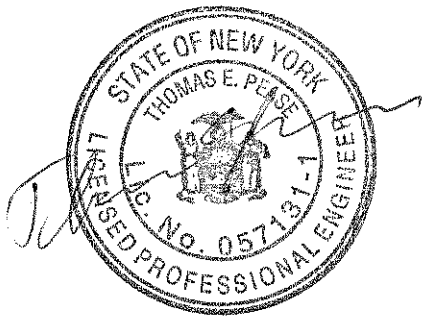
Hunts Point Cooperative Market
Redevelopment Plan

Response Plan for Parcel C, Bronx, NY



Prepared by: Lawler, Matusky & Skelly Engineers LLP

March 2001
Revised November 2001

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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 at Site C located in the Hunts Point Cooperative market. The Scope of Work (SOW) for the investigation (dated September 1999) was submitted to New York State Department of Environmental Conservation (NYSDEC) for review and approval.

This report presents the findings, assessment, and remedial action recommendations for Parcel C located in the southeastern portion of the Hunts Point Cooperative Market (Figure 1). The recommendations indicate what areas will require detailed attention before, during, or after development. The remedy selection is based on a review of, and comparison to the following criteria stated in 6 NYCRR Part 375-1.10 (c):

A) Standards, criteria, and guidance

B) Overall protectiveness of public health and the environment

C) Short-term effectiveness

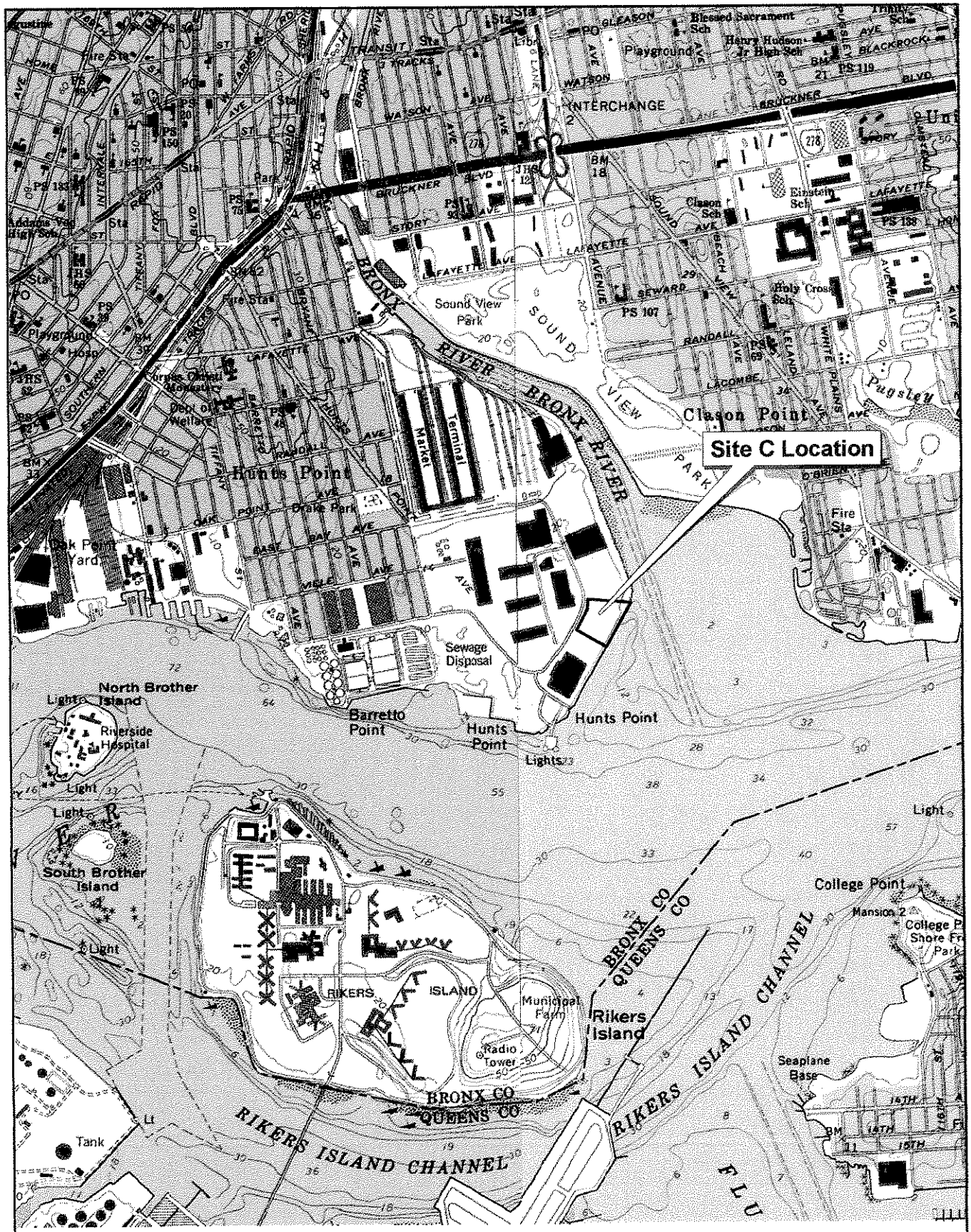
D) Long-term effectiveness

E) Reduction of toxicity, mobility, and volume with treatment

F) Feasibility

More specifically, the Response Plan (RP) has compiled information from three general sources: 1) historical background information, 2) Site investigation data, and 3) Site development plans. This information is presented here for evaluating the chosen remedy in reference to the above criteria.

The historical information is based primarily on accounts provided by the previous operator (Consolidated Edison), historic and recent aerial photographs, as well as topographic and Sanborn Fire Insurance Maps. Composite maps were made showing existing roadways and shorelines in comparison to the location of former structures. This provided significant input and aided greatly in the preparation of the sampling investigation plan. The Site investigation information includes physical and chemical data that were collected during the intrusive portion of the project. Various media are included in the sample data (soil, fill, and groundwater) and this information was initially compared to NYSDEC standards and guidance policy in order to first determine what criteria (if any) were a concern based on prerelease conditions. The data were then compared to the criteria listed above and with the desired end use and redevelopment of the property. The proposed



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 C Location** **Hunts Point**	**Figure 1**

Response Plan recommendations presented here reflect the review and use of this information.

The market is located in the South Bronx on a large peninsula that extends out into the East River and is bounded on the north by the Bronx River. The entire market area is relatively level with some minor topographic highs and lows. Surface drainage is generally directed by underground storm drains as a majority of the land is covered with buildings or pavement. Infiltration of precipitation is limited to areas that are currently undeveloped and are vegetated. The proposed redevelopment of the Site includes a single story warehouse structure that is primarily concrete and steel with a solid concrete base slab. The remainder of the Site will be covered almost entirely with asphalt parking and access roads. General grading and the importation of fill material to bring the Site up to the final grade may be performed in certain areas. Any landscaped areas will receive additional cover material over the existing elevation or will have material removed in order to bring in fresh cover up to the final grade. Figure 11 shows the proposed layout of the Site following redevelopment with the parking lot and the associated building on the Site.

A review of the Site history and conditions was performed before preparation of the SOW. This review in combination with a physical Site inspection was used to prepare the investigative Work Scope. Information reviewed to assess the Site history and conditions 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 gassification 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 carburetted 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 former Con Ed facility that were actively involved in gas production.

Site C is located in the southeastern portion of the former coal gassification facility. Historic Con Ed maps prepared at the time the facility was operated showed that the Site C area was used for coal pile storage. Structures at the Site included conveyor machines at the center of the Site and a coal tower at the eastern edge of the Site. Railroad tracks abutted the eastern and western limits of Site C. The former Dock Road bisects the center portion of the Site. The remainder of the Site appeared to be free of identified surface structures. With the exception of a water main along the eastern Site limit, no utilities were identified before the field activities occurred.

The investigation included the excavation and inspection of on-site material and the collection of soil and groundwater samples for chemical analyses.

Four trenches and five test pits were installed across the Site in an east-west direction. These trenches were spaced so that adequate coverage of the Site was achieved.

Each trench/test pit was advanced to the water table. Following completion of each trench, material was collected for chemical analyses including both grab and composite samples. Generally, the material that formed the soil samples was considered to have been impacted by petroleum, coal tar or other fill materials that appeared to have an industrial origin. The samples were submitted to the contract analytical laboratory for target compound list (TCL) volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/PCBs, and target analyte list metals and cyanide. Two groundwater samples were also collected from trenches in the areas that showed the greatest potential for petroleum impacts. These samples were analyzed for the same parameters as the soil samples. However, the metals sample was filtered before analysis.

Upon completion of the trenching activities, a boring was advanced at the area of the Site that showed the greatest potential impact from Site activities. The test boring was installed in a line with a very small spot that was noted on the water surface of the East River some 20 ft off shore. The spot was identified as a petroleum-type sheen that appeared at low tide. The purpose of the boring was to identify any "source" areas or conduits for this sheen. The boring was installed with a truck mounted drill rig using hollow stem auger techniques to a depth of 40 ft below grade. No sign of contamination was encountered throughout the entire boring.

During the trenching activities, several buried utilities were encountered that are not believed to be associated with known or marked underground utilities. These utilities appear to be steel or iron pipes buried at relatively shallow depths that resemble typical utilities.

The Site inspection results showed that an upper layer of fill exists, consisting of residual coal from the historic Site operations. The residual coal layer is present over most of the Site but varies in thickness, with the greatest amount towards the center of the Site. Beneath the coal layer is sand mixed with ceramics and glass. The sand layer appears to be dredged material. Occasional concrete or brick footers or foundations were encountered, especially in the southern portion of the Site. Coal tar and creosote impacted areas were also encountered, but these areas were limited in horizontal and vertical extent.

The analytical data were compared to NYSDEC Technical Administrative Guidance Memorandum 4046 – Determination of Soil Cleanup Objectives and Cleanup Levels (TAGM). Analyses of shallow fill material across the Site showed that VOCs, PCBs, and pesticides were either not detected or detected at trace concentrations. Only methylene chloride was detected at

concentrations exceeding the TAGM. However, methylene chloride is a common laboratory artifact and its presence may be related to that. Historically, there does not appear to be a known or documented use of the chemical in the operations. SVOCs were detected in every sample with concentrations of up to seven (7) specific compounds exceeding the TAGM. Total SVOC concentrations were relatively low, ranging from below 4 mg/kg to nearly 100 mg/kg. Several metals were detected in the samples with concentrations above the recommended soil cleanup objectives identified in the TAGM. These metals included arsenic, beryllium, cadmium, chromium, copper, iron, mercury, nickel, selenium, and zinc. The soil cleanup objectives were taken from the TAGM without calculating a background concentration, which is mentioned in the TAGM document. Based on historic industrial and commercial usage of the Site, and a general comparison to data from other industrial and commercial sites, it is not uncommon to find metals concentrations in areas formerly used for industrial purposes above TAGM cleanup objectives.

Groundwater conditions at the Site exhibited no evidence of product: neither dense nor light, non-aqueous phase liquid (DNAPL, LNAPL) or other obvious impacts from Site operations. Comparing the shallow groundwater sample results to the most stringent standards, Class GA Drinking Water Standards (DWS), no VOCs or pesticides/PCBs exceeded these criteria. Seven SVOCs exceeded their individual standards or guidance values. Thallium, manganese, and sodium were the only metals that exceeded standard or guidance values. The sodium concentrations suggest that the groundwater may be affected by the coastal saline conditions. Samples collected from the two locations that were indicative of the worst case conditions did not show significant exceedances of the Class GA standards for the other inorganic compounds.

The results of this investigation show that although the fill material appears to be impacted in part by the former manufactured gas facility, only small isolated areas of the Site are noticeably impacted. The semi-volatiles detected at the Site are at relatively low concentrations and appear to be widespread.

The remedy incorporated in the development of the Site will be to include a concrete-on-grade slab building for warehousing and installation of a bituminous cap (parking lot) over nearly all of the remaining space not occupied by the building. All other areas on the Site are to be landscaped and are located adjacent to the East River. These landscaped areas will be covered with an additional one (1) foot of material that will be considered "clean". Geotextile fabric, or other suitable material will be placed between Site soils and "clean" fill to serve as a marker between these horizons for future excavation projects.

The proposed remedy and development is effective both for short and long term use, because the capping material that will seal the Site is composed of material widely accepted for roadbase material (asphalt and tar). Regarding the long-term portion of the remedy, the Site will have specific requirements that will include:

A Deed Restriction attached to the tenant documents and contract. The Deed Restriction will include the requirements set forth in Section X of the Voluntary Cleanup Agreement D3-0004-99-04 under which this Plan was prepared. In addition, the Deed Restriction will require that the tenant notify the Owner (City of New York) which in turn will notify NYSDEC of any intrusive work (utility, drainage additions, repairs or modifications) planned on the Site. The Deed Restriction will also require that groundwater on the Site should not be used for any purpose without treatment prior to its use. The person or office in NYSDEC listed as the contact for this notification will be provided by NYSDEC upon completion of the remedy.

INTRODUCTION:

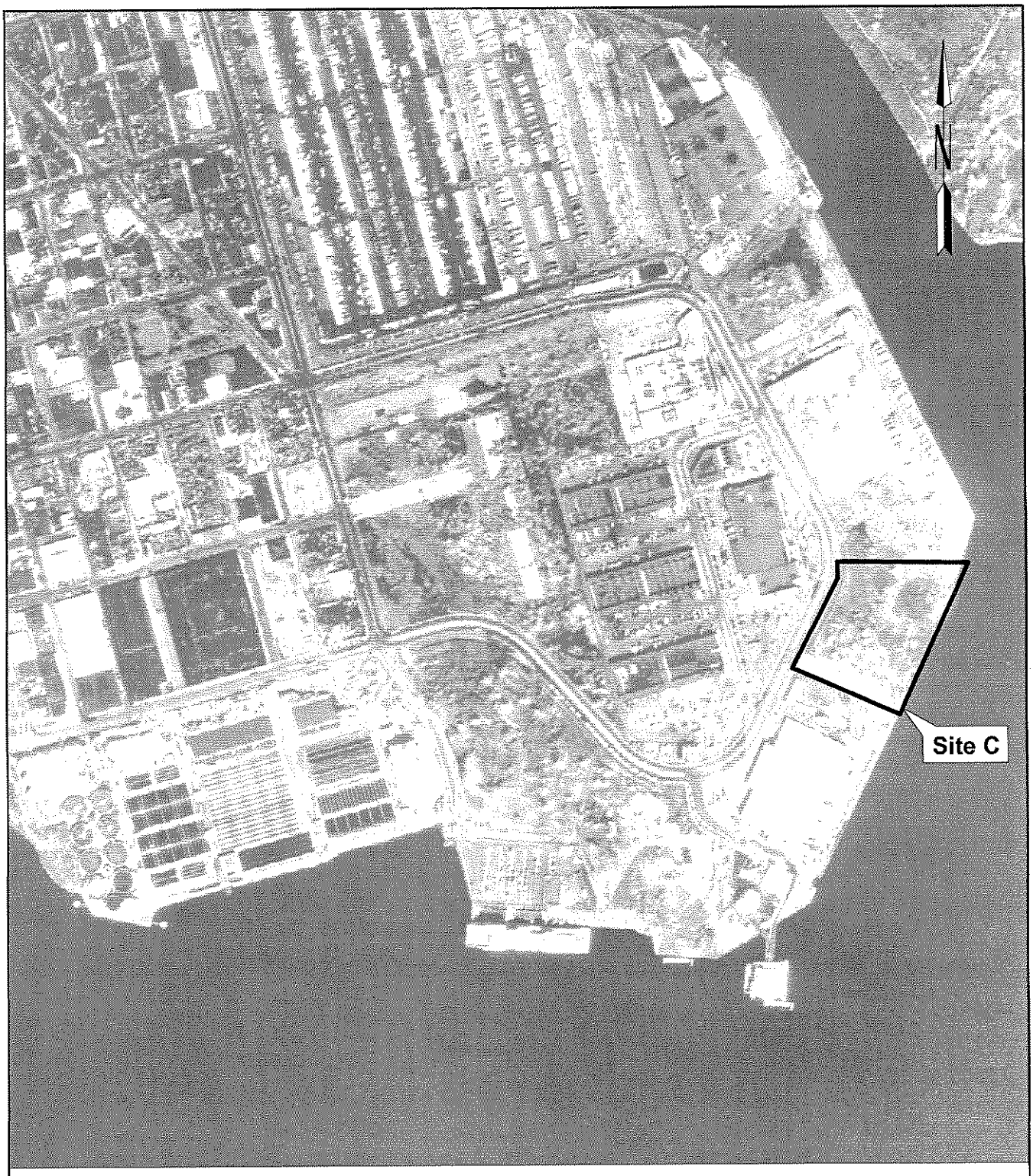
This Response Plan presents the findings of the subsurface investigation for Parcel C (Site C), located in the southeast portion of the Market (Figure 1) in conjunction with the proposed action to be addressed during the development of the Site. Site C is trapezoidal in shape and covers approximately 10.26 acres. The Site is bounded on the north by a parking lot for a shopping center, on the south by National Foods, on the west by Food Center Drive, and on the east by the East River (Figure 2).

Historic Site and topographic maps have been reviewed and a composite showing conditions that were identified on those maps is included as Figure 3. Historic aerial photographs (Aerial Photos 1 through 5) were also reviewed prior to the start of field work and any conditions not shown on the historical maps were taken into consideration for the actual sampling activities. The major feature noted on the aerial photos and Sanborn maps was the former coal piles for the Con Ed manufactured gas plant.

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 work scope included the following:

1. The community air monitoring program was not performed as dust emissions were not an issue during the Site sampling activities due to material grain size and moisture.

2. Groundwater samples were filtered for metals and semi-volatile analyses.



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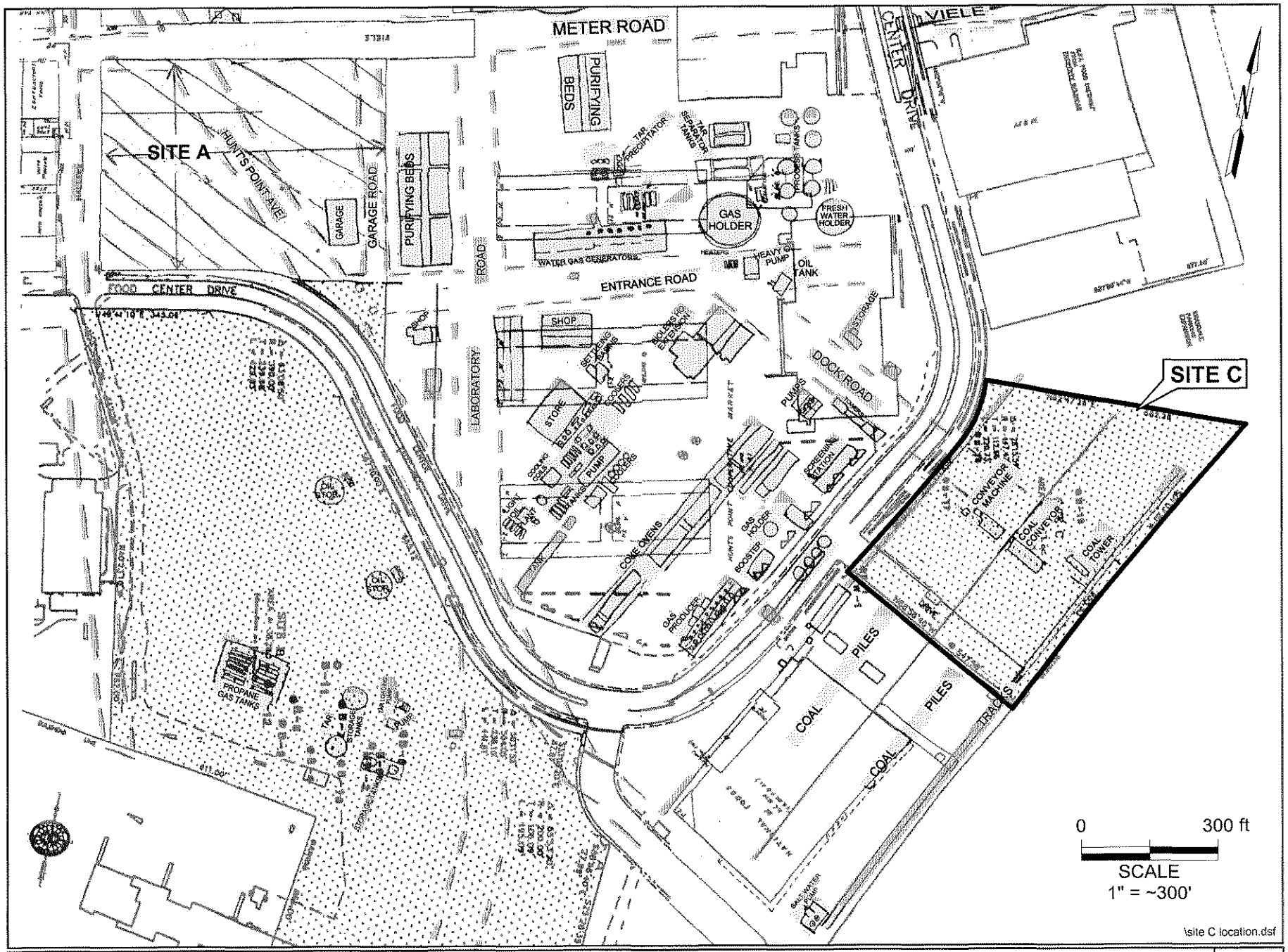
LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Hunts Point Site C - 1994 Aerial Photograph**	**Figure 2**



LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site C Historical Conditions** **Hunts Point**	**Figure 3**

0 750 ft

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 C - 1954 Aerial Photograph**	**Aerial Photo 1**

0 750 ft

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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 C - 1966 Aerial Photograph**	**Aerial Photo 2**

0 750 ft

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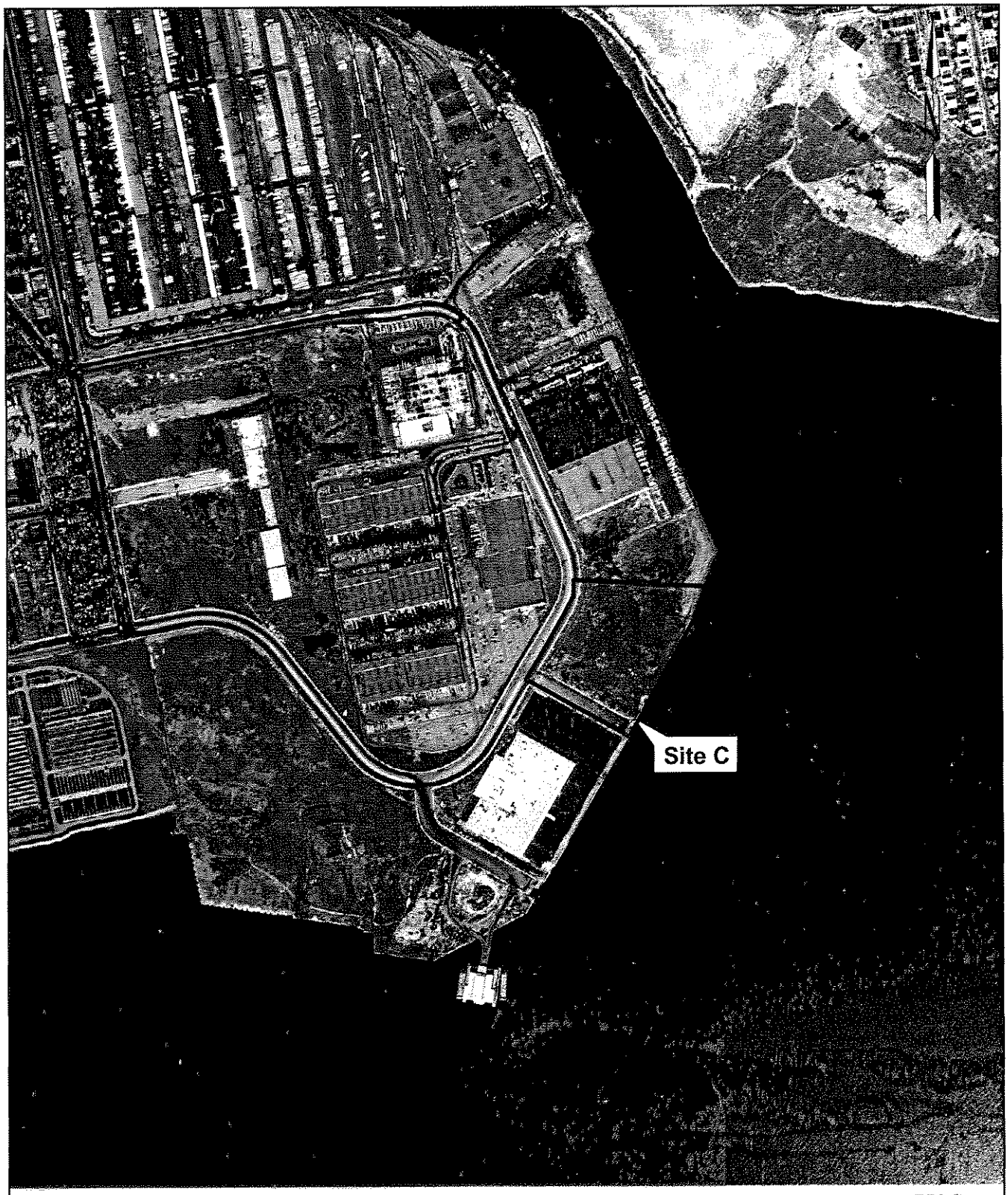
Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Hunts Point Site C - 1975 Aerial Photograph**	Aerial Photo 3



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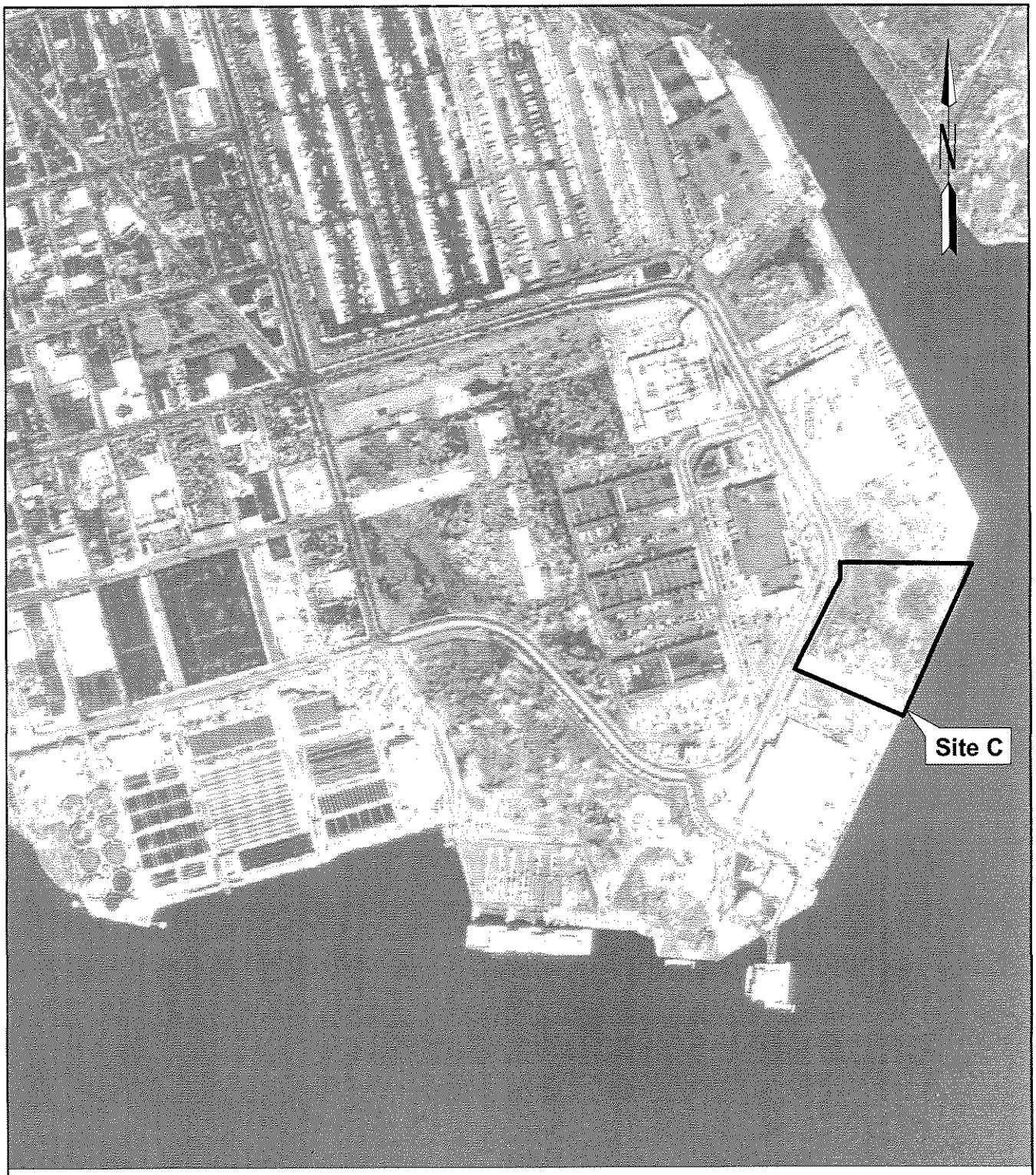
Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Hunts Point Site C - 1984 Aerial Photograph**	**Aerial Photo 4**



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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 C - 1994 Aerial Photograph**	**Aerial Photo 5**

3. Only three (3) samples per trench were collected for volatile organic compounds analyses (as opposed to four (4)) because the amount of impacted areas encountered was less than the amount suspected.

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 Site specific health and safety plan, and confirmation of utilities at the Site with respect to proposed sampling locations.

A utility markout was requested by contacting the utility clearance hotline. Historical Site maps were also reviewed to identify other potential subsurface utilities. However, with the exception of a water line near the bulkhead, no utilities were identified during either activity.

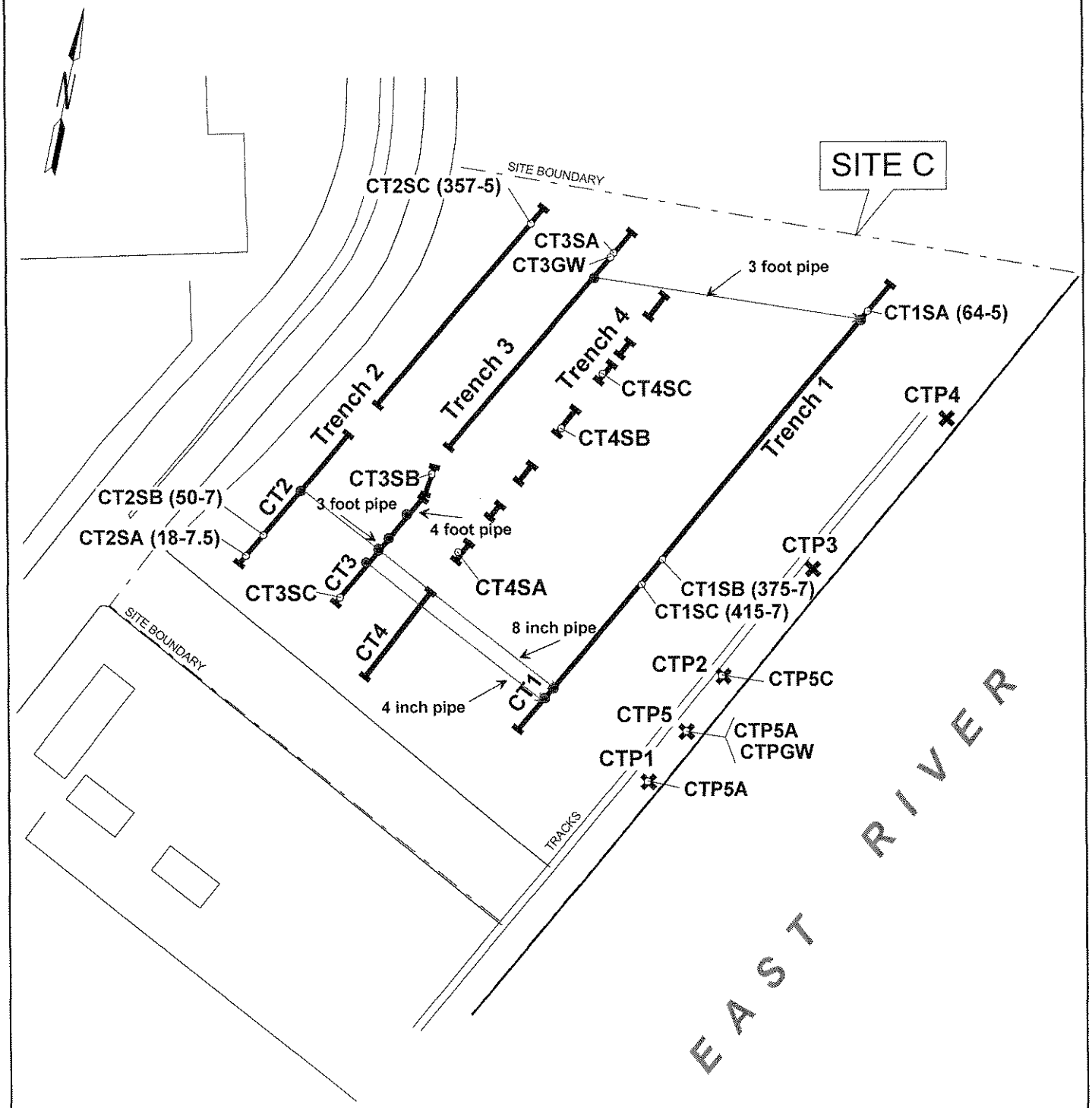
As noted in the Aerial Photographs (Aerial Photos 1 and 2) and the historic Sanborn maps, the old roadbed for Dock Road ran through the center portion of the Site. No known utilities underlie the old road, but conveyor machines were situated adjacent to the road.

Trench Installation

Sampling consisted of the advancement of five lines of trenches or test pits that were oriented in a northeast southwest direction as shown in Figure 4. Trenches and test pits were advanced to the water table using a tire-mounted excavator operated by a 40-hour OSHA-trained operator. Excavation activities commenced on 14 September 1999 and were completed on 20 September 1999, with backfilling activity occurring on 21 September 1999.

This sampling procedure allowed for greater visual inspection of the subsurface and for sample collection in a manner not typically available during test boring advancement. By advancing trenches and test pits, the horizontal extent of subsurface features and conditions was observed. Material excavated from the trenches and test pits was scanned with a photoionization detector (PID) at regular intervals or when an area of potential concern was encountered. No readings above background conditions were measured at any of the trenches or test pits advanced at Site C. Activities and observations were logged and documented by the on-site LMS geologist.

Soil samples were collected at three locations across each trench. Three grab samples were collected for TCL VOCs analysis following EPA Method 8260. A composite sample was also collected from each trench and submitted for analysis of TCL SVOCs, TCL pesticides/PCBs, target analyte list (TAL) metals, and cyanide. Groundwater samples were collected from two separate locations and submitted for analysis of TCL VOC, SVOC, pesticides/PCBs, TAL metals, and cyanide. The metals sample was filtered



LEGEND

- Pipe Location
- Test pit location
- Test trench location
- CT### Sample location

0 140 ft

SCALE
1" = ~140'

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Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site C Trenching Diagram** Hunts Point	Figure 4

using an in-line 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 to the contract analytical laboratory using an overnight courier.

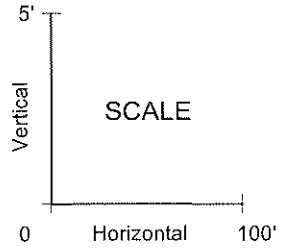
Typically, a 2 to 4 foot coal layer was present over most of the Site. The northern portion of the Site contained hydraulic fill, likely from dredging the Bronx and East River waterways. Occasional tar boils and areas of creosote impacted wood were encountered. Generally, the most impacted soil appeared to be encountered near the southwestern corner of the Site. A brief description of each trench advanced at Site C is provided in the following paragraphs.

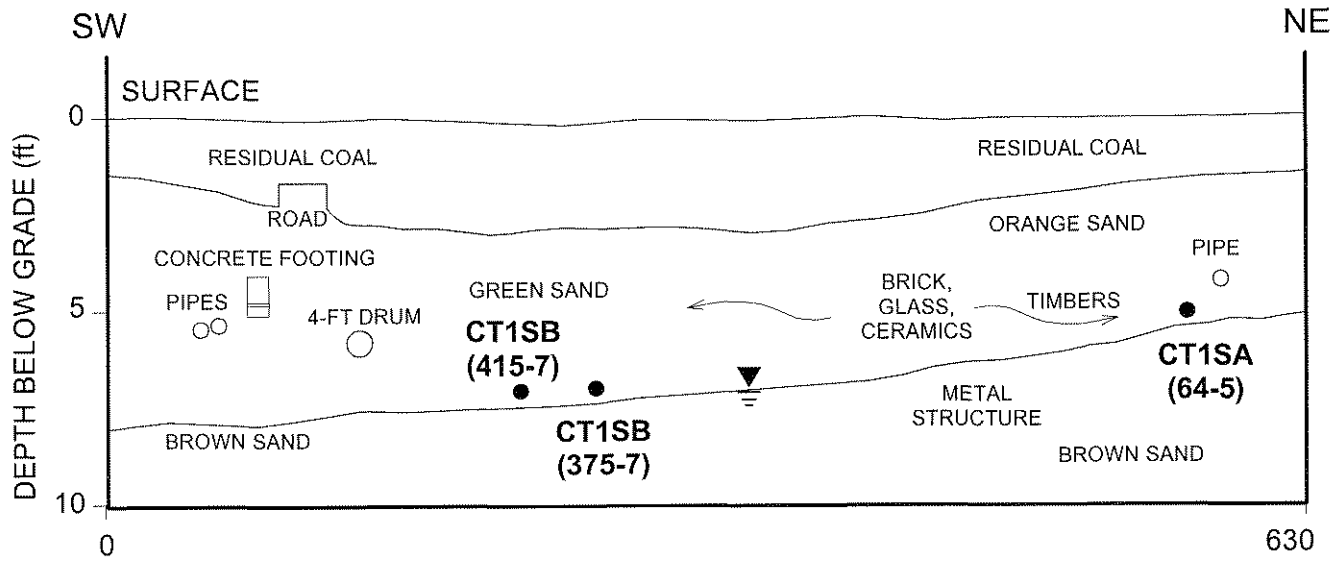
Trench 1

Trench 1 was advanced as the easternmost continuous excavation at Site C, approximately 150 feet from the East River Bulkhead (Figure 4). With the exception of the line of test pits advanced adjacent to the bulkhead, Trench 1 provides information of subsurface conditions nearest the East River. Trench 1 was approximately 610 feet long with an average depth of about 8 feet. A cross section illustrating the materials encountered and depth of the trench as well as the sampling locations is provided in Figure 5.

Typically, the upper 2 to 4 feet consisted of residual coal remaining from the former stockpile (fill). The thickness of the coal layer increased from the north to center portion of the Site and then decreased toward the southern end of the Site. Beneath the coal layer was a medium brown fine to coarse sand and gravel layer that included glass bottles, ceramics, and brick (fill). A second layer of coal underlies the brown sand layer. Some construction and demolition materials and timbers were interspersed within this coal layer (fill). Dark brown sand and gravel was beneath the second coal layer. This would be assumed to be at or in the immediate vicinity of the pre-fill surface layer.

No major utilities were encountered at the northern portion of this trench. However, one suspect pipe was encountered near the northern end. At the southern portion of the trench, two areas of piping were encountered. One set of pipes included an 8-inch diameter adjacent to a 4-inch diameter pipe. Both pipes appeared to be in good condition, and were approximately 55 feet from the southern limit of the excavation oriented perpendicular to the bulkhead. A second area of piping was encountered approximately 125 feet from the south end and contained a single concrete pipe estimated to be about 4 feet in diameter and was set at a depth of 6 ft. The pipe was perpendicular to the bulkhead and appeared to be some kind of storm water drainage pipe. No surface drainage maps were available to confirm this. Other features encountered in this trench included the base of an old road about 90 to 100 feet from the south end and a concrete footing about 75 to 80 feet from the south end. The footing was likely from a historic structure.





Legend

● Soil sample location

CT1#

\site C xsect.dsf

Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site C Trench 1**	**Figure 5**

Other than a potential slight sheen, about 64 feet from the north end of the trench, no significant impacts to soil or groundwater were observed. Soil samples for chemical analyses were collected from the area where the potential sheen was observed (CT1S064-5), from an area that contained some green sand (CT1S415-7), and the approximate mid point of the excavation (CT1S375-7).

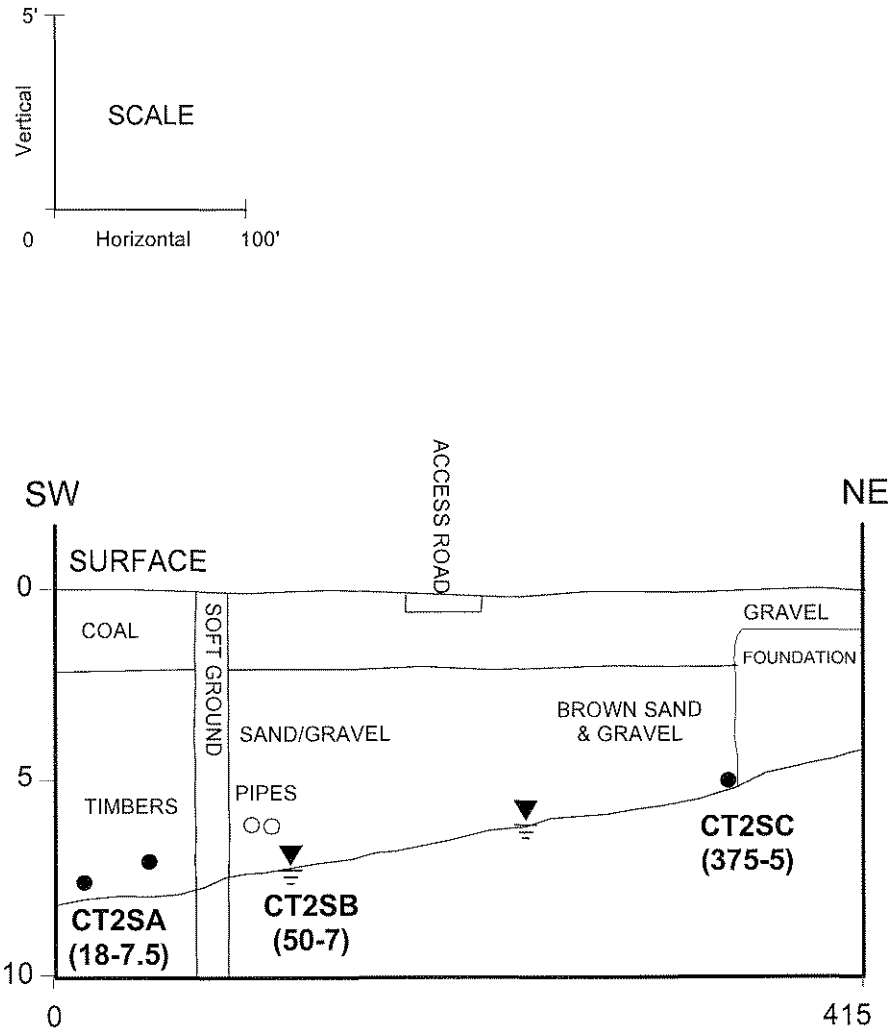
Trench 2

Trench 2 was advanced at the westernmost portion of the Site (Figure 4). It represents the upgradient conditions and intercepts any materials that may potentially have migrated onto the Site. The trench was advanced adjacent to the fence that limits access to the Site. A railroad spur exists just west of this fence along Food Center Drive.

Trench 2 was approximately 415 feet long, but is not continuous. Near the center portion of the trench, a gap exists so an access road to the Site could be maintained. A second gap occurred where soft ground was encountered and the backhoe could not be positioned to excavate this area safely

The average depth of the trench was approximately 7.5 feet. A cross section showing the excavation depth and materials encountered is included as Figure 6. As with Trench 1, the coal layer was generally thicker in the center area of the Site (fill). In addition, the fill containing construction and demolition materials was thicker toward the southern extent of the trench. A building foundation was encountered at approximately 2 feet below ground surface, near the northern extent of the trench. The foundation was at least 50 feet long although the entire foundation length was not exposed. The northern limit of the foundation was not determined because soft ground limited the backhoe from excavating further. At 50 feet from the south end of the excavation, timbers, possibly treated with creosote, were encountered in the trench. The 4 inch and 8 inch diameter pipes observed in Trench 1 were encountered at approximately 105 feet from the south end of Trench 1. The depth of the fill was not as distinct due to the inability to see below the foundation. Also the shallow sand & gravel is believed to be fill from dredging and therefore would not be described as native. There was no distinct identification of the bottom of this material and top of native sediments in this trench.

Three soil samples were collected from Trench 2 for chemical analysis. Sample CT2S018-7.5 was collected approximately 18 feet from the south end of the excavation. The groundwater encountered at this location appeared oily with some sheen. Sample CT2S050-7 was collected approximately 50 feet from the south end of the excavation where the creosote treated timbers were encountered. Sample CT2S357-5 was collected from the northern portion of the trench, approximately 357 feet from the south end, and adjacent to the foundation that was encountered.



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● Soil sample location

CT1#

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Trench 3

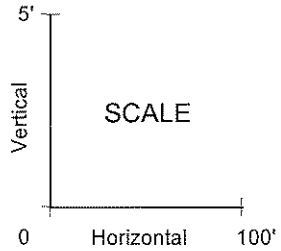
Trench 3 was advanced approximately 100 feet east of Trench 2 and it represents the second most upgradient trench (Figure 4). Trench 3 is approximately 525 feet long but also is not continuous. Two gaps exist in the trench where the Site access road exists (185 to 215 feet from the south end) and where soft ground was encountered (345 to 355 feet from the south end). A cross section of Trench 3 illustrating the subsurface materials encountered and the sample locations is included as Figure 7.

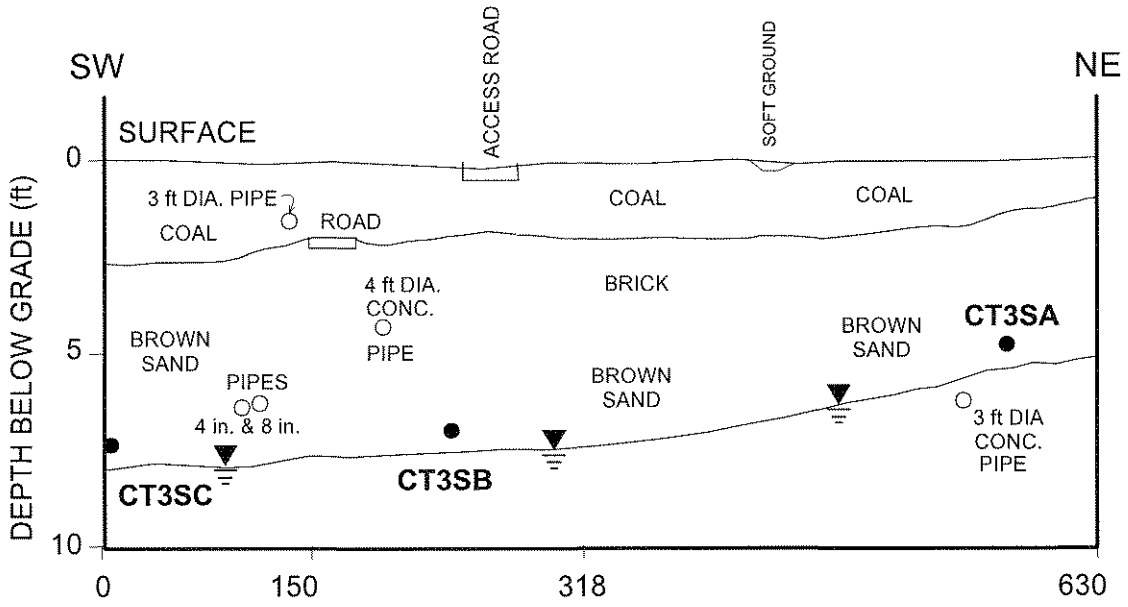
As with Trenches 1 and 2, the thickness of the surficial coal layer was less at the northern end of the site and thickened toward the center of the trench (Figure 7). However, the coal layer increased in thickness toward the south end of the trench where it generally was up to 4 feet deep (fill). Brown fine to coarse sand and gravel was encountered below the coal layer. It is difficult to determine what depth native material begins in this layer. A road base was encountered at approximately 2 feet bgs, approximately 110 to 130 feet from the south end of the trench. An area containing concrete was encountered just south of the road base. The 4 inch and 8 inch diameter pipes observed in both Trench 1 and Trench 2 were observed between 75 and 80 feet from the south end of the trench. A 3 ft diameter pipe appearing to be concrete was noted at a shallow depth (2-3 ft) below grade at a distance of approximately 120ft from the south end of the trench. The pipe appeared to be intact and no materials were noted to be exiting from it (water, etc.). The 4 ft diameter concrete pipe noted in Trench 1 was also noted in this excavation at a slightly shallower depth, which would indicate there was a pitch towards the bulkhead. A second 3 ft pipe was encountered 75 ft from the north end of the excavation at a depth of 6 ft. This pipe was perpendicular to the bulkhead and it was believed to run under the concrete pad. Nothing was noted around the pipe that would indicate it was not intact. Creosote treated timbers were encountered approximately 40 feet from the north end of the trench.

Three soil samples were collected from Trench 3 for chemical analysis. Sample CT3SA was collected approximately 40 feet from the north end of the excavation where the creosote treated timbers were encountered. A groundwater sample identified as CT3GW was also collected at this location. Sample CT3SB was collected approximately 185 feet from the south end of the excavation where tar boils were observed at the surface. Sample CT3SC was collected at the south limit of the trench, where a possible slight sheen was observed.

Trench 4

Trench 4 was advanced approximately 75 feet east of Trench 3 and 160 feet west of Trench 1. The trench was initiated as a continuous excavation at the southern end of the Site, but was instead advanced as a series of test pits at the center and northern portions of the Site. This scope change occurred





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● Soil sample location

CT1#

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LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Site C Trench 3**	**Figure 7**

because the impacted material was generally encountered more at the southern portion of the Site than the northern portion. The first gap in the trench occurred because a large pile of construction and demolition material was situated along the trench. A cross section of Trench 4 illustrating the subsurface materials encountered and the sample locations is included as Figure 8. The shallow layer was similar to that of Trench 3 with a fairly consistent surficial layer of coal and debris to a depth of 2 ft. Below the coal layer was a consistent sand layer, which could also be the result of dredge fill or from some other source. Based on the condition it was difficult to identify a distinct difference (if any was present) of the sand and any pre-existing native material.

Some piping was encountered approximately 180 feet from the south end of the excavation, including one pipe that was oriented at a 30-degree angle with the trench. All other piping was essentially perpendicular to the trench.

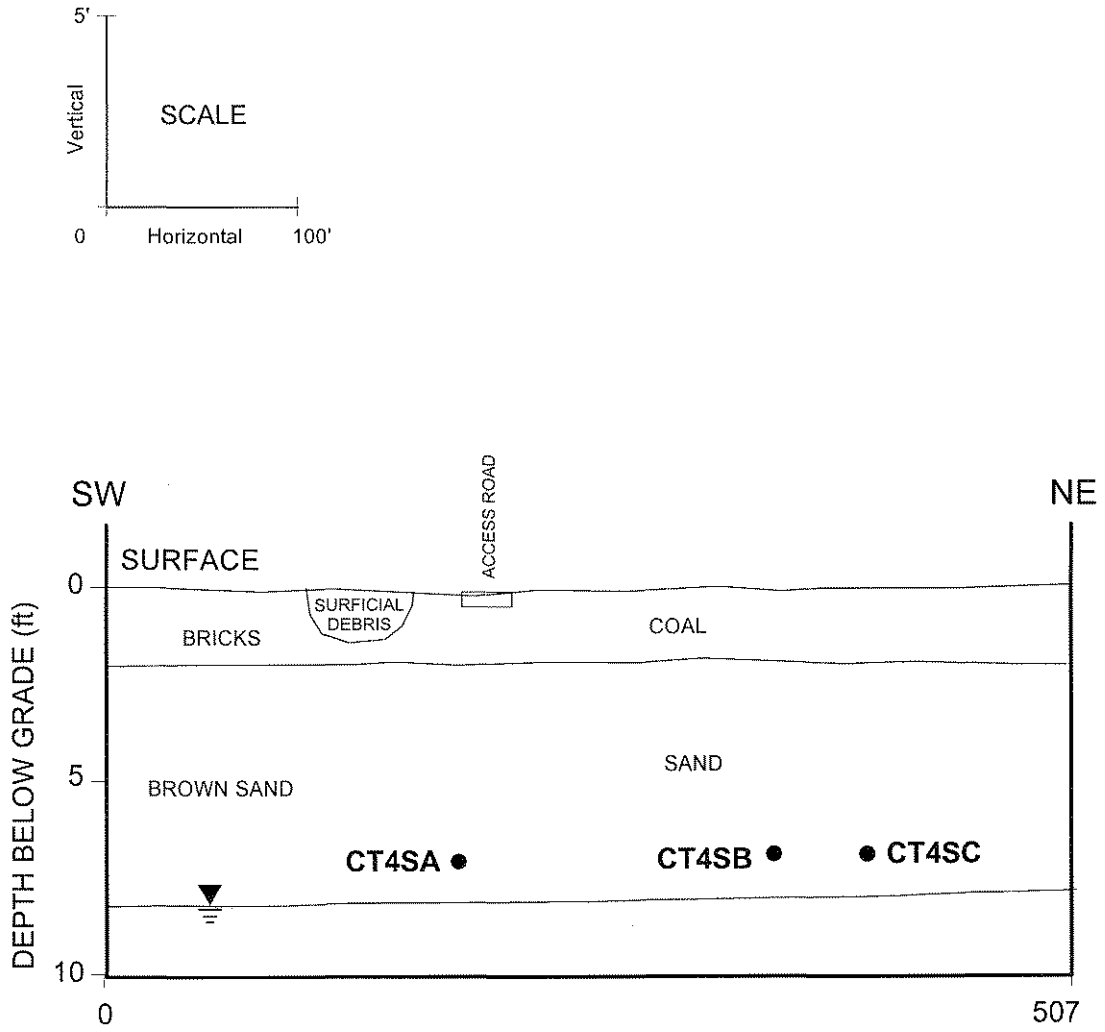
Three soil samples were collected from Trench 4 for chemical analysis. Sample CT4SA was collected approximately 185 feet from the south end of the trench in an area where some creosote and coal tar was observed. Samples CT4SB and CT4SC were collected from test pits at the northern portion of the Site, approximately 340 feet and 400 feet from the southern limit of the excavation, respectively.

Test Pits

Five test pits were advanced adjacent to the bulkhead to characterize materials at the downgradient portion of the Site (Figure 4 and photographs). These test pits were advanced at low tide and to depths approximately 2 feet below the water table. Initially, four test pits were planned, but the fifth test pit was added to observe subsurface conditions in the vicinity of a small seep that was identified at the surface of the East River, approximately 20 feet from the shore line. The four initial test pits were advanced from the south end of the Site and proceeded north.

Test pit 1 (CTP-1) was advanced approximately 220 feet from the south end of the Site to a depth of approximately 8.5 feet below ground surface. The material encountered in this test pit included mostly sand with some concrete and brick (fill). A 3-inch diameter pipe was encountered, but it did not contain any fluids. A small seam of black tar was also encountered. The sample identified as CTPSA was collected from this test pit.

Test Pit 2 (CTP-2) was advanced approximately 355 feet from the south end of the Site to a depth of approximately 7.75 feet below grade where groundwater was encountered. Black sandy coal with brick and masonry fill was observed in this test pit (fill). A 4-inch diameter pipe was also encountered that was oriented parallel to the River. The sample identified as CTPSC was collected from this test pit.



Legend

● Soil sample location

CT4#

\site C xsect.dsf

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

Test Pit 3 (CTP-3) was advanced approximately 495 feet from the south end of the Site to a depth of approximately 7.5 feet bgs. The test pit was advanced to the east of an old railroad bed. The material encountered in the test pit was mainly reddish brown fine sand. Concrete was observed in the west wall and floor of the excavation. A piece of weathered metal approximately 2 ft long and 1 ft in diameter, resembling an old container was removed from this excavation. No samples were collected from this test pit for chemical analysis.

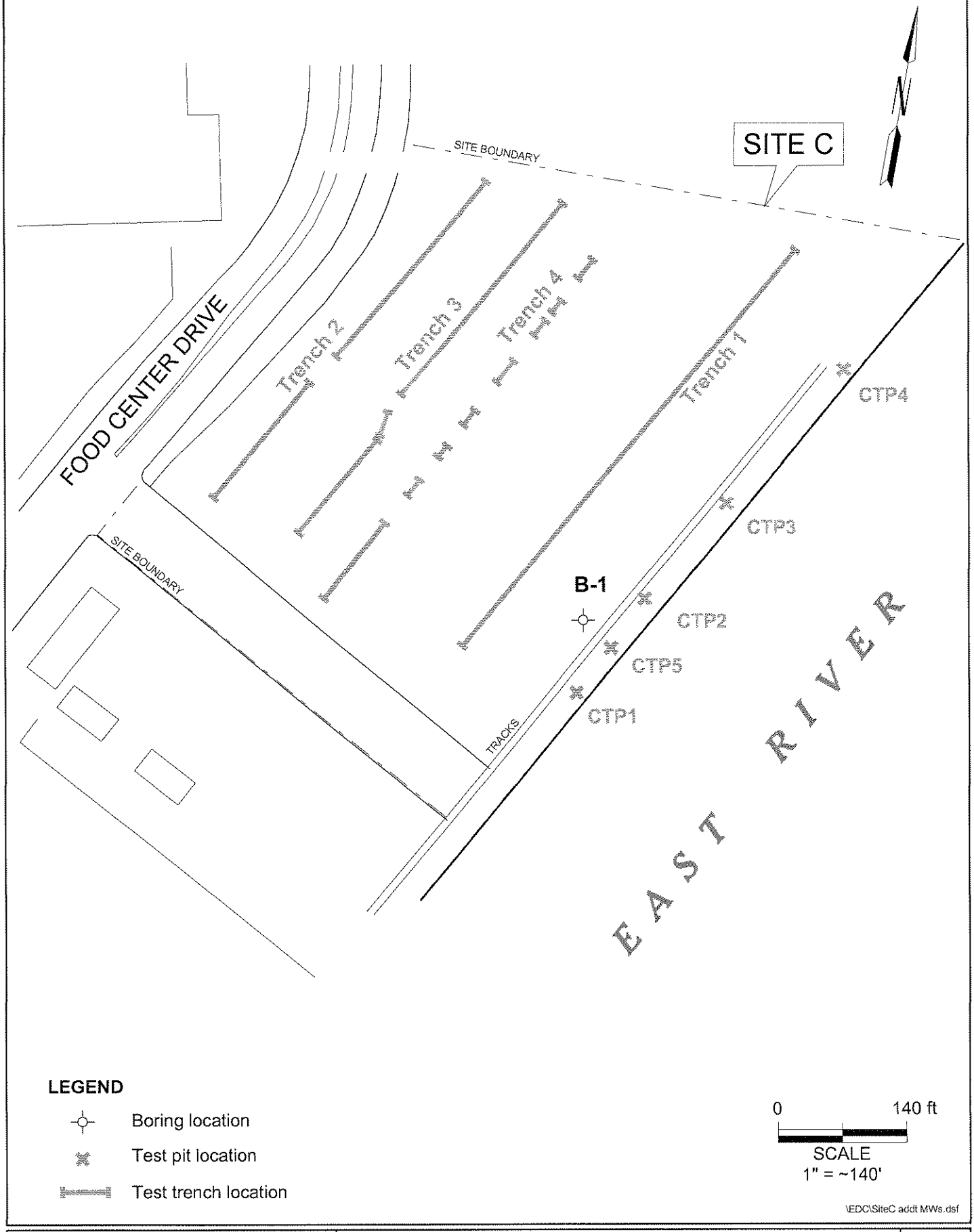
Test Pit 4 (CTP-4) was the northernmost test pit advanced along the east side of the Site. It was advanced approximately 720 feet from the south end of the Site, to a depth of approximately 6.5 feet bgs. The material excavated from this test pit included orange to brown, fine to medium sands that appear to have been fill from dredged material. No samples for chemical analysis were collected from this test pit.

Test Pit 5 (CTP-5) was advanced between CTP-1 and CTP-2 so that subsurface material near the seep could be investigated. The test pit was advanced approximately 285 feet from the south end of the Site, near a former outfall in the bulkhead. The material excavated from CTP-5 consisted of mostly sand with some concrete and brick; similar to the material encountered at CTP-1. A soil and a groundwater sample, identified as CTPSB and CTPGW respectively, were collected from this test pit.

Soil Boring

As part of the field sampling task for Site C, one (1) soil boring was installed, labeled B-1, in the southern portion of the Site (Figure 9). The boring was installed using a truck mounted drill rig using hollow stem auger techniques. The boring was advanced in line with a very small spot that was noted on the water surface of the East River some 20 ft off shore. The spot was identified to be a petroleum-type sheen that appeared at low tide. The purpose of the boring was to determine whether the subsurface had been affected by former Site activities, more specifically to determine whether DNAPL was present, as well as to attempt to identify the source of the sheen on the East River.

Continuous split spoon samples were collected from grade to the bottom depth of the boring. Upon removal of each split spoon, 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. Split spoon descriptions were logged by the on-site geologist and are included as Appendix A. A representative portion of all split spoon samples collected was archived in glass jars. Split spoons were decontaminated between sampling depths using cold wash techniques. The boring was advanced to refusal, which was encountered at 40 ft below grade. No DNAPL or other contamination was encountered in this



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boring. Following completion of the boring, a mixture of Type 1 Portland cement and bentonite was pumped into the borehole to grade. All downhole sampling equipment, including the deck of the drill rig was steam cleaned before leaving the Site.

Sample Results

A total of 15 grab soil samples were collected and submitted for analysis of TCL VOCs using EPA Method 8260. Five (5) composite soil samples were submitted for the following analyses: TCL SVOCs using EPA Method 8270, pesticides/PCBs using EPA Method 8081/8082, TAL Metals using EPA Methods 6010/7470 and cyanide using EPA Method 335.2. In addition, two groundwater samples were collected for TCL VOCs, SVOCs, pesticides/PCBs, TAL Metals and cyanide analyses. The results of these analyses are discussed in the following paragraphs.

Soil Samples

All soil samples were collected from the areas of each trench that showed the greatest potential impact from historic Site operations. Locations of these samples are shown on Figure 4. All samples were submitted to a contract analytical laboratory under chain of custody protocol via an overnight courier. The sample results are summarized on Tables 1 through 5. These tables include a comparison of the VOC, SVOC, and pesticides/PCBs to the NYSDEC TAGM (January 1994) whereas the metal results are compared to USA background and the Eastern TAGM criteria.

Samples collected from Trench 1 contained total VOC concentrations ranging from 5 μg/kg to 102 μg/kg with the specific compounds detected including acetone, methylene chloride, benzene, tetrachloroethene, and naphthalene (Table 1). All VOC compounds were below the recommended soil cleanup objectives. For SVOCs, the total concentration of the detected compounds was 3.683 mg/kg, below the recommended soil cleanup criteria of 50 mg/kg. However, benzo(a)pyrene and dibenzo(a,h)anthracene were detected in concentrations exceeding the recommended soil cleanup objectives. No pesticides or PCBs were reported at concentrations exceeding the detection levels. Arsenic, beryllium, chromium, copper, iron, mercury, nickel, selenium, and zinc were detected in concentrations exceeding the recommended soil cleanup criteria.

At Trench 2, the total VOC concentrations ranged from 88 μg/kg to 366 μg/kg, and were below the recommended soil cleanup objective (Table 2). The total SVOC concentration was also below the soil cleanup objectives. However, seven individual SVOCs, including benzo(a,h)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and dibenzo(a,h)anthracene were detected above their respective recommended soil cleanup objectives. No pesticides or PCBs were reported

Table 1 (Page 1 of 4)

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Trench #1

SDG Number	**61820**		**61820**		**61820**				
LMS Sample ID	**CT15375-7**		**CT15415-7**		**CT1S064-5**				**RECOMMENDED**
Lab Sample Number	**61820002**		**61820001**		**61820004**				**SOIL CLEANUP**
Sampling Date	**9/15/1999**		**9/15/1999**		**9/15/1999**				**OBJECTIVE (a)**
Matrix	**SOIL**		**SOIL**		**SOIL**				
Units	**mg/kg**		**mg/kg**		**mg/kg**				**mg/kg**
VOLATILE ORGANIC COMPOUNDS (mg/kg)									
Acetone	0.004	j	0.025		0.004	j			0.2
Methylene Chloride	0.005	j	0.017	j	0.001	j			0.1
Benzene	ND		0.002	j	ND				0.06
Tetrachloroethene	0.003	j	0.054		ND				1.4
Naphthalene	ND		0.004	j	ND				13
Totals:	0.012		0.102		0.005				

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical detection limit.
Note - Numbers in bold exceed cleanup objective.

Table 1 (Page 2 of 4)

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Trench #1

SDG Number	**61820**		
LMS Sample ID	**CT1SCOMP**		
Lab Sample Number	**61820003**		**RECOMMENDED**
Sampling Date	**9/15/1999**		**SOIL CLEANUP**
Matrix	**SOIL**		**OBJECTIVE (a)**
Units	**mg/kg**		**mg/kg**
SEMIVOLATILE ORGANIC COMPOUNDS (mg/kg)			
Naphthalene	0.039	j	13
Acenaphthylene	0.062	j	41
Acenaphthene	0.044	j	50***
Dibenzofuran	0.041	j	6.2
Fluorene	0.087	j	50***
Phenanthrene	0.5		50***
Anthracene	0.11	j	50***
Carbazole	0.12	j	N/A
Fluoranthene	0.62		50***
Pyrene	0.47		50***
Benzo (a) anthracene	0.22	j	0.224 or MDL
Chrysene	0.25	j	0.4
Benzo (b) flouranthene	0.29	j	1.1
Benzo (k) flouranthene	0.17	j	1.1
Benzo (a) pyrene	**0.27**	j	0.061 or MDL
Indeno (1,2,3-cd) pyrene	0.16	j	3.2
Dibenzo (a,h) anthracene	**0.05**	j	0.014 or MDL
Benzo (g,h,i) perylene	0.18	j	50***
Totals:	3.683		

*** - As per TAGM #4046, total VOCs < 10 ppm, total SVOCs < 500 ppm, and individual SVOCs < 50 ppm.
(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit.
MDL - Method detection limit.
N/A - Not applicable.
ND - Not detected at analytical detection limit.
Note: Numbers in bold exceed cleanup objective.

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Trench #1

SDG Number	**61820**	
LMS Sample ID	**CT1SCOMP**	
Lab Sample Number	**61820003**	**RECOMMENDED**
Sampling Date	**9/15/1999**	**SOIL CLEANUP**
Matrix	**SOIL**	**OBJECTIVE (a)**
Units	**mg/kg**	**mg/kg**
PESTICIDES/PCBs (mg/kg)		
	ND	N/A

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
ND - Not detected at analytical detection limit.
N/A - Not available.
Note - Numbers in bold exceed cleanup objective.

Table 1 (Page 4 of 4)

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Trench #1

SDG Number	**61820**	
LMS Sample ID	**CT1SCOMP**	
Lab Sample Number	**61820003**	**RECOMMENDED SOIL CLEANUP OBJECTIVE (a)**
Sampling Date	**9/15/1999**	
Matrix	**SOIL**	
Units	**mg/kg**	**mg/kg**
METALS(mg/kg)		
Aluminum	5260	SB
Antimony	ND N	SB
Arsenic	**9.4**	7.5 or SB
Barium	80.1	300 or SB
Beryllium	**0.42**	0.16 or SB
Cadmium	0.7	1 or SB
Calcium	1660	SB
Chromium	**11.3**	10 or SB
Cobalt	5.2	30 or SB
Copper	**28**	25 or SB
Iron	**11500**	2000 or SB
Lead	64.7	SB****
Magnesium	1860	SB
Manganese	88.9 R	SB
Mercury	**0.18**	0.1
Nickel	**19.6**	13 or SB
Potassium	847	SB
Selenium	**8**	2 or SB
Silver	1.3 B	SB
Sodium	ND	SB
Thallium	ND	SB
Vanadium	14	150 or SB
Zinc	**65.3**	20 or SB
Cyanide	0.3 B	***

*** - 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.

R - Duplicate analysis not within control limits.

SB - Site background.

Note: - Numbers in bold exceed cleanup objective.

Table 2 (Page 1 of 4)

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Trench #2

SDG Number	61820		61820		61820		
LMS Sample ID	CT25357-5		CT2S18-7.5		CT2S50-7		
Lab Sample Number	61820007		61820005		61820006		RECOMMENDED
Sampling Date	9/17/1999		9/17/1999		9/17/1999		SOIL CLEANUP
Matrix	SOIL		SOIL		SOIL		OBJECTIVE (a)
Units	mg/kg		mg/kg		mg/kg		mg/kg
VOLATILE ORGANIC COMPOUNDS (mg/kg)							
Trichlorofluoromethane	0.001	j	ND		0.003	j	N/A
Acetone	0.004	j	0.1		0.091		0.2
Carbon Disulfide	ND		0.005	j	0.002	j	2.7
Methylene Chloride	0.023		0.006	j	0.048		0.1
Methyl tert-butyl ether	ND		0.14		ND		N/A
2-Butanone	ND		0.037		0.017		0.3
Benzene	0.003	j	ND		0.008		0.06
Trichloroethene	ND		ND		0.001	j	0.7
Toluene	0.001	j	ND		0.002	j	1.5
Tetrachloroethene	0.054		0.016		0.18		1.4
Ethylbenzene	ND		ND		0.002	j	5.5
Xylene (Total)	ND		ND		0.002	j	1.2
Naphthalene	0.002	j	ND		0.008		13
1,2,3-Trichlorobenzene	ND		ND		ND		N/A
Totals:	0.088		0.304		0.366		

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
b - Detected in associated blanks
d - Concentration recovered from diluted sample
j - Estimated concentration; compound present below quantitation limit
N/A - Not applicable.
ND - Not detected at analytical detection limit
Note - Numbers in bold exceed cleanup objective.

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Trench #2

SDG Number	**61820**		**61820**		
LMS Sample ID	**CT2SCOMP**		**CT2SCOMPDL**		
Lab Sample Number	**61820008**		**61820008**		
Sampling Date	**9/17/1999**		**9/17/1999**		
Matrix	**SOIL**		**SOIL**		
Units	**mg/kg**		**mg/kg**		**RECOMMENDED SOIL CLEANUP OBJECTIVE (a) mg/kg**
SEMIVOLATILE ORGANIC COMPOUNDS (mg/kg)			[DL:5:1]		
4-Methylphenol	0.23	j	0.22	d j	0.9
Naphthalene	0.72	j	0.81	d j	13
2-Methylnaphthalene	0.3	j	0.33	d j	36.4
Acenaphthylene	2.3		3	d	41
Dibenzofuran	0.27	j	0.32	d j	6.2
Fluorene	0.34		0.43	d j	50***
Phenanthrene	1.6		2	d	50***
Anthracene	1.2		1.3	d j	50***
Carbazole	0.42		0.45	d j	N/A
Fluoranthene	7.6	e	14	d	50***
Pyrene	9.3	e	12	d	50***
Benzo (a) anthracene	**7.9**	**e**	**8.1**	**d**	0.224 or MDL
Chrysene	**4.4**		**6.8**	**d**	0.4
bis (2-Ethylhexyl) phthalate	0.055	j	ND		50
Benzo (b) flouranthene	**11**	**e**	**11**	**d**	1.1
Benzo (k) flouranthene	**3.4**		**7.1**	**d**	1.1
Benzo (a) pyrene	**14**	**e**	**11**	**d**	0.061 or MDL
Indeno (1,2,3-cd) pyrene	**4.6**		**7.3**	**d**	3.2
Dibenzo (a,h) anthracene	**1.2**		**1.7**	**d**	0.014 or MDL
Benzo (g,h,i) perylene	4.5		7.8	d	50***
Totals:	75.34		95.66		

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
e - Estimated concentration; exceeds GC/MS analysis.
d - Concentration recovered from diluted sample
DL - Dilution factor.
j - Estimated concentration; compound present below quantitation limit
MDL - Method detection limit.
ND - Not detected at analytical detection limit
Note - Numbers in bold exceed cleanup objective.

Table 2 (Page 3 of 4)

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Trench #2

SDG Number	**61820**	
LMS Sample ID	**CT2SCOMP**	
Lab Sample Number	**61820008**	
Sampling Date	**9/17/1999**	**RECOMMENDED**
Matrix	**SOIL**	**SOIL CLEANUP**
Units	**mg/kg**	**OBJECTIVE (a)**
PESTICIDES/PCBs (mg/kg)		
	ND	N/A

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
ND - Not detected at analytical detection limit.
N/A - Not available.

Table 2 (Page 4 of 4)

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Trench #2

SDG Number	61820	
LMS Sample ID	CT2SCOMP	
Lab Sample Number	61820008	RECOMMENDED SOIL
Sampling Date	9/17/1999	CLEANUP
Matrix	SOIL	OBJECTIVE (a)
Units	mg/kg	mg/kg
METALS(mg/kg)		
Aluminum	4600	SB
Antimony	0.77 B N	SB
Arsenic	**31.7**	7.5 or SB
Barium	253	300 or SB
Beryllium	**0.38 B**	0.16 or SB
Cadmium	**2.3**	1 or SB
Calcium	22000	SB
Chromium	**18.5**	10 or SB
Cobalt	7.4	30 or SB
Copper	**155**	25 or SB
Iron	**20800**	2000 or SB
Lead	657	SB****
Magnesium	2140	SB
Manganese	280 R	SB
Mercury	**2**	0.1
Nickel	**27.6**	13 or SB
Potassium	1050	SB
Selenium	**16**	2 or SB
Silver	3.2 B	SB
Sodium	352	SB
Thallium	ND	SB
Vanadium	18.7	150 or SB
Zinc	**518**	20 or SB
Cyanide	N/A	***

*** - 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

N - Spiked sample recovery is not within control limits.

ND - Not detected at analytical detection limit.

N/A - Not available.

R - Duplicate analysis not within control limits.

Note - Numbers in bold exceed cleanup objective.

SB - Site background.

at concentrations exceeding the detection levels. Arsenic, beryllium, cadmium, chromium, copper, iron, mercury, nickel, selenium, and zinc were detected in concentrations exceeding the recommended soil cleanup criteria.

The total VOC concentrations detected at Trench 3 ranged from 41 µg/kg to 369 µg/kg (Table 3) and were below the recommended soil cleanup objectives. However, methylene chloride was detected at a concentration exceeding the compound specific soil cleanup objective. Methylene chloride is a common laboratory artifact and its presence in this sample can be attributed to that. The total SVOC concentration was 29.97 mg/kg, below their soil cleanup objectives. Six individual SVOCs were detected above the recommended soil cleanup objectives: benzo(a,h)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, and dibenzo(a,h)anthracene. Nine pesticides and one PCB were detected, although the concentrations were below the soil cleanup objectives. Arsenic, beryllium, cadmium, chromium, copper, iron, mercury, nickel, selenium, and zinc were detected in concentrations exceeding the recommended soil cleanup criteria.

At Trench 4, the total VOC concentrations ranged from 13 µg/kg to 138 µg/kg, and were below the soil cleanup objectives (Table 4). The total SVOC concentration was 7.283 mg/kg, below the soil cleanup objectives. Three individual SVOCs, benzo(a)anthracene, chrysene, and benzo(a)pyrene were detected in concentrations exceeding their respective soil cleanup objectives. Five pesticides were detected, but were present at concentrations below the soil cleanup objectives. No PCBs were reported above the detection limits. Arsenic, beryllium, cadmium, chromium, copper, iron, mercury, nickel, selenium, and zinc were detected in concentrations exceeding the recommended soil cleanup criteria.

The total VOC concentrations detected in the samples collected from the test pits ranged from 11 µg/kg to 256 µg/kg, and were below the soil cleanup objectives (Table 5). However, the methylene chloride concentration detected in one sample exceeded the soil cleanup objectives. Methylene chloride is a common laboratory artifact, and its presence in this sample may be attributed to that. The total SVOC concentration was 15.88 mg/kg, below the soil cleanup objectives. However, five individual SVOCs exceeded their respective soil cleanup objectives. These SVOCs included benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, and dibenzo(a,h)anthracene. No pesticides or PCBs were reported above the detection limits. Arsenic, beryllium, cadmium, chromium, copper, iron, mercury, nickel, selenium, and zinc were detected in concentrations exceeding the recommended soil cleanup criteria.

Table 3 (Page 1 of 4)

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Trench #3

LMS Sample ID	CT3SA		CT3SADL		CT3SB		CT3SBRE		CT3SC		RECOMMENDED
Sampling Date	9/17/99		9/17/99		9/17/99		9/17/99		9/17/99		SOIL CLEANUP
Matrix	SOIL		SOIL		SOIL		SOIL		SOIL		OBJECTIVE (a)
Units	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg
Volatile Organic Compounds (mg/kg)			[DL:2:1]								
Trichloroflouromethane	0.023		0.011	dj	<0.007		<0.007		<0.006		N/A
Acetone	0.021		0.012	dj	0.014	b	0.012	b	0.017	b	0.2
Carbon Disulfide	<0.006		<0.014		<0.007		<0.007		0.002	j	2.7
Methyl Disulfide	0.052		0.034	dj	**0.14**		0.068		0.01		0.1
cis-1,2-dichloroethylene	0.002	j	<0.014		<0.007		<0.007		<0.006		0.3
Benzene	0.009		0.005	dj	<0.007		<0.007		<0.006		0.06
Toluene	0.003	j	<0.014		0.004	j	0.002	j	<0.006		1.5
Tetrachloroethane	0.24	e	0.11	dj	<0.007		<0.007		<0.006		1.4
Ethylbenzene	0.004	j	<0.014		<0.007		<0.007		<0.006		5.5
Xylene (Total)	0.006		<0.014		<0.007		<0.007		<0.006		1.2
4-Isopropyltoluene	<0.006		<0.014		0.002	j	<0.007		<0.006		N/A
1,2,4-Trichlorobenzene	0.004	j	<0.014		<0.007		<0.007		<0.006		3.4
Naphthalene	0.006		<0.014		0.01	b	0.061		0.012		13
1,2,3-Trichlorobenzene	0.005	j	<0.014		<0.007		<0.007		<0.006		N/A
Totals:	0.369		0.172		0.17		0.143		0.041		

(a) -NYSDEC Technical Administrative Guidance Memorandum, January 1994.
b -Detected in associated blank.
d -Concentrations recovered from diluted sample.
j -Estimated concentration; compound present below quantitation limit.
e -Concentration of this compound exceeds the calibration range of the instrument for this analysis.
N/A -Not applicable.
< -Not detected at analytical detection limit.
Note -Concentration in bold exceed cleanup objective.
Only those compounds that were detected are included on the table.

Table 3 (Page 2 of 4)

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Trench #3

SDG Number	**61837**		
LMS Sample ID	**CT3SCOMP**		
Lab Sample Number	**61837004**		**RECOMMENDED**
Sampling Date	**9/20/1999**		**SOIL CLEANUP**
Matrix	**SOIL**		**OBJECTIVE (a)**
Units	**mg/kg**		**mg/kg**
SEMIVOLATILE ORGANIC COMPOUNDS (mg/kg)			
Naphthalene	1.9		13
2-Methylnaphthalene	1.4		36.4
Acenaphthylene	0.83		41
Acenaphthene	0.16	j	50***
Dibenzofuran	0.5		6.2
Flourene	0.32	j	50***
Phenanthrene	3.6		50***
Anthracene	0.94		50***
Carbazole	0.42	j	N/A
Fluoranthene	2.6		50***
Pyrene	3.3		50***
Benzo (a) anthracene	**2.3**		0.224 or MDL
Chrysene	**2.4**		0.4
bis (2-Ethylhexyl) phthalate	ND		50***
Di-n-octylphthalate	ND		50***
Benzo (b) fluoranthene	**2.5**		1.1
Benzo (k) fluoranthene	**1.5**		1.1
Benzo (a) pyrene	**2.3**		0.061 or MDL
Indeno (1,2,3-cd) pyrene	1.2		3.2
Dibenzo (a,h) anthracene	**0.5**		0.014 or MDL
Benzo (g,h,i) perylene	1.3		50***
Totals:	28.67		

(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.
Note: Numbers in bold exceed cleanup objective.
*** - As per TAGM #4046, Total VOCs < 10 ppm, Total SVOCs < 500 ppm, and individual SVOCs < 50 ppm.

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Trench #3

SDG Number	61837		
LMS Sample ID	CT3SCOMP		
Lab Sample Number	61837004		RECOMMENDED
Sampling Date	9/20/1999		CLEANUP
Matrix	SOIL		OBJECTIVE (a)
Units	mg/kg		mg/kg
PESTICIDES/PCBs (mg/kg)			
Heptachlor	0.012		0.1
Aldrin	0.004		0.041
Endosulfan I	0.0042	p	0.9
Endrin	0.0069	p	0.1
Endosulfan II	0.011	p	0.9
4,4'-DDD	0.0066	p	2.9
Endosulfan sulfate	ND		1
4,4'-DDT	0.0077		2.1
Methoxychlor	0.025	p	***
Endrin ketone	0.016	p	N/A
Aroclor-1260	0.044	p	N/A

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit.
p - Pesticide/Aroclor target analyte has >25% difference for the detected concentrations between the two GC columns.
e - Estimated concentration; exceeds GC/MS calibration range.
ND - Not detected at analytical detection limit.
N/A - Not available.
*** - As per TAGM #4046, Total Pesticides < 10 ppm.

Table 3 (Page 4 of 4)

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Trench #3

SDG Number	61837		
LMS Sample ID	CT3SCOMP		
Lab Sample Number	61837004		
Sampling Date	9/20/1999		RECOMMENDED CLEANUP OBJECTIVE (a)
Matrix	SOIL		
Units	mg/kg		mg/kg
TAL METALS (mg/kg)			
Aluminum	2910		SB
Antimony	1.4	B	SB
Arsenic	**14.9**		7.5 or SB
Barium	141		300 or SB
Beryllium	**0.41**	B	0.16 or SB
Cadmium	**1.6**		1 or SB
Calcium	1520		SB
Chromium	**12.2**		10 or SB
Cobalt	4.8	B	30 or SB
Copper	**48.1**		25 or SB
Iron	**15600**		2000 or SB
Lead	205		SB****
Magnesium	763		SB
Manganese	73.3		SB
Mercury	**0.65**		0.1
Nickel	**14.5**		13 or SB
Potassium	552		SB
Selenium	**14.2**		2 or SB
Silver	2.4	B	SB
Sodium	ND		SB
Thallium	ND		SB
Vanadium	24.5		150 or SB
Zinc	**96.2**		20 or SB
Cyanide	3.2		***

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
B - Value is less than the contract-required limit but greater than the instrument detection limit.
ND - Not detected at analytical detection limit.
N/A - Not available.
SB - Site background.
*** - Some forms of Cyanide are complex and very stable while other forms are pH dependent and unstable.
**** - Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 ppm,while metropolitan or suburban areas range from 200-500 ppm.
Note - Numbers in bold exceed cleanup objective.

Table 4 (Page 1 of 4)

SOIL DATA SUMMARY
EDC HUNTS POINT
Site C
Trench #4

LMS Sample ID	CT43A		CT4SB		CT4SC		CT4SCRE		RECOMMENDED
Sampling Date	9/20/1999		9/20/1999		9/20/99		9/20/99		SOIL CLEANUP
Matrix	SOIL		SOIL		SOIL		SOIL		OBJECTIVE (a)
Units	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg
Volatile Organic Compounds (mg/kg)									
Chloromethane	<0.006		<0.005		<0.006		0.002	j	N/A
Trichlorofluoromethane	ND		<0.005		0.002	j	0.004	j	N/A
Acetone	0.069	b	0.004	jb	0.007	b	0.022	b	0.2
Carbon Disulfide	0.001	j	<0.005		<0.006		<0.005		2.7
Methylene Chloride	0.011		0.002	j	0.02		0.037		0.1
Toluene	<0.006		<0.005		0.001	j	0.002	j	1.5
Xylene (Total)	<0.006		<0.005		0.002	j	0.002	j	1.2
Naphthalene	0.002	jb	0.007		0.007		0.069		13
Totals:	0.083		0.013		0.039		0.138		

(a) -NYSDEC Technical Administrative Guidance Memorandum, January 1994
b -Detected in associated blank
d -Concentration recovered from diluted sample
j -Estimated concentration; compound present below quantitation limit
N/A -Not applicable
ND -Not detected in analytical detection limit.
Only those compounds were detected are included on the table

Table 4 (Page 2 of 4)

SOIL DATA SUMMARY
EDC HUNTS POINT
Site C
Trench #4

LMS Sample ID		CT4SCOMP		RECOMMENDED SOIL CLEANUP OBJECTIVE (a)
Sampling Date		9/20/1999		
Matrix		SOIL		
Units		mg/kg		mg/kg
SEMIVOLATILE ORGANIC COMPOUNDS (mg/kg)				
Naphthalene		0.43		13
2-Methylnapthalene		0.71		36.4
Acenaphthylene		0.043	j	41
Dibenzofuran		0.24	j	6.2
Fluorene		0.062	j	50***
Phenanthrene		0.88		50***
Anthracene		0.13	j	50***
Carbazole		0.09	j	N/A
Flouranthene		0.96		50***
Pyrene		1		50***
Benzo (a) anthracene		**0.55**		0.224 or MDL
Chrysene		**0.49**		0.4
bis (2-Ethylhexl) phthalate		0.058	j	50***
Benzo (b) fluoranthene		0.58		1.1
Benzo (k) fluoranthene		0.21	j	1.1
Benzo (a) pyrene		**0.46**		0.061 or MDL
Ideno (1,2,3-cd) pyrene		0.18	j	3.2
Benzo (g,h,i) perylene		0.21	j	50***
	Total:	7.283		

(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.

Note: -Numbers in bold exceed cleanup objective.

*** -As per TAGM #4046, Total <10 ppm, Total SVOCs < 500ppm, and individual SVOCs < 50ppm.

Only those compounds that were detected are included on the table

Table 4 (Page 3 of 4)

SOIL DATA SUMMARY
EDC HUNTS POINT
Site C
Trench #4

LMS Sample ID Sampling Date Matrix Units	CT4SCOMP 9/20/1999 SOIL mg/kg		RECOMMENDED CLEANUP OBJECTIVE mg/kg
PESTICIDES AND PCBs (mg/kg)			
Heptachlor	0.0053		0.1
Endrin	0.0068	p	0.1
Endosulfan II	0.004	p	0.9
Endosulfan sulfate	0.0059	p	1
Methoxychlor	0.0076	jp	***

(a) -NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j -Estimated concentration; compound present below quantitation limit.
p -Pesticide/Aroclor target analyte has >25% difference for the detected concentrations between the GC columns.
e -Estimated concentration; exceeds GC/MS calibration range.
ND -Not detected at analytical detection limit.
N/A -Not available.
*** As per TAGM #4046, Total pesticides < 10ppm
Only those compounds that were detected are included on the table

Table 4 (Page 4 of 4)

SOIL DATA SUMMARY
EDC HUNTS POINT
Site C
Trench #4

LMS Sample ID Sampling Date Matrix Units	CT4SCOMP 9/20/1999 SOIL mg/kg		RECOMMENDED CLEANUP OBJECTIVE
TAL METALS (mg/kg)			
Aluminum	7490		SB
Antimony	<0.20		SB
Arsenic	**8.9**		7.5 or SB
Barium	96.2		300 or SB
Beryllium	**0.58**		0.16 or SB
Cadmium	**1.6**		1 or SB
Calcium	2350		SB
Chromium	**14.7**		10 or SB
Cobalt	7.5		30 or SB
Copper	47.8		25 or SB
Iron	15100		2000 or SB
Lead	99.9		SB****
Magnesium	2700		SB
Manganese	143		SB
Mercury	**0.13**	B	0.1
Nickel	**20.6**		13 or SB
Potassium	1600		SB
Selenium	**10**		2 or SB
Silver	1.7	B	SB
Sodium	<15.2		SB
Thallium	<0.30		SB
Vanadium	21.4		150 or SB
Zinc	**84.8**		20 or SB
Cyanide	0.7	B	***

(a) -NYSDEC Technical Administrative Guidance Memorandum, January 1994.
B -Value is less than the contract-required limit but greater than the instrument detection limit.
ND -Not detected at analytical detection limit.
N/A -Not Available.
SB -Site Background
*** -Some forms of Cyanide are complex and very stable while other forms are pH dependent and unstable
**** -Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61ppm, while metropolitan or suburban areas range from 200-500ppm.
Note -Numbers in bold exceed cleanup objective.

Table 5 (Page 1 of 4)

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Test Pits

SDG Number	61837		61837		61837		61837		RECOMMENDED
LMS Sample ID	CTPSA		CTPSB		CTPSC		CTPSCRE		SOIL CLEANUP
Lab Sample Number	61837006		61837007		61837008		61837008RE		OBJECTIVE (a)
Sampling Date	9/20/1999		9/20/1999		9/20/1999		9/20/1999		
Matrix	SOIL		SOIL		SOIL		SOIL		
Units	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg
VOLATILE ORGANIC COMPOUNDS (mg/kg)									
Acetone	0.006	b	0.017	b	0.015	b	0.037	b	0.2
Methylene Chloride	0.005	j	0.015		0.077		**0.2**		0.1
Benzene	ND		ND		ND		0.001	j	0.06
Toluene	ND		0.001	j	0.002	j	0.004	j	1.5
Tetrachloroethene	ND		ND		0.001	j	0.003	j	1.4
Xylene (Total)	ND		ND		0.001	j	0.002	j	1.2
Ethylbenzene	ND		ND		ND		0.002	j	5.5
1,2,4-Trimethylbenzene	ND		ND		ND		0.002	j	N/A
Naphthalene	ND		ND		ND		0.005	j	13
Totals:	0.011		0.033		0.096		0.256		

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
b - Detected in associated blanks.
j - Estimated concentration; compound present below quantitation limit.
N/A - Not applicable.
ND - Not detected at analytical detection limit.
Note -Numbers in bold exceed cleanup objective.

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Test Pits

LMS Sample ID Sampling Date Matrix Units	CTPSCOMP 9/20/1999 Soil mg/kg		RECOMMENDED SOIL CLEANUP OBJECTIVE(a) mg/kg
SEMIVOLATILE ORGANIC COMPOUNDS (mg/kg)			
Naphthalene	0.1	j	13
2-Methylnapthalene	0.064	j	36.4
Acenaphthylene	0.059	j	41
Dibenzofuran	0.047	j	6.2
Phenanthrene	0.65		50***
Anthracene	0.15	j	50***
Carbazole	0.1	j	N/A
Fluoranthene	1.5		50***
Pyrene	3.1		50***
Benzo (a) anthracene	**0.93**		0.224 or MDL
Chrysene	**0.93**		0.4
bis (2-Ethylhexyl) phthalate	0.14	j	50***
Benzo (b) fluoranthene	1.9		1.1
Benzo (k) fluoranthene	0.63		1.1
Benzo (a) pyrene	**1.4**		0.061 or MDL
Ideno (1,2,3-cd) pyrene	1.3		3.2
Dibenzo (a,h) anthracene	0.28	j	0.014 or MDL
Benzo (g,h,i) perylene	2.6		50***
Totals:	15.88		

Only those compounds that were detected are included on the table

(a) -NYSDEC Technical Administrative Guidance Memorandum, January 1994.

j -Estimated concentration; compound below quantitation limit.

MDL -Method Detection Limit.

ND -Not detected at analytical detection limit.

Note: -Numbers in bold exceed cleanup objective.

*** -As per TAGM #4046, Total VOCs < 10ppm, Total SVOCs < 500 ppm, and individual SVOCs < 50 ppm.

Table 5 (Page 3 of 4)

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Test Pits

LMS Sample ID Sampling Date Matrix Units	CTPSCOMP 9/20/1999 Soil mg/kg	RECOMMENDED CLEANUP OBJECTIVE(a) mg/kg
PESTICIDES/PCBs (mg/kg)	ND	***

(a) NYSDEC Technical Administrative Guidance Memorandum, January 1994.
ND Not detected at analytical detection limit.
*** As per TAGM #4046, Total Pesticides <10 ppm

Table 5 (Page 4 of 4)

SOIL ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C
Test Pits

LMS Sample ID Sampling Date Matrix Units	CTPSCOMP 9/20/1999 SOIL mg/kg	RECOMMENDED CLEANUP OBJECTIVE (a) mg/kg
TAL METALS (mg/kg)		
Aluminum	5890	SB
Antimony	6.8	SB
Arsenic	**23.9**	7.5 or SB
Barium	145	300 or SB
Beryllium	**0.55**	0.16 or SB
Cadmium	**7.3**	1 or SB
Calcium	2060	SB
Chromium	**22.7**	10 or SB
Cobalt	16.3	30 or SB
Copper	**245**	25 or SB
Iron	**65000**	2000 or SB
Lead	252	SB****
Magnesium	1910	SB
Manganese	457	SB
Mercury	**0.37**	0.1
Nickel	**45.7**	13 or SB
Potassium	1620	SB
Selenium	**52.9**	2 or SB
Silver	8.6	SB
Sodium	<15.7	SB
Thallium	<0.31	SB
Vanadium	30.9	150 or SB
Zinc	**352**	20 or SB
Cyanide	3.7	***

(a) -NYSDEC Technical Administrative Guidance Memorandum, January 1994.
B -Value is less than the contract-required limit but greater than the instrument detection limit.
ND -Not detected at analytical detection limit.
N/A -Not available.
SB -Site background.
*** -Some forms of cyanide are complex and very stable while other forms are pH dependent and unstable
**** -Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 ppm, while metropolitan or suburban areas range from 200-500 ppm.
Note -Numbers in bold exceed cleanup objective.

Groundwater Samples

Two groundwater samples were collected from Site C. These samples were collected from Trench 3, near a creosote-impacted area, and test pit CTP-5, adjacent to the area where the seep was observed (Figure 4). These samples were submitted for TCL VOCs, SVOCs, pesticides/PCBs, filtered TAL Metals and total cyanide analyses. Table 6 presents a summary of these analytical results.

The groundwater sample collected from Trench 3 (CT3GW) did not contain concentrations of any volatile organics above the detection limits. However, the total SVOC concentration was 249 µg/l, and included seven individual SVOCs that exceeded their respective NYSDEC Class GA standards (DWS) or guidance values. These included phenol, naphthalene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene. No pesticides or PCBs were reported at concentrations above the detection limits. Thallium was the only metal that was detected at a concentration that exceeded the Class GA guidance value. Total cyanide was reported at 350 µg/l, which is above the 200 µg/l DWS. The level of cyanide in this sample is believed to be associated with the high-suspended solids in the water sample. Cyanide is generally reactive when compounds such as sodium and calcium are present. This reaction forms a solid that precipitates out and becomes part of the solid mass. A review of the data indicates that not only was the sample very turbid but there was a very high concentration of both sodium and calcium in the sample. Based on this information, it is believed that the concentration reported in the sample is related primarily to the solid fraction that was present.

Concentrations of VOCs in the sample that was collected from CTP-5 were not detected above the recommended criteria. Only four SVOCs were detected in this sample with a total concentration of 4 µg/l. No individual SVOCs exceeded the Class GA standards or guidance values. No pesticides or PCBs were reported above the detection limits. Only three metals, manganese, sodium, and thallium exceeded the Class GA standards or guidance values. The sodium concentration may be the result of the sample location's close proximity to the bulkhead and the saline waters of the East River.

Additional Well Installation and Sampling

Following the initial Investigation Report, two separate but smaller scale investigation and sampling activities were performed at the Site. These investigations were proposed based on the results of the initial investigation that indicated elevated levels of semivolatiles, particularly naphthalene, in the soils and groundwater of Trench 3. The purpose of these investigations was to determine the presence and extent of these constituents in the groundwater

GROUNDWATER ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C

SDG Number	61837	61837	61837		61837	NYSDEC
LMS Sample ID	CT3GW	CTPGW	FB092099		TB	CLASS GA
Lab Sample Number	61837013	61837014	61837001		61837015	STANDARDS (b)
Sampling Date	9/20/1999	9/20/1999	9/20/1999		9/20/1999	
Matrix	WATER	WATER	WATER		WATER	
Units	ug/L	ug/L	ug/L		ug/L	ug/L
VOLATILE ORGANIC COMPOUNDS (ug/L)						
Methylene Chloride	ND	ND	**5**		ND	5
1,2,4-Trichlorobenzene	ND	ND	1	j b	ND	5
Hexachlorobutadiene	ND	ND	**1**	j b	ND	0.5
Naphthalene	ND	ND	2	j b	ND	10 GV
1,2,3-Trichlorobenzene	ND	ND	2	j	ND	5
Totals:	ND	ND	11		ND	

(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
b - Detected in associated blanks.
GV - Guidance Value.
j - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical detection limit.
Note - Numbers in bold exceed cleanup standard.

GROUNDWATER ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C

SDG Number	61837		61837		61837		
LMS Sample ID	CT3GW		CTPGW		FB092099		
Lab Sample Number	61837013		61837014		61837001		NYSDEC
Sampling Date	9/20/1999		9/20/1999		9/20/1999		CLASS GA
Matrix	WATER		WATER		WATER		STANDARDS (b)
Units	ug/L		ug/L		ug/L		ug/L
SEMIVOLATILE ORGANIC COMPOUNDS (ug/L)							
Phenol	**7**	j	ND		ND		1
2-Methylphenol	2	j	ND		ND		N/A
4-Methylphenol	8	j	ND		ND		N/A
2,4-Dimethylphenol	4	j	ND		ND		50
Naphthalene	**76**		ND		ND		10 GV
2-Methylnaphthalene	22		ND		ND		N/A
Acenaphthylene	8	j	ND		ND		N/A
Acenaphthene	1	j	ND		ND		20 GV
Dibenzofuran	8	j	ND		ND		N/A
Fluorene	5	j	ND		ND		50 GV
Phenanthrene	25		ND		ND		50 GV
Anthracene	6	j	ND		ND		50 GV
Carbazole	12		ND		ND		N/A
Fluoranthene	15		1	j	ND		50 GV
Pyrene	10	j	1	j	ND		50 GV
Benzo(a)anthracene	**6**	j	ND		ND		0.002 GV
Chrysene	**7**	j	ND		ND		0.002 GV
Benzo(b)fluoranthene	**7**	j	ND		ND		0.002 GV
Benzo(k)fluoranthene	**5**	j	ND		ND		0.002 GV
Benzo(a)pyrene	6	j	ND		ND		ND**
Indeno (1,2,3-cd) pyrene	**4**	j	ND		ND		0.002 GV
Dibenzo(a,h)anthracene	1	j	ND		ND		N/A
Benzo(g,h,i)perylene	4	j	ND		ND		N/A
Butylbenzylphthalate	ND		1	j	ND		50 GV
bis(2-Ethylhexyl)phthalate	ND		1	j	ND		5
Totals:	249		2		ND		

(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
b - Detected in associated blanks.
d - Concentration recovered from diluted sample.
GV - Guidance value.
j - Estimated concentration; compound present below quantitation limit.
N/A - Not applicable.
ND** - A non-detectable concentration by the approved analytical methods.
ND - Not detected at analytical detection limit.
Note: Numbers in bold exceed cleanup standard.

GROUNDWATER ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C

SDG Number	61837	61837	61837	NYSDEC
LMS Sample ID	CT3GW	CTPGW	FB092099	CLASS GA
Lab Sample Number	61837013	61837014	61837001	STANDARDS (b)
Sampling Date	9/20/1999	9/20/1999	9/20/1999	
Matrix	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L
PESTICIDES/PCBs (ug/L)				
	ND	ND	ND	N/A

(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
ND - Not detected at analytical detection limit.
N/A - Not available.

Table 6 (Page 4 of 4)

GROUNDWATER ANALYTICAL DATA SUMMARY
EDC Hunts Point
Site C

SDG Number	61837		61837		61837		NYSDEC
LMS Sample ID	CT3GW		CTPGW		FB092099		CLASS GA
Lab Sample Number	61837013		61837014		61837001		STANDARDS (b)
Sampling Date	9/20/1999		9/20/1999		9/20/1999		
Matrix	WATER		WATER		WATER		
Units	ug/L		ug/L		ug/L		ug/L
TAL METALS (ug/L)							
Aluminum	60.5	B	175		ND		N/A
Antimony	ND		ND		ND		3
Arsenic	ND		ND		ND		25
Barium	149	B E	245	E	3.6	B E	1000
Beryllium	ND		ND		ND		3 GV
Cadmium	ND		ND		ND		5
Calcium	58900		123000		259	B	N/A
Chromium	ND		ND		ND		50
Cobalt	ND		ND		ND		N/A
Copper	5.8	B	7.8	B	5.2	B	200
Iron	199	B	129	B	ND		300
Lead	15.1		11		16.7		25
Magnesium	15000		24200		ND		35000 GV
Manganese	71.2		**334**		ND		300
Mercury	ND		ND		ND		0.7
Nickel	4.6	B	11.5	B	ND		100
Potassium	6240		3210		ND		N/A
Selenium	10	B	4.2	B	ND		10
Silver	ND		ND		ND		50
Sodium	11100		**3310000**		359	B	20000
Thallium	**9.5**	B	**20.9**		**6.4**	B	0.5 GV
Vanadium	2.3	B	6.7	B	ND		N/A
Zinc	70		58.3		4.8	B	2000 GV
Cyanide	**350**		39.9		ND		200

(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 - Value estimated due to interference.
GV - Guidance value.
N/A - Not available.
ND - Not detected at analytical detection limit.
Note: - Numbers in bold exceed standard.

adjacent to Trench 3, as well as along the most downgradient edge of the Site.

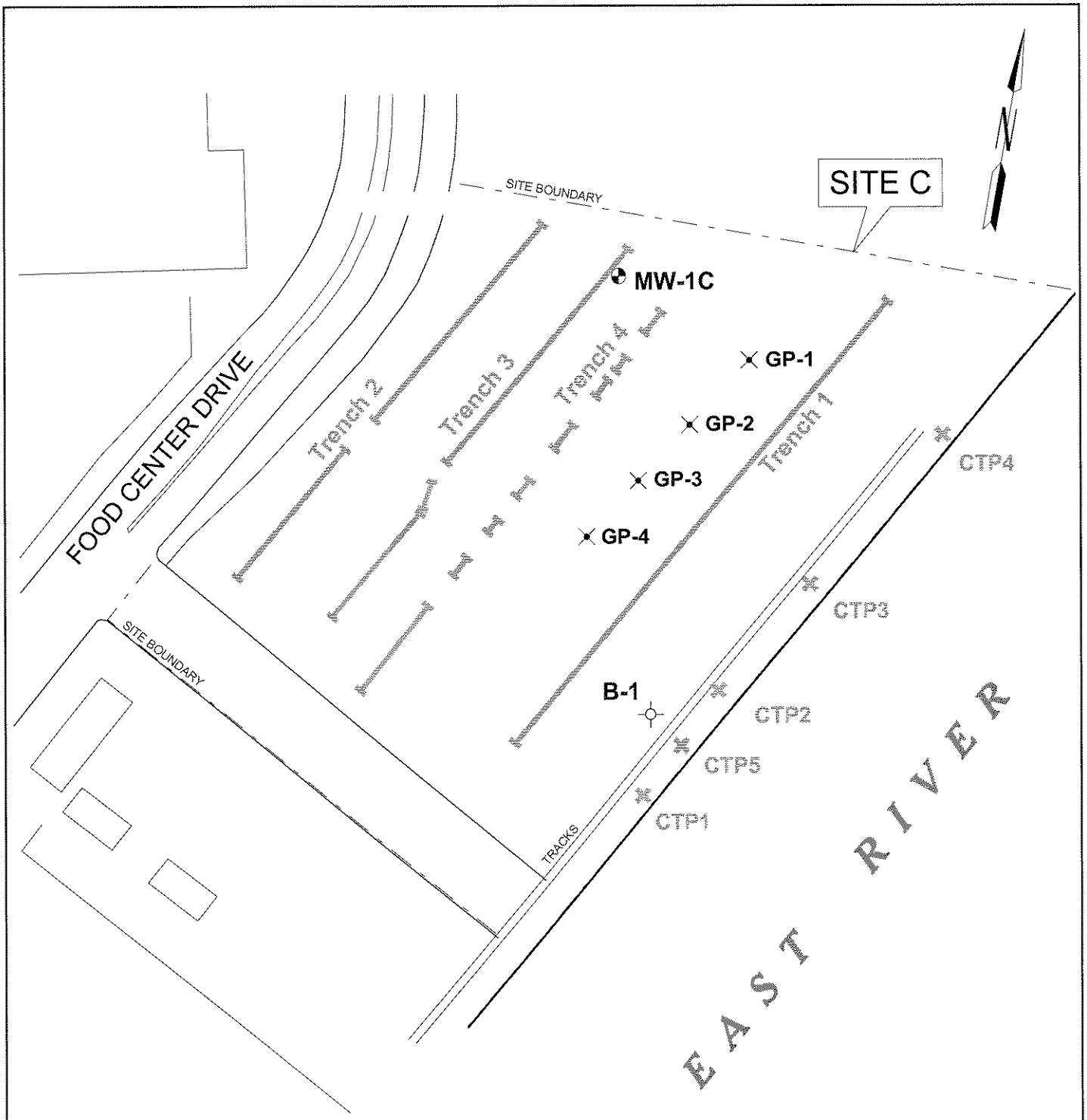
The first investigation conducted in March 2000, included the installation of one additional shallow groundwater monitoring well (MW-1C) in the vicinity of the north east end of Trench #3 where coal tar was encountered (Figure 10), and a test boring (B-1) installed inline with the small sheen noted on the East River (Figures 9 and 10). The purpose of the boring was to determine if there was a source or conduit located upland that was in a direct line with the low tide sheen that had been noted in the East River.

Monitoring well MW-1C was installed in an area of Trench #3 where residual coal tar waste was encountered. The main objective was to determine if in fact there was free phase product in the area related to former Site activities. Samples were collected from the well and analyzed for semi-volatiles, which were the prime contaminants found in the coal tar in Trench 3. A groundwater sample collected from this area of the trench (identify sample) showed the presence of specific semi-volatile compounds. The well was sampled for semi-volatiles in unfiltered (MW-1C) and filtered (MW-1CD) samples in order to assess the actual presence of dissolved SVOCs versus those compounds associated with particulates (Table 7).

Samples were not composited and therefore there would be some minor variation in concentrations expected. Based on our experience, duplicate analyses can vary 200% in groundwater samples, especially where trace concentrations are encountered. The variation between the semi-volatiles in the MW-1C and MW-1CD samples is less than 20% and for those compounds that were detected above the NYS Drinking Water Standard (DWS), the concentrations in the filtered sample are higher. Those compounds include phenol, 2-Methylphenol, 4-Methylphenol, 2,4-Dimethylphenol, and naphthalene.

The compounds exceeding the drinking water standard (DWS) were reported at relatively low concentrations that would not be indicative of a product source or an area of severe contamination. Naphthalene was reported at 0.42 and 0.39 mg/L in the unfiltered and filtered samples respectively. The dilute (unfiltered) sample was reported at 0.7 mg/L. The solubility for naphthalene in water is 31.2 mg/L. This would indicate that although the concentration is significantly above the DWS of 10 μg/l it is not associated with a product plume.

Several additional SVOC compounds were detected in the unfiltered sample at levels below the NYS Drinking Water Standard) dibenzofuran, flourene, and phenanthrene. Each of these compounds was however detected at lower and estimated concentrations in the filtered sample. This might indicate that these compounds are associated with particulates. In addition, chrysene and benzo(b)flouranthene were both detected at very low estimated



LEGEND

- Boring location
- Monitoring well
- Test pit location
- Test trench location
- Geoprobe boring location

0 140 ft

SCALE
1" = ~140'

\EDC\SiteC addt MWs.dsf

LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Additional Site C Monitoring Well and Boring Locations** **Hunts Point**	**Figure 10**

Table 7 (Page 1 of 1)

GROUNDWATER MONITORING WELL DATA
EDC Hunts Point
Site C

LMS Sample ID	MW-1C	MW-1CDL	MW-1CD	
Sampling Date	3/16/2000	3/16/2000	3/16/2000	NYSDEC
Matrix	WATER	WATER	WATER	CLASS GA
Dilution Factor	1.0	10.0	1.0	STANDARDS (b)
Units	µg/L	µg/L	µg/L	µg/L
		[DL:10:1]		
SEMIVOLATILE ORGANIC COMPOUNDS (µg/L)				
Phenol	**65**	**56 d j**	**78**	1
2-Methylphenol	**27**	**22 d j**	**31**	1
4-Methylphenol	**73**	**62 d j**	**85**	1
2, 4-Dimethylphenol	21	15 d j	24	50
Naphthalene	**420 e**	**700 d**	**390 e**	10
2-Methylnaphthalene	24	18 d j	16	N/A
Acenaphthylene	37	33 d j	30	N/A
Acenaphthene	6 j	ND	4 j	20
Dibenzofuran	13	11 d j	8 j	N/A
Fluorene	14	12 d j	7 j	50
Phenanthrene	17	16 d j	4 j	50
Anthracene	2 j	ND	ND	50
Fluoranthene	5 j	ND	ND	50
Pyrene	4 j	ND	ND	50
Benzo (a) anthracene	2 j	ND	ND	N/A
Chrysene	**1 j**	ND	ND	0.002
bis (2-Ethylhexyl) phthalate	2 j	ND	ND	5
Benzo (b) fluoranthene	**2 j**	ND	ND	0.002
Benzo (a) pyrene	1 j	ND	ND	ND

(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
d - Indicates all compounds identified in an analysis at a seconday dilution factor.
e - Indicated compounds whose concentrations exceed the calibration range.
j - Estimated concentration; compound present below quantitation limit.
N/A - Not available.
ND - Not detected at analytical detection limit.
NOTE - Numbers in bold exceed cleanup objective.

concentrations in the unfiltered sample and were non-detect in the filtered sample. This is further indication that the semi-volatile concentrations may be associated with particulates in the groundwater.

The second phase of investigation and sampling was conducted in August 2000 and included the installation of four (4) temporary shallow monitoring wells across the downgradient side of the Site (GP-1 through GP-4)(Figure 10). Groundwater was analyzed to determine the concentrations of semi-volatile compounds in groundwater in this area. As with previous analyses, both filtered and unfiltered samples were collected in order to assess the impact of particulates on the data. Each well was installed to a depth of approximately 10 ft below grade with the screened section extending though the entire water column.

The four groundwater samples were analyzed for both filtered and unfiltered semivolatiles (Table 8). No compounds were reported above the DWS in the filtered samples and only one unfiltered sample contained concentrations above the DWS. GP-1 contained chrysene and benzo (b) flouranthene at estimated concentrations of 2 ppb. This again indicates that those semi-volatile concentrations are associated with the particulates and that there has been virtually no impact to the Site related to these organic compounds.

The result of all the investigations performed at Site C have shown that there are very low concentrations of naphthalene across the Site. The additional investigations have shown that there is a localized area at Trench 3 where dissolved naphthalene is present in the groundwater above the drinking water standard (MW-1C). The presence of naphthalene in this area is not related, however, to a product plume as concentrations of the compound in the upgradient sample (CT3GW) were lower and concentrations in the downgradient groundwater samples (GP-1 through GP-4) were non-detect.

Conclusions and Remedy Section

LMS has reviewed all of the information that was made available for Site C, including aerial photos, and Sanborn fire insurance maps, which indicated its use as a primary coal storage area during operations of the former Con Ed facility. After review of this initial information was performed, an intensive field sampling program was conducted. The sampling included linear trenching and collection of soil and groundwater samples. After an initial review of the data from this sampling event was performed, an additional groundwater sampling phase was conducted that included installing groundwater monitoring wells and several sampling points. Based on the additional groundwater sampling and initial investigative data, there was no indication of a petroleum plume in either the trenches or the wells. In fact, groundwater analyses performed during the second phase of the project showed virtually no semivolatile contamination present. This indicates that the compounds

Table 8 (Page 1 of 1)
GROUNDWATER DATA August 2000
EDC Hunts Point
Site C

LMS Sample ID	GP-1F	GP-1	GP-2F	GP-2	GP-3F	GP-3	GP-4F	GP-4	NYSDEC
Sampling Date	8/15/2000	8/15/2000	8/15/2000	8/15/2000	8/15/2000	8/15/2000	8/15/2000	8/15/2000	CLASS GA
Matrix	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	STANDARDS (b)
Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
SEMIVOLATILE ORGANIC COMPOUNDS (µg/L)									
Acenaphthene	ND	2 j	ND	ND	ND	ND	ND	ND	20
Phenanthrene	ND	2 j	ND	ND	ND	ND	ND	ND	50
Fluoranthene	ND	6 j	ND	ND	ND	ND	ND	ND	50
Pyrene	ND	6 j	ND	ND	ND	ND	ND	ND	50
Butylbenzylphthalate	ND	ND	ND	ND	ND	ND	1 j	4 j	50
Benzo (a) anthracene	ND	2 j	ND	ND	ND	ND	ND	ND	N/A
Chrysene	ND	**2 j**	ND	ND	ND	ND	ND	ND	0.002
Benzo (b) fluoranthene	ND	**2 j**	ND	ND	ND	ND	ND	ND	0.002
Benzo (a) pyrene	ND	2 j	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	10

(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
j - Estimated concentration; compound present below quantitation limit.
N/A - Not available.
ND - Not detected at analytical detection limit.
Note - Numbers in bold exceed cleanup objective.

present in samples from the trench soils are not readily mobile and are very stable.

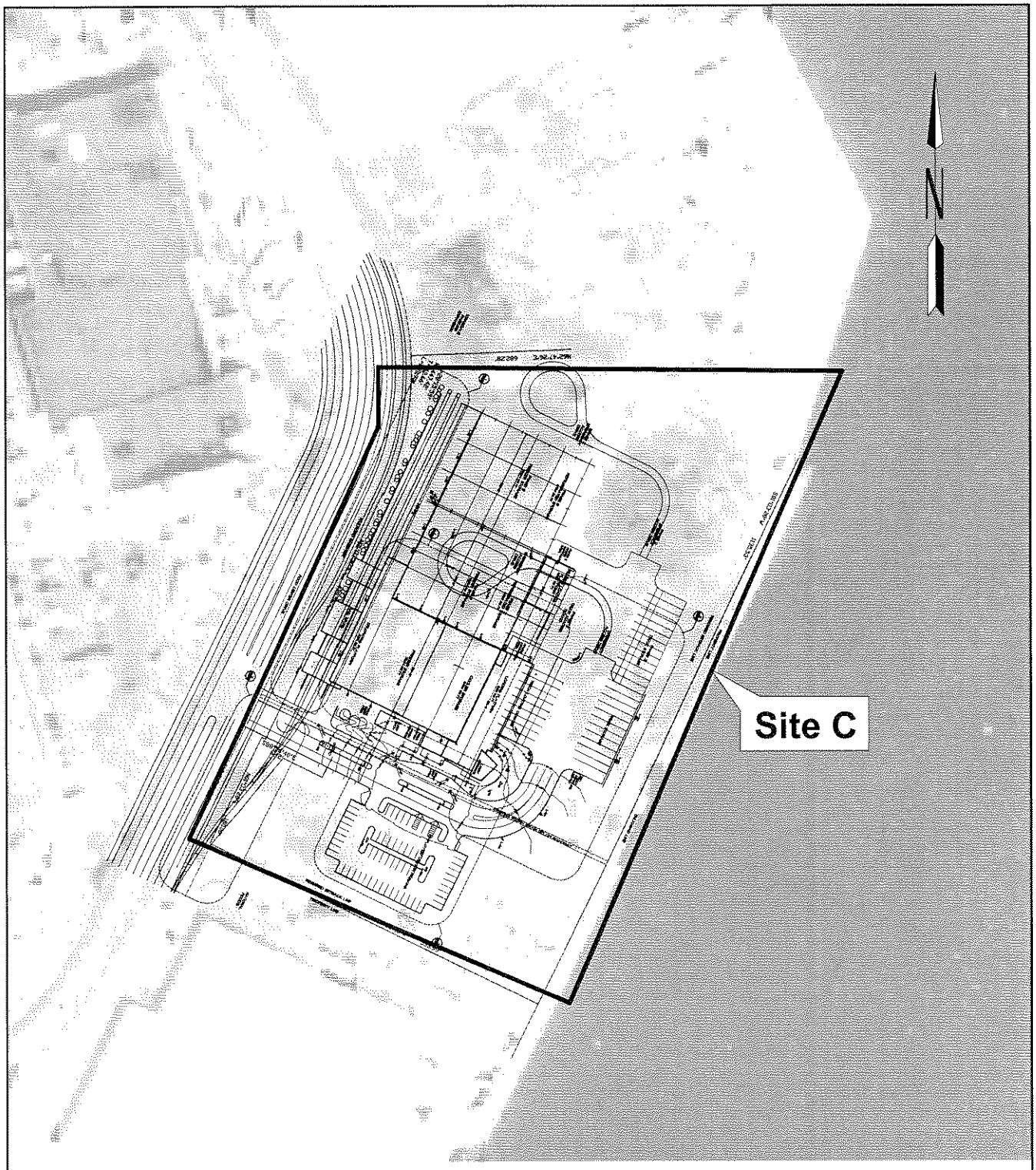
The final recommendations are based on a comparison of the data to the specific criteria listed in Part 375, including: Standards, Criteria, and Guidance; Overall Protectiveness of Public Health and the Environment; Short-term Effectiveness; Long-term Effectiveness; Reduction of Toxicity, Mobility, and Volume with Treatment; and Feasibility. The remedy incorporated in the development of the Site will be to include a concrete-on-grade slab building for warehousing

Standards, Criteria, and Guidance:

Soil data was compared to the existing NYSDEC TAGM for the TCL compounds and although several criteria are several parts per million above the recommended soil cleanup criteria, these compounds are relatively immobile and were believed to have been encountered in general fill material across the Site. Single digit concentrations are ubiquitous and are consistent with fill materials including timbers and coal waste, a number of these compounds are also typically found in road base materials. Groundwater samples collected during the second phase of the project have shown that there is a localized area at Trench 3 where dissolved naphthalene is present in the groundwater above the drinking water standard. The presence of naphthalene in this area is not, however, related to a product plume as concentrations of the compound in both upgradient (CT3GW) and downgradient (GP-1 through GP-4) groundwater samples were lower than the samples collected from MW-1C. This indicates that the volatiles and semi-volatiles identified in the soil sampling are not mobile even after being exposed to natural percolation of rainwater for several decades. It also indicates that they are not present in the soil samples in concentrations that would contribute to groundwater degradation. This Site had no history of product storage. Following the sealing of the majority of the Site surface with the building and parking area, the infiltration of rainwater to the subsurface will be greatly reduced. The plan does include open areas, the majority of which are located along the waterfront area closest to the river. The removal of upland infiltration will also help reduce the mechanism of groundwater movement and therefore migration.

Overall Protectiveness of Public Health and the Environment:

The current condition of the Site allows infiltration of all precipitation to pass through the soil and percolate to the groundwater. Currently the shallow groundwater is in a condition and setting that might be considered saline and unusable in any form as a potable water source. Following development of the Site and the associated construction of the building and parking areas as they are shown on Figure 11, the percolation of rain water through the fill will primarily be limited to the areas with landscaping adjacent to the East River.



\781\site c aerial detail.dsf

LMS Lawler, Matusky & Skelly Engineers LLP One Blue Hill Plaza • Pearl River, New York 10965 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS	**Proposed Development Plan of Site C** **Hunts Point**	**Figure 11**

This area was found to show the least relative impact with relation to the analytical data. These "open" landscaped areas will be covered with an additional one (1) foot of material that will be considered "clean". The definition of "clean" for purposes of this remedy will be as follows: virgin material being imported from a site which contains no manmade fill, is not associated with any known petroleum spills, and is not known to have been in contact with any chemicals that would be included in NYSDEC TAGM 4046.

The bituminous cap and concrete foundation slab that will be placed over the remainder of the Site will facilitate collection of all remaining precipitation. This will be directed to a stormwater system that will move water away from the Site without allowing contact with the fill.

The installation of the cap (parking lot) will also isolate the fill and prevent contact in the future from workers, patrons, or anyone present at the Site. Although the concentrations would be considered low level, care should be taken and notice given to workers during the construction of storm drains and underground utilities. It would be during this period that the greatest potential for direct exposure would be evident. Prior to initializing construction below grade, the contractor should review the data and incorporate potential exposure routes into a plan that should be presented to workers. The contractor should review and incorporate potential exposure routes into a health and safety plan. The health and safety plan and proposed work plan will be submitted to NYSDEC and New York State Department of Health (NYSDOH) for review and approval prior to implementing any intrusive work. The health and safety plan will be made available to employees and visitors during site development activities.

Short-term and Long-term Effectiveness:

No specific source areas were identified within the Site. The levels of SVOCs present in the fill are ubiquitous and relatively low. This makes specific source removal impractical from both a technical and economical standpoint. The proposed remedy and development is effective both for short and long term use, because the capping material that will seal the Site is composed generally of a group of compounds similar, and in some cases identical in nature to what exists in the fill material. These compounds are widely accepted as some of the standard ingredients for roadbase material (asphalt and tar). The development of the Site including this parking area is considered a very long-term plan, and following its construction there are no known plans for removing or modifying it.

Regarding the long-term portion of the remedy, the Site will have specific requirements that will include:

1. A Deed Restriction attached to the tenant documents and contract. The Deed Restriction will include the requirements set forth in Section X of the Voluntary Cleanup Agreement D3-0004-99-04 under which

this Plan was prepared. In addition, the Deed Restriction will require that the tenant notify the Owner (City of New York) which in turn will notify NYSDEC and NYSDOH of any intrusive work (utility, drainage additions, repairs or modifications) planned on the Site. The person or office in NYSDEC and NYSDOH listed as the contact for this notification will be provided by NYSDEC and NYSDOH upon completion of the remedy. As previously stated, both NYSDEC and NYSDOH approval of the health & safety plan and work plan must be granted prior to beginning intrusive activities.

2. In the event of intrusive work being performed on the Site that would penetrate the top foot of "clean" imported material, a Site Safety Plan will be implemented by the "persons" or Contractor conducting the work. The Plan will serve to provide information and outline procedures used by workers to protect them from being exposed to contaminants in subsurface material. The Site Safety Plan will be reviewed by the Owner prior to the initiation of work.

3. During the performance of any intrusive work, which does require the implementation of a Site Safety Plan, care will be taken with any excess material such that it will be handled and disposed of in accordance with applicable State regulations. Procedures for this will be outlined in the previously mentioned Safety Plan.

The cap (including the building) material and bulkhead will also be required to be inspected, maintained, and kept in a condition that will maintain the effectiveness of the approved remedy. The inspection will be performed on an annual basis. The City will file an annual report by January 15th until the Department notifies the City in writing that the remedial process is concluded. The annual report will be signed by a Professional Engineer and shall contain a certification that the institutional and engineering controls put in place pursuant to this Agreement are still in place, have not been altered, and are still effective.

The Site has been investigated and is being remediated under a NYSDEC Voluntary Cleanup Agreement (VCA). This agreement between the City and New York State requires submission and approval of all documentation prior to performing any intrusive work. As such, all aspects of the Investigation Workplan and Report have already been reviewed and approved. The Hunts Point waterfront is classified as a Significant Maritime and Industrial Area (a designation set up to promote waterfront activities that enhance industrial or maritime land uses). It consists of an upland area with a manmade bulkhead adjacent to the shoreline. The bulkhead is constructed of steel, concrete, and rip rap. Remedial and/or site development work in the area of the bulkhead may or may not be within tidal wetlands jurisdiction and subject to 6NYCRR Part 661. Prior to performing any work on-site, a jurisdictional determination will be obtained from NYSDEC Bureau of Marine Resources in the Regional

office. If the area of the bulkhead is found to be within the jurisdiction and subject of Part 661, any remedial work would not require a permit as work is being performed under a VCP. However, the substantive technical requirements relating to; erosion control, stormwater management, shoreline removal, and site coverage will need to be met.

Reduction of Toxicity, Mobility, Volume with Treatment:

The recommended capping remedy will physically reduce the potential for any exposure to all residual subsurface material including any levels of chemical compounds that are considered toxic. The contaminants found in the soil were primarily semi-volatiles. Since removal is not a proposed remedy, the actual volume of impacted material will remain in-place and be unchanged. Treatment that will occur in the soil beneath the cap will continue to be naturally occurring oxidation and biodegradation.

The presence of the cap as a large and single unit across the Site will act as a significant barrier to vertical migration of residual contaminants. The configuration of the Site during the investigation included an open surface with vegetation. In the future, precipitation will be contained and directed into an engineered storm drainage system rather than infiltrating through the ground. As a result of the investigation, it was apparent that the main avenue for allowing movement through the soil column was percolation of water through the subsurface. This migration of materials through the soil column will be stopped completely with the construction of the building slab and asphalt parking lot cap. Semi-volatile organics and metals are not generally mobile unless influenced by continued percolation of rainwater. Removing this mechanism will effectively contain the compounds and elements in their current location and depth.

The proposed redevelopment and capping is the effective remedy for the Site. A consideration of TAGM values was given to certain areas and prior to construction the final utility, grading, drainage, and paving plans will be reviewed and if necessary, additional engineering controls will be recommended in areas where construction will encounter questionable material.