**	[DF50:1]	50
Pyrene	**68**	[DF50:1]	50
Benzo (a) anthracene	**42**	[DF50:1]	0.224 or MDL
Chrysene	**36**	[DF50:1]	0.4
bis (2-Ethylhexyl) phthalate	ND		50
Di-n-octylphthalate	ND		50
Benzo (b) flouranthene	**41**	[DF50:1]	1.1
Benzo (k) flouranthene	**17**	j[DF50:1]	1.1
Benzo (a) pyrene	**36**	[DF50:1]	0.061 or MDL
Indeno (1,2,3-cd) pyrene	**19**	j[DF50:1]	3.2
Dibenzo (a,h) anthracene	**4**	j[DF50:1]	0.014 or MDL
Benzo (g,h,i) perylene	11	j[DF50:1]	50
Total SVOCs	**2944.28**		

1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit
MDL - Method detection limit.
ND - Not detected at analytical detection limit
NA - Not Available

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #4

LMS Sample ID	NAT4D		NAT4E		RECOMMENDED SOIL
Lab Sample Number	219636-18		219636-10		CLEANUP
Sampling Date	8/11/2000		8/11/2000		OBJECTIVE (ppm)(a)
Matrix	SOIL		SOIL		
Units	mg/kg		mg/kg		
METALS(mg/kg)					
Aluminum	4400	E	815	E	SB
Antimony	ND		9.9	BN	SB
Arsenic	**12.6**		**21.9**		7.5 or SB
Barium	121		53	B	300 or SB
Beryllium	**0.42**	B	0.15	B	0.16 or SB
Cadmium	**1**	B	**1.2**	B	1 or SB
Calcium	2710		540	B	SB
Chromium	**19**		**38.8**		10 or SB
Cobalt	7.3	B	13.5	B	30 or SB
Copper	**105**		**45.6**		25 or SB
Iron	**19600**		**24400**		2000 or SB
Lead	224	*N	91.6	*N	SB****
Magnesium	1800		317	B	SB
Manganese	176	N	190	N	SB
Mercury	**0.52**		**0.24**		0.1
Nickel	**47.8**		11.3	B	13 or SB
Potassium	1030		753	B	SB
Selenium	1	B	**2.7**	S	2 or SB
Silver	1.4	B	8.4		SB
Sodium	125	B	ND		SB
Thallium	ND		ND		SB
Vanadium	35.1		**32.3**		150 or SB
Zinc	**200**	N	**33.2**		20 or SB
Cyanide, Total	42.8		1310		***
Total Metals	**30659.94**		**28688.79**		

*** - Site specific forms of Cyanide should be taken into consideration when establishing soil cleanup objective.
**** - Background levels for lead range from 4 - 61 ppm in undeveloped, rural areas to 200 - 500 ppm in metropolitan or suburban areas or near highways.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
B - Value is less than the contract-required detection limit but greater than the instrument detection limit
ND - Not detected at analytical detection limit.
N/A - Not available.
SB - Site background.

E - The Report Value is estimated because of the presence of interference.
S - The reported value was determined by the Method of Standard Additions
N - Spiked sample recovery not within control limits.
* - Duplicate analysis not within control limits.

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #4

LMS Sample ID	NAT4D	
Lab Sample Number	219636-18	
Sampling Date	8/10/2000	RECOMMENDED
Matrix	SOIL	SOIL CLEANUP
Units	mg/kg [DF 10:1]	OBJECTIVE (a)
PESTICIDES/PCBs (mg/kg)		
alpha-BHC	ND	0.11
delta-BHC	ND	0.3
Aldrin	ND	0.041
Heptachlor epoxide	ND	0.02
Dieldrin	ND	0.044
Endrin	ND	0.1
Endosulfan sulfate	ND	1
4,4'-DDT	ND	2.1
Methoxychlor	ND	1
Endrin ketone	ND	1
Endrin aldehyde	ND	1
alpha-Chlordane	ND	0.54
gamma-Chlordane	ND	0.54
Aroclor-1254	ND	1.0/10*
Aroclor-1260	ND	1.0/10*

* - Suface/Sub-surface
1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
concentrations between the two GC columns.
ND - Not detected at analytical detection limit.

Metals: Several metals were detected above the recommended soil cleanup objectives in the samples collected from Trench 4. Compounds detected above the recommended soil criteria in composite sample NAT4D are as follows: arsenic, beryllium, cadmium, chromium, copper, iron, mercury, nickel, selenium, and zinc.

Compounds detected above the recommended soil cleanup objectives in the purifier bed waste sample (NAT4E) were as follows: arsenic, cadmium, chromium, copper, iron mercury, selenium, and zinc.

Trench 5

Trench 5 was 200 ft long and was divided into 3 sampling sections labeled A through C. A total of 3 grab samples and 1 composite sample were collected from Trench 4. Results are summarized below and in Table 5.

Volatile Organic Compounds: Overall concentrations of VOCs were low to non-detectable in the samples collected from Trench 5, with the exception of a few compounds. Acetone, a common laboratory contaminant, was detected above the recommended soil cleanup objectives in all 3 samples NAT5A NAT5B, and NAT5C. Concentrations of 2-butanone exceeded the recommended soil criteria in samples NAT5B and NAT5C. Concentrations of benzene, toluene, ethylbenzene and total xylenes exceeded the recommended soil cleanup objectives in samples NAT5B.

Semivolatile Organic Compounds: Concentrations of several SVOCs were detected at levels exceeding the recommended soil cleanup objectives in the composite sample NAT5D. The compounds detected above the recommend soil cleanup objectives were indicative of coal ash and tar and included the following: phenol, 4-methylphenol, naphthalene, 4-methylnaphthalene, acenaphthalene, acenapthene, dibenzofuran, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, ideno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i) perylene.

Pesticides/PCBs: Pesticides and PCBs were not detected in sample NAT5D collected from Trench 5.

Metals: Several metals were detected above the recommended soil cleanup objectives in the samples collected from Trench 5. Compounds detected above the recommended soil criteria in composite sample NAT5D are as follows: aluminum, arsenic, beryllium, chromium, copper, iron, magnesium, mercury, nickel, and zinc.

Groundwater Samples

Two (2) groundwater samples were collected from Trenches 1 and 3 (NAT1GW and NAT3GW, respectively) (see Figures 4, 5, and 7). Samples were collected with dedicated equipment and transferred to laboratory-supplied containers, labeled with the appropriate sample identification, date and time of sampling, analyses required, and sampler identification. All samples were shipped under chain of custody protocol,

TABLE 5 (Page 1 of 4)

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #5

LMS Sample ID	NAT5A		NAT5B		NAT5C		
Lab Sample Number	21936-11		21936-12		21936-13		
Sampling Date	8/10/2000		8/10/2000		8/10/2000		RECOMMENDED
Matrix	SOIL		SOIL		SOIL		SOIL CLEANUP
Units	mg/kg		mg/kg		mg/kg		OBJECTIVE (a)
VOLATILE ORGANIC COMPOUNDS (mg/kg)							
Chloromethane	ND		ND		ND		1
Bromomethane	ND		ND		ND		1
Trichloroflouromethane	ND		ND		ND		1
Acetone	0.008	j	0.074		0.02		0.2
Carbon Disulfide	ND		0.002	j	ND		2.7
Methylene Chloride	ND		ND		ND		0.1
Methyl tert-butyl ether	ND		ND		ND		1
2-Butanone	ND		0.015		0.003	j	0.3
Benzene	ND		**0.15**		ND		0.06
Trichloroethene	ND		ND		ND		0.7
4-Methyl-2-pentanone	ND		ND		ND		1
Toluene	ND		0.015		ND		1.5
Tetrachloroethene	ND		ND		ND		1.4
Ethylbenzene	ND		0.039		ND		5.5
Xylene (Total)	ND		0.13		ND		1.2
Styrene	ND		ND		ND		1
Isopropylbenzene	ND		ND		ND		1
n-Propylbenzene	ND		ND		ND		1
1,3,5_Trimethylbenzene	ND		ND		ND		1
tert-Butylbenzene	ND		ND		ND		1
1,2,4-Trimethylbenzene	ND		ND		ND		1
sec-Butylbenzene	ND		ND		ND		1
4-Isopropyltoluene	ND		ND		ND		1
1,3-Dichlorobenzene	ND		ND		ND		1.6
n-Butylbenzene	ND		ND		ND		1
1,2,4-Trichlorobenzene	ND		ND		ND		3.4
Hexachlorobutadiene	ND		ND		ND		1
Naphthalene	ND		ND		ND		13
1,2,3-Trichlorobenzene	ND		ND		ND		1
Total VOCs	**0.008**		**0.425**		**0.023**		

1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit
ND - Not detected at analytical detection limit

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #5

LMS Sample ID	NAT5D		
Lab Sample Number	219636-14		
Sampling Date	8/10/2000		RECOMMENDED
Matrix	SOIL		SOIL CLEANUP
Units	mg/kg		OBJECTIVE (a)
SEMIVOLATILE ORGANIC COMPOUNDS (mg/kg)			
Phenol	**0.11**	j	0.03 or MDL
bis (2-Chloroethyl) Ether	ND		1
1,4-Dichlorobenzene	ND		8.5
2-Methylphenol	ND		0.1 or MDL
4-Methylphenol	0.049	j	0.9
1,2,4-Trichlorobenzene	ND		3.4
Naphthalene	2.2		13
4-Methylnaphthalene	0.35	j	36.4
Acenaphthylene	0.31	j	41
Acenaphthene	0.38	j	50
Dibenzofuran	0.46		6.2
Flourene	0.8		50
N-Nitrosodiphenylamine(1)	ND		1
Phenanthrene	2.6		50
Anthracene	0.74		50
Carbazole	ND		1
Flouranthene	2.4		50
Pyrene	2.1		50
Benzo (a) anthracene	**1.3**		0.224 or MDL
Chrysene	**1.2**		0.4
bis (2-Ethylhexyl) phthalate	ND		50
Di-n-octylphthalate	ND		50
Benzo (b) flouranthene	**1.3**		1.1
Benzo (k) flouranthene	0.52		1.1
Benzo (a) pyrene	**1.2**		0.061 or MDL
Indeno (1,2,3-cd) pyrene	0.78		3.2
Dibenz (a,h) anthracene	**0.24**	j	0.014 or MDL
Benzo (g,h,i) perylene	0.6		50
Total SVOCs	**19.639**		

1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit
MDL - Method detection limit.
ND - Not detected at analytical detection limit

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #5

LMS Sample ID	NAT5D		
Lab Sample Number	219636-14		
Sampling Date	8/10/2000		RECOMMENDED SOIL
Matrix	SOIL		CLEANUP
Units	mg/kg		OBJECTIVE (ppm)(a)
	[DF 10:1]		
METALS(mg/kg)			
Aluminum	**11100**	E	SB
Antimony	ND		SB
Arsenic	**10**		7.5 or SB
Barium	133		300 or SB
Beryllium	**0.56**	B	0.16 or SB
Cadmium	ND		1 or SB
Calcium	2770		SB
Chromium	**24.2**		10 or SB
Cobalt	10.7	B	30 or SB
Copper	**113**		25 or SB
Iron	**21600**		2000 or SB
Lead	300	* N	SB****
Magnesium	**5150**		SB
Manganese	486	N	SB
Mercury	**1.2**		0.1
Nickel	**24.5**		13 or SB
Potassium	2220		SB
Selenium	ND		2 or SB
Silver	3.4	B	SB
Sodium	ND		SB
Thallium	ND		SB
Vanadium	36.1		150 or SB
Zinc	**245**	N	20 or SB
Cyanide	4.4		***
Total Metals	**44232.06**		

*** - Site specific forms of Cyanide should be taken into consideration when establishing soil cleanup objective.
**** - Background levels for lead range from 4 - 61 ppm in undeveloped, rural areas to 200 - 500 ppm in metropolitan or suburban areas or near highways.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
B - Value is less than the contract-required detection limit but greater than the instrument detection limit
ND - Not detected at analytical detection limit.
SB - Site background.
E - The Report Value is estimated because of the presence of interference.
N - Spiked sample recovery not within control limits.
* - Duplicate analysis not within control limits.

SOIL SUMMARY
EDC Hunts Point
Site A Second Operating Unit
Trench #5

LMS Sample ID	NAT5D	
Lab Sample Number	219636-14	
Sampling Date	8/24/2000	RECOMMENDED
Matrix	SOIL	SOIL CLEANUP
Units	mg/kg [DF 10:1]	OBJECTIVE (a)
PESTICIDES/PCBs (mg/kg)		
alpha-BHC	ND	0.11
delta-BHC	ND	0.3
Aldrin	ND	0.041
Heptachlor epoxide	ND	0.02
Dieldrin	ND	0.044
Endrin	ND	0.1
Endosulfan sulfate	ND	1
4,4'-DDT	ND	2.1
Methoxychlor	ND	1
Endrin ketone	ND	1
Endrin aldehyde	ND	1
alpha-Chlordane	ND	0.54
gamma-Chlordane	ND	0.54
Aroclor-1254	ND	1.0/10*
Aroclor-1260	ND	1.0/10*

* - Suface/Sub-surface
1 - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, total pesticides < 10 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
concentrations between the two GC columns.
ND - Not detected at analytical detection limit.

at 4°C via overnight courier to a NYSDOH certified laboratory. Results are compared to the New York State Ambient Water Quality Standards and Guidance Values listed in the NYSDEC Division of Water Technical and Operational Guidance Series (June 1998) and are summarized below as well as in tables 6 through 10

Trench Groundwater Samples

Two groundwater samples were collected directly from Trenches 1 and 3 at Site A SOU (see Figures 4, 5, and 7). Samples were collected from areas exhibiting the worst case scenario for ground water contamination and submitted for analysis of TCL VOCs using EPA Method 8260, filtered and unfiltered SVOCs using EPA Method 8270, filtered and unfiltered TAL metals, pesticides/PCBs using EPA Methods 8081 and 8082, and cyanide. The samples collected from the trenches are identified with the prefix NA followed by the trench number and the suffix GW (i.e. NAT1GW). Samples filtered prior to analysis are labeled the same way, with the addition of "F" after the trench number (i.e. NAT1GWF). Results are compared to the New York State Ambient Water Quality Standards and Guidance Values listed in the NYSDEC Division of Water Technical and Operational Guidance Series (June 1998) and are summarized below as well as in tables 6 through 10.

Volatile Organic Compounds: Concentrations of several VOCs were detected above the recommended water quality standards in the samples submitted for analysis (Table 6). Concentrations of toluene, ethylbenzene, styrene, total xylenes, and 1,4-dichlorobenzene were detected above the water quality standards in sample NAT1GW. Benzene was detected in samples NAT1GW and NAT3GW at concentrations above the water quality standards.

Semivolatile Organic Compounds: Samples submitted for analysis of SVOCs were submitted for total and filtered analysis (Table 7). Concentrations of analytical parameters in the filtered samples were typically less than those in the unfiltered samples. Thus indicating that sediment in the water sample contained most of the parameters analyzed and that filtering the sample significantly lowered or removed the concentrations of contaminants. Concentrations of phenol and naphthalene were detected above the recommended guidance value in the filtered and unfiltered samples of NAT1GW and NAT3GW. Concentrations of 2-methylphenol, 4-methylphenol, 2,4-dimethylphenol, and acenapthene were detected above the recommended criteria in the filtered and unfiltered samples of NAT3GW. Concentrations of 2-methylnaphthalene, acenaphthylene, dibenzofuran, fluorene, phenanthrene, anthracene, fluoranthene, and pyrene, were detected at concentrations above the recommended guidance values in the unfiltered sample NAT3GW. Concentrations of benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene and ideno(1,2,3-cd)pyrene were detected above the above the recommended criteria in the unfiltered samples NAT1GW and NAT3GW.

Metals: Samples submitted for metals analysis were submitted for total and filtered analysis (Table 8). Concentrations of analytical parameters in the filtered samples were typically less than those in the unfiltered samples. Thus indicating that

TABLE 6 (Page 1 of 1)

GROUNDWATER SUMMARY
NYCEDC HUNT'S POINT
SITE A SECOND OPERATING UNIT
(August 2000)

LMS Sample ID	NAT1GW	NAT3GW	NYSDEC
Lab Sample ID	219633-03	219633-01	CLASS GA
Sampling Date	8/10/00	8/10/00	STANDARDS (b)
Matrix	WATER	WATER	
Units	µg/L	µg/L	µg/L
Volatile Organic Compounds (ug/L)			
Acetone	1 j	4 j	50 GV
Benzene	**3 j**	**600(10:1)**	1
Toluene	2 j	**180**	5
Chlorobenzene	ND	2 j	5
Ethylbenzene	ND	**38**	5
Styrene	ND	**30**	5
Xylene (total)	ND	**110**	5
1,3-Dichlorobenzene	ND	2 j	3*
1,4-Dichlorobenzene	ND	**10**	3*
Total VOCs[1]:	**6**	**976**	

* - Applies to each isomer individually
1 - This value applies to the total of all organic substances listed in the New York State Groundwater Effluent Limitations table from the Division of Water Technical and Operational Guidance Series (1.1.1) with a groundwater effluent limitation less than 100 ug/l.
(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
GV - Guidance Value.
j - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical reporting limit.
Note - Numbers in bold exceed standard.

GROUNDWATER SUMMARY
NYCEDC HUNT'S POINT
SITE A SECOND OPERATING UNIT
(August 2000)

LMS Sample ID	NAT1GW	NAT1GWF	NAT3GW	NAT3GWF	NYSDEC
Lab Sample ID	219633-04	219633-06	219633-02	219633-07	CLASS GA
Sampling Date	8/10/00	8/10/00	8/10/00	8/10/00	STANDARDS (b)
Matrix	WATER	WATER	WATER	WATER	
Units	µg/L	µg/L	µg/L	µg/L	µg/L
Semivolatile Organic Compounds (ug/L)					
Phenol	**2 j**	**6 j**	**2900(5:1)**	**3800(5:1)**	1*
2-Methylphenol	ND	2 j	**970(5:1)**	**1300(5:1)**	50
4-Methylphenol	2 j	5 j	**2500(5:1)**	**3300(5:1)**	50
2,4-Dimethylphenol	ND	ND	**460**	**540**	1*
Naphthalene	**15**	**12**	**1900(5:1)**	**1500(5:1)**	10
2-Methylnapthalene	3 j	ND	**84 j**	43 j	50
Acenapthylene	3 j	ND	**52 j**	28 j	50
Acenapthene	ND	ND	**70 j**	**23 j**	20
Dibenzofuran	ND	ND	**82 j**	18 j	50
Fluorene	2 j	ND	**120**	20 j	50
Phenanthrene	5 j	1 j	**240**	14 j	50
Anthracene	2 j	ND	**61 j**	ND	50
Fluoranthene	8 j	ND	**130**	ND	50
Pyrene	7 j	ND	**130**	ND	50
Benzo(a)anthracene	**4 j**	ND	**46 j**	ND	0.002
Chrysene	**4 j**	ND	**35 j**	ND	0.002
Benzo(b)fluoranthene	**6 j**	ND	**36 j**	ND	0.002
Benzo(k)fluoranthene	**2 j**	ND	**15 j**	ND	0.002
Benzo(a)pyrene	5 j	ND	35 j	ND	NS
Indeno(1,2,3-cd)pyrene	**4 j**	ND	**18 j**	ND	0.002
Benzo(g,h,i)perylene	4 j	ND	14 j	ND	50
Total SVOCs[1]	**78**	**26**	**9898**	**10586**	100[1]

1 - This value applies to the total of all organic substances listed in the New York State Groundwater Effluent Limitations table from the Division of Water Technical and Operational Guidance Series (1.1.1) with a groundwater effluent limitation less than 100 ug/l.
(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
j - Estimated concentration; compound present below quantitation limit.
DL - Dilution Factor.
ND - Not detected at analytical reporting limit.
NS - No standard
Note: - Numbers in bold exceed standard.
- Sum of SVOCs only includes those with standard or guidance values.

GROUNDWATER SUMMARY
NYCEDC HUNT'S POINT
SITE A SECOND OPERATING UNIT
(August 2000)

LMS Sample ID	NAT1GW	NAT1GWF	NAT3GW	NAT3GWF	NYSDEC CLASS GA STANDARDS (b)
Lab Sample ID	219633-04	219633-06	219633-02	219633-07	
Sampling Date	8/10/00	8/10/00	8/10/00	8/10/00	
Matrix	WATER	WATER	WATER	WATER	
Units	µg/L	µg/L	µg/L	µg/L	µg/L
METALS (µg/l)					
Aluminum	41000	2110	34200	1950	NS
Antimony	**22.1 b**	ND	**35.3 b**	ND	3
Arsenic	**110**	8.4 b	**56.9**	12.0 b	25
Barium	**2810**	279	**1610**	259 b	1000
Beryllium	**4.1 b**	0.42 b	2.7 b	ND	3 GV
Cadmium	**8.7**	ND	**9.2 b**	ND	5
Calcium	160000	148000	276000	228000	NS
Chromium	**134**	ND	**148**	2.5 b	50
Cobalt	48.6 b	8.3 b	46.1 b	19.1 b	NS
Copper	**1520**	**410**	**1700**	97.4	200
Cyanide	**1100**	N/A	**1160**	N/A	200
Iron	**83000**	**4800**	**104000**	**27100**	300
Lead	**5780**	**1100**	**2720**	**260**	25
Magnesium	23300	14500	**50700**	**38300**	35000 GV
Manganese	**1810**	**871**	**2410**	**1460**	300
Mercury	**8.4 ***	**1.5 ***	**13.8 ***	ND	0.7
Nickel	**165**	31.3 b	**238**	68.5	100
Potassium	17400	11400	12600	17400	NS
Selenium	ND	ND	ND	ND	10
Silver	**54.2**	15.9	16.8 b	8.2 b	50
Sodium	**68900**	**68900 e**	**29600**	**26900 e**	20000
Thallium	ND	ND	ND	ND	0.5 GV
Vanadium	192	17.0 b	120	16.3 b	NS
Zinc	**3450**	882	**5040**	566	2000 GV

(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
b - Value is less than the contract-required detection limit but greater than the instrument detection limit.
e - Concentration exceeded the calibration range of the instrument for that specific analysis.
GV - Value taken from NYSDEC Class GA Guidance Value.
NS - No standard
ND - Not detected at analytical reporting limit.
Note: - Numbers in bold exceed standard.

sediment in the water sample contained most of the parameters analyzed and that filtering the sample significantly lowered or removed the concentrations of contaminants. Antimony, arsenic, barium, chromium, cyanide, nickel, and zinc were detected at concentrations above the recommended groundwater criteria in the unfiltered samples NAT1GW and NAT3GW. Concentrations of iron, lead, manganese, and sodium were detected at concentrations above the recommended water quality criteria in both the filtered and unfiltered samples NAT1GW and NAT3GW. Copper and mercury were detected in the filtered and unfiltered samples NAT1GW and the unfiltered sample NAT3GW.

Pesticides: Pesticides were not detected in any of the groundwater samples submitted for analysis from the trenches (Table 9).

PCBs: PCBs were not detected in any of the groundwater samples submitted for analysis from the trenches (Table 10).

Supplementary Investigation

Upon completion of the initial investigation at Site A SOU and upon review of the investigatory data, a supplemental investigation was proposed to further document the extent of coal tar on the Site.

An additional 13 shallow borings and 3 temporary piezometers were installed as part of the supplemental investigation. The primary purpose of the shallow borings was to delineate and determine the extent of the coal tar encountered in the trenches. The temporary piezometers were installed to further define groundwater quality on the Site.

Shallow Boring Installation and Sampling Procedures

Thirteen (13) shallow borings were installed at the second operating portion of Site A utilizing a truck mounted probe rig (Figure 11). Shallow borings were labeled with the prefix GP followed by the boring number designation (i.e. GP-1).

The purpose of the borings was to determine the aerial and vertical extent of the coal tar encountered in the trenches.

Continuous soil samples were collected in 4 ft intervals from grade to the bottom depth of the boring. The borings were advanced to the bottom elevation of coal tar (if encountered) or the water table, whichever came first. Samples were collected in dedicated acetate liners and upon removal from the sampling tube, each sample was closely inspected for physical characteristics including: color, material type and composition, relative grain size and distribution, presence of free moisture, potential confining characteristics, evidence of contamination, and degree and orientation of contaminated bedding. Soil descriptions were logged by the on-site geologist and are included as Attachment B. Probe equipment was decontaminated between sampling depths using cold wash techniques.

GROUNDWATER SUMMARY
NYCEDC HUNT'S POINT
SITE A SECOND OPERATING UNIT
(August 2000)

LMS Sample ID	NAT1GW	NAT3GW	NYSDEC
Lab Sample Number	219633-04	219633-02	CLASS GA
Sampling Date	8/10/00	8/10/00	STANDARDS (b)
Matrix	WATER	WATER	
Units	µg/L	µg/L	µg/L
PESTICIDES (µg/L)			
alpha-BHC	ND	ND	5
beta-BHC	ND	ND	50
delta-BHC	ND	ND	0.09
gamma-BHC (Lindane)	ND	ND	NS
Heptachlor	ND	ND	0.04
Aldrin	ND	ND	NS
Heptachlor epoxide	ND	ND	0.03
Endosulfan I	ND	ND	NS
Dieldrin	ND	ND	0.004
4,4'-DDE	ND	ND	0.2
Endrin	ND	ND	NS
Endosulfan II	ND	ND	NS
4,4'-DDD	ND	ND	0.3
Endosulfan sulfate	ND	ND	NS
4,4'-DDT	ND	ND	0.2
Methoxychlor	ND	ND	35
Endrin aldehyde	ND	ND	5
Technical Chlordane	ND	ND	0.05
Toxaphene	ND	ND	0.06

(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
ND - Not detected at analytical reporting limit.

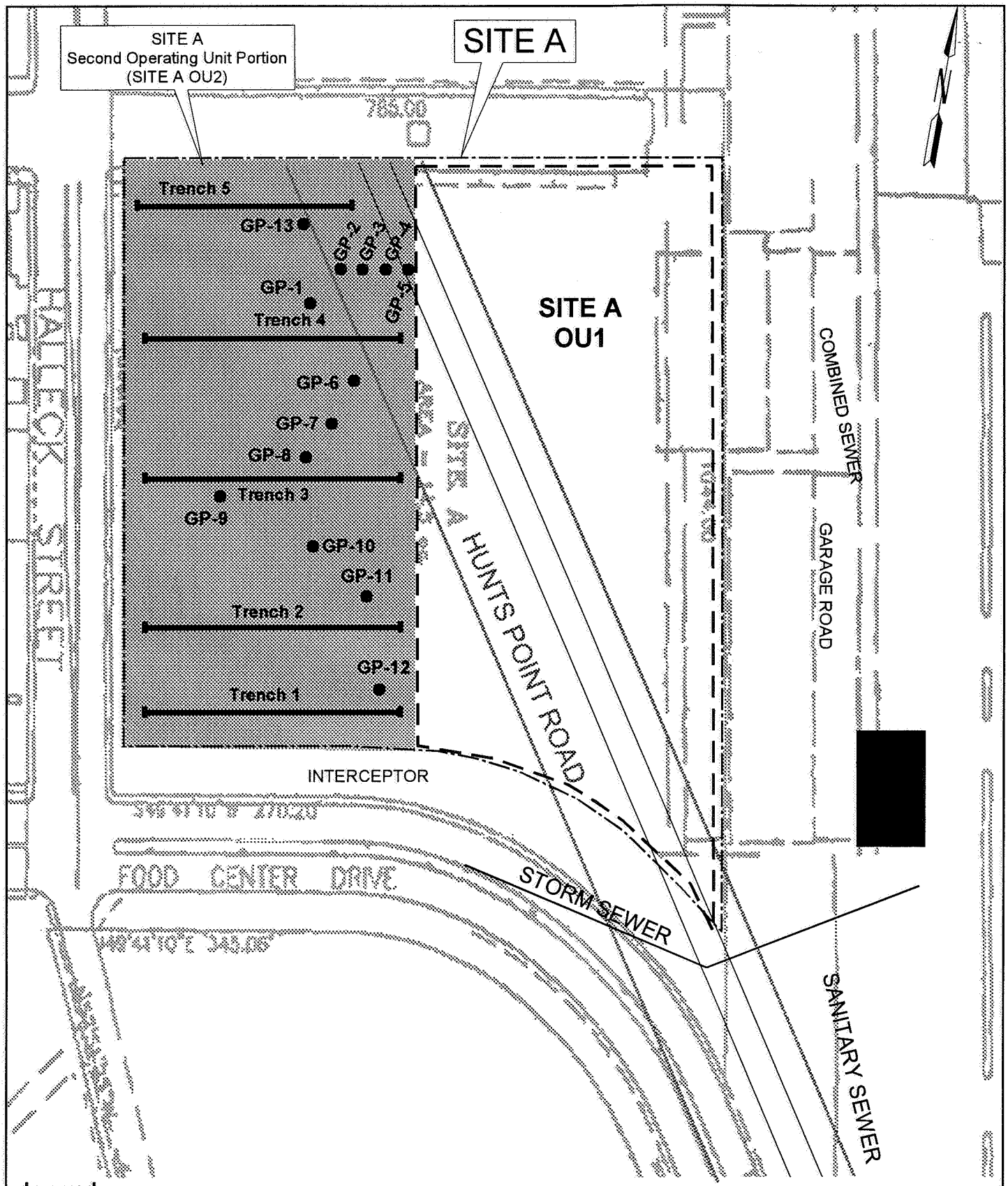
TABLE 10 (Page 1 of 1)

GROUNDWATER SUMMARY
NYCEDC HUNT'S POINT
SITE A SECOND OPERATING UNIT
(August 2000)

LMS Sample ID	NAT1GW	NAT3GW	NYSDEC
Lab Sample Number	219633-04	219633-02	CLASS GA
Sampling Date	8/10/00	8/10/00	STANDARDS (b)
Matrix	WATER	WATER	
Units	µg/L	µg/L	µg/L
PCBs (µg/L)			
Arochlor-1016	ND	ND	0.09
Arochlor-1221	ND	ND	0.09
Arochlor-1232	ND	ND	0.09
Arochlor-1242	ND	ND	0.09
Arochlor-1248	ND	ND	0.09
Arochlor-1254	ND	ND	0.09
Arochlor-1260	ND	ND	0.09

(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.

ND - Not detected at analytical reporting limit



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LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site A Second Operating Unit Shallow Boring Locations** **Hunts Point**	**Figure 11**

Following completion of each boring, sand and bentonite were placed in the borehole to grade. All down hole sampling equipment, including the deck of the probe rig was decontaminated using cold wash techniques before leaving the site.

Coal tar was encountered above the water table in 8 of the 13 borings installed and ranged in thickness from a few inches up to one foot. The findings are consistent with what was encountered during the trenching investigation, in that coal tar is predominantly present on the eastern side of the Site.

Temporary Piezometer Installation and Sampling Procedures

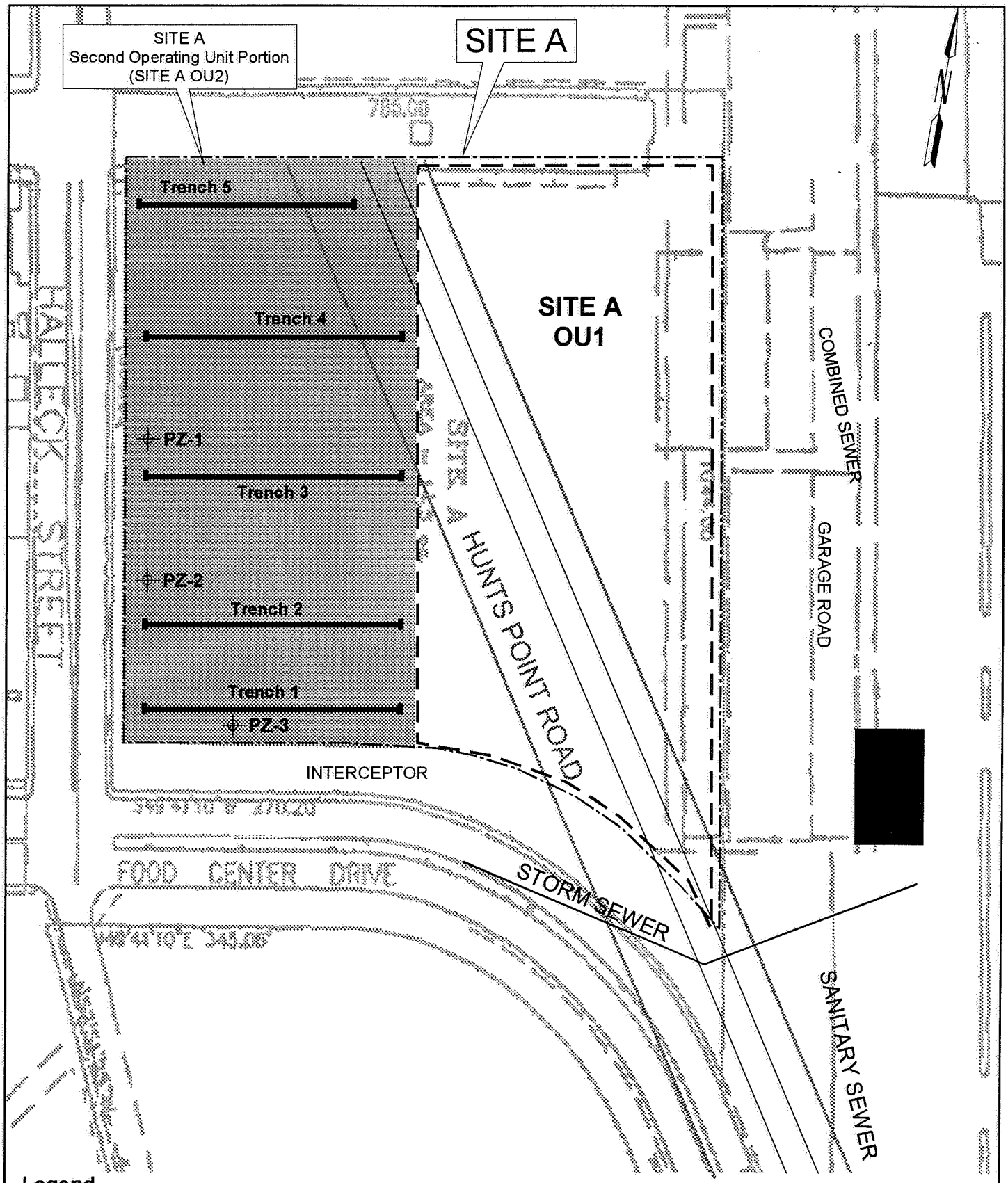
While groundwater was encountered in all of the trenches installed at Site A SOU; it was decided to install three (3) temporary piezometers to monitor groundwater quality at the Site (Figure 12). The piezometer locations were selected based on the subsurface conditions observed in the trenches. Piezometers were placed in an effort to further define the subsurface conditions noted in the trenches as well as to define groundwater quality on the Site. Piezometers were labeled with the prefix PZ followed by the location number designation (i.e. PZ-1).

The piezometers were installed on 25 September 2001, using a truck-mounted probe. Soil samples were collected in dedicated acetate liners in 4 ft intervals from grade to the bottom depth of each boring. Soil samples were collected into the water table to document conditions at the soil/water interface; groundwater was typically encountered at about 9 ft below grade. Upon removal of each liner, the sample was closely inspected for physical characteristics including: color, material type and composition, relative grain size and distribution, presence of free moisture, potential confining characteristics, evidence of contamination, and degree and orientation of contaminated bedding. Soil descriptions were logged by the on-site geologist and are included as Attachment C. Sampling equipment was decontaminated between borings using cold wash techniques. Piezometers were installed to a depth of 5 ft below the water table and were constructed of 5 ft of 2-in inside diameter Schedule 40 PVC 0.010 slot screen and riser to grade. The piezometer was backfilled with #2 Morie sand to 2 ft above the top of the screen with a 2 ft bentonite seal, the remainder of the annulus of the boring was backfilled with cuttings from the boring to grade.

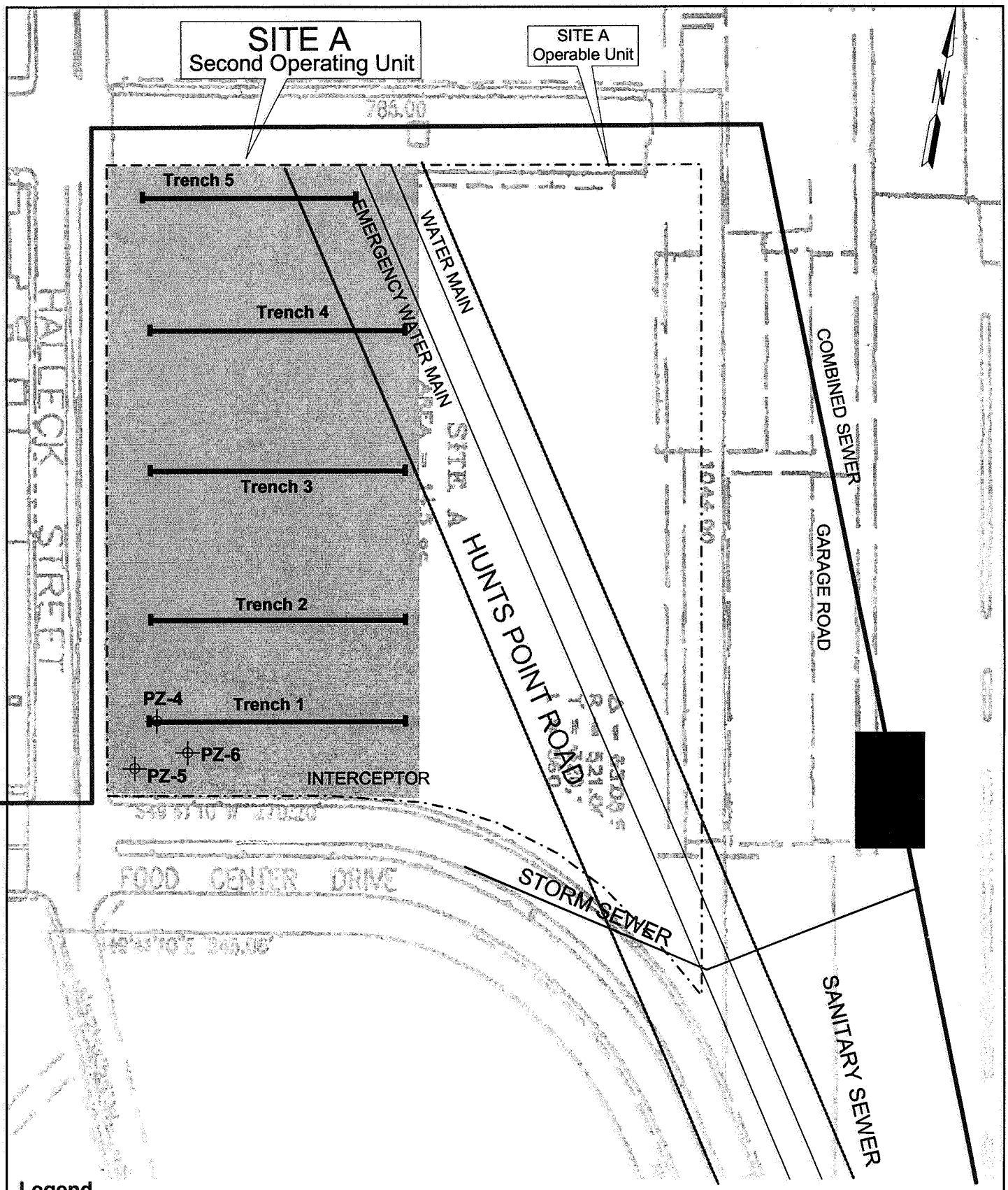
Groundwater samples were collected from the piezometers on 27 September 2001. Samples were collected and submitted under chain of custody protocol at 4°C via overnight courier for analysis of VOCs, and filtered and unfiltered SVOCs, .

Additional Temporary Piezometer Installation and Sampling Procedures

Upon completion of the Supplemental Investigation, an additional 3 temporary piezometers were installed at the Site (Figure 13). The piezometer locations were selected based on the groundwater sampling results from the first three (3) temporary piezometers installed on 25 September 2001. Piezometers were placed in an effort to further define groundwater quality on the Site in the vicinity of the



Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site A Second Operating Unit Portion Temporary Piezometer Locations** **Hunts Point**	**Figure 12**



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LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Additional Temporary Piezometer Locations** **Hunts Point**	**Figure 13**

western end of Trench 1. Piezometers were labeled with the prefix PZ followed by the location number designation (i.e. PZ-4).

The piezometers were installed on 6 November 2002, using a truck-mounted probe. Soil samples were collected in dedicated acetate liners in 4 ft intervals from grade to the bottom depth of each boring. Soil samples were collected into the water table to document conditions at the soil/water interface; groundwater was typically encountered at about 9 ft below grade. Upon removal of each liner, the sample was closely inspected for physical characteristics including: color, material type and composition, relative grain size and distribution, presence of free moisture, potential confining characteristics, evidence of contamination, and degree and orientation of contaminated bedding. Soil descriptions were logged by the on-site geologist and are included as Attachment D. Sampling equipment was decontaminated between borings using cold wash techniques. Piezometers were installed to a depth of 5 ft below the water table and were constructed of 5 ft of 1.5-in inside diameter Schedule 40 PVC 0.010 slot screen and riser to grade. The piezometer was backfilled with #2 Morie sand to 2 ft above the top of the screen with a 2 ft bentonite seal, the remainder of the annulus of the boring was backfilled with cuttings from the boring to grade.

Groundwater samples were collected from the piezometers on 6 November 2002. Samples were collected and submitted under chain of custody protocol at 4°C via overnight courier for analysis of cyanide and filtered and unfiltered TAL metals.

Temporary Piezometers Sampling Results

Three temporary piezometers were installed in order to monitor groundwater conditions at the Site (see Figure 12). The samples collected from the temporary piezometers are identified with the prefix PZ followed by the boring number (i.e. PZ-1). Samples filtered prior to analysis are labeled the same way, with the addition of "F" after the boring number (i.e. PZ-1F). Samples were submitted for analysis of TCL VOCs using EPA Method 8260, and filtered and unfiltered SVOCs using EPA Method 8270. Results are compared to the New York State Ambient Water Quality Standards and Guidance Values listed in the NYSDEC Division of Water Technical and Operational Guidance Series (June 1998) and are summarized below as well as in tables 11 and 12.

Volatile Organic Compounds: Concentrations of several VOCs were detected above the recommended water quality standards in several samples submitted for analysis (Table 11). Concentrations of naphthalene, 1,2,4-trimethylbenzene, ethylbenzene and total xylenes were detected above the water quality standards in samples PZ-1, PZ-2 and duplicate analysis of PZ-2. Benzene was detected at concentrations above the water quality standards in samples PZ-1, PZ-2, the duplicate analysis of PZ-2, and PZ-3. Toluene and styrene were detected in sample PZ-2 and its duplicate analysis. The compound 1,3,5-trimethylbenzene was detected above the water quality standard in sample PZ-2. Concentrations of n-propylbenzene, isopropylbenzene, 1,4-dichlorobenzene, 1,3-dichlorobenzene, and chlorobenzene

TABLE 11 (Page 1 of 1)

GROUNDWATER DATA SUMMARY

NYCEDC Hunt's Point Site A Second Operating Unit

Piezometers

(September 2001)

Lab Sample Number	204099-1	204099-2	204099-5	204099-3	204099-4	NYSDEC
LMS Sample ID	PZ-1	PZ-2	PZ-2 dup	PZ-3	TB-1	CLASS GA
Date Collected	9/27/2001	9/27/2001	9/27/2001	9/27/2001	9/27/2001	STANDARDS (b)
Matrix	Water	Water	Water	Water	Water	
Dilution Factor	1.0	1.0	1.0	1.0	1.0	
Volatile Organic Compounds (ug/L)						
Naphthalene	**200 e**	**4200 e**	**4300 e**	6.7	ND	10GV
1,2,4-Trimethylbenzene	**7.9**	**15**	**13**	ND	ND	5
1,3,5-Trimethylbenzene	2.1	**6.3**	**6.0 j**	ND	ND	5
n-Propylbenzene	**15**	ND	ND	ND	ND	5
Isopropylbenzene	**30**	ND	ND	ND	ND	5
Methylene Chloride	ND	ND	ND	0.77 j	ND	5
1,2,4-Trichlorobenzene	1.4	ND	ND	ND	ND	5
Benzene	**420 e**	**280 e**	**250**	**2.5**	ND	1
1,4-Dichlorobenzene	**28**	ND	ND	ND	ND	3*
1,3-Dichlorobenzene	**27**	ND	ND	ND	ND	3*
p-Isopropyltoluene	0.82 j	ND	ND	ND	ND	5
1,2 Dichlorobenzene	2.4	ND	ND	ND	ND	3*
Toluene	1.4	**120 e**	**120**	2.1	ND	5
Chlorobenzene	**22**	ND	ND	ND	ND	5
Ethylbenzene	**43**	**5.9**	**6.2 j**	ND	ND	5
Styrene	ND	**19**	**15**	ND	ND	5
Xylene (total)	**16.4**	**78**	**75**	1.64 j	ND	5
Total VOCs:	**817.42**	**4724.2**	**4779.2**	**13.71**	**ND**	100[1]

* - Applies to each isomer individually

1 - This value applies to the total of all organic substances listed in the New York State Groundwater Effluent Limitations table from the Division of Water Technical and Operational Guidance Series (1.1.1) with a groundwater effluent limitation less than 100 ug/l.

(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.

GV - Guidance Value.

j - Estimated concentration; compound present below quantitation limit.

e - Concentration exceeded the calibratin range of the instrument for that specific analysis.

ND - Not detected at analytical reporting limit.

Note - Numbers in bold exceed standard.

were detected at concentrations exceeding the water quality standard in sample PZ-1.

Semivolatile Organic Compounds: Samples submitted for analysis of SVOCs were submitted for total and filtered analysis (Table 12). Concentrations of analytical parameters in the filtered samples were typically less than those in the unfiltered samples. Thus indicating that sediment in the water sample contained most of the parameters analyzed and that filtering the sample significantly lowered or removed the concentrations of contaminants. Concentrations of naphthalene were detected above the recommended guidance value in the filtered and unfiltered samples of PZ-1, PZ-2 and PZ-3. Benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo (k)fluoranthene, and ideno(1,2,3-cd)pyrene were detected at concentrations above the recommended guidance values in the unfiltered samples PZ-1, PZ-2, the duplicate analysis of PZ-2 and PZ-3. Concentrations of 1,3-dichlorobenzene and 1,4-dichlorobenzene were detected above the recommended water quality criteria in the filtered and unfiltered sample PZ-1. Phenol, 4-methylphenol, 2-methylphenol, 2-methylnaphtalene, and acenaphthylene were detected above the water quality criteria in the filtered and unfiltered samples PZ-2 and its duplicate analysis. The compounds fluorene and phenanthrene were detected at concentrations above the water quality criteria in the unfiltered sample PZ-2 and its duplicate analysis. Acenapthene was detected above the recommended water quality criteria in the filtered and unfiltered samples PZ-1, PZ-2, and its duplicate analysis.

Additional Temporary Piezometers Sampling Results

Three additional temporary piezometers were installed in order to monitor groundwater conditions at the Site in the vicinity of the western end of Trench 1 (see Figure 13). The samples collected from the temporary piezometers are identified with the prefix PZ followed by the boring number (i.e. PZ-4). Samples filtered prior to analysis are labeled the same way, with the addition of "F" after the boring number (i.e. PZ-4F). Samples were submitted for analysis of cyanide and filtered and unfiltered TAL metals. Results are compared to the New York State Ambient Water Quality Standards and Guidance Values listed in the NYSDEC Division of Water Technical and Operational Guidance Series (June 1998) and are summarized below as well as in Table 13.

Metals and cyanide: Samples submitted for metals and cyanide analyses were submitted for total and filtered analysis (Table 13). Concentrations of analytical parameters in the filtered samples were typically less than those in the unfiltered samples. Thus indicating that sediment in the water sample contained most of the parameters analyzed and that filtering the sample significantly lowered or removed the concentrations of contaminants. Antimony, arsenic, barium, cadmium, and chromium were detected at concentrations above the recommended groundwater criteria in the unfiltered samples PZ-4 and PZ-6. Concentrations of copper, iron, and lead were detected at concentrations above the recommended water quality criteria in all three (3) unfiltered samples (PZ-4, PZ-5, and PZ-6). Manganese, and sodium were detected at concentrations above the recommended water quality criteria in all

TABLE 12 (Page 1 of 1)

GROUNDWATER DATA SUMMARY

NYCEDC Hunt's Point Site A Second Operating Unit

Piezometers

(September 2001)

Lab Sample Number	204099-1	204099-9	204099-2	204099-6	204099-5	204099-8	204099-3	204099-7	NYSDEC
LMS Sample ID	PZ-1	PZ-1 F	PZ-2	PZ-2 F	PZ-2 dup	PZ-2 dup F	PZ-3	PZ-3 F	CLASS GA
Date Collected	9/27/2001	9/27/2001	9/27/2001	9/27/2001	9/27/2001	9/27/2001	9/27/2001	9/27/2001	STANDARDS (b)
Matrix	Water	Water Dissolved	Water	Water Dissolved	Water	Water Dissolved	Water	Water Dissolved	
Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Semivolatile Organic Compounds (ug/L)									
2-Methylnaphthalene	49	21	**140 e**	**150 e**	**66**	**85 e**	4.6 j	2.0 j	50
Dibenzofuran	6.1 j	2.1 j	46	43	45	28	1.8 j	ND	50
Fluorene	20	5.4 j	**53**	48	**50**	28	2.7 j	ND	50
Naphthalene	**110 e**	**100 e**	**750 e**	**890 e**	**610 e**	**530 e**	**23**	**13**	10
4-Methylphenol	ND	ND	**310 e**	**440 e**	**240 e**	**220 e**	1.8 j	ND	50
2-Methylphenol	ND	ND	**170 e**	**230 e**	**120 e**	**110 e**	1.8 j	ND	50
2,4-Dimethylphenol	ND	ND	230 e	340 e	150 e	120 e	ND	ND	NS
1,3-Dichlorobenzene	**24**	**17**	ND	ND	ND	ND	ND	ND	5
1,4-Dichlorobenzene	**26**	**18**	ND	ND	ND	ND	ND	ND	5
1,2-Dichlorobenzene	1.6 j	1.3 j	ND	ND	ND	ND	ND	ND	4.7
Anthracene	10 j	ND	23	8.4 j	20	4.0 j	2.4 j	ND	50
Acenaphthylene	2.5	ND	**72**	**78**	**66**	**53**	2.4 j	ND	50
Acenaphthene	**40**	**20**	**38**	**33**	**41**	**31**	ND	ND	20
Phenanthrene	34	3.3 j	**75**	44	**70**	28	9.4 j	1.2 j	50
Phenol	ND	ND	**250 e**	**330 e**	**170 e**	**150 e**	ND	ND	1
Fluoranthene	14	ND	37	5.5 j	33	2.7 j	9.2 j	ND	50
1,2,4-Trichlorobenzene	1.7 j	ND	ND	ND	ND	ND	ND	ND	5
Pyrene	28	ND	31	3.5 j	28	1.9 j	9.5 j	ND	50
Benzo(a)anthracene	**8.7 j**	ND	**14**	ND	**12**	ND	**5.0 j**	ND	0.002
Chrysene	**8.3 j**	ND	**11**	ND	**9.4 j**	ND	**4.7 j**	ND	0.002
bis(2-Ethylhexyl)phthalate	2.1 j	ND	1.3 j	ND	1.2 j	1.3 j	1.1 j	1.8 j	5
Benzo(b)fluoranthene	**8.1 j**	ND	**13**	ND	**9.8 j**	ND	**6.1 j**	ND	0.002
Di-n-butylphthalate	ND	ND	ND	ND	1.3 j	1.3 j	ND	1.1 j	50
Benzo(k)fluoranthene	**3.7 j**	ND	**5.1 j**	ND	**4.5 j**	ND	**2.2 j**	ND	0.002
Benzo(a)pyrene	8.6 j	ND	10 j	ND	8.5 j	ND	5.0 j	ND	NS
Indeno(1,2,3-cd)pyrene	**3.1 j**	ND	**3.8 j**	ND	**3.2 j**	ND	**2.2 j**	ND	0.002
Dibenzo(a,h)anthracene	ND	ND	1.2 j	ND	1.1 j	ND	ND	ND	50
Benzo(g,h,i)perylene	4.0 j	ND	3.9 j	ND	3.4 j	ND	3.0 j	ND	50
Total SVOCs	**413.5**	**188.1**	**2288.3**	**2643.4**	**1743.4**	**1394.2**	**96.8**	**19.1**	

1 - This value applies to the total of all organic substances listed in the New York State Groundwater Effluent Limitations table from the Division of Water Technical and Operational Guidance Series (1.1.1) with a groundwater effluent limitation less than 100 ug/l.
(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
j - Estimated concentration; compound present below quantitation limit.
e - Concentration exceeded the calibration range of the instrument for that specific analysis.
NS - No Standard.
ND - Not detected at analytical detection limit.
Note: - Numbers in bold exceed standard.
- Sum of SVOCs only includes those with standard or guidance values.

GROUNDWATER SUMMARY
NYCEDC HUNT'S POINT
SITE A SECOND OPERATING UNIT
(November 2002)

LMS Sample ID	PZ-4	PZ-4F	PZ-5	PZ-5F	PZ-6	PZ-6F	NYSDEC
Sampling Date	11/6/02	11/6/02	11/6/02	11/6/02	11/6/02	11/6/02	CLASS GA
Matrix	WATER	WATER	WATER	WATER	WATER	WATER	STANDARDS (b)
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
METALS (µg/l)							
Aluminum	19900 E	ND	7750 E	ND	18100	ND	NS
Antimony	**23.9 B**	ND	ND	ND	**21.8 B**	ND	3
Arsenic	**53.1 N**	ND	16.3 N	ND	**65.4**	ND	25
Barium	**2040 EN**	138 B	581 EN	100 B EN	**1250**	133 B	1000
Beryllium	1.8 B	ND	0.91 B	ND	1.8 B	ND	3 GV
Cadmium	**6.9**	ND	2.2 B	ND	**5.1**	ND	5
Calcium	71600 E	65000 E	59800 E	56200 E	61600 E	60100 E	NS
Chromium	**90 E**	ND	27.6 E	ND	**916**	ND	50
Cobalt	16.3 B	ND	6.8 B	ND	23.9	ND	NS
Copper	**1050 E**	4.2 B	**302 E**	8.4 B	**330**	ND	200
Cyanide	**377**	NA	79	NA	24	NA	200
Iron	**55700 E**	24.4 B	**21700 E**	16.4 B	**60600**	34.7 B	300
Lead	**4920 E**	4.3 B	**1010 E**	4.0 B	**2210**	3.1 B	25
Magnesium	8170 E	6150 E	6580 E	5990 E	7090	6920	35000 GV
Manganese	**633 E**	**322 E**	**679**	**471**	**777**	**472**	300
Mercury	**19.3**	ND	**1.7**	ND	**3**	ND	0.7
Nickel	60.9	ND	34.9 B	5.8 B	75.4	4.4 B	100
Potassium	9570 E	7050 E	7970	6830	9180	7580	NS
Selenium	ND	ND	4.5 B	ND	10 B	ND	10
Silver	3.1 BN	ND	ND	ND	8.7 B	ND	50
Sodium	**26700 E**	**30800 E**	**35100**	**36300**	**38100**	**45700**	20000
Thallium	ND	ND	ND	ND	ND	ND	0.5 GV
Vanadium	69.3	ND	29.8 B	ND	73.2	ND	NS
Zinc	1920 EN	37.7 EN	486	25	**2980**	26.7	2000 GV

(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
B - Value is less than the contract-required detection limit but greater than the instrument detection limit.
GV - Value taken from NYSDEC Class GA Guidance Value.
E - Concentration exceeded the calibration range of the instrument for that specific analysis.
NS - No standard
ND - Not detected at analytical reporting limit.
Note: - Numbers in bold exceed standard.

three (3) samples submitted for analysis, both filtered and unfiltered. Zinc was detected at concentrations above the recommended water quality criteria in the unfiltered sample PZ-6.

Conclusions and Recommendations

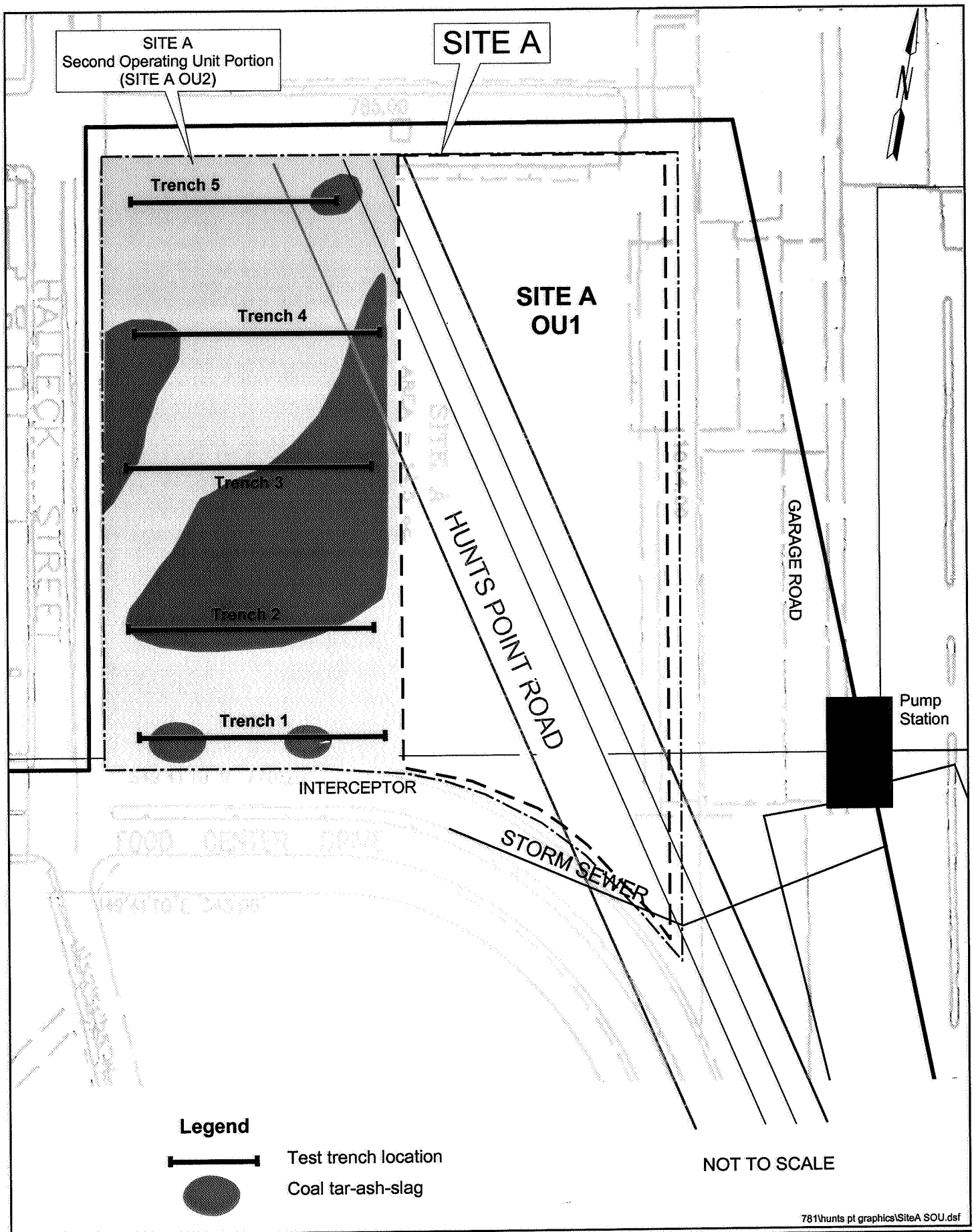
LMS has reviewed all of the information that has been made available for the Second Operating Unit of Site A, and following completion of the intensive trenching, boring and groundwater sampling program has made the following observations and conclusions.

The program included a visual examination of trenches that covered over 950 linear feet across the site. During the excavation activities, soil and groundwater samples were collected for analysis from those areas that were found to exhibit the most obvious sign of contamination. In performing this type of investigation, a far more complete picture of subsurface conditions has been able to be assembled than by other methods (drilling, probing). Additional soil and groundwater sampling was conducted by installing 3 deep and 13 shallow soil borings and 3 temporary piezometers. Soil borings were installed to determine the presence or absence of DNAPL and to further document the extent of coal tar across the Site. The temporary piezometers were installed and sampled to document groundwater quality on-site.

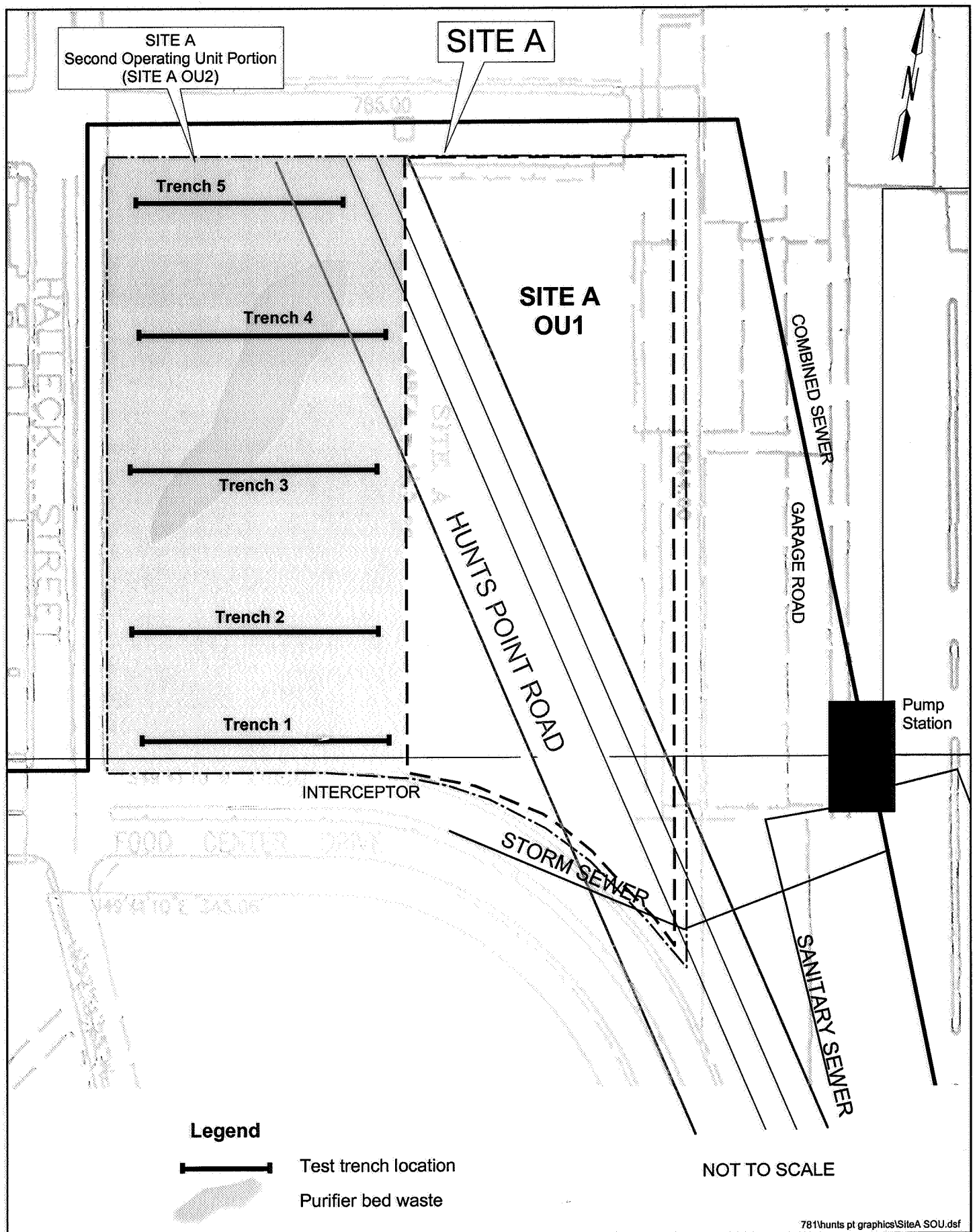
The conditions that were encountered indicate that there are residual coal tar products in fill material at depths averaging 3 to 4 ft below grade located in each of the five trenches at random intervals along each trench. Trenches 2 and 3 contained the majority of coal tar found along the trenches at second operating unit Site A. Residual coal wastes related to historical Site activities exist in several distinct areas across the Site as illustrated in Figure 14. Coal tar wastes consisted of ash, slag and tar boils, all of which are encountered above the water table. Typically the coal tar has been extruded onto the surface as a boil, and, where encountered, ranged in thickness from several inches to several feet.

Residual purifier bed wastes are also present, predominantly on the eastern side of the Site (Figure 15). These wastes consist of wood shavings with a brilliant blue-green color and are either present at the ground surface, or just below the surface to a maximum of 5 ft below grade.

Incinerator ash was encountered across the entire Site. The ash ranges in thickness from 6 inches to greater than 5 ft, and is consistent with historical incinerator ash encountered throughout the Metropolitan area. The incinerator ash was commonly used as fill material along coastal or marshland areas, and consists of cinders, papery ash, and miscellaneous household debris such as glass and ceramics. The incinerator ash was typically present below any coal wastes and did not exhibit any signs of contamination.



LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site A Second Operating Unit** **Coal Tar Wastes** **Hunts Point**	**Figure** **14**



Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site A Second Operating Unit Purifier Bed Waste** **Hunts Point**	**Figure 15**

Automobile parts were typically encountered just below the surface at the western side of the Site and were prevalent in Trenches 2, 3 and 4.

Analysis of the analytical data for the soils, fill, and groundwater illustrates that exceedances of the TAGM were predominantly encountered where obvious gross contamination was present, i.e. samples of raw coal tar, and purifier bed waste. Volatile organic compounds were generally detected at low levels in the soils across the Site, with the exception of those samples collected from the worst case locations. Semivolatile compounds, although more prevalent, were detected in the soils at levels that are consistent with degraded coal tar. Pesticides and PCBs were not detected in the majority of the soil samples submitted for analysis. Metals were also detected in the soils submitted for analysis at generally low levels with some exceedances. There are specific isolated areas where exceedances of the TAGM are prevalent and they are associated with coal tar boils or purifier bed wastes.

Groundwater monitoring points were installed to monitor groundwater quality at the Site and to determine whether a light or dense non-aqueous petroleum layer existed on-site (L/DNAPL). DNAPL was not encountered at any of the borings advanced on-site. There was a slight sheen on two of the piezometers sampled (PZ-1 and PZ-2), but no measurable product. Several exceedances of VOCs and SVOCs were detected in the groundwater samples submitted for analysis, both from the trenches and the piezometers. The sampling results from the piezometers indicated low to moderate volatile and semivolatile concentrations. Metals exceedances typically occurred in the unfiltered samples. Filtered samples had low to non-detectable metals concentrations. However, the groundwater metals data indicated that the water is rather high in analytes indicative of saline conditions. Although groundwater fluctuations were not measured, due to the Site's proximity to the East River, it may be slightly tidally influenced.

The proposed usage of the property includes the importation of fill material to level and grade the Site and the construction of an asphalt parking lot. This construction would not require significant excavation or removal of material off-site. Subsurface disturbances would be confined to installation of utilities, and drainage. After reviewing the Site data and understanding the final proposed use of the Site, LMS has taken the following factors into account:

- The volatile organics identified in the Site fill, soils and groundwater were found in concentrations that would not be a cause for concern for normal exposure.

- Semivolatiles present do not pose an inhalation threat, and after being capped with both additional fill and the parking lot they will be effectively encapsulated.

- Metals present in the fill material, including cyanide will not present an exposure threat once additional filling of the Site and capping occurs.

- Pesticides and PCBs are not an issue, as any concentrations are present below subsurface cleanup criteria.

Based on the analytical results, the environmental conditions encountered on-site, and the intended future use of the Site, in brief, LMS recommends the following:

- Removal of coal tar boils, with subsequent off-site disposal of material.
- Removal of purifier bed wastes, with subsequent off-site disposal of material.
- Prepare documentation regarding restrictions for the future development of the Site. Included in this documentation will be requirements to be met during construction for the protection of the health and safety of workers, specifications for handling potential disposal of additional material from any future excavations that may be performed, and proper procedures for such, as well as the management of soil to remain on-site.

These recommendations will be more specifically described in the Response Plan which will be submitted following approval of this Report.

ATTACHMENT A

DEEP SOIL BORING LOGS

LMS Test Boring Log

Project Name: Site A Second Operating Unit	**Boring No.:** DB-1
Client: NYCEDC	**Sheet** 1 **of** 1
Driller: LMS	**Project No.:** 781-001
Drilling Method: Probe Rig	**Date:** Start: 9/25/2001
Boring Location:	Finish: 9/25/2001
Coordinates:	**Total Depth:** 40'
Logged By: m.pantliano/j.morse	**Depth to Water:** 8'
Monitoring Instrument(s):	**Surf. Elevation**
	Hole Diameter: 2"

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0-4					24			0-4" brown sand and ash 4-6" - concrete 6-10" - incinerator ash 10-24" - coal ash	
4-8					10			0-10" - incinerator ash, some coal ash.	
8-12					0			no recovery, water table, incinerator ash sloughed out of sampler	
12-16					8			0-8" - incinerator ash, some wood.	
16-20					44			0-2" - incinerator ash 2-44" - grey-green organic clay, micaceous, some shells, organic odor.	
20-24					38			0-38" - grey green organic clay, micaceous, some shells and peat, organic odor.	
24-28					40			0-40" - grey green organic clay some peat, little shells, micaceous	
28-32					48			0-48" - grey green organic clay, some shells, organic odor	
32-36					48			0-48" - grey green organic clay, some shells, organic odor	
36-40					48			0-48" - grey green organic clay, some shells, organic odor	
								EOB @ 40 ft NO DNAPL ENCOUNTERED	

LMS Test Boring Log

Boring No.:	DB-2
Sheet	1 of 1
Project Name:	Site A Second Operating Unit
Project No.:	781-001
Client:	NYCEDC
Date: Start:	9/25/2001
Finish:	9/25/2001
Driller:	LMS
Drilling Method:	Probe Rig
Total Depth:	40
Boring Location:	
Depth to Water:	8'
Coordinates:	
Surf. Elevation	
Logged By:	m.pantliano/j.morse
Hole Diameter:	2"
Monitoring Instrument(s):	

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
								f - fine; m - medium; c - coarse; and - 35-50%; some - 20-35%; little - 10-20%; trace - 0-10%	
0-4					30			0-14" - coal ash, some coal slag, incinerator ash 14-15" - mica flakes 15-15.5" - coal ash and slag 15.5-16.5" - brick fragment 16.5-30" - coal ash	
4-8					48			0-32" - coal ash, some wood chips, creosote odor 32-48"- grey-green organic clay, some shells, blue-green stained wood chips	
8-12					18			0-18" - blue-green wood chips (purifier bed waste)	
12-16					0			no recovery, wet incinerator ash sloughed out of sampler	
16-20					0			no recovery, wet incinerator ash sloughed out of sampler	
20-24					0			no recovery, wet incinerator ash sloughed out of sampler	
24-32					48			0-8" - coal ash and grey green clay 8-48"- grey-green organic clay, little peat, little shells, organic odor.	
32-40					48			0-48" - grey-green organic clay, little shells, organic odor.	
								EOB @ 40 ft NO DNAPL ENCOUNTERED	

LMS Test Boring Log

Boring No.:	DB-3
Sheet	1 of 2
Project Name:	Site A Second Operating Unit
Project No.:	781-001
Client:	NYCEDC
Date: Start:	9/25/2001
Finish:	9/25/2001
Driller:	LMS
Drilling Method:	Probe Rig
Total Depth:	40'
Boring Location:	
Depth to Water:	8'
Coordinates:	
Surf. Elevation	
Logged By:	m.pantliano/j.morse
Hole Diameter:	2"
Monitoring Instrument(s):	

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
								f - fine; m - medium; c - coarse; and - 35-50%; some - 20-35%; little - 10-20%; trace - 0-10%	
0-4					44			0-1" - brown, c. sand, little clay 1-8" - coal ash and slag 8-10" - brick fragment 10-16" - black clay and coal ash, little brick and concrete 16-17" - concrete 17-30" - coal ash and slag, little brick and concrete 30-44" - black clay, some coal ash, little brick	
4-8					46			0-8" - black coal ash 8-40" - tan-brown micaceous sand and clay. 40-46" - brown-black silt, some sand	
8-12					20			0-6" - grey-green silty clay 6-8" - brick 8-10" - black coal ash, some wood chips 10-15" - grey-green clay 15-20" - black coal ash, some glass.	
12-16					0			no recovery	
16-20					48			0-18" - black coal ash, very wet, little brick, some wood chips 18-48" - grey-green organic clay	
20-24					42			0-42" - grey-green organic clay, some peat, little shells, organic odor.	
24-28					48			0-48" - grey-green organic clay, some peat, organic odor.	

LMS Test Boring Log

Boring No.:	DB-3
Sheet	2 of 2
Project Name:	Site A Second Operating Unit
Project No.:	781-001
Client:	NYCEDC
Date: Start:	9/25/2001
Driller:	LMS
Finish:	9/25/2001
Drilling Method:	Probe Rig
Total Depth:	40'
Boring Location:	
Depth to Water:	8'
Coordinates:	
Surf. Elevation	
Logged By:	m.pantliano/j.morse
Hole Diameter:	2"
Monitoring Instrument(s):	

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
28-32					48			0-48" - grey-green organic clay, little shells, organic odor 0-48" - grey-green organic clay, little shells, organic odor. 0-48" - grey-green organic clay, some shells and peat, organic odor. EOB @ 40 ft NO DNAPL ENCOUNTERED	
32-36					48				
36-40					48				

f - fine, m - medium, c - coarse

and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%

ATTACHMENT B

SHALLOW SOIL BORING LOGS

LMS Test Boring Log

Project Name: Site A Second Operating Unit	**Boring No.:** GP-1
Client: NYCEDC	**Sheet** 1 **of** 1
Driller: LMS	**Project No.:** 781-001
Drilling Method: Probe Rig	**Date:** Start: 9/25/2001
Boring Location:	Finish: 9/25/2001
Coordinates:	**Total Depth:** 8'
Logged By: m.pantliano/j.morse	**Depth to Water:** 8'
Monitoring Instrument(s):	**Surf. Elevation**
	Hole Diameter: 2"

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
0-4					46			0.0-30" - coal ash, some slag, some concrete and wood, some gravel. 30-31" - concrete 31-43" - coal ash and clay, some gravel 43-46" - blue-green stained wood chips chips (purifier bed waste)	
4-8					18			0.0-17" - blue-green stained wood chips (purifier bed waste) 17-18" - timbers, some coal ash	
8-12					24"			1-12" - coal ash/slag 12-24" - incinerator ash EOB @ 12 ft NO COAL TAR ENCOUNTERED	

f - fine, m - medium, c - coarse

and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%

LMS Test Boring Log

Boring No.:	GP-2
Sheet	1 of 1
Project Name:	Site A Second Operating Unit
Project No.:	781-001
Client:	NYCEDC
Date: Start:	9/25/2001
Driller:	LMS
Finish:	9/25/2001
Drilling Method:	Probe Rig
Total Depth:	8'
Boring Location:	
Depth to Water:	8'
Coordinates:	
Surf. Elevation	
Logged By:	m.pantliano/j.morse
Hole Diameter:	2"
Monitoring Instrument(s):	

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
0-4					30			0-25" - coal ash, some slag, some incinerator ash, little brick, little mica 25-28" - blue-green stained wood chips 28-30" - coal ash	
4-8					14			0-7" - Incinerator ash 7-13" - coal ash and slag 13-14" - timbers	
8-12					14			H2O @ 8 ft 0-14" - incinerator ash, little porcelain, cinders EOB @ 12 ft NO COAL TAR ENCOUNTERED	

f - fine; m - medium; c - coarse

and - 35-50%; some - 20-35%; little - 10-20%; trace - 0-10%

LMS Test Boring Log

Project Name: Site A Second Operating Unit	**Boring No.:** GP-3
Client: NYCEDC	**Sheet** 1 **of** 1
Driller: LMS	**Project No.:** 781-001
Drilling Method: Probe Rig	**Date:** Start: 9/25/2001
Boring Location:	Finish: 9/25/2001
Coordinates:	**Total Depth:** 8'
Logged By: m.pantliano/j.morse	**Depth to Water:** 8'
Monitoring Instrument(s):	**Surf. Elevation**
	Hole Diameter: 2"

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
0-4					36			0-36" - coal ash, some incinerator ash, little mica	
4-8					36			0-6" - coal ash, some slag 6-9" - Incinerator ash 9-36" - coal ash, some slag	
8-12					30			0-2" - coal tar and coal ash 2-14" - incinerator ash, wet H2O @ 8 ft 14-15" - dark grey organic clay 15-24" - incinerator ash, little wood 24-30" - grey-green organic clay EOB @ 12 ft	

f - fine, m - medium, c - coarse
and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%

LMS Test Boring Log

Project Name: Site A Second Operating Unit	**Boring No.:** GP-4
Client: NYCEDC	**Sheet** 1 **of** 1
Driller: LMS	**Project No.:** 781-001
Drilling Method: Probe Rig	**Date:** Start: 9/25/2001
Boring Location:	Finish: 9/25/2001
Coordinates:	**Total Depth:** 8'
Logged By: m.pantliano/j.morse	**Depth to Water:** 8'
Monitoring Instrument(s):	**Surf. Elevation**
	Hole Diameter: 2"

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
0-4					30			0-18" - incinerator ash 18-26" - coal ash and incinerator ash, little mica 26-30" - incinerator ash	
4-8					44			0-12" incinerator ash, little paper 12-44" - coal ash, some slag EOB @ 8 Ft NO COAL TAR ENCOUNTERED	

f - fine, m - medium, c - coarse

and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%

LMS Test Boring Log

Boring No.:	GP-5
Sheet	1 of 1
Project Name:	Site A Second Operating Unit
Project No.:	781-001
Client:	NYCEDC
Date: Start:	9/25/2001
Driller:	LMS
Finish:	9/25/2001
Drilling Method:	Probe Rig
Total Depth:	8'
Boring Location:	
Depth to Water:	8'
Coordinates:	
Surf. Elevation	
Logged By:	m.pantliano/j.morse
Hole Diameter:	2"
Monitoring Instrument(s):	

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
0-4					44			0-1" - timber 1-15" - coal ash, some slag, some mica 15-22" - grey clay, some gravel 22-44" - coal ash, some slag, some mica	
4-8					32			0-31" - coal ash , some slag, some mica 31-32" - incinerator ash	
8-12					24			0-24" - incinerator ash, wet	
12-16					12			0-8" - coal ash, some slag, wet 8-12" coal ash and coal tar note: there is a large tar boil adjacent to the boring on the ground surface	
16-18					2			refusal at 18ft grey-green organic clay EOB @18 ft 4 in of COAL TAR ENCOUNTERED	

f - fine, m - medium, c - coarse

and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%

LMS Test Boring Log

Boring No.:	GP-6
Sheet	1 of 1
Project Name:	Site A Second Operating Unit
Project No.:	781-001
Client:	NYCEDC
Date: Start:	9/26/2001
Finish:	9/26/2001
Driller:	LMS
Drilling Method:	Probe Rig
Total Depth:	8'
Boring Location:	
Depth to Water:	8'
Coordinates:	
Surf. Elevation	
Logged By:	m.pantliano/j.morse
Hole Diameter:	2"
Monitoring Instrument(s):	

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
								f - fine; m - medium; c - coarse; and - 35-50%; some - 20-35%; little - 10-20%; trace - 0-10%	
0-4					42			0-4" - brown sand and clay 4-5" - timber 5-40" - coal ash, little mica 40-42" - coal ash, little coal tar	
4-8					38			0-35" - coal ash and slag 35-38" - coal tar, strong naphthalene odor	
8-12					22			0-2" coal tar 2-22" - coal ash, little slag	
12-16					0			no recovery, incinerator ash in spoon EOB @ 16 ft ~12 in of COAL TAR ENCOUNTERED	

LMS Test Boring Log

Project Name: Site A Second Operating Unit	**Boring No.:** GP-7
Client: NYCEDC	**Sheet** 1 **of** 1
Driller: LMS	**Project No.:** 781-001
Drilling Method: Probe Rig	**Date:** Start: 9/26/2001
Boring Location:	Finish: 9/26/2001
Coordinates:	**Total Depth:** 8'
Logged By: m.pantliano/j.morse	**Depth to Water:** 8'
Monitoring Instrument(s):	**Surf. Elevation**
	Hole Diameter: 2"

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
0-4					46			0-12" - dark sand, some gravel and brick 12-13" - coal tar 13-46" - incinerator ash, coal tar, and coal ash	
4-8					24			0-18" - coal ash 18-24" - coal tar, some wood	
8-12					6			0-3" - coal ash 3-6" - coal ash, some coal tar	
								EOB @ 12 ft ~12 in COAL TAR ENCOUNTERED	

f - fine, m - medium, c - coarse
and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%

LMS Test Boring Log

Project Name: Site A Second Operating Unit	**Boring No.:** GP-8
Client: NYCEDC	**Sheet** 1 **of** 1
Driller: LMS	**Project No.:** 781-001
Drilling Method: Probe Rig	**Date:** Start: 9/26/2001
Boring Location:	Finish: 9/26/2001
Coordinates:	**Total Depth:** 8'
Logged By: m.pantliano/j.morse	**Depth to Water:** 8'
Monitoring Instrument(s):	**Surf. Elevation**
	Hole Diameter: 2"

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
0-4					16			0-4" - coal ash, micaceous 4-6" - concrete 6-15" - incinerator ash, some coal ash 15-16" - coal tar	
4-8					12			0-11" - incinerator ash 11-12" - coal tar	
8-12					14			0-14" - incinerator ash, some brick, little wood EOB @ 12 ft ~2 in COAL TAR ENCOUNTERED	

f - fine, m - medium, c - coarse

and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%

LMS Test Boring Log

Project Name: Site A Second Operating Unit	**Boring No.:** GP-9
Client: NYCEDC	**Sheet** 1 **of** 1
Driller: LMS	**Project No.:** 781-001
Drilling Method: Probe Rig	**Date:** Start: 9/26/2001
Boring Location:	Finish: 9/26/2001
Coordinates:	**Total Depth:** 8'
Logged By: m.pantliano/j.morse	**Depth to Water:** 8'
Monitoring Instrument(s):	**Surf. Elevation**
	Hole Diameter: 2"

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
								f - fine m - medium c - coarse and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	
0-4					28			0-16" - coal ash, little slag, brick and mica 16-18" - concrete 18-21" - coal ash, little mica 21-24" - rust colored sand 24-24.5" - coal ash and mica 24.5-28" - coal tar	
4-8					12			0-12" - coal tar, some slag	
8-12					16			0-16" - coal ash, some slag, little tar and wood	
12-16					46			0-6" - coal ash, some slag 6-46" - grey green organic clay EOB @ !6 ft ~12 in COAL TAR ENCOUNTERED	

LMS Test Boring Log

Boring No.:	GP-10
Sheet	1 of 1
Project Name:	Site A Second Operating Unit
Project No.:	781-001
Client:	NYCEDC
Date: Start:	9/26/2001
Driller:	LMS
Finish:	9/26/2001
Drilling Method:	Probe Rig
Total Depth:	8'
Boring Location:	
Depth to Water:	8'
Coordinates:	
Surf. Elevation	
Logged By:	m.pantliano/j.morse
Hole Diameter:	2"
Monitoring Instrument(s):	

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
0-4					46			0-13" - brown sand and clay, little mica and brick 13-14" - concrete 14-46" - coal ash, some brick concrete and mica	
4-8					40			0-10" - coal tar, some slag 10-35" - coal ash, some slag 35-36" wood 36-40" - coal ash (wet), some slag	
8-12					36			0-1" - coal tar 1-36" - incinerator ash, some wood	
12-16					44			0-22" - coal ash, some slag 22-44" - grey green organic clay EOB @ 16 ft ~12 in COAL TAR ENCOUNTERED	

f - fine, m - medium, c - coarse

and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%

LMS Test Boring Log

Project Name: Site A Second Operating Unit	**Boring No.:** GP-11
Client: NYCEDC	**Sheet** 1 **of** 1
Driller: LMS	**Project No.:** 781-001
Drilling Method: Probe Rig	**Date:** Start: 9/26/2001
Boring Location:	Finish: 9/26/2001
Coordinates:	**Total Depth:** 8'
Logged By: m.pantliano/j.morse	**Depth to Water:** 8'
Monitoring Instrument(s):	**Surf. Elevation**
	Hole Diameter: 2"

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
0-4					38			0-4" - incinerator ash 4-5" - concrete 5-21" - coal ash 21-23" - coal ash and tar 23-38" - coal ash, some slag	
4-8					10			0-3" - coal ash 3-7" - coal tar 7-10" - incinerator ash	
8-12					24			0-18" - coal ash, some slag 18-24" - grey green organic clay EOB @ 12 Ft ~6 in COAL TAR ENCOUNTERED	

f - fine, m - medium, c - coarse

and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%

LMS Test Boring Log

Project Name: Site A Second Operating Unit	**Boring No.:** GP-12
Client: NYCEDC	**Sheet** 1 **of** 1
Driller: LMS	**Project No.:** 781-001
Drilling Method: Probe Rig	**Date:** Start: 9/26/2001
Boring Location:	Finish: 9/26/2001
Coordinates:	**Total Depth:** 8'
Logged By: m.pantliano/j.morse	**Depth to Water:** 8'
Monitoring Instrument(s):	**Surf. Elevation**
	Hole Diameter: 2"

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained		Classification Of Material	Remarks
0-4					16				0-16" - concrete, some sand	
4-12					0				no recovery	

Classification Of Material

f - fine
m - medium
c - coarse

and - 35-50%
some - 20-35%
little - 10-20%
trace - 0-10%

LMS Test Boring Log

Project Name:	Site A Second Operating Unit
Client:	NYCEDC
Driller:	LMS
Drilling Method:	Probe Rig
Boring Location:	
Coordinates:	
Logged By:	m.pantliano/j.morse
Monitoring Instrument(s):	

Boring No.:	GP-13
Sheet	1 **of** 1
Project No.:	781-001
Date: Start:	9/26/2001
Finish:	9/26/2001
Total Depth:	8'
Depth to Water:	8'
Surf. Elevation	
Hole Diameter:	2"

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
0-4					44			0-13" - coal ash, some mica 13-16" - coal tar 16-20" - wood 20-44" - coal ash, little concrete and brick	
4-8					40			0-3" - dark brown sand and clay 3-6" - incinerator ash 6-40" - dark brown sand and clay, little concrete	
8-12					18			0-10" - grey green clay, little sand 10-18" - incinerator ash and coal ash some brick	
12-16					24			0-15" - coal ash, little brick 15-24" - grey green organic clay EOB @ 16 ft NO COAL TAR ENCOUNTERED	

Classification Of Material

f - fine
m - medium
c - coarse

and - 35-50%
some - 20-35%
little - 10-20%
trace - 0-10%

ATTACHMENT C

TEMPORARY PIEZOMETER LOGS

LMS Test Boring Log

	Boring No.: PZ-1
	Sheet 1 **of** 1
Project Name: NYCEDC HUNTS POINT SITE A SECOND OPERATING UNIT	**Project No.:** 781001
Client: NYCEDC	**Date:** Start 9/25/01
Driller: LMS ENGINEERS	Finish 9/25/01
Drilling Method: DIRECT PUSH PROBE	**Total Depth:** 16'
Boring Location: SITE A SECOND OPERATING UNIT	**Depth To Water:** 8'
Coordinates:	**Surf. Elevation:**
Logged By: J.MORSE/M.PANTLIANO	**Hole Diameter:** 2"
Monitoring Instrument(s): Hnu	

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in.)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
								f - fine m - medium c - coarse and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	
0-4					36			0-4" - topsoil, dark brown sand, some clay 4-16" - coal tar, some concrete, little coal slag and brick 16-18" - brown micaceous sand 18-30" - coal tar 30-36" - coas ash, some micaceous sand	
4-8					36			0-30" - brown sand and coal ash, little brick 30-36" - incinerator ash and slag	
8-12					30			0-30" - incinerator ash, some slag, wet brick fragments @ 28" wood chips @ 25"	
12-16					22			0-12" - coal slag, sulfur odor 12-16" - incinerator ash, slag, petroleum and sulfur odor, last 2 inches has sheen, some silt EOB @ 16' TEMPORARY PIEZOMETER INSTALLED - 0-14'	

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 781-001

PROJECT NAME: NYCEDC HUNTS POINT SITE A SECOND OPERATING UNIT

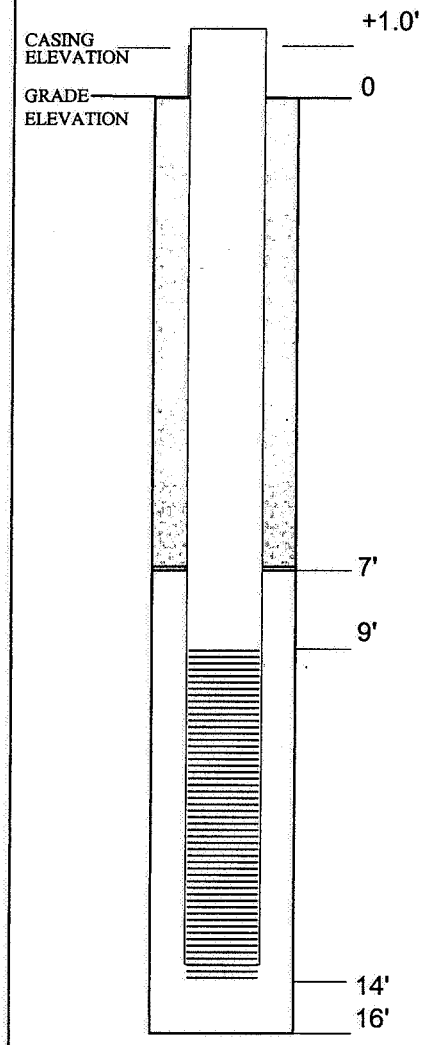
WELL No.: PZ-1

CLIENT: NYC ECONOMIC DEVELOPMENT CORP.

LOCATION: HUNTS POINT SITE A SECOND OPERATING UNIT

DATE DRILLED:	DATE DEVELOPED:	WELL CONSTRUCTION COMPLETED:
25-Sep-01		25-Sep-01

DEVELOPING METHOD:



NOT TO SCALE

INSPECTOR: J.Morse

DRILLING CONTRACTOR: LMS ENGINEERS

TYPE OF WELL: TEMPORARY PIEZOMETER

STATIC WATER LEVEL: 9.3' DATE: 9/27/2001

MEASURING POINT: TOC TOTAL DEPTH OF WELL: 14' TOTAL DEPTH OF BORING: 16'

DRILLING METHOD TYPE: DIRECT PUSH PROBE

DIAMETER: 1" CASING: PVC

SAMPLING METHOD TYPE: 48" MACRO CORE SAMPLER

DIAMETER: 1" WEIGHT:

FALL: INTERVAL: CONTINUOUS

RISER PIPE LEFT IN PLACE MATERIAL: PVC

DIAMETER: 1" LENGTH: 10' JOINT TYPE: THREADED

SCREEN MATERIAL: PVC

INTERVAL: 9-14' DIAMETER: 1"

STRATIGRAPHIC UNITS SCREENED: SLOT SIZE: 0.01

FILTER PACK GRADE:

SAND: #2MORIE GRAVEL: NATURAL:

AMOUNT: INTERVAL: 7-16'

SEAL(s)

NOTES:

Portland Cement	INTERVAL:	AMOUNT:
Bentonite Slurry	INTERVAL: 0-7'	AMOUNT:
Bentonite Pellets	INTERVAL:	AMOUNT:
Other:	INTERVAL:	AMOUNT:

LOCKING CASING: ■ YES ☐ NO KEY NO:

LMS LAWLER, MATUSKY & SKELLY ENGINEERS LLP

LMS Test Boring Log

Project Name: NYCEDC HUNTS POINT SITE A SECOND OPERATING UNIT	**Boring No.:** PZ-2
Client: NYCEDC	**Sheet** 1 **of** 1
Driller: LMS ENGINEERS	**Project No.:** 781001
Drilling Method: DIRECT PUSH PROBE	**Date:** Start 9/25/01
Boring Location: SITE A SECOND OPERATING UNIT	Finish 9/25/01
Coordinates:	**Total Depth:** 16'
Logged By: J.MORSE/M.PANTLIANO	**Depth To Water:** 8'
Monitoring Instrument(s): Hnu	**Surf. Elevation:**
	Hole Diameter: 2"

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in.)	Instrument Reading	Sample Retained	Classification Of Material	Remarks
0-4					24			0-4" - sand and clay, some glass wood, brick and gravel 4-8" - sand, some brick and glass 8-18"- dark brown-black sand, some clay, little glass and brick 18-20" - wood 20-20.5" - concrete 20.5-24" - coal ash, little tar	
4-8					12			refusal at 6 ft 0-12" - coal ash and slag, some coal tar, creosote odor, sheen on ash.	
8-12					48			0-12" - coal ash and tar, sheen on water, strong odor 12-18" - brown silty sand and some coal tar stringers 18-48" - incinerator ash, tr coal tar stringers	
12-16					24			sheen on water no coal tar or ash, no odor, 0-24" - incinerator ash, glass, gravel, porcelain, brick - black to grey in color	
								EOB @ 16' INSTALL TEMPORARY PIEZOMETER - 0-14'	

f - fine, m - medium, c - coarse
and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 781-001

PROJECT NAME: NYCEDC HUNTS POINT SITE A SECOND OPERATING UNIT

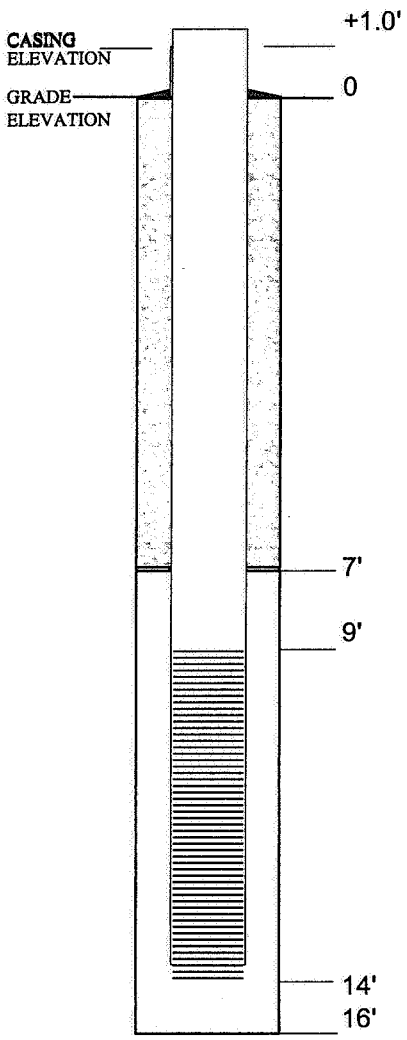
WELL No.: PZ-2

CLIENT: NYC ECONOMIC DEVELOPMENT CORP.

LOCATION: HUNTS POINT SITE A SECOND OPERATING UNIT

DATE DRILLED:	DATE DEVELOPED:	WELL CONSTRUCTION COMPLETED:
25-Sep-01		25-Sep-01

DEVELOPING METHOD:



NOT TO SCALE

INSPECTOR: J.Morse

DRILLING CONTRACTOR: LMS ENGINEERS

TYPE OF WELL: TEMPORARY PIEZOMETER

STATIC WATER LEVEL: 10.1' DATE: 9/27/2001

MEASURING POINT: TOC TOTAL DEPTH OF WELL: 14' TOTAL DEPTH OF BORING: 16'

DRILLING METHOD TYPE: DIRECT PUSH PROBE

DIAMETER: 1" CASING: PVC

SAMPLING METHOD TYPE: 48" MACRO CORE SAMPLER

DIAMETER: 1" WEIGHT:

FALL: INTERVAL: CONTINUOUS

RISER PIPE LEFT IN PLACE MATERIAL: PVC

DIAMETER: 1" LENGTH: 10' JOINT TYPE: THREADED

SCREEN MATERIAL: PVC

INTERVAL: 9-14' DIAMETER: 1"

STRATIGRAPHIC UNITS SCREENED: SLOT SIZE: 0.01

FILTER PACK GRADE:

SAND: #2MORIE GRAVEL: NATURAL:

AMOUNT: INTERVAL: 7-16'

SEAL(s)

	INTERVAL:	AMOUNT:
Portland Cement		
Bentonite Slurry	INTERVAL: 0-7'	AMOUNT:
Bentonite Pellets	INTERVAL:	AMOUNT:
Other:	INTERVAL:	AMOUNT:

NOTES:

LOCKING CASING: ■ YES ☐ NO KEY NO:

LMS LAWLER, MATUSKY & SKELLY ENGINEERS LLP

LMS Test Boring Log

	Boring No.: PZ-3
	Sheet 1 **of** 1
Project Name: NYCEDC HUNTS POINT SITE A SECOND OPERATING UNIT	**Project No.:** 781001
Client: NYCEDC	**Date:** Start 9/25/01
Driller: LMS ENGINEERS	Finish 9/25/01
Drilling Method: DIRECT PUSH PROBE	**Total Depth:** 16'
Boring Location: SITE A SECOND OPERATING UNIT	**Depth To Water:** 8'
Coordinates:	**Surf. Elevation:**
Logged By: J.MORSE/M.PANTLIANO	**Hole Diameter:** 2"
Monitoring Instrument(s): Hnu	

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in.)	Instrument Reading	Sample Retained		Classification Of Material	Remarks
									f - fine m - medium c - coarse and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	
0-4					30				0-2" - dark sand and clay 2-6" - concrete 6-26" - coal ash 26-30" - incinerator ash	
4-8					24				0-24" - incinerator ash	
8-12					12				WET - incinerator ash	
12-16					12				incinerator ash EOB @ 16' INSTALL TEMPORARY PIEZOMETER - 0-14'	

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 781-001

PROJECT NAME: NYCEDC HUNTS POINT SITE A SECOND OPERATING UNIT

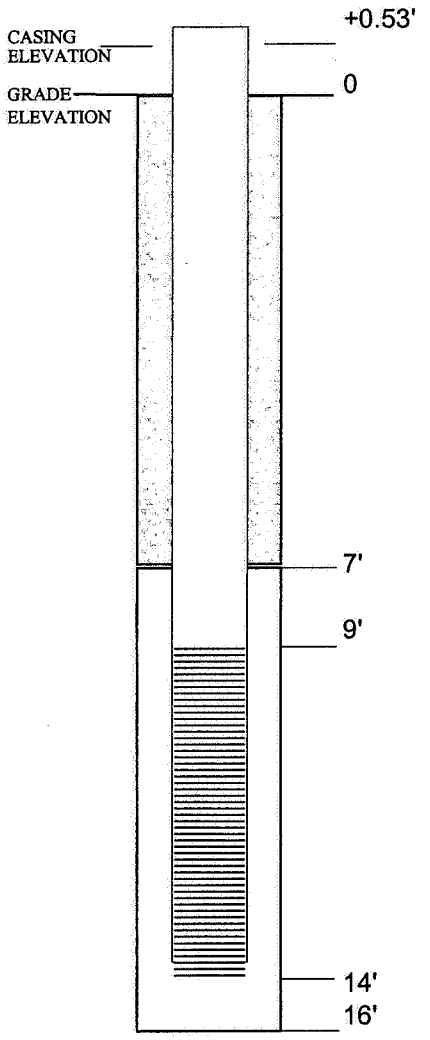
WELL No.: PZ-3

CLIENT: NYC ECONOMIC DEVELOPMENT CORP.

LOCATION: HUNTS POINT SITE A SECOND OPERATING UNIT

DATE DRILLED:	DATE DEVELOPED:	WELL CONSTRUCTION COMPLETED:
25-Sep-01		25-Sep-01

DEVELOPING METHOD:



NOT TO SCALE

INSPECTOR: J.Morse

DRILLING CONTRACTOR: LMS ENGINEERS

TYPE OF WELL: TEMPORARY PIEZOMETER

STATIC WATER LEVEL: 8.86' DATE: 9/27/2001

MEASURING POINT: TOC TOTAL DEPTH OF WELL: 14' TOTAL DEPTH OF BORING: 16'

DRILLING METHOD TYPE: DIRECT PUSH PROBE

DIAMETER: 1" CASING: PVC

SAMPLING METHOD TYPE: 48" MACRO CORE SAMPLER

DIAMETER: 1" WEIGHT:

FALL: INTERVAL: CONTINUOUS

RISER PIPE LEFT IN PLACE MATERIAL: PVC

DIAMETER: 1" LENGTH: 10' JOINT TYPE: THREADED

SCREEN MATERIAL: PVC

INTERVAL: 9-14' DIAMETER: 1"

STRATIGRAPHIC UNITS SCREENED: SLOT SIZE: 0.01

FILTER PACK GRADE:

SAND: #2MORIE GRAVEL: NATURAL:

AMOUNT: INTERVAL: 7-16'

SEAL(s)

NOTES:

Portland Cement	INTERVAL:	AMOUNT:
Bentonite Slurry	INTERVAL: 0-7'	AMOUNT:
Bentonite Pellets	INTERVAL:	AMOUNT:
Other:	INTERVAL:	AMOUNT:

LOCKING CASING: ■ YES ☐ NO KEY NO:

LMS LAWLER, MATUSKY & SKELLY ENGINEERS LLP

ATTACHMENT D

ADDITIONAL TEMPORARY PIEZOMETER LOGS

LMS Test Boring Log

	Boring No.: PZ-4
	Sheet 1 **of** 1
Project Name: NYCEDC HUNTS POINT SITE A SECOND OPERATING UNIT	**Project No.:** 781020
Client: NYCEDC	**Date:** Start 11/6/02
Driller: LMS ENGINEERS	Finish 11/6/02
Drilling Method: DIRECT PUSH PROBE	**Total Depth:** 16'
Boring Location: SITE A SECOND OPERATING UNIT	**Depth To Water:** 10'
Coordinates:	**Surf. Elevation:**
Logged By: J.THORNBURG/M.PANTLIANO	**Hole Diameter:** 2"
Monitoring Instrument(s): Hnu	

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in.)	Instrument Reading	Sample Retained		Classification Of Material	Remarks
									f - fine m - medium c - coarse and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	
0-4					24				0-3" - wood humus and plastic 3-24" - black coal ash and slag	
4-8					24				0-24" - black coal ash and slag	
8-12					20				0-20" - black-brown incinerator ash and coal ash, some slag WET - at 10 ft	
12-16					32				0-6" - brown incinerator ash and slag 6-32" - grey silt, some clay, organic odor. EOB @ 16' INSTALL TEMPORARY PIEZOMETER - 0-14'	

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 781-020

PROJECT NAME: NYCEDC HUNTS POINT SITE A SECOND OPERATING UNIT

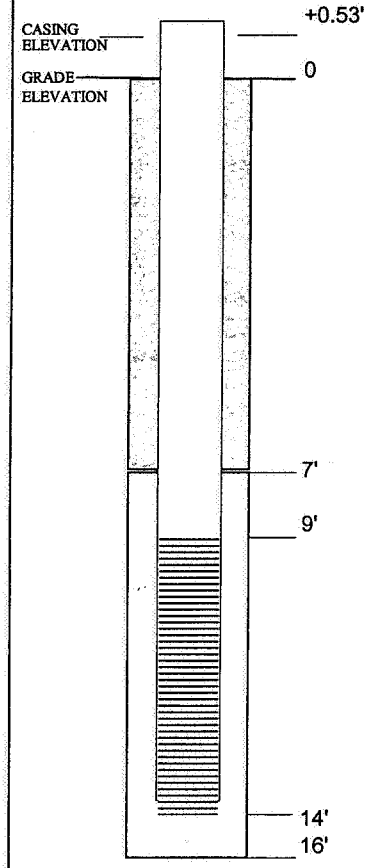
WELL No.: PZ-4

CLIENT: NYC ECONOMIC DEVELOPMENT CORP.

LOCATION: HUNTS POINT SITE A SECOND OPERATING UNIT

DATE DRILLED:	DATE DEVELOPED:	WELL CONSTRUCTION COMPLETED:
6-Nov-02		6-Nov-02

DEVELOPING METHOD:



NOT TO SCALE

INSPECTOR: J.Thornburg/M.Pantliano

DRILLING CONTRACTOR: LMS ENGINEERS

TYPE OF WELL: TEMPORARY PIEZOMETER

STATIC WATER LEVEL: 10' DATE: 11/6/2002

MEASURING POINT: TOC TOTAL DEPTH OF WELL: 14' TOTAL DEPTH OF BORING: 16'

DRILLING METHOD TYPE: DIRECT PUSH PROBE

DIAMETER: 1" CASING: PVC

SAMPLING METHOD TYPE: 48" MACRO CORE SAMPLER

DIAMETER: 1" WEIGHT:

FALL: INTERVAL: CONTINUOUS

RISER PIPE LEFT IN PLACE MATERIAL: PVC

DIAMETER: 1" LENGTH: 10' JOINT TYPE: THREADED

SCREEN MATERIAL: PVC

INTERVAL: 9-14' DIAMETER: 1"

STRATIGRAPHIC UNITS SCREENED: SLOT SIZE: 0.01

FILTER PACK GRADE:

SAND: #2MORIE GRAVEL: NATURAL:

AMOUNT: INTERVAL: 7-16'

SEAL(s)

NOTES:

Portland Cement	INTERVAL:	AMOUNT:
Bentonite Slurry	INTERVAL: 0-7'	AMOUNT:
Bentonite Pellets	INTERVAL:	AMOUNT:
Other:	INTERVAL:	AMOUNT:

LOCKING CASING: ■ YES ☐ NO KEY NO:

LMS LAWLER, MATUSKY & SKELLY ENGINEERS LLP

LMS Test Boring Log

	Boring No.: PZ-5
	Sheet 1 **of** 1
Project Name: NYCEDC HUNTS POINT SITE A SECOND OPERATING UNIT	**Project No.:** 781020
Client: NYCEDC	**Date:** Start 11/6/02
Driller: LMS ENGINEERS	Finish 11/6/02
Drilling Method: DIRECT PUSH PROBE	**Total Depth:** 16'
Boring Location: SITE A SECOND OPERATING UNIT	**Depth To Water:** 8'
Coordinates:	**Surf. Elevation:**
Logged By: J.THORNBURG/M.PANTLIANO	**Hole Diameter:** 2"
Monitoring Instrument(s): Hnu	

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in.)	Instrument Reading	Sample Retained		Classification Of Material	Remarks
									f - fine m - medium c - coarse and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	
0-4					31				0-1" - black sand and wood 1-5" - concrete 5-31" - black coal ash, intermittent layers of concrete	
4-8					34				0-34" - black coal ash and slag, lens of brown silt and clay 28-32"	
8-12					28				WET @ 8 ft 0-22" - brown incinerator ash 22-28" - grey silt, some clay EOB @ 12' INSTALL TEMPORARY PIEZOMETER - 0-12'	

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 781-020

PROJECT NAME: NYCEDC HUNTS POINT SITE A SECOND OPERATING UNIT

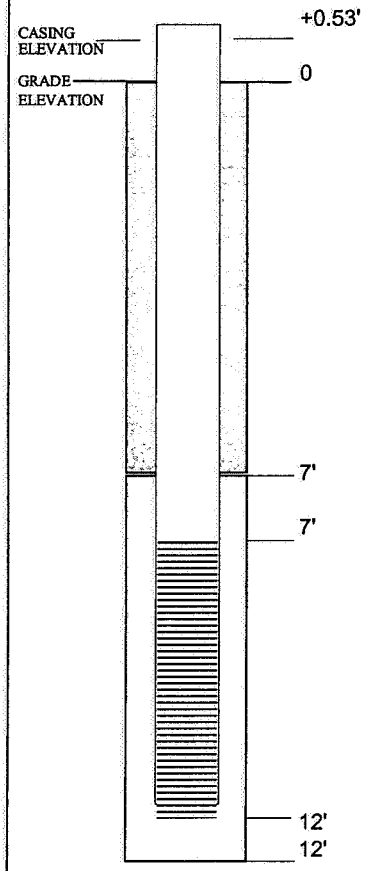
WELL No.: PZ-5

CLIENT: NYC ECONOMIC DEVELOPMENT CORP.

LOCATION: HUNTS POINT SITE A SECOND OPERATING UNIT

DATE DRILLED:	DATE DEVELOPED:	WELL CONSTRUCTION COMPLETED:
6-Nov-02		6-Nov-02

DEVELOPING METHOD:



NOT TO SCALE

INSPECTOR: J.Thornburg/M.Pantliano

DRILLING CONTRACTOR: LMS ENGINEERS

TYPE OF WELL: TEMPORARY PIEZOMETER

STATIC WATER LEVEL: 8' DATE: 11/6/2002

MEASURING POINT: TOC TOTAL DEPTH OF WELL: 12' TOTAL DEPTH OF BORING: 12'

DRILLING METHOD TYPE: DIRECT PUSH PROBE

DIAMETER: 1" CASING: PVC

SAMPLING METHOD TYPE: 48" MACRO CORE SAMPLER

DIAMETER: 1" WEIGHT:

FALL: INTERVAL: CONTINUOUS

RISER PIPE LEFT IN PLACE MATERIAL: PVC

DIAMETER: 1" LENGTH: 10' JOINT TYPE: THREADED

SCREEN MATERIAL: PVC

INTERVAL: 7-12' DIAMETER: 1"

STRATIGRAPHIC UNITS SCREENED: SLOT SIZE: 0.01

FILTER PACK GRADE:

SAND: #2MORIE GRAVEL: NATURAL:

AMOUNT: INTERVAL: 7-12'

SEAL(s)

NOTES:

Portland Cement	INTERVAL:	AMOUNT:
Bentonite Slurry	INTERVAL: 0-7'	AMOUNT:
Bentonite Pellets	INTERVAL:	AMOUNT:
Other:	INTERVAL:	AMOUNT:

LOCKING CASING: ■ YES ☐ NO KEY NO:

LMS LAWLER, MATUSKY & SKELLY ENGINEERS LLP

LMS Test Boring Log

	Boring No.: PZ-6
	Sheet 1 **of** 1
Project Name: NYCEDC HUNTS POINT SITE A SECOND OPERATING UNIT	**Project No.:** 781020
Client: NYCEDC	**Date:** Start 11/6/02
Driller: LMS ENGINEERS	Finish 11/6/02
Drilling Method: DIRECT PUSH PROBE	**Total Depth:** 16'
Boring Location: SITE A SECOND OPERATING UNIT	**Depth To Water:** 8'
Coordinates:	**Surf. Elevation:**
Logged By: J.THRONBURG/M.PANTLIANO	**Hole Diameter:** 2"
Monitoring Instrument(s): Hnu	

Depth (ft)	Blows On Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Recovery (in.)	Instrument Reading	Sample Retained		Classification Of Material (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0-4					36				0-36" - black coal ash, some slag little wood	
4-8					32				0-32" - incinerator ash and coal ash, trace wood.	
8-12					28				WET @ 8 ft 0-12" - incinerator ash	
12-16					6				incinerator ash EOB @ 16' INSTALL TEMPORARY PIEZOMETER - 0-14'	

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 781-020

PROJECT NAME: NYCEDC HUNTS POINT SITE A SECOND OPERATING UNIT

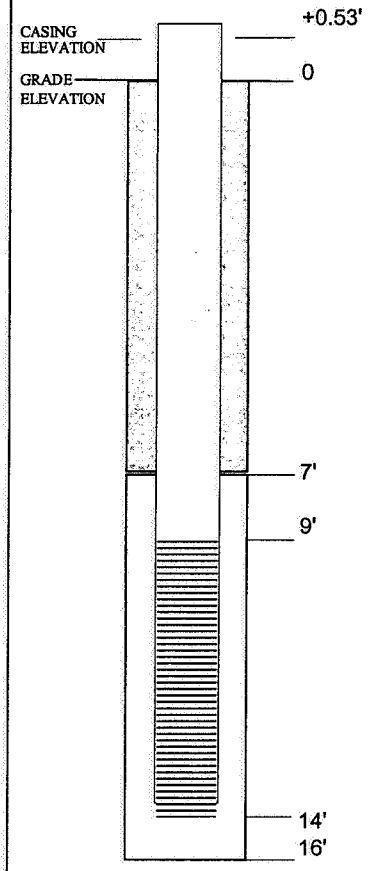
WELL No.: PZ-6

CLIENT: NYC ECONOMIC DEVELOPMENT CORP.

LOCATION: HUNTS POINT SITE A SECOND OPERATING UNIT

DATE DRILLED:	DATE DEVELOPED:	WELL CONSTRUCTION COMPLETED:
6-Nov-02		6-Nov-02

DEVELOPING METHOD:



NOT TO SCALE

INSPECTOR: J.Thornburg/M.Pantliano

DRILLING CONTRACTOR: LMS ENGINEERS

TYPE OF WELL: TEMPORARY PIEZOMETER

STATIC WATER LEVEL: 10' DATE: 11/6/2002

MEASURING POINT: TOC TOTAL DEPTH OF WELL: 14' TOTAL DEPTH OF BORING: 16'

DRILLING METHOD TYPE: DIRECT PUSH PROBE

DIAMETER: 1" CASING: PVC

SAMPLING METHOD TYPE: 48" MACRO CORE SAMPLER

DIAMETER: 1" WEIGHT:

FALL: INTERVAL: CONTINUOUS

RISER PIPE LEFT IN PLACE MATERIAL: PVC

DIAMETER: 1" LENGTH: 10' JOINT TYPE: THREADED

SCREEN MATERIAL: PVC

INTERVAL: 9-14' DIAMETER: 1"

STRATIGRAPHIC UNITS SCREENED: SLOT SIZE: 0.01

FILTER PACK GRADE:

SAND: #2MORIE GRAVEL: NATURAL:

AMOUNT: INTERVAL: 7-16'

SEAL(s)

Portland Cement	INTERVAL:	AMOUNT:
Bentonite Slurry	INTERVAL: 0-7'	AMOUNT:
Bentonite Pellets	INTERVAL:	AMOUNT:
Other:	INTERVAL:	AMOUNT:

NOTES:

LOCKING CASING: ■ YES ☐ NO KEY NO:

LMS LAWLER, MATUSKY & SKELLY ENGINEERS LLP