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FINAL

Off-Site Remedial Investigation Report

Hunts Point Former Manufactured Gas Plant
Bronx, New York

April 2014

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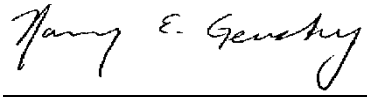
Principal Engineer



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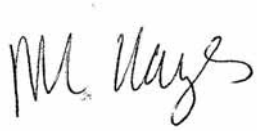

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Off-Site Remedial Investigation Report

Hunts Point Manufactured Gas Plant
Bronx, New York

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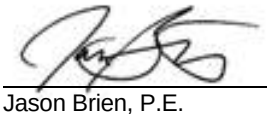
Certification

I, Jason Brien, P.E. certify that that I am currently a New York State-registered professional engineer and that this Off-Site Remedial Investigation Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the Division of Environmental Remediation Technical Guidance for Site Investigation and Remediation (DER-10).



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Principal Engineer

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Acronyms and Abbreviations

ATSDR	Agency for Toxic Substances and Disease Registry
BAL-A	Benthic Aquatic Life Acute Toxicity
BAL-C	Benthic Aquatic Life Chronic Toxicity
bgs	below ground surface
bss	below sediment surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
Con Edison	Consolidated Edison Company of New York, Inc.
COPC	constituent of potential concern
COPEC	constituent of potential ecological concern
CSM	conceptual site model
CSO	combined sewer overflow
cy	cubic yard
DER-10	Division of Environmental Remediation-10
DSNY	New York City Department of Sanitation
DUSR	Data Usability Summary Report
ER-L	Effects Range Low
ER-M	Effects Range Median
ESA	Environmental Site Assessment
FWRIA	Fish and Wildlife Resource Impact Analysis

GC	gas chromatogram
GPR	ground penetrating radar
GPS	global positioning system
groundwater standards	NYSDEC Class GA Standards
HDR	HDR, Inc.
HH-B	Human Health Bioaccumulation
HHEA	human health exposure assessment
Hygienetics	Hygienetics Environmental Services, Inc.
IDW	investigation-derived waste
LMS	Lawler Matusky and Skelley Engineers, LLP
LNAPL	light non-aqueous phase liquid
m/sec	meters per second
mg/kg	milligrams per kilogram
MGP	manufactured gas plant
NAPL	non-aqueous phase liquid
NAVD88	North American Vertical Datum of 1988
NHP	National Heritage Program
NOAA	National Oceanic and Atmospheric Administration
NYCDEP	New York City Department of Environmental Protection
NYCEDC	New York City Economic Development Corporation

NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYS DOC	New York State Department of Corrections
NYSDOH	New York State Department of Health
NWI	National Wetland Inventory
OSI	Ocean Surveys, Inc.
OU	Operable Unit
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PID	photoionization detector
PPE	personal protective equipment
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
RI	remedial investigation
RIR	Off-Site Remedial Investigation Report
RIWP Addendum	Remedial Investigation Work Plan Addendum
RTK	real-time kinematic
SCG	standards, criteria, and guidance
SVOC	semivolatile organic compound
TAL	target analyte list

TCL	target compound list
TestAmerica	TestAmerica Laboratories
TOC	total organic carbon
TPAH	total forensic polycyclic aromatic hydrocarbons
TPH	total petroleum hydrocarbons
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VCA	Voluntary Cleanup Agreement
VOC	volatile organic compound
WB	Wildlife Bioaccumulation
WWTP	wastewater treatment plant

1. Introduction

This Off-Site Remedial Investigation Report (RIR) has been prepared on behalf of Consolidated Edison Company of New York, Inc. (Con Edison) for the investigation of off-site areas associated with the Hunts Point former Manufactured Gas Plant (MGP). This RIR was been prepared in accordance with the Voluntary Cleanup Agreement (VCA) between the New York State Department of Environmental Conservation (NYSDEC) and Con Edison. The VCA index number for the Hunts Point former MGP is D2-0003-02-08. This RIR was also developed in accordance with the 6 New York Codes, Rules, and Regulations (NYCRR) Part 375 Environmental Remediation Programs (NYSDEC 2006) and Division of Environmental Remediation-10 (DER-10) Technical Guidance for Site Investigation and Remediation (NYSDEC 2010a).

The Hunts Point former MGP was utilized by Con Edison from 1922 to 1968. The majority of the Hunts Point former MGP property was sold to the City of New York from 1966 to 1972 for use as a wholesale cooperative food market. On-site portions of the former MGP property have been redeveloped with roads, warehouses, parking areas, a New York City Department of Sanitation (DSNY) marine transfer station, or remain undeveloped. The approximate extent of the former MGP is depicted on Figure 1-1 and considered to be on site. Off-site areas adjacent to the former MGP include an area to the southwest of the former MGP created by landfilling after the MGP ceased operations (currently used as a parking lot for an adjacent New York State Department of Corrections [NYS DOC] Vernon C. Bain Correctional Center [a floating prison barge]), as well as the Bronx and East Rivers to the east and south, respectively. This RIR discusses remedial investigation (RI) activities conducted for sediments within the Bronx and East Rivers, implemented according to the NYSDEC-approved Off-Site Characterization Work Plan (ARCADIS 2012) and comments provided in the NYSDEC's approval letter dated April 25, 2012. Investigation of soil and groundwater within the off-site area (i.e., NYS DOC prison barge parking lot) is being addressed separately.

1.1 Report Organization

The remaining portions of this RIR are organized into the following sections:

- *Section 2 – Site Description*: This section provides a description of the Hunts Point former MGP and the adjacent Bronx and East Rivers.
- *Section 3 – Investigation Methods*: This section describes the RI methods.
- *Section 4 – Investigation Results*: This section discusses the RI results and provides a summary of the sediment characteristics.
- *Section 5 – Nature and Extent*: This section describes the distribution of representative constituents of interest in the Bronx and East Rivers.

- *Section 6 – Summary of Forensic Analysis:* This section summarizes the forensic evaluation conducted to evaluate potential sources to the sediment.

- *Section 7 – Human Health Exposure Assessment*: This section presents a qualitative human health exposure assessment (HHEA) for the Bronx and East Rivers.

- *Section 8 – Fish and Wildlife Resource Impact Analysis*: This section presents a Fish and Wildlife Resource Impact Analysis (FWRIA) for the Bronx and East Rivers.

- *Section 9 – Conceptual Site Model*: This section presents the conceptual site model (CSM) for the Bronx and East Rivers.

- *Section 10 – Conclusions and Next Steps*: This section provides the conclusions and next steps of the RI for the Bronx and East Rivers.

- *Section 11 – References*: This section provides a list of documents cited in this RIR.

2. Site Description

2.1 Site Location

The Hunts Point former MGP is located in the Borough of Bronx, New York City, Bronx County, New York (Figure 1-1). The former MGP is an approximately 160-acre tract of land on Hunts Point, a peninsula at the confluence of the Bronx and East Rivers. The former MGP is bounded by Food Center Drive to the north, Halleck Drive to the west, and the Bronx and East Rivers to the east and south, respectively. The former MGP property is considered to be on site; the upland areas used for the prison barge parking lot and the Bronx and East Rivers are considered off site. For the purposes of site cleanup, portions of the former MGP have been divided into parcels (Parcels A through F). These parcels are presented on Figure 2-1. The former MGP also contains the Citarella property, located south of Parcel C; the Krasdale property, located between Parcels D and F; and the DSNY marine transfer station, located on the southern portion of the former MGP.

2.2 Site History

In 1922, Con Edison began purchasing land for what would become the Hunts Point MGP. Initial construction of the coke ovens and oven/producer gas manufacturing machinery occurred from 1924 through 1927, and the plant went on-line in late 1926. Between 1931 and 1932, the works were enlarged adding carbureted water gas works. The works were again expanded in 1948. The MGP produced water gas from 1932 to 1962. In 1950, the water gas works were modified to use natural gas in addition to coal or in place of coal and was historically occupied by a steel truss building and three 550-gallon underground storage tanks (two held gasoline, the third was unused). Parcel B contained several above and belowground tanks used for oil and tar storage. A light oil plant and liquid petroleum-air gas production area were located on Parcel B and operated until 1952 and 1962, respectively. The historic use of Parcel C and the Citarella property included the storage of coal. In addition, two coal bridges were located adjacent to Parcel C and were used to unload the coal via conveyors. Parcel D did not contain any historic structures. Parcel E was historically used for storing gas for distribution. Historical structures included a waterless-type gasholder with a total capacity of 15 million cubic feet. Parcel F and the Krasdale property did not contain any historic structures. The DSNY marine transfer station property was historically used for storing gas. The central portion of the former MGP site, located in between the above parcels, historically housed various MGP-related facilities, including coke ovens, water gas generators, condensers, settling basins, ammonia liquor cooling facilities, a laboratory, oil tanks, tar separator tanks, gas holders, gas producers, and a screening station. Figure 2-1 depicts the various parcels and historic site features. Additional details regarding the history and operations of the Hunts Point former MGP can be found in the Hunts Point Off-Site Manufactured Gas Plant History Report (Parsons 2003).

Beginning in the early 1950s, portions of the MGP were taken out of service. The liquid petroleum plant was taken off-line in 1952, as well as the oven/producer gas plant in 1954. The last components of the MGP were taken off-line in 1962, and the remaining buildings and structures were demolished. The large gas holder remained in service until it was demolished in 1968. The majority of the property was then sold to the City of New York in the late 1960s through early 1970s (Parsons 2003).

Currently, Con Edison retains ownership of the northwestern portion of the former MGP near the intersection of Halleck Street and Food Center Drive, where it operates a natural gas regulating station. A majority of the remaining portions of the former MGP property are owned by New York City and occupied by warehouse-type buildings and parking areas associated with the City's cooperative food market and individual food service vendors. The DSNY marine transfer station (currently not in service) is located on the southeastern portion of the Hunts Point peninsula. Other portions (Parcels D and F) remain undeveloped. In addition, an area of land created by filling after MGP operations ceased is occupied by a parking lot for the adjacent prison barge (Figure 2-1).

2.3 Site Setting

2.3.1 Geologic and Hydrogeologic Setting

Based on observations during previous on-site investigations, the soil stratigraphy varies at each parcel and is influenced by historic filling activities. Historic fill material, such as coal, slag, ash and wood intermingled with sand and gravel, and dredged sediment is present across the former MGP property in the surface and shallow overburden to varying depths. Underlying the fill unit in the eastern portion of the site is a mixture of clayey silt, sand, and gravel, which has been described as poorly sorted outwash deposits. A silty clay unit, described as a "meadowmat," underlies the outwash deposits with the thickest intervals in the western portion of the former MGP. Borings that extended below the silty clay unit in the northwestern and southwestern portions of the former MGP identified a deeper sand unit, which extends to bedrock. Based on data collected during the various investigations completed at the former MGP (Section 2.4), the water table generally occurs in the shallow subsurface at depths ranging from approximately 2 to 15 feet below ground surface (bgs). In general, groundwater flow is directed from the upland to the Bronx and East Rivers. However, groundwater flow may be influenced by tidal conditions within the adjacent rivers, and the numerous subsurface utilities in the area may act as preferential pathways for groundwater flow.

2.3.2 River Setting

Hunts Point is an approximately 690-acre peninsula located at the confluence of the Bronx and East Rivers (Figure 2-2). Land use along both the Bronx and East River portions is predominately commercial and industrial with small pockets of residential and open space. Across the Bronx River, bordering approximately

1 mile of the opposing shoreline of the former MGP is Sound View Park, a 130-acre park built on an inactive landfill.

The Bronx River flows approximately 23 miles from Valhalla, New York near the Kensico Reservoir, through Westchester County and the Bronx, to its confluence with the East River. The watershed of the upper 15 miles is characterized primarily by suburban development. Along the lower 8 miles, however, the area transitions to dense residential and industrial development. Just south of the Westchester/Bronx County Border, the river flows through the New York Botanical Garden and the Bronx Zoo for almost 2 miles. The three dams on the river are located in this section and include, from north to south, the Snuff Mill Dam in the New York Botanical Garden and the double dams at 190th and 182nd Streets in the Bronx Zoo. The river is saline and tidally influenced from its mouth to East Tremont Avenue, approximately 0.2 miles from the southern end of the Bronx Zoo (GEI Consultants, Inc. 2005).

The lower 2.5 miles of the river, from the Cross-Bronx Expressway crossing to the mouth, serves as a federally designated navigable waterway. A weir at 173rd Street marks the upstream end of the dredged navigation channel. As part of the Rivers and Harbor Act approved by the Congress of the United States in 1910, a river dredging and rock removal federal project was initiated in the Bronx River in 1912. The project included dredging and widening approximately 3.3 miles of the channel from the East River and the construction of a navigation turning basin below East Tremont Avenue. Dredging records from the United States Army Corps of Engineers (USACE), available for the period between 1921 and 1980, indicate that the channel was maintained at a depth of 7 to 10 feet. Outside the channel, water depths have been and are currently shallow at 1 to 2 feet. The last dredging event occurred in 1991, in which approximately 64,158 cubic yards (cy) of dredge materials were removed from the Bronx River to the East 172nd Street turning basin (GEI Consultants, Inc. 2005).

Along the tidal portion of the Bronx River, the banks are predominately lined with riprap, steel bulkheads, and fill. Before industrialization, the Bronx River ended in an expanse of salt marshes at the confluence with the East River. Fill material has covered nearly all of the historic tidal wetlands and raised elevations of the banks by several feet higher than the historic levels. In addition, based on a review of aerial photographs (1954 to 2006), Sanborn maps (1896 to 2007), topographic maps (1897 to 1995), and National Oceanic and Atmospheric Administration (NOAA) charts (1922 to 2008) of the Hunts Point area, approximately 18 acres of marsh/waterway were filled from 1947 to 1975. Most of the filled areas occurred along the eastern shore, which borders the Bronx River (5 acres), and the southern shore, which borders the East River (13 acres). Historical surface drainage pathways north of Parcel D and west of Parcel B were also observed during this review. Approximate areas of filled land and the historical drainage pathways are shown on Figure 2-2.

In addition to the Bronx River, Hunts Point is also bordered by the East River to the south. The East River is a narrow tidal straight connecting Long Island Sound and Upper New York Harbor, extending approximately 16 miles from Willets Point to the Battery. The East River is used heavily for commercial and industrial

navigation and is part of the New York Vessel Traffic Service Area as designated by the United States Coast Guard.

The East River is divided into the upper and lower East River at Hell Gate (at the Triborough Bridge). Tidal currents in the upper East River are strong, reaching up to 1 meter per second (m/sec) (Blumber and Pritchard 1997). Flow in the upper East River can be stratified with the net movement of surface water towards the Long Island Sound and the net movement of bottom water towards New York Harbor. Average tidal range at the confluence of the East River and the mouth of the Bronx River is approximately 7 feet. Water depths along the shoreline of the Hunts Point former MGP appear to be relatively shallow (less than 10 feet) with a steep gradient to the deep main channel of the East River (40 to 60 feet deep).

Where the Bronx River meets the East River, dredging for a near shore channel occurred along the shoreline from approximately 1932 to 1962, presumably for coal vessels to deliver materials to the former MGP. A 30-foot channel was depicted on the 1932 NOAA chart, and up until the 1972 NOAA chart, water depths in this area generally ranged from 19 to 33 feet in an irregular rectangular-shaped area but not as a distinct channel. Starting in 1972, the water depths decreased to their present depths of 15 to 17 feet, indicating sediment deposition of approximately 13 to 15 feet. Near the DSNY marine transfer station, water depths are still generally deep, approximately 29 feet, indicating that maintenance dredging likely continued around the station to facilitate the access and egress of the waste vessels. Outside this former dredged channel area, water depths were deeper in 1922 and 1932 and then filled in over time to the present conditions. The fill may be a result of the relocation of dredged materials into these areas within the channel. In the East River, there did not appear to be any significant maintenance dredging over time in the channel margins of the East River. Water depths immediately along the shoreline of the site appear to be relatively shallow (less than 10 feet) with a steep gradient to the channel of the East River channel.

2.4 Historical Remedial Investigations

Various investigations and remediation of Parcels A through F and the Krasdale property have been completed and are documented in several reports. The following reports were used in the preparation of this RIR:

Parcel A

- *Hunts Point Cooperative Market Redevelopment Plan, Investigative Report for the Operating Unit Portion of Parcel A*, Bronx, New York (Lawler Matusky and Skelley Engineers, LLP [LMS] 1999)

- *Hunts Point Food Distribution Center Redevelopment Plan, Investigative Report for the Second Operating Unit of Parcel A*, Bronx, New York (LMS 2003a)

- *Hunts Point Food Distribution Center Redevelopment Plan, Final Engineering Report*, Site A, Operable Unit 1, Bronx, New York (LMS 2005a)

Parcel B

- *Phase II Environmental Investigation Report of Hunts Point Produce Market Complex Parcel B, Bronx, New York* (Hygienetics Environmental Services, Inc. [Hygienetics] 1998)

- *Hunts Point Cooperative Market Redevelopment Plan, Investigative Report for the Operating Unit Portion of Parcel B*, Bronx, New York (LMS 2001a)

- *Hunts Point Food Distribution Center Redevelopment Plan, Engineering Report for the Operating Unit Portion of Parcel B*, Bronx, New York (HDR, Inc. [HDR] 2008)

Parcel C

- *Hunts Point Cooperative Market Redevelopment Plan, Response Plan for the Operating Unit Portion of Parcel C*, Bronx, New York, Final Revised (LMS 2001b)

- *Hunts Point Food Distribution Center Redevelopment Plan, Sections of the Redevelopment Plan for the Operable Unit 1 Portion of Parcel C*, Bronx, New York, Final Revised (HDR 2009)

Parcel D

- *Hunts Point Cooperative Market Redevelopment Plan, Investigative Report for Parcel D*, Bronx, New York (LMS 2005b)

Parcel E

- *Hunts Point Cooperative Market Redevelopment Plan, Final Engineering Report, Site E, Operable Unit 1*, Bronx, New York, Final Revised (LMS 2003b)

- *Hunts Point Cooperative Market Redevelopment Plan, Site Investigative Report, Operable Unit 3 of Parcel E*, Bronx, New York, Final (HDR/LMS 2007a)

Parcel F

- *Hunts Point Food Distribution Center Redevelopment Plan, Site Investigative Report for Parcel F*, Bronx, New York, Final (HDR/LMS 2007b)

Krasdale Property

- *Site Characterization Report – Krasdale Foods Inc., Leasehold. Hunts Point Former Manufactured Gas Plant*, Bronx, New York (ARCADIS 2013)

Site-Wide Reports

- *Phase I Environmental Site Assessment Report of Hunts Point Produce Market Complex Parcel A, B, C, D and E*, Bronx, New York (Hygienetics 1997a)

- *Phase II Environmental Investigation Report of Hunts Point Produce Market Complex Parcel A, B, C, D and E*, Bronx, New York (Hygienetics 1997b)

- *Hunts Point Off-Site Manufactured Gas Plant (VCA Index No. D2-003-02-08) History Report* (Parsons 2003)

The subsections below summarize the findings of the various remedial efforts in connection with each parcel, as presented in the above-referenced reports. Figure 2-1 depicts the approximate locations of the observed impacts on the southern and eastern parcels, respectively.

2.4.1 Parcel A

The Parcel A investigation was divided into two Operable Units (OUs): OU1 and OU2. The OU1 investigation was completed in 1999, and the OU2 investigation was completed in 2003. The OU1 investigation included the completion of five test trenches excavated to the top of the water table and the installation of one deep boring drilled to the top of the bedrock in the area exhibiting the highest degree of impacts based on visual observations. The OU2 investigation included the completion of five test trenches installed to the top of the water table, three temporary piezometers, three deep borings, and 13 shallow borings. One shallow boring was completed in the area exhibiting the highest degree of impacts based on visual observations. A summary of the visual impacts noted during each investigation is presented below and depicted on Figure 2-1.

At OU1, a 1-foot-thick layer of coal tar was observed at 4 feet bgs in one trench abutting OU2 to the west. The report states that the trench was left open for a few days exposing the tar to extreme heat, which reportedly liquefied the tar. Additional trenching was completed around the liquefied material, revealing solid coal tar, which led to the conclusion that the tar became mobile after exposure to extreme heat. In addition, paint thinner odors were noted in a 5 square-foot area under concrete debris within the trench. Cinders, ash, and slag were also documented in this trench.

At OU2, coal tar was observed in fill deposits between 3 and 4 feet bgs. Tar boils (tar near the surface) were also observed and ranged in thickness from inches to several feet. Purifier waste, consisting of wood shavings with a blue/green color, was encountered at the ground surface and at a maximum depth of 5 feet bgs on the eastern portion of the parcel.

During historical investigations, analytical results for groundwater were compared to NYSDEC Class GA Standards (groundwater standards). At OU1, volatile organic compounds (VOCs) were detected at low to non-detectable concentrations. Five polycyclic aromatic hydrocarbons (PAHs) were detected at concentrations above the groundwater standards. Inorganics, including iron, manganese, and sodium, were detected at concentrations above their respective groundwater standards.

At OU2, benzene, toluene, ethylbenzene, and xylenes (BTEX) and 1,4-dichlorobenzene concentrations exceeded the groundwater standards. Six PAHs were detected above the groundwater standards. Inorganics, including antimony, arsenic, barium, chromium, cyanide, nickel, iron, lead, manganese, sodium, copper, mercury, and zinc were also detected at concentrations exceeding their respective groundwater standards.

Following completion of the investigations described above, OU1 was sub-divided for redevelopment. The southern two thirds of the parcel were redeveloped into a parking lot to service the meat market. The northern third of the parcel was redeveloped into a parking lot to service the Fulton Fish Market. As part of the redevelopment, no material was removed for treatment/disposal other than excess debris that was not suitable for on-site reuse as fill. Following regrading of OU1, 7,000 cy were stockpiled on Parcel A OU2 and designated as fill material for future use at OU2. The redevelopment plan for OU1 included an engineered cap (minimum 6 inches gravel/asphalt layer) for the parking area and 1 foot of imported fill in landscaped areas.

2.4.2 Parcel B

Two subsurface investigations were completed in 1998 and 2001 on Parcel B. The 1998 limited investigation consisted of drilling nine soil borings to an average depth of 10 feet bgs and the installation of one monitoring well to 23 feet bgs. The 2001 investigation consisted of the completion of 11 test trenches advanced to the clay unit, water table, or refusal; 14 temporary groundwater well points; one monitoring well; nine soil borings (three deep to determine if dense non-aqueous phase liquids were present); five test pits; and 40 geotechnical borings (to support redevelopment). A summary of the visual impacts noted during the investigations is presented below.

Wood chips, ash, slag, and coal tar were identified in several areas in Parcel B. LMS noted that all of the MGP-related wastes were above the water table. Purifier wastes, consisting of blue-green colored wood chips were observed, primarily in the western portion of the property. Coal tar was primarily observed as

boils on the ground surface, with the largest measuring 62 feet wide by 68 feet long by 3 feet deep. A significant area of coal tar was also observed in the northern portion of Parcel B.

An area of petroleum-contaminated soil was defined adjacent to the prison barge parking lot and throughout the central portion of Parcel B. The area of impacts were typically encountered at 4 to 6 feet bgs and extended to the water table. Historical groundwater sampling revealed 1 foot of light non-aqueous phase liquid (LNAPL) in monitoring well MW-2. During the well installation of soil boring/monitoring well B-3/MW-1P, product was noted on the driller's augers, and during the subsequent groundwater sampling, sheens and little globules of product were noted on the well sampling log. Fingerprinting results concluded that the product consisted of weathered gasoline and fuel oil. However, no visual impacts were observed at four other borings surrounding B-3/MW-1P in the prison barge parking lot.

During historical investigations, groundwater analytical results were compared to the groundwater standards. In MW-2, VOCs, including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, n-propylbenzene, and BTEX, were detected at concentrations above these standards. Eleven PAHs were detected at concentrations above their respective standards. Iron, manganese, and sodium were the only inorganics detected at concentrations above these standards.

At MW-1P, VOCs detected at concentrations above the groundwater standards included 1,2,4-trimethylbenzene, n-propylbenzene, isopropylbenzene, benzene, and ethylbenzene. Ten PAHs were detected at concentrations above the groundwater standards. Inorganic constituents consisting of arsenic, beryllium, cadmium, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, silver, sodium, and zinc were all detected at concentrations above the groundwater standards.

Since the investigations described above, Parcel B was redeveloped as the Hunts Point Distribution Center with a concrete slab on-grade construction. The surrounding areas have been developed as a parking lot. As part of the redevelopment, a bulkhead rehabilitation project was completed along Parcel B, which included the relocation of approximately 14,000 cy of upland and mud line material from Parcel B to raise the grade of Parcel C, which is further described below.

The final remedy for Parcel B, incorporated in its redevelopment, included the removal of 34,100 tons of material, of which, approximately 19,650 tons was coal tar-impacted material and 14,450 tons was purifier waste. Additionally, an unknown quantity of petroleum-impacted soil, comingled with the coal tar and purifier wastes, was also removed. Engineering and institutional controls were also implemented, including the installation of an air sparge/soil vapor extraction system to address petroleum impacts, an active sub-slab depressurization system with vapor barrier, an engineered cap, and 1 foot of imported fill over landscaped area.

2.4.3 Parcel C

Two subsurface investigations were completed in 1997 and 1999 on Parcel C. The 1997 investigation consisted of drilling five soil borings to a depth of 6 to 10 feet bgs and the installation of one monitoring well screened across the water table. The 1999 investigation consisted of excavating four test trenches and five test pits to the water table, drilling one soil boring to 40 feet bgs, as well as the collection and analysis of soil and groundwater samples. A summary of the visual impacts noted during the investigations is presented below.

A coal layer was encountered across most of site from the surface to 2 to 4 feet bgs with greatest thickness near the center of the site. Occasional coal tar/tar boils (1 to 4 feet in diameter) were also observed at the surface, and occasionally at 3 to 4 feet bgs. Areas of “soft ground” were also encountered during the 1999 investigation but were not investigated, as the areas could not support the excavator. In addition, petroleum-impacted soils were noted in the southern portion of the parcel.

Occasional sheens on groundwater were noted during completion of the trenches and, during the 1999 investigation, sheens were also noted on the East River at low tide approximately 20 feet offshore. The sheens were observed adjacent to an outfall in the bulkhead. Several other unidentified former utilities were noted during the trenching.

Groundwater samples were collected in Parcel C in 1999; analytical data were compared to the groundwater standards. Shallow groundwater sample results did not exceed the standards for VOCs. Seven PAHs were detected above their respective standards. These PAHs were at relatively low concentrations. Inorganics that exceeded the groundwater standards include thallium, manganese, and sodium.

Since the investigations described above, Parcel C was sub-divided for redevelopment. The majority of the parcel was redeveloped to a slab on-grade warehouse occupied by Anheuser Busch and an adjacent parking lot to the south of the building. The northern and eastern perimeters are to be occupied by the future Greenway Park as part of the South Bronx Greenway Master Plan. An easement for the Iroquois Pipeline occupies the southernmost portion of Parcel C. As part of the redevelopment project, the bulkhead was rehabilitated. Coal tar-impacted soils encountered on the landward side of the former bulkhead were removed during the rehabilitation project and properly disposed.

The Parcel C remedy for the Anheuser Busch portion of the parcel, incorporated during redevelopment, included installation of a passive sub-slab depressurization system under the building slab, engineered cap, and 1 foot of imported fill in landscaped areas. In addition, to raise the surface elevation of the parcel 4 to 5 feet out of the Federal Emergency Management Agency flood zone, approximately 14,000 cy of excavated soils generated during the bulkhead rehabilitation project on Parcel B, as well as an additional 26,000 cy of

excavated soils from other areas of the parcel, were used as fill material on Parcel C. The Redevelopment Plan for the Greenway Park portion of Parcel C was not available for review.

2.4.4 Parcel D

Two subsurface investigations were completed in 1997 and 2004 on Parcel D. The 1997 investigation consisted of drilling four soil borings to depths of 6 to 10 feet bgs and the installation of one monitoring well screened across the water table. The 2004 investigation consisted of drilling 47 soil borings and installing seven temporary piezometers, as well as the completion of a ground penetrating radar (GPR) survey and collection and analysis of soil and groundwater samples. A summary of the visual impacts noted during the investigation is presented below.

An area of purifier waste was found on the ground surface and extended to a maximum depth of 14 feet bgs (upper 4 feet were described as “spongy”) in an approximately 350- by 450-foot area to the east of the center of the parcel. Small pockets of coal tar were noted and were generally observed as surface boils. In addition, coal tar-impacted soil was observed from 5 to 10 feet bgs on the western portion of the parcel. Coal tar was also noted in two wells located adjacent to the western boundary of the parcel (upgradient). Petroleum-impacted material was noted from 5 to 10 feet bgs across portions of the parcel.

During the construction of the Iroquois Pipeline, a natural gas transmission line that runs underneath Food Center Drive, coal tar mixed with some purifier waste was noted in a consistent depth layer (4 to 6 feet bgs) throughout the pipeline trench. Impacts extended beyond the 4-foot-wide pipeline trench in east/west directions.

Fill material on the western portion of the parcel was primarily noted as slag, ash, cinders, wood, and brick, whereas the fill in the eastern portion was primarily described as ash, cinders, wood, and brick.

Groundwater samples were collected in Parcel D in 2004; analytical results were compared to the groundwater standards. The highest concentrations of BTEX and PAHs were detected in groundwater samples collected from piezometers screened in or adjacent to the areas of purifier waste. Inorganics detected at concentrations that exceeded the groundwater standards included chromium, iron, lead, magnesium, manganese, selenium, and sodium.

Parcel D is currently undeveloped. The investigative report noted that a bulkhead was constructed sometime between 1966 and 1974, and a 100-foot-wide area between the shoreline and the bulkhead was filled (LMS 2005b).

2.4.5 Parcel E

Two subsurface investigations were completed in 1997 and 2007 on Parcel E. The 1997 investigation consisted of drilling five soil borings to 10 feet bgs and installing one monitoring well screened across the water table. The 2007 investigation consisted of drilling 21 soil borings to 6 to 10 feet bgs; excavating four trenches (7 to 12 feet bgs) and five test pits (3 to 8 feet bgs); installing five piezometers screened across the water table; completing a GPR survey; and collecting and analyzing soil, soil gas, and groundwater samples. A summary of the visual impacts noted during the investigations are presented below.

Parcel E was sub-divided into OU1, OU2, and OU3. The investigation results of OU1 revealed petroleum impacts within the fill unit in several areas, predominantly around the former petroleum tank structures. On OU3, small isolated pockets of coal tar were identified sporadically throughout the parcel.

Groundwater samples were collected in Parcel E in 2007; analytical data were compared to the groundwater standards. VOC concentrations were generally not detected or detected at low concentrations. Semivolatile organic compounds (SVOCs) were not detected in any of the piezometers above the groundwater standards. Inorganics that exceeded the groundwater standards included iron, manganese, aluminum, calcium, magnesium, potassium, sodium, and cyanide.

Since the investigations described above, Parcel E was redeveloped into a truck maintenance building with an adjacent parking lot. The southernmost area contains an approximately 20-foot-wide New York City Department of Environmental Protection (NYCDEP) easement for a combined sewer overflow (CSO) system.

The remedy, incorporated during Parcel E redevelopment, included the removal of approximately 430 tons of soil and 5,100 gallons of wastewater, as well as the installation of an engineered cap and 1 foot of imported fill in landscaped areas. During the final regrading of the parcel, an additional 6,000 cy of material was excavated and temporarily stockpiled on the parcel. Of this material, 1,015 tons contained polychlorinated biphenyls (PCBs) and were removed for off-site disposal. The remaining material was transported to Parcel A (OU2) for use as future backfill material.

2.4.6 Parcel F

One subsurface investigation on Parcel F was completed in 2005. The investigation consisted of drilling 24 soil borings to a maximum depth of 5 feet below the water table, the bottom of the purifier waste or the clay layer (whichever was the shallowest), installing five temporary piezometers screened across the water table and eight soil gas points; completion of a GPR survey; and collection and analysis of soil, groundwater, and soil gas samples. A summary of the visual impacts noted during the investigation is presented below.

Purifier waste covered a majority of the parcel, extending to depths up to 16 feet bgs. Deposits were up to 10 feet thick, separated with up to 3 feet of fill. The volume of purifier waste on the parcel was estimated to be 18,000 cy (1,800 cy above water table, 16,100 cy below water table). Relatively smaller areas (5 cy) of coal tar impacts were noted and were generally seen as surface boils. In addition, coal tar and purifier waste were observed from 4 to 6 feet bgs in a 100-foot portion of the trench during construction of the Iroquois Pipeline.

Groundwater samples were collected in Parcel F in 2005; analytical data were compared to the groundwater standards. Groundwater samples collected from three of the five piezometers contained concentrations of VOCs (including BTEX, carbon disulfide, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, n-propylbenzene, and isopropylbenzene), phenol, and six PAHs (primarily naphthalene) that exceed the groundwater standards. Inorganics detected at concentrations that exceeded the groundwater standards included iron, cyanide, sodium, and magnesium.

The parcel remains undeveloped. Additional investigation of potential impacts around the perimeter of the parcel has been conducted (see Section 2.4.8 below).

2.4.7 Krasdale Property

In 2011, HDR, on behalf of the New York City Economic Development Corporation (NYCEDC), completed additional investigation activities on Parcel F and on the Krasdale property. Investigation activities included soil boring and monitoring well installation and soil, groundwater, and soil gas sampling. As part of the work, an evaluation and video inspection of the storm sewers was conducted, as well as sampling and analysis of water samples collected during dry weather conditions from one catch basin and one outfall. The northern storm sewer just south of Parcel D was found to be in poor physical condition, exhibiting structural defects at multiple locations, including open joints and erosion of the pipe. The water samples collected during dry weather conditions contained chemical constituents similar to those that have been identified in groundwater at adjacent Parcel D.

In 2012, ARCADIS conducted additional subsurface investigation activities on the Krasdale property to investigate the presence of potential MGP-related impacts on the site and to support the design for rehabilitating/replacing a storm sewer pipe located on the northern portion of the site. During this investigation, the site was sub-divided into two OUs: the Krasdale leasehold property, designated OU1, and the northern storm sewer pipe, designated OU2. The site characterization activities confirmed the presence of potential MGP-related residual materials and their associated impacts to soil and groundwater. Potential MGP residual materials observed at the site consist of purifier wastes, tars, and petroleum residuals.

During investigative activities, purifier wastes were observed in the center of the northern portion of the site, and throughout most of the southern portion of the site, but not along the eastern portion of the site. The

areas where purifier wastes were observed correlate to purifier wastes identified by others on Parcels D and F and likely represent continual waste deposits to the northern and southern purifier areas on the site, respectively. The purifier wastes were visually characterized by the presence of wood chips, wood pulp, and blue-green staining and analytically characterized by low pH conditions and elevated concentrations of carbon disulfide, arsenic, copper, mercury, nickel, total and free cyanide, ammonia (as ammonium), and sulfate. The purifier wastes observed in the center of the northern portion of the site were characterized by lower pH and higher carbon disulfide and cyanide concentrations compared to the southern portion of the site. The horizontal and vertical extent of carbon disulfide, metals (nickel, copper), and total and free cyanide above commercial restricted soil cleanup objectives lies at or within the extent of purifier wastes at the site.

Tars described as saturated and viscous and sheens were observed in the northwest corner of the site where surface observations of tar boils were also observed. Tars, sheens, and odors were sporadic in occurrence, and generally not laterally extensive, except in the northwestern corner of the site. The tars and sheens in the northwestern corner of the site were characterized and contained higher BTEX, styrene, dibenzofuran, carbazole, and PAH concentrations. The vertical extent of these observations was defined in all borings installed at the site, as no impacts were observed in deeper soils at the locations where tars, sheens, and odors were observed.

In groundwater, the distribution of constituents above groundwater standards (carbon disulfide, antimony, arsenic, chromium, lead, manganese, nickel, selenium, and total cyanide) are within the extent of purifier wastes at the site and hydraulically downgradient of these areas. The distribution of BTEX in groundwater at concentrations above groundwater standards are generally associated with the tars/sheens in the northwestern corner and sporadic sheens and trace tars within the southern area of the site (but not further hydraulically downgradient of these areas adjacent to the river). Along the eastern perimeter of the site, non-detect concentrations of BTEX were observed throughout the length of the site adjacent to the Bronx River. Overall, the distribution of PAHs, primarily naphthalene and 2-methylnaphthalene, in groundwater at concentrations above groundwater standards are similar to the BTEX distributions near tar and sheen areas; however, in the northern portion of the site, PAHs were also observed hydraulically downgradient of the tar and sheen area in the northwestern corner. Along the remainder of the eastern perimeter of the site, non-detect or low concentrations of PAHs were observed throughout the length of the site adjacent to the Bronx River.

2.4.8 Site-Wide Investigations

Hygienetics, on behalf of NYCEDC, conducted a Phase I Environmental Site Assessment (ESA) of Parcels A, B, C, D, and E in October 1997. The Phase I ESA concluded that the potential for environmental conditions existed at the properties, due to its former use as an MGP and subsequent use as a transformer substation (Parcel E). Currently, Parcel E is occupied by a truck maintenance building with an adjacent

parking lot. The southernmost area contains an approximately 20-foot-wide NYCDEP easement for a CSO system.

In 2003, Parsons was contracted by Con Edison to compile historical data of Parcels A through E in an effort to rank and prioritize the former MGP for future investigation and/or management plans under the VCA. Specifically, Parsons gathered information from a variety of sources to present the current site setting, past and current ownership records, prior land usage, MGP operations, site geology and hydrogeology, possible historical waste materials (both on and off site), and sensitive receptors (public and environmental). The report concluded:

- The disposition of residuals and byproducts generated by the former MGP is not well documented. The disposition of the materials from the razed structures also is not well documented.

- The results from the investigations described above indicate MGP-related residuals and constituents are present on Hunts Point and similar conditions may be present in other areas not investigated.

- Potential MGP-related impacts may be present in the adjacent Bronx and East Rivers if releases are occurring or have occurred in the past.

3. Investigation Methods

3.1 Objective and Overview

Off-site investigation activities consisted of the following:

- Field reconnaissance
- Sediment (river) investigation

Investigations of the Bronx and East Rivers adjacent to the Hunts Point former MGP were conducted to achieve the following objective:

- Evaluate the potential presence and extent of MGP-related impacts in the Bronx and East Rivers, adjacent to the Hunts Point former MGP.

Sampling locations presented were selected based on a review of information available in the reports listed in Section 2.4. This includes areas adjacent to previously investigated or remediated parcels and potential preferential pathways.

3.2 Field Reconnaissance

A reconnaissance of investigation areas was performed within the Bronx and East Rivers. The objectives of the reconnaissance were to confirm that the areas proposed for sampling within the Bronx and East Rivers were accessible, identify outfalls and/or potential preferential pathways from the upland to the rivers, evaluate water depths and sediment types to help select appropriate sediment sampling equipment, and identify or locate potential subsurface utilities.

The following observations were recorded and mapped:

- Piping/outfalls and or other migration pathways
- General land use
- Presence of waste materials/debris
- Discolored rocks, soil, or sediment along the shoreline
- Approximate water depths and sediment types

- General land/shoreline conditions

A photographic log of relevant observations was maintained and described in Section 4. Adjustments to the proposed sample locations were made based on these observations, as needed, subsequent to the commencement of field investigation activities.

3.3 Sediment (River) Investigation

3.3.1 Sampling Strategy

Sediment coring activities were implemented in a three-phased approach to gather initial field data to support decisions regarding subsequent phases. The initial phase consisted of the advancement of three deeper cores. These cores were advanced to a target penetration depth of 15 feet below the sediment surface (bss) in areas within the Bronx and East Rivers representative of where potential impacts were most likely to be present. In addition to visual characterization of the sediments, the objective of this phase was to collect data regarding sediment column thickness. After completion of the initial cores, the sediment lithology, presence of potential MGP impacts, presence of anthropogenic materials, and depth of soft sediments were evaluated. The evaluation concluded that the target penetration depth of the three initial cores (15 feet, or refusal, whichever was encountered first), was sufficient for the 19 remaining planned cores in the second phase of sampling. An additional two core locations were selected for sample collection during the second phase of sampling to evaluate potential impacts from drain pipes discovered during the field reconnaissance (see Section 4.1 – Field Reconnaissance). Based on observations of sheens within the sediments, primarily in little to trace amounts, and/or odor, 57 additional contingency sediment core locations were selected for collection and evaluation during the third phase of sampling per Section 3.4.2 of the Off-Site Characterization Work Plan (ARCADIS 2012).

The initial three sediment core locations were positioned in the field as follows:

- One core location offshore of Parcel B adjacent to the historical surface drainage pathway (SD-03)
- One core location offshore of Parcel C in the former dredge channel (SD-09)
- One core location offshore of Parcel D adjacent to the historical surface drainage pathway (SD-20).

The remaining 19 sediment core locations were positioned in the field as follows:

- Two core locations adjacent to the former drainage pathway to the west of Parcel B (SD-01 and SD-02)

- Three core locations adjacent to the southern boundary of Parcel B near the NYCDEP CSO outfall (SD-04, SD-05, and SD-06)
- Four core locations adjacent to Parcel C to the north of the Iroquois Pipeline (SD-07, SD-08, SD-10, and SD-11)
- Four core locations adjacent to Parcel F (SD-12, SD-13, SD-14, and SD-15)
- Two core locations adjacent to the Anheuser Busch Facility, north of Parcel F (SD-16, and SD-17)
- Four core locations adjacent to Parcel D (SD-18, SD-19, SD-21, and SD-22)

The two sediment core locations added after field reconnaissance were positioned in the field are as follows:

- One core location adjacent to the former drainage pathway to the west of Parcel B (SD-23)
- One core location adjacent to the DSNY marine transfer station (SD-24)

The additional contingency sediment core locations were positioned in the field as follows:

- Nine core locations adjacent to the former drainage channel to the west of Parcel B (SD-41, SD-43, SD-44, SD-45, SD-46, SD-47, SD-75, SD-79, and SD-81)
- Four core locations adjacent to the southern boundary of Parcel B near the NYCDEP CSO outfall (SD-48, SD-49, SD-50, and SD-74)
- Three core locations adjacent to the DSNY marine transfer station (SD-51, SD-52, and SD-73)
- Five core locations adjacent to the Citarella property, located south of Parcel C (SD-27, SD-66, SD-67, SD-69, and SD-78)
- Sixteen core locations adjacent to Parcel C to the north of the Iroquois Pipeline (SD-26, SD-27, SD-28, SD-29, SD-30, SD-31, SD-32, SD-33, SD-53, SD-54, SD-55, SD-56, SD-57, SD-71, SD-72, and SD-77)
- Four core locations adjacent to Parcel F (SD-62, SD-63, SD-64, and SD-65)
- Six core locations adjacent to the Krasdale property, north of Parcel F (SD-34, SD-35, SD-42, SD-68, SD-70, and SD-76)

- Ten core locations adjacent to Parcel D , with one core location to the east of the navigational channel (SD-36, SD-37, SD-38, SD-39, SD-40, SD-58, SD-59, SD-60, SD-61, and SD-80)

Sediment core locations are presented on Figure 3-1.

3.3.2 Sediment Coring

Sediment coring was conducted by Ocean Surveys, Inc. (OSI) located out of Old Saybrook, Connecticut from November 28, 2012 to January 18, 2013. The sediment cores were obtained using an OSI Model 1200 pneumatic vibrating coring device (vibracore) mounted to a 37-foot by 16-foot shallow draft pontoon barge, *R/V CanDu*. The barge was equipped with a 3-4 point mooring system and a mechanized A-frame that supported the 4-inch (outer diameter) vibratory corer. Two separate vibracore barrels, capable of obtaining cores 20 feet and 30 feet in length, were used over the duration of sediment coring activities depending on a location's target penetration depth. At each coring location, the barrel was loaded with a 3½-inch (inner diameter) Lexan liner and secured with a nose cone and core retainer to improve core retention and sediment retrieval. Water depths were documented and used to derive the water-level elevation upon core acquisition. Once obtained, sediment cores, approximately 5 feet in length, were capped and stored upright on ice in a cooler located onboard.

Section 3.5 provides an overview of investigation support activities, including utility clearance activities, equipment decontamination procedures, surveying, and investigation-derived waste (IDW) management.

Sampling location IDs, date collected, location coordinates, target penetration depth, actual penetration depth, recovery, sediment surface elevation, and water depths for each sampling location are provided in Table 3-1.

3.3.3 Sediment Sampling and Analysis

Processing of the cores was conducted onboard the sampling vessel. Sediment core liners were split using electric shears and the cores were characterized by ARCADIS personnel. Observations, including sediment recovery, lithology, photoionization detector (PID) readings, and any other pertinent visual observations, were collected.

If visual impacts or elevated PID readings were observed in cores, sediment samples were selected for laboratory analysis as follows:

- One sample was collected in the interval where visual impacts were present.

- One sample was collected from the 1-foot interval below where visual impacts were present to characterize the lower vertical extent of impacts.

- One sample was collected from the 1-foot interval above where visual impacts were present to characterize the upper vertical extent of impacts.

If multiple impacted zones were observed in a sediment core, then samples were collected from both intervals, as well as above and below both intervals. If visual impacts or elevated PID readings were not observed in a core, a sediment sample was collected at similar intervals to the depth of observed impacts in adjacent cores.

To adjust for any sediment compression or expansion, sediment cores were adjusted based on percent recovery following the completion of fieldwork. Percent recovery is calculated using the actual penetration and the length of sediment in the core tube (e.g., if a core penetrated 10 feet bss, but only recovered 8 feet of sediment, the percent recovery would be 80%). Based on this value, all segment lengths were adjusted using the same percentage. For example, a core with 80% recovery in an advanced 1-foot segment was recorded as a 0.8-foot segment.

One hundred twenty-five sediment samples were collected, packaged, and delivered to TestAmerica Laboratories (TestAmerica), located in Long Island City, New York, under chain of custody procedures. Sediment samples were analyzed for target compound list (TCL) VOCs (United States Environmental Protection Agency [USEPA] SW-846 Method 8260), TCL SVOCs (USEPA SW-846 Method 8270), target analyte list (TAL) metals (USEPA SW-846 Methods 6010/7470/7471), cyanide (USEPA SW-846 Method 9010), and total organic carbon (TOC) (USEPA Method 9060).

In addition, 63 samples were frozen and archived for potential forensics PAH and total petroleum hydrocarbon (TPH) analysis. Selected samples were sent from the TestAmerica Burlington, Vermont laboratory to Alpha Analytical, located in Westborough, Massachusetts, under chain of custody procedures for forensic analysis. Samples were selected for forensics PAH and TPH analyses based on the following criteria:

- Potential petroleum impacts (e.g. petroleum odors)

- Locations next to outfalls

- PAH concentrations

- Physical observations (e.g., sheens, odor)

- Spatial distribution
- Sample depth (shallower samples were selected over deeper samples)

In summary, each sample that was observed to have potential petroleum impacts was selected for potential forensic analysis. Additionally, a sample was selected near each outfall to the extent samples were available. Samples near outfalls were selected based on relatively higher PAH concentrations (compared to adjacent samples) and where samples were observed to have sheens/odors. The remainder of the samples were selected so that a range of PAH concentrations, as well as sheens/odor observations were included, so as to provide a spatial distribution of samples throughout the area investigated. In all, 18 samples were selected for forensic TPH and PAH analysis.

Forensic PAHs are an extended list of over 40 PAHs that include the sixteen 2- to 6-ring priority pollutant PAHs plus 2- to 4-ring alkylated PAH groups used in identifying and differentiating sources of hydrocarbons in environmental samples (Stout et al. 2002). These PAH concentrations were analyzed using modified USEPA Method 8270C (gas chromatography [GC]/mass spectrometry in selective ion monitoring mode). Forensic TPH is a measurement of all types of hydrocarbons in the general carbon range of C10 to C40 that include petroleum, natural organic material (e.g., wood), and hydrocarbon byproducts produced by pyrolytic processes (e.g., coal tar) and incomplete combustion processes (e.g., soot). TPH concentrations were analyzed using modified USEPA Method 8015 (GC/flame ion detection).

Sediment sample locations are presented on Figure 3-1 and associated sampling depths and analyses are provided in Table 3-2.

Additional details of the analytical methods used for analysis of chemical and physical parameters are provided in the Quality Assurance Project Plan (QAPP) (Appendix D of the Off-Site Characterization Work Plan [ARCADIS 2012]). Copies of the laboratory data reports are included in Appendix A.

3.4 Data Quality and Usability

Analytical data was collected in accordance with DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC 2010a) and validated in accordance with procedures described in the QAPP (Appendix D of the Off-Site Characterization Work Plan [ARCADIS 2012]). Quality assurance/quality control (QA/QC) samples (including trip blank, matrix spike, and matrix spike duplicate samples) were also collected and submitted for laboratory analysis in accordance with procedures described in the QAPP.

QA/QC samples were collected and analyzed on a frequency of one per 20 field samples. Field blanks were not required, as disposable Lexan liners were used during the collection of the sediment samples. The Lexan liners were the only piece of field equipment to come in contact with the sediment samples.

Data Usability Summary Reports (DUSRs) were prepared in accordance with Appendix B of DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC 2010a). The DUSRs include an assessment of data accuracy, precision, and completeness; significant QA problems, solutions, corrections, and potential consequences; and analytical data validation reports.

After completion of the DUSRs, the validated analytical data were carried through for assessment as part of this RIR. Data qualified with a "U" are considered a non-detect value. Data qualified with an "R" were rejected and were not included in the dataset. Other qualified data were treated as a detected value in the dataset. DUSRs are provided in Appendix B.

3.5 Investigation Support Methods

3.5.1 Utility Clearance

Prior to initiating sediment field activities, the potential for submarine utilities in the investigation area was evaluated in accordance with ARCADIS and Con Edison utility-locate policies. The New York City One-Call Center was contacted at least 72 hours prior to the commencement of subsurface activities to locate utilities present within the investigation area. Each company identified from the One-Call Center (Ticket Nos. 123260983 and 123030218) was contacted by telephone and/or written correspondence and provided information regarding the scope of work and the approximate boundaries of the project area. In response to this correspondence, one figure was received from Iroquois Pipeline depicting the location of their submarine pipeline that crossed from the southern shoreline of Parcel C across the investigation area at the confluence of the Bronx and East Rivers. In addition, a desktop review of available drawings, site plans, navigational charts, and other reference materials was conducted in accordance with utility-locate procedures. As part of the desktop review, navigational charts for the East River from Tallman Island to Queensboro Bridge (NOAA 2008); Con Edison Electric, Gas, and Steam Utility Plates and Drawings; and NYCDEP Water and Sewer Maps were reviewed to identify other potential submarine utility crossings. Utilities located during this process were identified on the sample location map for use in the field during sediment sampling activities. Before initiation of subsurface activities, a visual reconnaissance of the shorelines within the work area was performed to identify evidence of additional submarine utility crossings (e.g., utility crossing signs), as discussed in Section 3.2. A 100-foot buffer from all known and potential submarine utilities was maintained during all subsurface activities. Located utilities included the Iroquois Pipeline, the NYCDEP 12-inch lined cast iron water pipe that extends into the East River south of Hunt's Point, the Bronx River tunnel submarine crossing, and an unknown utility crossing.

3.5.2 Equipment Decontamination

Sediment coring equipment (i.e., vibracore barrel, nose cone, and core retainer) was cleaned prior to initiating sampling activities, between locations, and at the completion of investigation activities using

ambient water in accordance with the procedures provided in the Off-Site Characterization Work Plan (ARCADIS 2012). The Lexan liners, the only equipment to come into contact with the samples, were disposed after each location and were not reused.

3.5.3 Investigation-Derived Waste

Once samples were collected, the excess sediment was transferred from the liner into a 5-gallon bucket and the liners were cut and placed into a trash bag. The IDW, including the trash bags and the 5-gallon bucket, were kept on the boat until the end of daily activities. The IDW was then offloaded at the Con Edison Astoria facility and placed into new Department of Transportation-approved steel 55-gallon drums that were staged in an area provided with secondary containment prior to off-site disposal. Storage containers were appropriately labeled with the contents, generator, location, and date.

One sample of IDW from the field activities was collected and submitted for waste characterization analysis. Waste classification consisted of toxicity characterization leaching procedure extraction for analysis of VOCs, SVOCs, and metals, as well as reactivity, ignitability, corrosivity, and PCB analysis. Laboratory analytical reports are provided in Appendix A. IDW was transported off site for disposal by Clean Ventures.

3.5.4 Survey Methods

Sediment core locations were surveyed by OSI. Locations and elevations were determined by the Real-Time Kinematic (RTK) Global Positioning System (GPS) method using a Trimble GPS survey grade system with RTK. Horizontal and vertical coordinates of each sediment core were measured relative to a fixed control point and are provided in North American Datum of 1983 New York State Plane Coordinate System (East) and NAVD88 in accordance with the Off-Site Characterization Work Plan (ARCADIS 2012). Coordinates for each core location are presented in Table 3-1.

4. Investigation Results

This section presents the physical characterization results from the RI, including field reconnaissance observations, physical sediment characterization, and field observations of potential impacts.

For evaluation purposes, the investigation area has been divided into three sections: the northern area, central area, and southern area. These areas are designated as follows:

- *Northern Area*: Encompasses the northeastern extent of the investigation area, offshore from Parcel D, the Krasdale property, and Parcel F in the Bronx River.

- *Central Area:* Encompasses the southeastern extent of the investigation area, offshore from Parcel C, the Citarella property, and the DSNY marine transfer station at the confluence of the Bronx and East Rivers.

- *Southern Area*: Encompasses the southwestern extent of the investigation area, offshore from Parcel B and the Hunts Point wastewater treatment plant (WWTP) in the East River.

The three investigation areas are presented on Figure 3-1.

4.1 Field Reconnaissance

Observations made during field reconnaissance activities are provided below based on investigation area (northern, central, or southern). Photographs taken during the reconnaissance are presented on Figure 4-1.

Reconnaissance in the northern area, in the Bronx River, spanned from directly north of Parcel D to the southern boundary of the Krasdale property. Two pump houses, one on each side of the Bronx River (east and west), were observed directly north of Parcel D. The locations of the pump houses correlated to the location of the Con Edison Bronx River Tunnel, a submarine utility crossing directly north of the investigation area. The Bronx River Tunnel is located at elevations ranging from -50.34 to -70.28 feet Bronx Datum or approximately 29.8 to 49.8 feet bss (Con Edison 2005 and 2012). The shoreline along Parcel D mainly consisted of sloped riprap from the upland to the river. The shoreline along the Krasdale property consisted of sloped riprap from a concrete bulkhead that surrounded the Krasdale property to the river. The depth to which the bulkhead extends is unknown. Three 12-inch drain pipes, Outfalls 1 through 3, were also identified within this portion of the investigation area, located along the shoreline of the Krasdale property (Figure 4-1). Blue staining on the rocks was observed at the discharge point of Outfall 1, the northernmost outfall (located at the northern Krasdale property boundary shared with Parcel D). A blue tint to the surface water was also observed on November 28, 2012 (Figure 4-1) during sediment investigation activities conducted near this location. In addition to the outfalls, a potential discharge point of the northern historical surface drainage

pathway was observed at the northern boundary of Parcel D (Figure 3-1). This discharge point was identified by a break in the riprap with a slightly sloping shoreline, which is not consistent with the remainder of the shoreline at this location.

Reconnaissance in the central area, at the confluence of the Bronx and East Rivers, spanned from the northern boundary of Parcel C to the northern boundary of Parcel B. The shoreline along Parcel C was mainly observed to be sloped riprap with a concrete wall on top. At the southern boundary of Parcel C, the concrete wall ended and the riprap sloped gently from the river to the upland. The shoreline of the Citarella property consisted of a concrete bulkhead along the northern portion of the property and sloped riprap along the southern portion. Additional observations consisted of a sunken sailboat in front of the concrete bulkhead and the Hunts Point Landing fishing pier and a public access dock extending from the southern portion of the Citarella property. The change in shoreline construction (concrete wall to sloped riprap) at the southern boundary of Parcel C appears to be related to the submarine utility crossing of the Iroquois Pipeline (NOAA 2008). An unknown 60-inch concrete outfall, Outfall 4, was also identified along the shoreline of Parcel C. South of the Citarella property, the DSNY marine transfer station shoreline consists of a dilapidated steel bulkhead. A pier with a wooden structure at the end extends from the DSNY property into the East River. The pier and structure were associated with the former marine transfer station and likely used as a loading dock for trash barges (one barge is still docked inside the structure). A12-inch drain pipe, Outfall 5, was identified along the shoreline of the DSNY marine transfer station, emanating from the dilapidated steel bulkhead.

Reconnaissance in the southern area, in the East River, spanned from the eastern boundary of Parcel B to the Hunts Point WWTP, located directly west of the investigation area. The shoreline along Parcel B was mainly observed to be sloped riprap to the south and a steel bulkhead to the west. The prison barge is docked in front of the southwestern corner of Parcel B. The shoreline in front of the Hunts Point WWTP consisted of sloped riprap. Evidence of the NYCDEP 12-inch water pipe crossing (Figure 3-1) was not observed during the reconnaissance. A total of five outfall locations were identified in the southern area. A tunnel and a 24-inch pipe, Outfalls 6 and 7, encompassed by a boom (noted as property of NYCDEP) secured to multiple steel pilings, were identified at the southern shoreline of Parcel B directly to the west of the NYCDEP utility crossing. Another 24-inch pipe, Outfall 8, was observed extending from the riprap located on the Hunts Point WWTP shoreline. In addition during low tide, multiple 6-inch pipes were identified at the bottom of the steel bulkhead that surrounds the southwestern shoreline of Parcel B. In addition to the outfalls, a potential former discharge point of the southern historical surface drainage pathway was observed, located between the Hunts Point WWTP and Parcel B (Figure 3-1). Shallow water depths were observed at the discharge point of the pathway, which was blocked from the East River during low tide by a rock jetty. During high tide, the jetty was submerged (Figure 4-1).

Results from the reconnaissance were incorporated into the sediment investigation to help identify potential preferential pathways from the upland to the rivers. These potential pathways (pipes, historical surface drainages) are discussed in further detail in Section 9 in the CSM.

4.2 Sediment Characterization

4.2.1 Lithology

In general, sediments underlying the river bottom in the off-site area consisted of dark brown to black and dark gray to gray/gray-brown silt, with trace to little fine sand or clay, sand seams and lenses, and organic material (vegetation [grass, roots, leaf litter], shells); this material is referred to herein as river bottom sediments. These deposited sediments range from 13 to 30+ feet thick in the investigation area. The majority of the cores were not advanced beneath these river bottom sediments. However, underlying native material may have been encountered at select locations. At these locations, the native material was distinguished by a change in color to brown and sometimes gray-brown and generally described as fine sand with varying amounts of silts, clays, and coarser sands. In addition, at a few locations, a gray clay was observed. The interpreted depths of this boundary between the river bottom sediments and native material are based on evaluation of the core logs presented in cross-section. Two geologic cross-sections were prepared from the upland in the northern area adjacent to Parcels D and F extending through the Bronx River. These cross-sections are designated as A-A' and B-B' (Figures 4-3 and 4-4, respectively). Three cross-sections extending parallel to the Hunts Point shoreline in the Bronx and East Rivers were also prepared based on lithology information from sediment core locations advanced as part of investigative activities. These cross-sections are designated as C-C', D-D', and E-E' (Figures 4-5, 4-6, and 4-7 respectively). The cross-section location plan is presented on Figure 4-2. Core logs are presented in Appendix C.

Some anthropogenic materials were observed within sediment cores across the investigation area. In general, anthropogenic materials included:

- Coal fragments, degraded (SD-30B)
- Pyrite/coal pieces (SD-49)
- Debris (SD-27, SD-46, SD-51, and SD-60)
- Glass fragments (SD-57)
- Hair (SD-07B)

- Slag, trace (SD-02B and SD-24)
- Trash/debris, trace (SD-73, SD-74, and SD-77)
- Wood, pieces/fragments/chips (SD-09, SD-24, SD-45, and SD-76)

A summary of the lithology observed in sediment cores on an investigation area basis is provided below. Additional information pertaining to field observations is provided in Section 4.2.2. Stratigraphic descriptions for each core are provided in the boring logs (Appendix C) and photographs are provided in Appendix D.

4.2.1.1 *Northern Area*

Sediments observed in cores collected from the northern area consist of mainly dark brown to black silt with trace to little fine sand and clay and trace organics (i.e., vegetation, shell fragments). The river sediments ranged from approximately 10 to 20 feet in thickness. In cores located off Parcel D and the northern portion of the Krasdale property, a layer of gray to dark gray, medium dense silt with trace organics (shell fragments) was observed at the bottom. In cores located off the southern boundary of the Krasdale property, a layer of fine sand with little silt was observed at the bottom. The following cores were possibly advanced into the native material: SD-15B, SD-19, SD-39, SD-40, and SD-65. As depicted on Figures 4-3 and 4-4, the elevation of the top of the clay layer is interpreted to decrease from the upland area to the shoreline and to be approximately the same from the shoreline to the center of the channel. At SD-58, the clay layer was not observed at the bottom of the core (14 feet bss). At location SD-80, east of the navigational channel in the Bronx River, the clay layer was observed at 14 feet bss (Figure 4-3). In the Bronx River extending from the northern end of Parcel D to the southern end of Parcel F, the native material (fine sand and/or silt and clay with fine sand) layer was observed at depths ranging from 10 to 13.5 feet bss (Figure 4-5).

4.2.1.2 *Central Area*

Sediments observed in cores collected from the central area consist of mainly dark brown to black silt with trace to little fine sand and clay and trace organics (vegetation, shell fragments).The river sediments were greater than 30 feet in thickness within the former dredged channel. SD-08 (directly adjacent to Outfall 4) and SD-10 primarily consisted of black fine to coarse sand with varying amounts of silt, gravel, and organics (vegetation, shell fragments). Additionally, a sand layer was observed at the bottom of SD-31B and SD-32 (located towards the northern boundary of Parcel C). Cores located to the east of the unknown utility crossing (SD-56 and SD-57) were comprised predominantly of silt, and a clay layer was observed at the bottom of SD-77. The following cores were possibly advanced into the native material: SD-31B, SD-77, and SD-78. At the mouth of the Bronx River, at the confluence with the East River extending from the northern end of Parcel C to the DSNY marine transfer station, the native material layer was only observed at one location, SD-31B, at a depth of approximately 12 feet bss (Figure 4-6).

4.2.1.3 *Southern Area*

Sediments observed in cores collected from the southern area consist of either dark brown to black silt with trace to little fine sand and clay or gray or dark brown to black sand with trace organics (vegetation, shell fragments). The thickness of the river sediments ranged from less than 10 feet near the prison barge to over 20 feet west of Parcel B. The native clay layer was more prevalent to the west of Parcel B and offshore from the Hunts Point WWTP. Native sand was more prevalent at locations east of the prison barge, although it was also observed in SD-23 (adjacent to the western shoreline of Parcel B). Gravel was observed towards the bottom of both SD-48 and SD-49, located offshore from Outfalls 6 and 7, but was not observed in SD-74 (located further offshore from Outfalls 6 and 7). The following cores were possibly advanced into the native material: SD-23 and SD-81. In the East River offshore of Parcel B, the native material layer was generally observed at depths ranging from 12 to 22 feet bss (Figure 4-7).

4.2.2 Field Observations

In addition to documentation of the sediment lithology, sediment cores were also visually characterized for the presence of potential impacts. During the field investigation, no non-aqueous phase liquid (NAPL) or indication of NAPL (i.e., NAPL blebs), significant sheening (i.e., continuous coating on sediments), or evidence of purifier waste, was observed in any of the cores. However, minor sheening (trace to little sheen) and faint to low odors were observed. Generally, sheens appeared to be weathered.

Field observations indicated that varying amounts of trace to little weathered sheen was observed in the majority of sediment cores. The trace to little sheen observed in sediment cores was not continuous on the sediment and was not an iridescent coating covering the sediment. Instead, the sheens consisted of tiny multi-colored dots that speckled the interval of the core in which it was observed. The dots seemed to appear within the pore spaces of the sediment rather than being on the individual sediment granules. In a subset set of cores with sheens, the sheens were also observed as multi-colored dots, similar to those seen where trace to little sheens were observed; however, these dots of sheen were visible throughout the interval of the core in which it was observed.

A summary of the field observations made during sediment core processing is provided below for each investigation area. Horizontal spatial distributions of field observations in surface sediments (0 to 2 feet bss) are presented on Figure 4-8. Vertical spatial distributions of field observations are presented on Figures 4-5 through 4-7 in cross-section.

4.2.2.1 *Northern Area*

In sediment cores collected from the northern area, faint odors to odors were detected. The majority of odors were identified as organic; however, some were identified as coal tar-like at core locations SD-13, SD-14B,

SD-17, SD-19, SD-59, SD-60, SD-62, SD-65, and SD-80. Sheens were observed in the majority of the cores collected in the northern area. However, as described above, sheening was relatively minor and described as “trace sheen” or “little sheen.” At core locations SD-19, SD-38, SD-39, and SD-40 the relative sheening was described as “sheen.” Sheens, when observed, were generally present at depths greater than 2 feet bss and was observed in surface sediments (0 to 2 feet bgs) at one location (SD-37; see Figure 4-8). Sheens were generally not present in borings that were advanced into native material (as defined in Section 4.2.1), except in SD-39 located off of Parcel D, where trace sheen spots were observed above and several inches into the native material.

4.2.2.2 *Central Area*

In sediment cores collected from the central investigation area, faint odors to moderate odors were detected in the sediment cores. The majority of odors were identified as organic; however, some were identified as coal tar-like at core locations SD-07B, SD-25, SD-51, SD-52B, SD-53, SD-54, SD-55, SD-56, SD-57, SD-69, SD-71, SD-72, SD-73, SD-77, and SD-78. At three locations (SD-23, SD-75, and SD-81) petroleum odors were identified as well. Sheens were observed in the majority of the cores collected in the central area. However, as described above, sheening was generally relatively minor and described as “trace sheen” or “little sheen.” At core locations SD-9 and SD-31B, the relative sheening was described as “sheen.” Sheens were observed in surface sediments (0 to 2 feet bgs) at 10 locations (SD-07B, SD-09, SD-25, SD-51, SD-57, SD-66, SD-69, SD-72, SD-77, and SD-78; see Figure 4-8). Sheening in surface sediments at each of the 10 locations was described as “trace sheen,” with exception of two, SD-07B and SD-09, which are located off the southern shoreline of Parcel C. Additionally, sheens were observed during retrieval of the sediment core from SD-07B. Sheening observed on the surface water was contained within the adsorbent boom that was placed around the vibracore during all coring activities.

4.2.2.3 *Southern Area*

In sediment cores collected from the southern area, faint odors to odor were detected in the sediment cores. The majority of odors were identified as organic; however, some were identified as coal tar-like at core locations SD-04, SD-43, SD-44, SD-46, SD-47, SD-48, SD-49, SD-75, and SD-81. Sheens were observed in the majority of the cores collected; however, observations were generally described as “trace” or “spotty,” except at one location (SD-23). Sheens were observed in surface sediments (0 to 2 feet bgs) at five locations (SD-01C, SD-41, SD-43, SD-44, and SD-48; see Figure 4-8). Sheens were described as “trace” at each of the locations, except one location (SD-48), offshore from the southern shoreline of Parcel B.

5. Nature and Extent

As described in Section 3, a total of 125 sediment samples were collected from 81 core locations to evaluate the nature and extent of potential constituents of interest (Figure 3-1). This section describes the screening levels used to screen the constituents detected, the background conditions that were also used to screen the constituents detected, the selection of representative constituents of interest, and the nature and extent of such constituents.

5.1 Screening Levels

Results obtained for the analysis of the sediment samples were compared to sediment screening levels presented in the Technical Guidance for Screening Contaminated Sediments (NYSDEC 1999). Detected concentrations of VOCs, SVOCs, metals, and cyanide were compared to the Effects Range Low (ER-L) and Effects Range Median (ER-M) screening levels for marine and estuarine sediment (Long et al. 1995). In addition, where available and applicable, the sediment analytical results were compared to the human health, wildlife, and benthic aquatic life screening levels presented in the Technical Guidance for Screening Contaminated Sediments (NYSDEC 1999). These screening levels are intended for screening purposes only and do not represent remedial cleanup criteria.

The ER-L and ER-M are based on matching biological and chemical data compiled from numerous studies. Long et al. (1995) arranged the data from these studies in ascending order of concentrations, and calculated the lower 10th percentile of the effects data (the ER-L) and the median, or 50th percentile, of the effects data (the ER-M). The ER-L and ER-M screening levels define concentration ranges that are said to represent potential for adverse effects. According to Long et al. (1995), "concentrations below the ER-L value represent a minimal-effects range; a range intended to estimate conditions in which effects would rarely be observed. Concentrations equal to and above the ER-L, but below the ER-M, represent a possible-effects range within which effects would occasionally occur. Finally, the concentrations equivalent to and above the ER-M value represent probable-effects range within which effects would frequently occur." It is important to note that screening level exceedances by themselves should not be considered indicative of risk. Long and Morgan (1990) did not intend these values to be used as sediment cleanup criteria, rather as preliminary screening levels.

The Human Health Bioaccumulation (HH-B), Benthic Aquatic Life Acute Toxicity (BAL-A), Benthic Aquatic Life Chronic Toxicity (BAL-C), and Wildlife Bioaccumulation (WB) levels have been derived using the equilibrium partitioning methodology (USEPA 1991). These screening levels (HH-B, BAL-A, BAL-C, and WB) are provided as concentrations in micrograms per gram of organic carbon, while sediment sample concentrations are provided in milligrams per kilogram (mg/kg) (Table 5-1). The information provided in Table 5-1 reflects the screening of sediment samples against the HH-B, BAL-A, BAL-C, and WB screening levels, which has been adjusted based on the TOC concentration of each sample.

5.2 Evaluation of Background Levels

PAHs and inorganics are ubiquitous in urban river sediments. Total PAH concentrations from diverse anthropogenic sources in urban environments have been documented in scientific literature to range upward of several hundred mg/kg. Various point and non-point sources of PAHs and metals exist that can transport these constituents to the river sediments within the Bronx and East Rivers, including CSO outfalls, storm sewer outfalls, and other sites (e.g., Sound View Park). Potential non-point sources include pathways, such as atmospheric deposition, sediment deposition from tidal flow, and activities, such as dredging operations, runoff from impervious surfaces, and leaching and/or erosion from historical fill on the riverbanks. These sources can contribute to the background concentrations of PAHs and inorganics found within urban sediments.

5.2.1 Total Polycyclic Aromatic Hydrocarbons

A total PAH concentration of 70 mg/kg was previously established as the background level for the East River using the 90th percentile of the background data (AECOM 2009; Appendix E). This background level concentration was previously approved by the NYSDEC for the East 21st Street Works Site, as well as the East 11th Street Site (NYSDEC 2010b).

5.2.2 Inorganics

The USACE analyzed sediment samples for metals collected from the Bronx River in 2008 and from the East River in 2005 and 2009 (Aquatic Survey, Inc. 2006, 2009, 2010). In 2005, seven sediment locations from the South Brother Island Channel, in the East River, were sampled and analyzed for silver, arsenic, cadmium, chromium, copper, mercury, nickel, lead, and zinc. Two samples were collected at each sampling location, except for location 7 where only one was collected and one composite sample was collected. In 2009, 15 sediment locations from the South Brother Island Channel, in the East River, were sampled and analyzed for silver, arsenic, cadmium, chromium, copper, mercury, nickel, lead, and zinc. One sample was collected at each sampling location and one composite sample was collected. In 2008, six composite sediment samples (encompassing three grab samples each) were collected from the Bronx River, extending from the confluence of the East River to slightly north of Parcel D. Samples were analyzed for all TAL metals and total cyanide. The results of these investigations (included as Appendix F) were used to develop background screening levels for metals within the Bronx and East Rivers. The maximum detect concentration of each metal from all of the composite samples collected in 2005, 2008, and 2009 was used as a background screening level. These concentrations are provided below.

Constituent	USACE	
	Minimum Detect (mg/kg)	Maximum Detect (mg/kg)
Aluminum	13300	17700
Antimony	0.3	1.5
Arsenic	10.4	15.2
Barium	93.2	138
Beryllium	0.75	0.99
Cadmium	1.12	4.6
Calcium	5390	9100
Chromium	90.5	122
Cobalt	9.1	12
Copper	153	262
Iron	27200	34900
Lead	143	466
Magnesium	7450	11500
Manganese	356	876
Mercury	1.33	2.2
Nickel	29.1	43.2
Potassium	3420	4500
Selenium	0.87	1.4
Silver	4.6	7.9
Sodium	10800	16100
Thallium	0.88	1.2
Vanadium	38.8	54.7
Zinc	239	865

5.3 Selection of Representative Constituents of Interest

Concentrations of detected constituents were compared to the ER-L, ER-M, HH-B, BAL-A, BAL-C, WB, and/or background screening levels, where available and applicable (Table 5-1). Representative constituents of interest were then selected for further evaluation and discussion based on frequency of detection, detection above screening levels, and presence in upland soil and groundwater (see Section 2.4). The selection of these representative constituents of interest is presented below.

5.3.1 Volatile Organic Compounds

Sediment samples were analyzed for 49 TCL VOCs. Sediment sample analytical statistics are presented in Table 5-2. Of the 49 VOCs analyzed, 24 VOCs were detected. Of the 24 VOCs detected, 17 had detection frequencies of 50% or less, and in general, were detected at low concentrations near or below the reporting limit. Seven VOCs (2-butanone, acetone, carbon disulfide, isopropylbenzene, methylcyclohexane, toluene, and xylenes) were detected in 58 to 98% of the samples. These seven VOCs were generally detected at low concentrations near or below the reporting limit.

It should be noted that ER-L and ER-M screening levels are not available for VOCs. However, HH-B, BAL-A, BAL-C, and/or WB screening levels are available for six of the 24 detected constituents. 1,2-Dichloroethene (total) and benzene were the only constituents detected above their respective HH-B screening levels. Isopropylbenzene screening levels (BAL-A and BAL-C) were not exceeded.

Due to the limited detections of VOCs, the frequency of estimated concentrations detected below the reporting limit, comparably lower concentrations of detected constituents, and concentrations generally below screening levels for constituents with screening levels, VOCs were not considered representative constituents of interest. Because BTEX and carbon disulfide have been observed in upland soil and groundwater as discussed in Section 2.4, these constituents are further discussed below in Section 5.4.3 to document their presence in the sediment for comparison to its presence in upland soil and groundwater. However, for the reasons outlined above, the extent of VOCs will not be further discussed in this RIR.

5.3.2 Semivolatile Organic Compounds/Polycyclic Aromatic Hydrocarbons

Sediment samples were analyzed for 82 SVOCs. Of the 82 SVOCs analyzed, 40 SVOCs were detected. Seventeen of the 40 SVOCs detected are the TCL PAHs, including 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene. TCL PAHs and other non-TCL PAHs [benzo(e)pyrene, 1-methylnaphthalene, and perylene] were the most frequently detected SVOCs, ranging from 82.4 to 93.6%.

The non-PAH SVOCs detected included phthalates, constituents typically seen in conjunction with pyrogenic PAHs (carbazole, biphenyl, and dibenzofuran), or constituents detected in less than 16% of the samples. Overall, the non-PAH SVOCs were detected at lower frequencies than the PAHs ranging from 0.8 to 68%.

SVOC concentrations were compared to the ER-L and ER-M screening levels, as well as HH-B, BAL-A, BAL-C, and WB screening levels where available (Table 5-1). All non-PAH SVOCs were detected at

concentrations below their respective screening levels, except for azobenzene, which exceeded the screening level (using the TOC normalized result) in three locations (SD-05, SD-06, and SD-24).

Due to the limited detections of non-PAH SVOCs, the frequency of estimated concentrations detected below the reporting limit, comparably lower concentrations of detected constituents, and concentrations below screening levels for constituents with screening levels, non-PAH SVOCs are not considered representative constituents of interest. The TCL PAHs are considered representative constituents of interest. Given that the non-TCL PAHs and the constituents typically seen in conjunction with pyrogenic PAHs (carbazole, biphenyl, and dibenzofuran) generally correlate with TCL PAH distribution, these constituents were not selected as representative constituents of interest. For the reasons outlined above, the extent of non-PAH SVOCs and non-TCL PAHs will not be further discussed in this RIR. The 17 TCL PAHs (total PAHs) are discussed further in Section 5.4.1.

5.3.3 Metals and Cyanide

Sediment samples were analyzed for 23 TAL inorganics (metals and cyanide). As expected, each constituent that was analyzed for was detected and most were widely detected in over 80% of the samples, except for antimony (57.3%), cyanide (64.8%), selenium (8%), and thallium (17.6%). TAL metals and cyanide were compared to their respective ER-L and ER-M screening levels, when available, and are presented in Table 5-1. Copper, lead, mercury, nickel, silver, and zinc were the most frequently detected above their respective ER-Ms and were designated as representative constituents of interest. The remaining TAL metals were not designated as representative constituents of interest for the following reasons:

- Arsenic, cadmium, and chromium were generally detected at concentrations less than the ER-M.
- Aluminum, calcium, magnesium, sodium, iron, and potassium are naturally occurring elements in the earth's crust.
- Antimony, barium, beryllium, cobalt, manganese, selenium, thallium, and vanadium do not have screening levels to assess the concentrations detected, nor were these constituents observed at elevated concentrations in upland soil.

Because cyanide has been observed in upland soil and groundwater as discussed in Section 2.4, cyanide is discussed further in Section 5.4.3 to document its presence in the sediment for comparison to its presence in upland soil and groundwater.

5.4 Nature and Extent of Representative Constituents of Interest

Sediment within the investigation area (including the Bronx and East Rivers) contains a variety of constituents at varying concentrations depending on location and depth. The spatial distribution of concentrations of representative constituents of interest within the sediment are described herein with respect to the three areas of investigation (northern area, central area, and southern area) as described in Section 4 and presented on Figure 3-1. Two general depth categories were assessed to understand the extent of representative constituents of interest throughout the sediment: surface (0 to 2 feet bss) and subsurface (greater than 2 feet bss), the latter of which was further divided to evaluate the vertical distribution of representative constituents of interest. Spatial distribution of these constituents in the Bronx and East River sediment has been characterized and described by review of a combination of data representations:

- Spatial Mapping (Figures 5-1 through 5-7) – show concentrations of representative constituents of interest across the sampling area by depth interval.

- Geologic Cross-Sections (Figures 4-3 through 4-7) – show concentrations of representative constituents of interest with respect to geographic area and geologic depth intervals.

As described in Section 5.2, the following representative constituents of interest were selected to describe the nature and extent in the Bronx and East River sediment:

- Total PAHs (sum of the 17 TCL PAHs)

- Metals – copper, lead, mercury, nickel, silver, and zinc

5.4.1 Total Polycyclic Aromatic Hydrocarbons

PAHs are ubiquitous in urban river sediments and total PAH concentrations from diverse anthropogenic sources in urban environments have been documented in scientific literature to range upward of several hundred mg/kg. The distribution of PAHs suggests multiple spatial and temporal urban sources (historical and more recent) are present throughout the Bronx River and East River systems.

Total PAHs were detected in over 90% of samples collected during investigation activities (Table 5-2). Distribution patterns of total PAHs concentrations are depicted by depth and by area on Figure 5-1 and presented in Tables 5-2 and 5-3.

Concentrations of total PAHs were detected throughout the investigation area above the applicable screening levels as follows:

- ER-L (4 mg/kg): 100% of surface and 78% of subsurface sediment samples
- ER-M (44.8 mg/kg): 31% of surface and 19% of subsurface sediment samples
- Background screening level (70 mg/kg): 17% of surface and 12% of subsurface sediment samples

Relatively higher total PAH concentrations in surface sediment are more prevalent along the shoreline. Further from the shoreline, total PAH concentrations appear to be slightly higher in the subsurface depth interval. Total PAH concentrations are low to non-detect within the native material (consisting of either fine sand and/or silt and clay with fine sand).

In the northern area, total PAHs were detected at concentrations ranging from 0.021 J to 284.8 J mg/kg. Total PAH concentrations above the ER-M were detected at 33% in surface sediments compared to 3% in subsurface sediments (Table 5-3). The spatial distribution of the three samples above the ER-M and the one sample above the background screening level is as follows:

- In surface sediments, total PAHs exceeded the ER-M but not the background screening level at SD-15B and SD-65 located adjacent to the shoreline of the central portion of the Krasdale property, directly north of Outfall 3.
- In subsurface sediments, total PAHs exceeded the ER-M at an isolated location offshore from the northern boundary of the Krasdale property and Outfall 1 at SD-58. The total PAH concentration at SD-58 also exceeded the background screening level.

Throughout the remainder of the northern area, total PAHs were observed at low concentrations below the ER-M or not detected.

In the central area, total PAHs were detected at concentrations ranging from 0.024 J to 708.2 J mg/kg. Total PAH concentrations adjacent to Parcel C within the former dredged channel are higher in the surface sediments than the subsurface sediments. Conversely, adjacent to the Citarella property and outside the former dredged channel, total PAH concentrations are generally higher in the subsurface sediments than the surface sediments. Total PAH concentrations above the ER-M were detected at 33% in surface sediments compared to 27% in subsurface sediments (Table 5-3). The spatial distribution of total PAHs across this area is as follows:

- In surface sediments, total PAH concentrations exceeded the ER-M in five samples and exceeded the background screening level in four of those five samples. These samples were concentrated along the southern shoreline of Parcel C, near Outfall 4, within the former dredged channel (SD-07B, SD-09, and

SD-27). In addition, PAHs were detected above the background screening level in an isolated sample, SD-73 (0.1-1), collected east of the DSNY marine transfer station within the former dredged channel.

- In subsurface sediments, total PAHs were mainly detected above the ER-M in locations collected offshore from Parcel C and the Citarella property outside of the former dredged channel, and near the DSNY marine transfer station. Total PAH concentrations exceeded the ER-M in eight samples and also the background screening level in five of those eight samples. Specifically, these samples were located offshore from Parcel C and the Citarella property, east of the former dredged channel and unknown utility crossing, at SD-69, SD-71, SD-77, and SD-78 and east of the DSNY marine transfer station in the former dredged channel at SD-73.

In the southern area, total PAHs were detected at concentrations ranging from 0.117 J to 1,239.4 J mg/kg. In this area, total PAHs were detected at relatively higher concentrations in both surface and subsurface sediment samples collected adjacent to the historical drainage pathway. Conversely, away from the shoreline in this area to the south near the Hunts Point WWTP, total PAH concentrations are higher in the subsurface sediments than the surface sediments. West of the prison barge parking lot, total PAH concentrations are higher in the surface sediments than the subsurface sediments. Conversely, east of the prison barge near Outfalls 6 and 7, total PAH concentrations are higher in the subsurface sediments than the surface sediments. Total PAH concentrations above the ER-M were detected at 25% in surface sediments compared to 41% in subsurface sediments. The spatial distribution of total PAHs across this area is as follows:

- In surface sediments, total PAHs exceeded the ER-M at two locations adjacent to the western shoreline of Parcel B, downgradient of the historical surface drainage pathway and in the vicinity of the prison barge. Total PAH concentrations detected in the sediment samples collected adjacent to the prison barge also exceeded the background screening level.

- In subsurface sediments, total PAH concentrations exceeded the ER-M in nine samples west of Parcel B and east of the prison barge near Outfalls 6 and 7; six of those nine samples also exceeded the background screening level. Total PAHs above the background screening level were detected offshore from the Hunts Point WWTP and downgradient of the historical surface drainage pathway (SD-01C, SD-02B, SD-41, SD-75, and SD-81), as well as at an isolated location east of the prison barge, adjacent to Outfalls 6 and 7 (SD-04). All of samples with PAHs above background screening levels were detected at depths greater than 6.2 feet bss.

5.4.2 Metals

Metals are ubiquitous in urban river sediments and result from diverse anthropogenic sources in urban environments. The distribution of the metals suggests multiple spatial and temporal urban sources (historical and more recent) are present throughout the Bronx and East River systems.

The representative metals were detected in over 80% of samples collected during investigation activities (Table 5-2). Distribution patterns of the metal concentrations are depicted by depth and by area on Figures 5-2 through 5-7 and presented in Tables 5-2 and 5-3.

As described in Section 5.2, copper, lead, mercury, nickel, silver, and zinc were selected as representative constituents of interest, and the nature and extent of these six metals are discussed below.

5.4.2.1 *Copper*

Copper was detected in every sample collected during the investigation (Table 5-2). Distribution patterns of copper concentrations are depicted by depth and by area on Figure 5-2 and presented in Tables 5-2 and 5-3. Distribution observations and trends are described by area below.

Copper was detected throughout the investigation area at concentrations above the applicable screening levels as follows:

- ER-L (34 mg/kg): 100% of surface and 76% of subsurface sediment samples
- ER-M (270 mg/kg): 40% of surface and 50% of subsurface sediment samples

The background levels observed in the USACE composite samples was similar to the ER-M; therefore, copper was not compared to this background screening level.

In the northern area, copper was detected at concentrations ranging from 8.5 J to 496 mg/kg. Relatively higher copper concentrations were generally more prevalent along the shoreline. Copper concentrations adjacent to Parcel D are higher in the subsurface sediments than surface sediments. Adjacent to the Krasdale property, copper concentrations were relatively higher in both the surface and subsurface sediments along the shoreline. Copper was detected above the ER-M at 40% of the surface sediments compared to 45% in subsurface sediments (Table 5-3). The spatial distribution of copper across the northern area is discussed below:

- In surface sediments, copper concentrations exceeded the ER-M in two locations (SD-15B and SD-62) along the southern shoreline of the Krasdale property, in proximity of Outfall 3 and the southern boundary of the facility.

- In subsurface sediments, copper concentrations exceeded the ER-M generally along the entire length of the shoreline but not further to the east. However, copper concentrations were relatively higher adjacent to Parcel D (SD-19 and SD-20B) and in the vicinity of Outfall 3 (SD-12, SD-13, SD-14B, SD-15B, SD-62, and SD-65). Isolated copper concentrations above the ER-M were detected along the northern shoreline of the Krasdale property, adjacent to Outfall 2 at SD-17 and more centrally located at SD-68.

In the central area, copper was detected at concentrations ranging from 4.7 J to 1,130 mg/kg. Copper concentrations were higher along the shoreline of Parcel C and east of the former dredged area and unknown utility crossing in the subsurface sediments than the surface sediments. Copper concentrations above the ER-M were detected at a frequency of 27% in surface sediments compared to 63% in subsurface sediments (Table 5-3). The spatial distribution of copper across the area is discussed below:

- In surface sediments, copper exceeded the ER-M along the shoreline of the Citarella property (SD-66 and SD-67) and at SD-07B near Outfall 4 and east of the former dredge channel and unknown utility crossing at SD-77.

- In subsurface sediments, copper generally exceeded the ER-M along the entire length of the shoreline adjacent to Parcel C, the Citarella property, and the DSNY marine transfer station within the former dredged channel and offshore (east of the former dredged channel and unknown utility crossing). Copper concentrations were generally higher at depths greater than 6 feet bss.

In the southern area, copper was detected at concentrations ranging from 6 J to 637 mg/kg. Copper was detected at concentrations above the ER-M at 63% in surface sediments compared to 42% in subsurface sediments (Table 5-3). The spatial distribution of copper across this area is discussed below:

- In surface sediments, copper exceeded the ER-M downgradient of the historical surface drainage pathway and adjacent to the western shoreline of Parcel B at SD-02B, SD-23, and SD-46, and offshore from the Hunts Point WWTP at SD-75 and SD-81.

- In subsurface sediments, copper exceeded the ER-M downgradient of the historical surface drainage pathway and along the western shoreline of Parcel B and the prison barge parking lot and offshore from the Hunts Point WWTP at SD-01C, SD-02B, SD-46, SD-41, SD-75, and SD-81. In addition, copper exceeded the ER-M at two locations east of the prison barge, adjacent to Outfalls 6 and 7 at SD-04 and SD-05.

5.4.2.2 *Lead*

Lead was detected in every sample collected during the investigation (Table 5-2). Distribution patterns of lead concentrations are depicted by depth and by area on Figure 5-3 and presented in Tables 5-2 and 5-3. Distribution observations and trends are described below by area.

Lead was detected in samples collected throughout the investigation area at concentrations above the applicable screening levels at the following frequencies:

- ER-L (46.7 mg/kg): 100% of surface and 78% of subsurface sediment samples
- ER-M (218 mg/kg): 69% of surface and 64% of subsurface sediment samples
- Background screening level (466 mg/kg): 14% of surface and 13% of subsurface sediment samples

In the northern area, lead was detected at concentrations ranging from 4.8 to 495 mg/kg. Lead concentrations in surface and subsurface sediments are typically higher closer to the shorelines of Parcel D and the Krasdale property. Higher concentrations of lead are not as prevalent at greater depths, specifically along the southern shoreline of the Krasdale property. Lead was detected at concentrations above the ER-M at 83% in surface sediments compared to 60% in subsurface sediments (Table 5-3). The spatial distribution of lead across the area is discussed below:

- In surface sediments, lead exceeded the ER-M along the entire length of the Parcel D (SD-40) and Krasdale property (SD-15B, SD-62, and SD-65) shorelines and offshore from the northern portion of the Krasdale property, in the vicinity of Outfalls 1 and 2 at SD-35. Lead was not detected above the background screening level.
- Similar to surface sediments, lead exceeded the ER-M in subsurface sediments along the entire shoreline of and at select locations (SD-58, SD-63, and SD-64) offshore from Parcel D and the Krasdale property. In addition, lead exceeded the ER-M in SD-80 on the east side of the channel. Lead was detected in isolated samples above the background screening level in the vicinity of Outfalls 1 and 2 at SD-17 and centrally along the Krasdale shoreline at SD-68.

In the central area, lead was detected at concentrations ranging from 2.5 J to 863 mg/kg. Lead concentrations are relatively higher throughout this area in surface and subsurface sediments along the shoreline and offshore from Parcel C and the Citarella property within the former dredged channel, as well as east of the former dredge channel and unknown utility crossing. Lead concentrations above the ER-M were detected at 60% in surface sediments compared to 72% in subsurface sediments (Table 5-3). The spatial distribution of lead across this area is discussed below:

- In surface sediments, lead exceeded the ER-M along the southern shoreline of Parcel C, as well as the shoreline of the Citarella property and the DSNY marine transfer facility. Offshore, lead exceeded the ER-M to the east of the former dredged channel and unknown utility crossing and DSNY marine transfer station. Lead only exceeded the background screening level in isolated locations along the Citarella property shoreline at SD-66 and SD-67.

- In subsurface sediments, lead exceeded the ER-M throughout the central area. Lead exceeded the background screening level at isolated locations at depths along the shoreline of the central portion of Parcel C at SD-30B and offshore from Parcel C and the Citarella property, to the east of the former dredged channel and unknown utility crossing, at SD-77 and SD-69, respectively.

In the southern area, lead was detected at concentrations ranging from 3.7 to 749 mg/kg. Lead concentrations are relatively higher throughout this area in surface and subsurface sediments west of Parcel B and east of the prison barge. Lead was detected at concentrations above the ER-M at 75% of the surface sediment samples compared to 50% of subsurface sediment samples (Table 5-3). The spatial distribution of lead across this area is discussed below:

- In surface sediments, lead concentrations exceeded the ER-M along the shoreline of and offshore from Parcel B and the prison barge parking lot, the Hunts Point WWTP (SD-02B, SD-23, SD-46, SD-75, and SD-81), and along the shoreline east of the prison barge (SD-06). Lead concentrations exceeded the background screening level in isolated locations adjacent to the historical surface drainage pathway and the prison barge parking lot (SD-02B) and adjacent to Outfalls 6 and 7 (SD-06).

- Similar to surface sediments, lead concentrations exceeded the ER-M in subsurface sediments along the shoreline of and offshore from Parcel B, the prison barge parking lot, the Hunts Point WWTP (SD-01C, SD-02B, SD-41, SD-46, SD-75, and SD-81), and along the shoreline east of the prison barge (SD-04, SD-05, and SD-06). Lead concentrations exceeded the background screening level in locations adjacent to the historical surface drainage pathway, the prison barge parking lot, and offshore from the Hunts Point WWTP (SD-01C, SD-02B, SD-41, SD-75, and SD-81) and in an isolated location east of the prison barge (SD-04).

5.4.2.3 *Mercury*

Mercury was detected in 90% of samples collected during the investigation (Table 5-2). Distribution patterns of mercury concentrations are depicted by depth and by area on Figure 5-4 and presented in Tables 5-2 and 5-3. Distribution observations and trends are described below by area.

Concentrations of mercury were detected throughout the investigation area above the applicable screening levels as follows:

- ER-L (0.15 mg/kg): 100% of surface and 79% of subsurface sediment
- ER-M (0.71 mg/kg): 93% of surface and 73% of subsurface sediment
- Background screening level (2.2 mg/kg): 45% of surface and 47% of subsurface sediment

In the northern area, mercury was detected at concentrations ranging from 0.01 J to 3.1 mg/kg. Mercury was detected at similar concentrations in both the surface and subsurface sediments. Mercury was detected at concentrations above the ER-M in all surface sediments (100%) compared to 68% in subsurface sediments (Table 5-3). The spatial distribution of mercury across this area is discussed below:

- In surface sediments, mercury concentrations exceeded the ER-M at every location that was sampled, including along the shoreline of Parcel D and the Krasdale property, as well as offshore from the shared boundary of the two properties. Mercury exceeded the background screening level for mercury (2.2 mg/kg) along the southern shoreline of the Krasdale property at SD-15B and SD-62 and at an isolated location offshore from the northern shoreline, in the vicinity of Outfalls 1 and 2 at SD-35.
- Similar to surface sediments, mercury exceeded the ER-M in subsurface sediments along the shoreline of and offshore from Parcel D and the Krasdale property. Mercury exceeded the background screening level along the shoreline of Parcel D at SD-19, offshore from the northern property boundary of the Krasdale property at SD-58 and SD-80, and along the entire shoreline of the Krasdale property at SD-12, SD-13, SD-14B, SD-15B, SD-17, SD-34, SD-62, SD-65, and SD-68.

In the central area, mercury was detected at concentrations ranging from 0.0056 J to 8.3 mg/kg. Mercury was detected at similar concentrations in both the surface and subsurface sediments along the shoreline of Parcel C and the Citarella property within the former dredged area, as well as east of the former dredge channel and unknown utility crossing. Mercury concentrations were above the ER-M in 57% of surface sediments compared to 75% of the subsurface sediments (Table 5-3). The spatial distribution of mercury across the area is discussed below:

- In surface sediments, mercury exceeded the ER-M in every sample collected, except SD-27 and the 0 to 0.5 foot sample from SD-09 located adjacent to Outfall 4. Mercury concentrations exceeded the background screening level adjacent to and offshore from Parcel C, just north of Outfall 4 at SD-09 and SD-77, along the shoreline of the Citarella property at SD-66 and SD-67, and offshore of the DSNY marine transfer station at SD-73.
- In subsurface sediments, mercury exceeded the ER-M throughout the central area. Mercury exceeded the background screening level along the shoreline of Parcel C at SD-07B, SD-10, SD-11B, SD-27, and SD-31B; along the shoreline of the Citarella property at SD-25, SD-66, and SD-67; offshore from both

Parcel C and the Citarella property and east of the former dredged channel and unknown utility crossing at SD-69, SD-71, SD-72, SD-77, and SD-78; adjacent to the shoreline of the DSNY marine transfer station at SD-24 and SD-52B; and offshore from the marine transfer station, in the former dredged channel at SD-73.

In the southern area, mercury was detected at concentrations ranging from 0.0093 J to 9 J mg/kg. Mercury concentrations were detected at similar concentrations in both the surface and subsurface sediments. Mercury concentrations above the ER-M were detected in all surface sediments (100%) compared to 75% in subsurface sediments (Table 5-3). The spatial distribution of mercury across the area is discussed below:

- In surface sediments, mercury concentrations exceeded the ER-M in all samples west of Parcel B and the prison barge parking lot, as well as east of the prison barge. Mercury concentrations exceeded the background screening level adjacent to the historical surface drainage pathway, along the western shoreline of Parcel B and the prison barge parking lot, and offshore from the Hunts Point WWTP at SD-02B, SD-23, SD-46, SD-75, and SD-81.

- Similar to surface sediments, mercury exceeded the ER-M in subsurface sediments west of Parcel B and the prison barge parking lot, as well as east of the prison barge. Mercury concentrations exceeded the background screening level adjacent to the historical surface drainage pathway; along the western shoreline of Parcel B and the prison barge parking lot; offshore from the Hunts Point WWTP at SD-01C, SD-02B, SD-23, SD-46, SD-41, SD-75, and SD-81; and adjacent to Outfalls 6 and 7 at SD-04 and SD-06, respectively.

5.4.2.4 *Nickel*

Nickel was detected in every sample collected during the investigation (Table 5-2). Distribution patterns of nickel concentrations are depicted by depth and by area on Figure 5-2 and presented in Tables 5-2 and 5-3. Distribution observations and trends are described below by area.

Nickel was detected throughout the investigation area at concentrations above the applicable screening levels as follows:

- ER-L (20.9 mg/kg): 93% of surface and 79% of subsurface sediment

- ER-M (51.6 mg/kg): 14% of surface and 16% of subsurface sediment

The background level observed in the USACE composite samples was similar to the ER-M; therefore, nickel was not compared to this background screening level.

In the northern area, nickel was detected at concentrations ranging from 16.7 J to 57.9 J mg/kg. Nickel concentrations along the shoreline in front of Parcel F and the northern portion of the Krasdale property are higher in subsurface sediments than surface sediments. Nickel was not detected at concentrations above the ER-M in surface sediments (0%) compared to 18% in subsurface sediments (Table 5-3). The spatial distribution of nickel across this area is discussed below:

- Nickel did not exceed the ER-M in surface sediments.

- In subsurface sediments, nickel concentrations exceeded the ER-M along the southern shoreline of the Krasdale property, adjacent to Outfall 3 at SD-12, SD-13, and SD-14B; at isolated locations along the central shoreline of the Krasdale property at SD-68; and along the northern shoreline of the Krasdale property, in the vicinity of Outfalls 1 and 2 at SD-17.

In the central area, nickel was detected at concentrations ranging from 7.9 J to 139 J mg/kg. Nickel concentrations along the shoreline of Parcel C are higher in subsurface sediments than surface sediments. In contrast along the Citarella property, nickel concentrations are similar for both surface and subsurface sediments. Nickel was detected at concentrations above the ER-M in 20% of the surface sediments compared to 19% of subsurface sediments (Table 5-3). The spatial distribution of nickel across this area is discussed below:

- In surface sediments, nickel concentrations exceeded the ER-M along the shoreline of the Citarella property at SD-66 and SD-67 and offshore Parcel C, east of the former dredged channel and unknown utility crossing, at SD-77.

- In subsurface sediments, nickel concentrations exceeded the ER-M at depths (greater than 9.5 feet bss) along the shoreline extending from the southern portion of Parcel C to the northern portion of the DSNY marine transfer station property at SD-07B, SD-10, SD-52B, SD-66, and SD-77. Nickel concentrations also exceeded the ER-M in an isolated location at the northern property boundary of Parcel C, north of the former dredged channel and unknown utility crossing at SD-11B.

In the southern area, nickel was detected at concentrations ranging from 9.2 J to 84.5 J mg/kg. Nickel concentrations at one location adjacent the shoreline of the prison barge parking lot are higher in surface sediments than subsurface sediments, otherwise concentrations were relatively uniform across depths. Nickel was detected at concentrations above the ER-M at 13% in surface sediments compared to 8% in subsurface sediments (Table 5-3). The spatial distribution of nickel across this area is discussed below:

- In surface sediments, nickel exceeded the ER-M at one location along the western shoreline of the prison barge parking lot, just north of the prison barge at SD-23.

- In subsurface sediments, nickel exceeded the ER-M at one location east of the prison barge, adjacent to Outfalls 6 and 7 at SD-04.

5.4.2.5 *Silver*

Silver was detected in 80% of samples collected during the investigation (Table 5-2). Distribution patterns of silver concentrations are depicted by depth and by area on Figure 5-6 and presented in Tables 5-2 and 5-3. Distribution observations and trends are described below by area.

Silver was detected throughout the investigation area at concentrations above the applicable screening levels as follows:

- ER-L (1 mg/kg): 93% of surface and 71% of subsurface sediment
- ER-M (3.7 mg/kg): 76% of surface and 64% of subsurface sediment
- Background screening level (7.9 mg/kg): 38% of surface and 37% of subsurface sediment

In the northern area, silver was detected at concentrations ranging from 0.26 J to 12.7 mg/kg. Silver concentrations were similar in both the surface and subsurface sediments along the shoreline of Parcel D and the northern portion of the Krasdale property. Silver was detected at concentrations above the ER-M in 83% of surface sediments compared to 65% in subsurface sediments (Table 5-3). The spatial distribution of silver across this area is discussed below:

- In surface sediments, silver concentrations exceeded the ER-M adjacent to the shorelines of Parcel D and the Krasdale property and offshore from the northern portion of the Krasdale property, east of the navigation channel. Silver concentrations exceeded the background screening level along the southern shoreline of the Krasdale property at SD-15B and SD-62.
- In subsurface sediments, silver concentrations exceeded the ER-M along the entire length of the Parcel D and Krasdale property shorelines, as well as offshore from the properties along the navigation channel (east and west); however, concentrations offshore appear to decrease at depth. Silver exceeded the background screening level adjacent to the shoreline of Parcel D at SD-19 and along the shoreline of the Krasdale property at SD-12, SD-13, SD-14B, SD-15B, SD-17, SD-62, SD-65, and SD-68. Background screening concentrations were not exceeded at locations offshore from either property.

In the central area, silver was detected at concentrations ranging from 0.83 J to 32.7 J mg/kg. Silver concentrations along the shoreline of Parcel C and offshore from the DSNY marine transfer station are higher in subsurface sediments than surface sediments. Silver concentrations above the ER-M were

detected in 67% of surface sediments compared to 72% in subsurface sediments (Table 5-3). The spatial distribution of silver across this area is discussed below:

- In surface sediments, silver concentrations generally exceeded the ER-M along the entire length of the shoreline and offshore, as well as east of the former dredged channel and unknown utility crossing, except at SD-25, SD-27, and SD-73. Silver concentrations exceeded the background screening level along the shoreline of the Citarella property at SD-66 and SD-67 and at an isolated location offshore from Parcel C at SD-77.

- In subsurface sediments, silver concentrations exceeded the ER-M along the entire length of the shoreline and offshore, as well as east of the former dredged channel and unknown utility crossing. Silver concentrations exceeded the background screening level in every location along the shoreline; however, exceedances were detected more frequently at depths greater than 6 feet bss. Two isolated locations exceeded the background screening level offshore of Parcel C, east of the former dredged channel and unknown utility crossing at SD-71 and SD-72.

In the southern area, silver was detected at concentrations ranging from 0.16 J to 19.4 J mg/kg. Silver concentrations west of Parcel B and the prison barge parking lot and offshore from the Hunts Point WWTP are higher in surface sediments than subsurface sediments. Silver concentrations above the ER-M were detected in 88% of surface sediments compared to 50% in subsurface sediments (Table 5-3). The spatial distribution of silver across this area is discussed below:

- In surface sediments, silver concentrations exceeded the ER-M to the west of Parcel B and the prison barge parking lot, as well as east of the prison barge. Silver concentrations exceeded the background screening level adjacent to the historical surface drainage pathway, along the western shoreline of Parcel B and the prison barge parking lot, and offshore from the Hunts Point WWTP at SD-02B, SD-23, SD-46, SD-41, SD-75, and SD-81.

- Similar to surface sediments, silver exceeded the ER-M in subsurface sediments west of Parcel B and the prison barge parking lot, as well as east of the prison barge. Silver exceeded the background screening level adjacent to the western shoreline of Parcel B and the prison barge parking lot at SD-23 and SD-46, offshore from the Hunts Point WWTP at SD-41 and SD-81, and east of the prison barge, adjacent to Outfalls 6 and 7 at SD-04.

5.4.2.6 *Zinc*

Zinc was detected in every sample collected during the investigation (Table 5-2). Distribution patterns of zinc concentrations are depicted by depth and by area on Figure 5-7 and presented in Tables 5-2 and 5-3. Distribution observations and trends are described below by area.

Concentrations of zinc were detected throughout the investigation area above the applicable screening levels as follows:

- ER-L (150 mg/kg): 96% of surface and 71% of subsurface sediment
- ER-M (410 mg/kg): 21% of surface and 36% of subsurface sediment
- Background screening level (865 mg/kg): 7% of surface sediment and 0% in subsurface sediment

In the northern area, zinc was detected at concentrations ranging from 27.1 J to 536 J mg/kg. Zinc concentrations throughout the northern area are higher in subsurface sediments than surface sediments when detected. Zinc concentrations above the ER-Ms were not detected in surface sediments compared to 35% of subsurface sediments (Table 5-3). Zinc was not detected above the background screening level in the northern area. The spatial distribution of zinc across this area is discussed below:

- Zinc did not exceed the ER-M in surface sediments.
- In subsurface sediments, zinc exceeded the ER-M along the shorelines of Parcel D and the Krasdale property and at one location offshore from Parcel D at SD-58.

In the central area, zinc was detected at concentrations ranging from 11.3 J to 3,690 J mg/kg. Zinc concentrations along the shoreline of the Citarella property are higher in surface sediments than subsurface sediments. Conversely, zinc concentrations along the shoreline of Parcel C are higher in subsurface sediments than surface sediments. Zinc was detected at concentrations above the ER-M in 27% of surface sediments compared to 44% in subsurface sediments (Table 5-3). The spatial distribution of zinc across this area is discussed below:

- In surface sediments, zinc exceeded the ER-M along the shoreline of the Citarella property and at an isolated location offshore from Parcel C, east of the unknown utility crossing. Zinc concentrations exceeded the background screening level along the shoreline of the Citarella property at SD-25 and SD-67.
- In subsurface sediments, zinc concentrations exceeded the ER-M along the entire length of the shoreline mainly at depth (greater than 6.4 feet bss), as well as east of the former dredged channel and unknown utility crossing. Zinc was not detected above the background screening level.

In the southern area, zinc was detected at concentrations ranging from 16.6 J to 737 J mg/kg. Zinc concentrations east of Parcel B and the prison barge parking lot, as well as offshore from the Hunts Point WWTP are higher in subsurface sediments than surface sediments. Zinc was detected at concentrations

above the ER-M in 25% of surface sediments compared to 33% in subsurface sediments (Table 5-3). Zinc was not detected above the background screening level in the southern area. The spatial distribution of zinc across this area is discussed below:

- In surface sediments, zinc exceeded the ER-M at two isolated locations, one west of Parcel B, adjacent to the historical surface drainage pathway and the prison barge parking lot at SD-02B, and one east of the prison barge, adjacent to Outfall 7 at SD-06.

- In subsurface sediments, zinc exceeded the ER-M west of Parcel B and the prison barge parking lot, adjacent to the historical surface drainage pathway and offshore from the Hunts Point WWTP at SD-02B, SD-41, SD-75, and SD-81 and east of the prison barge adjacent to Outfalls 6 and 7 (SD-04 and SD-06).

5.4.3 Other Constituents

As described in Section 5.3, cyanide, BTEX, and carbon disulfide have been detected in upland soil and groundwater samples. This section documents their presence in the sediment for comparison to their presence in upland soil and groundwater. Based on the frequency of detection, detection above screening levels, and detection above background levels, these compounds were not selected as representative constituents of interest.

5.4.3.1 *Cyanide*

No sediment screening levels are available for total cyanide. Cyanide was detected in 65% of samples with concentrations ranging from 0.097 J to 7.9 mg/kg (Table 5-2). The maximum concentration of cyanide (7.9 mg/kg) was detected at SD-17 from 8.3 to 9.3 feet bss. SD-17 is located adjacent to Outfall 2 at the Krasdale property. For comparison, upland total cyanide concentrations along the shoreline of the Krasdale property were generally less than 27 mg/kg (the unrestricted use soil cleanup objective) outside the areas of upland purifier waste.

Cyanide was detected at slightly higher concentrations (greater than 5 mg/kg) in five sediment samples: SD-27 at 5.2 J mg/kg (1.2 to 2.4 feet bss), SD-40 at 5.3 J mg/kg (9.0 to 10.0 feet bss), SD-20B at 5.3 mg/kg (7.3 to 8.4 feet bss), SD-66 at 6.8 mg/kg (6.4 to 7.5 feet bss), and SD-17 at 7.9 mg/kg (9.3 to 8.3 feet bss). Generally, cyanide was detected less than 2.0 mg/kg; approximately 75% of samples were at or below 2.0 mg/kg.

5.4.3.2 *Benzene, Toluene, Ethylbenzene, and Xylenes*

Although sediment screening levels are not available, total BTEX was calculated for each sample. Total BTEX was detected in 91% of samples with values ranging from 0.00014 to 5.7 mg/kg. The maximum concentration of BTEX (5.7 mg/kg) was detected at SD-75 from 9.7 to 11.0 feet bss, which is located offshore from the Hunts Point WWTP and west of Parcel B. BTEX was detected at relatively higher concentrations (greater than 1 mg/kg) at three locations: SD-01C at 1.566 J mg/kg (13.5 to 14.6 feet bss), SD-73 at 1.6 J mg/kg (4.3 to 5.3 feet bss), and the above-referenced SD-75 at 5.7 J mg/kg (9.7 to 11.0 feet bss).

5.4.3.3 *Carbon Disulfide*

No sediment screening levels are available for carbon disulfide. Carbon disulfide was detected in 98% of samples with concentrations ranging from 0.00041 J to 3.8 J mg/kg. The maximum concentration of carbon disulfide (3.8 J mg/kg) was detected at SD-75 (similar to BTEX) from 9.7 to 11.0 feet bss, which is located offshore from the Hunts Point WWTP and west of Parcel B. Carbon disulfide concentrations were detected at slightly higher concentrations in three sediment samples (similar to BTEX): SD-01C at 3.7 mg/kg (13.5 to 14.6 feet bss), SD-73 at 1.5 J mg/kg (4.3 to 5.3 feet bss), and the above-referenced SD-75 at 3.8 J mg/kg (9.7 to 11 feet bss). Generally, carbon disulfide was detected at less than 0.1 mg/kg; 93% of samples were below 0.1 mg/kg.

5.4.4 Nature and Extent Summary

Overall, the nature and extent of the representative constituents of interest, the TCL PAHs (as total PAHs) and the six metals, copper, lead, mercury, nickel, silver and zinc, relative to their respective screening levels suggests a complex distribution related to the current and historical urban/industrial land use adjacent to the Bronx and East Rivers in the investigation area.

PAHs in surface sediments above background levels are isolated in occurrences, except in the central area near Outfall 4 adjacent to Parcel C. PAHs in subsurface sediments above background levels are present throughout the area east of the former dredge channel adjacent to Parcel C and the Citarella property at depths greater than 6 feet, as well as the area west of Parcel B and the prison barge parking lot, and south of the historical surface drainage pathway and the WWTP at depths greater than 6 feet bss. The overall distribution of the PAHs is dissimilar to the metals as described below.

Copper in surface sediments above ER-M screening levels are isolated in occurrences in all areas, except southeast of Parcel B and the prison barge parking lot, adjacent to the historical surface drainage pathway and offshore from the Hunts Point WWTP in the southern area. Copper in subsurface sediments above ER-M screening levels are present throughout the northern, central, and southern areas.

Nickel in surface sediments above ER-M screening levels are isolated in occurrences in all areas. Nickel in subsurface sediments above ER-M screening levels are present throughout the northern area adjacent to the Krasdale property and in the central area within the former dredged channel adjacent to Parcel C and the Citarella property, but not outside the former dredged channel nor the southern area.

Zinc in surface sediments above ER-M screening levels is isolated in occurrences in all areas, except near the shoreline adjacent to the Citarella property. Zinc in subsurface sediments above ER-M screening levels is present throughout the northern, central, and southern areas.

Mercury, lead, and silver in both surface and subsurface sediments above ER-M screening levels are present throughout the northern, central, and southern areas.

Overall, in subsurface sediments, five of the six metals (copper, lead, mercury, silver, and zinc) are present above ER-M screening levels throughout the northern, central, and southern areas, and only nickel is not as widely distributed. In surface sediments, three of the six metals (lead, mercury, and silver) are present above ER-M screening levels throughout the northern, central, and southern areas. The remaining three metals (copper, nickel and zinc) are not as widely distributed.

For other constituents observed in upland soil and groundwater (BTEX, carbon disulfide, and total cyanide), screening levels were not available for comparison. However, in comparison to upland concentrations, as well as the relative concentration distribution patterns, these constituents are not as widely distributed nor at concentrations that resemble those detected in the upland media.

6. Summary of Forensic Analysis

The purpose of this forensic evaluation was to evaluate the sources of hydrocarbons, particularly the PAHs, and the sources associated with the observed sheens or hydrocarbon odor in sediments adjacent to the Hunts Point former MGP.

6.1 Evaluation Methods

The forensic PAHs and TPH analytical results (Table 6-1) were evaluated, including reviewing the analytical documentation and preparing graphical comparisons.

As part of the TPH analysis, a GC (i.e., GC fingerprint) was produced, which is useful in distinguishing types of petroleum products (e.g., No. 2 fuel, bunker C oil) and other material (e.g., coal tar, natural organic material) in a sample. Appendix G contains the TPH GC fingerprints (TPH fingerprints) of each sample.

PAH histograms depicting the overall PAH composition of each sample were also prepared to evaluate potential sources of PAHs. PAH histograms depict the PAHs from 2- to 6-ring PAHs moving from left to right (i.e., lowest to highest molecular weight). PAH histograms are used to understand PAH compositions and potential sources of PAHs. Histograms of each sample are provided in Appendix H.

The TPH fingerprints and PAH compositions were evaluated and compared among samples. For these selected samples, five TPH fingerprint pattern types (1 through 5) and five PAH compositional pattern types (a through e) were identified and a type was assigned to each sample. The characteristics of these pattern types are described below and in Table 6-2. In addition, select diagnostic ratios and analyte summations were calculated and plotted for use in the evaluation.

The evaluation of potential hydrocarbon sources of the PAHs and sheens observed in the sediments was based on multiple lines of evidence that included comparison TPH fingerprint and PAH compositional patterns among samples and use of total forensic PAHs (TPAH[1])/TPH diagnostic ratio plots. In this RIR, total hydrocarbon content and PAH compositional characteristics of the samples were evaluated independently and the results summarized in a discussion of the potential sources of hydrocarbons in sediments.

[1] TPAHs is the sum of forensic PAHs, as defined in Table 6-1.

6.2 Total Hydrocarbon Characterization

TPH GC fingerprints are used to understand potential sources of hydrocarbons. The shape and position of unresolved complex mixture, represented by a 'hump' or humps and peaks in the GC trace of the GC, help to indicate the type of organic material in the sample. Groups of samples exhibited consistent patterns in the TPH fingerprints and, as a result, the TPH fingerprints could be categorized. Five types were identified (Types 1 through 5), and a type was assigned to each of the TPH fingerprints. Each TPH fingerprint type is described below and each sample and its associated type are presented in Table 6-2 and on Figure 6-1.

Type 1 This TPH GC fingerprint indicates hydrocarbons from petroleum sources (weathered heavy oil).

Type 2 This TPH GC fingerprint is similar to Type 1, but has an additional contribution of a mid-distillate oil.

Type 3 This TPH GC fingerprint indicates Type 1 or Type 2 petroleum sources but has an additional contribution from pyrogenic sources.

Type 4 This TPH GC fingerprint indicates a similar source as Type 3 with an increased contribution of pyrogenic sources.

Type 5 This TPH GC fingerprint indicates hydrocarbons that are likely from pyrogenic sources, likely a coal tar-type product material.

TPH concentrations in the sediment samples ranged from 2,280 to 15,600 mg/kg with almost all samples less than 10,000 mg/kg. Samples with dominant petroleum (Types 1 and 2) had TPH concentrations ranging from 4,000 to 8,000 mg/kg (SD-06B, SD-11B, SD-12, SD-14B, SD-20B, SD-25, SD-27, SD-34, and SD-77). The highest TPH concentration sample was associated with a sample that contained petroleum and pyrogenic sources (SD-75).

TPH fingerprint Types 1, 2, and 3 indicate the presence of weathered heavy oil residual. As described above, Types 1 and 2 were essentially the same with the addition of a probable mid-distillate oil to the hydrocarbon content in Type 2. TPH Type 3 was similar to Types 1 and 2; however, the TPH GC fingerprint suggested additional pyrogenic PAHs. TPH Types 4 and 5 contained less petroleum hydrocarbons and higher relative concentrations of pyrogenic-related PAHs. The Type 5 pattern was characteristic of a coal tar-type product material. There was no consistent correlation of TPH fingerprint type and the TPH concentration.

6.3 Polycyclic Aromatic Hydrocarbon Characterization

The PAH composition, particularly the alkyl groups for the 2-, 3-, and 4-ring PAHs (e.g., naphthalenes, fluorenes, phenanthrenes/anthracenes, chrysenes), provide information on the types of hydrocarbons in the sample (Stout et al. 2002). There are two major sources of PAHs: petrogenic sources and pyrogenic sources. PAHs from petrogenic sources, such as those in diesel and heavy oil, have a composition in which the shape of the alkyl group concentrations in a PAH family (e.g., naphthalene, C1-naphthalenes, C2-naphthalenes) has a Gaussian pattern, where the C2-alkyl group generally has the highest relative concentration compared to the other alkyl groups in the family[2]. This is illustrated on Figure 6-2.

In contrast, pyrogenic-source PAHs originate as byproducts of incomplete combustion of petroleum, coal and natural material (e.g., ash, soot, exhaust fumes), and byproducts of pyrolytic processes (e.g., coal tar/creosote from coal carbonization process) and have a very different characteristic pattern than that of petrogenic PAHs. For pyrogenic PAHs, the parent PAH (e.g., naphthalene) of a PAH family has the highest concentration relative to the alkyl groups with the alkyl group concentrations decreasing with increasing alkylation (i.e., C0>C1>C2>C3). Also, pyrogenic-source PAHs have a significant amount of 5- and 6-ring PAHs [e.g., benzo(a)pyrene] compared to petroleum, which has relatively negligible to low amounts of 5- and 6-ring PAHs. The pattern for pyrogenic PAHs is also illustrated on Figure 6-2.

Similar to the TPH fingerprints, the PAH composition for groups of samples exhibited patterns that allowed for the fingerprints to be categorized. Five types of patterns showing a mix of petrogenic and pyrogenic PAHs were identified (Types a through e), with less petroleum PAH contribution with increasing pattern letter type. Each PAH fingerprint type is described below and each sample and its associated type are presented in Table 6-2 and on Figure 6-1.

Type a — The PAH fingerprint indicates dominant petrogenic-source PAHs mixed with pyrogenic PAHs.

Type b — The PAH fingerprint is almost exactly the same as Type a, but with less 2-ring naphthalenes (indicative of weathering of petroleum).

Type c — The PAH fingerprint indicates a similar source as Type a with an increasing contribution from pyrogenic sources.

Type d — The PAH fingerprint indicates a similar source as Type c with an increasing contribution from pyrogenic sources.

[2] The C1, C2, etc. refers to the degree of alkylation of the PAH.

Type e The PAH fingerprint indicates dominant pyrogenic sources.

TPAH concentrations in the samples ranged from 59 to 2,993 mg/kg, while total PAH (17 TCL PAHs) concentrations ranged from 26 to 1,294 mg/kg (Table 6-1). The lowest TPAH concentrations were associated with Types a and b samples, which ranged from 59 to 120 mg/kg (total PAH [17 TCL PAHs] concentrations ranged from 26 to 58 mg/kg).

As the PAH type letter increases, the petrogenic PAH pattern becomes less evident and the pyrogenic PAH pattern becomes more dominant. The almost purely pyrogenic PAH signature is most apparent in PAH Type e, consistent to that of a coal tar-type product.

6.4 Potential Sources of Sheens

Comparison of TPH and PAH compositional characteristics and concentrations among the river sediment samples indicates that the probable cause of the sheens observed during collection of samples is associated with the presence of petroleum in the sediment. TPH concentrations, which reflect the sum of all hydrocarbons in the samples, ranged from 2,280 to 15,600 mg/kg. The sediments of each of these samples were observed to have sheens (with the exception of SD-09, which had the lowest TPH concentration of 2,280 mg/kg).

TPH concentrations versus a ratio of TPAH/TPH are shown on Figure 6-2, which demonstrates the relative amount of PAHs in total hydrocarbons of a sample. For those samples where the hydrocarbon content (TPH) was almost entirely petroleum (pattern Types 1 and 2), TPAH concentrations were relatively low, no more than 120 mg/kg. The TPAH/TPH values of these samples are no more than 2%. This 2% would be consistent with typical PAH percentages for mid-distillate and heavy type petroleum products.

The higher TPAH/TPH ratio samples (samples with 5 to 20% TPAH/TPH ratios) reflect the varying added contribution of pyrogenic PAHs to the sediments, which is evident in the PAH composition and TPH fingerprints (pattern Types 3, 4, c, and d). Potential sources of the pyrogenic material include coal tar products originating from weathered creosote from pilings and/or local runoff of coal tar asphalt (e.g., sealcoat), in addition to coal tar from the former MGP activities. The TPH concentrations of these higher TPAH/TPH ratio samples ranged from those similar to the low ratio samples (4,000 to 8,200 mg/kg) to higher concentrations of 15,600 mg/kg (SD-75; 7.5 to 8.5 feet bss). The TPAH concentrations of these samples were, however, generally higher than the samples with low TPAH/TPH ratios (i.e., Types 1, 2, a, and b).

Based on the TPAH/TPH ratios, the sheens can be attributed to the petroleum in the samples. The sediment associated with the samples included in this forensic evaluation exhibited sheens, with the exception of the sample collected at SD-09. The samples (excluding SD-09) all contained petroleum but had varying

amounts of pyrogenic material, ranging from almost none (Type 1) to an increased amount (Type 4). Coal tar-type material may also contribute to the sheens in samples with higher TPAH/TPH ratios and higher PAH concentrations.

The sample collected at SD-09 was the only sample included in this forensic evaluation where sheens or odor were not observed. The PAH composition of this sample indicated a pyrogenic signature that looked to be most characteristic of a coal tar-type product with little petroleum. The TPH concentration was the lowest at 2,280 mg/kg, and the TPAH concentration was relatively higher than the petrogenic Types a and b samples at 414 mg/kg. The hydrocarbon content (TPH) concentration of the SD-09 sample does not seem to sufficiently be high enough to cause sheens in the sediment.

6.5 Forensic Evaluation Conclusions

Based on the forensic evaluation:

- Both petroleum and pyrogenic hydrocarbons are present in the sediments.
- PAHs in sediments are associated with both petrogenic (i.e., petroleum) and pyrogenic sources.
- Petroleum hydrocarbons likely originate from weathered heavy and mid-distillate oils.
- Pyrogenic hydrocarbons likely originate from coal tar-type products, such as creosote from pilings, local runoff of coal tar asphalt (e.g., sealcoat), coal tar from the former MGP activities, and/or other urban anthropogenic sources.
- Petroleum hydrocarbons likely cause the observed sheens within the sediment samples

7. Human Health Exposure Assessment

This section presents the qualitative HHEA that was conducted as part of the RI. The HHEA was conducted in accordance with the New York State Department of Health (NYSDOH) guidance presented in DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC 2010a). The objective of the HHEA is to evaluate the potential for human exposure to site-related constituents in sediment based on available site data and current and reasonably anticipated future land use. The HHEA characterizes the environmental setting of the site and surrounding areas, identifies constituents of potential concern (COPCs) and potentially complete exposure pathways, and evaluates contaminant fate and transport.

7.1 Constituents of Potential Concern

A total of 125 sediment samples were collected in 2012 and 2013 along the shoreline and offshore of the Hunts Point former MGP in the Bronx and East Rivers (Figure 3-1). No sediment samples were collected within the navigation channels in either the Bronx or East Rivers. Of these, 29 sediment samples collected from 27 sampling locations are considered for purposes of the HHEA. Specifically, sediment samples collected between 0 to 2 feet bss were considered for the HHEA because these represent potential exposure points for human receptors.

Samples were analyzed for VOCs, SVOCs, metals and cyanide, and TOC. Sediment data were compared to the HH-B level for saltwater sediments from the NYSDEC (1999) Technical Guidance for Screening Contaminated Sediments. HH-B levels are based on water quality levels and the fish consumption pathway. Therefore, HH-B levels are only available for bioaccumulative compounds. Table 7-1 presents the comparison of sediment data to HH-B screening levels. The results presented in Table 7-1 are summarized below.

- Multiple VOCs were detected, but no constituents exceeded their associated HH-B screening values.
- Several SVOCs were detected and six PAHs, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene, exceeded their associated HH-B screening levels. These PAHs exceeded screening levels in all 29 samples that were considered for the HHEA. The highest total PAH concentrations were observed in samples SD-07B, SD-09, SD-23, SD-27, and SD-73. These samples were collected from the Bronx River, adjacent to Parcel C and from the East River, adjacent to Parcel B (Figure 3-1). The majority of these samples were collected relatively close to the shoreline in water depths ranging from 11 to 37 feet.
- Numerous metals and cyanide were detected in the majority of the sediment samples; however, HH-B screening levels are unavailable for metals and cyanide because these compounds are generally not considered to be bioaccumulative.

Based on exceedances of HH-B screening values, the primary COPCs for sediment are PAHs.

7.2 Contaminant Fate and Transport

This section discusses general environmental fate and transport characteristics for identified COPCs in sediment with information from toxicological profiles by the Agency for Toxic Substances and Disease Registry (ATSDR).

PAHs were identified as a COPC for sediment. Several PAHs exceeded their human health-based screening levels. These compounds are high molecular weight PAHs. PAHs released to the atmosphere are subject to short- and long-range transport and are removed by wet and dry deposition onto soil, water, and vegetation. In surface water, PAHs can volatilize, photolyze, oxidize, biodegrade, bind to suspended particles or sediments, or accumulate in aquatic organisms (with bioconcentration factors often in the 10-10,000 range). In sediments, PAHs can biodegrade or accumulate in aquatic organisms, but many higher trophic-level species are able to metabolize these compounds. PAHs in soil can volatilize, undergo abiotic degradation (photolysis and oxidation), biodegrade, or accumulate in plants. PAHs in soil can also enter groundwater and be transported within an aquifer. Generally in air, PAHs that have 4 rings [chrysene, benzo(a)anthracene] are present in both the vapor and particulate phase, and PAHs having 5 or more rings [benzo(a)pyrene, benzo(g,h,i)perylene] are found predominantly in the particle phase. The high molecular weight PAHs will volatilize from water only to a limited extent. In general, PAHs have low water solubilities. Because of their low solubility and high affinity for organic carbon, PAHs in aquatic systems are primarily found sorbed to particles that either have settled to the bottom or are suspended in the water column. Volatilization from soil and surface water is not an important transport mechanism for high molecular weight PAHs (ATSDR 1995).

7.3 Potential Exposure Points, Receptors, and Route of Exposure

An initial step in evaluating potential human exposure is to identify potentially complete exposure pathways. In accordance with NYSDEC (2010) guidance, an exposure pathway is considered potentially complete if the following five elements exist:

- Contaminant source
- Contaminant release and transport mechanisms
- Point of exposure
- Route of exposure
- Receptor population

An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway has not existed in the past, does not exist in the present, and can reasonably be anticipated to not exist in the future (NYSDEC 2010a).

Historically, the former MGP was used as an MGP, light oil plant, and liquid petroleum plant. The former MGP historically contained gas production facilities, underground storage tanks for gasoline, above and belowground tanks for the storage of oil and tar, light oil plant and liquid petroleum air gas facilities, coal storage, coal bridges/conveyers, waterless-type gas holders, and facilities for storing gas for distribution. Additionally, historic fill material consisting of coal, cinders, slag, ash wood, and purifier waste has been observed on site. These historic operations constitute possible sources of constituents to sediment.

The former MGP is located within a mixed-use area that is primarily characterized by commercial and industrial properties (e.g., food distribution centers and transfer stations). Primary land use within Hunts Point and surrounding areas is commercial/industrial with small pockets of residential properties and recreational areas. Recently, a fishing pier was constructed on site, adjacent to the DSNY marine transfer station. The Hunts Point Landing fishing pier provides potential recreational opportunities for the surrounding community (e.g., fishing access, potential kayak launch, passive recreational activities, such as walking). As a part of the South Bronx Greenway development project, future land use may include further development of small community parks and/or recreational areas with potential river access and bike and walking paths. The site is bounded to the north and west by commercial/industrial properties and to the east and south by the Bronx and East Rivers, respectively. Across the Bronx River from the site lies Sound View Park, which is a 163-acre community park comprising developed recreational areas (e.g., sports fields), as well as natural areas used for nature walks, bird watching, fishing, and canoeing/kayaking. The East River has a strong tidal current and is used heavily for commercial/industrial navigation. The Bronx River is a shallow river and the portion of the river adjacent to the site serves as a federally designed navigable waterway. These rivers may additionally be utilized for recreational uses, such as boating and fishing. Several utility lines are present within the Bronx and East Rivers, including the NYCDEP water pipe, an unknown utility crossing identified in the NOAA chart, and the Iroquois Pipeline (Figure 3-1).

Potential receptors and associated exposure pathways were identified based on current and future land use at the former MGP and surrounding areas. Sediments within the Bronx and East Rivers are the focus of this RI and, as such, represent the only exposure medium considered in the HHEA. Potential human receptors at the former MGP include current and future commercial workers, construction and utility workers, and recreational users. Potential off-site receptors include current and future recreational users of the Bronx River, East River, and Sound View Park, as well as utility workers that may service the utility lines located within the Bronx and East Rivers.

Potentially complete exposure pathways for current and future on- and off-site human receptors are summarized below.

7.3.1 Commercial Workers

Commercial workers are assumed to represent individuals who are employed at the businesses located within Hunts Point (e.g., food distribution centers). These workers are assumed to represent indoor workers that spend most of their time within commercial buildings. These receptors would not be expected to come into contact with river sediments during daily activities. Likewise, individuals that may visit commercial businesses within Hunts Point (i.e., consumers) would also not be expected to come into contact with river sediments.

7.3.2 Construction and Utility Workers

On-site construction and utility workers represent individuals that may be involved in development and utility repair/maintenance within upland areas of Hunts Point. These individuals would not be expected to be involved in intrusive activities within the river channels and, as such, would not be expected to be exposed to river sediments.

Off-site utility and construction workers may be exposed to COPCs (i.e., PAHs) in sediment via direct contact (i.e., incidental ingestion and dermal contact) during intrusive activities, such as utility maintenance and/or repair within the river channels. As shown on Figure 3-1, the NYCDEP water pipe is located within the channel of the East River, and an unknown utility line identified in the NOAA chart and the Iroquois Pipeline are located within the channel of the Bronx River. The highest PAH concentrations were observed in river sediments near Parcels B and C, and exceedances of HH-B screening levels were evident in all 29 sediment samples (0 to 2 feet bss) that were considered for the HHEA; some of these samples are located near the utility corridors. However, it should be noted that the HH-B screening levels are based on fish consumption, which is not considered to be a pathway of concern for construction and utility workers. Additionally, potential direct contact exposures for construction and utility workers would likely be mitigated through the use of appropriate health and safety plans and the use of personal protective equipment (PPE).

7.3.3 Recreational Users

Recreational users are defined as individuals that may use the former MGP or surrounding areas (e.g., Hunts Point Landing fishing pier, Sound View Park, East River, Bronx River) for recreational activities. Based on current land use at the former MGP, recreational users are expected to represent an on-site receptor population. Specifically, recreators have access to the East River via the Hunts Point Landing fishing pier, which is located on site, adjacent to the DSNY marine transfer station. Potential recreational activities in this area of the site are expected to include fishing from the pier, potential kayak launch, and passive activities (e.g., walking along the shoreline and bench areas). However, shoreline access is still expected to be limited in most areas of the site outside the fishing pier due to the presence of businesses, and the site shoreline is primarily composed of riprap, steel bulkheads, and fill. Recreational users may also

represent a potential future on-site population at Hunts Point based on the South Bronx Greenway development project. Exposure of current and future recreational users to river sediments is not considered to be a significant pathway because shoreline water depths (i.e., greater than 4 feet) are not conducive to wading and would likely preclude direct contact exposures to river sediments. Other limiting factors that would mitigate or preclude recreational use of the rivers and exposure via direct contact include the steep gradient of the shoreline, the strong tidal currents of the East River (up to 1 m/sec), and the use of the Bronx and East Rivers for commercial/industrial navigation. Based on these factors, the exposure of current and future recreational users to site-related COPCs in sediment via direct contact is not considered to be a potentially complete pathway.

PAHs were identified as the primary COPCs in river sediments and PAHs (e.g., high molecular weight PAHs) may bioaccumulate in fish tissue. However, PAHs typically do not concentrate in the fish parts that are consumed by humans (Brooks 1997). Additionally, because the Bronx and East Rivers are part of a large urban river system as opposed to being confined water bodies and where aquatic organisms are mobile, elevated PAHs concentrations in the sediments adjacent to the site are likely to have a minimal effect on PAH concentrations in fish. Furthermore, fish consumption advisories exist for the Bronx and East Rivers due to PCBs. Despite these consumption advisories, recreational users may still use these waters for recreational angling (e.g., catch and release), but fish consumption is not expected to be a significant exposure pathway given limiting factors that mitigate recreational use of these waterways, limited bioconcentration of PAHs in edible fish tissue, and fish consumption advisories.

7.4 Summary and Conclusions

The focus of the HHEA was sediments within the Bronx and East Rivers. The comparison of sediment data (0 to 2 feet bss) to the HH-B screening level indicates that PAHs are the primary COPCs for sediments within the Bronx and East Rivers. Current and future receptor populations that may be present at the former MGP (i.e., Hunts Point) and surrounding areas (e.g., Sound View Park) include commercial workers, construction and utility workers, and recreational users. Sediment was identified as a potentially complete exposure pathway for construction and utility workers and recreational users. However, exposure of construction and utility workers to sediments via direct contact is not expected to be a significant pathway because they would likely follow appropriate health and safety plans (e.g., use of PPE). Likewise, exposure of recreational users to sediments via direct contact is not expected to be a significant exposure pathway based on water depths that are not conducive to wading and commercial/industrial navigation that may affect recreational use of the rivers. Exposure to sediment COPCs via consumption of fish is also not a significant pathway due to the presence of consumption advisories on the Bronx and East Rivers, the limited bioconcentration of PAHs in fish parts typically consumed by humans, and the limiting factors that mitigate recreational use of these waterways.

8. Fish and Wildlife Resource Impact Analysis

This section presents the FWRIA that was conducted as a part of the RI. The FWRIA was carried out in accordance with NYSDEC guidance documents entitled DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC 2010a) and the Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (NYSDEC 1994). According to NYSDEC (1994, 2010) guidance, an FWRIA should be completed using a multi-step process. This FWRIA consists of Part 1: Resource Characterization. The objectives of Part 1 of the FWRIA are to identify fish and wildlife resources existing in or around the site and to evaluate potential impacts to these resources from site-related constituents of potential ecological concern (COPECs). Sediments within the Bronx and East Rivers, specifically sediments located adjacent to the site, are the primary focus of this FWRIA. However, in accordance with NYSEDC (2010) DER-10 guidance, upland areas within a 1½ mile radius of the site are also characterized in the FWRIA.

In accordance with NYSDEC (2010) guidance, the following five steps were followed to complete the FWRIA Part 1:

- Identification of fish and wildlife resources.
- Description of resources on site and within 1¼ mile of the former MGP.
- Identification of contaminant migration pathways and any fish and wildlife exposure pathways.
- Identification of contaminants of ecological concern.
- Conclusions regarding actual or potential adverse impacts to fish and wildlife resources.

If no resources or exposure pathways are present at a site, impacts to resources are considered minimal and no additional analyses are required (NYSDEC 2010a).

8.1 Ecological Characterization

This section summarizes the ecological setting of the former MGP and surrounding areas within 1½ mile of the former MGP. Habitat cover types and environmentally sensitive areas were identified based on a review of existing ecological information.

Topographic maps and aerial photographs were reviewed to identify the general physical and ecological features of the site and surrounding areas. The cover type map (Figure 8-1) classifies these areas into ecological communities based on physical characteristics, land use, and vegetation. Additionally, natural resources (i.e., rivers, lakes, and wetlands) within a 1½ mile radius of the former MGP were also identified.

This information was used to evaluate wildlife habitat value and human resource value for the former MGP and surrounding areas within 1½ mile of the former MGP.

8.1.1 Cover Types

Land use on the site is primarily a mixture of commercial and industrial properties with some recreational use at the Hunts Point Landing fishing pier. Land use in the surrounding areas within a 1½ mile radius of the site is mixed use, consisting of commercial/industrial properties, residential properties, and recreational parks. The site is bordered by the East River to the south and the Bronx River to the east. Ecological communities within a 1½ mile radius of the site were primarily classified in accordance with *Ecological Communities of New York State, Second Edition* (Edinger et al. 2002). If an appropriate classification from Edinger et al. (2002) was not available, professional judgment was used for cover type classification. Figure 8-1 presents the spatial distribution of the cover types associated with the site and surrounding areas. The cover types identified on site and within a 1½ mile radius of the site include:

- Commercial/Industrial/Residential – As shown on Figure 8-1, the site and surrounding areas to the north, northwest, and northeast of the site are primarily a mixture of commercial, industrial, and residential properties. The site (i.e., Hunts Point) consists mainly of commercial and industrial properties (e.g., food distribution centers and transfer stations) with some recreational use at the Hunts Point Landing fishing pier, which is located adjacent to the DSNY marine transfer station. The mixed commercial/industrial/residential cover type is generally associated with industrial buildings, commercial businesses, apartment buildings, residences, asphalt and gravel paved roads, parking lots, and limited amounts of ornamental vegetation and clipped grasses.

- Community Park – As shown on Figure 8-1, there is a large community park (Sound View Park) approximately 500 feet from the eastern edge of the site, across the Bronx River. This park borders the Bronx River and contains recreational facilities, such as sports fields, walking/biking paths, river access, and playgrounds. The park also contains green space (e.g., meadows, salt marshes, lagoons, mud flats). Portions of the park appear to be maintained (mowed) lawn with fragmented areas characterized by mature trees and shrubs.

- Confined River – The Bronx River abuts the site to the east (Figure 8-1). Upstream of the site, the Bronx River may be classified as a confined river. Confined rivers are associated with relatively large, fast flowing sections of stream with a moderate to gentle gradient, well defined patterns of alternating pools, riffles and runs, and poorly defined meanders. They generally are of moderate depth, width, and low flow discharge; have high water quality; are well oxygenated; and are typically surrounded by riverside sand gravel bar, cobble shore, or shoreline outcrop communities. Species assemblages of fish and macroinvertebrates are characteristic of riffle and rocky bottoms, and tend to be diverse (Edinger et al. 2002).

- Tidal River – The East River, which borders the site to the south, and the mouth of the Bronx River, which borders the site to the east, may be classified as a tidal river (Figure 8-1). Tidal rivers are associated with an aquatic community of continuously flooded substrates that support no emergent vegetation. There is generally a deep water and a shallow water zone, a vertical salinity gradient with a surface layer of fresh water floating over a deeper layer of brackish water and varying salinities that may fluctuate throughout the river. Fish assemblages may include year-round residents, seasonal migrants, and anadramous species. Deep water species may include Atlantic tomcod (*Microgadus tomcod*), hogchoker (*Trinectes maculatus*), and rainbow smelt (*Osmerus mordax*), while shallow water species may include striped bass (*Morone saxatilis*), American shad (*Alosa sapidissima*), banded killifish (*Fundulus diaphanus*), spottail shiner (*Notropis hudsonius*), tesselated darter (*Etheostoma olmstedi*), and pumpkinseed (*Lepomis gibbosus*). Fish occurring in both deep and shallow water include bay anchovy (*Anchoa mitchilli*), blueback herring (*Alosa aestivalis*), white perch (*Morone americana*), and alewife (*Alosa pseudoharengus*) (Edinger et al. 2002).

8.1.2 Surface Waters

The site is bordered by the East River to the south and the Bronx River to the east. The NYSDEC classifies these rivers as Class I waters, indicating a best usage for secondary contact recreation and fishing (NYSDEC Environmental Resource Mapper).

The Bronx River flows approximately 23 miles from Valhalla, New York near the Kensico Reservoir, through Westchester County and the Bronx, to its confluence with the East River. The watershed of the upper 15 miles is characterized primarily by suburban development. Along the lower 8 miles, the area transitions to dense residential and industrial development. Just south of the Westchester/Bronx County Border, the river flows through the New York Botanical Garden and the Bronx Zoo for almost 2 miles. The lower 2.5 miles of the river, from the Cross-Bronx Expressway crossing to the mouth, is tidal with the lower 2 miles serving as a federally designated navigable waterway. The Hunts Point area at the mouth of the Bronx River is designated as a Special Natural Waterfront Area by the NYSDEC (Bronx River Alliance 2006). Additionally, to the east across the Bronx River, narrow strips of littoral shelf remain at the toe of banks in some places and are the focus of a New York City Parks Natural Resources Group shellfish restoration project.

The East River is a narrow tidal straight connecting Long Island Sound and Upper New York Harbor, extending approximately 16 miles from Willets Point to the Battery. The East River is divided into the upper and lower East River at Hell Gate (at the Triborough Bridge). Tidal currents in the upper East River are strong, reaching up to 1 m/sec. Flow in the upper East River can be stratified with the net movement of surface water towards the sound and the net movement of bottom water towards New York Harbor. The East River is a managed vessel traffic service area used for commercial and industrial navigation.

8.1.3 Wetlands

National Wetland Inventory (NWI) maps are generated by the United States Fish and Wildlife Service (USFWS) using stereoscopic analysis of high altitude aerial photographs. The majority of these mapped wetlands are not field-verified. According to the NWI map for the site (Figure 8-2), there are multiple wetlands within a 2-mile radius of the site. Two wetlands (PSS1F and PEM1A) are mapped within site boundaries, but have not been field-verified. Although these wetlands are likely not present given the redevelopment at the site, if they are still present, these wetlands may be fed by surface-water runoff or shallow groundwater given the depth to groundwater at the site, which ranges from approximately 2 to 15 feet bgs. One wetland, R4USC, is located 0.75 miles north of the site. Groundwater is expected to flow to the east from the site into the Bronx River; therefore, R4USC is not expected to be hydraulically connected to the site. The remaining NWI wetlands are generally located greater than 1 mile from the site and, as such, are not expected to be hydraulically connected to the site.

According to the NYSDEC Freshwater Wetlands Map, there are no state wetlands within a 2-mile radius of the site (Figure 8-3).

8.2 Fish and Wildlife Resources

Due to the predominantly commercial/industrial/residential land use of the site and surrounding areas, wildlife usage of these areas is expected to be limited to common species typical of urban environments (e.g., small mammals, passerine birds). Conversely, both the Bronx and East Rivers potentially support diverse assemblages of fish and macroinvertebrate species; however, current and historic anthropogenic influences may limit habitat quality in these rivers.

The site and surrounding areas to the north, northwest, and northeast are primarily characterized as commercial/industrial/residential. This cover type primarily consists of paved surfaces and buildings, which do not provide any natural wildlife habitat. The paved portions of the site and surrounding areas (i.e., buildings, parking lots, and paved roads) are not conducive to wildlife usage because there is little to no natural habitat. Wildlife species that may use these cover types generally consist of species that are adapted to urban environments. Typical wildlife species include, but are not limited to, avian insectivores, avian granivores, mammalian herbivores, and mammalian omnivores. The residential/commercial/industrial cover type may offer some limited habitat to these species for foraging, nesting, and/or shelter, but regionally, this urban cover type is of low value to wildlife.

A community park (Sound View Park) is located approximately 500 feet from the eastern boundary of the site, across the Bronx River. It is a 163-acre park developed on top of a landfill. Much of the park has been developed for recreational purposes and contains facilities, such as sports fields and walking/biking paths. Natural habitats within the park include meadows, salt marshes, lagoons, and mud flats, as well as areas of

mowed lawn with mature trees. These undeveloped upland portions of the park may provide ecological habitat to local species, such as small mammals and birds. The undeveloped aquatic areas within the park may provide habitat to aquatic and semi-aquatic fauna, such as amphibians and migratory birds. These terrestrial and aquatic habitats may be used by local wildlife for foraging, nesting, and/or cover.

The Bronx River abuts the site to the east and, with the exception of the tidal portion of the river directly adjacent to the former MGP, this water body may be classified as a confined river. This cover type typically supports a diverse community of fish and macroinvertebrates characteristic of riffle and rocky bottoms. The mouth of the Bronx River directly adjacent to the site may be classified as a tidal river. This cover type typically has a vertical salinity gradient with a surface layer of fresh water floating over a deeper layer of brackish water and fluctuating salinities. In general, it supports deep water and shallow water fish assemblages that may include year-round residents, seasonal migrants, and anadramous species. However, the Bronx River is an urban river system and the presence or absence of particular aquatic species depends on the species' tolerance to the altered conditions of an urban river system. Based on studies of the aquatic invertebrate population, the NYSDEC has classified the Bronx River as moderately impacted, which is defined as "altered to a large degree from the pristine state" (NYC Parks 2013). In order to increase fish and shellfish habitat, an oyster reef restoration project has been implemented along the southern shoreline of Sound View Park where the Bronx River opens to the East River. The current fish assemblage of the Bronx River, while representative of an urban system, is still diverse. The predominant species are generally tolerant of disturbed and polluted environments (NYC Parks 2013). There is little quantitative data on the abundance and distribution of amphibians, reptiles, and mammals in the Bronx River watershed, but there are strong indications that many of these animals do live in and around the river. Species, such as muskrat, snapping turtles, and red-backed salamanders, have been sighted (NYC Parks 2013).

The East River borders the site to the south and may be classified as a tidal river. This cover type typically has a vertical salinity gradient with a surface layer of fresh water floating over a deeper layer of brackish water and varying salinities that may fluctuate throughout the river. In general, it supports deep water and shallow water fish assemblages that may include year-round residents, seasonal migrants, and anadramous species. The East River is an urban river and the presence or absence of a particular aquatic species depends on the species' tolerance to the altered conditions of an urban river system. Aquatic communities in many segments of the East River are considered impaired, and fish consumption advisories are posted for all fish caught in the river (NYSDOH 2013; NYSDEC 2011).

8.2.1 Threatened/Endangered Species and Significant Habitat

An information request for threatened/endangered species information was submitted to the NYSDEC Natural Heritage Program (NHP) on July 1, 2013 to inquire about the potential presence of sensitive species or habitats in the vicinity of the site. A response received from the NHP on July 17, 2013 indicates no

records of rare or state-listed animals or plants, or of significant natural communities at the site or within 2 miles of the site (NYSDEC 2013).

The USFWS recommends an evaluation of site habitat and consultation with the NYSDEC NHP to evaluate the potential presence of threatened/endangered species. Information on federally listed threatened and endangered plants and animals was obtained through the USFWS website (http://www.fws.gov/endangered/). Based on the available information, the threatened species piping plover (*Charadrius melodus*) is listed as known to or believed to occur in Bronx County. However, the habitat requirements of the piping plover generally consist of sandy beaches for nesting and mudflats and sandflats for foraging (USFWS 2013), none of which can be found at the site (i.e., within Hunts Point). Therefore, this species is not expected to occur on site, but could occur in surrounding areas of the site where suitable habitat exists. An information request for threatened/endangered species information was also sent to Ms. Robyn Niver of the USFWS on July 1, 2013. A response has not yet been received from the USFWS.

8.2.2 Observations of Stress

No evidence of stressed vegetation or negative impacts on wildlife was observed within the site or surrounding areas during site investigation activities.

8.3 Fish and Wildlife Resource Values

As part of the FWRIA, a qualitative assessment was conducted to determine the general ability of the site and surrounding areas to support fish and wildlife. The sections below provide a qualitative evaluation of the value of the identified cover types to wildlife and the value of these wildlife resources to humans.

8.3.1 Value of Habitat to Associated Fauna

The qualitative assessment of habitat value is based on research and professional judgment.

The site and surrounding areas on Hunts Point consist primarily of paved surfaces (roads and parking lots) and buildings. Wildlife use of the site is expected to be limited due to the surrounding commercial/industrial/residential land use. The site does offer isolated pockets of natural habitats and open space, such as at the Hunts Point Landing fishing pier, which are likely used by species adapted to urban environments (e.g., small mammals, passerine birds). These urban landscapes generally do not provide high wildlife value due to the limited vegetation, presence of impervious surfaces (e.g., roads, parking lots), and anthropogenic disturbances, but may offer resources for foraging, cover, and/or nesting. Because there are only small, fragmented pockets of vegetated habitat present within the site, the site is concluded to have low value to wildlife.

The community park cover type consists of sports facilities, mowed lawns with mature trees and shrubs, meadows, salt marshes, lagoons, and mud flats. The areas of the park dominated by sports facilities and mowed lawns are characterized by low, regularly maintained herbaceous vegetation interspersed with shrubs and tree cover, as well as paved areas and bare ground. The location of this cover type within an urban setting, the lack of dense groundcover, and the design of these areas for human use likely limit its value to local wildlife. Therefore, these areas are concluded to have low value to wildlife. In contrast, the meadows and salt marshes likely provide aquatic, semi-aquatic, and terrestrial wildlife with habitat for cover, nesting, rearing, and foraging. The mudflats provide important habitat for invertebrates and foraging sites for migratory and shore birds. The lagoons provide aquatic wildlife with habitat for cover and foraging and may provide foraging habitat for terrestrial wildlife. These areas of the community park located on the eastern side of the Bronx River at Sound View Park are concluded to have a high wildlife value.

The Bronx River is a predominantly confined river (i.e., upstream of the site) located within an urban river system. The Bronx River provides aquatic and semi-aquatic wildlife with habitat for cover, nesting, rearing, and foraging. Additionally, it may provide resources to terrestrial wildlife (e.g., as a water source or foraging habitat). It is characterized by the NYSDEC as moderately impacted and the predominant animal species are generally tolerant of disturbed and polluted environments (NYC Parks 2013). Therefore, the Bronx River is concluded to have a moderate value to wildlife.

The East River is a narrow tidal river with a swift current. The East River provides aquatic wildlife with habitat for cover, nesting, rearing, and foraging. Additionally, it may provide resources to terrestrial wildlife (e.g., as a water source or foraging habitat). Aquatic communities in many segments of the East River are considered impaired (NYSDEC 2011). Potential tide pool restoration activities along the Hunts Point Landing fishing pier may provide aquatic and semi-aquatic wildlife with additional habitat for cover, nesting, rearing, and foraging. As such, the East River is concluded to have a moderate value to wildlife.

8.3.2 Value of Resources to Humans

The site currently offers limited natural resources that encourage recreational use. Activities are generally limited to walking or biking along paved roads (e.g., Food Center Drive), with the exception of the Hunts Point Landing fishing pier, which is located adjacent to the DSNY marine transfer station. The fishing pier provides fishing access, a potential kayak launch, and passive recreational activities (e.g., walking along the shoreline, bench areas). Shoreline access to the Bronx and East Rivers from the site is generally limited, and the shorelines are primarily composed of riprap, steel bulkheads, and fill. However, as part of the South Bronx Greenway development project, additional areas of Hunts Point, including on-site areas, may be developed into small community parks and/or recreational areas with biking and walking paths and potential river access (Vinnitskaya 2012).

Sound View Park, located across the Bronx River from the site, is an important area for recreational use. There are developed areas that offer sports fields, playgrounds, and paved walking/biking paths, as well as natural areas used for nature walks, bird watching, fishing, and canoeing/kayaking.

The East River has a strong tidal current and is heavily used for commercial/industrial navigation. The Bronx River is a shallow river and the portion of the river adjacent to the site serves as a federally designed navigable waterway. These rivers may also be utilized for recreational uses, such as boating and fishing.

8.4 Fish and Wildlife Criteria

The following New York State laws, rules, regulations, and criteria are relevant to the FWRIA:

- Title 6 of the NYCRR
  - Part 608, Use and Protection of Waters
  - Part 664, Freshwater Wetlands Maps and Classifications
  - Part 701, Classifications — Surface Waters and Groundwaters
- Environmental Conservation Law — Chapter 43-B of the Consolidated Laws
  - Article 11, Fish and Wildlife:
    - ✓ §11-0503, Polluting Streams Prohibited
    - ✓ §11-0535, Endangered and Threatened Species
  - Article 15, Water Resources: Title 5, Protection of Water
  - Article 24, Freshwater Wetlands
- Criteria and Guidelines
  - Technical Guidance for Screening Contaminate Sediments (NYSDEC 1999)

8.5 Impact Assessment

This section presents an impact assessment to determine the potential impacts to fish and wildlife resources. The impact assessment includes a pathway analysis, which determines if there are complete, or potentially complete, ecological exposure pathways to site-related constituents, and a criteria-specific analysis, which compares available site data to standards, criteria, and guidance (SCGs).

8.5.1 Pathway Analysis

The objective of the pathway analysis is to evaluate potential exposure pathways by which fish and wildlife receptors may be exposed to site-related constituents in environmental media. A complete exposure pathway consists of the following five elements:

- Contaminant source
- Contaminant release and transport mechanisms
- Potential point of exposure
- Viable route of exposure
- Receptor population

If any one of these elements is missing, the pathway is then not considered to be complete and exposure cannot occur, irrespective of chemical concentrations in environmental media. The potential medium of interest associated with the site is sediment. Potential exposure pathways associated with sediment are discussed below.

A total of 125 sediment samples were collected in 2012 and 2013. Of these, 29 sediment samples from 27 sampling locations are considered for purposes of the FWRIA. Specifically, sediment samples collected between 0 to 2 feet bss were considered for ecological assessment, consistent with DER-10 guidance (NYSDEC 2010a). Sediment samples were collected along the entire site shoreline, as well as offshore in the Bronx and East Rivers. The Bronx and East Rivers provide moderate wildlife value and, as such, sediment is considered to be a potentially complete ecological exposure pathway for aquatic and semi-aquatic receptors. However, water depths along the shoreline most likely preclude direct contact exposures for terrestrial receptors.

8.5.2 Criteria-Specific Analysis

The objective of the criteria-specific analysis is to evaluate potential ecological impacts for those media that present potentially complete ecological exposure pathways. Specifically, the criteria-specific analysis compares available site data to SCGs to identify COPECs.

Sediment samples were analyzed for VOCs, SVOCs, metals and cyanide, and TOC. Sediment sampling locations are shown on Figure 3-1. Sediment samples were collected from multiple locations along the site shoreline, as well as offshore in the Bronx and East Rivers.

Sediment SCGs were taken from NYSDEC (1999) Technical Guidance for Screening Contaminated Sediments. Specifically, sediment data were compared to saltwater screening levels, including BAL-A, BAL-C, and WB for VOCs and the ER-L and ER-M levels for SVOCs and metals and cyanide. Consistent with NYSDEC (1999) guidance, equilibrium partitioning-based screening levels were adjusted on a sample-specific basis for TOC. Table 8-1 presents the comparison of sediment data to screening levels.

Several VOCs were detected but none exceeded their respective screening levels.

Several SVOCs were detected and 14 constituents were present at concentrations that exceeded the ER-L and/or the ER-M screening levels in all 29 samples that were the focus of this FWRIA. Specifically, 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, naphthalene, phenanthrene, and total PAH concentrations exceeded ER-L and ER-M screening levels in various samples. Benzo(a)anthracene, benzo(a)pyrene, and pyrene were present at concentrations that exceeded their respective ER-M screening levels in all 29 samples. The highest total PAH concentrations were observed in samples SD-07B, SD-09, SD-23, SD-27, and SD-73. These samples were collected from the Bronx River, adjacent to Parcel C, and from the East River, adjacent to Parcel B (Figure 3-1). The majority of these samples were collected relatively close to the shoreline in water depths ranging from 11 to 37 feet.

Several inorganics (metals) were present at concentrations that exceeded their associated ER-L and ER-M screening levels in multiple samples, including copper, lead, mercury, nickel, silver, and zinc. Cadmium and chromium exceeded their associated ER-L screening levels in multiple samples, but their associated ER-M screening levels in just a few samples (four and two samples, respectively). Arsenic exceeded its ER-L screening level in 27 of the 29 sediment samples, but not the ER-M in any samples. Elevated metals concentrations do not follow a discernible spatial trend and were observed at various sampling locations within the Bronx and East Rivers. Sediment sample SD-67, collected near the confluence of the Bronx and East Rivers adjacent to Parcel C, had elevated concentrations of several metals. Water depth at this sampling location was 19 feet.

Based on the comparison of sediment data to screening levels, PAHs and several inorganics, described above, are the primary COPECs at the site. Based on the water depths at the sampling locations that exhibited the largest exceedances of screening levels, ecological exposure to these sediments would likely be restricted to bottom-dwelling species (e.g., fish, shellfish). Exposure of terrestrial fauna to these sediments is unlikely given water depths at these locations.

8.6 Summary and Conclusions

The FWRIA for the site was conducted in accordance with NYSDEC (1994, 2010) guidance. The site and surrounding areas on and near Hunts Point are primarily characterized as a mixture of commercial,

industrial, and residential properties with some recreational use at the Hunts Point Landing fishing pier. The Bronx River (classified as a confined river upstream of the site and a tidal river adjacent to the site) and the East River (classified as a tidal river) border the site to the east and south, respectively. Across the Bronx River from the site is a 163-acre community park (Sound View Park), which contains some natural habitats (e.g., mudflats) and recreational facilities (e.g., sports fields, walking/biking paths). The commercial/industrial/residential cover type provides limited wildlife habitat for foraging, nesting, and/or cover and, as such, is concluded to have low wildlife value. The developed recreational areas within the community park are concluded to have low wildlife value, but the natural habitats within the park (e.g., meadows, salt marshes, lagoons and mud flats) are concluded to have high wildlife value. The Bronx and East Rivers are concluded to have moderate wildlife value.

Sediment samples were collected along the entire site shoreline of the Bronx and East Rivers. Sediment represents a potentially complete ecological exposure pathway for aquatic receptors (e.g., fish, marine birds). Water depths along the river shorelines (generally greater than 4 feet deep) most likely preclude direct contact exposures for terrestrial receptors. Based on a comparison of sediment data for the 0 to 2-foot bss depth interval to SCGs, the primary COPECs in sediment are PAHs and metals. Several PAHs were detected above screening levels in all 29 samples that were the focus of the ecological assessment. Six metals were detected above the ER-M screening level in multiple samples, and three metals were detected above the ER-L screening level in multiple samples. Sediment samples with relatively higher PAH and metals concentrations were primarily collected near Parcels B and C in water depths that ranged from 11 to 37 feet. Therefore, exposure of bottom-dwelling species to COPECs in sediments may be a significant ecological exposure pathway. However, PAHs and metals are ubiquitous in urban river sediments including the Bronx and East Rivers. As discussed in Section 5.2, various point and non-point sources of PAHs and metals exist that can transport these constituents to the Bronx and East Rivers sediments. Potential point sources include CSO outfalls, storm sewer outfalls, and other sites (e.g., Sound View Park). Potential non-point sources include pathways, such as atmospheric deposition, sediment deposition from tidal flow, and activities, such as dredging operations, runoff from impervious surfaces, and leaching and/or erosion from historical fill on the riverbanks. These sources can contribute to the background concentrations of PAHs and metals found within Bronx and East Rivers sediments.

9. Conceptual Site Model

Hunts Point is an approximately 690-acre peninsula located at the confluence of the Bronx and East Rivers. These urban rivers are part of a dynamic tidal system in the greater New York City area that connects the Upper New York Harbor to Long Island Sound. Throughout the 20th century, the Bronx and East Rivers have been affected by human activities, such as historic and current land use, developing infrastructure (e.g., buildings, roads, WWTP), filling of wetlands and river sections, installing subaqueous utilities (Bronx River Tunnel, Iroquois Pipeline, the NYCDEP waterline, and an unknown utility), constructing bulkheads along shorelines, dredging sediments, discharging of stormwater and CSOs, as well as significant usage for commercial and industrial navigation. Natural drainage pathways that once existed along the northern and western boundaries of Hunts Point have since been modified by infilling and the development of Hunts Point, and may not currently convey stormwater runoff.

Current land use along both the Bronx and East River portions is predominately commercial and industrial (e.g., the food distribution centers, WWTP) with small pockets of residential and open space. The developed Hunts Point properties consist of large warehouses surrounded by paved parking areas and roads (e.g., Food Center Drive) and access roads. Previous land use was also commercial and industrial, including the DSNY marine transfer station, the Hunts Point former MGP, and the former landfill at Sound View Park. The East River and the lower portion of the Bronx River are used heavily for commercial and industrial navigation. As documented during the site reconnaissance (Section 4.1), eight drain pipe features were observed along the Hunts Point shoreline as follows:

Designation	Location	Description
Outfall 1	Northern area, Krasdale property	12-inch pipe
Outfall 2	Northern area, Krasdale property	12-inch pipe
Outfall 3	Northern area, Krasdale property	12-inch pipe
Outfall 4	Central area, Parcel C	60-inch outfall
Outfall 5	Central area, DSNY marine transfer station	12-inch pipe
Outfall 6	Southern area, NYCDEP CSO	tunnel
Outfall 7	Southern area, NYCDEP	24-inch pipe
Outfall 8	Southern area, WWTP	24-inch pipe
Not named	Southern area, prison barge parking lot drains	Multiple 6-inch pipes

On the upland portion of Hunts Point, fill materials, such as coal, slag, ash, and wood intermingled with sand and gravel are present across the site. Some of these fill materials were likely placed prior to the development of the MGP. Additional fill materials (e.g., purifier wastes) were also placed on site from the former MGP operations. In addition, there are large distinct areas of fill along the shoreline of Parcels D and F and the Krasdale property, near the former marine transfer station, the prison barge parking lot, and the western boundary of the site. These large fill areas were created between 1947 and 1975; the origins of the fill are unknown but may include dredged sediment from navigational and maintenance dredging. Along the northern portion and north of the site, former wetland areas on the east and west sides of the Bronx River

were mostly filled in by 1952. In addition to these fill areas, as discussed in Section 2.4, fill materials were redistributed in the upland during the recent development of the Hunts Point as a food distribution center.

Within the Bronx and East Rivers, navigational and maintenance dredging has occurred. The lower 2.5 miles of the Bronx River is tidal with the lower 2 miles serving as a federally designated navigable waterway with channel water depths historically maintained between 7 and 10 feet. Outside the channel, water depths have been and are currently shallow at 1 to 2 feet along the northern portion of the site. The last known dredging of the Bronx River navigation channel occurred in 1991. In the central area where the Bronx River meets the East River, dredging occurred along the shoreline from approximately 1932 to 1962, presumably for coal vessels to deliver materials to the former MGP. A 30-foot channel was depicted on the 1932 NOAA chart, and up until the 1972 NOAA chart, water depths along the central area generally ranged from 19 to 33 feet in an irregular rectangular-shaped area but not as a distinct channel. Starting in 1972, the water depths decreased to their present depths of 15 to 17 feet, indicating sediment deposition of approximately 13 to 15 feet. Near the former marine transfer station, water depths are still generally deep, approximately 29 feet, indicating that maintenance dredging likely continued around the station to facilitate the access and egress of the waste vessels. Outside this former dredged channel area adjacent to the central area, water depths were deeper in 1922 and 1932 and then filled in over time to the present. In the southern area, there did not appear to be any significant maintenance dredging over time in the channel margins of the East River. Water depths immediately along the shoreline of the site appear to be relatively shallow (less than 10 feet) with a steep gradient to the deep main channel of the East River. The East River is a narrow tidal straight connecting Long Island Sound and Upper New York Harbor; the river around Hunts Point is a navigable waterway with channel water depths ranging from approximately 40 to 60 feet. In addition to the aforementioned navigation and maintenance dredging, sediment may have been dredged and/or disturbed during the installation and maintenance associated with the subaqueous utilities, including the Bronx River Tunnel, Iroquois Pipeline, the NYCDEP waterline, and an unknown utility.

The Hunts Point former MGP operated from 1922 to 1968. As described in Section 2, various investigations and remediation completed on site (upland area) have documented petroleum and MGP-related residuals, including coal tars, oils, purifier wastes, as well as constituents associated with these residuals, such as BTEX, PAHs, and inorganics, including cyanide. Coal tars were observed sporadically at Parcel D, the Krasdale property, Parcel C, and Food Center Drive, and larger areas of coal tar were observed at Parcel B and the OU2 portion of Parcel A. At Parcel B, petroleum impacts consisting of sheens, globules, and LNAPL were observed in the center of this parcel adjacent to the prison barge parking lot. The LNAPL consisted of weathered gasoline and fuel oil. Petroleum-impacted soil was also noted throughout Parcel D. Purifier wastes were observed along Food Center Drive and at Parcels D and F and the Krasdale property but did not appear to extend south onto Parcel C. In addition, purifier wastes were also observed in portions of Parcel B and the OU2 portion of Parcel A. BTEX and PAHs were the primary constituents associated with coal tar and petroleum residuals, while low pH, cyanide, metals (primarily copper, nickel, and iron), sulfides,

and carbon disulfide were associated with the purifier wastes (based on the recent investigation at the Krasdale property).

In the sediments, no coal tars, petroleum products, or purifier wastes were observed. Sheens, primarily in trace to little amounts as tiny dots within the sediment pore spaces, were observed in the sediment. Subsequent forensic evaluations concluded that the sheens were primarily associated with petroleum hydrocarbons from weathered heavy and mid-distillate oils. In addition to identifying petroleum hydrocarbons, the forensic evaluation also identified the presence of pyrogenic materials (e.g., coal tar products, such as MGP residuals, creosote, asphalt sealcoat). Sheens were only observed on the water surface during the retrieval of sediment core SD-07B located near Outfall 4 and during the investigation at Parcel C. On Parcel C, coal tar was documented in the subsurface north of the outfall and sediment core SD-07B. The forensic evaluation of SD-09, further north of SD-07B, indicated the presence of coal tar product constituents with minor amounts of petroleum constituents. No sheens were observed in this sample. Blue staining on the riprap and blue-tinted surface water near Outfall 1 were also observed. Outfall 1 is the discharge point of the Krasdale storm sewer, which will be rehabilitated/replaced to mitigate groundwater impacted with purifier waste-related constituents.

The representative constituents detected in the sediments from the Bronx and East Rivers included PAHs and six metals, including copper, nickel, lead, mercury, silver, and zinc. The distribution of these constituents, as well as select constituents observed in the upland, BTEX, carbon disulfide, and cyanide were evaluated for patterns suggesting the origins of these constituents. Each of the six metals was detected in upland soils. With the exception of silver, these constituents were also detected in groundwater, and copper, lead, nickel, and zinc were detected in stormwater samples (from the Krasdale property sewer). The spatial distribution of the metals generally does not correlate with the PAHs.

Overall, the distribution of the PAHs above the East River background level in surface sediments indicates a PAH cluster near Outfall 4 on Parcel C but no other discernible patterns. In deeper sediments below 6 feet bss, the distribution of the PAHs above the East River background level indicate PAH clusters east of the former dredged channel in the central area, and west of Parcel B and the prison barge parking lot in the southern area.

In the surface sediments, three of the six metals (lead, mercury, and silver) are present above ER-M/ background levels throughout the northern, central, and southern areas with no discernible patterns. The remaining three metals (copper, nickel, and zinc) are not as widely distributed. Zinc and nickel are below the ER-M in the northern area, detected in the same locations in the central area, and sporadically in the southern area. Copper follows a similar distribution in the central area as zinc and nickel, but was also observed above the ER-M in the northern area and throughout the southern area. In the subsurface sediments, five of the six metals (copper, lead, mercury, silver, and zinc) are present above ER-M throughout the northern, central, and southern areas and only nickel is not as widely distributed. Nickel

distribution in the subsurface sediments is similar to the nickel distribution in the surface sediments, except that nickel was also observed above the ER-M in the northern area. Overall, there are no distinct patterns of distribution for the metals, as the metals are observed near outfalls, in surface sediments, in subsurface sediments, near shore, and away from shore.

For other constituents observed in upland soil and groundwater (BTEX, carbon disulfide, and cyanide), screening levels were not available for comparison. However, in comparison to upland concentrations, as well as the relative concentration distribution patterns, these constituents are not as widely distributed nor present at concentrations that resemble those detected in the upland media.

The former MGP may be a source of the petroleum-related sheens (i.e., dots of sheen-observed in sediment pore spaces), PAHs, certain metals, BTEX, carbon disulfide, and cyanide in sediments via historic migration pathways, such as the natural drainage pathways that once existed along the northern and western boundaries of Hunts Point, run-off from the MGP during operations, transport in groundwater, and/or other unidentified pathways (e.g., piping to the rivers). If the MGP is a source, the lack of source materials (i.e., no tars, oils, or purifier wastes) and the diffuse distribution patterns of the constituents in the sediments suggest limited inputs from the MGP to the rivers. Currently, there appear to be two potential active migration pathways transporting MGP-related constituents to the rivers. Outfall 1 potentially conveys groundwater with purifier waste-related constituents to the Bronx River. As discussed above, the Krasdale storm sewer will be rehabilitated/replaced to mitigate groundwater entering into and discharging from this sewer. The other current pathway may be associated with Outfall 4 at Parcel C. Coal tar product constituents were observed in the surface sediment near this outfall, and coal tar was observed in the upland soils near this outfall. This suggests a potential connection from the upland to the river, but the exact migration pathways are not known. Using the results from the recent investigation at the Krasdale property, current groundwater migration pathways do not appear to be active based on the no to low concentrations of constituents in groundwater along the shoreline (except downgradient of the storm sewer, which will be rehabilitated/replaced). The presence of the filled land along Parcels D and F, the Krasdale property, the DSNY marine transfer station, the prison barge parking lot, and the western boundary of the site may also serve as a buffer (depending on the nature of the fill) between upland impacts and the rivers based on the observations from the recent Krasdale investigation. The 2013 investigation of the prison barge parking lot will further evaluate the filled areas as buffer zones to contaminant migration to the East River as subsurface impacts (LNAPL and purifier waste) were observed at Parcel B adjacent to the parking lot.

In addition to the potential historic and current migration pathways originating from the former MGP, numerous other current and historic migration pathways exist throughout the river systems, including various point and non-point sources. Point sources to the Bronx and East Rivers include CSO and stormwater outfalls, permitted discharges, potential illegal discharges, other waste sites (e.g., Sound View Park), as well as a variety of other potential spills and sources. Non-point sources include general urban runoff, especially from roads and other paved surfaces, as well as historic filling activities in the Bronx and East Rivers. For

example, the Bronx River and Ecological and Watershed Management Plan (Bronx River Alliance 2006) discusses that the water quality problems in the river are related to stormwater from parking lots, sidewalks, roads, and roofs that flow directly into the Bronx River through more than 100 discharge pipes. Further, this report indicates that these discharge pipes also often carry additional wastes from illegal connections to residential sanitary systems, gas stations, laundromats, or other small industries. Metals and PAHs can be associated with vehicles (e.g., emissions, fuels, oils, tires), roads/parking lots (e.g., asphalt, seal coating), railroads/rail yards (e.g., treated ties), building materials (e.g., roofing), coal/wood combustion, as well as industrial sources (e.g., landfill waste, waste from the marine transfer station). These potential sources of PAHs and metals could be transported to the rivers via stormwater runoff, drainage way flow, storm sewer and CSO discharges, and/or erosion. The fill areas at and north of the site may contain constituents, such as metals and PAHs, although the fill materials along the shoreline at the Krasdale property generally contained no to low concentrations of constituents.

The presence and extent of PAHs and metals from multiple sources are also evident in the East River background level for PAHs, as well as the USACE pre-dredging sampling results for metals from both the Bronx and East Rivers, used herein as background screening levels in conjunction with the NYSDEC sediment screening levels. The distribution of PAHs and metals appear to be related to multiple sources and multiple pathways into the rivers. The constituents present as a result of the multiple sources and pathways are then transported/altered by physical and chemical processes within the rivers, further complicating their distribution patterns. For example, constituents sorbed onto suspended sediments, as well as resuspended sediments can then be transported within the rivers via currents, tides, waves, and storm surges. Conversely, over time sediment with constituents can be buried by sediment deposition. Finally, as discussed above, navigational and maintenance dredging can remove impacted sediments from the river systems and create sinks for subsequent sediment deposition.

As part of the RI, an FWRIA and HHEA were conducted. The FWRIA indicates that sediment represents a potentially complete ecological exposure pathway for aquatic receptors (e.g., fish, marine birds). Water depths along the river shorelines most likely preclude direct contact exposures for terrestrial receptors. PAHs and metals were detected above NYSDEC screening levels and were the focus of the ecological assessment. Surface sediment samples with relatively higher PAH and metal concentrations were primarily collected in the southern and central areas in water depths that ranged from 11 to 37 feet. Therefore, exposure of bottom-dwelling species to site-related COPECs in sediments may be a significant ecological exposure pathway. However, the Bronx and East Rivers have been classified as moderately impacted and impaired by the NYSDEC, due to various urban sources.

The focus of this HHEA was sediments within the East and Bronx Rivers; PAHs are the primary COPCs. Based on current and anticipated future land use, receptor populations that may be present at the site (Hunts Point) and surrounding areas (Sound View Park) include commercial workers, construction and utility workers, and recreational users. Sediment was identified as a potentially complete exposure pathway for

construction and utility workers and recreational users. However, exposure of construction and utility workers to sediments via direct contact is not expected to be a significant pathway because they would likely follow appropriate health and safety plans (e.g., use of PPE). Likewise, exposure of recreational users to sediments via direct contact is not expected to be a significant exposure pathway based on the water depths that are not conducive to wading, and commercial/industrial navigation that may affect recreational use of the rivers. Exposure to sediment COPCs via consumption of fish is also not a significant pathway due to the presence of consumption advisories on the East and Bronx Rivers, the limited bioconcentration of PAHs in fish parts typically consumed by humans, and the limiting factors that mitigate recreational use of these waterways.

10. Conclusions and Next Steps

Based on the results of the remedial investigation activities (summarized in this RIR), the potential migration of and extent of MGP-related impacts to/in sediments off site of the Hunts Point former MGP has been sufficiently characterized, with the exception of the area adjacent to Parcel C where a sheen was observed during coring at location SD-07B adjacent to an outfall (Outfall 4). In addition, blue staining was observed at the discharge point of the Krasdale storm sewer (Outfall 1); however, this area is being addressed as part of the investigation and remediation of OU2 of the Krasdale property. The storm sewer will be rehabilitated/replaced to mitigate migration of groundwater impacted with purifier waste-related constituents. A Pre-Design Investigation Report, including a conceptual remedial design, was approved by the NYSDEC, and the Remedial Action Work Plan is being prepared.

To evaluate if there is ongoing migration of MGP-related impacts from Parcel C to the sediments in the area at and around SD-07B and Outfall 4, the potential presence of preferential pathways on Parcel C, such as current/former buried utility lines will be evaluated. The investigation may consist of:

- Completion of a subsurface geophysical survey to locate subsurface utilities
- Completion of a closed-circuit television inspection of the piping associated with the outfall, to the extent possible (and other piping as appropriate)
- Advancement of soil borings along the piping associated with the outfall, or other piping as appropriate.
- A desktop review of bulkhead construction information, if available.

A Remedial Investigation Work Plan addendum (RIWP Addendum) will be prepared detailing the above scope of investigation activities, and the RIWP Addendum will be submitted to the NYSDEC for review and approval prior to implementation of the work. The results of the investigation will be included in an addendum to this RIR. The RIR Addendum will evaluate the information collected in the context of the existing CSM and the CSM will be updated as appropriate. The RIR Addendum will include proposed next steps for further investigation activities, or development of a feasibility study to address MGP-related impacts to sediments.

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Tables

Table 3-1
Sediment Core Collection Summary

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Sampling Location ID	Date Collected	Coordinates[1]		Target Penetration Depth (ft bss)	Actual Penetration Depth (ft bss)	Recovery[2] (ft)	Sediment[3] Surface Elevation	Water Depth (ft)
		Northing	Easting					
SD-01	12/4/2012	664166.92	718040.20	15	0.5	0	1.82	1.4
SD-01B	12/4/2012	664166.39	718019.01	15	0.5	0	0.76	2.4
SD-01C	12/4/2012	664087.37	717834.58	15	15	12.8	-7.1	10.4
SD-02	12/3/2012	664182.39	717904.73	15	1.1	0	-4.62	7.3
SD-02B	12/3/2012	664166.21	717901.23	15	9.4	8.7	-5.17	7.9
SD-03	11/27/2012	664253.45	717884.26	15	6.6	4.5	-4.32	8
SD-04	12/3/2012	665039.00	717388.83	15	15.1	13.5	-6.28	7.5
SD-05	12/3/2012	665106.91	717348.28	15	14.1	13.3	-6.98	6.3
SD-06	12/3/2012	665173.55	717316.53	15	10.3	9.3	-11.79	9.6
SD-07	11/30/2012	666548.33	718382.22	15	1.7	0	-17.63	15.9
SD-07B	11/30/2012	666557.62	718384.07	15	15	8.7	-18.62	17.4
SD-07C	11/30/2012	666553.03	718383.46	15	15	5	-18.04	18.1
SD-08	11/30/2012	666598.61	718480.85	15	5	4	-13.21	15
SD-09	11/27/2012	666647.94	718570.74	15	8.4	8.6	-12.8	10.9
SD-10	11/29/2012	666693.60	718654.13	15	12.8	11.5	-10.64	10.2
SD-11	11/29/2012	666987.12	719244.23	15	3.7	0	-8.3	11.6
SD-11B	11/29/2012	666998.56	719243.26	15	15	14.1	-9.1	12.5
SD-12	12/4/2012	666993.84	719686.60	15	8.3	7.9	-5.99	4.2
SD-13	12/3/2012	666935.66	719791.25	15	7.3	7.1	-5.83	2.8
SD-14	11/30/2012	666894.24	719864.74	15	4.5	3.4	-5.3	8.4
SD-14B	11/30/2012	666901.80	719866.90	15	7.4	6.3	-5.4	8.6
SD-15	12/5/2012	666872.45	719956.57	15	6	5.6	-6	3
SD-15B	12/5/2012	666888.03	719959.05	15	11.8	13	-5.66	3.1
SD-16	11/29/2012	666623.55	720496.78	15	5.5	4.2	-5.4	9.1
SD-17	11/28/2012	666591.75	720571.94	15	12	11.7	-5.6	6.3
SD-18	11/28/2012	666529.58	720706.46	15	6.9	6.1	-5.5	8.1
SD-19	11/29/2012	666492.28	720803.93	15	13.1	11.4	-5.6	9.3
SD-20	11/27/2012	666425.55	720880.30	15	0	0	-4.2	8.2
SD-20B	11/27/2012	666451.12	720887.00	15	8.4	7.5	-5.03	8.2
SD-21	11/28/2012	666413.27	720977.26	15	7.4	6.8	-4.4	8.5
SD-22	11/28/2012	666372.07	721072.59	15	15	15.2	-2.32	5.6
SD-23	12/5/2012	664309.45	717627.33	15	13.7	13.3	-17.1	17.1
SD-24	12/5/2012	665934.86	717451.94	15	15.1	13.1	-10.65	10.4
SD-25	12/11/2012	666461.57	718201.48	15	15	14.1	-22	18.5
SD-26	12/14/2012	666646.65	718369.21	15	15	13.2	-17.04	19.2
SD-27	12/11/2012	666621.38	718477.90	15	15	12.6	-19.1	14.9
SD-28	12/13/2012	666737.97	718538.78	15	15	14.1	-17.94	16.9
SD-29	12/13/2012	666790.00	718612.85	15	15	13.8	-17.54	18.8
SD-30	12/12/2012	666742.06	718735.57	15	2.1	0	-12.19	12.9
SD-30B	12/12/2012	666755.30	718731.51	15	15	14.3	-14.99	14.7
SD-31	12/12/2012	666928.82	719034.19	15	5.2	2.6	-15.43	12.6
SD-31B	12/12/2012	666941.70	719030.96	15	15	13.4	-17.39	13.9
SD-32	12/13/2012	667098.03	719226.38	15	15	16	-10.16	14.1
SD-33	12/13/2012	667030.67	719345.99	15	7.9	7	-8.36	13.3
SD-34	12/12/2012	666628.49	720503.97	15	9.1	8.5	-5.99	9.1
SD-35	12/7/2012	666683.24	720622.76	15	15	15.3	-5.49	3.1
SD-36	12/7/2012	666544.77	720712.80	15	7	6.6	-5.9	4.6
SD-37	12/6/2012	666594.07	720849.29	15	15	14.5	-6.65	4.1
SD-38	12/6/2012	666532.86	720931.21	15	15	13.8	-6.07	3.7
SD-39	12/7/2012	666461.42	720895.75	15	15	15	-5.43	5
SD-40	12/6/2012	666426.24	720983.59	15	15	15	-5.02	2.9

Notes:

1. Coordinates are based on the North American Datum of 1983 - State Plane New York Long Island.
2. Sediment core recovery was measured immediately before core processing.
3. Elevations are based on the North American Vertical Datum of 1988.
4. Water depth was measured at time of core collection.

ft = feet

bss = below sediment surface

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		Northing	Easting					
SD-41	1/11/2013	663798.14	717784.53	15	15	14.2	-7.59	10.7
SD-42	1/10/2013	666883.67	720219.55	15	15	15.4	-5.68	8.7
SD-43	1/8/2013	663897.65	717808.25	15	15	13	-7.2	10.7
SD-44	1/8/2013	663792.41	717695.70	15	15	14	-7.4	10
SD-45	1/7/2013	663992.75	717668.80	15	15	14.8	-7.2	3.3
SD-46	1/8/2013	664265.40	717740.02	15	15	14.8	-7.5	4.4
SD-47	1/8/2013	664178.56	717533.08	15	15	14.3	-9.4	5.9
SD-48	1/3/2013	665042.76	717283.44	15	14.1	14.9	-21.25	22
SD-49	1/3/2013	665117.37	717257.43	15	9.2	9.7	-21.54	20.5
SD-50	1/4/2013	665279.33	717259.05	15	2.4	1.8	-17.2	13.9
SD-50B	1/7/2013	665268.99	717244.01	15	2.9	3.1	-19.6	18.9
SD-50C	1/7/2013	665254.06	717214.64	15	2.3	0	-21.5	0
SD-51	1/3/2013	665982.76	717387.24	15	15	14.6	-26	23
SD-52	1/3/2013	666037.41	717506.84	15	3.8	0	-19.1	15.5
SD-52B	1/3/2013	666057.49	717482.29	15	15	14.2	-23.7	20.1
SD-53	1/2/2013	667078.96	718091.87	15	15	13.9	-6.8	9.5
SD-54	1/2/2013	667098.29	718323.59	15	15	13.8	-6.9	9.4
SD-55	12/20/2012	667097.44	718535.15	15	15	14.2	-6.85	5.7
SD-56	12/18/2012	667110.17	718754.67	15	15	13	-6.9	8.6
SD-57	12/18/2012	667212.97	718922.00	15	15	15.8	-7.1	6.5
SD-58	12/17/2012	666701.33	720763.70	15	15	15.4	-8.96	13.7
SD-59	12/18/2012	666641.00	720880.11	15	15	14.5	-8.2	11.9
SD-60	12/18/2012	666617.76	720971.38	15	15	14.8	-10.27	10.8
SD-61	12/18/2012	666571.68	721060.30	15	15	15.2	-8.5	7
SD-62	12/20/2012	667045.35	719585.66	15	11.1	10.8	-6.58	5.6
SD-63	12/19/2012	667113.15	719757.86	15	11.3	11.3	-10.7	7.9
SD-64	12/19/2012	667045.74	719946.83	15	11	10.1	-11.2	8.6
SD-65	12/29/2012	666836.48	720043.84	15	14.3	13.7	-4.9	4.5
SD-66	1/9/2013	666372.10	718039.01	15	15	14	-21.27	16.3
SD-67	1/9/2013	666207.20	717735.31	15	15	11.8	-21.57	18.7
SD-68	1/10/2013	666717.98	720283.44	15	10.9	9.5	-5.4	8.6
SD-69	1/9/2013	666946.49	717701.40	15	15	13.3	-8.54	12.5
SD-70	1/10/2013	666828.13	720378.16	15	15	13.9	-5.96	9.2
SD-71	1/11/2013	667158.37	718837.82	15	15	12.7	-6.55	11.2
SD-72	1/11/2013	666895.87	718298.30	15	15	13.7	-7.35	11.4
SD-73	1/14/2013	666137.38	717253.90	15	7.9	7.4	-35.9	37.3
SD-74	1/14/2013	664941.27	717108.55	15	7.5	5.1	-40.5	45.1
SD-75	1/14/2013	663852.12	717520.39	15	15	11.6	-12.5	16.9
SD-76	1/17/2013	666753.70	720529.78	30	17.8	16.7	-5.89	5.8
SD-77	1/16/2013	666984.40	718477.44	30	29	27.4	-7.16	8.1
SD-78	1/16/2013	666525.60	717441.15	30	19.6	21.4	-12.57	9.7
SD-79	1/17/2013	664140.20	717336.82	30	28.5	30.1	-30.67	27.9
SD-80	1/18/2013	666875.22	720799.59	30	25	23.7	-6.05	3
SD-81	1/18/2013	663701.53	717776.86	30	29	26.3	-7.76	5.3

Notes:

1. Coordinates are based on the North American Datum of 1983 - State Plane New York Long Island.
2. Sediment core recovery was measured immediately before core processing.
3. Elevations are based on the North American Vertical Datum of 1988.
4. Water depth was measured at time of core collection.

ft = feet

bss = below sediment surface

Table 3-2
Field Sample and Analytical Program Summary

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Sampling Location ID	Sample Depth Interval (ft bss)	Adjusted[1] Sample Depth Interval (ft bss)	Chemical Analyses[2]					Forensics[3]	
			SVOCs (USEPA Method 8270D)	VOCs (USEPA Method 8260B)	Metals (USEPA Method 6010C/7471B)	Total Cyanide (USEPA Method 9012B)	TOC (USEPA Method 9060A)	PAH modified Method 8270D-SIM)	TPH (USEPA SW-846 modified Method 8015B)
SD-01	NA	NA							
SD-01B	NA	NA							
SD-01C	11.5-12.5	13.5-14.6	X	X	X	X	X		
	12.5-12.8	14.6-15.0	X	X	X	X	X		
SD-02	NA	NA							
SD-02B	1.5-2.5	1.6-2.7	X	X	X	X	X		
	5.7-6.7	6.2-7.2	X	X	X	X	X	X	X
SD-03	NA	NA							
SD-04	2.5-3.5	2.8-3.9	X	X	X	X	X		
	12.5-13.5	14.0-15.1	X	X	X	X	X		
SD-05	3.3-4.3	3.5-4.6	X	X	X	X	X		
	6-7	6.4-7.4	X	X	X	X	X		
	12.3-13.1	13.0-13.9	X	X	X	X	X		
SD-06	1.5-2.5	1.7-2.8	X	X	X	X	X		
	3-4	3.3-4.4	X	X	X	X	X	X	X
	6.4-7.4	7.1-8.2	X	X	X	X	X		
SD-07	NA	NA							
SD-07B	0-1	0-1.0	X	X	X	X	X		
	7.7-8.7	7.7-8.7	X	X	X	X	X		
SD-07C	NA	NA							
SD-08	NA	NA							
SD-09	0-0.5	0-0.5	X	X	X	X	X		
	0.5-1.3	0.5-1.3	X	X	X	X	X	X	X
	1.3-2.3	1.3-2.3	X	X	X	X	X		
	5.2-5.6	5.2-5.6	X	X	X	X	X		
	5.6-6.6	5.6-6.6	X	X	X	X	X		
SD-10	5.3-6.3	5.9-7.0	X	X	X	X	X		
	9.2-10.2	10.2-11.4	X	X	X	X	X		
	10.2-11.2	11.4-12.5	X	X	X	X	X		
SD-11	NA	NA							
SD-11B	3.1-4.1	3.3-4.4	X	X	X	X	X		
	6.1-7.1	6.5-7.6	X	X	X	X	X	X	X
	7.6-8.6	8.1-9.1	X	X	X	X	X		
SD-12	3-4	3.2-4.2	X	X	X	X	X		
	4.6-5.6	4.8-5.9	X	X	X	X	X	X	X
	5.6-6.6	5.9-6.9	X	X	X	X	X		
SD-13	2-3	2.1-3.1	X	X	X	X	X		
	6-7	6.2-7.2	X	X	X	X	X		
SD-14	NA	NA							
SD-14B	2-3	2.3-3.5	X	X	X	X	X		
	4.3-5.3	5.1-6.2	X	X	X	X	X	X	X
	5.3-6.3	6.2-7.4	X	X	X	X	X		
SD-15	NA	NA							
SD-15B	2-3	1.8-2.7	X	X	X	X	X		
	4.5-5.5	4.1-5.0	X	X	X	X	X		
	5.5-6.5	5.0-5.9	X	X	X	X	X		
SD-16	NA	NA							
SD-17	6.1-7.1	6.3-7.3	X	X	X	X	X		
	7.1-8.1	7.3-8.3	X	X	X	X	X		
	8.1-9.1	8.3-9.3	X	X	X	X	X		
SD-18	NA	NA							

Notes:
[1] Sample depths have been adjusted to reflect the percent recovery of the sample cores, except at locations SD-07B and SD-09.
[2] Three samples were collected when NAPL or other visual impacts were present. One sample was collected in the interval where NAPL or other visual impacts were present, one sample was collected from the 1 foot interval below, and one sample was collected from the 1 foot interval above.
[3] Samples were selected for forensics PAH and TPH analyses after initial analytical data was received from the laboratory, validated, and reviewed by a forensic chemist.
bss = below sediment surface
ft = feet
NA = not applicable
NAPL = non-aqueous phase liquid
PAH = polycyclic aromatic hydrocarbon
SVOC = semivolatile organic compounds
TOC = total organic carbon
TPH = total petroleum hydrocarbons
VOC = volatile organic compound
USEPA = United States Environmental Protection Agency

Table 3-2
Field Sample and Analytical Program Summary

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Sampling Location ID	Sample Depth Interval (ft bss)	Adjusted[1] Sample Depth Interval (ft bss)	Chemical Analyses[2]					Forensics[3]	
			SVOCs (USEPA Method 8270D)	VOCs (USEPA Method 8260B)	Metals (USEPA Method 6010C/7471B)	Total Cyanide (USEPA Method 9012B)	TOC (USEPA Method 9060A)	PAH modified Method 8270D-SIM)	TPH (USEPA SW-846 modified Method 8015B)
SD-19	3.4-4.4	3.9-5.1	X	X	X	X	X		
	5.4-6.4	6.2-7.4	X	X	X	X	X		
	10.4-11.4	12.0-13.1	X	X	X	X	X		
SD-20	NA	NA							
SD-20B	2.5-3.5	2.8-3.9	X	X	X	X	X	X	X
	6.5-7.5	7.3-8.4	X	X	X	X	X		
SD-21	NA	NA							
SD-22	NA	NA							
SD-23	0-1	0-1.0	X	X	X	X	X	X	X
	5.3-5.9	5.5-6.1	X	X	X	X	X		
	5.9-6.9	6.1-7.1	X	X	X	X	X		
SD-24	2.1-3.1	2.4-3.6	X	X	X	X	X		
	9.1-10.1	10.5-11.6	X	X	X	X	X		
SD-25	0-1	0-1.1	X	X	X	X	X		
	2.5-3.5	2.7-3.7	X	X	X	X	X	X	X
SD-26	NA	NA							
SD-27	1-2	1.2-2.4	X	X	X	X	X		
	3.5-4.5	4.2-5.4	X	X	X	X	X	X	X
SD-28	NA	NA							
SD-29	NA	NA							
SD-30	NA	NA							
SD-30B	5.2-6.2	5.5-6.5	X	X	X	X	X		
	13.2-14.2	13.8-14.9	X	X	X	X	X		
SD-31	NA	NA							
SD-31B	1-2	1.1-2.2	X	X	X	X	X		
	3.5-4.5	3.9-5.0	X	X	X	X	X		
	10.5-11.5	11.8-12.9	X	X	X	X	X		
SD-32	6-7	5.6-6.6	X	X	X	X	X		
SD-33	6-7	6.8-7.9	X	X	X	X	X		
SD-34	2.5-3.5	2.7-3.7	X	X	X	X	X		
	7.5-8.5	8.0-9.1	X	X	X	X	X	X	X
SD-35	1-2	1.0-2.0	X	X	X	X	X		
	7-8	6.9-7.8	X	X	X	X	X		
SD-36	NA	NA							
SD-37	NA	NA							
SD-38	NA	NA							
SD-39	12.8-13.8	12.8-13.8	X	X	X	X	X		
SD-40	1.5-2.5	1.5-2.5	X	X	X	X	X		
	6-7	6.0-7.0	X	X	X	X	X		
	9-10	9.0-10.0	X	X	X	X	X		
SD-41	0-1	0-1.1	X	X	X	X	X		
	13-14	13.7-14.8	X	X	X	X	X		
SD-42	6-7	5.8-6.8	X	X	X	X	X		
SD-43	NA	NA							
SD-44	NA	NA							
SD-45	NA	NA							
SD-46	1-2	1.0-2.0	X	X	X	X	X		
	11.8-12.7	12.0-12.9	X	X	X	X	X		
	14.2-14.8	14.4-15.0	X	X	X	X	X		

Notes:
[1] Sample depths have been adjusted to reflect the percent recovery of the sample cores, except at locations SD-07B and SD-09.
[2] Three samples were collected when NAPL or other visual impacts were present. One sample was collected in the interval where NAPL or other visual impacts were present, one sample was collected from the 1 foot interval below, and one sample was collected from the 1 foot interval above.
[3] Samples were selected for forensics PAH and TPH analyses after initial analytical data was received from the laboratory, validated, and reviewed by a forensic chemist.
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PAH = polycyclic aromatic hydrocarbon
SVOC = semivolatile organic compounds
TOC = total organic carbon
TPH = total petroleum hydrocarbons
VOC = volatile organic compound
USEPA = United States Environmental Protection Agency

Table 3-2
Field Sample and Analytical Program Summary

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Sampling Location ID	Sample Depth Interval (ft bss)	Adjusted[1] Sample Depth Interval (ft bss)	Chemical Analyses[2]					Forensics[3]	
			SVOCs (USEPA Method 8270D)	VOCs (USEPA Method 8260B)	Metals (USEPA Method 6010C/7471B)	Total Cyanide (USEPA Method 9012B)	TOC (USEPA Method 9060A)	PAH modified Method 8270D-SIM)	TPH (USEPA SW-846 modified Method 8015B)
SD-47	NA	NA							
SD-48	5.1-6.1	4.8-5.8	X	X	X	X	X		
	12.5-13.5	11.8-12.8	X	X	X	X	X		
SD-49	5-6	4.7-5.7	X	X	X	X	X		
SD-50	NA	NA							
SD-50B	NA	NA							
SD-50C	NA	NA							
SD-51	NA	NA							
SD-52	NA	NA							
SD-52B	0.5-1.5	0.5-1.6	X	X	X	X	X		
	9-10	9.5-10.6	X	X	X	X	X		
SD-53	NA	NA							
SD-54	NA	NA							
SD-55	NA	NA							
SD-56	NA	NA							
SD-57	NA	NA							
SD-58	6-7	5.8-6.8	X	X	X	X	X		
SD-59	NA	NA							
SD-60	NA	NA							
SD-61	6-7	5.9-6.9	X	X	X	X	X		
SD-62	1.5-2.5	1.5-2.6	X	X	X	X	X		
	4-5	4.1-5.1	X	X	X	X	X		
	6.5-7.5	6.7-9.8	X	X	X	X	X		
SD-63	5-6	5.0-6.0	X	X	X	X	X		
SD-64	5-6	5.4-6.5	X	X	X	X	X		
SD-65	1-2	1.0-2.1	X	X	X	X	X		
	5.8-6.8	6.1-7.1	X	X	X	X	X		
	12.2-13.2	12.7-13.8	X	X	X	X	X		
SD-66	0-1	0-1.1	X	X	X	X	X		
	6-7	6.4-7.5	X	X	X	X	X		
SD-67	1-2	1.3-2.5	X	X	X	X	X		
	10.7-11.7	13.6-14.9	X	X	X	X	X		
SD-68	3-4	3.4-4.6	X	X	X	X	X		
	5.4-6.4	6.2-7.3	X	X	X	X	X		
	7-8	8.0-9.2	X	X	X	X	X		
SD-69	0-1	0-1.1	X	X	X	X	X		
	12.3-13.3	13.9-15.0	X	X	X	X	X		
SD-70	6-7	6.5-7.6	X	X	X	X	X		
SD-71	2-3	2.4-3.5	X	X	X	X	X		
	11.5-12.5	13.6-14.8	X	X	X	X	X	X	X
SD-72	0-1	0-1.1	X	X	X	X	X		
	12.5-13.5	13.7-14.8	X	X	X	X	X		
SD-73	0-1	0-1.1	X	X	X	X	X		
	4-5	4.3-5.3	X	X	X	X	X	X	X
	5.4-6.4	5.8-6.8	X	X	X	X	X		

Notes:

[1] Sample depths have been adjusted to reflect the percent recovery of the sample cores, except at locations SD-07B and SD-09.

[2] Three samples were collected when NAPL or other visual impacts were present. One sample was collected in the interval where NAPL or other visual impacts were present, one sample was collected from the 1 foot interval below, and one sample was collected from the 1 foot interval above.

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Table 3-2
Field Sample and Analytical Program Summary

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Sampling Location ID	Sample Depth Interval (ft bss)	Adjusted[1] Sample Depth Interval (ft bss)	Chemical Analyses[2]					Forensics[3]	
			SVOCs (USEPA Method 8270D)	VOCs (USEPA Method 8260B)	Metals (USEPA Method 6010C/7471B)	Total Cyanide (USEPA Method 9012B)	TOC (USEPA Method 9060A)	PAH modified Method 8270D-SIM)	TPH (USEPA SW-846 modified Method 8015B)
SD-74	1.5-2.5	2.2-3.7	X	X	X	X	X		
	3-4	4.4-5.9	X	X	X	X	X		
SD-75	0.5-1.5	0.6-1.9	X	X	X	X	X		
	7.5-8.5	9.7-11.0	X	X	X	X	X	X	X
	11.4-11.6	14.7-15.0	X	X	X	X	X		
SD-76	6-7	6.4-7.5	X	X	X	X	X		
SD-77	0-1	0-1.1	X	X	X	X	X	X	X
	18-19	19.1-20.1	X	X	X	X	X		
	20-21	21.2-22.2	X	X	X	X	X		
SD-78	1-2	0.9-1.8	X	X	X	X	X		
	13.3-14.3	12.2-13.1	X	X	X	X	X	X	X
	16-16.7	14.7-15.3	X	X	X	X	X		
SD-79	0-1	0-0.9	X	X	X	X	X		
SD-80	1-2	1.1-2.1	X	X	X	X	X		
	6-7	6.3-7.4	X	X	X	X	X		
	13.6-14.5	14.3-15.3	X	X	X	X	X		
SD-81	0.5-1.5	0.6-1.7	X	X	X	X	X		
	11.5-12.5	12.1-13.2	X	X	X	X	X	X	X
	17.5-18.5	19.3-20.4	X	X	X	X	X		

Notes:

[1] Sample depths have been adjusted to reflect the percent recovery of the sample cores, except at locations SD-07B and SD-09.

[2] Three samples were collected when NAPL or other visual impacts were present. One sample was collected in the interval where NAPL or other visual impacts were present, one sample was collected from the 1 foot interval below, and one sample was collected from the 1 foot interval above.

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SVOC = semi-volatile organic compounds

TOC = total organic carbon

TPH = total petroleum hydrocarbons

VOC = volatile organic compound

USEPA = United States Environmental Protection Agency

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID:								SD-01C	SD-01C	SD-02B	SD-02B	SD-04	SD-04	SD-05	SD-05	SD-05	SD-06	SD-06	SD-06	SD-07B	SD-07B	SD-09	SD-09	SD-09	SD-09
Sample Depth (feet):								13.5-14.6	14.6-15.0	1.6-2.7	6.2-7.2	2.8-3.9	14.0-15.1	3.5-4.6	6.4-7.4	13.0-13.9	1.7-2.8	3.3-4.4	7.1-8.2	0-1.0	7.7-8.7	0-0.5	0.5-1.3	1.3-2.3	5.2-5.6
Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	12/05/12	12/05/12	12/04/12	12/04/12	12/04/12	12/04/12	12/04/12	12/04/12	12/04/12	12/04/12	12/04/12	12/04/12	11/30/12	11/30/12	11/27/12	11/27/12	11/27/12	11/27/12
Detected Volatile Organics																									
1,2,4-Trichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	0.33 U	0.0085 U	0.011 UJ	0.013 UJ	R	0.012 UJ	0.014 UJ	0.013 UJ	0.0055 UJ	0.017 UJ	0.01 UJ	0.0051 UJ	R	R	0.0017 UB	0.00088 UB	0.0018 UB	0.0005 UB
1,2-Dibromo-3-chloropropane	- -	- -	- -	- -	- -	- -	mg/kg	0.33 U	0.0085 U	0.011 UJ	0.013 UJ	R	0.012 UJ	0.014 UJ	0.013 UJ	0.0055 UJ	0.017 UJ	0.01 UJ	0.0051 UJ	R	R	0.016 UJ	0.0093 UJ	0.013 UJ	0.0062 UJ
1,2-Dichloroethene (total)	- -	- -	0.02	- -	- -	- -	mg/kg	0.33 U	0.0085 U	0.011 U	0.013 U	0.016 U	0.012 U	0.014 U	0.013 U	0.0055 U	0.017 U	0.01 U	0.0051 U	0.014 U	0.017 U	0.016 U	0.0093 U	0.013 U	0.0062 U
1,4-Dichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	0.33 U	0.0085 U	0.011 UJ	0.013 UJ	R	0.012 UJ	0.014 UJ	0.013 UJ	0.0055 UJ	0.017 UJ	0.0022 J	0.0051 UJ	0.01 J	R	0.016 UJ	0.0093 UJ	0.013 UJ	0.0062 UJ
2-Butanone	- -	- -	- -	- -	- -	- -	mg/kg	1.6 U	0.022	0.045 J	0.084 J	0.082 J	0.16 J	0.063 J	0.069 J	0.0078 J	0.075 J	0.077 J	0.0051 UJ	0.068	0.37	0.05 J	0.027 J	0.057 J	0.0062 UJ
2-Hexanone	- -	- -	- -	- -	- -	- -	mg/kg	1.5 J	0.0085 U	0.011 U	0.013 U	0.016 UJ	0.012 UJ	0.014 U	0.013 U	0.0055 U	0.017 U	0.01 U	0.0051 U	0.014 UJ	0.017 U	0.016 UJ	0.0093 UJ	0.013 UJ	0.0062 UJ
4-Methyl-2-pentanone	- -	- -	- -	- -	- -	- -	mg/kg	1.6 U	0.0085 U	0.011 UJ	0.013 UJ	0.016 UJ	0.012 UJ	0.014 UJ	0.013 UJ	0.0055 UJ	0.017 UJ	0.01 UJ	0.0051 UJ	0.014 U	0.017 UJ	0.016 UJ	0.0093 UJ	0.013 UJ	0.0011 J
Acetone	- -	- -	- -	- -	- -	- -	mg/kg	1.4 J	0.11	0.18 J	0.32 J	0.34 J	0.62 J	0.26 J	0.25 J	0.034 J	0.27 J	0.31 J	0.021 J	0.22 J	1.5 J	0.2 J	0.11 J	0.23 J	0.067 J
Benzene	- -	- -	0.6	90	26	- -	mg/kg	0.096 J	0.0013 J	0.011 U	0.013 U	0.0064 J	0.003 J	0.014 U	0.013 U	0.0055 U	0.017 U	0.0018 J	0.0051 U	0.02	0.0057 J	0.016 U	0.018 J	0.024 J	0.0062 U
Carbon Disulfide	- -	- -	- -	- -	- -	- -	mg/kg	3.7	0.023	0.013	0.0099 J	0.03	0.022	0.011 J	0.013	0.0029 J	0.011 J	0.016	0.0044 J	0.034	0.057 J	0.0092 J	0.0081 J	0.015	0.0033 J
Chlorobenzene	- -	- -	- -	34.6	3.5	- -	mg/kg	0.33 U	0.0085 U	0.011 U	0.013 U	0.016 UJ	0.0021 J	0.014 U	0.013 U	0.0055 U	0.017 U	0.01 U	0.0051 U	0.014 UJ	0.017 U	0.016 U	0.0093 U	0.013 UJ	0.0062 U
Chloromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.33 U	0.0085 U	0.00092 J	0.013 U	0.016 U	0.012 U	0.014 U	0.013 U	0.0055 U	0.017 U	0.01 U	0.0051 U	0.014 UJ	0.017 UJ	0.016 U	0.0093 U	0.013 U	0.0062 U
cis-1,2-Dichloroethene	- -	- -	- -	- -	- -	- -	mg/kg	0.33 U	0.0085 U	0.011 U	0.013 U	0.016 U	0.012 U	0.014 U	0.013 U	0.0055 U	0.017 U	0.01 U	0.0051 U	0.014 U	0.017 U	0.016 U	0.0093 U	0.013 U	0.0062 U
Cyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.33 U	0.0085 U	0.011 U	0.013 U	0.0084 J	0.0054 J	0.014 U	0.013 U	0.0055 U	0.017 U	0.01 U	0.0051 U	0.0044 J	0.017 U	0.016 U	0.003 J	0.013 U	0.0062 U
Ethylbenzene	- -	- -	- -	58	6.4	- -	mg/kg	0.97	0.0077 J	0.011 U	0.0067 J	0.0013 J	0.0047 J	0.014 U	0.013 U	0.0055 U	0.017 U	0.00048 J	0.0051 U	0.14 J	0.0016 J	0.016 U	0.0029 J	0.004 J	0.0006 J
Isopropylbenzene	- -	- -	- -	105	12	- -	mg/kg	0.21 J	0.0044 J	0.0016 J	0.0063 J	0.0026 J	0.0052 J	0.014 UJ	0.013 UJ	0.0055 UJ	0.017 UJ	0.0015 J	0.0051 UJ	0.042 J	0.0027 J	0.016 UJ	0.0013 J	0.0011 J	0.0062 UJ
Methyl acetate	- -	- -	- -	- -	- -	- -	mg/kg	2.3	0.0085 U	0.011 U	0.013 U	0.016 U	0.003 J	0.014 U	0.013 U	0.0055 U	0.017 U	0.0039 J	0.0051 U	0.014 U	0.0049 J	0.016 U	0.0093 U	0.013 U	0.0062 U
Methylcyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.33 U	0.0014 J	0.0082 J	0.016	0.013 J	0.029	0.014 U	0.0013 J	0.0055 U	0.017 U	0.0015 J	0.0051 U	0.0074 J	0.011 J	0.016 U	0.008 J	0.0018 J	0.0062 U
Methylene Chloride	- -	- -	- -	- -	- -	- -	mg/kg	0.33 U	0.0085 U	0.011 U	0.013 U	0.016 U	0.012 U	0.014 U	0.013 U	0.0055 U	0.017 U	0.01 U	0.0051 U	0.014 U	0.017 U	0.016 U	0.0093 U	0.013 U	0.0017 J
Styrene	- -	- -	- -	- -	- -	- -	mg/kg	0.33 U	0.0085 U	0.011 U	0.013 U	0.016 UJ	0.012 UJ	0.014 U	0.013 U	0.0055 U	0.017 U	0.01 U	0.0051 U	0.014 UJ	0.017 U	0.016 U	0.00042 J	0.013 UJ	0.00016 J
Toluene	- -	- -	- -	- -	- -	- -	mg/kg	0.14 J	0.0035 J	0.00095 J	0.00087 J	0.0012 J	0.0021 J	0.0012 J	0.0008 J	0.00014 J	0.00096 J	0.00055 J	0.00025 J	0.018 J	0.0017 J	0.0025 J	0.00076 J	0.0017 J	0.0039 J
Trichlorofluoromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.33 U	0.0085 U	0.011 U	0.013 U	0.016 U	0.012 U	0.014 U	0.013 U	0.0055 U	0.017 U	0.01 U	0.0051 U	0.014 U	0.017 UJ	0.016 U	0.0093 U	0.013 U	0.001 J
Vinyl Chloride	- -	- -	0.07	- -	- -	- -	mg/kg	0.33 U	0.0085 U	0.011 U	0.013 U	0.016 U	0.012 U	0.014 U	0.013 U	0.0055 U	0.017 U	0.01 U	0.0051 U	0.014 U	0.017 U	0.016 U	0.003 J	0.013 U	0.0062 U
Xylenes (total)	- -	- -	- -	- -	- -	- -	mg/kg	0.36	0.0066 J	0.002 J	0.0085 J	0.01 J	0.0097 J	0.0012 J	0.001 J	0.0055 U	0.017 U	0.0019 J	0.0051 U	0.22 J	0.0072 J	0.016 U	0.004 J	0.012 J	0.0028 J
Total BTEX	- -	- -	- -	- -	- -	- -	mg/kg	1.566 J	0.0191 J	0.00295 J	0.01607 J	0.0189 J	0.0195 J	0.0024 J	0.0018 J	0.00014 J	0.00096 J	0.00473 J	0.00025 J	0.398	0.0162 J	0.0025 J	0.02566 J	0.0417 J	0.0073 J
Total VOCs	- -	- -	- -	- -	- -	- -	mg/kg	10.676 J	0.1799 J	0.25167 J	0.45227 J	0.4949 J	0.8662 J	0.3364 J	0.3351 J	0.04484 J	0.35696 J	0.41683 J	0.02565 J	0.7838 J	1.9618 J	0.2617 J	0.18648 J	0.3466 J	0.08156 J
Detected Semivolatile Organics																									
1,1'-Biphenyl	- -	- -	- -	- -	- -	- -	mg/kg	4.1 J	0.21 J	0.28 J	0.77 J	2.2 U	0.38 J	0.047 J	1.8 U	0.45 U	2.2 U	2.6 U	0.87 U	9 J	1.7 U	0.078 J	0.89 J	1.1 U	0.44 U
1-Methylnaphthalene	- -	- -	- -	- -	- -	- -	mg/kg	24	1.4	1.1 J	6.4 J	0.14 J	1.6 J	0.12 J	0.13 J	0.45 U	0.12 J	0.14 J	0.083 J	23 J	0.17 J	0.15 J	3.6 J	0.11 J	0.44 U
2-Methylnaphthalene	0.07	0.67	- -	- -	- -	- -	mg/kg	30	1.6	1 J	5.6 J	0.22 J	1.9 J	0.16 J	0.17 J	0.45 U	0.13 J	0.13 J	0.083 J	12 J	0.21 J	0.16 J	1.7 J	0.12 J	0.44 U
2-Nitrophenol	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.59 U	4 U	7.4 U	2.2 U	3.1 U	0.27 J	1.8 U	0.45 U	2.2 U	2.6 U	0.87 U	30 U	1.7 U	1.4 U	14 U	1.1 U	0.44 UJ
4-Chloroaniline	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.59 U	4 U	7.4 U	2.2 U	3.1 U	0.91 U	0.36 J	0.45 U	2.2 U	2.6 U	0.87 U	30 U	1.7 U	1.4 U	14 U	1.1 U	0.095 J
Acenaphthene	0.016	0.5	- -	- -	- -	- -	mg/kg	22	1.3	1.8 J	7.4	0.27 J	1.8 J	0.24 J	0.44 J	0.045 J	0.21 J	0.26 J	0.2 J	57	0.46 J	0.32 J	5.7 J	0.2 J	0.057 J
Acenaphthylene	0.044	0.64	- -	- -	- -	- -	mg/kg	2.4 J	0.11 J	0.75 J	1.6 J	0.28 J	0.89 J	0.24 J	0.28 J	0.45 U	0.31 J	0.31 J	0.063 J	30 U	0.17 J	0.45 J	7.6 J	0.2 J	0.052 J
Acetophenone	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.038 UB	4 U	7.4 U	2.2 U	3.1 U	0.91 U	1.8 U	0.45 U	2.2 U	2.6 U	0.87 U	30 U	1.7 U	1.4 U	14 U	1.1 U	0.44 U
Anthracene	0.0853	1.1	- -	- -	- -	- -	mg/kg	36	1.1	2.9 J	9.7	0.52 J	4.3	0.74 J	1 J	0.13 J	0.67 J	0.85 J	0.99	20 J	0.34 J	1.7	20	0.71 J	0.11 J
Azobenzene	- -	- -	1	- -	- -	- -	mg/kg	19 U	0.59 U	4 U	7.4 U	2.2 U	3.1 U	0.32 J	1.8 U	0.45 U	2.2 U	2.6 U	0.37 J	30 U	1.7 U	1.4 U	14 U	1.1 U	0.44 U
Benzaldehyde	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.59 U	4 U	7.4 U	2.2 U	3.1 U	0.11 J	1.8 U	0.028 J	2.2 U	2.6 U	0.87 U	30 U	0.14 J	0.092 UB	14 U	1.1 U	0.44 U
Benzo(a)anthracene	0.261	1.6	- -	- -	- -	- -	mg/kg	33	1.6	5.2	12	2 J	8.4	2.3	2.4	0.26 J	2.1 J	2.5 J	1.9	13 J	1.5 J	3.7	19	2.8	0.27 J
Benzo(a)pyrene	0.43	1.6	- -	- -	- -	- -	mg/kg	25	1.3	5.5	11	2.3	7.8	2.5	2.8	0.21 J	2.7	3.1	1.8	6.8 J	1.7	3.9	17	3.1	0.29 J
Benzo(b)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	14 J	0.86	3.8 J	7.8	2.4	7.8	3.9	2.2	0.18 J	2.3	2.9	2	6.3 J	1.7	4.8	18	3	0.22 J
Benzo(g,h,i)perylene	- -	- -	- -	- -	- -	- -	mg/kg	6.2 J	0.33 J	1.4 J	2.4 J	0.87 J	2.5 J	0.91	0.86 J	0.052 J	0.9 J	1 J	0.54 J	1.5 J	0.65 J	1.3 J	4.8 J	1.3 J	0.25 J
Benzo(k)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	17 J	0.95	6	11	1.8 J	4.6	3.7	2.9	0.25 J	2.7	3.1	2.6	8.3 J	1.4 J	3.9	18	3.6	0.23 J
Benzo[e]pyrene	- -	- -	- -	- -	- -	- -	mg/kg	16 J	0.8	3.6 J	6.8 J	1.9 J	5.4	2	1.9	0.13 J	1.8 J	2 J	1.2	5 J	1.2 J	2.5	11 J	2.2	0.2 J
Benzoic Acid	- -	- -	- -	- -	- -	- -	mg/kg	48 UJ	1.5 UJ	10 UJ	19 UJ	5.5 UJ	7.8 UJ	2.3 UJ	4.4 UJ	1.1 UJ	5.6 UJ	6.7 UJ	2.2 UJ	74 UJ	4.3 UJ	3.6 UJ	35 UJ	2.7 UJ	1.1 UJ
Benzyl Alcohol	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.59 U	4 U	7.4 U	2.2 U	3.1 U	0.09 J	1.8 U	0.45 U	2.2 U	2.6 U	0.87 U	30 U	1.7 U	1.4 U	14 U	1.1 U	0.44 UJ
bis(2-Ethylhexyl)phthalate	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.046 UB	4 U	7.4 U	13	2.9 J	4.3	12	0.13 UB	10	17	0.31 UB	6.1 J	8	1.6	0.96 J	3.3	1.6
Butylbenzylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.59 U	4 U	7.4 U	0.36 UB	3.1 U	0.91 U	0.24 UB	0.067 UB	0.24 UB	2.3 J	0.87 U	30 U	0.23 UB	0.49 J	14 U	0.82 J	0.086 J

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID:								SD-01C	SD-01C	SD-02B	SD-02B	SD-04	SD-04	SD-05	SD-05	SD-05	SD-06	SD-06	SD-06	SD-07B	SD-07B	SD-09	SD-09	SD-09	SD-09
Sample Depth (feet):								13.5-14.6	14.6-15.0	1.6-2.7	6.2-7.2	2.8-3.9	14.0-15.1	3.5-4.6	6.4-7.4	13.0-13.9	1.7-2.8	3.3-4.4	7.1-8.2	0-1.0	7.7-8.7	0-0.5	0.5-1.3	1.3-2.3	5.2-5.6
Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	12/05/12	12/05/12	12/04/12	12/04/12	12/04/12	12/04/12	12/04/12	12/04/12	12/04/12	12/04/12	12/04/12	12/04/12	11/30/12	11/30/12	11/27/12	11/27/12	11/27/12	11/27/12
Caprolactam	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.59 U	4 U	7.4 U	2.2 U	3.1 U	0.25 J	1.8 U	0.45 U	2.2 U	2.6 U	0.87 U	30 U	1.7 U	1.4 U	14 U	1.1 U	0.44 U
Carbazole	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.046 J	4 U	1 J	2.2 U	0.22 J	0.096 J	0.21 J	0.025 J	2.2 U	0.12 J	0.4 J	9.4 J	0.098 J	0.29 J	4.6 J	0.26 J	0.44 U
Chrysene	0.384	2.8	- -	- -	- -	- -	mg/kg	39	2	6.1	13	2.3	8.4	2.6	2.9	0.29 J	2.6	3	2	15 J	1.9	4	18	3	0.32 J
Dibenzo(a,h)anthracene	0.0634	0.26	- -	- -	- -	- -	mg/kg	2 J	0.11 J	0.55 J	1.1 J	0.29 J	0.72 J	0.3 J	0.3 J	0.029 J	0.26 J	0.36 J	0.21 J	30 U	0.23 J	0.38 J	1.7 J	0.41 J	0.076 J
Dibenzofuran	- -	- -	- -	- -	- -	- -	mg/kg	1.6 J	0.077 J	0.25 J	1.5 J	2.2 U	0.36 J	0.066 J	0.12 J	0.45 U	2.2 U	2.6 U	0.18 J	40	0.18 J	0.31 J	8 J	0.093 J	0.44 U
Diethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.59 U	4 U	7.4 U	2.2 U	3.1 U	0.38 J	1.8 U	0.45 U	2.2 U	2.6 U	0.87 U	30 U	1.7 U	1.4 U	14 U	1.1 U	0.44 U
Dimethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.59 U	4 U	7.4 U	2.2 U	3.1 U	0.91 U	1.8 U	0.45 U	2.2 U	2.6 U	0.87 U	30 U	1.7 U	1.4 U	14 U	1.1 U	0.44 U
Di-n-Butylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.59 U	0.2 J	7.4 U	0.54 J	3.1 U	0.09 J	0.11 J	0.45 U	0.12 J	0.34 J	0.87 U	30 U	0.49 J	0.085 J	14 U	0.079 J	0.031 J
Di-n-Octylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.59 U	4 U	7.4 U	2.2 U	3.1 U	2.4	1.8 U	0.45 U	0.29 J	0.27 J	0.87 U	30 U	1.7 U	1.4 U	14 U	1.1 U	0.44 UJ
Fluoranthene	0.6	5.1	- -	- -	- -	- -	mg/kg	47	2.1	9.5	24	3	14	3.2	4.7	0.51	3.1	4.4	5.3	78	3.2	8.1	63	5.2	0.55
Fluorene	0.019	0.54	- -	- -	- -	- -	mg/kg	16 J	0.66	0.93 J	5.2 J	0.13 J	1.4 J	0.17 J	0.28 J	0.04 J	0.13 J	0.21 J	0.43 J	43	0.33 J	0.57 J	14	0.17 J	0.048 J
Indeno(1,2,3-cd)pyrene	- -	- -	0.7	- -	- -	- -	mg/kg	5.5 J	0.28 J	1.1 J	2.4 J	0.59 J	1.7 J	0.75 J	0.78 J	0.052 J	0.68 J	0.8 J	0.56 J	1.4 J	0.48 J	1.2 J	4.6 J	1.1	0.19 J
Naphthalene	0.16	2.1	- -	- -	- -	- -	mg/kg	8.7 J	0.6	0.89 J	5.8 J	0.27 J	1.3 J	0.2 J	0.22 J	0.45 U	0.16 J	0.24 J	0.17 J	57	0.37 J	0.49 J	16	1.2	0.035 J
N-Nitrosodimethylamine	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.59 U	4 U	7.4 U	2.2 U	3.1 U	12 EJ	1.8 U	0.45 U	2.2 U	2.6 U	0.87 U	30 U	1.7 U	1.4 U	14 U	1.1 U	0.44 U
N-Nitroso-di-n-propylamine	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.59 U	4 U	7.4 U	2.2 U	3.1 U	1.1	1.8 U	0.45 U	2.2 U	2.6 U	0.87 U	30 U	1.7 U	1.4 U	14 U	1.1 U	0.44 U
Perylene	- -	- -	- -	- -	- -	- -	mg/kg	4.4 J	0.32 J	1.1 J	2.2 J	0.48 J	1.5 J	0.59 J	0.63 J	0.08 J	0.66 J	0.75 J	0.43 J	2.5 J	0.37 J	0.89 J	4.1 J	0.84 J	0.086 J
Phenanthrene	0.24	1.5	- -	- -	- -	- -	mg/kg	110	3.4	6.1	27	1.1 J	14	1.3	2.2	0.37 J	1.2 J	1.7 J	3.8	140	1.7	4.9	63	2.2	0.18 J
Phenol	- -	- -	- -	- -	- -	- -	mg/kg	19 U	0.59 U	4 U	7.4 U	2.2 U	3.1 U	0.91 U	1.8 U	0.45 U	2.2 U	2.6 U	0.87 U	30 U	1.7 U	1.4 U	14 U	1.1 U	0.44 U
Pyrene	0.665	2.6	- -	- -	- -	- -	mg/kg	85	3.5	11	25	4.3	20	5	4.7	0.56	3.9	4.4	4.3	57	3.8	8.1	50	6	0.61
Total PAHs	4.022	44.792	- -	- -	- -	- -	mg/kg	498.8 J	21.8 J	64.52 J	172 J	22.64 J	101.51 J	28.21 J	29.13 J	2.978 J	24.05 J	29.26 J	26.946 J	516.3 J	20.14 J	47.97 J	342.1 J	34.31 J	3.488 J
Total SVOCs	- -	- -	- -	- -	- -	- -	mg/kg	548.9 J	24.653 J	71.05 J	190.67 J	38.7 J	113.87 J	52.439 J	44.59 J	3.241 J	37.04 J	52.18 J	29.609 J	611.3 J	30.788 J	54.363 J	375.25 J	42.012 J	5.586 J
Detected Inorganics																									
Aluminum	- -	- -	- -	- -	- -	- -	mg/kg	15,000 J	14,700 J	16,200 J	15,600 J	16,800 J	16,200 J	18,000 J	13,400 J	5,340 J	16,300 J	10,500 J	6,630 J	15,900	17,200	16,000	12,500	14,400	3,050
Antimony	- -	- -	- -	- -	- -	- -	mg/kg	R	R	0.93 J	1 J	11 UJ	0.94 J	11.9 UJ	11.4 UJ	4.7 UJ	10.8 UJ	7.3 UJ	5.2 UJ	R	R	10.1 U	1.5 J	8.5 U	4.4 U
Arsenic	8.2	70	- -	- -	- -	- -	mg/kg	40.3 J	11.7 J	37.8	31.8	23.4	30.9	15.5	13.1	4.6	12.9	8.4	6.8	11.5 J	21.9 J	8.8	14.3	8.3	2.1
Barium	- -	- -	- -	- -	- -	- -	mg/kg	357 J	62.8 J	290 J	339 J	225 J	238 J	111 J	145 J	21.5 J	194 J	372 J	78.4 J	131 J	198 J	121 J	146 J	112 J	26.7 J
Beryllium	- -	- -	- -	- -	- -	- -	mg/kg	0.85 J	0.76	1.1	1	1.2	1.2	1	0.78 J	0.28 J	0.93	0.62	0.35 J	0.84	0.98	0.73 J	0.59	0.68 J	0.17 J
Cadmium	1.2	9.6	- -	- -	- -	- -	mg/kg	1.9 J	0.38 J	9.4 J	3.6 J	11.6 J	11.7 J	1.9 J	3.1 J	0.09 J	3.9 J	2.8 J	0.5 J	3.8 J	8.3 J	0.87	0.93	1.2	0.64
Calcium	- -	- -	- -	- -	- -	- -	mg/kg	4,640	3,630	4,940 J	6,950 J	5,060 J	4,360 J	8,400 J	4,820 J	62,000 J	10,100 J	5,830 J	2,270 J	13,800	5,870	11,100	9,990	9,930	1,940
Chromium	81	370	- -	- -	- -	- -	mg/kg	84.3 J	33.8 J	179 J	93.8 J	384 J	214 J	116 J	148 J	12.7 J	129 J	99.1 J	20.4 J	162 J	311 J	67.6	50.6	75.4	28.6
Cobalt	- -	- -	- -	- -	- -	- -	mg/kg	10 J	10.1 J	11.1 J	11.4 J	11.9 J	11.6 J	13.1 J	9.9 J	4 J	13.1 J	7.8 J	6.9 J	11.3 J	11 J	11.5 J	11 J	9.9 J	2.1 J
Copper	34	270	- -	- -	- -	- -	mg/kg	291 J	34.6 J	421	372	637	604	215	271	7.6	250	167	24.6	298 J	495 J	137	142	160	44.9
Cyanide	- -	- -	- -	- -	- -	- -	mg/kg	1.4	0.14 J	1.8	2.4	2.4	1.5	0.48 UB	0.5 UB	0.18 UB	0.64 UB	0.62 UB	0.16 UB	2.3	3.2	0.85 UB	2	0.83 UB	0.26 UB
Iron	- -	- -	- -	- -	- -	- -	mg/kg	30,800 J	28,300 J	34,200 J	41,900 J	35,100 J	34,800 J	35,900 J	27,300 J	11,600 J	33,000 J	20,900 J	15,000 J	32,900 J	34,800 J	34,200	37,100	30,800	7,110
Lead	46.7	218	- -	- -	- -	- -	mg/kg	733	65	484	559	541	551	221	268	9.4	532	269	214	327	457	178	267	182	49
Magnesium	- -	- -	- -	- -	- -	- -	mg/kg	7,640 J	7,830 J	7,990 J	8,830 J	8,680 J	8,020 J	10,100 J	7,460 J	2,700 J	9,250 J	5,890 J	3,820 J	12,000	8,980	11,700	13,500	9,840	1,730
Manganese	- -	- -	- -	- -	- -	- -	mg/kg	378 J	852 J	444 J	438 J	447 J	373 J	890 J	448 J	561 J	501 J	323 J	277 J	497 J	456 J	470	452	446	95.5
Mercury	0.15	0.71	- -	- -	- -	- -	mg/kg	7.5	1.1	4.9 J	4.7 J	4.5 J	5.2 J	1.9 J	2.2 J	0.093 J	1.5 J	9 J	0.35 J	2.2 J	3.6	0.68	1.9	3	0.23
Nickel	20.9	51.6	- -	- -	- -	- -	mg/kg	37.8 J	23.6 J	40.7 J	41.8 J	84.5 J	61.8 J	39 J	38.5 J	9.2 J	45.1 J	48.3 J	14.7 J	41 J	66.9 J	34 J	35.7 J	28.5 J	7.9 J
Potassium	- -	- -	- -	- -	- -	- -	mg/kg	4,000 J	3,860 J	4,130 J	4,290 J	4,370 J	4,060 J	4,810 J	3,520 J	1,490 J	4,190 J	2,680 J	2,090 J	4,310	4,540	4,810	4,340	4,060	953
Selenium	- -	- -	- -	- -	- -	- -	mg/kg	6.1 UJ	4.8 UJ	1.4 J	6.1 U	6.4 U	4.4 U	6.9 U	6.7 U	2.7 U	6.3 U	4.3 U	3 U	5.9 UJ	6.7 UJ	5.9 U	3.2 U	5 U	2.6 U
Silver	1	3.7	- -	- -	- -	- -	mg/kg	4.1	0.23 J	10.9 J	7 J	19.4 J	14 J	7 J	7.6 J	0.78 UJ	6.2 J	4.1 J	1.5 J	7.5 J	15.5 J	1.5 J	0.83 J	3.9	1.2
Sodium	- -	- -	- -	- -	- -	- -	mg/kg	10,600 J	6,140 J	10,900	10,900	13,500	12,000	14,400	9,220	2,040	9,170	6,110	1,450	13,500	13,600	13,700	6,180	11,200	2,800
Thallium	- -	- -	- -	- -	- -	- -	mg/kg	4.3 U	3.4 U	0.77 J	1 J	1.4 J	0.71 J	1.1 J	4.8 U	1.9 U	4.5 U	0.71 J	0.38 J	4.2 UJ	4.8 UJ	3.9 U	2.4 U	3.3 U	2.4 U
Vanadium	- -	- -	- -	- -	- -	- -	mg/kg	42.3 J	37.5 J	53.4	52.8	107	75.7	55.9	46.9	19.2	56.3	35.7	25.3	51.1	89.9	42.8	50.9	40.5	10.7
Zinc	150	410	- -	- -	- -	- -	mg/kg	498 J	95.6 J	617 J	630 J	624 J	695 J	299 J	347 J	30.9 J	503 J	420 J	160 J	341 J	487 J	250 J	215 J	283 J	56.9 J
Detected Miscellaneous																									
Percent Solids	- -	- -	- -	- -	- -	- -	%	43	56	41.3	43.6	38.1	42.5	36.6	45.7	74.4	36.9	50.3	76.2	37.8	37.5	38.8	57.6	43.3	73.8
Total Organic Carbon	- -	- -	- -	- -	- -	- -	mg/kg	68,000	24,000	76,600	81,300	78,600	109,000	46,000	42,800	6,340	49,900	47,000	8,850	66,100	75,000	47,800	59,900	58,300	13,700

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID: / Sample Depth (feet): / Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	SD-09 5.6-6.6 11/27/12	SD-10 5.9-7.0 11/29/12	SD-10 10.2-11.4 11/29/12	SD-10 11.4-12.5 11/29/12	SD-11B 3.3-4.4 11/29/12	SD-11B 6.5-7.6 11/29/12	SD-11B 8.1-9.1 11/29/12	SD-12 3.2-4.2 12/04/12	SD-12 4.8-5.9 12/04/12	SD-12 5.9-6.9 12/04/12	SD-13 2.1-3.1 12/04/12	SD-13 6.2-7.2 12/04/12	SD-14B 2.3-3.5 11/30/12	SD-14B 5.1-6.2 11/30/12	SD-14B 6.2-7.4 11/30/12	SD-15B 1.8-2.7 12/05/12	SD-15B 4.1-5.0 12/05/12
Detected Volatile Organics																								
1,2,4-Trichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	R	0.0048 UB	R	R	R	R	R	R	R	0.0093 UJ	0.0029 UB	0.017 UJ	0.0015 UB	R	0.00098 UB	R [0.019 UJ]	R
1,2-Dibromo-3-chloropropane	- -	- -	- -	- -	- -	- -	mg/kg	R	0.014 UJ	0.0018 J	R	R	R	R	R	R	0.0093 UJ	0.017 UJ	0.017 UJ	0.014 UJ	R	0.014 UJ	R [0.019 UJ]	R
1,2-Dichloroethene (total)	- -	- -	0.02	- -	- -	- -	mg/kg	0.015 U	0.014 U	0.0076 U	0.016 U	0.017 U	0.01 U	0.0066 U	0.016 U	0.0015 J	0.0093 U	0.017 U	0.017 U	0.014 U	0.018 U	0.014 U	0.016 U [0.019 U]	0.013 U
1,4-Dichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	R	0.014 UJ	R	R	R	R	R	R	R	0.0093 UJ	0.017 UJ	0.017 UJ	0.014 UJ	R	0.014 UJ	R [0.019 UJ]	R
2-Butanone	- -	- -	- -	- -	- -	- -	mg/kg	0.11 J	0.13	0.11	0.2	0.21	0.23	0.048	0.081 J	0.14 J	0.0087 J	0.062 J	0.098 J	0.034	0.19	0.068	0.13 J [0.09]	0.079
2-Hexanone	- -	- -	- -	- -	- -	- -	mg/kg	0.015 UJ	0.014 U	0.0076 UJ	0.016 UJ	0.017 UJ	0.01 UJ	0.0066 UJ	0.016 UJ	0.016 UJ	0.0093 UJ	0.017 U	0.017 U	0.014 U	0.018 UJ	0.014 U	0.016 UJ [0.019 U]	0.013 UJ
4-Methyl-2-pentanone	- -	- -	- -	- -	- -	- -	mg/kg	0.015 UJ	0.014 U	0.0076 U	0.016 U	0.017 U	0.01 U	0.0066 U	0.016 UJ	0.016 UJ	0.0093 UJ	0.017 UJ	0.017 UJ	0.014 UJ	0.018 U	0.014 UJ	0.016 U [0.019 U]	0.013 U
Acetone	- -	- -	- -	- -	- -	- -	mg/kg	0.46 J	0.48 J	0.39 J	0.74 J	0.64 J	0.79 J	0.18 J	0.32 J	0.5 J	0.045 J	0.24 J	0.4 J	0.15 J	0.58 J	0.26 J	0.63 J [0.41]	0.39
Benzene	- -	- -	0.6	90	26	- -	mg/kg	0.0026 J	0.014 U	0.002 J	0.0057 J	0.0056 J	0.0021 J	0.0011 J	0.0043 J	0.0023 J	0.034	0.017 U	0.017 U	0.014 U	0.0044 J	0.014 U	0.0034 J [0.019 U]	0.013 U
Carbon Disulfide	- -	- -	- -	- -	- -	- -	mg/kg	0.034	0.028	0.017	0.022	0.034	0.028	0.0097	0.04	0.03	0.071	0.017	0.016 J	0.02 J	0.038	0.0089 J	0.062 J [0.039]	0.033
Chlorobenzene	- -	- -	- -	34.6	3.5	- -	mg/kg	0.015 UJ	0.014 U	0.0076 UJ	0.016 UJ	0.017 UJ	0.01 UJ	0.0066 UJ	0.016 UJ	0.016 UJ	0.0093 UJ	0.017 U	0.017 U	0.014 U	0.018 UJ	0.014 U	0.016 UJ [0.019 U]	0.013 UJ
Chloromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.015 U	0.014 UJ	0.0076 UJ	0.016 UJ	0.017 UJ	0.00086 J	0.0066 UJ	0.016 U	0.016 U	0.0093 U	0.0014 J	0.017 U	0.014 UJ	0.018 UJ	0.014 UJ	0.016 UJ [0.019 U]	0.013 U
cis-1,2-Dichloroethene	- -	- -	- -	- -	- -	- -	mg/kg	0.015 U	0.014 U	0.0076 U	0.016 U	0.017 U	0.01 U	0.0066 U	0.016 U	0.0015 J	0.0093 U	0.017 U	0.017 U	0.014 U	0.018 U	0.014 U	0.016 U [0.019 U]	0.013 U
Cyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.015 U	0.014 U	0.0076 U	0.016 U	0.0045 J	0.01 U	0.0066 U	0.016 U	0.016 U	0.0093 U	0.017 U	0.017 U	0.014 U	0.018 U	0.014 U	0.016 UJ [0.019 U]	0.013 U
Ethylbenzene	- -	- -	- -	58	6.4	- -	mg/kg	0.00064 J	0.00054 J	0.0076 UJ	0.00068 J	0.00088 J	0.01 UJ	0.0066 UJ	0.0012 J	0.016 UJ	0.0093 UJ	0.017 U	0.017 U	0.014 U	0.018 UJ	0.014 U	0.016 UJ [0.00076 J]	0.013 UJ
Isopropylbenzene	- -	- -	- -	105	12	- -	mg/kg	0.0015 J	0.0025 J	R	0.0026 J	0.0024 J	0.0012 J	R	0.002 J	0.0017 J	0.0018 J	0.017 UJ	0.0016 J	0.014 UJ	0.002 J	0.014 UJ	0.0012 J [0.019 UJ]	R
Methyl acetate	- -	- -	- -	- -	- -	- -	mg/kg	0.015 U	0.0073 J	0.0076 U	0.016 U	0.022	0.01 U	0.0019 J	0.016 U	0.016 U	0.0093 U	0.017 U	0.017 U	0.014 UJ	0.018 U	0.014 UJ	0.016 U [0.019 U]	0.013 U
Methylcyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.0031 J	0.0016 J	0.0041 J	0.008 J	0.0045 J	0.0046 J	0.00041 J	0.0025 J	0.003 J	0.0093 U	0.017 U	0.0023 J	0.001 J	0.0028 J	0.0014 J	0.0036 J [0.0019 J]	0.0017 J
Methylene Chloride	- -	- -	- -	- -	- -	- -	mg/kg	0.015 U	0.014 U	0.0076 U	0.016 U	0.017 U	0.01 U	0.0066 U	0.016 U	0.016 U	0.0093 U	0.017 U	0.017 U	0.014 U	0.018 U	0.014 U	0.016 U [0.019 U]	0.013 U
Styrene	- -	- -	- -	- -	- -	- -	mg/kg	0.015 UJ	0.014 U	0.0076 UJ	0.016 UJ	0.017 UJ	0.01 UJ	0.0066 UJ	0.016 UJ	0.016 UJ	0.0093 UJ	0.017 U	0.017 U	0.014 U	0.018 UJ	0.014 U	0.016 UJ [0.019 U]	0.013 UJ
Toluene	- -	- -	- -	- -	- -	- -	mg/kg	0.0009 J	0.001 J	0.00076 J	0.0013 J	0.0015 J	0.001 J	0.00052 J	0.0012 J	0.016 UJ	0.00028 J	0.00075 J	0.00096 J	0.00032 J	0.0017 J	0.00043 J	0.0016 J [0.0011 J]	0.00075 J
Trichlorofluoromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.015 U	0.014 U	0.0076 U	0.016 U	0.017 U	0.01 U	0.0066 U	0.016 U	0.016 U	0.0093 U	0.017 U	0.017 U	0.014 UJ	0.018 U	0.014 UJ	0.016 U [0.019 U]	0.013 U
Vinyl Chloride	- -	- -	0.07	- -	- -	- -	mg/kg	0.015 U	0.014 U	0.0076 U	0.016 U	0.017 U	0.01 U	0.0066 U	0.016 U	0.016 U	0.0093 U	0.017 U	0.017 U	0.014 U	0.018 U	0.014 U	0.016 UJ [0.019 U]	0.013 U
Xylenes (total)	- -	- -	- -	- -	- -	- -	mg/kg	0.0019 J	0.00081 J	0.0011 J	0.003 J	0.0037 J	0.0018 J	0.00032 J	0.0041 J	0.0012 J	0.0093 UJ	0.001 J	0.017 U	0.00093 J	0.0028 J	0.014 U	0.002 J [0.0015 J]	0.013 UJ
Total BTEX	- -	- -	- -	- -	- -	- -	mg/kg	0.00604 J	0.00235 J	0.00386 J	0.01068 J	0.01168 J	0.0049 J	0.00194 J	0.0108 J	0.0035 J	0.03428 J	0.00175 J	0.00096 J	0.00125 J	0.0089 J	0.00043 J	0.007 J [0.00336 J]	0.00075 J
Total VOCs	- -	- -	- -	- -	- -	- -	mg/kg	0.61464 J	0.65175 J	0.52676 J	0.98328 J	0.92908 J	1.05956 J	0.24195 J	0.4563 J	0.6812 J	0.16078 J	0.32215 J	0.51886 J	0.20625 J	0.8217 J	0.33873 J	0.8338 J [0.54426 J]	0.50445 J
Detected Semivolatile Organics																								
1,1'-Biphenyl	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	1.6 U	2.1 U	1.5 U	0.52 U	2.2 U	2.1 U	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.82 U	0.13 J [0.23 J]	1.6 U
1-Methylnaphthalene	- -	- -	- -	- -	- -	- -	mg/kg	0.12 J	0.048 J	0.052 J	0.11 J	0.15 J	0.1 J	0.033 J	0.16 J	0.18 J	0.65 U	0.15 J	0.25 J	0.076 J	0.12 J	0.089 J	0.34 J [0.64 J]	0.13 J
2-Methylnaphthalene	0.07	0.67	- -	- -	- -	- -	mg/kg	0.15 J	0.063 J	0.079 J	0.14 J	0.18 J	0.14 J	0.037 J	0.18 J	0.2 J	0.65 U	0.21 J	0.24 J	0.11 J	0.14 J	0.14 J	0.33 J [0.53 J]	0.17 J
2-Nitrophenol	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	1.6 U	2.1 U	1.5 U	0.52 U	2.2 U	2.1 U	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.82 U	1.6 U [1.8 U]	1.6 U
4-Chloroaniline	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	1.6 U	2.1 U	1.5 U	0.52 U	0.3 J	2.1 U	0.65 U	0.57 J	2.1 U	0.87 U	1.8 U	0.82 U	1.6 U [0.35 J]	1.6 U
Acenaphthene	0.016	0.5	- -	- -	- -	- -	mg/kg	0.22 J	0.16 J	0.092 J	0.15 J	0.15 J	0.17 J	0.056 J	0.21 J	0.2 J	0.65 U	0.21 J	0.29 J	0.12 J	0.18 J	0.095 J	0.52 J [0.84 J]	0.13 J
Acenaphthylene	0.044	0.64	- -	- -	- -	- -	mg/kg	0.2 J	0.097 J	0.12 J	0.15 J	0.2 J	0.13 J	0.047 J	0.28 J	0.27 J	0.65 U	0.37 J	0.37 J	0.13 J	0.15 J	0.093 J	0.6 J [0.99 J]	0.31 J
Acetophenone	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	1.6 U	2.1 U	1.5 U	0.52 U	2.2 U	0.43 J	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.82 U	1.6 UJ [1.8 U]	1.6 U
Anthracene	0.0853	1.1	- -	- -	- -	- -	mg/kg	0.51 J	0.4 J	0.24 J	0.39 J	0.44 J	0.39 J	0.15 J	0.57 J	0.58 J	0.65 U	0.71 J	0.63 J	0.33 J	0.32 J	0.23 J	1.6 J [2.5]	0.59 J
Azobenzene	- -	- -	1	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	1.6 U	2.1 U	1.5 U	0.52 U	2.2 U	2.1 U	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.82 U	1.6 UJ [1.8 U]	1.6 U
Benzaldehyde	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.056 J	1.6 U	2.1 U	1.5 U	0.035 J	2.2 U	0.79 J	0.2 J	2.3 U	2.1 U	0.87 U	1.8 U	0.064 J	0.17 UB [1.8 U]	1.6 U
Benzo(a)anthracene	0.261	1.6	- -	- -	- -	- -	mg/kg	1.6 J	1.4	1	2.1	1.8 J	1.8	0.61	2.3	2.4	0.65 U	2.2 J	2 J	1.2	1.4 J	0.87	5.9 J [6.7]	2.1
Benzo(a)pyrene	0.43	1.6	- -	- -	- -	- -	mg/kg	1.9	1.5	1	1.8	2 J	1.9	0.7	2.5	2.5	0.65 U	3	2.8	1.7	1.5 J	0.93	6.4 J [7.3]	2.8
Benzo(b)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	1.7	1.8	1.1	2.2	1.7 J	2	0.75	2.3	3	0.65 U	3	2.5	1.7	1.6 J	0.97	5.8 J [5.2]	2.7
Benzo(g,h,i)perylene	- -	- -	- -	- -	- -	- -	mg/kg	0.66 J	0.51 J	0.38 J	0.55 J	0.72 J	0.79 J	0.29 J	0.87 J	0.99 J	0.65 U	1 J	0.87 J	0.66 J	0.56 J	0.35 J	2.1 J [2.2]	0.94 J
Benzo(k)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	1.8	1.2	1	1.7	1.8 J	2.1	0.6	2.5	2 J	0.65 U	2.7	2.8	1.5	1.3 J	0.81 J	4.2 J [5.8]	2.3
Benzo[e]pyrene	- -	- -	- -	- -	- -	- -	mg/kg	1.3 J	1.2	0.88 J	1.3 J	1.6 J	1.7	0.49 J	2.2	2.2	0.65 U	2.1 J	2 J	1.2	1.1 J	0.71 J	4.6 J [4.7]	2.1
Benzoic Acid	- -	- -	- -	- -	- -	- -	mg/kg	4.3 UJ	1.9 UJ	2.5 UJ	4.1 UJ	5.2 UJ	3.9 UJ	1.3 UJ	5.6 UJ	5.2 UJ	1.6 UJ	5.7 UJ	5.3 UJ	2.2 UJ	4.5 UJ	2.1 UJ	4.1 UJ [4.5 UJ]	4 UJ
Benzyl Alcohol	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	1.6 U	2.1 U	1.5 U	0.52 U	2.2 U	2.1 U	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.82 U	1.6 UJ [1.8 U]	1.6 U
bis(2-Ethylhexyl)phthalate	- -	- -	- -	- -	- -	- -	mg/kg	10	4.8	4.7	6.1	12	6.1	0.19 UB	12	12	0.15 UB	12	9.6	5.4	9.6	1.4 UB	10 J [11]	5.5
Butylbenzylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.11 UB	0.18 UB	2.1 U	0.2 UB	0.037 UB	2.2 U	0.32 UB	0.061 UB	0.32 UB	0.25 UB	0.18 UB	0.24 UB	0.11 UB	0.24 J [0.24 J]	0.21 J

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID: / Sample Depth (feet): / Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	SD-09 5.6-6.6 11/27/12	SD-10 5.9-7.0 11/29/12	SD-10 10.2-11.4 11/29/12	SD-10 11.4-12.5 11/29/12	SD-11B 3.3-4.4 11/29/12	SD-11B 6.5-7.6 11/29/12	SD-11B 8.1-9.1 11/29/12	SD-12 3.2-4.2 12/04/12	SD-12 4.8-5.9 12/04/12	SD-12 5.9-6.9 12/04/12	SD-13 2.1-3.1 12/04/12	SD-13 6.2-7.2 12/04/12	SD-14B 2.3-3.5 11/30/12	SD-14B 5.1-6.2 11/30/12	SD-14B 6.2-7.4 11/30/12	SD-15B 1.8-2.7 12/05/12	SD-15B 4.1-5.0 12/05/12
Caprolactam	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	1.6 U	2.1 U	1.5 U	0.52 U	2.2 U	2.1 U	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.82 U	1.6 U [1.8 U]	1.6 U
Carbazole	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	1.6 U	2.1 U	0.11 J	0.027 J	2.2 U	2.1 U	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.039 J	1.6 UJ [0.13 J]	1.6 U
Chrysene	0.384	2.8	- -	- -	- -	- -	mg/kg	2.1	1.4	1	2	1.9 J	2	0.72	2.6	2.7	0.65 U	2.9	2.6	1.5	1.6 J	1	6.5 J [7.2]	2.4
Dibenzo(a,h)anthracene	0.0634	0.26	- -	- -	- -	- -	mg/kg	0.22 J	0.19 J	0.11 J	0.2 J	0.24 J	0.23 J	0.095 J	0.3 J	0.28 J	0.65 U	0.31 J	0.33 J	0.21 J	0.16 J	0.1 J	0.63 J [0.73 J]	0.33 J
Dibenzofuran	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.064 J	0.98 U	1.6 U	2.1 U	1.5 U	0.52 U	2.2 U	2.1 U	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.061 J	0.093 J [0.1 J]	1.6 U
Diethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	0.074 J	2.1 U	0.07 J	0.52 U	2.2 U	2.1 U	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.82 U	1.6 U [1.8 U]	1.6 U
Dimethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	1.6 U	2.1 U	1.5 U	0.52 U	2.2 U	2.1 U	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.82 U	1.6 UJ [1.8 U]	1.6 U
Di-n-Butylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.075 J	0.072 J	0.35 J	0.17 J	0.13 J	0.029 J	2.2 U	0.14 J	0.65 U	0.16 J	0.16 J	0.87 U	1.8 U	0.12 J	0.12 J [1.8 U]	0.14 J
Di-n-Octylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	1.6 U	2.1 U	1.5 U	0.52 U	2.2 U	2.1 U	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.82 U	1.6 U [1.8 U]	1.6 U
Fluoranthene	0.6	5.1	- -	- -	- -	- -	mg/kg	2.5	2.2	1.7	2.9	2.5	3.2	0.98	2.9	3.2	0.65 U	3.6	3.6	1.9	2.2	1.7	7.7 J [9.5]	3.7
Fluorene	0.019	0.54	- -	- -	- -	- -	mg/kg	0.15 J	0.1 J	0.093 J	0.11 J	0.12 J	0.16 J	0.051 J	0.15 J	0.18 J	0.65 U	0.12 J	0.2 J	0.057 J	0.12 J	0.096 J	0.28 J [0.78 J]	0.13 J
Indeno(1,2,3-cd)pyrene	- -	- -	0.7	- -	- -	- -	mg/kg	0.58 J	0.49 J	0.29 J	0.58 J	0.52 J	0.6 J	0.22 J	0.84 J	0.74 J	0.65 U	0.67 J	0.67 J	0.57 J	0.4 J	0.28 J	1.8 J [1.9]	0.79 J
Naphthalene	0.16	2.1	- -	- -	- -	- -	mg/kg	0.17 J	0.087 J	0.11 J	0.18 J	0.22 J	0.18 J	0.082 J	0.25 J	0.28 J	0.65 U	0.25 J	0.35 J	0.15 J	0.19 J	0.26 J	0.62 J [0.61 J]	0.24 J
N-Nitrosodimethylamine	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	1.6 U	2.1 U	1.5 U	0.52 U	2.2 U	2.1 U	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.82 U	1.6 UJ [1.8 U]	1.6 U
N-Nitroso-di-n-propylamine	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	1.6 U	2.1 U	1.5 U	0.52 U	2.2 U	2.1 U	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.82 U	1.6 UJ [1.8 U]	1.6 U
Perylene	- -	- -	- -	- -	- -	- -	mg/kg	0.44 J	0.32 J	0.23 J	0.47 J	0.38 J	0.46 J	0.2 J	0.55 J	0.64 J	0.065 J	0.72 J	0.61 J	0.38 J	0.38 J	0.24 J	1.3 J [1.5 J]	0.7 J
Phenanthrene	0.24	1.5	- -	- -	- -	- -	mg/kg	1.1 J	0.92	0.58 J	0.92 J	0.77 J	1.1 J	0.4 J	1 J	1.2 J	0.65 U	1 J	1.3 J	0.65 J	0.58 J	0.53 J	2.9 J [5.8]	1.1 J
Phenol	- -	- -	- -	- -	- -	- -	mg/kg	1.7 U	0.74 U	0.98 U	1.6 U	2.1 U	1.5 U	0.52 U	2.2 U	2.1 U	0.65 U	2.3 U	2.1 U	0.87 U	1.8 U	0.82 U	1.6 UJ [1.8 U]	1.6 U
Pyrene	0.665	2.6	- -	- -	- -	- -	mg/kg	2.9	3.1	1.9	3.1	3.2	3.6	1.4	3.7	4.7	0.028 J	4.7	3.9	2.8	2.4	2.5	12 J [14]	4.3
Total PAHs	4.022	44.792	- -	- -	- -	- -	mg/kg	18.46 J	15.617 J	10.794 J	19.17 J	18.46 J	20.49 J	7.188 J	23.45 J	25.42 J	0.028 J	26.95 J	25.45 J	15.287 J	14.8 J	10.954 J	59.88 J [72.58 J]	25.03 J
Total SVOCs	- -	- -	- -	- -	- -	- -	mg/kg	30.32 J	22.124 J	16.784 J	27.574 J	32.76 J	29.16 J	8.002 J	38.66 J	41.8 J	0.293 J	42.65 J	38.07 J	22.343 J	26 J	12.277 J	76.703 J [91.47 J]	33.81 J
Detected Inorganics																								
Aluminum	- -	- -	- -	- -	- -	- -	mg/kg	16,600	15,100	9,690	16,300	17,300	16,200	12,100	16,900 J	16,400 J	14,100 J	16,900 J	17,800 J	16,600	16,700	17,200	14,700 J [15,100 J]	15,700 J
Antimony	- -	- -	- -	- -	- -	- -	mg/kg	10.3 U	R	R	R	R	R	0.72 J	12.4 UJ	11.2 UJ	6.7 UJ	8.7 UJ	12.7 UJ	R	R	R	R [R]	R
Arsenic	8.2	70	- -	- -	- -	- -	mg/kg	14.4	9.8 J	8.3 J	20.5 J	15.7 J	13.9 J	6.6 J	19	17.3	8.1	16.8	18.9	14.7 J	13.7 J	13.1 J	17 J [16.7 J]	15.1 J
Barium	- -	- -	- -	- -	- -	- -	mg/kg	149 J	106 J	91.2 J	177 J	164 J	171 J	67.1 J	158 J	155 J	29.8 J	148 J	165 J	141 J	153 J	111 J	149 J [146 J]	157 J
Beryllium	- -	- -	- -	- -	- -	- -	mg/kg	0.81 J	0.73 J	0.52	0.93	0.89 J	0.79	0.54 J	1	0.99	0.78	0.99	1.1	0.82	0.84 J	1	0.87 [0.88]	0.8 J
Cadmium	1.2	9.6	- -	- -	- -	- -	mg/kg	5.7	2.5 J	3 J	7.4 J	6.8 J	6.4 J	0.48 J	7.1 J	6.9 J	0.31 J	5.6 J	6.6 J	4.6 J	6.3 J	3.4 J	5.1 J [4.9 J]	5.8 J
Calcium	- -	- -	- -	- -	- -	- -	mg/kg	5,400	10,300	3,460	6,690	5,640	5,810	2,500	4,820 J	5,100 J	36,500 J	4,740 J	5,990 J	4,480	6,780	6,200	4,260 [4,370]	4,450
Chromium	81	370	- -	- -	- -	- -	mg/kg	215	133 J	133 J	297 J	232 J	188 J	32.7 J	240 J	250 J	28.3 J	206 J	265 J	183 J	215 J	126 J	178 J [172 J]	192 J
Cobalt	- -	- -	- -	- -	- -	- -	mg/kg	10.3 J	10.6 J	7.3 J	10.7 J	12.2 J	10.6 J	10 J	11.7 J	11.6 J	9.6 J	11.3 J	12.9 J	11.1 J	11 J	16.1 J	9.9 J [10.1 J]	10.3 J
Copper	34	270	- -	- -	- -	- -	mg/kg	374	370 J	237 J	482 J	418 J	385 J	36.6 J	429	447	12.9	378	492	322 J	428 J	229 J	317 J [301 J]	364 J
Cyanide	- -	- -	- -	- -	- -	- -	mg/kg	1.4 UB	1.1 UB	0.93 UB	3.6	1.3 UB	2	1.8	1.9	2.2	1.7	0.73 UB	1.3 UB	0.84 UB	1.1 UB	1.3 UB	0.99 UB [0.77 J]	0.73 J
Iron	- -	- -	- -	- -	- -	- -	mg/kg	33,400	33,400 J	20,300 J	34,700 J	34,500 J	31,000 J	24,700 J	34,400 J	31,800 J	27,200 J	35,500 J	38,100 J	35,900 J	33,700 J	40,500 J	32,000 J [31,400 J]	30,600 J
Lead	46.7	218	- -	- -	- -	- -	mg/kg	348	248	219	429	396	474	72.6	393	419	13.4	371	454	347	380	206	360 [358]	409
Magnesium	- -	- -	- -	- -	- -	- -	mg/kg	9,330	10,200	5,160	8,580	9,390	8,540	5,980	8,940 J	8,570 J	7,170 J	9,320 J	9,580 J	8,990	9,060	8,200	8,010 J [8,210 J]	7,720 J
Manganese	- -	- -	- -	- -	- -	- -	mg/kg	458	451 J	223 J	441 J	444 J	354 J	359 J	472 J	404 J	756 J	491 J	482 J	429 J	403 J	339 J	419 J [411 J]	362 J
Mercury	0.15	0.71	- -	- -	- -	- -	mg/kg	1.3	1.8 J	1.4 J	2.8 J	3.2 J	2.6 J	0.21 J	3.1 J	2.8 J	0.053 UB	1.4 J	3 J	2.5	3	1.7	3.2 [2.3]	2.8
Nickel	20.9	51.6	- -	- -	- -	- -	mg/kg	48.2 J	35.5 J	28.1 J	61.7 J	52.3 J	45.8 J	20.8 J	53.1 J	56.8 J	21.2 J	48.8 J	57.1 J	43.4 J	48.1 J	57.1 J	42.7 J [42.3 J]	46.9 J
Potassium	- -	- -	- -	- -	- -	- -	mg/kg	4,710	4,100	2,510	4,270	4,540	3,970	3,270	4,450 J	4,260 J	3,530 J	4,350 J	4,520 J	4,290	4,430	3,380	3,870 J [3,950 J]	3,750 J
Selenium	- -	- -	- -	- -	- -	- -	mg/kg	6 U	5.7 UJ	3.3 UJ	5.6 UJ	6.4 UJ	4.6 UJ	4 UJ	7.2 U	6.5 U	3.9 U	5.1 U	7.4 U	5.5 UJ	8.3 UJ	5.7 UJ	5.6 UJ [5.4 UJ]	4.3 UJ
Silver	1	3.7	- -	- -	- -	- -	mg/kg	10.1	6.9 J	6.8 J	14.5 J	11.9 J	9.3 J	1.1 UJ	11.5 J	12.2 J	1.1 UJ	9.8 J	11.9 J	8 J	11.2 J	5.3 J	8.3 [8]	9.5
Sodium	- -	- -	- -	- -	- -	- -	mg/kg	14,900	11,500	6,460	12,300	14,900	11,500	4,860	12,400	9,820	5,980	14,200	11,600	12,200	12,600	8,040	9,780 J [10,300 J]	6,890 J
Thallium	- -	- -	- -	- -	- -	- -	mg/kg	5.2 U	0.88 J	2.3 UJ	4 UJ	4.6 UJ	3.3 UJ	0.5 J	1.2 J	4.7 U	0.61 J	3.6 U	1.7 J	3.9 UJ	5.9 UJ	4.1 UJ	4 U [3.8 U]	0.65 J
Vanadium	- -	- -	- -	- -	- -	- -	mg/kg	58.7	46.6	37.3	88	64	67.8	32.2	64.2	69.9	35.2	62.8	74.2	54	64.1	82.6	52 J [52.2 J]	60.4 J
Zinc	150	410	- -	- -	- -	- -	mg/kg	403 J	310 J	232 J	450 J	462 J	478 J	91.1 J	471 J	483 J	63.3 J	415 J	490 J	391 J	435 J	251 J	379 J [370 J]	394 J
Detected Miscellaneous																								
Percent Solids	- -	- -	- -	- -	- -	- -	%	38.2	43.2	66.5	40.9	32.8	41.8	62.8	37.8	39.6	50.1	36.7	38.2	37.6	36	41.2	39.4 [36.4]	41
Total Organic Carbon	- -	- -	- -	- -	- -	- -	mg/kg	50,100	62,100	44,000	67,000	63,900	56,500	25,600	52,900	58,100	20,800	77,800	54,800	55,400	67,200	51,600	84,600 [119,000]	73,800

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID:								SD-15B	SD-17	SD-17	SD-17	SD-19	SD-19	SD-19	SD-20B	SD-20B	SD-23	SD-23	SD-23	SD-24	SD-24	SD-25	SD-25	SD-27	SD-27
Sample Depth (feet):								5.0-5.9	6.3-7.3	7.3-8.3	8.3-9.3	3.9-5.1	6.2-7.4	12.0-13.1	2.8-3.9	7.3-8.4	0-1.0	5.5-6.1	6.1-7.1	2.4-3.6	10.5-11.6	0-1.1	2.7-3.7	1.2-2.4	4.2-5.4
Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	12/05/12	11/28/12	11/28/12	11/28/12	11/29/12	11/29/12	11/29/12	11/27/12	11/27/12	12/06/12	12/06/12	12/06/12	12/05/12	12/05/12	12/12/12	12/12/12	12/12/12	12/12/12
Detected Volatile Organics																									
1,2,4-Trichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	0.00099 UB	R	R	R	R	R	0.0018 UB [R]	0.0016 UB	0.0018 UB	R	0.013 UJ	0.0053 U	R	R	R	R	R	0.013 UJ [0.014 UJ]
1,2-Dibromo-3-chloropropane	- -	- -	- -	- -	- -	- -	mg/kg	0.0096 UJ	R	R	R	R	R	0.013 UJ [R]	0.021 UJ	0.017 UJ	R	0.013 UJ	0.0053 U	R	R	R	R	R	0.013 UJ [0.014 UJ]
1,2-Dichloroethene (total)	- -	- -	0.02	- -	- -	- -	mg/kg	0.0096 U	0.022 U	0.017 U	0.012 U	0.017 U	0.02 U	0.013 U [0.015 U]	0.021 U	0.017 U	0.013 UJ	0.013 U	0.0053 U	0.016 U	0.015 U	0.015 U	0.017 U	0.0078 U	0.013 U [0.014 U]
1,4-Dichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	0.0096 UJ	R	R	R	R	R	0.013 UJ [R]	0.021 UJ	0.017 UJ	R	0.013 UJ	0.0053 U	R	R	R	R	R	0.013 UJ [0.014 UJ]
2-Butanone	- -	- -	- -	- -	- -	- -	mg/kg	0.021	0.28 J	0.27 J	0.063 J	0.18	0.21	0.11 J [0.29]	0.083 J	0.1 J	0.2 J	0.049	0.0053 U	0.25	0.36	0.19	0.4 J	0.043	0.12 [0.22]
2-Hexanone	- -	- -	- -	- -	- -	- -	mg/kg	0.0096 UJ	0.022 UJ	0.017 UJ	0.012 UJ	0.017 UJ	0.02 UJ	0.013 UJ [0.015 UJ]	0.021 UJ	0.017 UJ	0.013 UJ	0.013 U	0.0053 U	0.016 UJ	0.015 UJ	0.015 UJ	0.017 UJ	0.0078 UJ	0.013 U [0.014 U]
4-Methyl-2-pentanone	- -	- -	- -	- -	- -	- -	mg/kg	0.0096 U	0.022 UJ	0.017 UJ	0.012 UJ	0.017 U	0.02 U	0.013 U [0.015 U]	0.021 UJ	0.017 UJ	0.013 UJ	0.013 U	0.0053 U	0.016 U	0.015 U	0.015 U	0.017 U	0.0078 U	0.013 U [0.014 U]
Acetone	- -	- -	- -	- -	- -	- -	mg/kg	0.2	1.2 J	1.1 J	0.24 J	0.6 J	0.67 J	0.38 J [0.97 J]	0.32 J	0.39 J	0.8 J	0.18	0.0092 UB	1.3	1.6 EJ	0.84	1.8 J	0.17 J	0.5 [0.95]
Benzene	- -	- -	0.6	90	26	- -	mg/kg	0.0096 U	0.0044 J	0.0056 J	0.012 U	0.017 U	0.02 U	0.013 U [0.015 U]	0.021 U	0.003 J	0.003 J	0.013 U	0.0053 U	0.016 U	0.0048 J	0.015 U	0.0064 J	0.0078 U	0.0027 J [0.0035 J]
Carbon Disulfide	- -	- -	- -	- -	- -	- -	mg/kg	0.043	0.062	0.059	0.021	0.085	0.027	0.0084 J [0.045]	0.029	0.018	0.078 J	0.01 J	0.00041 J	0.025	0.049	0.072	0.07 J	0.012 J	0.033 [0.049]
Chlorobenzene	- -	- -	- -	34.6	3.5	- -	mg/kg	0.0096 UJ	0.022 UJ	0.0012 J	0.012 UJ	0.017 UJ	0.02 UJ	0.013 UJ [0.015 UJ]	0.021 U	0.017 U	0.0032 J	0.013 U	0.0053 U	0.016 UJ	0.00082 J	0.015 UJ	0.0016 J	0.0078 UJ	0.00085 J [0.0015 J]
Chloromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.0096 U	0.022 U	0.017 U	0.012 U	0.017 UJ	0.02 UJ	0.013 UJ [0.015 UJ]	0.021 U	0.017 U	0.013 UJ	0.013 U	0.0053 U	0.016 U	0.015 U	0.015 U	0.017 U	0.0078 U	0.013 U [0.014 U]
cis-1,2-Dichloroethene	- -	- -	- -	- -	- -	- -	mg/kg	0.0096 U	0.022 U	0.017 U	0.012 U	0.017 U	0.02 U	0.013 U [0.015 U]	0.021 U	0.017 U	0.013 UJ	0.013 U	0.0053 U	0.016 U	0.015 U	0.015 U	0.017 U	0.0078 U	0.013 U [0.014 U]
Cyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.0096 U	0.022 U	0.017 U	0.012 U	0.017 U	0.02 U	0.013 UJ [0.015 U]	0.021 U	0.017 U	0.005 J	0.013 U	0.0053 U	0.016 U	0.011 J	0.015 U	0.017 U	0.0078 UJ	0.013 U [0.014 U]
Ethylbenzene	- -	- -	- -	58	6.4	- -	mg/kg	0.0096 UJ	0.022 UJ	0.00087 J	0.012 UJ	0.017 UJ	0.02 UJ	0.013 UJ [0.015 UJ]	0.00038 J	0.00044 J	0.01 J	0.013 U	0.0053 U	0.016 UJ	0.0075 J	0.015 UJ	0.0017 J	0.0017 J	0.00068 J [0.00097 J]
Isopropylbenzene	- -	- -	- -	105	12	- -	mg/kg	0.0096 UJ	R	0.0042 J	R	R	R	0.013 UJ [R]	0.021 UJ	0.017 UJ	0.018 J	0.013 UJ	0.0053 U	0.0022 J	0.038 J	0.0028 J	0.0044 J	0.0019 J	0.0021 J [0.0034 J]
Methyl acetate	- -	- -	- -	- -	- -	- -	mg/kg	0.0096 U	0.022 U	0.0082 J	0.012 U	0.017 U	0.02 U	0.013 U [0.014 J]	0.021 U	0.0057 J	0.014 J	0.013 U	0.0053 U	0.016 U	0.015 U	0.012 J	0.017 U	0.0078 U	0.013 U [0.014 U]
Methylcyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.0096 U	0.0052 J	0.0081 J	0.012 U	0.017 U	0.0015 J	0.013 UJ [0.0024 J]	0.021 U	0.0024 J	0.0049 J	0.0012 J	0.0053 U	0.0028 J	0.05	0.0024 J	0.0058 J	0.0078 UJ	0.0026 J [0.0042 J]
Methylene Chloride	- -	- -	- -	- -	- -	- -	mg/kg	0.0096 U	0.022 U	0.017 U	0.012 U	0.017 U	0.02 U	0.013 U [0.015 U]	0.021 U	0.017 U	0.013 UJ	0.013 U	0.0053 U	0.016 U	0.015 U	0.015 U	0.017 U	0.0012 UB	0.013 U [0.014 U]
Styrene	- -	- -	- -	- -	- -	- -	mg/kg	0.0096 UJ	0.022 UJ	0.017 UJ	0.012 UJ	0.017 UJ	0.02 UJ	0.013 UJ [0.015 UJ]	0.021 U	0.017 U	0.013 UJ	0.013 U	0.0053 U	0.016 UJ	0.015 UJ	0.015 UJ	0.017 UJ	0.0078 UJ	0.013 U [0.014 U]
Toluene	- -	- -	- -	- -	- -	- -	mg/kg	0.00036 J	0.0016 J	0.0016 J	0.00057 J	0.0022 J	0.0013 J	0.00083 J [0.0012 J]	0.0011 J	0.00096 J	0.0022 J	0.00062 J	0.0053 U	0.0019 J	0.0026 J	0.0014 J	0.0022 J	0.00091 J	0.00072 J [0.0011 J]
Trichlorofluoromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.0096 U	0.022 U	0.017 U	0.012 U	0.017 U	0.02 U	0.013 U [0.015 U]	0.021 U	0.017 U	0.013 UJ	0.013 U	0.0053 U	0.016 U	0.015 U	0.015 U	0.017 U	0.0078 U	0.013 U [0.014 U]
Vinyl Chloride	- -	- -	0.07	- -	- -	- -	mg/kg	0.0096 U	0.022 U	0.017 U	0.012 U	0.017 U	0.02 U	0.013 U [0.015 U]	0.021 U	0.017 U	0.013 UJ	0.013 U	0.0053 U	0.016 U	0.015 U	0.015 U	0.017 U	0.0078 U	0.013 U [0.014 U]
Xylenes (total)	- -	- -	- -	- -	- -	- -	mg/kg	0.0096 UJ	0.0032 J	0.0042 J	0.012 UJ	0.0011 J	0.0017 J	0.013 UJ [0.0014 J]	0.00064 J	0.0012 J	0.022 J	0.001 J	0.0053 U	0.0021 J	0.2 J	0.0047 J	0.0079 J	0.0012 J	0.0026 J [0.0048 J]
Total BTEX	- -	- -	- -	- -	- -	- -	mg/kg	0.00036 J	0.0092 J	0.01227 J	0.00057 J	0.0033 J	0.003 J	0.00083 J [0.0026 J]	0.00212 J	0.0056 J	0.0372 J	0.00162 J	ND	0.004 J	0.2149 J	0.0061 J	0.0182 J	0.00381 J	0.0067 J [0.01037 J]
Total VOCs	- -	- -	- -	- -	- -	- -	mg/kg	0.26436 J	1.5564 J	1.46297 J	0.32457 J	0.8683 J	0.9115 J	0.49923 J [1.324 J]	0.43412 J	0.5217 J	1.1603 J	0.24182 J	0.00041 J	1.584 J	2.32372 J	1.1253 J	2.3 J	0.23071 J	0.66525 J [1.23847 J]
Detected Semivolatile Organics																									
1,1'-Biphenyl	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	2 U	0.058 J	0.049 J	2 U	2 U	0.72 U [1.9 U]	1.5 U	1.7 U	0.29 J	0.072 J	0.38 U	1.4 U	0.13 J	1.1 U	3.1 U	5.3 U	1.5 U [1.9 U]
1-Methylnaphthalene	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	0.12 J	0.1 J	0.11 J	2 U	0.093 J	0.72 U [0.087 J]	0.069 J	0.1 J	2.5 J	0.13 J	0.38 U	0.13 J	0.49 J	0.071 J	0.16 J	0.4 J	0.16 J [0.19 J]
2-Methylnaphthalene	0.07	0.67	- -	- -	- -	- -	mg/kg	0.6 U	0.14 J	0.14 J	0.16 J	2 U	0.12 J	0.033 J [0.14 J]	0.096 J	0.12 J	1.7 J	0.22 J	0.38 U	0.15 J	0.5 J	0.082 J	0.22 J	0.45 J	0.19 J [0.18 J]
2-Nitrophenol	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	2 U	1.2 U	0.92 U	2 U	2 U	0.72 U [1.9 U]	1.5 U	1.7 U	4 U	1.4 U	0.38 U	1.4 U	1.6 U	1.1 U	3.1 U	5.3 U	1.5 U [1.9 U]
4-Chloroaniline	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	2 U	1.2 U	0.92 U	2 U	2 U	R [1.9 U]	1.5 U	0.32 J	4 U	1.4 U	0.38 U	1.4 U	1.6 U	1.1 U	0.51 J	5.3 U	1.5 U [0.24 J]
Acenaphthene	0.016	0.5	- -	- -	- -	- -	mg/kg	0.6 U	0.13 J	0.27 J	0.13 J	2 U	0.13 J	0.72 U [0.15 J]	0.11 J	0.16 J	7.4	0.23 J	0.38 U	0.33 J	1.5 J	0.38 J	0.22 J	3.3 J	0.23 J [0.32 J]
Acenaphthylene	0.044	0.64	- -	- -	- -	- -	mg/kg	0.6 U	0.16 J	0.19 J	0.26 J	0.11 J	0.17 J	0.045 J [0.19 J]	0.17 J	0.17 J	0.83 J	0.25 J	0.38 U	0.4 J	0.23 J	0.065 J	0.29 J	5.3 U	0.17 J [0.23 J]
Acetophenone	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	2 U	1.2 U	0.92 U	2 U	2 U	0.72 U [1.9 U]	1.5 U	1.7 U	4 U	1.4 U	0.38 U	1.4 U	1.6 U	1.1 U	3.1 U	5.3 U	1.5 U [1.9 U]
Anthracene	0.0853	1.1	- -	- -	- -	- -	mg/kg	0.6 U	0.41 J	0.48 J	0.67 J	0.22 J	0.36 J	0.15 J [0.44 J]	0.36 J	0.38 J	6.7	0.63 J	0.38 U	1.1 J	1.7	1.1	0.61 J	6.3 J	0.42 J [0.78 J]
Azobenzene	- -	- -	1	- -	- -	- -	mg/kg	0.6 U	2 U	1.2 U	0.92 U	2 U	2 U	0.72 U [1.9 U]	1.5 U	1.7 U	4 U	1.4 U	0.38 U	0.48 J	1.6 U	1.1 U	3.1 U	5.3 U	1.5 U [1.9 U]
Benzaldehyde	- -	- -	- -	- -	- -	- -	mg/kg	0.033 UB	2 U	0.069 UB	0.92 U	2 U	0.12 J	0.035 J [0.11 J]	0.13 UB	1.7 U	4 U	0.11 UB	0.048 UB	1.4 U	1.6 U	1.1 U	3.1 U	5.3 U	1.5 U [1.9 U]
Benzo(a)anthracene	0.261	1.6	- -	- -	- -	- -	mg/kg	0.6 U	1.3 J	1.6	2.3	0.98 J	1.8 J	0.52 J [1.9]	1.4 J	1.4 J	7.2	1.6	0.38 U	3.5	2.3	2.2	2.1 J	11	1.5 [2.4]
Benzo(a)pyrene	0.43	1.6	- -	- -	- -	- -	mg/kg	0.6 U	1.8 J	1.9	2.5	1.3 J	1.9 J	0.74 [2.3]	1.8	1.7	6.8	2	0.38 U	4.2	2.2	2	2.4 J	9.4 J	1.8 [2.3]
Benzo(b)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	0.6 U	1.8 J	1.5	2.6	1.2 J	2.4	0.71 J [2.1]	2.3	1.4 J	7.5	2	0.38 U	3.9	2.4	2.2	2.2 J	12	1.6 [2.8]
Benzo(g,h,i)perylene	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	0.65 J	0.75 J	0.88 J	0.51 J	0.7 J	0.3 J [0.89 J]	0.64 J	0.63 J	1.9 J	0.57 J	0.38 U	1.2 J	0.7 J	0.59 J	0.84 J	3.2 J	0.56 J [0.87 J]
Benzo(k)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	0.6 U	1.6 J	2.1	2.4	1.5 J	1.4 J	0.75 J [2.4]	1.5	2	6.7	1.5	0.38 U	2.5	1.5 J	2.8	2.5 J	11	1.5 [1.8 J]
Benzo[e]pyrene	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	1.3 J	1.3	2	1.1 J	1.6 J	0.54 J [1.9]	1.3 J	1.3 J	4.4	1.4	0.38 U	2.5	1.5 J	1.5	2 J	7.1 J	1.3 J [1.8 J]
Benzoic Acid	- -	- -	- -	- -	- -	- -	mg/kg	1.5 UJ	5.1 UJ	3 UJ	2.3 UJ	4.9 UJ	5 UJ	1.8 UJ [4.9 UJ]	3.8 UJ	4.3 UJ	10 UJ	3.6 UJ	0.96 UJ	3.6 UJ	4.1 UJ	2.9 UJ	7.7 UJ	R	3.7 UJ [4.7 UJ]
Benzyl Alcohol	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	2 U	1.2 U	0.92 U	2 U	2 U	0.72 U [1.9 U]	1.5 U	1.7 U	4 U	1.4 U	0.38 U	1.4 U	1.6 U	1.1 UJ	3.1 UJ	5.3 U	1.5 U [1.9 UJ]
bis(2-Ethylhexyl)phthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.056 UB	10	7.5	0.74 J	5.9	9.9	0.44 UB [10 J]	8.7	10	4.5	7.3	0.024 UB	4.4	4.7	2.1	12	2.7 J	7.1 [9.1]
Butylbenzylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	0.3 J	0.31 J	0.11 J	0.28 UB	0.31 UB	0.058 UB [0.42 UB]	0.37 J	0.33 J	4 U	0.24 J	0.38 U	0.21 J	1.6 U	0.09 J	0.2 J	1.9 J	1.5 U [0.15 J]

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID: / Sample Depth (feet): / Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	SD-15B 5.0-5.9 12/05/12	SD-17 6.3-7.3 11/28/12	SD-17 7.3-8.3 11/28/12	SD-17 8.3-9.3 11/28/12	SD-19 3.9-5.1 11/29/12	SD-19 6.2-7.4 11/29/12	SD-19 12.0-13.1 11/29/12	SD-20B 2.8-3.9 11/27/12	SD-20B 7.3-8.4 11/27/12	SD-23 0-1.0 12/06/12	SD-23 5.5-6.1 12/06/12	SD-23 6.1-7.1 12/06/12	SD-24 2.4-3.6 12/05/12	SD-24 10.5-11.6 12/05/12	SD-25 0-1.1 12/12/12	SD-25 2.7-3.7 12/12/12	SD-27 1.2-2.4 12/12/12	SD-27 4.2-5.4 12/12/12
Caprolactam	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	2 U	1.2 U	0.92 U	2 U	2 U	0.72 U [1.9 U]	1.5 U	1.7 U	4 U	1.4 U	0.38 U	1.4 U	1.6 U	1.1 U	3.1 U	5.3 U	1.5 U [1.9 U]
Carbazole	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	0.11 J	0.078 J	0.1 J	2 U	2 U	0.72 U [1.9 U]	1.5 U	0.1 J	1.5 J	1.4 U	0.38 U	1.4 U	0.49 J	0.3 J	3.1 U	3.4 J	0.079 J [0.17 J]
Chrysene	0.384	2.8	- -	- -	- -	- -	mg/kg	0.6 U	1.7 J	1.8	2.5	1.2 J	1.9 J	0.59 J [2.4]	1.7	1.8	7.7	2	0.38 U	4	2.7	2.8	2.5 J	12	1.8 [2.7]
Dibenzo(a,h)anthracene	0.0634	0.26	- -	- -	- -	- -	mg/kg	0.6 U	0.23 J	0.21 J	0.31 J	0.16 J	0.27 J	0.085 J [0.27 J]	0.23 J	0.22 J	0.76 J	0.21 J	0.38 U	0.4 J	0.21 J	0.2 J	0.24 J	0.97 J	0.19 J [0.29 J]
Dibenzofuran	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	2 U	1.2 U	0.091 J	2 U	2 U	0.72 U [1.9 U]	1.5 U	1.7 U	2.3 J	0.072 J	0.38 U	1.4 U	0.52 J	0.13 J	3.1 U	1.5 J	0.072 J [1.9 U]
Diethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	2 U	1.2 U	0.92 U	2 U	2 U	0.72 U [1.9 U]	1.5 U	1.7 U	4 U	1.4 U	0.38 U	1.4 U	1.6 U	1.1 U	3.1 U	5.3 U	1.5 U [1.9 U]
Dimethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	2 U	1.2 U	0.92 U	2 U	2 U	0.72 UJ [1.9 U]	1.5 U	1.7 U	4 U	1.4 U	0.38 U	1.4 U	1.6 U	0.085 J	3.1 U	5.3 U	1.5 U [1.9 U]
Di-n-Butylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	0.13 J	0.14 J	0.085 J	2 U	0.12 J	0.043 J [1.9 U]	0.1 J	0.16 J	0.33 J	0.24 J	0.38 U	1.4 U	0.23 J	0.081 J	3.1 U	5.3 U	0.11 J [1.9 U]
Di-n-Octylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	2 UJ	1.2 U	0.92 U	2 U	2 U	0.72 U [1.9 U]	1.5 U	1.7 U	4 U	1.4 U	0.38 U	1.4 U	1.6 U	1.1 U	3.1 U	5.3 U	1.5 U [1.9 U]
Fluoranthene	0.6	5.1	- -	- -	- -	- -	mg/kg	0.6 U	2.1	2.9	4.8	1.3 J	2.7	1 [2.8]	2.2	2.9	22	2.4	0.38 U	4.3	7.8	7.1	3.1	33	2.4 [4.4]
Fluorene	0.019	0.54	- -	- -	- -	- -	mg/kg	0.6 U	0.093 J	0.14 J	0.16 J	2 U	0.11 J	0.72 U [0.12 J]	0.086 J	0.12 J	4.9	0.15 J	0.38 U	0.22 J	1.7	0.3 J	3.1 U	2.6 J	0.19 J [0.37 J]
Indeno(1,2,3-cd)pyrene	- -	- -	0.7	- -	- -	- -	mg/kg	0.6 U	0.53 J	0.56 J	0.74 J	0.4 J	0.56 J	0.25 J [0.72 J]	0.55 J	0.54 J	1.7 J	0.47 J	0.38 U	1 J	0.51 J	0.57 J	0.61 J	3 J	0.43 J [0.7 J]
Naphthalene	0.16	2.1	- -	- -	- -	- -	mg/kg	0.6 U	0.15 J	0.18 J	0.31 J	2 U	0.15 J	0.045 J [0.19 J]	0.1 J	0.18 J	6.4	0.33 J	0.38 U	0.14 J	0.32 J	0.15 J	0.22 J	1.5 J	0.22 J [0.21 J]
N-Nitrosodimethylamine	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	2 U	1.2 U	0.92 U	2 U	2 U	0.72 U [1.9 U]	1.5 U	1.7 U	4 U	1.4 U	0.38 U	1.4 U	1.6 U	1.1 U	3.1 U	5.3 U	1.5 U [1.9 U]
N-Nitroso-di-n-propylamine	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	2 U	1.2 U	0.92 U	2 U	2 U	0.72 U [1.9 U]	1.5 U	1.7 U	4 U	1.4 U	0.38 U	1.4 U	1.6 U	1.1 U	3.1 U	5.3 U	1.5 U [1.9 U]
Perylene	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	0.42 J	0.44 J	0.62 J	0.28 J	0.42 J	0.27 J [0.48 J]	0.39 J	0.46 J	1.7 J	0.42 J	0.38 U	0.77 J	0.45 J	0.51 J	0.57 J	2.4 J	0.38 J [0.54 J]
Phenanthrene	0.24	1.5	- -	- -	- -	- -	mg/kg	0.6 U	0.75 J	0.95 J	1.1	0.46 J	0.62 J	0.27 J [0.83 J]	0.7 J	0.87 J	21	1.2 J	0.38 U	1.8	9.6	2.6	1.1 J	25	1.1 J [1.8 J]
Phenol	- -	- -	- -	- -	- -	- -	mg/kg	0.6 U	2 U	1.2 U	0.92 U	2 U	2 U	0.72 U [1.9 U]	1.5 U	1.7 U	4 U	1.4 U	0.38 U	1.4 U	1.6 U	1.1 U	3.1 U	5.3 U	1.5 U [1.9 U]
Pyrene	0.665	2.6	- -	- -	- -	- -	mg/kg	0.6 U	2.4	3.8	5.1	1.8 J	3.4	1.2 J [3.8 J]	2.7	3.6	17	3.6	0.38 U	5.4	6	6.3	3.8	27	2.9 [4.3]
Total PAHs	4.022	44.792	- -	- -	- -	- -	mg/kg	ND	15.943 J	19.47 J	26.92 J	11.14 J	18.69 J	6.688 J [21.64 J]	16.642 J	18.19 J	128.19 J	19.36 J	ND	34.54 J	41.87 J	31.437 J	22.95 J	161.72 J	17.2 J [26.45 J]
Total SVOCs	- -	- -	- -	- -	- -	- -	mg/kg	ND	28.323 J	29.396 J	30.825 J	18.42 J	30.943 J	7.576 J [34.217 J]	27.571 J	30.96 J	145.71 J	29.234 J	ND	43.03 J	50.38 J	36.304 J	38.39 J	181.12 J	26.401 J [38.64 J]
Detected Inorganics																									
Aluminum	- -	- -	- -	- -	- -	- -	mg/kg	10,200 J	19,300	19,800	15,500	16,200	17,000	17,100 [17,100]	18,800	19,100	14,200 J	12,400 J	3,380 J	15,500 J	12,500 J	8,360 J	16,100 J	8,290 J	12,900 J [11,500 J]
Antimony	- -	- -	- -	- -	- -	- -	mg/kg	R	11.4 U	1.2 J	1.1 J	R	R	R [R]	13.5 U	0.87 J	R	R	R	R	R	1.2 J	11.2 UJ	8.2 UJ	8.3 UJ [7.1 UJ]
Arsenic	8.2	70	- -	- -	- -	- -	mg/kg	6.1 J	17.6	17.2	13.6	17.5 J	15.2 J	11 J [15.1 J]	16.5	15.4	17.1 J	13.4 J	1.3 J	13.6 J	18.8 J	6.5 J	17.1 J	9 J	13.3 J [13 J]
Barium	- -	- -	- -	- -	- -	- -	mg/kg	28 J	175 J	196 J	119 J	113 J	149 J	78.7 J [149 J]	134 J	171 J	165 J	139 J	6.4 J	117 J	161 J	65.7 J	157 J	55.3 J	126 J [117 J]
Beryllium	- -	- -	- -	- -	- -	- -	mg/kg	0.52 J	0.96	0.99	0.73	0.82 J	0.86 J	0.78 [0.86 J]	0.92 J	0.98	0.97 J	0.86	0.24 J	0.82	0.84 J	0.43 J	0.75 J	0.47 J	0.65 J [0.61]
Cadmium	1.2	9.6	- -	- -	- -	- -	mg/kg	0.21 J	8	8	2.3	2.8 J	5.1 J	1.7 J [5.1 J]	4.4	5.4	6.3 J	5.1 J	0.079 J	1.8 J	6.1 J	1 J	5.3 J	1 J	5 J [4.6 J]
Calcium	- -	- -	- -	- -	- -	- -	mg/kg	1,490	5,390	5,720	5,430	4,930	5,230	4,000 [4,810]	5,670	5,860	4,250	3,820	347	9,310	4,530	9,160 J	5,320 J	39,300 J	4,560 J [4,020 J]
Chromium	81	370	- -	- -	- -	- -	mg/kg	21.6 J	241	242	88.5	141 J	189 J	80.8 J [183 J]	174	176	194 J	199 J	17 J	99.3 J	194 J	52.7 J	220 J	144 J	176 J [167 J]
Cobalt	- -	- -	- -	- -	- -	- -	mg/kg	9.7 J	11.6 J	11.8 J	13.2 J	10.3 J	11.9 J	11.9 J [11.6 J]	11.1 J	12.5 J	10.5 J	8.9 J	3.5 J	10.7 J	8.4 J	7.4 J	10.3 J	6 J	8.3 J [7.6 J]
Copper	34	270	- -	- -	- -	- -	mg/kg	8.5 J	481	496	181	275 J	348 J	114 J [337 J]	319	368	348 J	348 J	6.4 J	188 J	378 J	77.7 J	427 J	91.5 J	295 J [279 J]
Cyanide	- -	- -	- -	- -	- -	- -	mg/kg	0.097 J	1.2 UB	1.7	7.9	0.7 UB	0.9 UB	5.1 [1.1 UB]	0.76 UB	5.3	3.8	0.85 J	0.56 U	0.24 J	2.9	0.58 J	0.98 J	5.2 J	1.3 [0.83 J]
Iron	- -	- -	- -	- -	- -	- -	mg/kg	23,000 J	46,400	39,700	38,700	45,500 J	42,000 J	38,500 J [39,700 J]	48,100	45,300	31,200 J	27,300 J	10,400 J	30,200 J	29,200 J	23,800 J	30,400 J	26,900 J	26,200 J [24,200 J]
Lead	46.7	218	- -	- -	- -	- -	mg/kg	9.3	451	495	217	264	382	155 [377]	329	375	314	306	3.7	228	322	111 J	385 J	121 J	336 J [342 J]
Magnesium	- -	- -	- -	- -	- -	- -	mg/kg	4,690 J	10,300	10,200	7,950	9,280	9,650	8,120 [9,290]	11,100	10,100	7,140 J	6,150 J	1,660 J	8,600 J	6,470 J	5,290 J	8,880 J	8,520 J	6,980 J [6,240 J]
Manganese	- -	- -	- -	- -	- -	- -	mg/kg	409 J	469	448	467	387 J	448 J	485 J [435 J]	476	453	327 J	266 J	53.2 J	772 J	292 J	394 J	487 J	297 J	352 J [327 J]
Mercury	0.15	0.71	- -	- -	- -	- -	mg/kg	0.027 UB	2.2	2.9	1.7	1.6 J	2.3 J	1.3 J [3.1 J]	1.8	1.6	2.4	2.4	0.0023 UB	1.7	2.7	1.5	2.7	0.51	2.3 [2.1]
Nickel	20.9	51.6	- -	- -	- -	- -	mg/kg	16.9 J	52.9 J	57.9 J	34.1 J	35 J	44.6 J	30.8 J [43.8 J]	42.7 J	51.3 J	58 J	48.7 J	13.7 J	32.2 J	49.7 J	18.8 J	44.4 J	21.2 J	39.4 J [35.3 J]
Potassium	- -	- -	- -	- -	- -	- -	mg/kg	2,580 J	5,030	4,960	3,570	4,800	4,460	3,860 [4,420]	5,010	4,930	3,590 J	3,130 J	556 J	4,070 J	3,160 J	2,880 J	4,500 J	2,010 J	3,330 J [2,980 J]
Selenium	- -	- -	- -	- -	- -	- -	mg/kg	3.9 UJ	6.6 U	6.2 U	4.7 U	6.2 UJ	7 UJ	4.6 UJ [6.5 UJ]	7.9 U	5.1 U	7 UJ	4.2 UJ	2.4 UJ	5 UJ	6.1 UJ	6.2 UJ	6.5 UJ	4.8 UJ	4.8 UJ [4.1 UJ]
Silver	1	3.7	- -	- -	- -	- -	mg/kg	1.1 U	12.7	10.4	3.8	6.7 J	8 J	1.6 J [7.8 J]	7.9	7.1	10.3	10.2	0.69 U	6.1	10.7	1.9	12	1.2 J	9 [8]
Sodium	- -	- -	- -	- -	- -	- -	mg/kg	2,560 J	15,500	11,900	6,290	16,400	14,900	6,310 [13,900]	17,900	14,000	11,200 J	5,580 J	719 J	12,300 J	11,300 J	11,000 J	13,600 J	7,130 J	9,660 J [8,850 J]
Thallium	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	6.4 U	4.8 U	2.7 U	4.4 UJ	5 UJ	0.6 J [4.7 UJ]	5.9 U	3.9 U	5 U	3 U	1.7 U	3.6 U	4.4 U	4.4 U	4.7 U	3.4 U	3.4 U [2.9 U]
Vanadium	- -	- -	- -	- -	- -	- -	mg/kg	26.9 J	70.2	74.7	60.7	58.6	57.6	51.4 [56.7]	70.5	72.6	65.7 J	53.2 J	13.6 J	44.7 J	66.8 J	31.1 J	57.3 J	26.9 J	47.1 J [43.5 J]
Zinc	150	410	- -	- -	- -	- -	mg/kg	45 J	522 J	536 J	293 J	343 J	416 J	188 J [408 J]	419 J	404 J	380 J	322 J	16.6 J	264 J	398 J	3,690 J	389 J	330 J	347 J [328 J]
Detected Miscellaneous																									
Percent Solids	- -	- -	- -	- -	- -	- -	%	56.1	31.9	38.2	49.5	34.5	32.9	45.4 [34.4]	30.8	37.9	41.2	45.8	87.6	38.7	40.7	37	35.5	60.9	44.5 [44.2]
Total Organic Carbon	- -	- -	- -	- -	- -	- -	mg/kg	19,400	66,700	58,400	47,100	51,700	59,300	34,000 [58,800]	51,300	39,700	52,900	53,200	514 UB	55,100	84,200	28,400	59,500	45,200 J	52,200 [53,600]

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID:								SD-30B	SD-30B	SD-31B	SD-31B	SD-31B	SD-32	SD-33	SD-34	SD-34	SD-35	SD-35	SD-39	SD-40	SD-40	SD-40	SD-41	SD-41	SD-42
Sample Depth (feet):								5.5-6.5	13.8-14.9	1.1-2.2	3.9-5.0	11.8-12.9	5.6-6.6	6.8-7.9	2.7-3.7	8.0-9.1	1.0-2.0	6.9-7.8	12.8-13.8	1.5-2.5	6.0-7.0	9.0-10.0	0-1.1	13.7-14.8	5.8-6.8
Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	12/13/12	12/13/12	12/13/12	12/13/12	12/13/12	12/14/12	12/13/12	12/13/12	12/13/12	12/07/12	12/07/12	12/07/12	12/06/12	12/06/12	12/06/12	01/11/13	01/11/13	01/10/13
Detected Volatile Organics																									
1,2,4-Trichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	R	0.013 UJ	0.013 UJ	0.0051 U	0.01 UJ	R	0.017 UJ	0.012 UJ	0.014 UJ	0.012 UJ	0.0076 UJ	0.0022 UB	0.015 UJ [0.36 U]	0.011 UJ	R	R	0.012 UJ
1,2-Dibromo-3-chloropropane	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 UJ	R	0.013 UJ	0.013 UJ	0.0051 UJ	0.01 UJ	R	0.017 UJ	0.012 UJ	0.014 UJ	0.012 UJ	0.0076 UJ	0.016 UJ	0.015 UJ [0.36 U]	0.011 UJ	R	R	0.012 UJ
1,2-Dichloroethene (total)	- -	- -	0.02	- -	- -	- -	mg/kg	0.0052 U	0.013 U	0.013 U	0.013 U	0.0051 U	0.01 U	0.019 U	0.017 U	0.012 U	0.014 U	0.012 U	0.0076 U	0.016 U	0.015 U [0.36 U]	0.011 UJ	0.017 U	0.014 U	0.012 U
1,4-Dichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	R	0.013 UJ	0.013 UJ	0.0051 U	0.01 UJ	R	0.017 UJ	0.012 UJ	0.014 UJ	0.012 UJ	0.0076 UJ	0.016 UJ	0.015 UJ [0.15 J]	0.011 UJ	R	R	0.012 UJ
2-Butanone	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	0.32	0.099	0.081	0.0051 U	0.01 U	0.67 J	0.13	0.073	0.075	0.012 U	0.0076 U	0.065	0.16 [1.8 U]	0.023	0.11 J	0.21 J	0.012 U
2-Hexanone	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	0.013 UJ	0.013 U	0.013 U	0.0051 U	0.01 U	0.019 UJ	0.017 UJ	0.012 U	0.014 U	0.012 U	0.0076 U	0.016 UJ	0.015 UJ [1.8 U]	0.011 U	0.017 UJ	0.014 UJ	0.012 U
4-Methyl-2-pentanone	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	0.013 U	0.013 U	0.013 U	0.0051 U	0.01 U	0.019 U	0.017 U	0.012 U	0.014 U	0.012 U	0.0076 U	0.016 U	0.015 U [1.8 U]	0.011 U	0.017 U	0.014 U	0.012 U
Acetone	- -	- -	- -	- -	- -	- -	mg/kg	0.013 UB	1.4 J	0.43	0.31	0.025 UB	0.031 J	3.1 J	0.55	0.27	0.3	0.046	0.061	0.27	0.69 [1.8 U]	0.12	0.4 J	0.78 J	0.087 J
Benzene	- -	- -	0.6	90	26	- -	mg/kg	0.0052 U	0.0048 J	0.013 U	0.013 U	0.0051 U	0.01 U	0.0078 J	0.017 U	0.012 U	0.014 U	0.012 U	0.0076 U	0.016 U	0.015 U [0.36 U]	0.011 U	0.017 U	0.0058 J	0.012 U
Carbon Disulfide	- -	- -	- -	- -	- -	- -	mg/kg	0.0015 J	0.032	0.031	0.024	0.0024 J	0.013	0.13 J	0.11	0.014	0.022	0.016	0.0085	0.037	0.032 J [0.87 J]	0.017	0.035	0.02	0.037
Chlorobenzene	- -	- -	- -	34.6	3.5	- -	mg/kg	0.0052 U	0.013 UJ	0.013 U	0.013 U	0.0051 U	0.01 U	0.019 UJ	0.017 UJ	0.012 U	0.014 U	0.012 U	0.0076 U	0.016 UJ	0.015 UJ [0.36 U]	0.011 U	0.017 UJ	0.014 UJ	0.012 U
Chloromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	0.013 U	0.013 U	0.013 U	0.0051 U	0.01 U	0.019 U	0.017 U	0.012 U	0.014 U	0.012 U	0.0076 U	0.016 U	0.015 U [0.36 U]	0.011 U	0.017 U	0.014 U	0.012 U
cis-1,2-Dichloroethene	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	0.013 U	0.013 U	0.013 U	0.0051 U	0.01 U	0.019 U	0.017 U	0.012 U	0.014 U	0.012 U	0.0076 U	0.016 U	0.015 U [0.36 U]	0.011 U	0.017 U	0.014 U	0.012 U
Cyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	0.013 U	0.013 U	0.013 U	0.0051 U	0.01 U	0.019 U	0.017 U	0.012 U	0.014 U	0.012 U	0.0076 U	0.016 U	0.015 U [0.36 U]	0.011 U	0.017 U	0.0078 J	0.012 U
Ethylbenzene	- -	- -	- -	58	6.4	- -	mg/kg	0.0052 U	0.0012 J	0.00039 J	0.013 U	0.0051 U	0.01 U	0.0014 J	0.017 UJ	0.00023 J	0.00056 J	0.012 U	0.0076 U	0.016 UJ	0.00058 J [0.36 U]	0.011 U	0.017 UJ	0.079 J	0.012 U
Isopropylbenzene	- -	- -	- -	105	12	- -	mg/kg	0.0052 U	0.0019 J	0.013 UJ	0.00098 J	0.0051 U	0.01 UJ	0.005 J	0.0013 J	0.00085 J	0.014 UJ	0.012 UJ	0.0076 UJ	0.0012 J	0.0013 J [0.36 U]	0.011 UJ	R	0.062 J	0.012 UJ
Methyl acetate	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	0.013 U	0.013 U	0.013 U	0.0051 U	0.01 U	0.019 U	0.017 U	0.012 U	0.014 U	0.012 U	0.0076 U	0.016 U	0.015 UJ [2.1 J]	0.011 U	0.006 J	0.006 J	0.012 U
Methylcyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	0.018	0.013 U	0.0026 J	0.0051 U	0.01 U	0.0081 J	0.0018 J	0.002 J	0.002 J	0.012 U	0.0076 U	0.0022 J	0.0042 J [0.36 U]	0.011 UJ	0.017 U	0.029	0.012 U
Methylene Chloride	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	0.013 U	0.013 U	0.013 U	0.0051 U	0.01 U	0.019 U	0.017 U	0.012 U	0.014 U	0.012 U	0.0076 U	0.016 U	0.015 U [0.36 U]	0.011 U	0.017 U	0.014 U	0.012 U
Styrene	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	0.013 UJ	0.013 U	0.013 U	0.0051 U	0.01 U	0.019 UJ	0.017 UJ	0.012 U	0.014 U	0.012 U	0.0076 U	0.016 UJ	0.015 UJ [0.36 U]	0.011 UJ	0.017 UJ	0.014 UJ	0.012 U
Toluene	- -	- -	- -	- -	- -	- -	mg/kg	0.00016 J	0.013 UJ	0.00068 J	0.0005 J	0.0051 U	0.01 U	0.0026 J	0.017 UJ	0.00061 J	0.00089 J	0.00045 J	0.00032 J	0.0012 J	0.0011 J [0.36 U]	0.00038 J	0.0013 J	0.019 J	0.00038 J
Trichlorofluoromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	0.013 U	0.013 U	0.013 U	0.0051 U	0.01 U	0.019 U	0.017 U	0.012 U	0.014 U	0.012 U	0.0076 U	0.016 U	0.015 U [0.36 U]	0.011 U	0.017 U	0.014 U	0.012 U
Vinyl Chloride	- -	- -	0.07	- -	- -	- -	mg/kg	0.0052 U	0.013 U	0.013 U	0.013 U	0.0051 U	0.01 U	0.019 U	0.017 U	0.012 U	0.014 U	0.012 U	0.0076 U	0.016 U	0.015 U [0.36 U]	0.011 U	0.017 U	0.014 U	0.012 U
Xylenes (total)	- -	- -	- -	- -	- -	- -	mg/kg	0.0052 U	0.004 J	0.013 U	0.0016 J	0.0051 U	0.01 U	0.0095 J	0.0026 J	0.00095 J	0.00037 J	0.012 U	0.0076 U	0.0014 J	0.002 J [0.36 U]	0.011 U	0.017 UJ	0.12 J	0.012 U
Total BTEX	- -	- -	- -	- -	- -	- -	mg/kg	0.00016 J	0.01 J	0.00107 J	0.0021 J	ND	ND	0.0213 J	0.0026 J	0.00179 J	0.00182 J	0.00045 J	0.00032 J	0.0026 J	0.00368 J [ND]	0.00038 J	0.0013 J	0.2238 J	0.00038 J
Total VOCs	- -	- -	- -	- -	- -	- -	mg/kg	0.00166 J	1.7819 J	0.56107 J	0.42068 J	0.0024 J	0.044 J	3.9344 J	0.7957 J	0.36164 J	0.40082 J	0.06245 J	0.06982 J	0.378 J	0.89118 J [3.12 J]	0.16038 J	0.5523 J	1.3386 J	0.12438 J
Detected Semivolatile Organics																									
1,1'-Biphenyl	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	2 U	1 U	1.9 U	0.38 U	0.63 U	1.2 U	1.8 U	1.5 U	0.047 J	0.69 U	0.6 U	1.4 U	2.2 U [1.7 U]	0.68 U	0.89 U	3.2 J	0.69 U
1-Methylnaphthalene	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	0.15 J	0.072 J	0.16 J	0.38 U	0.63 U	0.063 J	0.095 J	0.17 J	0.11 J	0.69 U	0.6 U	0.084 J	0.16 J [0.15 J]	0.68 UJ	0.089 J	27	0.69 U
2-Methylnaphthalene	0.07	0.67	- -	- -	- -	- -	mg/kg	0.36 U	0.19 J	0.089 J	0.17 J	0.38 U	0.63 U	0.08 J	0.12 J	0.25 J	0.12 J	0.69 U	0.6 U	0.13 J	0.25 J [0.24 J]	0.68 UJ	0.11 J	36	0.69 U
2-Nitrophenol	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	2 U	1 U	1.9 U	0.38 U	0.63 U	1.2 U	1.8 U	1.5 U	1 U	0.69 U	0.6 U	1.4 U	2.2 U [1.7 U]	0.68 UJ	0.89 U	11 U	0.69 U
4-Chloroaniline	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	2 U	1 U	1.9 U	0.38 U	0.63 U	1.2 U	0.24 J	1.5 U	1 U	0.69 U	0.6 U	1.4 U	2.2 U [1.7 U]	0.68 U	0.89 U	11 U	0.69 U
Acenaphthene	0.016	0.5	- -	- -	- -	- -	mg/kg	0.36 U	0.19 J	0.14 J	0.26 J	0.38 U	0.63 U	0.08 J	0.22 J	0.29 J	0.17 J	0.69 U	0.6 U	0.15 J	0.31 J [0.3 J]	0.68 UJ	0.14 J	17	0.69 U
Acenaphthylene	0.044	0.64	- -	- -	- -	- -	mg/kg	0.36 U	0.22 J	0.29 J	0.32 J	0.38 U	0.63 U	0.08 J	0.22 J	0.28 J	0.16 J	0.69 U	0.6 U	0.22 J	0.3 J [0.34 J]	0.037 J	0.4 J	2.8 J	0.69 U
Acetophenone	- -	- -	- -	- -	- -	- -	mg/kg	0.021 J	2 U	1 U	1.9 U	0.044 J	0.63 U	1.2 U	1.8 U	1.5 U	1 U	0.69 U	0.6 U	1.4 U	2.2 U [1.7 U]	0.68 U	0.89 U	11 U	R
Anthracene	0.0853	1.1	- -	- -	- -	- -	mg/kg	0.36 U	0.39 J	0.64 J	0.61 J	0.38 U	0.63 U	0.18 J	0.62 J	0.65 J	0.67 J	0.69 U	0.6 U	0.54 J	0.76 J [0.74 J]	0.11 J	0.53 J	19	0.69 U
Azobenzene	- -	- -	1	- -	- -	- -	mg/kg	0.36 U	2 U	1 U	1.9 U	0.38 U	0.63 U	1.2 U	1.8 U	1.5 U	1 U	0.69 U	0.6 U	1.4 U	2.2 U [1.7 U]	0.68 U	0.89 U	11 U	0.69 U
Benzaldehyde	- -	- -	- -	- -	- -	- -	mg/kg	0.053 J	0.2 J	1 U	1.9 U	0.044 J	0.63 U	1.2 U	1.8 U	0.1 J	0.073 J	0.69 U	0.061 UB	1.4 U	0.14 UB [1.7 U]	0.68 U	0.89 U	11 U	R
Benzo(a)anthracene	0.261	1.6	- -	- -	- -	- -	mg/kg	0.36 U	1.7 J	2.9	2.6	0.024 J	0.63 U	0.71 J	2.4	2.8	2.8	0.69 U	0.6 U	2.1	3.2 [3]	0.35 J	1.8	15	0.055 J
Benzo(a)pyrene	0.43	1.6	- -	- -	- -	- -	mg/kg	0.36 U	1.8 J	3.4	2.8	0.032 J	0.63 U	0.82 J	2.6	3	2.6	0.69 U	0.6 U	2.5	3.6 [3.3]	0.37 J	2.4	12	0.053 J
Benzo(b)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	0.36 U	1.8 J	3.4	2.9	0.027 J	0.63 U	0.67 J	3.5	3.5	2.3	0.69 U	0.6 U	2.6	3.3 [3.6]	0.4 J	2 J	8.1 J	0.69 UJ
Benzo(g,h,i)perylene	- -	- -	- -	- -	- -	- -	mg/kg	0.36 UJ	0.66 J	1.3 J	1.2 J	0.38 UJ	0.63 UJ	0.3 J	1.1 J	1.3 J	1.1 J	0.69 U	0.6 U	0.88 J	1.4 J [1.2 J]	0.16 J	1.2 J	6 J	0.043 J
Benzo(k)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	0.36 U	1.9 J	2.5	2.1	0.035 J	0.63 U	0.88 J	2.3	2.4	2.2	0.69 U	0.6 U	2.1	4 [3.2]	0.3 J	1.3	7.4 J	0.69 U
Benzo[e]pyrene	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	1.4 J	2.4	2.1	0.025 J	0.63 U	0.62 J	2.2	2.4	2.2	0.69 U	0.6 U	1.9	2.6 [2.6]	0.26 J	1.5	6.3 J	0.033 J
Benzoic Acid	- -	- -	- -	- -	- -	- -	mg/kg	0.9 UJ	5 UJ	2.5 UJ	4.7 UJ	0.95 UJ	1.6 UJ	3.1 UJ	4.6 UJ	3.8 UJ	2.5 UJ	1.7 UJ	1.5 UJ	3.5 UJ	5.5 UJ [4.2 UJ]	1.7 UJ	2.2 U	29 U	1.7 UJ
Benzyl Alcohol	- -	- -	- -	- -	- -	- -	mg/kg	0.36 UJ	2 UJ	1 UJ	1.9 UJ	0.38 UJ	0.63 UJ	1.2 UJ	1.8 UJ	1.5 UJ	1 UJ	0.69 U	0.6 U	1.4 U	0.11 J [1.7 U]	0.68 UJ	0.89 U	11 U	0.69 U
bis(2-Ethylhexyl)phthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.027 UB	10	4.3	11	0.073 UB	0.055 J	5.8	9.8	5.9	0.073 UB	0.045 J	0.039 UB	6.6	9.9 [9.2]	0.16 UB	3.8 J	11 UJ	0.097 UB
Butylbenzylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	2 U	0.2 J	0.19 J	0.38 U	0.63 U	0.12 J	0.28 J	1.5 U	1 U	0.69 U	0.6 U	0.24 J	0.32 J [0.27 J]	0.68 U	0.18 UB	11 U	0.049 UB

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID:								SD-30B	SD-30B	SD-31B	SD-31B	SD-31B	SD-32	SD-33	SD-34	SD-34	SD-35	SD-35	SD-39	SD-40	SD-40	SD-40	SD-41	SD-41	SD-42
Sample Depth (feet):								5.5-6.5	13.8-14.9	1.1-2.2	3.9-5.0	11.8-12.9	5.6-6.6	6.8-7.9	2.7-3.7	8.0-9.1	1.0-2.0	6.9-7.8	12.8-13.8	1.5-2.5	6.0-7.0	9.0-10.0	0-1.1	13.7-14.8	5.8-6.8
Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	12/13/12	12/13/12	12/13/12	12/13/12	12/13/12	12/14/12	12/13/12	12/13/12	12/13/12	12/07/12	12/07/12	12/07/12	12/06/12	12/06/12	12/06/12	01/11/13	01/11/13	01/10/13
Caprolactam	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	2 U	1 U	1.9 U	0.38 U	0.63 U	1.2 U	1.8 U	1.5 U	1 U	0.69 U	0.6 U	1.4 U	2.2 U [1.7 U]	0.68 U	0.89 U	11 U	R
Carbazole	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	2 U	0.077 J	1.9 U	0.38 U	0.63 U	1.2 U	1.8 U	1.5 U	1 U	0.69 U	0.6 U	0.074 J	0.16 J [0.12 J]	0.68 UJ	0.043 J	11 U	0.69 U
Chrysene	0.384	2.8	- -	- -	- -	- -	mg/kg	0.36 U	2.3	3.2	3	0.029 J	0.63 U	0.86 J	3.1	3.2	3.1	0.69 U	0.6 U	2.4	3.7 [3.5]	0.39 J	2.2	19	0.083 J
Dibenzo(a,h)anthracene	0.0634	0.26	- -	- -	- -	- -	mg/kg	0.36 U	0.23 J	0.32 J	0.29 J	0.38 U	0.63 U	0.099 J	0.31 J	0.48 J	0.33 J	0.69 U	0.6 U	0.29 J	0.39 J [0.41 J]	0.041 J	0.4 J	1.8 J	0.69 UJ
Dibenzofuran	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	2 U	1 U	1.9 U	0.38 U	0.63 U	1.2 U	1.8 U	0.088 J	1 U	0.69 U	0.6 U	1.4 U	2.2 U [1.7 U]	0.68 U	0.89 U	1.1 J	0.69 U
Diethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	2 U	1 U	1.9 U	0.38 U	0.63 U	1.2 U	1.8 U	1.5 U	1 U	0.69 U	0.6 U	1.4 U	2.2 U [1.7 U]	0.68 U	0.89 U	11 U	0.69 U
Dimethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	2 U	1 U	1.9 U	0.38 U	0.63 U	1.2 U	1.8 U	1.5 U	1 U	0.69 U	0.6 U	1.4 U	2.2 U [1.7 U]	0.68 UJ	0.89 U	11 U	0.69 U
Di-n-Butylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	0.35 J	0.08 J	0.14 J	0.38 U	0.63 U	0.086 J	0.14 J	0.16 J	0.072 J	0.69 U	0.6 U	0.094 J	0.19 J [1.7 U]	0.032 J	0.086 J	11 U	0.69 U
Di-n-Octylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	2 U	1 U	1.9 U	0.38 U	0.63 U	1.2 U	1.8 U	1.5 U	1 U	0.69 U	0.6 U	1.4 U	2.2 U [1.7 U]	0.68 U	0.89 UJ	11 UJ	0.69 UJ
Fluoranthene	0.6	5.1	- -	- -	- -	- -	mg/kg	0.36 U	3.3	3.6	3.7	0.037 J	0.63 U	0.97 J	3.8	4.5	4.3	0.69 U	0.6 U	3.2	5.7 [5.8]	0.52 J	2.3 J	25 J	0.068 J
Fluorene	0.019	0.54	- -	- -	- -	- -	mg/kg	0.36 U	0.19 J	0.11 J	0.1 J	0.38 U	0.63 U	0.069 J	0.12 J	0.2 J	0.16 J	0.69 U	0.6 U	0.14 J	0.27 J [0.24 J]	0.68 UJ	0.098 J	13	0.69 U
Indeno(1,2,3-cd)pyrene	- -	- -	0.7	- -	- -	- -	mg/kg	0.36 UJ	0.64 J	1 J	0.79 J	0.38 UJ	0.63 U	0.24 J	0.85 J	1.1 J	0.79 J	0.69 U	0.6 U	0.74 J	1.2 J [1.1 J]	0.12 J	1 J	4.8 J	0.029 J
Naphthalene	0.16	2.1	- -	- -	- -	- -	mg/kg	0.36 U	0.21 J	0.11 J	0.2 J	0.38 U	0.63 U	0.082 J	0.13 J	0.34 J	0.16 J	0.69 U	0.6 U	0.15 J	0.32 J [0.28 J]	0.68 UJ	0.11 J	20	0.69 U
N-Nitrosodimethylamine	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	2 U	1 U	1.9 U	0.38 U	0.63 U	1.2 U	1.8 U	1.5 U	1 U	0.69 U	0.6 U	1.4 U	2.2 U [1.7 U]	0.68 UJ	0.89 U	11 U	0.69 U
N-Nitroso-di-n-propylamine	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	2 U	1 U	1.9 U	0.38 U	0.63 U	1.2 U	1.8 U	1.5 U	1 U	0.69 U	0.6 U	1.4 U	2.2 U [1.7 U]	0.68 UJ	0.89 U	11 U	0.69 U
Perylene	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	0.39 J	0.74 J	0.7 J	0.38 U	0.082 J	0.2 J	0.63 J	3.2	0.62 J	0.69 U	0.08 J	0.73 J	0.93 J [0.8 J]	0.27 J	0.57 J	2 J	0.081 J
Phenanthrene	0.24	1.5	- -	- -	- -	- -	mg/kg	0.36 U	1.2 J	1.2	0.96 J	0.38 U	0.63 U	0.44 J	1.3 J	1.4 J	0.84 J	0.69 U	0.6 U	1.2 J	1.6 J [1.6 J]	0.28 J	0.83 J	51	0.69 U
Phenol	- -	- -	- -	- -	- -	- -	mg/kg	0.36 U	2 U	1 U	1.9 U	0.38 U	0.63 U	1.2 U	1.8 U	1.5 U	1 U	0.69 U	0.6 U	1.4 U	2.2 U [1.7 U]	0.68 UJ	0.89 U	11 U	0.69 U
Pyrene	0.665	2.6	- -	- -	- -	- -	mg/kg	0.36 U	3.4	5.6	4.2	0.066 J	0.63 U	1.2	3.8	6	4.8	0.69 U	0.6 U	4	6.4 [6.8]	0.96 J	3.3	36	0.12 J
Total PAHs	4.022	44.792	- -	- -	- -	- -	mg/kg	ND	20.32 J	29.799 J	26.2 J	0.25 J	ND	7.76 J	26.49 J	31.69 J	26.6 J	ND	ND	23.34 J	36.7 J [35.65 J]	4.038 J	20.118 J	293.9 J	0.451 J
Total SVOCs	- -	- -	- -	- -	- -	- -	mg/kg	0.074 J	32.81 J	37.668 J	40.49 J	0.363 J	0.137 J	14.649 J	39.875 J	43.708 J	29.722 J	0.045 J	0.08 J	33.062 J	51.07 J [48.79 J]	4.6 J	26.206 J	333.5 J	0.565 J
Detected Inorganics																									
Aluminum	- -	- -	- -	- -	- -	- -	mg/kg	2,430 J	13,900 J	12,200 J	13,900 J	3,200 J	14,200 J	15,900 J	14,400 J	15,100 J	17,000 J	13,200 J	12,200 J	15,400 J	16,900 J [16,300 J]	16,400 J	14,500 J	16,600 J	13,100 J
Antimony	- -	- -	- -	- -	- -	- -	mg/kg	3.8 UJ	7.5 UJ	0.73 J	9.1 UJ	3.7 UJ	11.1 U	9.8 UJ	9.9 UJ	8.4 UJ	11.7 UJ	6.9 UJ	0.59 J	R	R [R]	R	1.1 J	1.9 J	9.8 U
Arsenic	8.2	70	- -	- -	- -	- -	mg/kg	0.95 J	19.6 J	11.1 J	15.7 J	1.8 J	8.5	15.5 J	15.6 J	20.9 J	28.5 J	7.2 J	6 J	16.5 J	15.8 J [15.8 J]	9.6 J	12.4	41.3	9.1
Barium	- -	- -	- -	- -	- -	- -	mg/kg	4.7 J	162 J	93.5 J	146 J	13.3 J	35.5 J	151 J	122 J	122 J	107 J	33.5 J	57.7 J	113 J	154 J [154 J]	49.3 J	100 J	386 J	34 J
Beryllium	- -	- -	- -	- -	- -	- -	mg/kg	0.14 J	0.72	0.59 J	0.7 J	0.22 J	0.63 J	0.78 J	0.68 J	0.72	0.65 J	0.6	0.57	0.83 J	0.91 J [0.88]	0.85 J	0.63 J	0.76 J	0.55 J
Cadmium	1.2	9.6	- -	- -	- -	- -	mg/kg	0.32 UJ	4.8 J	1.3 J	5.2 J	0.079 J	0.93 UJ	5.6 J	3.8 J	3.1 J	0.72 J	0.57 UJ	0.22 J	3.3 J	5.8 J [5.6 J]	0.33 J	1.8	3.6	0.33 J
Calcium	- -	- -	- -	- -	- -	- -	mg/kg	310 J	5,800 J	7,030 J	6,330 J	870 J	5,030 J	5,520 J	4,090 J	3,650 J	2,910 J	3,750 J	1,940	5,480	4,270 [3,980]	3,110	7,380 J	7,050 J	21,700 J
Chromium	81	370	- -	- -	- -	- -	mg/kg	9.5 J	164 J	94.1 J	181 J	10.2 J	28.2 J	211 J	149 J	147 J	218 J	27.1 J	23.7 J	127 J	164 J [162 J]	38.6 J	105 J	116 J	27.6 J
Cobalt	- -	- -	- -	- -	- -	- -	mg/kg	2.8 J	8.4 J	8 J	9.4 J	4.1 J	9.8 J	10.3 J	9.1 J	9.8 J	10.3 J	8.3 J	15.7 J	9.9 J	10.9 J [10.6 J]	10.5 J	10 J	10.9 J	8.4 J
Copper	34	270	- -	- -	- -	- -	mg/kg	4.7 J	334 J	169 J	311 J	8.3 J	12.7	411 J	268 J	234 J	128 J	10.9 J	11.5 J	217 J	316 J [321 J]	22.7 J	189 J	437 J	11.9 J
Cyanide	- -	- -	- -	- -	- -	- -	mg/kg	0.54 U	2.6	1 J	1.3	0.56 U	0.91 U	1.5	0.38 J	4.1	2	1.1 U	0.34 J	0.83 J	2.7 [2.6]	5.3 J	1.3 U	3	1.1 U
Iron	- -	- -	- -	- -	- -	- -	mg/kg	7,630 J	26,900 J	24,600 J	27,900 J	9,430 J	28,000 J	30,700 J	31,300 J	29,800 J	29,700 J	25,400 J	31,300 J	38,700 J	37,500 J [36,200 J]	36,900 J	29,000 J	33,800 J	26,200 J
Lead	46.7	218	- -	- -	- -	- -	mg/kg	2.5 J	471 J	213 J	385 J	7.4 J	14.7	420 J	318 J	330 J	245 J	14.5 J	9.5	276	389 [409]	38.4	193	601	13.3
Magnesium	- -	- -	- -	- -	- -	- -	mg/kg	1,040 J	7,060 J	6,900 J	7,200 J	1,590 J	7,330 J	8,600 J	8,150 J	7,370 J	7,710 J	6,560 J	4,350 J	8,460 J	8,620 J [8,420 J]	7,970 J	8,130 J	8,700 J	6,780 J
Manganese	- -	- -	- -	- -	- -	- -	mg/kg	41.1 J	429 J	425 J	417 J	95.7 J	494 J	462 J	415 J	336 J	323 J	620 J	529 J	426 J	416 J [403 J]	485 J	549 J	388 J	601 J
Mercury	0.15	0.71	- -	- -	- -	- -	mg/kg	0.0084 UB	2.4	1.6	2.4	0.022 UB	0.037 UB	2.3	2	2.7	2.4	0.027 UB	0.039 UB	1.8	2.4 [2]	0.14	1.8	7.3	0.044 J
Nickel	20.9	51.6	- -	- -	- -	- -	mg/kg	13.7 J	51.3 J	26.5 J	42.1 J	12.5 J	22.5 J	45 J	34.6 J	34 J	26.2 J	18.9 J	18.6 J	36.7 J	45.4 J [43.5 J]	25.2 J	32.4 J	48.3 J	18.5 J
Potassium	- -	- -	- -	- -	- -	- -	mg/kg	397 J	3,380 J	3,360 J	3,540 J	647 J	3,590 J	4,240 J	3,760 J	3,590 J	4,040 J	3,190 J	1,870 J	3,850 J	4,210 J [4,040 J]	3,820 J	4,180 J	4,720 J	3,350 J
Selenium	- -	- -	- -	- -	- -	- -	mg/kg	2.2 UJ	4.4 UJ	4.2 UJ	5.3 UJ	2.1 UJ	6.5 UJ	5.7 UJ	5.8 UJ	4.9 UJ	6.8 UJ	4 UJ	3.9 UJ	6.5 UJ	6.6 UJ [4.9 UJ]	6.5 UJ	5.6 U	1.6 J	5.7 U
Silver	1	3.7	- -	- -	- -	- -	mg/kg	0.64 U	9.8	5.4	9.2	0.61 U	1.9 U	12.2	7.2	5	0.26 J	1.1 U	1.1 U	5.1	7.4 [7.5]	1.8 U	8.7	11.2	1.6 U
Sodium	- -	- -	- -	- -	- -	- -	mg/kg	679 J	9,620 J	9,660 J	7,940 J	716 J	3,860 J	12,300 J	12,100 J	8,350 J	7,550 J	3,340 J	2,270 J	10,800 J	8,680 J [8,640 J]	5,020 J	12,300 J	12,400 J	4,950 J
Thallium	- -	- -	- -	- -	- -	- -	mg/kg	1.6 U	3.1 U	3 U	3.8 U	1.5 U	4.6 U	4.1 U	4.1 U	3.5 U	4.9 U	2.9 U	0.53 J	4.6 U	4.7 U [0.7 J]	4.6 U	4 U	4.1 U	4.1 U
Vanadium	- -	- -	- -	- -	- -	- -	mg/kg	10.8 J	85.2 J	39.1 J	51 J	12.6 J	36.6 J	61.8 J	47.5 J	51.9 J	41.8 J	33 J	35.2 J	54.8 J	63.9 J [61.8 J]	46.3 J	42.6 J	50.1 J	36.1 J
Zinc	150	410	- -	- -	- -	- -	mg/kg	11.3 J	428 J	243 J	377 J	24.1 J	63.7 J	412 J	364 J	317 J	289 J	57.6 J	49.5 J	300 J	421 J [410 J]	79.1 J	250 J	737 J	60 J
Detected Miscellaneous																									
Percent Solids	- -	- -	- -	- -	- -	- -	%	91.5	42.7	43	42.7	86.7	52	34.4	36.2	43.9	42.2	47.5	55.2	41.4	37.6 [38.9]	49.2	36.6	40.3	46.9
Total Organic Carbon	- -	- -	- -	- -	- -	- -	mg/kg	492 J	58,300	56,200	58,700	1,310	17,700	56,300	54,900	49,400	30,300	20,200	50,100	51,800	62,300 [58,800]	38,600 J	57,000	87,600	32,800

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID:								SD-46	SD-46	SD-46	SD-48	SD-48	SD-49	SD-52B	SD-52B	SD-58	SD-61	SD-62	SD-62	SD-62	SD-63	SD-64	SD-65	SD-65	SD-65
Sample Depth (feet):								1.0-2.0	12.0-12.9	14.4-15.0	4.8-5.8	11.8-12.8	4.7-5.7	0.5-1.6	9.5-10.6	5.8-6.8	5.9-6.9	1.5-2.6	4.1-5.1	6.7-9.8	5.0-6.0	5.4-6.5	1.0-2.1	6.1-7.1	12.7-13.8
Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	01/08/13	01/08/13	01/08/13	01/03/13	01/03/13	01/03/13	01/04/13	01/04/13	12/17/12	12/18/12	12/20/12	12/20/12	12/20/12	12/19/12	12/19/12	12/20/12	12/20/12	12/20/12
Detected Volatile Organics																									
1,2,4-Trichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	0.004 J	R [0.014 UJ]	0.0052 U	0.0084 UJ	R	0.00061 J	R	0.011 UJ [R]	R	0.011 UJ	R	R	0.0084 UJ	R	R	R	R	0.0044 U
1,2-Dibromo-3-chloropropane	- -	- -	- -	- -	- -	- -	mg/kg	R	R [0.014 UJ]	0.0052 U	0.0084 UJ	R	0.0083 UJ	R	0.011 UJ [R]	R	0.011 UJ	R	R	0.0084 UJ	R	R	R	R	0.0044 U
1,2-Dichloroethene (total)	- -	- -	0.02	- -	- -	- -	mg/kg	0.021 UJ	0.011 UJ [0.014 U]	0.0052 U	0.0084 UJ	0.0066 U	0.0083 U	0.016 U	0.011 UJ [0.012 U]	0.013 U	0.011 U	0.016 U	0.015 U	0.0084 U	0.016 U	0.017 U	0.017 U	0.014 U	0.0044 U
1,4-Dichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	R	R [0.014 UJ]	0.0052 U	0.0084 UJ	R	0.0083 UJ	R	0.011 UJ [R]	R	0.011 UJ	R	R	0.0084 UJ	R	R	R	R	0.0044 U
2-Butanone	- -	- -	- -	- -	- -	- -	mg/kg	0.38 J	0.14 J [0.19 J]	0.0052 U	0.0084 U	0.0066 U	0.029	0.13	0.011 UJ [0.096 J]	0.17	0.011 U	0.054	0.09	0.0075 J	0.071	0.076 J	0.076	0.06	0.0044 U
2-Hexanone	- -	- -	- -	- -	- -	- -	mg/kg	0.021 UJ	0.011 UJ [0.014 U]	0.0052 U	0.0084 U	0.0066 UJ	0.0083 UJ	0.016 UJ	0.011 UJ [0.012 UJ]	0.013 UJ	0.011 UJ	0.016 UJ	0.015 UJ	0.0084 U	0.016 UJ	0.017 UJ	0.017 UJ	0.014 UJ	0.0044 U
4-Methyl-2-pentanone	- -	- -	- -	- -	- -	- -	mg/kg	0.021 UJ	0.011 UJ [0.014 U]	0.0052 U	0.0084 U	0.0066 U	0.0083 U	0.016 U	0.011 UJ [0.012 U]	0.013 U	0.011 U	0.016 U	0.015 U	0.0084 U	0.016 U	0.017 U	0.017 U	0.014 U	0.0044 U
Acetone	- -	- -	- -	- -	- -	- -	mg/kg	1.7 J	0.56 J [0.72 J]	0.014 UB	0.11 J	0.057 J	0.14 J	0.52 J	0.49 J [0.37 J]	0.68 J	0.073 J	0.24 J	0.37 J	0.029 J	0.3 J	0.33 J	0.29 J	0.24 J	0.014 UB
Benzene	- -	- -	0.6	90	26	- -	mg/kg	0.021 UJ	0.0049 J [0.0051 J]	0.0052 U	0.0014 J	0.0066 U	0.0083 U	0.016 U	0.0024 J [0.012 U]	0.013 U	0.011 U	0.016 U	0.0045 J	0.008 J	0.016 U	0.0029 J	0.017 U	0.0034 J	0.0044 U
Carbon Disulfide	- -	- -	- -	- -	- -	- -	mg/kg	0.13 J	0.032 J [0.032]	0.0015 J	0.0073 J	0.01	0.011	0.059	0.017 J [0.012]	0.032	0.052	0.04	0.032	0.021	0.025	0.033 J	0.038	0.016	0.0044 U
Chlorobenzene	- -	- -	- -	34.6	3.5	- -	mg/kg	0.001 J	0.011 UJ [0.014 U]	0.0052 U	0.0084 U	0.0066 UJ	0.0083 UJ	0.016 UJ	0.011 UJ [0.012 UJ]	0.013 UJ	0.011 UJ	0.016 UJ	0.015 UJ	0.0084 U	0.016 UJ	0.017 UJ	0.017 UJ	0.014 UJ	0.0044 U
Chloromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.021 UJ	0.011 UJ [0.014 U]	0.0052 U	0.0084 U	0.0066 U	0.0083 U	0.016 U	0.011 UJ [0.012 U]	0.013 U	0.011 U	0.016 U	0.015 U	0.0084 U	0.016 U	0.017 U	0.017 U	0.014 U	0.0044 U
cis-1,2-Dichloroethene	- -	- -	- -	- -	- -	- -	mg/kg	0.021 UJ	0.011 UJ [0.014 U]	0.0052 U	0.0084 U	0.0066 U	0.0083 U	0.016 U	0.011 UJ [0.012 U]	0.013 U	0.011 U	0.016 U	0.015 U	0.0084 U	0.016 U	0.017 U	0.017 U	0.014 U	0.0044 U
Cyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.021 UJ	0.011 UJ [0.014 U]	0.0052 U	0.0084 UJ	0.0066 U	0.0083 U	0.016 U	0.0046 J [0.012 U]	0.013 U	0.011 U	0.016 U	0.015 U	0.0084 U	0.016 U	0.017 U	0.017 U	0.014 U	0.0044 U
Ethylbenzene	- -	- -	- -	58	6.4	- -	mg/kg	0.00097 J	0.011 UJ [0.001 J]	0.0052 U	0.015 J	0.0066 UJ	0.0044 J	0.016 UJ	0.011 UJ [0.012 UJ]	0.0028 J	0.011 UJ	0.016 UJ	0.0016 J	0.0084 U	0.016 UJ	0.017 UJ	0.017 UJ	0.014 UJ	0.0044 U
Isopropylbenzene	- -	- -	- -	105	12	- -	mg/kg	R	R [0.001 J]	0.0052 U	0.012 J	R	0.0047 J	R	0.011 UJ [R]	0.0079 J	0.011 UJ	R	0.0022 J	0.0084 UJ	R	0.0018 J	R	0.0025 J	0.0044 U
Methyl acetate	- -	- -	- -	- -	- -	- -	mg/kg	0.021 UJ	0.011 UJ [0.0039 J]	0.0052 U	0.0084 UJ	0.004 J	0.0083 U	0.012 J	0.011 UJ [0.012 U]	0.013 U	0.011 U	0.016 U	0.0089 J	0.0084 U	0.016 U	0.017 U	0.017 U	0.0055 J	0.0044 U
Methylcyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.003 J	0.0031 J [0.0034 J]	0.0052 U	0.0027 J	0.0066 U	0.0024 J	0.016 U	0.014 J [0.0087 J]	0.0068 J	0.011 U	0.0016 J	0.0032 J	0.0084 U	0.016 U	0.017 U	0.017 U	0.0016 J	0.0044 U
Methylene Chloride	- -	- -	- -	- -	- -	- -	mg/kg	0.021 UJ	0.011 UJ [0.014 U]	0.0052 U	0.0084 UJ	0.0066 U	0.0083 U	0.016 U	0.011 UJ [0.012 U]	0.013 U	0.011 U	0.016 U	0.015 U	0.0084 U	0.016 U	0.017 U	0.017 U	0.014 U	0.0044 U
Styrene	- -	- -	- -	- -	- -	- -	mg/kg	0.021 UJ	0.011 UJ [0.014 U]	0.0052 U	0.0084 UJ	0.0066 UJ	0.0083 UJ	0.016 UJ	0.011 UJ [0.012 UJ]	0.013 UJ	0.011 UJ	0.016 UJ	0.015 UJ	0.0084 U	0.016 UJ	0.017 UJ	0.017 UJ	0.014 UJ	0.0044 U
Toluene	- -	- -	- -	- -	- -	- -	mg/kg	0.0014 J	0.00058 J [0.00081 J]	0.0052 U	0.00096 J	0.0066 UJ	0.00052 J	0.00092 J	0.00077 J [0.00067 J]	0.0014 J	0.011 UJ	0.0006 J	0.0011 J	0.0084 U	0.00056 J	0.00082 J	0.0017 J	0.0007 J	0.0044 U
Trichlorofluoromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.021 UJ	0.011 UJ [0.014 U]	0.0052 U	0.0084 U	0.0066 U	0.0083 U	0.016 U	0.011 UJ [0.012 U]	0.013 U	0.011 U	0.016 U	0.015 U	0.0084 U	0.016 U	0.017 U	0.017 U	0.014 U	0.0044 U
Vinyl Chloride	- -	- -	0.07	- -	- -	- -	mg/kg	0.021 UJ	0.011 UJ [0.014 U]	0.0052 U	0.0084 U	0.0066 U	0.0083 U	0.016 U	0.00067 J [0.012 U]	0.013 U	0.011 U	0.016 U	0.015 U	0.0084 U	0.016 U	0.017 U	0.017 U	0.014 U	0.0044 U
Xylenes (total)	- -	- -	- -	- -	- -	- -	mg/kg	0.0033 J	0.0023 J [0.0025 J]	0.0052 U	0.019	0.0066 UJ	0.0046 J	0.016 UJ	0.0016 J [0.0013 J]	0.0026 J	0.011 UJ	0.0013 J	0.0027 J	0.0084 U	0.016 UJ	0.017 UJ	0.017 UJ	0.002 J	0.0044 U
Total BTEX	- -	- -	- -	- -	- -	- -	mg/kg	0.00567 J	0.00778 J [0.00941 J]	ND	0.03636 J	ND	0.00952 J	0.00092 J	0.00477 J [0.00197 J]	0.0068 J	ND	0.0019 J	0.0099 J	0.008 J	0.00056 J	0.00372 J	0.0017 J	0.0061 J	ND
Total VOCs	- -	- -	- -	- -	- -	- -	mg/kg	2.22367 J	0.74288 J [0.95971 J]	0.0015 J	0.16836 J	0.0513 J	0.19723 J	0.72192 J	0.53104 J [0.48867 J]	0.9035 J	0.125	0.3375 J	0.5162 J	0.0655 J	0.39656 J	0.44452 J	0.4057 J	0.3317 J	ND
Detected Semivolatile Organics																									
1,1'-Biphenyl	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	0.28 J	0.42 U	0.11 J	1.8 U	0.08 J [0.086 J]	0.84 J / 0.22 JH	0.66 U	1.5 U	2.9 U	0.56 U	0.045 J	0.041 J	0.088 J	0.11 J	0.39 U
1-Methylnaphthalene	- -	- -	- -	- -	- -	- -	mg/kg	0.19 J	0.16 J [0.27 J]	0.36 U	2	0.42 U	0.77 J	0.13 J	0.23 J [0.22 J]	2.9 J / 1.5 JH	0.66 U	0.11 J	0.22 J	0.56 U	0.094 J	0.097 J	0.24 J	0.4 J	0.39 U
2-Methylnaphthalene	0.07	0.67	- -	- -	- -	- -	mg/kg	0.22 J	0.22 J [0.3 J]	0.36 U	2.2	0.42 U	0.7 J	0.17 J	0.26 J [0.27 J]	3.2 J / 1.2 JH	0.66 U	0.16 J	0.25 J	0.56 U	0.14 J	0.14 J	0.26 J	0.3 J	0.39 U
2-Nitrophenol	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	1.9 U	0.42 U	1.3 U	1.8 U	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.66 U	1.5 U	2.9 U	0.56 U	0.82 U	0.86 U	1.4 U	2.1 U	0.39 U
4-Chloroaniline	- -	- -	- -	- -	- -	- -	mg/kg	0.84 J	2.3 U [2 U]	0.36 U	1.9 U	0.42 U	1.3 U	1.8 U	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.66 U	0.23 J	0.48 J	0.56 U	0.82 U	0.86 U	1.4 U	2.1 U	0.39 U
Acenaphthene	0.016	0.5	- -	- -	- -	- -	mg/kg	0.37 J	0.15 J [0.26 J]	0.36 U	1.9	0.42 U	0.92 J	0.3 J	0.39 J [0.43 J]	5.8 J / 2 JH	0.66 U	0.21 J	0.27 J	0.56 U	0.14 J	0.14 J	0.48 J	0.59 J	0.39 U
Acenaphthylene	0.044	0.64	- -	- -	- -	- -	mg/kg	0.42 J	0.19 J [0.26 J]	0.36 U	0.33 J	0.42 U	0.31 J	0.58 J	0.61 J [0.76 J]	1.4 J / 1.8 JH	0.66 U	0.27 J	0.33 J	0.56 U	0.22 J	0.2 J	0.65 J	0.42 J	0.39 U
Acetophenone	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	1.9 U	0.42 U	1.3 U	1.8 U	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.66 U	1.5 U	2.9 U	0.29 UB	0.82 U	0.86 U	0.12 UB	2.1 U	0.39 U
Anthracene	0.0853	1.1	- -	- -	- -	- -	mg/kg	0.85 J	0.31 J [0.46 J]	0.36 U	2.9 J	0.42 U	2.4	1.1 J	1.1 J [1.1 J]	10 / 7.2 H	0.66 U	0.57 J	0.61 J	0.56 U	0.51 J	0.42 J	1.3 J	0.85 J	0.39 U
Azobenzene	- -	- -	1	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	1.9 U	0.42 U	1.3 U	1.8 U	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.66 U	1.5 U	2.9 U	0.56 U	0.82 U	0.86 U	1.4 U	2.1 U	0.39 U
Benzaldehyde	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	1.9 U	0.42 U	1.3 U	1.8 U	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.035 UB	1.5 U	2.9 U	0.17 UB	0.077 UB	0.09 UB	0.2 UB	2.1 U	0.39 U
Benzo(a)anthracene	0.261	1.6	- -	- -	- -	- -	mg/kg	2.5 J	0.95 J [1.1 J]	0.36 U	4 J	0.017 J	4.3	4	4.7 J [4.6]	22 / 14 H	0.66 U	2.2	2.1 J	0.56 U	2	1.4	5	2.8	0.39 U
Benzo(a)pyrene	0.43	1.6	- -	- -	- -	- -	mg/kg	2.8 J	1.1 J [1.3 J]	0.36 U	3.4	0.016 J	3.7	4.6	5.2 J [5.7]	19 / 13 H	0.66 U	2.6	2.4 J	0.56 U	1.8	1.8	5.8	3.1	0.39 U
Benzo(b)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	2.5 J	0.83 J [1 J]	0.36 U	2.1 J	0.42 U	3.1	3.5	4.6 J [3.9]	23 / 11 H	0.66 U	2.7	2.2 J	0.56 U	2	1.6	5.4	3.2	0.39 U
Benzo(g,h,i)perylene	- -	- -	- -	- -	- -	- -	mg/kg	1 J	0.46 J [0.46 J]	0.36 U	1.2 J	0.42 U	1.3	1.5 J	1.7 J [1.5]	6.3 J / 4.8 H	0.66 U	1 J	0.89 J	0.56 U	0.84 J	0.73 J	2.2 J	1.2 J	0.39 U
Benzo(k)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	1.8 J	1 J [1.3 J]	0.36 U	2.3	0.42 U	2.4	3.7	3.5 J [4.7]	15 / 8.3 H	0.66 U	1.9	2.4 J	0.56 U	1.7 J	1.5	4.1	2.4	0.39 U
Benzo[e]pyrene	- -	- -	- -	- -	- -	- -	mg/kg	1.9 J	0.81 J [0.93 J]	0.36 U	2.1	0.42 U	2.3	2.9	3.1 J [3.3]	14 / 8 H	0.66 U	1.8	1.7 J	0.56 U	1.6	1.3	4	2.3	0.39 U
Benzoic Acid	- -	- -	- -	- -	- -	- -	mg/kg	8.3 U	5.8 U [5 U]	0.91 U	4.8 U	1 U	3.3 U	4.6 U	3.7 U [3.8 U]	19 UJ / 9.5 UJ	1.7 UJ	3.7 UJ	7.3 UJ	0.19 J	2.1 UJ	2.2 UJ	3.6 UJ	5.2 UJ	0.98 UJ
Benzyl Alcohol	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	1.9 U	0.42 U	1.3 U	1.8 U	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.66 U	1.5 U	2.9 U	0.56 U	0.82 U	0.86 U	1.4 U	2.1 U	0.39 U
bis(2-Ethylhexyl)phthalate	- -	- -	- -	- -	- -	- -	mg/kg	12 J	7.1 [7.2]	0.038 UB	1.9 U	0.052 J	1.3 U	8.7	2.5 J [2.9]	0.78 J / 0.43 JH	0.051 J	9.1	13	0.56 U	5.1	4.1	9.1	12	0.027 J
Butylbenzylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.21 UB	0.16 UB [0.25 UB]	0.36 U	1.9 U	0.026 J	1.3 U	0.33 J	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.043 J	0.24 J	0.27 J	0.56 U	0.22 J	0.22 J	0.26 J	2.1 U	0.39 U

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID:								SD-46	SD-46	SD-46	SD-48	SD-48	SD-49	SD-52B	SD-52B	SD-58	SD-61	SD-62	SD-62	SD-62	SD-63	SD-64	SD-65	SD-65	SD-65
Sample Depth (feet):								1.0-2.0	12.0-12.9	14.4-15.0	4.8-5.8	11.8-12.8	4.7-5.7	0.5-1.6	9.5-10.6	5.8-6.8	5.9-6.9	1.5-2.6	4.1-5.1	6.7-9.8	5.0-6.0	5.4-6.5	1.0-2.1	6.1-7.1	12.7-13.8
Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	01/08/13	01/08/13	01/08/13	01/03/13	01/03/13	01/03/13	01/04/13	01/04/13	12/17/12	12/18/12	12/20/12	12/20/12	12/20/12	12/19/12	12/19/12	12/20/12	12/20/12	12/20/12
Caprolactam	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	1.9 U	0.42 U	1.3 U	1.8 U	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.66 U	1.5 U	2.9 U	0.56 U	0.82 U	0.86 U	1.4 U	2.1 U	0.39 U
Carbazole	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	0.1 J	0.42 U	0.18 J	0.087 J	0.18 J [0.15 J]	2.4 J / 0.45 JH	0.66 U	1.5 U	0.13 J	0.56 U	0.082 J	0.05 J	1.4 U	2.1 U	0.39 U
Chrysene	0.384	2.8	- -	- -	- -	- -	mg/kg	2.9 J	1.2 J [1.4 J]	0.36 U	4.6 J	0.42 U	4.9	4.3	5.8 J [5.6]	26 / 16 H	0.66 U	2.4	2.5 J	0.56 U	1.9	1.6	5.7	3.2	0.39 U
Dibenzo(a,h)anthracene	0.0634	0.26	- -	- -	- -	- -	mg/kg	0.29 J	0.15 J [0.15 J]	0.36 U	0.38 J	0.42 U	0.46 J	0.45 J	0.59 J [0.51 J]	2.3 J / 1.5 JH	0.66 U	0.28 J	0.27 J	0.56 U	0.28 J	0.18 J	0.7 J	0.36 J	0.39 U
Dibenzofuran	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	0.13 J	0.42 U	1.3 U	1.8 U	0.1 J [0.11 J]	3.1 J / 0.41 JH	0.66 U	1.5 U	2.9 U	0.56 U	0.055 J	0.048 J	1.4 U	2.1 U	0.39 U
Diethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	1.9 U	0.42 U	1.3 U	1.8 U	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.66 U	1.5 U	2.9 U	0.56 U	0.82 U	0.86 U	1.4 U	2.1 U	0.39 U
Dimethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	1.9 U	0.42 U	1.3 U	1.8 U	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.66 U	1.5 U	2.9 U	0.56 U	0.82 U	0.86 U	1.4 U	2.1 U	0.39 U
Di-n-Butylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	0.17 J [0.19 J]	0.36 U	1.9 U	0.42 U	1.3 U	0.18 J	0.2 J [0.37 J]	7.7 U / 3.8 UH	0.66 U	0.12 J	0.21 J	0.56 U	0.09 J	0.092 J	1.4 U	2.1 U	0.39 U
Di-n-Octylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	1.9 U	0.42 U	1.3 U	1.8 U	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.66 U	1.5 U	2.9 U	0.56 U	0.82 U	0.86 U	1.4 U	2.1 U	0.39 U
Fluoranthene	0.6	5.1	- -	- -	- -	- -	mg/kg	3.5	1.6 J [1.7 J]	0.36 U	5.4 J	0.024 J	6.3	5.8	6.4 J [6.9]	49 / 25 H	0.66 U	3.1	3.3	0.56 U	2.5	2.1	7.4	4.4	0.39 U
Fluorene	0.019	0.54	- -	- -	- -	- -	mg/kg	0.24 J	2.3 U [0.15 J]	0.36 U	1.4 J	0.42 U	0.93 J	0.16 J	0.21 J [0.27 J]	3.9 J / 2.4 J	0.66 U	0.12 J	0.2 J	0.56 U	0.093 J	0.11 J	1.4 U	0.38 J	0.39 U
Indeno(1,2,3-cd)pyrene	- -	- -	0.7	- -	- -	- -	mg/kg	0.88 J	0.37 J [0.43 J]	0.36 U	1 J	0.42 U	1.1 J	1.2 J	1.5 J [1.4 J]	5.7 J / 4.1 H	0.66 U	0.76 J	0.72 J	0.56 U	0.68 J	0.61 J	1.7	0.95 J	0.39 U
Naphthalene	0.16	2.1	- -	- -	- -	- -	mg/kg	0.23 J	0.83 J [2.1]	0.36 U	1.7 J	0.42 U	1.7	0.18 J	0.34 J [0.38 J]	5.2 J / 0.97 JH	0.66 U	0.2 J	0.35 J	0.56 U	0.17 J	0.17 J	0.48 J	0.55 J	0.39 U
N-Nitrosodimethylamine	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	1.9 U	0.42 U	1.3 U	1.8 U	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.66 U	1.5 U	2.9 U	0.56 U	0.82 U	0.86 U	1.4 U	2.1 U	0.39 U
N-Nitroso-di-n-propylamine	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	1.9 U	0.42 U	1.3 U	1.8 U	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.66 U	1.5 U	2.9 U	0.56 U	0.82 U	0.86 U	1.4 U	2.1 U	0.39 U
Perylene	- -	- -	- -	- -	- -	- -	mg/kg	0.7 J	0.31 J [0.37 J]	0.36 U	0.86 J	0.029 J	0.7 J	0.86 J	0.97 J [1.1 J]	4.3 J / 2.4 JH	0.31 J	0.63 J	0.6 J	0.07 J	0.51 J	0.43 J	1.2 J	0.71 J	0.39 U
Phenanthrene	0.24	1.5	- -	- -	- -	- -	mg/kg	1.4 J	0.67 J [0.84 J]	0.36 U	8.2 J	0.027 J	7	1.5 J	2 J [2.1]	39 / 17 H	0.66 U	0.95 J	1.3 J	0.56 U	0.82	0.77 J	2.4	1.9 J	0.39 U
Phenol	- -	- -	- -	- -	- -	- -	mg/kg	3.3 U	2.3 U [2 U]	0.36 U	1.9 U	0.42 U	1.3 U	1.8 U	1.5 U [1.5 U]	7.7 U / 3.8 UH	0.66 U	1.5 U	2.9 U	0.12 J	0.82 U	0.86 U	1.4 U	2.1 U	0.39 U
Pyrene	0.665	2.6	- -	- -	- -	- -	mg/kg	3.7 J	1.7 J [1.7 J]	0.36 U	7.4	0.033 J	7.4	5.8	8.8 J [8.5]	48 / 25 H	0.66 U	4	3.5	0.56 U	4.1 J	3.4	11	5.2	0.39 U
Total PAHs	4.022	44.792	- -	- -	- -	- -	mg/kg	25.6 J	11.73 J [14.91 J]	ND	50.41 J	0.117 J	48.92 J	38.84 J	47.7 J [48.62 J]	284.8 J	ND	23.42 J	23.59 J	ND	19.893 J	16.87 J	54.57 J	31.8 J	ND
Total SVOCs	- -	- -	- -	- -	- -	- -	mg/kg	41.23 J	20.28 J [23.87 J]	ND	55.88 J	0.224 J	52.98 J	52.027 J	55.06 J [56.856 J]	313.12 J	0.404 J	35.65 J	40.2 J	0.38 J	27.689 J	23.248 J	69.458 J	47.32 J	0.027 J
Detected Inorganics																									
Aluminum	- -	- -	- -	- -	- -	- -	mg/kg	15,100	11,700 [14,900]	3,730	15,000 J	6,240 J	11,400 J	14,200 J	16,000 J [15,000 J]	15,700 J	13,500 J	15,400 J	17,200 J	11,400 J	16,100 J	16,000 J	14,300 J	16,100 J	7,670 J
Antimony	- -	- -	- -	- -	- -	- -	mg/kg	1.2 J	0.79 J [0.89 J]	R	0.82 J	0.6 J	0.81 J	R	1.2 J [1.3 J]	0.88 J	8.1 U	10.9 U	1.4 J	6.4 U	7.8 U	13.1 U	10.5 U	11.2 U	8.8 U
Arsenic	8.2	70	- -	- -	- -	- -	mg/kg	14.2	11.8 [18]	1.2	10.9	10.7	10.7	13	22 [20]	27.1	6.6	15.9	17.7	7.6	13.8	13	15.5	16.9	1.2 J
Barium	- -	- -	- -	- -	- -	- -	mg/kg	141 J	154 J [170 J]	12.2 J	67.5	26.1	149	136	203 [193]	205 J	32.2 J	124 J	152 J	28.9 J	113 J	107 J	119 J	149 J	24 J
Beryllium	- -	- -	- -	- -	- -	- -	mg/kg	0.77 J	0.71 [0.77]	0.21 J	0.64 J	0.22 J	0.46 J	0.66 J	0.97 [0.92]	0.74 J	0.59 J	0.74 J	0.83 J	0.59	0.75	0.74 J	0.75 J	0.78 J	0.27 J
Cadmium	1.2	9.6	- -	- -	- -	- -	mg/kg	5.3	6.9 [6.3]	0.07 J	0.45 J	0.081 J	0.61	2.6	11 [9.7]	3.3 J	0.16 J	3.7 J	6.5 J	0.15 J	3 J	2.2 J	3.3 J	5.7 J	0.73 UJ
Calcium	- -	- -	- -	- -	- -	- -	mg/kg	5,700 J	4,730 J [4,960 J]	744 J	3,900	2,540	3,530	7,390	3,780 [3,630]	3,690	2,310	4,460	4,920	3,570	5,270	5,890	4,000	4,700	848
Chromium	81	370	- -	- -	- -	- -	mg/kg	191 J	203 J [245 J]	9.4 J	30.6 J	14.8 J	28.2 J	121 J	250 J [226 J]	120 J	25.7 J	173 J	224 J	21.4 J	125 J	104 J	131 J	199 J	31.2 J
Cobalt	- -	- -	- -	- -	- -	- -	mg/kg	10.1 J	8.9 J [10 J]	4.1 J	9 J	5.4 J	8.2 J	10.6 J	11 J [10.4 J]	9.5 J	8.2 J	9.3 J	10.2 J	7.3 J	9.5 J	9.6 J	8.9 J	9.7 J	9.3 J
Copper	34	270	- -	- -	- -	- -	mg/kg	311	387 [434]	7.6	35.7 J	6 J	52.1 J	210 J	487 J [450 J]	232 J	10 J	287 J	423 J	9 J	240 J	201 J	228 J	370 J	23.9 J
Cyanide	- -	- -	- -	- -	- -	- -	mg/kg	1.5	0.99 J [0.72 J]	0.57 U	0.31 J	0.1 J	0.3 J	0.32 J	0.64 J [0.67 J]	3.5	1 U	0.55 UB	1.4	1.4	0.24 J	0.23 J	0.36 UB	0.81 J	0.059 UB
Iron	- -	- -	- -	- -	- -	- -	mg/kg	31,000 J	27,000 J [30,400 J]	10,900 J	25,400 J	17,000 J	21,700 J	29,100 J	31,900 J [30,000 J]	33,500 J	26,000 J	30,100 J	33,200 J	22,900 J	29,800 J	30,200 J	31,800 J	33,900 J	15,000 J
Lead	46.7	218	- -	- -	- -	- -	mg/kg	330	324 [386]	4.3	79.6	4.5	151	227	440 [425]	417	12.5	332	427	10.9	291	219	284	430	4.8
Magnesium	- -	- -	- -	- -	- -	- -	mg/kg	8,720	5,710 [6,720]	1,650	7,900 J	3,450 J	5,860 J	8,460 J	7,390 J [7,040 J]	7,870 J	6,510 J	8,190 J	8,810 J	5,700 J	8,650 J	8,980 J	7,850 J	8,350 J	2,690 J
Manganese	- -	- -	- -	- -	- -	- -	mg/kg	513 J	276 J [439 J]	61 J	661 J	279 J	419 J	655 J	333 J [306 J]	375 J	573 J	418 J	416 J	348 J	428 J	456 J	365 J	366 J	130 J
Mercury	0.15	0.71	- -	- -	- -	- -	mg/kg	3.3	2.8 [2.6]	0.0093 J	0.92 J	0.0029 UB	0.98 J	1.5 J	3.6 J [3.3 J]	3	0.068 U	2.9	2.7	0.013 UB	2	1.7	2.1	2.6	0.034 U
Nickel	20.9	51.6	- -	- -	- -	- -	mg/kg	45.9 J	50.5 J [49.7 J]	13.5 J	21.1 J	11.1 J	19.3 J	34.4 J	58.8 J [53.4 J]	33.5 J	18.9 J	39 J	48.6 J	16.7 J	34.2 J	31.5 J	33.6 J	46.4 J	19.9 J
Potassium	- -	- -	- -	- -	- -	- -	mg/kg	3,890	2,790 [3,770]	624	3,870	2,170	3,150	4,400	4,070 [3,810]	3,890 J	3,230 J	3,930 J	4,540 J	2,830 J	4,020 J	4,140 J	3,750 J	4,070 J	2,210 J
Selenium	- -	- -	- -	- -	- -	- -	mg/kg	5.6 U	4.1 U [4.5 U]	3 U	4.1 UJ	3.5 UJ	3.8 UJ	8.6 UJ	6.5 UJ [5.2 UJ]	5.7 UJ	4.7 UJ	6.4 UJ	7.4 UJ	3.7 UJ	4.5 UJ	7.7 UJ	6.1 UJ	6.5 UJ	5.1 UJ
Silver	1	3.7	- -	- -	- -	- -	mg/kg	11.6 J	13.8 J [13 J]	0.86 U	1.2 U	0.99 U	1 J	6.7	14.6 [14.3]	4 J	1.3 U	8	11.8	1.1 U	7.3	6.7	5.9	10	1.5 U
Sodium	- -	- -	- -	- -	- -	- -	mg/kg	14,800	3,380 [4,010]	204 J	7,430	3,330	4,580	16,000	11,200 [10,700]	8,220 J	4,580 J	11,600 J	11,100 J	3,120 J	11,600 J	12,500 J	11,000 J	10,200 J	478 J
Thallium	- -	- -	- -	- -	- -	- -	mg/kg	0.67 J	2.9 U [3.2 U]	2.1 U	2.9 UJ	2.5 UJ	2.7 UJ	6.1 UJ	4.7 UJ [3.7 UJ]	0.76 J	3.4 U	4.5 U	5.3 U	2.6 U	3.2 U	5.5 U	4.4 U	4.7 U	1.8 U
Vanadium	- -	- -	- -	- -	- -	- -	mg/kg	56.4	53 [59.9]	12.7	33.6 J	20.5 J	31.1 J	47.2 J	74.6 J [69.6 J]	48.3 J	29.8 J	47.5 J	63.8 J	28.8 J	43.1 J	40.9 J	43.2 J	59.8 J	25.5 J
Zinc	150	410	- -	- -	- -	- -	mg/kg	353 J	391 J [409 J]	20.1 J	110 J	29.1 J	250 J	324 J	557 J [506 J]	456 J	57.2 J	326 J	437 J	47.7 J	309 J	272 J	326 J	407 J	27.1 J
Detected Miscellaneous																									
Percent Solids	- -	- -	- -	- -	- -	- -	%	33.5	46.8 [42.5]	88.5	55.4	77.9	61.1	34.8	44.2 [44]	42.7	50	38.5	37.5	58.7	39.9	38.4	39.1	39.6	83.2
Total Organic Carbon	- -	- -	- -	- -	- -	- -	mg/kg	54,800	39,600 [58,000]	565 UB	28,800 J	3,660	23,600	69,900	103,000 [87,200]	82,600	19,900	41,200	55,600	14,100	52,200	50,200	43,100	57,400	601 UB

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID:								SD-66	SD-66	SD-67	SD-67	SD-68	SD-68	SD-68	SD-69	SD-69	SD-70	SD-71	SD-71	SD-72	SD-72	SD-73	SD-73	SD-73	SD-74
Sample Depth (feet):								0-1.1	6.4-7.5	1.3-2.5	13.6-14.9	3.4-4.6	6.2-7.3	8.0-9.2	0-1.1	13.9-15.0	6.5-7.6	2.4-3.5	13.6-14.8	0-1.1	13.7-14.8	0-1.1	4.3-5.3	5.8-6.8	2.2-3.7
Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	01/09/13	01/09/13	01/09/13	01/09/13	01/10/13	01/10/13	01/10/13	01/09/13	01/09/13	01/10/13	01/11/13	01/11/13	01/11/13	01/11/13	01/14/13	01/14/13	01/14/13	01/14/13
Detected Volatile Organics																									
1,2,4-Trichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	0.023 UJ	0.018 UJ	0.017 UJ	R	0.017 UJ	0.0023 UB	0.0099 UJ	0.001 J	0.013 UJ	0.012 UJ	0.013 UJ	0.014 UJ	0.013 UJ	0.014 UJ	0.01 UJ	0.29 U	0.0053 U	0.00075 UB
1,2-Dibromo-3-chloropropane	- -	- -	- -	- -	- -	- -	mg/kg	0.023 UJ	0.018 UJ	0.017 UJ	R	0.017 UJ	0.015 UJ	0.0099 UJ	0.015 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.014 UJ	0.013 UJ	0.014 UJ	0.01 UJ	0.29 U	0.0053 U	0.0071 U
1,2-Dichloroethene (total)	- -	- -	0.02	- -	- -	- -	mg/kg	0.023 U	0.018 U	0.017 U	0.015 U	0.017 U	0.015 U	0.0099 U	0.015 U	0.013 U	0.012 U	0.013 U	0.014 U	0.013 U	0.014 U	0.01 U	0.29 U	0.0053 U	0.0071 U
1,4-Dichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	0.023 UJ	0.018 UJ	0.017 UJ	R	0.017 UJ	0.015 UJ	0.0099 UJ	0.015 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.014 UJ	0.013 UJ	0.014 UJ	0.01 UJ	0.29 U	0.0053 U	0.0071 U
2-Butanone	- -	- -	- -	- -	- -	- -	mg/kg	0.19 J	0.32 J	0.072 J	0.32 J	0.075 J	0.059 J	0.1 J	0.11 J	0.21 J	0.031 J	0.047 J	0.21 J	0.046 J	0.17 J	0.01 U	1.4 U	0.0053 U	0.011
2-Hexanone	- -	- -	- -	- -	- -	- -	mg/kg	0.023 UJ	0.018 UJ	0.017 U	0.015 UJ	0.017 U	0.015 UJ	0.0099 U	0.015 UJ	0.013 UJ	0.012 U	0.013 UJ	0.014 UJ	0.013 UJ	0.014 U	0.01 U	1.4 U	0.0053 U	0.0071 U
4-Methyl-2-pentanone	- -	- -	- -	- -	- -	- -	mg/kg	0.023 U	0.018 U	0.017 U	0.015 U	0.017 U	0.015 U	0.0099 U	0.015 U	0.013 U	0.012 U	0.013 U	0.014 U	0.013 U	0.014 U	0.01 U	1.4 U	0.0053 U	0.0071 U
Acetone	- -	- -	- -	- -	- -	- -	mg/kg	0.73 J	1.3 J	0.29 J	1.3 J	0.29 J	0.21 J	0.38 J	0.42 J	0.79 J	0.14 J	0.19 J	0.83 J	0.17 J	0.61 J	0.099	1.2 UB	0.0066 UB	0.046
Benzene	- -	- -	0.6	90	26	- -	mg/kg	0.023 U	0.0048 J	0.017 U	0.005 J	0.017 U	0.015 U	0.0099 U	0.015 U	0.011 J	0.012 U	0.013 U	0.0039 J	0.013 U	0.00099 J	0.01 U	0.29 U	0.0053 U	0.0071 U
Carbon Disulfide	- -	- -	- -	- -	- -	- -	mg/kg	0.14	0.049	0.051	0.054	0.037	0.018	0.0051 J	0.11	0.046	0.012	0.011 J	0.03	0.019	0.015	0.012	1.5 J	0.0053 U	0.012
Chlorobenzene	- -	- -	- -	34.6	3.5	- -	mg/kg	0.023 UJ	0.018 UJ	0.017 U	0.015 UJ	0.017 U	0.015 UJ	0.0099 U	0.015 UJ	0.013 UJ	0.012 U	0.013 UJ	0.014 UJ	0.013 UJ	0.014 U	0.01 U	0.29 U	0.0053 U	0.0071 U
Chloromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.023 U	0.018 U	0.017 U	0.015 U	0.017 U	0.015 U	0.0099 U	0.015 U	0.013 U	0.012 U	0.013 U	0.014 U	0.013 U	0.014 U	0.01 UJ	0.29 U	0.0053 UJ	0.0071 UJ
cis-1,2-Dichloroethene	- -	- -	- -	- -	- -	- -	mg/kg	0.023 U	0.018 U	0.017 U	0.015 U	0.017 U	0.015 U	0.0099 U	0.015 U	0.013 U	0.012 U	0.013 U	0.014 U	0.013 U	0.014 U	0.01 U	0.29 U	0.0053 U	0.0071 U
Cyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.023 U	0.018 U	0.017 U	0.015 U	0.017 U	0.015 U	0.0099 U	0.015 U	0.0041 J	0.012 U	0.013 U	0.0068 J	0.013 U	0.0042 J	0.01 U	0.29 U	0.0053 U	0.0071 U
Ethylbenzene	- -	- -	- -	58	6.4	- -	mg/kg	0.00046 J	0.00069 J	0.00071 J	0.0014 J	0.0004 J	0.015 UJ	0.0099 U	0.015 UJ	0.26 J	0.012 U	0.00057 J	0.048 J	0.013 UJ	0.0013 J	0.01 U	0.96	0.0019 J	0.00025 UB
Isopropylbenzene	- -	- -	- -	105	12	- -	mg/kg	0.023 UJ	0.0013 J	0.0038 J	0.0028 J	0.017 UJ	0.015 UJ	0.0099 UJ	0.015 UJ	0.091 J	0.012 UJ	0.013 UJ	0.051 J	0.013 UJ	0.0017 J	0.01 UJ	0.37	0.00049 J	0.0071 U
Methyl acetate	- -	- -	- -	- -	- -	- -	mg/kg	0.023 U	0.01 J	0.017 U	0.015 U	0.017 U	0.0049 J	0.0099 U	0.015 U	0.0024 J	0.012 U	0.013 U	0.0061 J	0.0061 J	0.014 U	0.01 U	2.6	0.0053 U	0.0071 U
Methylcyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.023 U	0.0074 J	0.0041 J	0.02	0.017 U	0.0017 J	0.0099 U	0.015 U	0.014	0.00092 J	0.0088 J	0.024	0.013 U	0.02	0.01 U	0.22 J	0.0053 U	0.0071 U
Methylene Chloride	- -	- -	- -	- -	- -	- -	mg/kg	0.023 U	0.018 U	0.017 U	0.015 U	0.017 U	0.015 U	0.0099 U	0.015 U	0.013 U	0.012 U	0.013 U	0.014 U	0.013 U	0.014 U	0.01 U	0.29 U	0.0053 U	0.0071 U
Styrene	- -	- -	- -	- -	- -	- -	mg/kg	0.023 UJ	0.018 UJ	0.017 U	0.015 UJ	0.017 U	0.015 UJ	0.0099 U	0.015 UJ	0.013 UJ	0.012 U	0.013 UJ	0.014 UJ	0.013 UJ	0.014 U	0.01 U	0.29 U	0.0053 U	0.0071 U
Toluene	- -	- -	- -	- -	- -	- -	mg/kg	0.0012 J	0.0014 J	0.017 U	0.0013 J	0.00089 J	0.00096 J	0.00068 J	0.0012 J	0.026 J	0.00051 J	0.00053 J	0.0084 J	0.00091 J	0.00095 J	0.00041 J	0.095 J	0.00019 J	0.00038 J
Trichlorofluoromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.023 U	0.018 U	0.017 U	0.015 U	0.017 U	0.015 U	0.0099 U	0.015 U	0.013 U	0.012 U	0.013 U	0.014 U	0.013 U	0.014 U	0.01 U	0.29 U	0.0053 U	0.0071 U
Vinyl Chloride	- -	- -	0.07	- -	- -	- -	mg/kg	0.023 U	0.018 U	0.017 U	0.015 U	0.017 U	0.015 U	0.0099 U	0.015 U	0.013 U	0.012 U	0.013 U	0.014 U	0.013 U	0.014 U	0.01 U	0.29 U	0.0053 U	0.0071 U
Xylenes (total)	- -	- -	- -	- -	- -	- -	mg/kg	0.023 UJ	0.0023 J	0.0028 J	0.009 J	0.0015 J	0.015 UJ	0.0099 U	0.015 UJ	0.13 J	0.00029 J	0.001 J	0.073 J	0.013 UJ	0.0027 J	0.01 U	0.51	0.00056 J	0.0071 U
Total BTEX	- -	- -	- -	- -	- -	- -	mg/kg	0.00166 J	0.00919 J	0.00351 J	0.0167 J	0.00304 J	0.00096 J	0.00068 J	0.0012 J	0.427 J	0.0008 J	0.0021 J	0.1432 J	0.00091 J	0.00594 J	0.00041 J	1.565 J	0.00265 J	0.00038 J
Total VOCs	- -	- -	- -	- -	- -	- -	mg/kg	1.06166 J	1.69689 J	0.42441 J	1.7135 J	0.48124 J	0.29456 J	0.48578 J	0.6422 J	1.5845 J	0.18472 J	0.2589 J	1.1864 J	0.24201 J	0.82684 J	0.11141 J	6.255 J	0.00314 J	0.06938 J
Detected Semivolatile Organics																									
1,1'-Biphenyl	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	2.4 U	3.6 U	3.9 U	2.9 U	2.1 U	0.6 U	1.6 U	7.7 J	0.73 U	0.13 J	2.6 J	0.036 J	0.1 J	8 U	6.8 J	0.44 U	0.74 U
1-Methylnaphthalene	- -	- -	- -	- -	- -	- -	mg/kg	0.12 J	0.26 J	0.17 JD	0.23 JD	2.9 U	0.24 J	0.054 J	0.15 J	52	0.099 J	0.33 J	20	0.11 J	0.52 J	0.64 J	47	0.44 U	0.095 J
2-Methylnaphthalene	0.07	0.67	- -	- -	- -	- -	mg/kg	0.23 J	0.3 J	0.27 JD	0.3 JD	0.15 J	0.37 J	0.093 J	0.17 J	66	0.077 J	0.47 J	29	0.12 J	0.47 J	0.7 J	65	0.44 U	0.11 J
2-Nitrophenol	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	2.4 U	3.6 U	3.9 U	2.9 U	2.1 U	0.6 U	1.6 U	26 U	0.73 U	2.5 U	11 U	0.79 U	1.5 U	8 U	22 U	0.44 U	0.74 U
4-Chloroaniline	- -	- -	- -	- -	- -	- -	mg/kg	0.53 J	2.4 U	0.53 JD	3.9 U	0.47 J	2.1 U	0.6 U	1.6 U	26 U	0.73 U	2.5 U	11 U	0.79 U	1.5 U	8 U	22 U	0.44 U	0.088 J
Acenaphthene	0.016	0.5	- -	- -	- -	- -	mg/kg	0.24 J	0.37 J	0.34 JD	0.29 JD	0.21 J	0.3 J	0.05 J	0.26 J	39	0.11 J	0.65 J	15	0.19 J	0.64 J	8.5	39	0.44 U	0.18 J
Acenaphthylene	0.044	0.64	- -	- -	- -	- -	mg/kg	0.28 J	0.36 J	0.39 JD	0.35 JD	0.29 J	0.42 J	0.27 J	0.47 J	4.3 J	0.053 J	0.87 J	3.2 J	0.64 J	0.81 J	2.1 J	2.7 J	0.44 U	0.46 J
Acetophenone	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	2.4 U	3.6 U	3.9 U	2.9 U	R	R	1.6 U	26 U	R	R	11 U	0.79 U	1.5 U	8 U	22 U	0.046 J	0.74 U
Anthracene	0.0853	1.1	- -	- -	- -	- -	mg/kg	0.71 J	0.62 J	0.76 JD	0.53 JD	0.47 J	0.7 J	0.36 J	1.1 J	55	0.23 J	1.6 J	22	0.82	1.9	12	46	0.44 U	0.57 J
Azobenzene	- -	- -	1	- -	- -	- -	mg/kg	2.8 U	2.4 U	3.6 U	3.9 U	2.9 U	2.1 U	0.6 U	1.6 U	26 U	0.73 U	2.5 U	11 U	0.79 U	1.5 U	8 U	22 U	0.44 U	0.74 U
Benzaldehyde	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	2.4 U	3.6 U	3.9 U	2.9 U	R	0.077 J	0.1 J	26 U	R	R	11 U	0.79 U	1.5 U	8 U	22 U	R	0.04 J
Benzo(a)anthracene	0.261	1.6	- -	- -	- -	- -	mg/kg	2 J	1.8 J	2 JD	1.8 JD	1.6 J	2.3	1.4	3.9	38	0.51 J	5	21	2.9	4.3	19	29	0.44 U	2.3
Benzo(a)pyrene	0.43	1.6	- -	- -	- -	- -	mg/kg	2.2 J	2.2 J	2.2 JD	2 JD	1.9 J	2.4	2.2	4.9	32	0.38 J	5.3	17	3.5	4.1	15	22	0.44 U	2.7
Benzo(b)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	2.1 J	2.3 J	1.7 JD	1.8 JD	1.7 J	1.9 J	1.6 J	4.2	20 J	0.31 J	3.4 J	9.5 J	2.7 J	3.2 J	8.9 J	11 J	0.44 UJ	1.8 J
Benzo(g,h,i)perylene	- -	- -	- -	- -	- -	- -	mg/kg	0.86 J	0.75 J	1.3 JD	1.2 JD	1.4 J	1.4 J	1.3 J	1.6	9.9 J	0.23 J	3 J	7.5 J	1.7 J	2.2 J	6.6 J	8.8 J	0.44 UJ	0.95 J
Benzo(k)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	1.5 J	1.5 J	1.3 JD	1.3 JD	1.4 J	1.7 J	1.4	3	17 J	0.25 J	3.3	12	1.9	2.6	8.2	15 J	0.44 U	1.2
Benzo[e]pyrene	- -	- -	- -	- -	- -	- -	mg/kg	1.5 J	1.5 J	1.4 JD	1.4 JD	1.4 J	1.8 J	1.5	2.8	15 J	0.27 J	3	9.1 J	2.3	2.6	7.9 J	12 J	0.44 U	1.5
Benzoic Acid	- -	- -	- -	- -	- -	- -	mg/kg	7 U	6 U	9 UJ	9.7 UJ	7.4 U	5.4 UJ	0.13 J	4 U	65 U	1.8 UJ	6.3 UJ	28 U	2 U	3.7 U	20 UJ	55 U	1.1 UJ	0.21 J
Benzyl Alcohol	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	2.4 U	3.6 U	3.9 U	2.9 U	2.1 U	0.6 U	1.6 U	26 U	0.73 U	2.5 U	11 U	0.79 U	1.5 U	8 U	22 U	0.44 U	0.74 U
bis(2-Ethylhexyl)phthalate	- -	- -	- -	- -	- -	- -	mg/kg	10	9.1	8.1	4.7	10 J	9.5 J	0.2 UB	4.1	26 U	0.12 UB	1.2 J	11 UJ	4.6 J	0.15 UB	8 UJ	22 U	0.035 J	3.7 J
Butylbenzylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.2 J	0.26 UB	0.69	3.9 U	18	0.27 J	0.051 UB	0.11 J	26 U	0.057 UB	2.5 U	11 U	0.16 UB	1.5 U	8 U	22 U	0.44 U	0.078 J

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID: / Sample Depth (feet): / Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	SD-66 0-1.1 01/09/13	SD-66 6.4-7.5 01/09/13	SD-67 1.3-2.5 01/09/13	SD-67 13.6-14.9 01/09/13	SD-68 3.4-4.6 01/10/13	SD-68 6.2-7.3 01/10/13	SD-68 8.0-9.2 01/10/13	SD-69 0-1.1 01/09/13	SD-69 13.9-15.0 01/09/13	SD-70 6.5-7.6 01/10/13	SD-71 2.4-3.5 01/11/13	SD-71 13.6-14.8 01/11/13	SD-72 0-1.1 01/11/13	SD-72 13.7-14.8 01/11/13	SD-73 0-1.1 01/14/13	SD-73 4.3-5.3 01/14/13	SD-73 5.8-6.8 01/14/13	SD-74 2.2-3.7 01/14/13
Caprolactam	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	2.4 U	3.6 U	3.9 U	2.9 U	R	R	1.6 U	26 U	R	R	11 U	0.79 U	1.5 U	8 U	22 U	R	0.74 U
Carbazole	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	2.4 U	3.6 U	3.9 U	2.9 U	2.1 U	0.027 J	0.083 J	26 U	0.73 U	0.12 J	11 U	0.056 J	0.17 J	8 U	22 U	0.44 U	0.74 U
Chrysene	0.384	2.8	- -	- -	- -	- -	mg/kg	2.4 J	2.4	2.6 JD	2.5 JD	2.2 J	2.9	1.8	4.5	40	0.69 J	6.4	24	3.5	5.5	23	33	0.44 U	2.7
Dibenzo(a,h)anthracene	0.0634	0.26	- -	- -	- -	- -	mg/kg	0.33 J	0.21 J	0.29 JD	0.37 JD	0.29 J	0.45 J	0.38 J	0.76 J	3.4 J	0.061 J	0.95 J	2.2 J	0.54 J	0.68 J	1.8 J	2.4 J	0.44 UJ	0.36 J
Dibenzofuran	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	0.12 J	3.6 U	3.9 U	2.9 U	2.1 U	0.037 J	1.6 U	2.2 J	0.73 U	0.15 J	1.2 J	0.041 J	0.17 J	8 U	1.9 J	0.44 U	0.74 U
Diethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	0.16 J	3.6 U	3.9 U	2.9 U	2.1 U	0.6 U	1.6 U	26 U	0.73 U	2.5 U	11 U	0.79 U	1.5 U	8 U	22 U	0.44 U	0.74 U
Dimethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	2.4 U	3.6 U	3.9 U	2.9 U	2.1 U	0.6 U	1.6 U	26 U	0.73 U	2.5 U	11 U	0.79 U	1.5 U	8 U	22 U	0.44 U	0.74 U
Di-n-Butylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.16 J	0.47 J	3.6 U	0.18 JD	2.9 U	0.17 J	0.042 J	0.08 J	26 U	0.73 U	0.12 J	11 U	0.27 J	0.096 J	8 U	22 U	0.44 U	0.048 J
Di-n-Octylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	2.4 U	3.6 UJ	3.9 UJ	2.9 UJ	2.1 UJ	0.6 UJ	1.6 U	26 U	0.73 UJ	2.5 UJ	11 UJ	0.79 UJ	1.5 UJ	8 UJ	22 UJ	0.44 UJ	0.74 UJ
Fluoranthene	0.6	5.1	- -	- -	- -	- -	mg/kg	3.1	2.9	2.8 JD	3 JD	2.8 J	3.9 J	2.9 J	4.2	61	0.79 J	7 J	32 J	3.3 J	6.8 J	32 J	44	0.44 UJ	2.3 J
Fluorene	0.019	0.54	- -	- -	- -	- -	mg/kg	0.15 J	0.23 J	0.23 JD	0.22 JD	0.21 J	2.1 U	0.076 J	1.6 U	33	0.056 J	0.51 J	12	0.13 J	0.77 J	1.2 J	28	0.44 U	0.084 J
Indeno(1,2,3-cd)pyrene	- -	- -	0.7	- -	- -	- -	mg/kg	0.67 J	0.64 J	0.92 JD	0.93 JD	0.9 J	1.1 J	1.1 J	1.3 J	8.6 J	0.16 J	2.2 J	5.9 J	1.5 J	1.9 J	5.4 J	6.8 J	0.44 U	0.9 J
Naphthalene	0.16	2.1	- -	- -	- -	- -	mg/kg	0.24 J	0.44 J	0.29 JD	0.34 JD	0.19 J	0.31 J	0.17 J	0.23 J	27	0.069 J	0.6 J	11	0.13 J	0.56 J	0.68 J	23	0.44 U	0.12 J
N-Nitrosodimethylamine	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	2.4 U	3.6 U	3.9 U	2.9 U	2.1 U	0.6 U	1.6 U	26 U	0.73 U	2.5 U	11 U	0.79 U	1.5 U	8 U	22 U	0.44 U	0.74 U
N-Nitroso-di-n-propylamine	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	2.4 U	3.6 U	3.9 U	2.9 U	2.1 U	0.6 U	1.6 U	26 U	0.73 U	2.5 U	11 U	0.79 U	1.5 U	8 U	22 U	0.44 U	0.74 U
Perylene	- -	- -	- -	- -	- -	- -	mg/kg	0.53 J	0.49 J	0.52 JD	0.54 JD	0.57 J	0.76 J	0.48 J	0.83 J	5.4 J	0.37 J	1.1 J	3 J	0.85	0.88 J	2.6 J	3.6 J	0.44 U	0.61 J
Phenanthrene	0.24	1.5	- -	- -	- -	- -	mg/kg	1 J	1.3 J	1.6 JD	1.4 JD	0.78 J	1.2 J	0.53 J	1.6	160	0.17 J	2.2 J	51	1.2	4.3	15	140	0.024 J	0.82
Phenol	- -	- -	- -	- -	- -	- -	mg/kg	2.8 U	2.4 U	3.6 U	3.9 U	2.9 U	2.1 U	0.6 U	1.6 U	26 U	0.73 U	2.5 U	11 U	0.79 U	1.5 U	8 U	22 U	0.44 U	0.74 U
Pyrene	0.665	2.6	- -	- -	- -	- -	mg/kg	3.3	2.9	4.2 D	3.7 JD	3.1	4.6	3.7	5.9	94	1.1	8.9	42	4.6	7.4	55	80	0.44 U	3.7
Total PAHs	4.022	44.792	- -	- -	- -	- -	mg/kg	21.31 J	21.22 J	23.19 J	22.03 J	19.59 J	25.95 J	19.329 J	38.09 J	708.2 J	5.246 J	52.35 J	316.3 J	29.37 J	48.13 J	215.08 J	595.7 J	0.024 J	21.254 J
Total SVOCs	- -	- -	- -	- -	- -	- -	mg/kg	34.35 J	33.32 J	34.6 J	29.08 J	50.03 J	38.69 J	21.676 J	46.343 J	790.5 J	5.985 J	58.5 J	352.2 J	37.633 J	52.666 J	226.22 J	667 J	0.105 J	27.623 J
Detected Inorganics																									
Aluminum	- -	- -	- -	- -	- -	- -	mg/kg	26,400	15,000	41,300	16,000	16,500 J	18,000 J	10,800 J	14,500	17,500	17,600 J	14,300 J	14,900 J	13,500 J	14,000 J	15,600 J	11,400 J	22,800 J	8,170 J
Antimony	- -	- -	- -	- -	- -	- -	mg/kg	1.5 J	0.97 J	1.9 J	1.7 J	1.2 J	1.5 J	1.4 J	1.3 J	0.97 J	1.1 J	1.5 J	1.3 J	7.9 U	1.4 J	1.6 J	1.5 J	2.8 J	0.81 J
Arsenic	8.2	70	- -	- -	- -	- -	mg/kg	27.3	20.7	41.7	21.1	18.1	17.6	24.1	14	39.6	10.4	24.5	30.9	13	27	15.8	19	1.1	8.1
Barium	- -	- -	- -	- -	- -	- -	mg/kg	251	171 J	418 J	174 J	129 J	168 J	81.6 J	133	302	52.5 J	224 J	253 J	116 J	253 J	182 J	190 J	229 J	88.5 J
Beryllium	- -	- -	- -	- -	- -	- -	mg/kg	1.2 J	0.8 J	2.3	0.84	0.73 J	0.8 J	0.42 J	0.65 J	0.77 J	0.77 J	0.79	0.65 J	0.59 J	0.7 J	1.1	0.79	1.7	0.4 J
Cadmium	1.2	9.6	- -	- -	- -	- -	mg/kg	9	7.7	16.5	8.2	4	6.8	0.97	2.4	2.3	0.38 J	8.8	2.3	2.6	7.6	1.1	1.4	0.26 J	1.7
Calcium	- -	- -	- -	- -	- -	- -	mg/kg	8,760	4,990 J	13,000 J	3,950 J	6,060 J	5,210 J	2,580 J	7,720	6,090	2,660 J	3,440 J	4,310 J	10,700 J	4,370 J	3,180 J	3,310 J	6,050 J	5,880 J
Chromium	81	370	- -	- -	- -	- -	mg/kg	328	284 J	560 J	234 J	172 J	237 J	79 J	124	124	51 J	158 J	86.8 J	117 J	135 J	57.1 J	61.2 J	51.7 J	75.5 J
Cobalt	- -	- -	- -	- -	- -	- -	mg/kg	16.4	9.6 J	26.2 J	10.3 J	10.1 J	11.5 J	7.6 J	10.7	10.3	11.3 J	9.3 J	10.1 J	9.5 J	9.1 J	11.6	7.8	15.3	6.5 J
Copper	34	270	- -	- -	- -	- -	mg/kg	577	451	1,130	502	314 J	474 J	136 J	206	362	30.1 J	430 J	289 J	217 J	381 J	132	179	31.9	121
Cyanide	- -	- -	- -	- -	- -	- -	mg/kg	0.87 J	6.8	1.2 J	3.4	0.4 J	0.89 J	4.4	0.24 J	0.84 J	1.1 U	0.62 J	0.84 J	1.2 U	2.7	0.17 J	0.44 J	0.68 U	0.18 J
Iron	- -	- -	- -	- -	- -	- -	mg/kg	50,200	30,400 J	80,300 J	30,700 J	37,500 J	35,000 J	25,200 J	30,400	32,600	32,800 J	28,400 J	28,800 J	27,800 J	27,600 J	30,400 J	22,800 J	34,800 J	18,200 J
Lead	46.7	218	- -	- -	- -	- -	mg/kg	573	400	863	401	317	484	188	238	597	45.1	426	444	226	416	272	407	12	164
Magnesium	- -	- -	- -	- -	- -	- -	mg/kg	14,200	7,790	21,300	7,750	8,910 J	8,760 J	4,590 J	8,620	8,620	8,610 J	6,740 J	7,680 J	7,710 J	7,030 J	8,110 J	6,020 J	14,100 J	5,670 J
Manganese	- -	- -	- -	- -	- -	- -	mg/kg	766	407 J	1,170 J	402 J	447 J	646 J	323 J	589	385	792 J	288 J	393 J	490 J	311 J	377 J	283 J	616 J	346 J
Mercury	0.15	0.71	- -	- -	- -	- -	mg/kg	2.9	3.8	2.6	3.7	2.8	3.1	2.4	2.2	8.3	0.55	3.8	5	2	4	2.7	5	0.0056 J	1.2
Nickel	20.9	51.6	- -	- -	- -	- -	mg/kg	78.3	59.1 J	139 J	64.4 J	39.9 J	51.7 J	20.2 J	35.3	36	26 J	41 J	39.5 J	32.7 J	37.2 J	33.6 J	25.1 J	38.9 J	22.2 J
Potassium	- -	- -	- -	- -	- -	- -	mg/kg	7,410	4,040	10,700	4,140	4,380 J	4,520 J	2,610 J	4,130	4,730	4,620 J	3,720 J	4,250 J	3,970 J	3,800 J	5,780 J	3,090 J	12,900 J	2,770 J
Selenium	- -	- -	- -	- -	- -	- -	mg/kg	9.1 U	6.8 U	13.8 U	5.3 U	6.2 U	6.6 U	3.7 U	7.1 U	1.4 J	6.3 U	1.3 J	1.6 J	4.6 U	1.8 J	3.7 U	3.7 U	2.9 U	3.4 U
Silver	1	3.7	- -	- -	- -	- -	mg/kg	17.5	15.5 J	32.7 J	14.9 J	8.4	12.5	1.4	6.9	7.5	1.8 U	11.2	7.3	6.4	8.5	2.8	3.2	0.8 U	3.2
Sodium	- -	- -	- -	- -	- -	- -	mg/kg	26,800	13,000	29,100	10,800	11,800 J	7,620 J	2,300 J	11,800	11,500	6,800 J	10,100 J	9,800 J	11,200 J	10,400 J	6,940 J	7,310 J	3,360 J	5,250 J
Thallium	- -	- -	- -	- -	- -	- -	mg/kg	6.5 U	4.9 U	4.9 U	3.8 U	4.4 U	4.7 U	2.6 U	5.1 U	4 U	4.5 U	0.69 J	3.9 U	3.3 U	4.1 U	2.7 UJ	2.6 UJ	2 UJ	3.7 UJ
Vanadium	- -	- -	- -	- -	- -	- -	mg/kg	95	75.6	162	72	54.4 J	71.7 J	34.5 J	46.2	48.1	39.3 J	60.6 J	45.7 J	41.5 J	44 J	55.7 J	32.3 J	60.2 J	26.7 J
Zinc	150	410	- -	- -	- -	- -	mg/kg	668	437 J	1,040 J	452 J	363 J	481 J	178 J	294	536	97.1 J	555 J	523 J	287 J	591 J	310 J	378 J	93.4 J	164 J
Detected Miscellaneous																									
Percent Solids	- -	- -	- -	- -	- -	- -	%	29.9	35.1	37.4	42.3	37.3	38.6	54.5	40.8	41.7	45.2	42.9	43.5	41.2	44	51.5	50.3	73	58.9
Total Organic Carbon	- -	- -	- -	- -	- -	- -	mg/kg	58,500	72,700	53,100	74,100	57,600	59,900	26,600	51,900	67,400	22,100	175,000	86,900	50,400	148,000	53,800	57,300	767 UB	25,000

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID:								SD-74	SD-75	SD-75	SD-75	SD-76	SD-77	SD-77	SD-77	SD-78	SD-78	SD-78	SD-79	SD-80	SD-80	SD-80	SD-81	SD-81	SD-81
Sample Depth (feet):								4.4-5.9	0.6-1.9	9.7-11.0	14.7-15.0	6.4-7.5	0-1.1	19.1-20.1	21.2-22.2	0.9-1.8	12.2-13.1	14.7-15.3	0-0.9	1.1-2.1	6.3-7.4	14.3-15.3	0.6-1.7	12.1-13.2	19.3-20.4
Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	01/14/13	01/14/13	01/14/13	01/14/13	01/17/13	01/16/13	01/16/13	01/16/13	01/16/13	01/16/13	01/16/13	01/17/13	01/18/13	01/18/13	01/18/13	01/18/13	01/18/13	01/18/13
Detected Volatile Organics																									
1,2,4-Trichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	0.00067 UB	0.0017 UB	0.46 U	0.011 U	0.011 U	0.015 UJ	R [R]	0.014 UJ	0.021 UJ	0.012 U	0.00052 UB	0.0087 U	R	R	0.013 U	R	R [0.015 U]	0.0098 UJ
1,2-Dibromo-3-chloropropane	- -	- -	- -	- -	- -	- -	mg/kg	0.0082 U	0.015 UJ	0.46 U	0.011 U	0.011 U	0.015 UJ	R [R]	0.014 UJ	0.021 UJ	0.012 U	0.0072 UJ	0.0087 U	R	R	0.013 U	R	R [0.015 U]	0.0098 UJ
1,2-Dichloroethene (total)	- -	- -	0.02	- -	- -	- -	mg/kg	0.0082 U	0.015 U	0.46 U	0.011 U	0.011 U	0.015 U	0.014 U [0.015 U]	0.014 UJ	0.021 U	0.012 U	0.0072 U	0.0087 U	0.014 U	0.013 U	0.013 U	0.018 U	0.014 U [0.015 U]	0.0098 UJ
1,4-Dichlorobenzene	- -	- -	- -	- -	- -	- -	mg/kg	0.0082 U	0.015 UJ	0.46 U	0.011 U	0.011 U	0.015 UJ	R [R]	0.014 UJ	0.021 UJ	0.012 U	0.0072 UJ	0.0087 U	R	R	0.013 U	R	R [0.015 U]	0.0098 UJ
2-Butanone	- -	- -	- -	- -	- -	- -	mg/kg	0.0082 U	0.015 U	2.3 U	0.011 U	0.011 U	0.015 U	0.28 [0.55]	0.014 U	0.021 U	0.012 U	0.0072 U	0.0087 U	0.043	0.08	0.013 U	0.07	0.16 J [0.015 UJ]	0.024
2-Hexanone	- -	- -	- -	- -	- -	- -	mg/kg	0.0082 U	0.015 U	2.3 U	0.011 U	0.011 U	0.015 UJ	0.014 UJ [0.015 UJ]	0.014 U	0.021 U	0.012 U	0.0072 UJ	0.0087 U	0.014 UJ	0.013 UJ	0.013 U	0.018 UJ	0.014 UJ [0.015 U]	0.0098 UJ
4-Methyl-2-pentanone	- -	- -	- -	- -	- -	- -	mg/kg	0.0082 U	0.015 U	2.3 U	0.011 U	0.011 U	0.015 U	0.014 U [0.015 U]	0.014 U	0.021 U	0.012 U	0.0072 U	0.0087 U	0.014 U	0.013 U	0.013 U	0.018 U	0.014 U [0.015 U]	0.0098 U
Acetone	- -	- -	- -	- -	- -	- -	mg/kg	0.056	0.24	1.4 UB	0.095	0.049	0.25	1.2 [2.1 J]	0.11	0.51	0.34	0.019 UB	0.078	0.17	0.35	0.093	0.27	0.66 [1.3]	0.1
Benzene	- -	- -	0.6	90	26	- -	mg/kg	0.0082 U	0.015 U	0.12 J	0.0048 J	0.011 U	0.015 U	0.0072 J [0.015 U]	0.014 UJ	0.021 U	0.0042 J	0.0072 U	0.0087 U	0.014 U	0.013 U	0.013 U	0.018 U	0.0054 J [0.0076 J]	0.0019 J
Carbon Disulfide	- -	- -	- -	- -	- -	- -	mg/kg	0.0077 J	0.024	3.8 J	0.0054 J	0.022	0.036	0.028 [0.05]	0.043 J	0.028	0.013	0.006 J	0.0098	0.013 J	0.026	0.027	0.038	0.03 [0.029]	0.0076 J
Chlorobenzene	- -	- -	- -	34.6	3.5	- -	mg/kg	0.0082 U	0.015 U	0.46 U	0.011 U	0.011 U	0.015 UJ	0.014 UJ [0.015 UJ]	0.014 U	0.021 U	0.012 U	0.0072 UJ	0.0087 U	0.014 UJ	0.013 UJ	0.013 U	0.018 UJ	0.014 UJ [0.015 U]	0.0098 UJ
Chloromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.0082 UJ	0.015 UJ	0.46 U	0.011 UJ	0.011 U	0.015 U	0.014 U [0.015 U]	0.014 UJ	0.021 U	0.012 UJ	0.0072 U	0.0087 UJ	0.014 U	0.013 U	0.013 UJ	0.018 U	0.014 U [0.015 UJ]	0.0098 UJ
cis-1,2-Dichloroethene	- -	- -	- -	- -	- -	- -	mg/kg	0.0082 U	0.015 U	0.46 U	0.011 U	0.011 U	0.015 U	0.014 U [0.015 U]	0.014 UJ	0.021 U	0.012 U	0.0072 U	0.0087 U	0.014 U	0.013 U	0.013 U	0.018 U	0.014 U [0.015 U]	0.0098 UJ
Cyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.0082 U	0.015 U	0.46 U	0.011 U	0.011 U	0.0059 J	0.014 U [0.0092 J]	0.014 UJ	0.021 U	0.012 U	0.0072 U	0.0087 U	0.014 U	0.013 U	0.013 U	0.018 U	0.0047 J [0.0095 J]	0.0098 UJ
Ethylbenzene	- -	- -	- -	58	6.4	- -	mg/kg	0.00058 UB	0.00048 UB	2.5	0.11	0.011 U	0.015 UJ	0.16 J [0.4 J]	0.014 U	0.021 U	0.071	0.0072 UJ	0.0087 U	0.014 UJ	0.013 UJ	0.013 U	0.00066 J	0.095 J [0.13]	0.015 J
Isopropylbenzene	- -	- -	- -	105	12	- -	mg/kg	0.00067 J	0.0015 J	1.2	0.05	0.011 U	0.015 UJ	0.096 J [0.22 J]	0.0013 J	0.021 UJ	0.045	0.0072 UJ	0.0087 U	R	R	0.00095 J	0.0017 J	0.075 J [0.1]	0.012 J
Methyl acetate	- -	- -	- -	- -	- -	- -	mg/kg	0.0082 U	0.015 U	2.6	0.011 U	0.011 U	0.012 J	0.0056 J [0.02]	0.014 UJ	0.0087 J	0.012 UJ	0.0048 J	0.0087 UJ	0.014 U	0.0054 J	0.013 UJ	0.01 J	0.0075 J [0.02 J]	0.0098 U
Methylcyclohexane	- -	- -	- -	- -	- -	- -	mg/kg	0.00071 J	0.0025 J	0.11 J	0.0033 J	0.011 U	0.0081 J	0.013 J [0.023]	0.014 UJ	0.021 U	0.0062 J	0.0072 U	0.0087 U	0.014 U	0.013 U	0.013 U	0.0021 J	0.021 [0.033]	0.0019 J
Methylene Chloride	- -	- -	- -	- -	- -	- -	mg/kg	0.0082 U	0.015 U	0.46 U	0.011 U	0.011 U	0.015 U	0.014 U [0.015 U]	0.014 UJ	0.021 U	0.012 U	0.0072 U	0.0087 U	0.014 U	0.013 U	0.013 U	0.018 U	0.014 U [0.015 U]	0.0098 U
Styrene	- -	- -	- -	- -	- -	- -	mg/kg	0.0082 U	0.015 U	0.46 U	0.011 U	0.011 U	0.015 UJ	0.014 UJ [0.015 UJ]	0.014 UJ	0.021 U	0.012 U	0.0072 UJ	0.0087 U	0.014 UJ	0.013 UJ	0.013 U	0.018 UJ	0.014 UJ [0.015 U]	0.0098 UJ
Toluene	- -	- -	- -	- -	- -	- -	mg/kg	0.0082 U	0.00067 J	0.28 J	0.013	0.00091 UB	0.00086 UB	0.015 J [0.036 J]	0.014 U	0.00094 UB	0.0084 J	0.00027 UB	0.00059 J	0.0011 UB	0.00095 UB	0.00066 J	0.0012 UB	0.014 J [0.02]	0.0013 UB
Trichlorofluoromethane	- -	- -	- -	- -	- -	- -	mg/kg	0.0082 U	0.015 U	0.46 U	0.011 U	0.011 U	0.015 U	0.014 U [0.015 U]	0.014 U	0.021 U	0.012 U	0.0072 U	0.0087 U	0.014 U	0.013 U	0.013 U	0.018 U	0.014 U [0.015 U]	0.0098 U
Vinyl Chloride	- -	- -	0.07	- -	- -	- -	mg/kg	0.0082 U	0.015 U	0.46 U	0.011 U	0.011 U	0.015 U	0.014 U [0.015 U]	0.014 U	0.021 U	0.012 UJ	0.0072 U	0.0087 UJ	0.014 U	0.013 U	0.013 UJ	0.018 U	0.014 U [0.015 UJ]	0.0098 U
Xylenes (total)	- -	- -	- -	- -	- -	- -	mg/kg	0.00043 J	0.0015 J	2.8	0.21	0.011 U	0.015 UJ	0.075 J [0.15 J]	0.00081 J	0.021 U	0.066	0.00047 J	0.0087 U	0.014 UJ	0.00086 J	0.0011 J	0.0018 J	0.12 J [0.16]	0.034 J
Total BTEX	- -	- -	- -	- -	- -	- -	mg/kg	0.00043 J	0.00217 J	5.7 J	0.3378 J	ND	ND	0.2572 J [0.586]	0.00081 J	ND	0.1026 J	0.00047 J	0.00058 J	ND	0.00086 J	0.00286 J	0.00246 J	0.2344 J [0.3176 J]	0.0509 J
Total VOCs	- -	- -	- -	- -	- -	- -	mg/kg	0.06551 J	0.27017 J	13.41 J	0.4915 J	0.071 J	0.312 J	1.8798 J [3.5582 J]	0.15511 J	0.5467 J	0.4165 J	0.01127 J	0.05788 J	0.226 J	0.46226 J	0.10636 J	0.39426 J	1.1926 J [1.8091 J]	0.1964 J
Detected Semivolatile Organics																									
1,1'-Biphenyl	- -	- -	- -	- -	- -	- -	mg/kg	0.064 J	0.075 J	17 J	0.7 J	0.69 U	2.1 U	4.5 J [3 J]	0.72 U	0.046 J	2 J	0.47 U	1.1 U	0.82 U	1.5 U	0.75 U	2.4 U	2.4 J [3.2 J]	0.033 J
1-Methylnaphthalene	- -	- -	- -	- -	- -	- -	mg/kg	0.38 J	0.16 J	120	6.7	0.69 U	0.11 J	28 [20]	0.72 U	0.13 J	14	0.08 J	0.13 J	0.077 J	0.14 J	0.059 J	0.1 J	20 [25]	0.29 J
2-Methylnaphthalene	0.07	0.67	- -	- -	- -	- -	mg/kg	0.22 J	0.21 J	180	8.9	0.69 U	0.17 J	35 [24]	0.72 U	0.15 J	17	0.11 J	0.19 J	0.092 J	0.15 J	0.75 U	0.14 J	27 [35]	0.17 J
2-Nitrophenol	- -	- -	- -	- -	- -	- -	mg/kg	0.61 U	1.2 U	32 U	2 U	0.69 U	2.1 U	21 U [14 U]	0.72 U	0.91 U	6.8 U	0.47 U	1.1 U	0.82 U	1.5 U	0.75 U	2.4 U	11 U [12 U]	0.63 U
4-Chloroaniline	- -	- -	- -	- -	- -	- -	mg/kg	0.61 U	0.28 J	32 U	2 U	0.69 U	2.1 U	21 U [14 U]	0.72 U	0.91 U	6.8 U	0.47 U	1.1 U	0.82 U	1.5 U	0.75 U	0.63 J	11 U [12 U]	0.63 U
Acenaphthene	0.016	0.5	- -	- -	- -	- -	mg/kg	0.61	0.46 J	83	3.2	0.69 U	0.19 J	22 [14]	0.047 J	0.3 J	12	0.15 J	0.17 J	0.14 J	0.17 J	0.75 U	0.29 J	14 [17]	0.26 J
Acenaphthylene	0.044	0.64	- -	- -	- -	- -	mg/kg	0.26 J	0.71 J	6.7 J	0.13 J	0.69 U	0.44 J	3.6 J [2.3 J]	0.72 U	0.71 J	1.5 J	0.085 J	0.47 J	0.45 J	0.58 J	0.75 U	0.4 J	3.2 J [2.9 J]	0.11 J
Acetophenone	- -	- -	- -	- -	- -	- -	mg/kg	0.037 J	1.2 U	32 U	2 U	0.69 U	2.1 U	21 U [14 U]	0.049 UB	0.073 UB	6.8 U	0.068 J	1.1 U	0.82 U	R	0.044 UB	2.4 U	11 U [R]	0.057 UB
Anthracene	0.0853	1.1	- -	- -	- -	- -	mg/kg	1.5	1.3	86	1.6 J	0.69 U	0.57 J	35 [23]	0.043 J	1.1	14	0.48	0.53 J	0.61 J	0.84 J	0.75 U	0.74 J	19 [26]	0.64
Azobenzene	- -	- -	1	- -	- -	- -	mg/kg	0.61 U	1.2 U	32 U	2 U	0.69 U	2.1 U	21 U [14 U]	0.72 U	0.91 U	6.8 U	0.47 U	1.1 U	0.82 U	1.5 U	0.75 U	2.4 U	11 U [12 U]	0.63 U
Benzaldehyde	- -	- -	- -	- -	- -	- -	mg/kg	0.61 U	1.2 U	32 U	2 U	0.69 U	2.1 U	21 U [14 U]	0.72 U	0.084 UB	6.8 U	0.025 J	1.1 U	0.062 UB	R	0.75 U	2.4 U	11 U [R]	0.63 U
Benzo(a)anthracene	0.261	1.6	- -	- -	- -	- -	mg/kg	2.1	3.5	51	1.7 J	0.69 U	1.8 J	31 [23]	0.04 J	3.6	12	0.97	1.9	2.2	2.9	0.75 U	2 J	18 [19]	1.1
Benzo(a)pyrene	0.43	1.6	- -	- -	- -	- -	mg/kg	1.9	4.1	41	1.4 J	0.26 J	2.4	25 [17]	0.033 J	4	9.8	0.87	3.3	2.8	3.6	0.75 U	2.4	14 [15]	0.95
Benzo(b)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	0.88 J	3.3 J	24 J	0.87 J	0.69 UJ	2.1 J	19 J [7.8 J]	0.72 UJ	3.9 J	7.7 J	0.58 J	2.4 J	2.3 J	2.4 J	0.75 UJ	1.5 J	7.6 J [6.6 J]	0.66 J
Benzo(g,h,i)perylene	- -	- -	- -	- -	- -	- -	mg/kg	0.89 J	1.4 J	19 J	0.71 J	0.69 UJ	0.63 J	5.1 J [9.2 J]	0.034 J	1.1 J	2 J	0.2 J	1.8 J	1.2 J	2 J	0.03 J	0.97 J	4.6 J [7.5 J]	0.37 J
Benzo(k)fluoranthene	- -	- -	0.7	- -	- -	- -	mg/kg	1.2	2	21 J	1 J	0.69 U	2 J	15 J [11 J]	0.72 U	2.9	5.9 J	0.66	1.7	1.7	2.6	0.75 U	1.7 J	9.6 J [11 J]	0.5 J
Benzo[e]pyrene	- -	- -	- -	- -	- -	- -	mg/kg	1	2.5	21 J	0.93 J	0.69 U	1.6 J	15 J [10 J]	0.72 U	2.7	6 J	0.54	1.9	2.2	2.2	0.75 U	1.6 J	7.5 J [7.9 J]	0.59 J
Benzoic Acid	- -	- -	- -	- -	- -	- -	mg/kg	1.5 U	3 UJ	80 UJ	5 U	0.14 J	5.3 U	52 U [35 U]	0.18 J	0.34 J	17 U	0.14 J	2.8 U	2.1 U	3.7 UJ	0.26 J	6 U	28 U [30 UJ]	1.6 U
Benzyl Alcohol	- -	- -	- -	- -	- -	- -	mg/kg	0.61 U	1.2 U	32 U	2 U	0.69 U	2.1 U	21 U [14 U]	0.72 U	0.91 U	6.8 U	0.47 U	1.1 U	0.82 U	1.5 U	0.75 U	2.4 U	11 U [12 U]	0.63 U
bis(2-Ethylhexyl)phthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.23 J	7.1 J	32 UJ	2 U	0.12 UB	7.1	21 U [14 U]	0.15 UB	2.9	6.8 U	0.069 J	0.86 UB	4.8	4.4	0.13 UB	14	11 U [12 U]	0.085 UB
Butylbenzylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.61 U	0.17 J	32 U	2 U	0.051 UB	0.22 J	21 U [14 U]	0.069 UB	0.57 UB	6.8 U	0.039 J	0.074 UB	0.23 UB	0.24 UB	0.067 UB	0.28 UB	11 U [12 U]	0.052 UB

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID: / Sample Depth (feet): / Date Collected:	ER-L	ER-M	HH-B	BAL-A	BAL-C	WB	Units	SD-74 4.4-5.9 01/14/13	SD-75 0.6-1.9 01/14/13	SD-75 9.7-11.0 01/14/13	SD-75 14.7-15.0 01/14/13	SD-76 6.4-7.5 01/17/13	SD-77 0-1.1 01/16/13	SD-77 19.1-20.1 01/16/13	SD-77 21.2-22.2 01/16/13	SD-78 0.9-1.8 01/16/13	SD-78 12.2-13.1 01/16/13	SD-78 14.7-15.3 01/16/13	SD-79 0-0.9 01/17/13	SD-80 1.1-2.1 01/18/13	SD-80 6.3-7.4 01/18/13	SD-80 14.3-15.3 01/18/13	SD-81 0.6-1.7 01/18/13	SD-81 12.1-13.2 01/18/13	SD-81 19.3-20.4 01/18/13
Caprolactam	- -	- -	- -	- -	- -	- -	mg/kg	0.61 U	1.2 U	32 U	2 U	0.69 U	2.1 U	21 U [14 U]	0.72 U	0.91 U	6.8 U	0.47 U	1.1 U	0.82 U	R	0.75 U	2.4 U	11 U [R]	0.63 UJ
Carbazole	- -	- -	- -	- -	- -	- -	mg/kg	0.61 U	1.2 U	32 U	2 U	0.69 U	2.1 U	21 U [14 U]	0.72 U	0.042 J	6.8 U	0.47 U	1.1 U	0.085 J	1.5 U	0.75 U	2.4 U	11 U [12 U]	0.63 U
Chrysene	0.384	2.8	- -	- -	- -	- -	mg/kg	2.5	4.7	62	2.1	0.69 U	2.6	40 [29]	0.05 J	4.4	16	1.1	2.5	2.8	3.8	0.75 U	2.8	22 [22]	1.4
Dibenzo(a,h)anthracene	0.0634	0.26	- -	- -	- -	- -	mg/kg	0.24 J	0.43 J	4.7 J	0.18 J	0.69 UJ	0.2 J	1.4 J [2.9 J]	0.72 UJ	0.36 J	0.69 J	0.082 J	0.57 J	0.37 J	0.66 J	0.75 UJ	0.33 J	1.7 J [2.5 J]	0.13 J
Dibenzofuran	- -	- -	- -	- -	- -	- -	mg/kg	0.033 J	0.084 J	4.5 J	0.14 J	0.69 U	2.1 U	1.5 J [0.89 J]	0.72 U	0.06 J	0.84 J	0.47 U	1.1 U	0.057 J	1.5 U	0.75 U	2.4 U	1.1 J [1.2 J]	0.63 U
Diethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.61 U	1.2 U	32 U	2 U	0.69 U	2.1 U	21 U [14 U]	0.72 U	0.91 U	6.8 U	0.47 U	1.1 U	0.82 U	1.5 U	0.75 U	2.4 U	11 U [12 U]	0.63 U
Dimethylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.61 U	1.2 U	32 U	2 U	0.69 U	2.1 U	21 U [14 U]	0.72 U	0.91 U	6.8 U	0.47 U	1.1 U	0.82 U	1.5 U	0.75 U	2.4 U	11 U [12 U]	0.63 U
Di-n-Butylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.61 U	0.13 J	32 U	2 U	0.69 U	0.21 J	21 U [14 U]	0.039 J	0.078 J	6.8 U	0.021 J	1.1 U	0.08 J	0.074 J	0.75 U	0.11 J	11 U [12 U]	0.63 U
Di-n-Octylphthalate	- -	- -	- -	- -	- -	- -	mg/kg	0.61 UJ	1.2 UJ	32 UJ	2 UJ	0.69 UJ	2.1 UJ	21 UJ [14 UJ]	0.72 UJ	0.91 UJ	6.8 UJ	0.47 UJ	1.1 UJ	0.82 UJ	1.5 UJ	0.75 UJ	2.4 UJ	11 UJ [12 UJ]	0.63 UJ
Fluoranthene	0.6	5.1	- -	- -	- -	- -	mg/kg	2.9 J	4 J	85 J	2.5	0.69 U	2.1	39 [30]	0.067 J	3.2	16	0.85	1.8	2.7	3.5 J	0.75 U	2.6	26 [30 J]	1.3
Fluorene	0.019	0.54	- -	- -	- -	- -	mg/kg	0.38 J	0.27 J	61	1.3 J	0.69 U	0.15 J	19 J [12 J]	0.72 U	0.18 J	8.4	0.05 J	0.11 J	0.11 J	0.15 J	0.75 U	0.18 J	12 [15]	0.17 J
Indeno(1,2,3-cd)pyrene	- -	- -	0.7	- -	- -	- -	mg/kg	0.71 J	1.3 J	15 J	0.5 J	0.69 UJ	0.52 J	4.1 J [6.2 J]	0.72 UJ	0.9 J	1.7 J	0.16 J	1.4 J	1 J	1.6 J	0.75 UJ	0.81 J	4.4 J [5.8 J]	0.31 J
Naphthalene	0.16	2.1	- -	- -	- -	- -	mg/kg	0.12 J	0.22 J	90	12	0.69 U	0.18 J	11 J [7.9 J]	0.72 U	0.16 J	6.5 J	0.057 J	0.19 J	0.11 J	0.17 J	0.18 J	0.16 J	13 [14]	0.42 J
N-Nitrosodimethylamine	- -	- -	- -	- -	- -	- -	mg/kg	0.61 U	1.2 U	32 U	2 U	0.69 U	2.1 U	21 U [14 U]	0.72 U	0.91 U	6.8 U	0.47 U	1.1 U	0.82 U	1.5 U	0.75 U	2.4 U	11 U [12 U]	0.63 U
N-Nitroso-di-n-propylamine	- -	- -	- -	- -	- -	- -	mg/kg	0.61 U	1.2 U	32 U	2 U	0.69 U	2.1 U	21 U [14 U]	0.72 U	0.91 U	6.8 U	0.47 U	1.1 U	0.82 U	1.5 U	0.75 U	2.4 U	11 U [12 U]	0.63 U
Perylene	- -	- -	- -	- -	- -	- -	mg/kg	0.4 J	0.89 J	7.6 J	0.58 J	0.28 J	0.56 J	4.3 J [3.3 J]	0.13 J	0.91	2 J	0.17 J	0.63 J	0.69 J	0.78 J	0.1 J	0.68 J	2.6 J [2.9 J]	0.3 J
Phenanthrene	0.24	1.5	- -	- -	- -	- -	mg/kg	2.3	1.6	250	4.1	0.69 U	0.98 J	99 [64]	0.054 J	1.4	40	0.39 J	0.88 J	0.97	1.2 J	0.75 U	1.1 J	51 [70]	0.98
Phenol	- -	- -	- -	- -	- -	- -	mg/kg	0.61 U	1.2 U	32 U	2 U	0.69 U	2.1 U	21 U [14 U]	0.72 U	0.91 U	6.8 U	0.47 U	1.1 U	0.82 U	1.5 U	0.75 U	2.4 U	11 U [12 U]	0.63 U
Pyrene	0.665	2.6	- -	- -	- -	- -	mg/kg	4.4	5.7	160	3.9	0.69 U	3.1	68 [49]	0.13 J	5.3	26	1.8	6.7	3.5	4.4	0.75 U	3.6	39 [45]	2.3
Total PAHs	4.022	44.792	- -	- -	- -	- -	mg/kg	23.11 J	35.2 J	1,239.4 J	46.09 J	0.26 J	20.13 J	472.2 J [332.3 J]	0.498 J	33.66 J	197.19 J	8.594 J	26.61 J	23.052 J	30.72 J	0.21 J	21.72 J	286.1 J [344.3 J]	11.77 J
Total SVOCs	- -	- -	- -	- -	- -	- -	mg/kg	25.254 J	46.589 J	1409.5 J	55.14 J	0.68 J	29.93 J	525.5 J [369.49 J]	0.847 J	40.866 J	222.03 J	9.746 J	29.27 J	31.041 J	38.314 J	0.629 J	38.84 J	319.7 J [384.5 J]	12.983 J
Detected Inorganics																									
Aluminum	- -	- -	- -	- -	- -	- -	mg/kg	12,400 J	15,200 J	15,700 J	18,600 J	14,200 J	15,600 J	18,800 J [20,800 J]	18,000 J	16,100 J	13,700 J	6,210 J	9,630 J	14,600 J	15,100 J	16,800 J	15,300 J	16,900 J [17,000 J]	15,300 J
Antimony	- -	- -	- -	- -	- -	- -	mg/kg	0.86 J	1.3 J	3.1 J	1.2 J	0.71 J	1.2 J	1.8 J [1 J]	1.2 J	1.4 J	0.95 J	0.65 J	0.87 J	1.3 J	0.84 J	0.73 J	1.5 J	1.4 J [2.2 J]	R
Arsenic	8.2	70	- -	- -	- -	- -	mg/kg	9.8	18.8	55.2	15.3	7.1 J	17.6 J	59.9 J [12.5 J]	10.5 J	11.4 J	22 J	7 J	8.7 J	13.6 J	14.6 J	8.1 J	17.2 J	41.6 J [47.7 J]	13.6 J
Barium	- -	- -	- -	- -	- -	- -	mg/kg	63.4 J	157 J	319 J	70.6 J	37.5 J	184 J	293 J [64.3 J]	54.6 J	89.8 J	115 J	74.3 J	80.4 J	91.6	120	49.5	139	331 [362]	76.3
Beryllium	- -	- -	- -	- -	- -	- -	mg/kg	0.55 J	1.1	1.1	1.2	0.96	1.2	1.3 [1.4]	1.3	1.1	0.88	0.51	0.69	1	1.1	1.2	1.1	1.3 [1.3]	1
Cadmium	1.2	9.6	- -	- -	- -	- -	mg/kg	0.51 J	3.9	2.3	0.45 J	0.19 J	7.3	2.4 [0.35 J]	0.31 J	0.91	0.77	2.7	0.55 J	1.6	2.6	0.31 J	3.3	3.4 [3]	0.46 J
Calcium	- -	- -	- -	- -	- -	- -	mg/kg	3,940 J	5,800 J	6,040 J	3,130 J	3,100 J	4,940 J	5,390 J [5,820 J]	4,470 J	7,760 J	3,240 J	2,110 J	6,030 J	5,060 J	5,090 J	3,730 J	6,200 J	6,190 J [6,980 J]	3,050 J
Chromium	81	370	- -	- -	- -	- -	mg/kg	35.2 J	187 J	104 J	42.3 J	29.3 J	261 J	115 J [44.1 J]	38.2 J	82.3 J	44.9 J	100 J	41.6 J	76.7 J	110 J	36.3 J	191 J	101 J [120 J]	37.3 J
Cobalt	- -	- -	- -	- -	- -	- -	mg/kg	9.9 J	9.9	9.7	12.2	8.8	10.1	11.3 [13.8]	12.2	11	9	4.2	7.4	9.4	9.4	11	9.9	10.4 [11]	9.9
Copper	34	270	- -	- -	- -	- -	mg/kg	46.4	300	344	44.3	10.7 J	430 J	347 J [20.5 J]	16.1 J	130 J	92.8 J	157 J	69 J	148 J	211 J	14.7 J	300 J	365 J [400 J]	46.9 J
Cyanide	- -	- -	- -	- -	- -	- -	mg/kg	0.84 U	0.84 J	1.1 J	0.54 J	1.1 U	0.5 J	2.2 [0.76 J]	1.1 U	0.26 J	0.47 J	0.7 U	0.85 U	0.14 J	0.2 J	1.1 U	0.82 J	1.8 [2.2]	0.96 U
Iron	- -	- -	- -	- -	- -	- -	mg/kg	24,500 J	30,300 J	30,900 J	35,300 J	27,400 J	30,300 J	36,500 J [38,100 J]	33,000 J	29,900 J	25,500 J	12,500 J	19,600 J	29,200 J	30,300 J	30,100 J	31,000 J	32,300 J [34,100 J]	29,400 J
Lead	46.7	218	- -	- -	- -	- -	mg/kg	79.2	397	749	93	13.7 J	451 J	803 J [24.3 J]	16.4 J	185 J	219 J	162 J	111 J	194	253	14.4	353	471 [675]	123
Magnesium	- -	- -	- -	- -	- -	- -	mg/kg	8,080 J	8,440 J	8,530 J	9,610 J	6,890 J	8,200 J	9,720 J [11,700 J]	10,100 J	9,080 J	6,890 J	3,370 J	6,380 J	8,810 J	8,590 J	8,630 J	8,600 J	9,080 J [9,410 J]	8,130 J
Manganese	- -	- -	- -	- -	- -	- -	mg/kg	1,420 J	560 J	380 J	893 J	573 J	400 J	504 J [1,390 J]	1,350 J	912 J	493 J	162 J	414 J	431 J	447 J	1,050 J	600 J	422 J [436 J]	759 J
Mercury	0.15	0.71	- -	- -	- -	- -	mg/kg	0.42	3.1	7.8	0.79	0.01 J	3.4	8.4 [7.5]	0.095	1.4	3	0.24	0.79	1.5	2.6	0.066 U	3	5.7 [6.9]	1.1
Nickel	20.9	51.6	- -	- -	- -	- -	mg/kg	21.3 J	41.7 J	36.5 J	29.7 J	19	53.1	40.8 [28.1]	24.3	27.8	23	20.8	18.3	27.8 J	31.6 J	22.4 J	41.5 J	44.2 J [45.5 J]	23.2 J
Potassium	- -	- -	- -	- -	- -	- -	mg/kg	3,750 J	4,140 J	4,300 J	4,790 J	3,600 J	4,190 J	5,150 J [6,000 J]	5,350 J	4,430 J	3,360 J	1,710 J	2,930 J	3,820 J	3,950 J	4,800 J	4,160 J	4,680 J [4,760 J]	3,960 J
Selenium	- -	- -	- -	- -	- -	- -	mg/kg	4.7 U	5.4 U	2.5 J	5.6 U	3.9 U	4.7 U	1.8 J [5.6 U]	5.7 U	5.1 U	3.8 U	2.7 U	4 U	5.9 U	1.3 J	5.2 U	5.5 U	2.9 J [6.2 U]	4.1 U
Silver	1	3.7	- -	- -	- -	- -	mg/kg	0.45 J	8.7	6.2	1.3 U	1.1 UJ	13.8 J	5.6 J [1.6 UJ]	1.6 UJ	3.9 J	1.2 J	5.2 J	1.8 J	3.8 J	7 J	1.5 UJ	9.2 J	8.7 J [10.2 J]	0.16 J
Sodium	- -	- -	- -	- -	- -	- -	mg/kg	5,930 J	12,400 J	11,300 J	8,960 J	4,110 J	11,900 J	12,900 J [10,900 J]	9,700 J	12,800 J	7,180 J	4,950 J	6,190 J	11,600 J	11,000 J	5,810 J	14,000 J	11,800 J [12,500 J]	7,320 J
Thallium	- -	- -	- -	- -	- -	- -	mg/kg	2.7 UJ	3.9 UJ	4.4 UJ	4 UJ	2.8 U	0.64 J	5.1 U [4 U]	4.1 U	3.7 U	0.63 J	0.33 J	2.9 U	4.2 U	3.2 U	3.7 U	3.9 U	3.6 U [4.4 U]	2.9 U
Vanadium	- -	- -	- -	- -	- -	- -	mg/kg	36.1 J	50.4 J	47.8 J	44.8 J	39.2 J	72.1 J	56.4 J [57.7 J]	50.8 J	45.8 J	35 J	27.7 J	27.7 J	40.9 J	41.6 J	47.4 J	53.5 J	55.6 J [55.5 J]	39.4 J
Zinc	150	410	- -	- -	- -	- -	mg/kg	101 J	320 J	574 J	130 J	64 J	477 J	554 J [92.2 J]	75.7 J	216 J	202 J	187 J	131 J	311 J	331 J	70.8 J	347 J	611 J [664 J]	132 J
Detected Miscellaneous																									
Percent Solids	- -	- -	- -	- -	- -	- -	%	59.4	38.2	41.5	47.8	47.5	39.4	40.5 [39.1]	46.6	36.4	47.6	69.5	57.5	40.1	43.8	44	34.5	40.9 [39.9]	51.9
Total Organic Carbon	- -	- -	- -	- -	- -	- -	mg/kg	15,400	46,900	86,900	25,900	23,300	72,100	63,500 [73,800]	16,100	41,800	41,200	5,000	20,500	52,800	53,900	23,100	53,200	67,000 [80,600]	23,400

See notes on page 15

Table 5-1
Summary of Sediment Sample Analytical Results

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Notes:
Constituents detected above ER-L are highlighted blue.
Constituents detected above ER-M are highlighted green.
Constituents detected above HH-B, BAL-A, BAL-C, and/or WB are highlighted yellow
Total PAHs were screened against the total PAH background value of 70 mg/kg established by AECOM (2009). Total PAH values greater than mg/kg are highlighted red.
1. Samples that were not detected are reported at the reporting limit
2. Qualifiers are as follows:

J	=	Result is less than the reporting limit but greater than or equal to the method detection limit
ND	=	None detected. This applies to summations were there were no detects for all individual constituents
R	=	The value was rejected during data validation.
U	=	The compound was analyzed for but not detected. The associated value is the reporting limit
D	=	Sample results are obtained from a dilution.
B	=	Compound was found in the blank and sample.
H	=	Sample was prepped or analyzed beyond the specified holding time

3. ER-L and ER-M from Tables 3 and 4 of the NYDEC (1999) Technical Guidance for Screening Contaminated Sediments.
4. HH-B, BAL-A, BAL-C, and WB from Table 1 of the NYDEC (1999) Technical Guidance for Screening Contaminated Sediments. They are recorded in micrograms per gram of organic carbon (µg/gOC).
5. Results for duplicate samples are presented in brackets.
6. Sample depths have been adjusted to reflect the percent recovery of the sample cores, except at location SD-07B and SD-09.

BTEX	=	benzene, toluene, ethylbenzene, and xylene
mg/kg	=	milligrams per kilogram
NYSDEC	=	New York State Department of Environmental Conservation
PAH	=	polycyclic aromatic hydrocarbons
VOC	=	volatile organic compounds
SVOCs	=	semivolatile organic compounds
Total PAHs	=	the summation of the 17 Target Analyte List PAHs; non-detects were taken as zero
Total VOCs	=	the summation of all detected VOCs; non-detects were taken as zero
Total SVOCs	=	the summation of all detected SVOCs; non-detects were taken as zero
Total BTEX	=	the summation of detected values for benzene, toluene, ethylbenzene and xylenes; non-detects were taken as zero
HH-B	=	Human Health Bioaccumulation
BAL-A	=	Benthic Aquatic Life Acute Toxicity
BAL-C	=	Benthic Aquatic Life Chronic Toxicity
WB	=	Wildlife Bioaccumulation
ER-L	=	Effects Range Low
ER-M	=	Effects Range Median

Table 5-2
Summary of Sediment Sample Analytical Statistics

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Location ID: / Sample Depth(feet): / Date Collected:	Units	Detection Frequency	Detect Count	Result Count	Detection Frequency (%)	Minimum Detect	Maximum Detect	Max Detect Location	Minimum Non-Detect	Maximum Non-Detect	Median Value	Arithmetic Average	Geometric Mean	Standard Deviation	ER-L Exceedance Count	ER-M Exceedance Count	HH-B / BAL-A / BAL-C / WB / TPAH Exceedance Count
Detected Volatile Organics																	
1,2,4-Trichlorobenzene	mg/kg	3/83	3	83	3.61	0.00061	0.004	SD-46	0.00025	0.23	0.00550	0.0120	0.00394	0.0350	0/83	0/83	0/83
1,2-Dibromo-3-chloropropane	mg/kg	1/83	1	83	1.20	0.0018	0.0018	SD-10	0.0022	0.23	0.00650	0.0134	0.00657	0.0346	0/83	0/83	0/83
1,2-Dichloroethene (total)	mg/kg	1/125	1	125	0.800	0.0015	0.0015	SD-12	0.0022	0.23	0.00700	0.0114	0.00677	0.0283	0/125	0/125	1/125
1,4-Dichlorobenzene	mg/kg	3/83	3	83	3.61	0.0022	0.15	SD-40	0.0022	0.23	0.00650	0.0132	0.00663	0.0342	0/83	0/83	0/83
2-Butanone	mg/kg	95/125	95	125	76.0	0.0075	0.67	SD-33	0.0022	1.15	0.0730	0.124	0.0505	0.170	0/125	0/125	0/125
2-Hexanone	mg/kg	1/125	1	125	0.800	1.5	1.5	SD-01C	0.0022	1.15	0.00700	0.0368	0.00725	0.182	0/125	0/125	0/125
4-Methyl-2-pentanone	mg/kg	1/125	1	125	0.800	0.0011	0.0011	SD-09	0.0022	1.15	0.00700	0.0312	0.00716	0.143	0/125	0/125	0/125
Acetone	mg/kg	116/125	116	125	92.8	0.021	3.1	SD-33	0.0033	0.9	0.300	0.447	0.243	0.473	0/125	0/125	0/125
Benzene	mg/kg	48/125	48	125	38.4	0.00099	0.12	SD-75	0.0022	0.18	0.00600	0.00969	0.00587	0.0198	0/125	0/125	0/125
Carbon Disulfide	mg/kg	123/125	123	125	98.4	0.00041	3.8	SD-75	0.0022	0.00265	0.0250	0.105	0.0235	0.487	0/125	0/125	0/125
Chlorobenzene	mg/kg	7/125	7	125	5.60	0.00082	0.0032	SD-23	0.0022	0.23	0.00650	0.0111	0.00625	0.0284	0/125	0/125	0/125
Chloromethane	mg/kg	3/125	3	125	2.40	0.00086	0.0014	SD-13	0.0022	0.23	0.00700	0.0113	0.00657	0.0283	0/125	0/125	0/125
cis-1,2-Dichloroethene	mg/kg	1/125	1	125	0.800	0.0015	0.0015	SD-12	0.0022	0.23	0.00700	0.0114	0.00677	0.0283	0/125	0/125	0/125
Cyclohexane	mg/kg	15/125	15	125	12.0	0.003	0.011	SD-24	0.0022	0.23	0.00650	0.0113	0.00672	0.0283	0/125	0/125	0/125
Ethylbenzene	mg/kg	56/125	56	125	44.8	0.00023	2.5	SD-75	0.000125	0.18	0.00550	0.0492	0.00464	0.254	0/125	0/125	0/125
Isopropylbenzene	mg/kg	64/109	64	109	58.7	0.00049	1.2	SD-75	0.0022	0.18	0.00440	0.0268	0.00512	0.122	0/109	0/109	0/109
Methyl acetate	mg/kg	34/125	34	125	27.2	0.0019	2.6	SD-73,SD-75	0.0022	0.0115	0.00650	0.0750	0.00746	0.394	0/125	0/125	0/125
Methylcyclohexane	mg/kg	76/125	76	125	60.8	0.00041	0.22	SD-73	0.0022	0.18	0.00480	0.0110	0.00506	0.0272	0/125	0/125	0/125
Methylene Chloride	mg/kg	1/125	1	125	0.800	0.0017	0.0017	SD-09	0.0006	0.23	0.00700	0.0114	0.00673	0.0283	0/125	0/125	0/125
Styrene	mg/kg	2/125	2	125	1.60	0.00016	0.00042	SD-09	0.0022	0.23	0.00700	0.0114	0.00657	0.0283	0/125	0/125	0/125
Toluene	mg/kg	103/125	103	125	82.4	0.00014	0.28	SD-75	0.000135	0.18	0.00100	0.00729	0.00142	0.0300	0/125	0/125	0/125
Trichlorofluoromethane	mg/kg	1/125	1	125	0.800	0.001	0.001	SD-09	0.0022	0.23	0.00700	0.0114	0.00680	0.0283	0/125	0/125	0/125
Vinyl Chloride	mg/kg	2/125	2	125	1.60	0.00067	0.003	SD-09	0.0022	0.23	0.00700	0.0114	0.00681	0.0283	0/125	0/125	0/125
Xylenes (total)	mg/kg	84/125	84	125	67.2	0.00029	2.8	SD-75	0.0022	0.18	0.00395	0.0444	0.00471	0.257	0/125	0/125	0/125
Total BTEX	mg/kg	114/125	114	125	91.2	0.00014	5.7	SD-75			0.00344	0.106	0.00490	0.572	0/125	0/125	0/125
Total VOCs	mg/kg	124/125	124	125	99.2	0.00041	13.41	SD-75			0.423	0.848	0.346	1.66	0/125	0/125	0/125
Detected Semivolatile Organics																	
1,1'-Biphenyl	mg/kg	40/125	40	125	32.0	0.033	17	SD-75	0.18	4	0.550	1.05	0.493	1.97	0/125	0/125	0/125
1-Methylnaphthalene	mg/kg	103/125	103	125	82.4	0.033	120	SD-75	0.18	1.45	0.175	3.39	0.303	13.2	0/125	0/125	0/125
2-Methylnaphthalene	mg/kg	103/125	103	125	82.4	0.033	180	SD-75	0.18	1	0.210	4.36	0.344	18.8	101/125	21/125	0/125
2-Nitrophenol	mg/kg	1/125	1	125	0.800	0.27	0.27	SD-05	0.18	16	0.750	1.55	0.813	2.72	0/125	0/125	0/125
4-Chloroaniline	mg/kg	18/125	18	125	14.4	0.088	0.84	SD-46	0.18	16	0.600	1.47	0.714	2.74	0/125	0/125	0/125
Acenaphthene	mg/kg	106/125	106	125	84.8	0.045	83	SD-75	0.18	1	0.270	3.14	0.421	10.6	106/125	28/125	0/125
Acenaphthylene	mg/kg	104/125	104	125	83.2	0.037	7.6	SD-09	0.18	15	0.300	0.752	0.344	1.70	103/125	23/125	0/125
Acetophenone	mg/kg	6/119	6	119	5.04	0.021	0.43	SD-12	0.019	16	0.750	1.56	0.669	2.79	0/119	0/119	0/119
Anthracene	mg/kg	108/125	108	125	86.4	0.043	86	SD-75	0.18	0.375	0.610	3.92	0.846	11.2	107/125	29/125	0/125
Azobenzene	mg/kg	3/125	3	125	2.40	0.32	0.48	SD-24	0.18	16	0.750	1.55	0.811	2.72	0/125	0/125	3/125
Benzaldehyde	mg/kg	19/119	19	119	16.0	0.025	0.79	SD-12	0.0165	16	0.650	1.48	0.473	2.82	0/119	0/119	0/119
Benzo(a)anthracene	mg/kg	111/125	111	125	88.8	0.017	51	SD-75	0.18	0.375	2.00	4.45	1.83	7.80	106/125	81/125	0/125
Benzo(a)pyrene	mg/kg	112/125	112	125	89.6	0.016	41	SD-75	0.18	0.375	2.40	4.10	1.92	6.17	103/125	91/125	0/125
Benzo(b)fluoranthene	mg/kg	108/125	108	125	86.4	0.027	24	SD-75	0.18	0.375	2.20	3.27	1.82	4.04	0/125	0/125	108/125
Benzo(g,h,i)perylene	mg/kg	110/125	110	125	88.0	0.03	19	SD-75	0.18	0.345	0.880	1.53	0.839	2.37	0/125	0/125	0/125
Benzo(k)fluoranthene	mg/kg	108/125	108	125	86.4	0.035	21	SD-75	0.18	0.375	1.80	3.08	1.68	3.95	0/125	0/125	0/125
Benzo[e]pyrene	mg/kg	109/125	109	125	87.2	0.025	21	SD-75	0.18	0.375	1.60	2.60	1.44	3.36	0/125	0/125	0/125
Benzoic Acid	mg/kg	8/124	8	124	6.45	0.13	0.34	SD-78	0.45	40	1.90	3.84	1.85	6.83	0/124	0/124	0/124
Benzyl Alcohol	mg/kg	2/125	2	125	1.60	0.09	0.11	SD-40	0.18	16	0.750	1.55	0.802	2.72	0/125	0/125	0/125
bis(2-Ethylhexyl)phthalate	mg/kg	86/125	86	125	68.8	0.027	17	SD-06	0.012	16	4.70	5.23	1.77	4.46	0/125	0/125	0/125
Butylbenzylphthalate	mg/kg	40/125	40	125	32.0	0.026	18	SD-68	0.0185	16	0.240	1.36	0.319	3.19	0/125	0/125	0/125
Caprolactam	mg/kg	1/118	1	118	0.847	0.25	0.25	SD-05	0.18	16	0.775	1.61	0.836	2.78	0/118	0/118	0/118
Carbazole	mg/kg	45/125	45	125	36.0	0.025	9.4	SD-07B	0.18	16	0.400	1.29	0.457	2.55	0/125	0/125	0/125
Chrysene	mg/kg	110/125	110	125	88.0	0.029	62	SD-75	0.18	0.375	2.50	5.20	2.18	9.11	105/125	46/125	0/125
Dibenzo(a,h)anthracene	mg/kg	106/125	106	125	84.8	0.029	4.7	SD-75	0.18	15	0.300	0.623	0.344	1.46	103/125	69/125	0/125
Dibenzofuran	mg/kg	47/125	47	125	37.6	0.033	40	SD-07B	0.18	4	0.520	1.08	0.459	3.64	0/125	0/125	0/125
Diethylphthalate	mg/kg	4/125	4	125	3.20	0.07	0.38	SD-05	0.18	16	0.750	1.54	0.773	2.72	0/125	0/125	0/125
Dimethylphthalate	mg/kg	1/125	1	125	0.800	0.085	0.085	SD-25	0.18	16	0.750	1.55	0.805	2.72	0/125	0/125	0/125
Di-n-Butylphthalate	mg/kg	70/125	70	125	56.0	0.021	0.54	SD-04	0.18	16	0.225	1.20	0.317	2.82	0/125	0/125	0/125
Di-n-Octylphthalate	mg/kg	3/125	3	125	2.40	0.27	2.4	SD-05	0.18	16	0.750	1.56	0.809	2.72	0/125	0/125	0/125
Fluoranthene	mg/kg	111/125	111	125	88.8	0.024	85	SD-75	0.18	0.375	3.10	7.92	2.77	14.8	104/125	32/125	0/125
Fluorene	mg/kg	101/125	101	125	80.8	0.04	61	SD-75	0.18	1.55	0.210	2.46	0.352	8.05	101/125	26/125	0/125
Indeno(1,2,3-cd)pyrene	mg/kg	108/125	108	125	86.4	0.029	15	SD-75	0.18	0.375	0.710	1.27	0.732	1.92	0/125	0/125	108/125
Naphthalene	mg/kg	105/125	105	125	84.0	0.035	90	SD-75	0.18	1	0.240	2.76	0.397	10.3	80/125	15/125	0/125
N-Nitrosodimethylamine	mg/kg	1/125	1	125	0.800	12	12	SD-05	0.18	16	0.750	1.65	0.838	2.87	0/125	0/125	0/125
N-Nitroso-di-n-propylamine	mg/kg	1/125	1	125	0.800	1.1	1.1	SD-05	0.18	16	0.750	1.56	0.822	2.71	0/125	0/125	0/125
Perylene	mg/kg	117/125	117	125	93.6	0.029	7.6	SD-75	0.18	0.345	0.570	0.900	0.553	1.13	0/125	0/125	0/125
Phenanthrene	mg/kg	110/125	110	125	88.0	0.024	250	SD-75	0.18	0.375	1.10	11.4	1.54	34.5	105/125	43/125	0/125
Phenol	mg/kg	1/125	1	125	0.800	0.12	0.12	SD-62	0.18	16	0.750	1.55	0.811	2.72	0/125	0/125	0/125
Pyrene	mg/kg	112/125	112	125	89.6	0.028	160	SD-75	0.18	0.375	3.80	10.4	3.40	21.6	105/125	93/125	0/125
Total PAHs	mg/kg	115/125	115	125	92.0	0.024	1239.4	SD-75			23.6	85.759238	23.1	166	105/125	27/125	17/125
Total SVOCs	mg/kg	122/125	122	125	9.8E+01	0.027	1409.5	SD-75			34.475	85.76	23.58	181.11	0/125	0/125	0/125
Detected Inorganics																	
Aluminum	mg/kg	125/125	125	125	100	2430	41300	SD-67			15300	14600	13700	4540	0/125	0/125	0/125
Antimony	mg/kg	55/96	55	96	57.3	0.59	3.1	SD-75	1.85	6.75	1.55	2.66	2.03	1.90	0/96	0/96	0/96
Arsenic	mg/kg	125/125	125	125	100	0.95	59.9	SD-77			14.6	15.9	13.0	9.41	104/125	0/125	0/125
Barium	mg/kg	125/125	125	125	100	4.7	418	SD-67			133	137	109	82.7	0/125	0/125	0/125
Beryllium	mg/kg	125/125	125	125	100	0.14	2.3	SD-67			0.780	0.797	0.737	0.296	0/125	0/125	0/125
Cadmium	mg/kg	121/125	121	125	96.8	0.07	16.5	SD-67	0.16	0.465	2.80	3.47	1.90	3.08	84/125	4/125	0/125
Calcium	mg/kg	125/125	125	125	100	310	62000	SD-05			4990	6240	4800	7060	0/125	0/125	0/125
Chromium	mg/kg	125/125	125	125	100	9.4	560	SD-67			124	131	96.4	90.8	84/125	2/125	0/125
Cobalt	mg/kg	125/125	125	125	100	2.1	26.2	SD-67			10.1	9.99	9.56	2.78	0/125	0/125	0/125
Copper	mg/kg	125/125	125	125	100	4.7	1130	SD-67			234	245	143	183	103/125	60/125	0/125
Cyanide	mg/kg	81/125	81	125	64.8	0.097	7.9	SD-17	0.0295	0.7	0.620	1.22	0.712	1.41	0/125	0/125	0/125
Iron	mg/kg	125/125	125	125	100	7110	80300	SD-67			30400	30300	28800	8980	0/125	0/125	0/125
Lead	mg/kg	125/125	125	125	100	2.5	863	SD-67			284	282	169	184	104/125	81/125	0/125
Magnesium	mg/kg	125/125	125	125	100	1040	21300	SD-67			8150	7890	7340	2590	0/125	0/125	0/125
Manganese	mg/kg	125/125	125	125	100	41.1	1420	SD-74			431	470	420	218	0/125	0/125	0/125
Mercury	mg/kg	112/125	112	125	89.6	0.0056	9	SD-06	0.00115	0.034	2.20	2.26	0.982	1.86	105/125	97/125	0/125
Nickel	mg/kg	125/125	125	125	100	7.9	139	SD-67			36.0	37.2	33.5	17.3	103/125	19/125	0/125
Potassium	mg/kg	125/125	125	125	100	397	12900	SD-73			4000	3900	3600	1460	0/125	0/125	0/125
Selenium	mg/kg	10/125	10	125	8.00	1.3	2.9	SD-81	1.05	6.9	2.65	2.60	2.47	0.829	0/125	0/125	0/125
Silver	mg/kg	101/125	101	125	80.8	0.16	32.7	SD-67	0.305	0.95	6.70	6.50	3.77	5.26	95/125	84/125	0/125
Sodium	mg/kg	125/125	125	125	100	204	29100	SD-67			10200	9460	7810	4650	0/125	0/125	0/125
Thallium	mg/kg	22/125	22	125	17.6	0.33	1.7	SD-13	0.75	3.25	1.85	1.73	1.58	0.646	0/125	0/125	0/125
Vanadium	mg/kg	125/125	125	125	100	10.7	162	SD-67			48.1	50.4	46.3	20.4	0/125	0/125	0/125
Zinc	mg/kg	125/125	125	125	100	11.3	3690	SD-25			326	347	246	354	96/125	41/125	0/125
Detected Miscellaneous																	
Percent Solids	%	125/125	125	125	100	29.9	91.5	SD-30B			42.2	46.3	44.9	12.9	0/125	0/125	0/125
Total Organic Carbon	mg/kg	121/125	121	125	96.8	492	175000	SD-71	257	383.5	52800	49800	36000	27300	0/125	0/125	0/125

See Notes on Page 2

Table 5-2
Summary of Sediment Sample Analytical Statistics

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

Notes:

1. Samples that were not detected are reported at the reporting limit.
2. ER-L and ER-M from Tables 3 and 4 of the NYDEC (1999) Technical Guidance for Screening Contaminated Sediments.

3. HH-B, BAL-A, BAL-C, and WB from Table 1 of the NYDEC (1999) Technical Guidance for Screening Contaminated Sediments. They are recorded in Table 1 in micrograms per gram of organic carbon (µg/gOC).
4. Total PAH screening criteria of 70 mg/kg from AECOM (2009) Evaluation of Background Constituent Levels in Sediment, East 21st St. Works Site.
5. Statistics for each detected constituent are shown.

BTEX	=	benzene, toluene, ethylbenzene, and xylene
mg/kg	=	milligrams per kilogram
NYSDEC	=	New York State Department of Environmental Conservation
PAH	=	polycyclic aromatic hydrocarbons
VOC	=	volatile organic compounds
Total PAHs	=	the summation of the 17 Target Analyte List PAHs; non-detects were taken as zero
Total VOCs	=	the summation of all detected VOCs; non-detects were taken as zero
Total SVOCs	=	the summation of all detected SVOCs; non-detects were taken as zero
Total BTEX	=	the summation of detected values for benzene, toluene, ethylbenzene and xylenes; non-detects were taken as zero
HH-B	=	Human Health Bioaccumulation
BAL-A	=	Benthic Aquatic Life Acute Toxicity
BAL-C	=	Benthic Aquatic Life Chronic Toxicity
WB	=	Wildlife Bioaccumulation
ER-L	=	Effects Range Low
ER-M	=	Effects Range Median

Table 5-3
Summary of Sediment Sample Analytical Statistics for ER-M and Background Exceedances

Consolidated Edison Company of New York, Inc.
Hunts Point Former MGP
Bronx, New York

		ER-M Exceedances						Background Exceedances					
		Northern Area		Central Area		Southern Area		Northern Area		Central Area		Southern Area	
Sample Depth		Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface
(feet bss):	Units	(0-2)	(2-22)	(0-2)	(2-22)	(0-2)	(2-22)	(0-2)	(2-22)	(0-2)	(2-22)	(0-2)	(2-22)
Total PAHs	mg/kg	33%	3%	33%	27%	25%	41%	0%	2.5%	27%	16%	12.5%	25%
Copper	mg/kg	40%	45%	27%	63%	63%	42%	--	--	--	--	--	--
Lead	mg/kg	83%	60%	60%	72%	75%	50%	0%	5%	13%	12.5%	25%	29%
Mercury	mg/kg	100%	68%	87%	75%	100%	75%	50%	40%	33%	63%	38%	42%
Nickel	mg/kg	0%	18%	20%	19%	13%	8%	--	--	--	--	--	--
Silver	mg/kg	83%	65%	67%	72%	88%	50%	75%	35%	20%	50%	33%	25%
Zinc	mg/kg	0%	35%	27%	44%	25%	33%	0%	0%	13%	0%	0%	0%

Notes:
1. Percentage of sediment samples exceeding the ER-M and background values, based on investigation area, are provided herein.
% = percent
bss = below sediment surface
ER-M = Effects Range Median
mg/kg = milligrams per kilogram

Table 6-1
Summary of Forensic PAH and TPH Results

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Location ID: Sample Depth (feet): Lab ID: Date Collected:	Units	SD-20B 2.5 - 3.5 L1307780-02 11/27/12	SD-34 7.5 - 8.5 L1307780-01 12/13/12	SD-14B 4.3 - 5.3 L1307780-03 11/30/12	SD-12 4.6 - 5.6 L1307780-04 12/04/12	SD-11B 6.1 - 7.1 L1307780-18 11/29/12	SD-71 11.5 - 12.5 L1307780-19 01/11/13	SD-09 0.5 - 1.3 L1307780-17 11/27/12	SD-27 3.5 - 4.5 L1307780-07 12/12/12	SD-27-DUP 3.5 - 4.5 L1307780-16 12/12/12
cis/trans Decalin	mg/kg	0.0344	0.113	0.175	0.142	0.195	0.667	0.0365	0.115	0.119
C1-Decalins	mg/kg	0.161	0.491	0.716	0.641	0.735	2.21	0.067	0.411	0.44
C2-Decalins	mg/kg	0.491	1.15	1.49	1.5	1.52	3.98	0.157	0.825	0.889
C3-Decalins	mg/kg	0.638	1.35	1.74	1.76	1.52	3.24	0.183	0.98	0.973
C4-Decalins	mg/kg	1.28	2.74	3.92	3.87	3.37	3.62	0.382	2.18	2.18
Naphthalene	mg/kg	0.463	1.23	0.981	1.15	1.2	16.2	33.2	0.898	0.971
C1-Naphthalenes	mg/kg	0.36	0.793	0.727	0.835	0.75	39.2	6.08	0.732	0.755
C2-Naphthalenes	mg/kg	0.472	1.19	1.27	1.36	1.33	47.3	4.06	1.28	1.19
C3-Naphthalenes	mg/kg	0.384	1.45	1.75	1.7	1.84	23.8	2.06	1.62	1.53
C4-Naphthalenes	mg/kg	0.442	1.69	2.12	2.02	2.26	8.83	0.973	1.67	1.68
1,1'-Biphenyl	mg/kg	0.103	0.194	0.182	0.215	0.199	4.58	1.9	0.183	0.194
Dibenzofuran	mg/kg	0.096	0.24	0.166	0.21	0.235	2.08	10.3	0.254	0.34
Carbazole	mg/kg	0.0666	0.133	0.127	0.15	0.233	0.628	4.7	0.175	0.41
Acenaphthylene	mg/kg	0.753	1.04	0.932	1.29	1.2	14.5	9.79	1.21	1.18
Acenaphthene	mg/kg	0.181	0.471	0.492	0.479	0.421	21.4	6.24	0.581	0.691
Fluorene	mg/kg	0.183	0.489	0.386	0.442	0.53	19.3	12.6	0.712	0.76
C1-Fluorenes	mg/kg	0.268	0.584	0.615	0.676	0.728	16.6	2.19	0.691	0.673
C2-Fluorenes	mg/kg	0.585	1.29	1.43	1.52	1.62	12.4	1.25	1.3	1.32
C3-Fluorenes	mg/kg	0.905	1.57	1.74	1.85	2.11	6.76	1.09	1.47	1.62
Anthracene	mg/kg	0.93	1.52	1.34	1.69	1.68	40.4	16.6	2.3	2.27
Phenanthrene	mg/kg	1.09	2.06	1.9	2.25	2.62	80.4	46	3.3	4.72
C1-Phenanthrenes/Anthracenes	mg/kg	1.45	2.78	2.79	3.27	3.59	87.9	11	3.64	3.75
C2-Phenanthrenes/Anthracenes	mg/kg	1.72	3.51	3.76	4.19	4.68	43.1	4.79	3.66	3.85
C3-Phenanthrenes/Anthracenes	mg/kg	1.38	2.44	2.72	2.98	3.3	14.7	2.07	2.26	2.39
C4-Phenanthrenes/Anthracenes	mg/kg	0.894	1.48	1.83	1.99	1.78	5.4	0.884	1.39	1.63
Dibenzothiophene	mg/kg	0.164	0.366	0.389	0.416	0.368	9.76	3.47	0.45	0.492
C1-Dibenzothiophenes	mg/kg	0.388	0.81	1.01	1.04	0.889	16.3	1.52	0.916	0.921
C2-Dibenzothiophenes	mg/kg	0.727	1.5	1.7	1.77	1.85	14.6	1.19	1.5	1.49
C3-Dibenzothiophenes	mg/kg	0.961	1.53	1.79	1.88	1.94	7.79	0.954	1.52	1.58
C4-Dibenzothiophenes	mg/kg	0.589	0.875	0.95	1.01	1.21	3.05	0.462	0.912	0.834
Fluoranthene	mg/kg	2.54	4.13	3.28	4.13	5.33	48.4	39	4.98	7.68
Pyrene	mg/kg	3.47	5.16	4.36	5.44	6.14	68.3	31	5.76	7.86
C1-Fluoranthenes/Pyrenes	mg/kg	4.06	5.77	5.05	6.64	6.2	94.2	18.6	7.01	7.47
C2-Fluoranthenes/Pyrenes	mg/kg	1.99	2.79	2.62	3.4	3.44	30	5.28	2.89	3.26
C3-Fluoranthenes/Pyrenes	mg/kg	1.11	1.65	1.76	2.1	2.12	9.9	2.22	1.61	1.84
C4-Fluoranthenes/Pyrenes	mg/kg	0.81	1.11	1.25	1.47	1.4	4.14	1.53	1.1	1.23
Benzo(b)fluorene	mg/kg	0.715	0.87	0.774	1.14	1.14	16.7	5.39	1.8	1.54
Naphthobenzothiophene	mg/kg	0.593	0.84	0.909	1.05	1.04	9.65	3.17	1.22	1.17
C1-Naphthobenzothiophenes	mg/kg	0.782	1.06	1.26	1.41	1.33	9.08	1.7	1.18	1.21
C2-Naphthobenzothiophenes	mg/kg	0.737	0.992	1.23	1.35	1.26	4.91	1.05	1.04	1.1
C3-Naphthobenzothiophenes	mg/kg	0.509	0.628	0.81	0.879	0.92	2.62	0.749	0.673	0.763
C4-Naphthobenzothiophenes	mg/kg	0.463	0.527	0.776	0.764	0.631	1.12	0.396	0.596	0.654

See notes on page 5

Table 6-1
Summary of Forensic PAH and TPH Results

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Location ID: Sample Depth (feet): Lab ID: Date Collected:	Units	SD-20B 2.5 - 3.5 L1307780-02 11/27/12	SD-34 7.5 - 8.5 L1307780-01 12/13/12	SD-14B 4.3 - 5.3 L1307780-03 11/30/12	SD-12 4.6 - 5.6 L1307780-04 12/04/12	SD-11B 6.1 - 7.1 L1307780-18 11/29/12	SD-71 11.5 - 12.5 L1307780-19 01/11/13	SD-09 0.5 - 1.3 L1307780-17 11/27/12	SD-27 3.5 - 4.5 L1307780-07 12/12/12	SD-27-DUP 3.5 - 4.5 L1307780-16 12/12/12
Benz(a)anthracene	mg/kg	2.16	3.52	2.87	3.83	3.67	39.7	14.2	4.64	5.2
Chrysene/Triphenylene	mg/kg	2.36	3.91	3.2	4.2	4.24	37.4	11.8	6.19	5.12
C1-Chrysenes	mg/kg	2.77	3.84	3.44	4.47	3.57	33	6.65	3.93	3.98
C2-Chrysenes	mg/kg	1.77	2.47	2.4	2.9	2.34	14.1	2.88	2.27	2.24
C3-Chrysenes	mg/kg	1.13	1.64	1.64	2.03	1.7	6.56	2.04	1.47	1.6
C4-Chrysenes	mg/kg	0.576	0.776	0.874	0.999	0.939	2.02	0.849	0.7	0.782
Benzo(b)fluoranthene	mg/kg	2.08	2.73	2.41	3.3	3.34	15.4	12.2	2.81	3.72
Benzo(k,j)fluoranthene	mg/kg	2.32	2.92	2.45	2.98	2.92	22	13.5	3.25	4.52
Benzo(a)fluoranthene	mg/kg	0.733	0.968	0.862	1.19	1.01	10.2	4.02	1.15	1.43
Benzo(e)pyrene	mg/kg	2.03	2.64	2.26	2.88	2.78	16	9.2	2.56	3.3
Benzo(a)pyrene	mg/kg	3.09	4.01	3.47	4.6	4.08	33.7	13.7	4.43	5.8
Perylene	mg/kg	0.736	0.903	0.835	1.01	0.994	5.36	3.81	0.92	1.25
Indeno(1,2,3-c,d)pyrene	mg/kg	1.64	2.02	1.76	2.32	2.13	12.6	9.33	2.07	3.02
Dibenz(a,h)+(a,c)anthracene	mg/kg	0.508	0.617	0.558	0.749	0.687	4.29	3.09	0.67	0.9
Benzo(g,h,i)perylene	mg/kg	1.76	2.24	1.94	2.51	2.24	11.9	8.43	2.15	2.91
1-Methylnaphthalene	mg/kg	0.168	0.385	0.407	0.438	0.372	23.7	4.06	0.394	0.394
2-Methylnaphthalene	mg/kg	0.374	0.811	0.69	0.818	0.759	35.7	5.17	0.713	0.741
2,6-Dimethylnaphthalene	mg/kg	0.253	0.592	0.627	0.673	0.668	19.2	1.79	0.568	0.536
2,3,5-Trimethylnaphthalene	mg/kg	0.0318	0.194	0.172	0.173	0.196	2.99	0.254	0.204	0.152
4-Methyldibenzothiophene	mg/kg	0.138	0.342	0.404	0.422	0.386	6.56	0.454	0.378	0.359
2/3-Methyldibenzothiophene(2MDT)	mg/kg	0.158	0.283	0.406	0.405	0.32	5.93	0.665	0.335	0.364
1-Methyldibenzothiophene(1MDT)	mg/kg	0.0433	0.0912	0.0971	0.101	0.105	1.76	0.159	0.0978	0.0915
3-Methylphenanthrene	mg/kg	0.282	0.594	0.609	0.701	0.845	19.2	2.64	0.766	0.838
2-Methylphenanthrene	mg/kg	0.236	0.482	0.513	0.581	0.657	20	3.07	0.636	0.731
2-Methylanthracene	mg/kg	0.292	0.496	0.434	0.56	0.572	14	1.52	0.772	0.643
4/9-Methylphenanthrene	mg/kg	0.425	0.785	0.784	0.922	0.968	20.6	2.27	0.896	0.96
1-Methylphenanthrene (1MP)	mg/kg	0.17	0.357	0.385	0.463	0.541	13.3	1.43	0.514	0.545
Retene	mg/kg	0.423	1.21	1.24	1.51	1.4	5.14	0.403	1.32	1.6
Benzothiophene	mg/kg	0.0241	0.0652	0.0585	0.0693	0.069	0.352	1.79	0.045	0.0484
C1-Benzothiophenes	mg/kg	0.0479	0.0972	0.13	0.114	0.111	1.97	0.398	0.112	0.106
C2-Benzothiophenes	mg/kg	0.069	0.151	0.163	0.176	0.146	3.79	0.249	0.155	0.151
C3-Benzothiophenes	mg/kg	0.126	0.252	0.32	0.32	0.272	2.98	0.19	0.25	0.249
C4-Benzothiophenes	mg/kg	0.129	0.26	0.332	0.321	0.303	1.43	0.116	0.238	0.268
Total Petroleum Hydrocarbons (C9-C44)	mg/kg	4,890	5,860	8,520	8,110	6,960	10,400	2,280	5,940	5,680
Total PAHs	mg/kg	59	93	89	107	107	1,131	414	104	120
Total Priority Pollutant PAHs	mg/kg	26	39	33	42	43	522	286	47	58
%TPAH/TPH	%	1.2	1.6	1.0	1.3	1.5	10.9	18.2	1.8	2.1
%TPPPAH/TPAH	%	43.6	41.9	37.0	39.4	40.3	46.1	69.1	44.7	48.5
BaP TEQ	mg/kg	3.68	4.84	4.17	5.55	4.99	40.5	17.3	5.38	6.99
D2/P2		0.42	0.43	0.45	0.42	0.40	0.34	0.25	0.41	0.39
D3/P3		0.70	0.63	0.66	0.63	0.59	0.53	0.46	0.67	0.66

See notes on page 5

Table 6-1
Summary of Forensic PAH and TPH Results

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Location ID: Sample Depth (feet): Lab ID: Date Collected:	Units	SD-77 0 - 1 L1307780-08 01/16/13	SD-25 2.5 - 3.5 L1307780-06 12/12/12	SD-78 13.3 - 14.3 L1307780-05 01/16/13	SD-73 4 - 5 L1307780-15 01/14/13	SD-06 3 - 4 L1307780-12 12/04/12	SD-23 0 - 1 L1307780-11 12/06/12	SD-75 7.5 - 8.5 L1307780-10 01/14/13	SD-81 11.5 - 12.5 L1307780-20 01/18/13	SD-02B 5.7 - 6.7 L1307780-13 12/04/12
cis/trans Decalin	mg/kg	0.0956	0.165	0.158	0.238	0.0627	0.296	0.568	0.86	0.243
C1-Decalins	mg/kg	0.451	0.58	0.627	1.02	0.227	1.01	2.64	2.6	1.04
C2-Decalins	mg/kg	1.11	1.17	1.17	2.14	0.558	1.88	5.83	4.38	1.98
C3-Decalins	mg/kg	1.41	1.31	1.02	1.97	0.571	1.98	5.3	3.38	1.66
C4-Decalins	mg/kg	3.12	2.85	1.36	2.42	1.04	3.72	6.3	3.59	2.16
Naphthalene	mg/kg	0.7	0.572	9.04	20	0.402	16.1	73.6	17.8	6.89
C1-Naphthalenes	mg/kg	0.618	0.526	17.8	62.8	0.305	5.73	176	28	6.89
C2-Naphthalenes	mg/kg	1.1	1.03	32	77.7	0.704	6.52	172	34.3	8.23
C3-Naphthalenes	mg/kg	1.21	1.27	17.3	39.7	1.02	5.15	90.2	16.2	5.02
C4-Naphthalenes	mg/kg	1.49	1.45	6.67	12.1	1.04	4.01	25.6	6.21	2.81
1,1'-Biphenyl	mg/kg	0.173	0.142	3.1	9.39	0.079	1.2	27.5	3.57	1.34
Dibenzofuran	mg/kg	0.205	0.158	1.3	2.97	0.109	5.2	7.29	1.51	3.58
Carbazole	mg/kg	0.146	0.116	0.338	0.536	0.106	2.34	1.24	0.524	1.21
Acenaphthylene	mg/kg	1.38	0.924	3.23	11.7	0.834	3.91	25.7	8.46	3.32
Acenaphthene	mg/kg	0.438	0.375	10.7	37.7	0.323	11.2	86.6	15.6	7.1
Fluorene	mg/kg	0.407	0.361	9.81	27.5	0.285	8.91	59.6	12.2	8.08
C1-Fluorenes	mg/kg	0.688	0.508	11.2	28.3	0.453	2.89	64.6	10.7	3.59
C2-Fluorenes	mg/kg	1.42	1.03	9.37	18.2	0.884	3.17	38.2	8.47	2.92
C3-Fluorenes	mg/kg	1.71	1.29	5.27	8.97	0.996	2.73	18	4.98	2.18
Anthracene	mg/kg	1.76	1.36	15.6	49.9	1.18	12.4	102	26.1	11.9
Phenanthrene	mg/kg	1.93	1.91	35.7	119	1.82	31.1	246	42.9	24.2
C1-Phenanthrenes/Anthracenes	mg/kg	3.18	2.62	42.4	113	2.27	12.8	220	53.4	17
C2-Phenanthrenes/Anthracenes	mg/kg	3.95	2.98	30.4	56.4	2.67	9.06	111	28.8	10
C3-Phenanthrenes/Anthracenes	mg/kg	2.72	2	11.7	17.7	1.64	4.98	31.5	11.9	4.87
C4-Phenanthrenes/Anthracenes	mg/kg	1.56	1.3	4	5.42	1.03	3.03	9.12	5.92	3.07
Dibenzothiophene	mg/kg	0.38	0.286	4.49	16.8	0.224	2.77	46.6	6.25	2.63
C1-Dibenzothiophenes	mg/kg	0.913	0.695	8.11	26.6	0.558	3.51	69.3	10.8	3.72
C2-Dibenzothiophenes	mg/kg	1.74	1.17	8.34	21.7	0.889	4.15	52	10.6	4.05
C3-Dibenzothiophenes	mg/kg	1.86	1.24	5.07	10.8	0.886	3.36	23.6	6.64	3
C4-Dibenzothiophenes	mg/kg	1.01	0.67	2.12	3.72	0.496	1.56	7.64	3.09	1.66
Fluoranthene	mg/kg	3.97	3.02	17	49.7	3.14	24.8	97.8	25.6	17.5
Pyrene	mg/kg	5.34	4	25.2	75.4	3.91	23.1	152	35.2	17
C1-Fluoranthenes/Pyrenes	mg/kg	6.97	4.92	44.8	106	4.4	18.1	230	59.8	22.2
C2-Fluoranthenes/Pyrenes	mg/kg	3.4	2.32	18.6	34.2	2.1	6.3	69.2	21.6	7.83
C3-Fluoranthenes/Pyrenes	mg/kg	2.06	1.34	7.29	12.1	1.19	3.33	21.4	8.51	3.52
C4-Fluoranthenes/Pyrenes	mg/kg	1.33	0.946	2.78	4.45	0.763	2.03	8.21	3.73	1.99
Benzo(b)fluorene	mg/kg	1.09	0.96	6.94	17.5	0.784	4.42	38.2	9.96	4.68
Naphthobenzothiophene	mg/kg	1.02	0.709	4.25	11.5	0.635	2.83	27.1	6.72	2.81
C1-Naphthobenzothiophenes	mg/kg	1.39	0.879	4.9	12.2	0.751	2.78	27.2	7.53	3.03
C2-Naphthobenzothiophenes	mg/kg	1.29	0.829	2.76	6.3	0.75	2.26	13.1	4.54	2.17
C3-Naphthobenzothiophenes	mg/kg	0.878	0.538	1.23	3.01	0.545	1.42	6.37	2.68	1.34
C4-Naphthobenzothiophenes	mg/kg	0.695	0.51	0.487	1.22	0.473	0.823	2.63	1.23	0.741

See notes on page 5

Table 6-1
Summary of Forensic PAH and TPH Results

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Location ID: Sample Depth (feet): Lab ID: Date Collected:	Units	SD-77 0 - 1 L1307780-08 01/16/13	SD-25 2.5 - 3.5 L1307780-06 12/12/12	SD-78 13.3 - 14.3 L1307780-05 01/16/13	SD-73 4 - 5 L1307780-15 01/14/13	SD-06 3 - 4 L1307780-12 12/04/12	SD-23 0 - 1 L1307780-11 12/06/12	SD-75 7.5 - 8.5 L1307780-10 01/14/13	SD-81 11.5 - 12.5 L1307780-20 01/18/13	SD-02B 5.7 - 6.7 L1307780-13 12/04/12
Benz(a)anthracene	mg/kg	3.71	2.85	13.2	29.6	2.56	12.9	60.2	23.8	12.5
Chrysene/Triphenylene	mg/kg	3.9	3.16	13.1	27.7	2.7	12.1	55.2	22.6	11.6
C1-Chrysenes	mg/kg	4.28	2.96	18.6	32.8	2.58	8.06	60.6	21.6	9.64
C2-Chrysenes	mg/kg	2.78	1.84	8.86	14.5	1.55	4.36	25.3	10.4	4.76
C3-Chrysenes	mg/kg	1.93	1.21	4.2	6.55	0.971	2.99	11.4	5.16	2.89
C4-Chrysenes	mg/kg	0.904	0.66	1.37	1.96	0.468	1.19	3.61	1.79	1.18
Benzo(b)fluoranthene	mg/kg	2.74	1.98	6.77	15.3	2	8.6	26.3	10.2	7.06
Benzo(k,j)fluoranthene	mg/kg	3	2.32	7.78	16.7	2.19	9.58	36.2	13.1	8.55
Benzo(a)fluoranthene	mg/kg	1.25	0.836	4.01	9.07	0.81	3.57	17.9	6.14	3.2
Benzo(e)pyrene	mg/kg	2.7	1.94	7.51	14.9	1.87	7.21	29.4	10.3	6.29
Benzo(a)pyrene	mg/kg	4.49	3.25	11.2	27.2	3.1	13.4	54.8	20.6	12.2
Perylene	mg/kg	0.933	0.695	2.3	4.49	0.68	2.83	8.82	3.29	2.21
Indeno(1,2,3-c,d)pyrene	mg/kg	2.08	1.56	5.23	11.7	1.6	6.71	22.1	7.46	5.62
Dibenz(a,h)+(a,c)anthracene	mg/kg	0.674	0.51	2.06	4.56	0.489	2.22	8.38	2.67	2
Benzo(g,h,i)perylene	mg/kg	2.25	1.67	5.49	11.8	1.66	6.37	22.5	7.27	5.3
1-Methylnaphthalene	mg/kg	0.29	0.246	10.8	37.1	0.169	4.24	100	19.9	4.39
2-Methylnaphthalene	mg/kg	0.639	0.542	16.1	57.8	0.29	4.46	165	26	6.05
2,6-Dimethylnaphthalene	mg/kg	0.56	0.515	12.3	31.7	0.316	2.68	71.4	13.7	3.36
2,3,5-Trimethylnaphthalene	mg/kg	0.162	0.13	1.82	3.87	0.0893	0.502	11.1	2.11	0.639
4-Methyldibenzothiophene	mg/kg	0.387	0.28	3.4	10.1	0.224	1.3	25.6	4.28	1.41
2/3-Methyldibenzothiophene(2MDT)	mg/kg	0.346	0.278	2.97	9.71	0.22	1.44	25.5	3.93	1.43
1-Methyldibenzothiophene(1MDT)	mg/kg	0.095	0.0648	0.785	2.97	0.0564	0.358	7.97	1.17	0.39
3-Methylphenanthrene	mg/kg	0.663	0.558	11.2	25.8	0.52	3.17	51	11.7	3.71
2-Methylphenanthrene	mg/kg	0.501	0.478	11.3	27.6	0.369	2.87	55	12.1	4.01
2-Methylanthracene	mg/kg	0.644	0.464	7.1	17.4	0.383	1.76	37.5	8.6	2.51
4/9-Methylphenanthrene	mg/kg	0.936	0.696	10.7	26.6	0.638	3.07	50	13.2	4.22
1-Methylphenanthrene (1MP)	mg/kg	0.388	0.368	6.37	16.6	0.331	1.85	37.1	7.44	2.38
Retene	mg/kg	0.709	0.964	2.89	3.37	0.954	3.49	3.19	7.63	4.31
Benzothiophene	mg/kg	0.041	0.0284	0.133	0.489	0.0148	0.374	2.8	0.424	0.202
C1-Benzothiophenes	mg/kg	0.0839	0.0694	0.854	3.99	0.0453	0.507	16.7	1.82	0.416
C2-Benzothiophenes	mg/kg	0.141	0.111	2	9.2	0.0694	0.754	29.5	3.12	0.734
C3-Benzothiophenes	mg/kg	0.274	0.221	1.74	6.19	0.14	0.871	17.5	2.25	0.728
C4-Benzothiophenes	mg/kg	0.287	0.229	0.81	2.28	0.12	0.642	5.93	1.07	0.427
Total Petroleum Hydrocarbons (C9-C44)	mg/kg	6,140	6,150	4,100	6,790	3,950	6,720	15,600	9,790	4,710
Total PAHs	mg/kg	101	75	559	1,383	66	365	2,993	740	332
Total Priority Pollutant PAHs	mg/kg	39	30	207	593	28	208	1,294	318	167
%TPAH/TPH	%	1.6	1.2	13.6	20.4	1.7	5.4	19.2	7.6	7.0
%TPPPAH/TPAH	%	39.2	40.5	37.1	42.9	43.0	56.9	43.2	42.9	50.3
BaP TEQ	mg/kg	5.34	3.89	13.7	32.9	3.72	16.2	65.7	24.7	14.7
D2/P2		0.44	0.39	0.27	0.38	0.33	0.46	0.47	0.37	0.41
D3/P3		0.68	0.62	0.43	0.61	0.54	0.67	0.75	0.56	0.62

See notes on page 5

Table 6-1
Summary of Forensic PAH and TPH Results

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Notes:

BaP TEQ based on mg/kg PAHs and was calculated using potency equivalency factors from the California Environmental Protection Agency's Preliminary Endangerment Assessment guidance manual (1999).
BaP TEQ = BAA*0.1+BAP*1.0+BbF*0.1+BkF*0.1+C*0.01+DAH*0.34+IND*0.1
Where:
BAA = benzo(a)anthracene
BAP = benzo(a)pyrene
BbF = benzo(b)fluoranthene
BkF = benzo(k)fluoranthene
C = chrysene
DAH = dibenzo(a,h)anthracene
IND = indeno(1,2,3-cd)pyrene

D2/P2 = C2-Dibenzothiophenes/C2-Phenanthrenes/Anthracenes
D3/P3 = C3-Dibenzothiophenes/C3-Phenanthrenes/Anthracenes
mg/kg = milligrams per kilogram
PAH = polycyclic aromatic hydrocarbon
TEQ = toxic equivalent
TPAH = total petroleum hydrocarbons
TPPPAH = total priority pollutant polycyclic aromatic hydrocarbons

Table 6-2
Forensics Selection Evaluation

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Location ID	Sample Depth	Location Description (distance from shore)	Physical Characteristics			Total PAH (mg/kg)	TPH (mg/kg)	Description	PAH Fingerprint Type[b]	TPH Fingerprint Type[a]	Sheen Source
			Sheen	Odor	Petroleum Related-Impacts						
Upper Bronx River											
SD-34	**8.0-9.1**	**Krasdale north (shoreline)**	X	X		93	5860	Near outfall; sheen/odor observed; PAH concentrations between 25 and 70 ppm.	B	2	Petroleum
SD-20B	**2.8-3.9**	**Parcel D (shoreline)**	X	X		59	4890	Adjacent to Parcel D; sheen/odor observed; PAH concentrations less than 25 ppm.	A	1	Petroleum
SD-14B	**5.1-6.2**	**Krasdale south (shoreline)**	X	X		89	8520	Near outfall; sheen observed (no odor); PAH concentrations less than 25 ppm.	A	2	Petroleum
SD-12	**4.8-5.9**	**Krasdale south (shoreline)**	X			107	8110	Southern end of Krasdale; sheen observed (no odor); PAH concentrations between 25 and 70 ppm.	A	2	Petroleum
Lower Bronx River											
SD-78	**12.2-13.1**	**South of Parcel C (500 ft)**	X	X	X	559	4100	Petroleum impacts observed; sheen/odor observed; PAH concentrations greater than 70 ppm.	C	4	Petroleum with Coal Tar product
SD-25	**2.7-3.7**	**South of Parcel C (shoreline)**	X	X	X	75	6150	Petroleum impacts observed; sheen/odor observed; PAH concentrations less than 25 ppm.	B	2	Petroleum
SD-71	**13.6-14.8**	**North Parcel C (300 ft)**	X	X		1131	10400	Adjacent to Parcel C; sheen/odor observed; PAH concentrations greater than 70 ppm.	C	4	Petroleum with Coal Tar product
SD-73	**4.3-5.3**	**South of Parcel C (300 ft)**	X	X		1383	6790	Southern end of Parcel C; sheen/odor observed; PAH concentrations between greater than 70 ppm.	D	4	Coal Tar with Petroleum
SD-27	**4.2-5.4**	**South Parcel C (100 ft)**	X	X		104	5940	Near outfall; sheen/odor observed; PAH concentrations between 25 and 70 ppm.	B	2	Petroleum
SD-27-DUP	**4.2-5.4**	**South Parcel C (100 ft)**	X	X		120	5680	Near outfall; sheen/odor observed; PAH concentrations between 25 and 70 ppm.	B	2	Petroleum
SD-09	**0.5-1.3**	**South Parcel C (shoreline)**	X			414	2280	Adjacent to Parcel C; no sheen/odor observed; PAH concentrations greater than 70 ppm.	E	5	Coal Tar with Petroleum
SD-77	**0.0-1.1**	**South Parcel C (400 ft)**	X			101	6140	Adjacent to Parcel C; sheen observed (no odor); PAH concentrations less than 25 ppm.	B	2	Petroleum
SD-11B	**6.5-7.6**	**North Parcel C (shoreline)**		X		107	6960	Adjacent to Parcel C; odor observed (no sheen); PAH concentrations less than 25 ppm.	A	2	Petroleum
East River											
SD-75	**9.7-11.0**	**DOC west (400 ft)**	X	X	X	2993	15600	Petroleum impacts observed; sheen/odor observed; PAH concentrations greater than 70 ppm.	D	4	Petroleum with Coal Tar product
SD-23	**0.0-1.0**	**DOC west (shoreline)**	X	X	X	365	6720	Petroleum impacts observed; sheen/odor observed; PAH concentrations greater than 70 ppm.	Type E with slightly elevated alkyl groups	Type 2 with larger peaks.	Petroleum with Coal Tar product
SD-81	**12.1-13.2**	**DOC west (600 ft)**	X	X		740	9790	Near DOC; sheen/odor observed; PAH concentrations greater than 70 ppm.	C	3	Petroleum with Coal Tar product
SD-06	**3.3-4.4**	**DOC north (100 ft)**	X	X		66	3950	Near outfall; sheen/odor observed; PAH concentrations between 25 and 70 ppm.	B	Type 1 with slightly larger peaks	Petroleum
SD-02B	**6.2-7.2**	**DOC west (shoreline)**	X			332	4710	Near DOC; sheen observed (no odor); PAH concentrations greater than 70 ppm.	D	3	Petroleum with Coal Tar product

Notes:
1. Locations are grouped by physical characteristics and PAH concentration, and then arranged from north to south within each area.
2. Location descriptions and distances are approximate.
3. In cases where a parent and field duplicate sample were collected, the two results were averaged when determining which PAH concentration range to select for the sample depth.
4. Sample depths have been adjusted to reflect the percent recovery of the sample cores except at location SD-09.

Acronyms:
ft = feet
mg/kg = milligrams per kilogram
PAH = polycyclic aromatic hydrocarbons
ppm = parts per million
TPH = total petroleum hydrocarbon

a--TPH Fingerprint Pattern Types:
1--Large Gaussian-shaped UCM from C20 to C36, max at C28-C30, gradually increasing UCM from C12 to C20, small peaks superimposed on UCM
2--Same as Pattern 1 but more UCM in C15-C20 range and larger peaks throughout UCM
3--Smaller Gaussian-shaped UCM than Pattern 1 or 2, but many large peaks from C12 to C30 that appear to correspond to pyrogenic PAHs
4--Small UCM from C15 to C34 but not same shape UCM as Pattern 1 or 2. Many large peaks similar to Pattern 3
5--Minor UCM, smaller than Pattern 4, but many large peaks similar to Pattern 3

b--PAH Composition Fingerprint Pattern Types:
A--Presence of weathered petrogenic PAHs for 2- and 3-ring PAHs where alkyl groups dominate mixed with pyrogenic PAHs for 4- to 6-ring PAHs where parent PAHs dominate. 4-ring alkyl PAH groups, especially C1-
B--Almost exactly same as Pattern 1 but less 2-ring naphthalenes
C--Similar to Pattern 1 except less petrogenic PAH pattern for 3-ring, C1-alkyl group of 3-ring PAHs dominate. As observed in Pattern 1, C1-alkyl groups dominate 4-ring PAHs and petrogenic pattern for naphthalenes is
D--Similar to Pattern 3 except more pyrogenic type PAHs for 3-ring PAHs (parent 3-ring PAHs dominate)
E--2- to 6-ring pyrogenic PAH pattern (parent PAHs dominate). Probably slightly weathered coal tar.

Table 7-1
Comparison of Sediment Data to Human Health Screening Criteria

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Location ID:			SD-02B	SD-06	SD-07B	SD-09	SD-09	SD-09	SD-23	SD-25	SD-27	SD-31B	SD-35	SD-40	SD-41	SD-46
Sample Depth (feet):			1.5 - 2.5	1.5 - 2.5	0 - 1	0 - 0.5	0.5 - 1.3	1.3 - 2.3	0 - 1	0 - 1	1 - 2	1 - 2	1 - 2	1.5 - 2.5	0 - 1	1 - 2
Date Collected:	HH-B	Units	12/04/12	12/04/12	11/30/12	11/27/12	11/27/12	11/27/12	12/06/12	12/12/12	12/12/12	12/13/12	12/07/12	12/06/12	01/11/13	01/08/13
Detected Volatile Organics																
1,2,4-Trichlorobenzene	- -	mg/kg	0.011 UJ	0.017 UJ	R	0.0017 UB	0.00088 UB	0.0018 UB	R	R	R	0.013 UJ	0.014 UJ	0.0022 UB	R	0.004 J
1,2-Dibromo-3-chloropropane	- -	mg/kg	0.011 UJ	0.017 UJ	R	0.016 UJ	0.0093 UJ	0.013 UJ	R	R	R	0.013 UJ	0.014 UJ	0.016 UJ	R	R
1,2-Dichloroethene (total)	0.02	mg/kg	0.011 U	0.017 U	0.014 U	0.016 U	0.0093 U	0.013 U	0.013 UJ	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ
1,4-Dichlorobenzene	- -	mg/kg	0.011 UJ	0.017 UJ	0.01 J	0.016 UJ	0.0093 UJ	0.013 UJ	R	R	R	0.013 UJ	0.014 UJ	0.016 UJ	R	R
2-Butanone	- -	mg/kg	0.045 J	0.075 J	0.068	0.05 J	0.027 J	0.057 J	0.2 J	0.19	0.043	0.099	0.075	0.065	0.11 J	0.38 J
2-Hexanone	- -	mg/kg	0.011 U	0.017 U	0.014 UJ	0.016 UJ	0.0093 UJ	0.013 UJ	0.013 UJ	0.015 UJ	0.0078 UJ	0.013 U	0.014 U	0.016 UJ	0.017 UJ	0.021 UJ
4-Methyl-2-pentanone	- -	mg/kg	0.011 UJ	0.017 UJ	0.014 U	0.016 UJ	0.0093 UJ	0.013 UJ	0.013 UJ	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ
Acetone	- -	mg/kg	0.18 J	0.27 J	0.22 J	0.2 J	0.11 J	0.23 J	0.8 J	0.84	0.17 J	0.43	0.3	0.27	0.4 J	1.7 J
Benzene	0.6	mg/kg	0.011 U	0.017 U	0.02	0.016 U	0.018 J	0.024 J	0.003 J	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ
Carbon Disulfide	- -	mg/kg	0.013	0.011 J	0.034	0.0092 J	0.0081 J	0.015	0.078 J	0.072	0.012 J	0.031	0.022	0.037	0.035	0.13 J
Chlorobenzene	- -	mg/kg	0.011 U	0.017 U	0.014 UJ	0.016 U	0.0093 U	0.013 UJ	0.0032 J	0.015 UJ	0.0078 UJ	0.013 U	0.014 U	0.016 UJ	0.017 UJ	0.001 J
Chloromethane	- -	mg/kg	0.00092 J	0.017 U	0.014 UJ	0.016 U	0.0093 U	0.013 U	0.013 UJ	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ
cis-1,2-Dichloroethene	- -	mg/kg	0.011 U	0.017 U	0.014 U	0.016 U	0.0093 U	0.013 U	0.013 UJ	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ
Cyclohexane	- -	mg/kg	0.011 U	0.017 U	0.0044 J	0.016 U	0.003 J	0.013 U	0.005 J	0.015 U	0.0078 UJ	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ
Ethylbenzene	- -	mg/kg	0.011 U	0.017 U	0.14 J	0.016 U	0.0029 J	0.004 J	0.01 J	0.015 UJ	0.0017 J	0.00039 J	0.00056 J	0.016 UJ	0.017 UJ	0.00097 J
Isopropylbenzene	- -	mg/kg	0.0016 J	0.017 UJ	0.042 J	0.016 UJ	0.0013 J	0.0011 J	0.018 J	0.0028 J	0.0019 J	0.013 UJ	0.014 UJ	0.0012 J	R	R
Methyl acetate	- -	mg/kg	0.011 U	0.017 U	0.014 U	0.016 U	0.0093 U	0.013 U	0.014 J	0.012 J	0.0078 U	0.013 U	0.014 U	0.016 U	0.006 J	0.021 UJ
Methylcyclohexane	- -	mg/kg	0.0082 J	0.017 U	0.0074 J	0.016 U	0.008 J	0.0018 J	0.0049 J	0.0024 J	0.0078 UJ	0.013 U	0.002 J	0.0022 J	0.017 U	0.003 J
Methylene Chloride	- -	mg/kg	0.011 U	0.017 U	0.014 U	0.016 U	0.0093 U	0.013 U	0.013 UJ	0.015 U	0.0012 UB	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ
Styrene	- -	mg/kg	0.011 U	0.017 U	0.014 UJ	0.016 U	0.00042 J	0.013 UJ	0.013 UJ	0.015 UJ	0.0078 UJ	0.013 U	0.014 U	0.016 UJ	0.017 UJ	0.021 UJ
Toluene	- -	mg/kg	0.00095 J	0.00096 J	0.018 J	0.0025 J	0.00076 J	0.0017 J	0.0022 J	0.0014 J	0.00091 J	0.00068 J	0.00089 J	0.0012 J	0.0013 J	0.0014 J
Trichlorofluoromethane	- -	mg/kg	0.011 U	0.017 U	0.014 U	0.016 U	0.0093 U	0.013 U	0.013 UJ	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ
Vinyl Chloride	0.07	mg/kg	0.011 U	0.017 U	0.014 U	0.016 U	0.003 J	0.013 U	0.013 UJ	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ
Xylenes (total)	- -	mg/kg	0.002 J	0.017 U	0.22 J	0.016 U	0.004 J	0.012 J	0.022 J	0.0047 J	0.0012 J	0.013 U	0.00037 J	0.0014 J	0.017 UJ	0.0033 J
Total BTEX	- -	mg/kg	0.00295 J	0.00096 J	0.398	0.0025 J	0.02566 J	0.0417 J	0.0372 J	0.0061 J	0.00381 J	0.00107 J	0.00182 J	0.0026 J	0.0013 J	0.00567 J
Total VOCs	- -	mg/kg	0.25167 J	0.35696 J	0.7838 J	0.2617 J	0.18648 J	0.3466 J	1.1603 J	1.1253 J	0.23071 J	0.56107 J	0.40082 J	0.378 J	0.5523 J	2.22367 J
Detected Semivolatile Organics																
1,1'-Biphenyl	- -	mg/kg	0.28 J	2.2 U	9 J	0.078 J	0.89 J	1.1 U	0.29 J	1.1 U	5.3 U	1 U	0.047 J	1.4 U	0.89 U	3.3 U
1-Methylnaphthalene	- -	mg/kg	1.1 J	0.12 J	23 J	0.15 J	3.6 J	0.11 J	2.5 J	0.071 J	0.4 J	0.072 J	0.11 J	0.084 J	0.089 J	0.19 J
2-Methylnaphthalene	- -	mg/kg	1 J	0.13 J	12 J	0.16 J	1.7 J	0.12 J	1.7 J	0.082 J	0.45 J	0.089 J	0.12 J	0.13 J	0.11 J	0.22 J
2-Nitrophenol	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U
4-Chloroaniline	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	0.84 J
Acenaphthene	- -	mg/kg	1.8 J	0.21 J	57	0.32 J	5.7 J	0.2 J	7.4	0.38 J	3.3 J	0.14 J	0.17 J	0.15 J	0.14 J	0.37 J
Acenaphthylene	- -	mg/kg	0.75 J	0.31 J	30 U	0.45 J	7.6 J	0.2 J	0.83 J	0.065 J	5.3 U	0.29 J	0.16 J	0.22 J	0.4 J	0.42 J
Acetophenone	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U
Anthracene	- -	mg/kg	2.9 J	0.67 J	20 J	1.7	20	0.71 J	6.7	1.1	6.3 J	0.64 J	0.67 J	0.54 J	0.53 J	0.85 J
Azobenzene	1	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U
Benzaldehyde	- -	mg/kg	4 U	2.2 U	30 U	0.092 UB	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	0.073 J	1.4 U	0.89 U	3.3 U
Benzo(a)anthracene	- -	mg/kg	5.2	2.1 J	13 J	3.7	19	2.8	7.2	2.2	11	2.9	2.8	2.1	1.8	2.5 J
Benzo(a)pyrene	- -	mg/kg	5.5	2.7	6.8 J	3.9	17	3.1	6.8	2	9.4 J	3.4	2.6	2.5	2.4	2.8 J
Benzo(b)fluoranthene	0.7	mg/kg	3.8 J	2.3	6.3 J	4.8	18	3	7.5	2.2	12	3.4	2.3	2.6	2 J	2.5 J
Benzo(g,h,i)perylene	- -	mg/kg	1.4 J	0.9 J	1.5 J	1.3 J	4.8 J	1.3 J	1.9 J	0.59 J	3.2 J	1.3 J	1.1 J	0.88 J	1.2 J	1 J
Benzo(k)fluoranthene	- -	mg/kg	6	2.7	8.3 J	3.9	18	3.6	6.7	2.8	11	2.5	2.2	2.1	1.3	1.8 J
Benzo[e]pyrene	- -	mg/kg	3.6 J	1.8 J	5 J	2.5	11 J	2.2	4.4	1.5	7.1 J	2.4	2.2	1.9	1.5	1.9 J
Benzoic Acid	- -	mg/kg	10 UJ	5.6 UJ	74 UJ	3.6 UJ	35 UJ	2.7 UJ	10 UJ	2.9 UJ	R	2.5 UJ	2.5 UJ	3.5 UJ	2.2 U	8.3 U
Benzyl Alcohol	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 UJ	5.3 U	1 UJ	1 UJ	1.4 U	0.89 U	3.3 U
bis(2-Ethylhexyl)phthalate	- -	mg/kg	4 U	10	6.1 J	1.6	0.96 J	3.3	4.5	2.1	2.7 J	4.3	0.073 UB	6.6	3.8 J	12 J
Butylbenzylphthalate	- -	mg/kg	4 U	0.24 UB	30 U	0.49 J	14 U	0.82 J	4 U	0.09 J	1.9 J	0.2 J	1 U	0.24 J	0.18 UB	0.21 UB
Caprolactam	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U
Carbazole	- -	mg/kg	4 U	2.2 U	9.4 J	0.29 J	4.6 J	0.26 J	1.5 J	0.3 J	3.4 J	0.077 J	1 U	0.074 J	0.043 J	3.3 U
Chrysene	- -	mg/kg	6.1	2.6	15 J	4	18	3	7.7	2.8	12	3.2	3.1	2.4	2.2	2.9 J

See notes on page 5

Table 7-1
Comparison of Sediment Data to Human Health Screening Criteria

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Location ID:			SD-02B	SD-06	SD-07B	SD-09	SD-09	SD-09	SD-23	SD-25	SD-27	SD-31B	SD-35	SD-40	SD-41	SD-46
Sample Depth (feet):			1.5 - 2.5	1.5 - 2.5	0 - 1	0 - 0.5	0.5 - 1.3	1.3 - 2.3	0 - 1	0 - 1	1 - 2	1 - 2	1 - 2	1.5 - 2.5	0 - 1	1 - 2
Date Collected:	HH-B	Units	12/04/12	12/04/12	11/30/12	11/27/12	11/27/12	11/27/12	12/06/12	12/12/12	12/12/12	12/13/12	12/07/12	12/06/12	01/11/13	01/08/13
Dibenzo(a,h)anthracene	- -	mg/kg	0.55 J	0.26 J	30 U	0.38 J	1.7 J	0.41 J	0.76 J	0.2 J	0.97 J	0.32 J	0.33 J	0.29 J	0.4 J	0.29 J
Dibenzofuran	- -	mg/kg	0.25 J	2.2 U	40	0.31 J	8 J	0.093 J	2.3 J	0.13 J	1.5 J	1 U	1 U	1.4 U	0.89 U	3.3 U
Diethylphthalate	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U
Dimethylphthalate	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	0.085 J	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U
Di-n-Butylphthalate	- -	mg/kg	0.2 J	0.12 J	30 U	0.085 J	14 U	0.079 J	0.33 J	0.081 J	5.3 U	0.08 J	0.072 J	0.094 J	0.086 J	3.3 U
Di-n-Octylphthalate	- -	mg/kg	4 U	0.29 J	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 UJ	3.3 U
Fluoranthene	- -	mg/kg	9.5	3.1	78	8.1	63	5.2	22	7.1	33	3.6	4.3	3.2	2.3 J	3.5
Fluorene	- -	mg/kg	0.93 J	0.13 J	43	0.57 J	14	0.17 J	4.9	0.3 J	2.6 J	0.11 J	0.16 J	0.14 J	0.098 J	0.24 J
Indeno(1,2,3-cd)pyrene	0.7	mg/kg	1.1 J	0.68 J	1.4 J	1.2 J	4.6 J	1.1	1.7 J	0.57 J	3 J	1 J	0.79 J	0.74 J	1 J	0.88 J
Naphthalene	- -	mg/kg	0.89 J	0.16 J	57	0.49 J	16	1.2	6.4	0.15 J	1.5 J	0.11 J	0.16 J	0.15 J	0.11 J	0.23 J
N-Nitrosodimethylamine	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U
N-Nitroso-di-n-propylamine	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U
Perylene	- -	mg/kg	1.1 J	0.66 J	2.5 J	0.89 J	4.1 J	0.84 J	1.7 J	0.51 J	2.4 J	0.74 J	0.62 J	0.73 J	0.57 J	0.7 J
Phenanthrene	- -	mg/kg	6.1	1.2 J	140	4.9	63	2.2	21	2.6	25	1.2	0.84 J	1.2 J	0.83 J	1.4 J
Phenol	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U
Pyrene	- -	mg/kg	11	3.9	57	8.1	50	6	17	6.3	27	5.6	4.8	4	3.3	3.7 J
Total PAHs	- -	mg/kg	64.52 J	24.05 J	516.3 J	47.97 J	342.1 J	34.31 J	128.19 J	31.437 J	161.72 J	29.799 J	26.6 J	23.34 J	20.118 J	25.6 J
Total SVOCs	- -	mg/kg	71.05 J	37.04 J	611.3 J	54.363 J	375.25 J	42.012 J	145.71 J	36.304 J	181.12 J	37.668 J	29.722 J	33.062 J	26.206 J	41.23 J
Detected Inorganics																
Aluminum	- -	mg/kg	16,200 J	16,300 J	15,900	16,000	12,500	14,400	14,200 J	8,360 J	8,290 J	12,200 J	17,000 J	15,400 J	14,500 J	15,100
Antimony	- -	mg/kg	0.93 J	10.8 UJ	R	10.1 U	1.5 J	8.5 U	R	1.2 J	8.2 UJ	0.73 J	11.7 UJ	R	1.1 J	1.2 J
Arsenic	- -	mg/kg	37.8	12.9	11.5 J	8.8	14.3	8.3	17.1 J	6.5 J	9 J	11.1 J	28.5 J	16.5 J	12.4	14.2
Barium	- -	mg/kg	290 J	194 J	131 J	121 J	146 J	112 J	165 J	65.7 J	55.3 J	93.5 J	107 J	113 J	100 J	141 J
Beryllium	- -	mg/kg	1.1	0.93	0.84	0.73 J	0.59	0.68 J	0.97 J	0.43 J	0.47 J	0.59 J	0.65 J	0.83 J	0.63 J	0.77 J
Cadmium	- -	mg/kg	9.4 J	3.9 J	3.8 J	0.87	0.93	1.2	6.3 J	1 J	1 J	1.3 J	0.72 J	3.3 J	1.8	5.3
Calcium	- -	mg/kg	4,940 J	10,100 J	13,800	11,100	9,990	9,930	4,250	9,160 J	39,300 J	7,030 J	2,910 J	5,480	7,380 J	5,700 J
Chromium	- -	mg/kg	179 J	129 J	162 J	67.6	50.6	75.4	194 J	52.7 J	144 J	94.1 J	218 J	127 J	105 J	191 J
Cobalt	- -	mg/kg	11.1 J	13.1 J	11.3 J	11.5 J	11 J	9.9 J	10.5 J	7.4 J	6 J	8 J	10.3 J	9.9 J	10 J	10.1 J
Copper	- -	mg/kg	421	250	298 J	137	142	160	348 J	77.7 J	91.5 J	169 J	128 J	217 J	189 J	311
Cyanide	- -	mg/kg	1.8	0.64 UB	2.3	0.85 UB	2	0.83 UB	3.8	0.58 J	5.2 J	1 J	2	0.83 J	1.3 U	1.5
Iron	- -	mg/kg	34,200 J	33,000 J	32,900 J	34,200	37,100	30,800	31,200 J	23,800 J	26,900 J	24,600 J	29,700 J	38,700 J	29,000 J	31,000 J
Lead	- -	mg/kg	484	532	327	178	267	182	314	111 J	121 J	213 J	245 J	276	193	330
Magnesium	- -	mg/kg	7,990 J	9,250 J	12,000	11,700	13,500	9,840	7,140 J	5,290 J	8,520 J	6,900 J	7,710 J	8,460 J	8,130 J	8,720
Manganese	- -	mg/kg	444 J	501 J	497 J	470	452	446	327 J	394 J	297 J	425 J	323 J	426 J	549 J	513 J
Mercury	- -	mg/kg	4.9 J	1.5 J	2.2 J	0.68	1.9	3	2.4	1.5	0.51	1.6	2.4	1.8	1.8	3.3
Nickel	- -	mg/kg	40.7 J	45.1 J	41 J	34 J	35.7 J	28.5 J	58 J	18.8 J	21.2 J	26.5 J	26.2 J	36.7 J	32.4 J	45.9 J
Potassium	- -	mg/kg	4,130 J	4,190 J	4,310	4,810	4,340	4,060	3,590 J	2,880 J	2,010 J	3,360 J	4,040 J	3,850 J	4,180 J	3,890
Selenium	- -	mg/kg	1.4 J	6.3 U	5.9 UJ	5.9 U	3.2 U	5 U	7 UJ	6.2 UJ	4.8 UJ	4.2 UJ	6.8 UJ	6.5 UJ	5.6 U	5.6 U
Silver	- -	mg/kg	10.9 J	6.2 J	7.5 J	1.5 J	0.83 J	3.9	10.3	1.9	1.2 J	5.4	0.26 J	5.1	8.7	11.6 J
Sodium	- -	mg/kg	10,900	9,170	13,500	13,700	6,180	11,200	11,200 J	11,000 J	7,130 J	9,660 J	7,550 J	10,800 J	12,300 J	14,800
Thallium	- -	mg/kg	0.77 J	4.5 U	4.2 UJ	3.9 U	2.4 U	3.3 U	5 U	4.4 U	3.4 U	3 U	4.9 U	4.6 U	4 U	0.67 J
Vanadium	- -	mg/kg	53.4	56.3	51.1	42.8	50.9	40.5	65.7 J	31.1 J	26.9 J	39.1 J	41.8 J	54.8 J	42.6 J	56.4
Zinc	- -	mg/kg	617 J	503 J	341 J	250 J	215 J	283 J	380 J	3,690 J	330 J	243 J	289 J	300 J	250 J	353 J
Detected Miscellaneous																
Percent Solids	- -	%	41.3	36.9	37.8	38.8	57.6	43.3	41.2	37	60.9	43	42.2	41.4	36.6	33.5
Total Organic Carbon	- -	mg/kg	76,600	49,900	66,100	47,800	59,900	58,300	52,900	28,400	45,200 J	56,200	30,300	51,800	57,000	54,800

See notes on page 5

Table 7-1
Comparison of Sediment Data to Human Health Screening Criteria

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Location ID:			SD-52B	SD-62	SD-65	SD-66	SD-67	SD-69	SD-72	SD-73	SD-74	SD-75	SD-77	SD-78	SD-79	SD-80	SD-81
Sample Depth (feet):			0.5 - 1.5	1.5 - 2.5	1 - 2	0 - 1	1 - 2	0 - 1	0 - 1	0 - 1	1.5 - 2.5	0.5 - 1.5	0 - 1	1 - 2	0 - 1	1 - 2	0.5 - 1.5
Date Collected:	HH-B	Units	01/04/13	12/20/12	12/20/12	01/09/13	01/09/13	01/09/13	01/11/13	01/14/13	01/14/13	01/14/13	01/16/13	01/16/13	01/17/13	01/18/13	01/18/13
Detected Volatile Organics																	
1,2,4-Trichlorobenzene	- -	mg/kg	R	R	R	0.023 UJ	0.017 UJ	0.001 J	0.013 UJ	0.01 UJ	0.00075 UB	0.0017 UB	0.015 UJ	0.021 UJ	0.0087 U	R	R
1,2-Dibromo-3-chloropropane	- -	mg/kg	R	R	R	0.023 UJ	0.017 UJ	0.015 UJ	0.013 UJ	0.01 UJ	0.0071 U	0.015 UJ	0.015 UJ	0.021 UJ	0.0087 U	R	R
1,2-Dichloroethene (total)	0.02	mg/kg	0.016 U	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 U	0.014 U	0.018 U
1,4-Dichlorobenzene	- -	mg/kg	R	R	R	0.023 UJ	0.017 UJ	0.015 UJ	0.013 UJ	0.01 UJ	0.0071 U	0.015 UJ	0.015 UJ	0.021 UJ	0.0087 U	R	R
2-Butanone	- -	mg/kg	0.13	0.054	0.076	0.19 J	0.072 J	0.11 J	0.046 J	0.01 U	0.011	0.015 U	0.015 U	0.021 U	0.0087 U	0.043	0.07
2-Hexanone	- -	mg/kg	0.016 UJ	0.016 UJ	0.017 UJ	0.023 UJ	0.017 U	0.015 UJ	0.013 UJ	0.01 U	0.0071 U	0.015 U	0.015 UJ	0.021 U	0.0087 U	0.014 UJ	0.018 UJ
4-Methyl-2-pentanone	- -	mg/kg	0.016 U	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 U	0.014 U	0.018 U
Acetone	- -	mg/kg	0.52 J	0.24 J	0.29 J	0.73 J	0.29 J	0.42 J	0.17 J	0.099	0.046	0.24	0.25	0.51	0.078	0.17	0.27
Benzene	0.6	mg/kg	0.016 U	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 U	0.014 U	0.018 U
Carbon Disulfide	- -	mg/kg	0.059	0.04	0.038	0.14	0.051	0.11	0.019	0.012	0.012	0.024	0.036	0.028	0.0098	0.013 J	0.038
Chlorobenzene	- -	mg/kg	0.016 UJ	0.016 UJ	0.017 UJ	0.023 UJ	0.017 U	0.015 UJ	0.013 UJ	0.01 U	0.0071 U	0.015 U	0.015 UJ	0.021 U	0.0087 U	0.014 UJ	0.018 UJ
Chloromethane	- -	mg/kg	0.016 U	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 UJ	0.0071 UJ	0.015 UJ	0.015 U	0.021 U	0.0087 UJ	0.014 U	0.018 U
cis-1,2-Dichloroethene	- -	mg/kg	0.016 U	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 U	0.014 U	0.018 U
Cyclohexane	- -	mg/kg	0.016 U	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.0059 J	0.021 U	0.0087 U	0.014 U	0.018 U
Ethylbenzene	- -	mg/kg	0.016 UJ	0.016 UJ	0.017 UJ	0.00046 J	0.00071 J	0.015 UJ	0.013 UJ	0.01 U	0.00025 UB	0.00048 UB	0.015 UJ	0.021 U	0.0087 U	0.014 UJ	0.00066 J
Isopropylbenzene	- -	mg/kg	R	R	R	0.023 UJ	0.0038 J	0.015 UJ	0.013 UJ	0.01 UJ	0.0071 U	0.0015 J	0.015 UJ	0.021 UJ	0.0087 U	R	0.0017 J
Methyl acetate	- -	mg/kg	0.012 J	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.0061 J	0.01 U	0.0071 U	0.015 U	0.012 J	0.0087 J	0.0087 UJ	0.014 U	0.01 J
Methylcyclohexane	- -	mg/kg	0.016 U	0.0016 J	0.017 U	0.023 U	0.0041 J	0.015 U	0.013 U	0.01 U	0.0071 U	0.0025 J	0.0081 J	0.021 U	0.0087 U	0.014 U	0.0021 J
Methylene Chloride	- -	mg/kg	0.016 U	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 U	0.014 U	0.018 U
Styrene	- -	mg/kg	0.016 UJ	0.016 UJ	0.017 UJ	0.023 UJ	0.017 U	0.015 UJ	0.013 UJ	0.01 U	0.0071 U	0.015 U	0.015 UJ	0.021 U	0.0087 U	0.014 UJ	0.018 UJ
Toluene	- -	mg/kg	0.00092 J	0.0006 J	0.0017 J	0.0012 J	0.017 U	0.0012 J	0.00091 J	0.00041 J	0.00038 J	0.00067 J	0.00086 UB	0.00094 UB	0.00059 J	0.0011 UB	0.0012 UB
Trichlorofluoromethane	- -	mg/kg	0.016 U	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 U	0.014 U	0.018 U
Vinyl Chloride	0.07	mg/kg	0.016 U	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 UJ	0.014 U	0.018 U
Xylenes (total)	- -	mg/kg	0.016 UJ	0.0013 J	0.017 UJ	0.023 UJ	0.0028 J	0.015 UJ	0.013 UJ	0.01 U	0.0071 U	0.0015 J	0.015 UJ	0.021 U	0.0087 U	0.014 UJ	0.0018 J
Total BTEX	- -	mg/kg	0.00092 J	0.0019 J	0.0017 J	0.00166 J	0.00351 J	0.0012 J	0.00091 J	0.00041 J	0.00038 J	0.00217 J	ND	ND	0.00058 J	ND	0.00246 J
Total VOCs	- -	mg/kg	0.72192 J	0.3375 J	0.4057 J	1.06166 J	0.42441 J	0.6422 J	0.24201 J	0.11141 J	0.06938 J	0.27017 J	0.312 J	0.5467 J	0.05788 J	0.226 J	0.39426 J
Detected Semivolatile Organics																	
1,1'-Biphenyl	- -	mg/kg	1.8 U	1.5 U	0.088 J	2.8 U	3.6 U	1.6 U	0.036 J	8 U	0.74 U	0.075 J	2.1 U	0.046 J	1.1 U	0.82 U	2.4 U
1-Methylnaphthalene	- -	mg/kg	0.13 J	0.11 J	0.24 J	0.12 J	0.17 JD	0.15 J	0.11 J	0.64 J	0.095 J	0.16 J	0.11 J	0.13 J	0.13 J	0.077 J	0.1 J
2-Methylnaphthalene	- -	mg/kg	0.17 J	0.16 J	0.26 J	0.23 J	0.27 JD	0.17 J	0.12 J	0.7 J	0.11 J	0.21 J	0.17 J	0.15 J	0.19 J	0.092 J	0.14 J
2-Nitrophenol	- -	mg/kg	1.8 U	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
4-Chloroaniline	- -	mg/kg	1.8 U	0.23 J	1.4 U	0.53 J	0.53 JD	1.6 U	0.79 U	8 U	0.088 J	0.28 J	2.1 U	0.91 U	1.1 U	0.82 U	0.63 J
Acenaphthene	- -	mg/kg	0.3 J	0.21 J	0.48 J	0.24 J	0.34 JD	0.26 J	0.19 J	8.5	0.18 J	0.46 J	0.19 J	0.3 J	0.17 J	0.14 J	0.29 J
Acenaphthylene	- -	mg/kg	0.58 J	0.27 J	0.65 J	0.28 J	0.39 JD	0.47 J	0.64 J	2.1 J	0.46 J	0.71 J	0.44 J	0.71 J	0.47 J	0.45 J	0.4 J
Acetophenone	- -	mg/kg	1.8 U	1.5 U	0.12 UB	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.073 UB	1.1 U	0.82 U	2.4 U
Anthracene	- -	mg/kg	1.1 J	0.57 J	1.3 J	0.71 J	0.76 JD	1.1 J	0.82	12	0.57 J	1.3	0.57 J	1.1	0.53 J	0.61 J	0.74 J
Azobenzene	1	mg/kg	1.8 U	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
Benzaldehyde	- -	mg/kg	1.8 U	1.5 U	0.2 UB	2.8 U	3.6 U	0.1 J	0.79 U	8 U	0.04 J	1.2 U	2.1 U	0.084 UB	1.1 U	0.062 UB	2.4 U
Benzo(a)anthracene	- -	mg/kg	4	2.2	5	2 J	2 JD	3.9	2.9	19	2.3	3.5	1.8 J	3.6	1.9	2.2	2 J
Benzo(a)pyrene	- -	mg/kg	4.6	2.6	5.8	2.2 J	2.2 JD	4.9	3.5	15	2.7	4.1	2.4	4	3.3	2.8	2.4
Benzo(b)fluoranthene	0.7	mg/kg	3.5	2.7	5.4	2.1 J	1.7 JD	4.2	2.7 J	8.9 J	1.8 J	3.3 J	2.1 J	3.9 J	2.4 J	2.3 J	1.5 J
Benzo(g,h,i)perylene	- -	mg/kg	1.5 J	1 J	2.2 J	0.86 J	1.3 JD	1.6	1.7 J	6.6 J	0.95 J	1.4 J	0.63 J	1.1 J	1.8 J	1.2 J	0.97 J
Benzo(k)fluoranthene	- -	mg/kg	3.7	1.9	4.1	1.5 J	1.3 JD	3	1.9	8.2	1.2	2	2 J	2.9	1.7	1.7	1.7 J
Benzo[e]pyrene	- -	mg/kg	2.9	1.8	4	1.5 J	1.4 JD	2.8	2.3	7.9 J	1.5	2.5	1.6 J	2.7	1.9	2.2	1.6 J
Benzoic Acid	- -	mg/kg	4.6 U	3.7 UJ	3.6 UJ	7 U	9 UJ	4 U	2 U	20 UJ	0.21 J	3 UJ	5.3 U	0.34 J	2.8 U	2.1 U	6 U
Benzyl Alcohol	- -	mg/kg	1.8 U	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
bis(2-Ethylhexyl)phthalate	- -	mg/kg	8.7	9.1	9.1	10	8.1	4.1	4.6 J	8 UJ	3.7 J	7.1 J	7.1	2.9	0.86 UB	4.8	14
Butylbenzylphthalate	- -	mg/kg	0.33 J	0.24 J	0.26 J	0.2 J	0.69	0.11 J	0.16 UB	8 U	0.078 J	0.17 J	0.22 J	0.57 UB	0.074 UB	0.23 UB	0.28 UB
Caprolactam	- -	mg/kg	1.8 U	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
Carbazole	- -	mg/kg	0.087 J	1.5 U	1.4 U	2.8 U	3.6 U	0.083 J	0.056 J	8 U	0.74 U	1.2 U	2.1 U	0.042 J	1.1 U	0.085 J	2.4 U
Chrysene	- -	mg/kg	4.3	2.4	5.7	2.4 J	2.6 JD	4.5	3.5	23	2.7	4.7	2.6	4.4	2.5	2.8	2.8

See notes on page 5

Table 7-1
Comparison of Sediment Data to Human Health Screening Criteria

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Location ID:			SD-52B	SD-62	SD-65	SD-66	SD-67	SD-69	SD-72	SD-73	SD-74	SD-75	SD-77	SD-78	SD-79	SD-80	SD-81
Sample Depth (feet):			0.5 - 1.5	1.5 - 2.5	1 - 2	0 - 1	1 - 2	0 - 1	0 - 1	0 - 1	1.5 - 2.5	0.5 - 1.5	0 - 1	1 - 2	0 - 1	1 - 2	0.5 - 1.5
Date Collected:	HH-B	Units	01/04/13	12/20/12	12/20/12	01/09/13	01/09/13	01/09/13	01/11/13	01/14/13	01/14/13	01/14/13	01/16/13	01/16/13	01/17/13	01/18/13	01/18/13
Dibenzo(a,h)anthracene	- -	mg/kg	0.45 J	0.28 J	0.7 J	0.33 J	0.29 JD	0.76 J	0.54 J	1.8 J	0.36 J	0.43 J	0.2 J	0.36 J	0.57 J	0.37 J	0.33 J
Dibenzofuran	- -	mg/kg	1.8 U	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.041 J	8 U	0.74 U	0.084 J	2.1 U	0.06 J	1.1 U	0.057 J	2.4 U
Diethylphthalate	- -	mg/kg	1.8 U	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
Dimethylphthalate	- -	mg/kg	1.8 U	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
Di-n-Butylphthalate	- -	mg/kg	0.18 J	0.12 J	1.4 U	0.16 J	3.6 U	0.08 J	0.27 J	8 U	0.048 J	0.13 J	0.21 J	0.078 J	1.1 U	0.08 J	0.11 J
Di-n-Octylphthalate	- -	mg/kg	1.8 U	1.5 U	1.4 U	2.8 U	3.6 UJ	1.6 U	0.79 UJ	8 UJ	0.74 UJ	1.2 UJ	2.1 UJ	0.91 UJ	1.1 UJ	0.82 UJ	2.4 UJ
Fluoranthene	- -	mg/kg	5.8	3.1	7.4	3.1	2.8 JD	4.2	3.3 J	32 J	2.3 J	4 J	2.1	3.2	1.8	2.7	2.6
Fluorene	- -	mg/kg	0.16 J	0.12 J	1.4 U	0.15 J	0.23 JD	1.6 U	0.13 J	1.2 J	0.084 J	0.27 J	0.15 J	0.18 J	0.11 J	0.11 J	0.18 J
Indeno(1,2,3-cd)pyrene	0.7	mg/kg	1.2 J	0.76 J	1.7	0.67 J	0.92 JD	1.3 J	1.5 J	5.4 J	0.9 J	1.3 J	0.52 J	0.9 J	1.4 J	1 J	0.81 J
Naphthalene	- -	mg/kg	0.18 J	0.2 J	0.48 J	0.24 J	0.29 JD	0.23 J	0.13 J	0.68 J	0.12 J	0.22 J	0.18 J	0.16 J	0.19 J	0.11 J	0.16 J
N-Nitrosodimethylamine	- -	mg/kg	1.8 U	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
N-Nitroso-di-n-propylamine	- -	mg/kg	1.8 U	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
Perylene	- -	mg/kg	0.86 J	0.63 J	1.2 J	0.53 J	0.52 JD	0.83 J	0.85	2.6 J	0.61 J	0.89 J	0.56 J	0.91	0.63 J	0.69 J	0.68 J
Phenanthrene	- -	mg/kg	1.5 J	0.95 J	2.4	1 J	1.6 JD	1.6	1.2	15	0.82	1.6	0.98 J	1.4	0.88 J	0.97	1.1 J
Phenol	- -	mg/kg	1.8 U	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
Pyrene	- -	mg/kg	5.8	4	11	3.3	4.2 D	5.9	4.6	55	3.7	5.7	3.1	5.3	6.7	3.5	3.6
Total PAHs	- -	mg/kg	38.84 J	23.42 J	54.57 J	21.31 J	23.19 J	38.09 J	29.37 J	215.08 J	21.254 J	35.2 J	20.13 J	33.66 J	26.61 J	23.052 J	21.72 J
Total SVOCs	- -	mg/kg	52.027 J	35.65 J	69.458 J	34.35 J	34.6 J	46.343 J	37.633 J	226.22 J	27.623 J	46.589 J	29.93 J	40.866 J	29.27 J	31.041 J	38.84 J
Detected Inorganics																	
Aluminum	- -	mg/kg	14,200 J	15,400 J	14,300 J	26,400	41,300	14,500	13,500 J	15,600 J	8,170 J	15,200 J	15,600 J	16,100 J	9,630 J	14,600 J	15,300 J
Antimony	- -	mg/kg	R	10.9 U	10.5 U	1.5 J	1.9 J	1.3 J	7.9 U	1.6 J	0.81 J	1.3 J	1.2 J	1.4 J	0.87 J	1.3 J	1.5 J
Arsenic	- -	mg/kg	13	15.9	15.5	27.3	41.7	14	13	15.8	8.1	18.8	17.6 J	11.4 J	8.7 J	13.6 J	17.2 J
Barium	- -	mg/kg	136	124 J	119 J	251	418 J	133	116 J	182 J	88.5 J	157 J	184 J	89.8 J	80.4 J	91.6	139
Beryllium	- -	mg/kg	0.66 J	0.74 J	0.75 J	1.2 J	2.3	0.65 J	0.59 J	1.1	0.4 J	1.1	1.2	1.1	0.69	1	1.1
Cadmium	- -	mg/kg	2.6	3.7 J	3.3 J	9	16.5	2.4	2.6	1.1	1.7	3.9	7.3	0.91	0.55 J	1.6	3.3
Calcium	- -	mg/kg	7,390	4,460	4,000	8,760	13,000 J	7,720	10,700 J	3,180 J	5,880 J	5,800 J	4,940 J	7,760 J	6,030 J	5,060 J	6,200 J
Chromium	- -	mg/kg	121 J	173 J	131 J	328	560 J	124	117 J	57.1 J	75.5 J	187 J	261 J	82.3 J	41.6 J	76.7 J	191 J
Cobalt	- -	mg/kg	10.6 J	9.3 J	8.9 J	16.4	26.2 J	10.7	9.5 J	11.6	6.5 J	9.9	10.1	11	7.4	9.4	9.9
Copper	- -	mg/kg	210 J	287 J	228 J	577	1,130	206	217 J	132	121	300	430 J	130 J	69 J	148 J	300 J
Cyanide	- -	mg/kg	0.32 J	0.55 UB	0.36 UB	0.87 J	1.2 J	0.24 J	1.2 U	0.17 J	0.18 J	0.84 J	0.5 J	0.26 J	0.85 U	0.14 J	0.82 J
Iron	- -	mg/kg	29,100 J	30,100 J	31,800 J	50,200	80,300 J	30,400	27,800 J	30,400 J	18,200 J	30,300 J	30,300 J	29,900 J	19,600 J	29,200 J	31,000 J
Lead	- -	mg/kg	227	332	284	573	863	238	226	272	164	397	451 J	185 J	111 J	194	353
Magnesium	- -	mg/kg	8,460 J	8,190 J	7,850 J	14,200	21,300	8,620	7,710 J	8,110 J	5,670 J	8,440 J	8,200 J	9,080 J	6,380 J	8,810 J	8,600 J
Manganese	- -	mg/kg	655 J	418 J	365 J	766	1,170 J	589	490 J	377 J	346 J	560 J	400 J	912 J	414 J	431 J	600 J
Mercury	- -	mg/kg	1.5 J	2.9	2.1	2.9	2.6	2.2	2	2.7	1.2	3.1	3.4	1.4	0.79	1.5	3
Nickel	- -	mg/kg	34.4 J	39 J	33.6 J	78.3	139 J	35.3	32.7 J	33.6 J	22.2 J	41.7 J	53.1	27.8	18.3	27.8 J	41.5 J
Potassium	- -	mg/kg	4,400	3,930 J	3,750 J	7,410	10,700	4,130	3,970 J	5,780 J	2,770 J	4,140 J	4,190 J	4,430 J	2,930 J	3,820 J	4,160 J
Selenium	- -	mg/kg	8.6 UJ	6.4 UJ	6.1 UJ	9.1 U	13.8 U	7.1 U	4.6 U	3.7 U	3.4 U	5.4 U	4.7 U	5.1 U	4 U	5.9 U	5.5 U
Silver	- -	mg/kg	6.7	8	5.9	17.5	32.7 J	6.9	6.4	2.8	3.2	8.7	13.8 J	3.9 J	1.8 J	3.8 J	9.2 J
Sodium	- -	mg/kg	16,000	11,600 J	11,000 J	26,800	29,100	11,800	11,200 J	6,940 J	5,250 J	12,400 J	11,900 J	12,800 J	6,190 J	11,600 J	14,000 J
Thallium	- -	mg/kg	6.1 UJ	4.5 U	4.4 U	6.5 U	4.9 U	5.1 U	3.3 U	2.7 UJ	3.7 UJ	3.9 UJ	0.64 J	3.7 U	2.9 U	4.2 U	3.9 U
Vanadium	- -	mg/kg	47.2 J	47.5 J	43.2 J	95	162	46.2	41.5 J	55.7 J	26.7 J	50.4 J	72.1 J	45.8 J	27.7 J	40.9 J	53.5 J
Zinc	- -	mg/kg	324 J	326 J	326 J	668	1,040 J	294	287 J	310 J	164 J	320 J	477 J	216 J	131 J	311 J	347 J
Detected Miscellaneous																	
Percent Solids	- -	%	34.8	38.5	39.1	29.9	37.4	40.8	41.2	51.5	58.9	38.2	39.4	36.4	57.5	40.1	34.5
Total Organic Carbon	- -	mg/kg	69,900	41,200	43,100	58,500	53,100	51,900	50,400	53,800	25,000	46,900	72,100	41,800	20,500	52,800	53,200

See notes on page 5

Table 7-1
Comparison of Sediment Data to Human Health Screening Criteria

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Notes:
Constituents detected above HH-B are highlighted yellow
Total PAHs were screened against the total PAH background value of 70 mg/kg established by AECOM (2009). Total PAH values greater than 70 mg/kg are highlighted red.
1. Samples that were not detected are reported at the reporting limit
2. Qualifiers are as follows:

J	=	Result is less than the reporting limit but greater than or equal to the method detection limit
ND	=	None detected. This applies to summations were there were no detects for all individual constituents
R	=	The value was rejected during data validation.
U	=	The compound was analyzed for but not detected. The associated value is the reporting limit
D	=	Sample results are obtained from a dilution.
B	=	Compound was found in the blank and sample.
H	=	Sample was prepped or analyzed beyond the specified holding time

4. HH-B are from Table 1 of the NYDEC (1999) Technical Guidance for Screening Contaminated Sediments. They are recorded in micrograms per gram of organic carbon (µg/gOC).
5. Results for duplicate samples are presented in brackets.

BTEX	=	benzene, toluene, ethylbenzene, and xylene
HH-B	=	Human Health Bioaccumulation
mg/kg	=	milligrams per kilogram
NYSDEC	=	New York State Department of Environmental Conservation
PAH	=	polycyclic aromatic hydrocarbons
Total PAHs	=	the summation of the 17 Target Analyte List PAHs; non-detects were taken as zero
Total VOCs	=	the summation of all detected VOCs; non-detects were taken as zero
Total SVOCs	=	the summation of all detected SVOCs; non-detects were taken as zero
Total BTEX	=	the summation of detected values for benzene, toluene, ethylbenzene and xylenes; non-detects were taken as zero
VOC	=	volatile organic compounds

Table 8-1
Comparison of Sediment Data to Ecological Screening Criteria

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Location ID: / Sample Depth (feet): / Date Collected:	ER-L	ER-M	BAL-A	BAL-C	WB	Units	SD-02B 1.5 - 2.5 12/04/12	SD-06 1.5 - 2.5 12/04/12	SD-07B 0 - 1 11/30/12	SD-09 0 - 0.5 11/27/12	SD-09 0.5 - 1.3 11/27/12	SD-09 1.3 - 2.3 11/27/12	SD-23 0 - 1 12/06/12	SD-25 0 - 1 12/12/12	SD-27 1 - 2 12/12/12	SD-31B 1 - 2 12/13/12	SD-35 1 - 2 12/07/12	SD-40 1.5 - 2.5 12/06/12	SD-41 0 - 1 01/11/13	SD-46 1 - 2 01/08/13	SD-52B 0.5 - 1.5 01/04/13
Detected Volatile Organics																					
1,2,4-Trichlorobenzene	- -	- -	- -	- -	- -	mg/kg	0.011 UJ	0.017 UJ	R	0.0017 UB	0.00088 UB	0.0018 UB	R	R	R	0.013 UJ	0.014 UJ	0.0022 UB	R	0.004 J	R
1,2-Dibromo-3-chloropropane	- -	- -	- -	- -	- -	mg/kg	0.011 UJ	0.017 UJ	R	0.016 UJ	0.0093 UJ	0.013 UJ	R	R	R	0.013 UJ	0.014 UJ	0.016 UJ	R	R	R
1,2-Dichloroethene (total)	- -	- -	- -	- -	- -	mg/kg	0.011 U	0.017 U	0.014 U	0.016 U	0.0093 U	0.013 U	0.013 UJ	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ	0.016 U
1,4-Dichlorobenzene	- -	- -	- -	- -	- -	mg/kg	0.011 UJ	0.017 UJ	0.01 J	0.016 UJ	0.0093 UJ	0.013 UJ	R	R	R	0.013 UJ	0.014 UJ	0.016 UJ	R	R	R
2-Butanone	- -	- -	- -	- -	- -	mg/kg	0.045 J	0.075 J	0.068	0.05 J	0.027 J	0.057 J	0.2 J	0.19	0.043	0.099	0.075	0.065	0.11 J	0.38 J	0.13
2-Hexanone	- -	- -	- -	- -	- -	mg/kg	0.011 U	0.017 U	0.014 UJ	0.016 UJ	0.0093 UJ	0.013 UJ	0.013 UJ	0.015 UJ	0.0078 UJ	0.013 U	0.014 U	0.016 UJ	0.017 UJ	0.021 UJ	0.016 UJ
4-Methyl-2-pentanone	- -	- -	- -	- -	- -	mg/kg	0.011 UJ	0.017 UJ	0.014 U	0.016 UJ	0.0093 UJ	0.013 UJ	0.013 UJ	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ	0.016 U
Acetone	- -	- -	- -	- -	- -	mg/kg	0.18 J	0.27 J	0.22 J	0.2 J	0.11 J	0.23 J	0.8 J	0.84	0.17 J	0.43	0.3	0.27	0.4 J	1.7 J	0.52 J
Benzene	- -	- -	90	26	- -	mg/kg	0.011 U	0.017 U	0.02	0.016 U	0.018 J	0.024 J	0.003 J	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ	0.016 U
Carbon Disulfide	- -	- -	- -	- -	- -	mg/kg	0.013	0.011 J	0.034	0.0092 J	0.0081 J	0.015	0.078 J	0.072	0.012 J	0.031	0.022	0.037	0.035	0.13 J	0.059
Chlorobenzene	- -	- -	34.6	3.5	- -	mg/kg	0.011 U	0.017 U	0.014 UJ	0.016 U	0.0093 U	0.013 UJ	0.0032 J	0.015 UJ	0.0078 UJ	0.013 U	0.014 U	0.016 UJ	0.017 UJ	0.001 J	0.016 UJ
Chloromethane	- -	- -	- -	- -	- -	mg/kg	0.00092 J	0.017 U	0.014 UJ	0.016 U	0.0093 U	0.013 U	0.013 UJ	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ	0.016 U
cis-1,2-Dichloroethene	- -	- -	- -	- -	- -	mg/kg	0.011 U	0.017 U	0.014 U	0.016 U	0.0093 U	0.013 U	0.013 UJ	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ	0.016 U
Cyclohexane	- -	- -	- -	- -	- -	mg/kg	0.011 U	0.017 U	0.0044 J	0.016 U	0.003 J	0.013 U	0.005 J	0.015 U	0.0078 UJ	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ	0.016 U
Ethylbenzene	- -	- -	58	6.4	- -	mg/kg	0.011 U	0.017 U	0.14 J	0.016 U	0.0029 J	0.004 J	0.01 J	0.015 UJ	0.0017 J	0.00039 J	0.00056 J	0.016 UJ	0.017 UJ	0.00097 J	0.016 UJ
Isopropylbenzene	- -	- -	105	12	- -	mg/kg	0.0016 J	0.017 UJ	0.042 J	0.016 UJ	0.0013 J	0.0011 J	0.018 J	0.0028 J	0.0019 J	0.013 UJ	0.014 UJ	0.0012 J	R	R	R
Methyl acetate	- -	- -	- -	- -	- -	mg/kg	0.011 U	0.017 U	0.014 U	0.016 U	0.0093 U	0.013 U	0.014 J	0.012 J	0.0078 U	0.013 U	0.014 U	0.016 U	0.006 J	0.021 UJ	0.012 J
Methylcyclohexane	- -	- -	- -	- -	- -	mg/kg	0.0082 J	0.017 U	0.0074 J	0.016 U	0.008 J	0.0018 J	0.0049 J	0.0024 J	0.0078 UJ	0.013 U	0.002 J	0.0022 J	0.017 U	0.003 J	0.016 U
Methylene Chloride	- -	- -	- -	- -	- -	mg/kg	0.011 U	0.017 U	0.014 U	0.016 U	0.0093 U	0.013 U	0.013 UJ	0.015 U	0.0012 UB	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ	0.016 U
Styrene	- -	- -	- -	- -	- -	mg/kg	0.011 U	0.017 U	0.014 UJ	0.016 U	0.00042 J	0.013 UJ	0.013 UJ	0.015 UJ	0.0078 UJ	0.013 U	0.014 U	0.016 UJ	0.017 UJ	0.021 UJ	0.016 UJ
Toluene	- -	- -	- -	- -	- -	mg/kg	0.00095 J	0.00096 J	0.018 J	0.0025 J	0.00076 J	0.0017 J	0.0022 J	0.0014 J	0.00091 J	0.00068 J	0.00089 J	0.0012 J	0.0013 J	0.0014 J	0.00092 J
Trichlorofluoromethane	- -	- -	- -	- -	- -	mg/kg	0.011 U	0.017 U	0.014 U	0.016 U	0.0093 U	0.013 U	0.013 UJ	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ	0.016 U
Vinyl Chloride	- -	- -	- -	- -	- -	mg/kg	0.011 U	0.017 U	0.014 U	0.016 U	0.003 J	0.013 U	0.013 UJ	0.015 U	0.0078 U	0.013 U	0.014 U	0.016 U	0.017 U	0.021 UJ	0.016 U
Xylenes (total)	- -	- -	- -	- -	- -	mg/kg	0.002 J	0.017 U	0.22 J	0.016 U	0.004 J	0.012 J	0.022 J	0.0047 J	0.0012 J	0.013 U	0.00037 J	0.0014 J	0.017 UJ	0.0033 J	0.016 UJ
Total BTEX	- -	- -	- -	- -	- -	mg/kg	0.00295 J	0.00096 J	0.398	0.0025 J	0.02566 J	0.0417 J	0.0372 J	0.0061 J	0.00381 J	0.00107 J	0.00182 J	0.0026 J	0.0013 J	0.00567 J	0.00092 J
Total VOCs	- -	- -	- -	- -	- -	mg/kg	0.25167 J	0.35696 J	0.7838 J	0.2617 J	0.18648 J	0.3466 J	1.1603 J	1.1253 J	0.23071 J	0.56107 J	0.40082 J	0.378 J	0.5523 J	2.22367 J	0.72192 J
Detected Semivolatile Organics																					
1,1'-Biphenyl	- -	- -	- -	- -	- -	mg/kg	0.28 J	2.2 U	9 J	0.078 J	0.89 J	1.1 U	0.29 J	1.1 U	5.3 U	1 U	0.047 J	1.4 U	0.89 U	3.3 U	1.8 U
1-Methylnaphthalene	- -	- -	- -	- -	- -	mg/kg	1.1 J	0.12 J	23 J	0.15 J	3.6 J	0.11 J	2.5 J	0.071 J	0.4 J	0.072 J	0.11 J	0.084 J	0.089 J	0.19 J	0.13 J
2-Methylnaphthalene	0.07	0.67	- -	- -	- -	mg/kg	1 J	0.13 J	12 J	0.16 J	1.7 J	0.12 J	1.7 J	0.082 J	0.45 J	0.089 J	0.12 J	0.13 J	0.11 J	0.22 J	0.17 J
2-Nitrophenol	- -	- -	- -	- -	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U	1.8 U
4-Chloroaniline	- -	- -	- -	- -	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	0.84 J	1.8 U
Acenaphthene	0.016	0.5	- -	- -	- -	mg/kg	1.8 J	0.21 J	57	0.32 J	5.7 J	0.2 J	7.4	0.38 J	3.3 J	0.14 J	0.17 J	0.15 J	0.14 J	0.37 J	0.3 J
Acenaphthylene	0.044	0.64	- -	- -	- -	mg/kg	0.75 J	0.31 J	30 U	0.45 J	7.6 J	0.2 J	0.83 J	0.065 J	5.3 U	0.29 J	0.16 J	0.22 J	0.4 J	0.42 J	0.58 J
Acetophenone	- -	- -	- -	- -	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U	1.8 U
Anthracene	0.0853	1.1	- -	- -	- -	mg/kg	2.9 J	0.67 J	20 J	1.7	20	0.71 J	6.7	1.1	6.3 J	0.64 J	0.67 J	0.54 J	0.53 J	0.85 J	1.1 J
Azobenzene	- -	- -	- -	- -	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U	1.8 U
Benzaldehyde	- -	- -	- -	- -	- -	mg/kg	4 U	2.2 U	30 U	0.092 UB	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	0.073 J	1.4 U	0.89 U	3.3 U	1.8 U
Benzo(a)anthracene	0.261	1.6	- -	- -	- -	mg/kg	5.2	2.1 J	13 J	3.7	19	2.8	7.2	2.2	11	2.9	2.8	2.1	1.8	2.5 J	4
Benzo(a)pyrene	0.43	1.6	- -	- -	- -	mg/kg	5.5	2.7	6.8 J	3.9	17	3.1	6.8	2	9.4 J	3.4	2.6	2.5	2.4	2.8 J	4.6
Benzo(b)fluoranthene	- -	- -	- -	- -	- -	mg/kg	3.8 J	2.3	6.3 J	4.8	18	3	7.5	2.2	12	3.4	2.3	2.6	2 J	2.5 J	3.5
Benzo(g,h,i)perylene	- -	- -	- -	- -	- -	mg/kg	1.4 J	0.9 J	1.5 J	1.3 J	4.8 J	1.3 J	1.9 J	0.59 J	3.2 J	1.3 J	1.1 J	0.88 J	1.2 J	1 J	1.5 J
Benzo(k)fluoranthene	- -	- -	- -	- -	- -	mg/kg	6	2.7	8.3 J	3.9	18	3.6	6.7	2.8	11	2.5	2.2	2.1	1.3	1.8 J	3.7
Benzo[e]pyrene	- -	- -	- -	- -	- -	mg/kg	3.6 J	1.8 J	5 J	2.5	11 J	2.2	4.4	1.5	7.1 J	2.4	2.2	1.9	1.5	1.9 J	2.9
Benzoic Acid	- -	- -	- -	- -	- -	mg/kg	10 UJ	5.6 UJ	74 UJ	3.6 UJ	35 UJ	2.7 UJ	10 UJ	2.9 UJ	R	2.5 UJ	2.5 UJ	3.5 UJ	2.2 U	8.3 U	4.6 U
Benzyl Alcohol	- -	- -	- -	- -	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 UJ	5.3 U	1 UJ	1 UJ	1.4 U	0.89 U	3.3 U	1.8 U
bis(2-Ethylhexyl)phthalate	- -	- -	- -	- -	- -	mg/kg	4 U	10	6.1 J	1.6	0.96 J	3.3	4.5	2.1	2.7 J	4.3	0.073 UB	6.6	3.8 J	12 J	8.7
Butylbenzylphthalate	- -	- -	- -	- -	- -	mg/kg	4 U	0.24 UB	30 U	0.49 J	14 U	0.82 J	4 U	0.09 J	1.9 J	0.2 J	1 U	0.24 J	0.18 UB	0.21 UB	0.33 J
Caprolactam	- -	- -	- -	- -	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U	1.8 U
Carbazole	- -	- -	- -	- -	- -	mg/kg	4 U	2.2 U	9.4 J	0.29 J	4.6 J	0.26 J	1.5 J	0.3 J	3.4 J	0.077 J	1 U	0.074 J	0.043 J	3.3 U	0.087 J
Chrysene	0.384	2.8	- -	- -	- -	mg/kg	6.1	2.6	15 J	4	18	3	7.7	2.8	12	3.2	3.1	2.4	2.2	2.9 J	4.3

See notes on page 7

Table 8-1
Comparison of Sediment Data to Ecological Screening Criteria

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Location ID: / Sample Depth (feet): / Date Collected:	ER-L	ER-M	BAL-A	BAL-C	WB	Units	SD-02B 1.5 - 2.5 12/04/12	SD-06 1.5 - 2.5 12/04/12	SD-07B 0 - 1 11/30/12	SD-09 0 - 0.5 11/27/12	SD-09 0.5 - 1.3 11/27/12	SD-09 1.3 - 2.3 11/27/12	SD-23 0 - 1 12/06/12	SD-25 0 - 1 12/12/12	SD-27 1 - 2 12/12/12	SD-31B 1 - 2 12/13/12	SD-35 1 - 2 12/07/12	SD-40 1.5 - 2.5 12/06/12	SD-41 0 - 1 01/11/13	SD-46 1 - 2 01/08/13	SD-52B 0.5 - 1.5 01/04/13
Dibenzo(a,h)anthracene	0.0634	0.26	- -	- -	- -	mg/kg	0.55 J	0.26 J	30 U	0.38 J	1.7 J	0.41 J	0.76 J	0.2 J	0.97 J	0.32 J	0.33 J	0.29 J	0.4 J	0.29 J	0.45 J
Dibenzofuran	- -	- -	- -	- -	- -	mg/kg	0.25 J	2.2 U	40	0.31 J	8 J	0.093 J	2.3 J	0.13 J	1.5 J	1 U	1 U	1.4 U	0.89 U	3.3 U	1.8 U
Diethylphthalate	- -	- -	- -	- -	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U	1.8 U
Dimethylphthalate	- -	- -	- -	- -	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	0.085 J	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U	1.8 U
Di-n-Butylphthalate	- -	- -	- -	- -	- -	mg/kg	0.2 J	0.12 J	30 U	0.085 J	14 U	0.079 J	0.33 J	0.081 J	5.3 U	0.08 J	0.072 J	0.094 J	0.086 J	3.3 U	0.18 J
Di-n-Octylphthalate	- -	- -	- -	- -	- -	mg/kg	4 U	0.29 J	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 UJ	3.3 U	1.8 U
Fluoranthene	0.6	5.1	- -	- -	- -	mg/kg	9.5	3.1	78	8.1	63	5.2	22	7.1	33	3.6	4.3	3.2	2.3 J	3.5	5.8
Fluorene	0.019	0.54	- -	- -	- -	mg/kg	0.93 J	0.13 J	43	0.57 J	14	0.17 J	4.9	0.3 J	2.6 J	0.11 J	0.16 J	0.14 J	0.098 J	0.24 J	0.16 J
Indeno(1,2,3-cd)pyrene	- -	- -	- -	- -	- -	mg/kg	1.1 J	0.68 J	1.4 J	1.2 J	4.6 J	1.1	1.7 J	0.57 J	3 J	1 J	0.79 J	0.74 J	1 J	0.88 J	1.2 J
Naphthalene	0.16	2.1	- -	- -	- -	mg/kg	0.89 J	0.16 J	57	0.49 J	16	1.2	6.4	0.15 J	1.5 J	0.11 J	0.16 J	0.15 J	0.11 J	0.23 J	0.18 J
N-Nitrosodimethylamine	- -	- -	- -	- -	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U	1.8 U
N-Nitroso-di-n-propylamine	- -	- -	- -	- -	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U	1.8 U
Perylene	- -	- -	- -	- -	- -	mg/kg	1.1 J	0.66 J	2.5 J	0.89 J	4.1 J	0.84 J	1.7 J	0.51 J	2.4 J	0.74 J	0.62 J	0.73 J	0.57 J	0.7 J	0.86 J
Phenanthrene	0.24	1.5	- -	- -	- -	mg/kg	6.1	1.2 J	140	4.9	63	2.2	21	2.6	25	1.2	0.84 J	1.2 J	0.83 J	1.4 J	1.5 J
Phenol	- -	- -	- -	- -	- -	mg/kg	4 U	2.2 U	30 U	1.4 U	14 U	1.1 U	4 U	1.1 U	5.3 U	1 U	1 U	1.4 U	0.89 U	3.3 U	1.8 U
Pyrene	0.665	2.6	- -	- -	- -	mg/kg	11	3.9	57	8.1	50	6	17	6.3	27	5.6	4.8	4	3.3	3.7 J	5.8
Total PAHs	4.022	44.792	- -	- -	- -	mg/kg	64.52 J	24.05 J	516.3 J	47.97 J	342.1 J	34.31 J	128.19 J	31.437 J	161.72 J	29.799 J	26.6 J	23.34 J	20.118 J	25.6 J	38.84 J
Total SVOCs	- -	- -	- -	- -	- -	mg/kg	71.05 J	37.04 J	611.3 J	54.363 J	375.25 J	42.012 J	145.71 J	36.304 J	181.12 J	37.668 J	29.722 J	33.062 J	26.206 J	41.23 J	52.027 J
Detected Inorganics																					
Aluminum	- -	- -	- -	- -	- -	mg/kg	16,200 J	16,300 J	15,900	16,000	12,500	14,400	14,200 J	8,360 J	8,290 J	12,200 J	17,000 J	15,400 J	14,500 J	15,100	14,200 J
Antimony	- -	- -	- -	- -	- -	mg/kg	0.93 J	10.8 UJ	R	10.1 U	1.5 J	8.5 U	R	1.2 J	8.2 UJ	0.73 J	11.7 UJ	R	1.1 J	1.2 J	R
Arsenic	8.2	70	- -	- -	- -	mg/kg	37.8	12.9	11.5 J	8.8	14.3	8.3	17.1 J	6.5 J	9 J	11.1 J	28.5 J	16.5 J	12.4	14.2	13
Barium	- -	- -	- -	- -	- -	mg/kg	290 J	194 J	131 J	121 J	146 J	112 J	165 J	65.7 J	55.3 J	93.5 J	107 J	113 J	100 J	141 J	136
Beryllium	- -	- -	- -	- -	- -	mg/kg	1.1	0.93	0.84	0.73 J	0.59	0.68 J	0.97 J	0.43 J	0.47 J	0.59 J	0.65 J	0.83 J	0.63 J	0.77 J	0.66 J
Cadmium	1.2	9.6	- -	- -	- -	mg/kg	9.4 J	3.9 J	3.8 J	0.87	0.93	1.2	6.3 J	1 J	1 J	1.3 J	0.72 J	3.3 J	1.8	5.3	2.6
Calcium	- -	- -	- -	- -	- -	mg/kg	4,940 J	10,100 J	13,800	11,100	9,990	9,930	4,250	9,160 J	39,300 J	7,030 J	2,910 J	5,480	7,380 J	5,700 J	7,390
Chromium	81	370	- -	- -	- -	mg/kg	179 J	129 J	162 J	67.6	50.6	75.4	194 J	52.7 J	144 J	94.1 J	218 J	127 J	105 J	191 J	121 J
Cobalt	- -	- -	- -	- -	- -	mg/kg	11.1 J	13.1 J	11.3 J	11.5 J	11 J	9.9 J	10.5 J	7.4 J	6 J	8 J	10.3 J	9.9 J	10 J	10.1 J	10.6 J
Copper	34	270	- -	- -	- -	mg/kg	421	250	298 J	137	142	160	348 J	77.7 J	91.5 J	169 J	128 J	217 J	189 J	311	210 J
Cyanide	- -	- -	- -	- -	- -	mg/kg	1.8	0.64 UB	2.3	0.85 UB	2	0.83 UB	3.8	0.58 J	5.2 J	1 J	2	0.83 J	1.3 U	1.5	0.32 J
Iron	- -	- -	- -	- -	- -	mg/kg	34,200 J	33,000 J	32,900 J	34,200	37,100	30,800	31,200 J	23,800 J	26,900 J	24,600 J	29,700 J	38,700 J	29,000 J	31,000 J	29,100 J
Lead	46.7	218	- -	- -	- -	mg/kg	484	532	327	178	267	182	314	111 J	121 J	213 J	245 J	276	193	330	227
Magnesium	- -	- -	- -	- -	- -	mg/kg	7,990 J	9,250 J	12,000	11,700	13,500	9,840	7,140 J	5,290 J	8,520 J	6,900 J	7,710 J	8,460 J	8,130 J	8,720	8,460 J
Manganese	- -	- -	- -	- -	- -	mg/kg	444 J	501 J	497 J	470	452	446	327 J	394 J	297 J	425 J	323 J	426 J	549 J	513 J	655 J
Mercury	0.15	0.71	- -	- -	- -	mg/kg	4.9 J	1.5 J	2.2 J	0.68	1.9	3	2.4	1.5	0.51	1.6	2.4	1.8	1.8	3.3	1.5 J
Nickel	20.9	51.6	- -	- -	- -	mg/kg	40.7 J	45.1 J	41 J	34 J	35.7 J	28.5 J	58 J	18.8 J	21.2 J	26.5 J	26.2 J	36.7 J	32.4 J	45.9 J	34.4 J
Potassium	- -	- -	- -	- -	- -	mg/kg	4,130 J	4,190 J	4,310	4,810	4,340	4,060	3,590 J	2,880 J	2,010 J	3,360 J	4,040 J	3,850 J	4,180 J	3,890	4,400
Selenium	- -	- -	- -	- -	- -	mg/kg	1.4 J	6.3 U	5.9 UJ	5.9 U	3.2 U	5 U	7 UJ	6.2 UJ	4.8 UJ	4.2 UJ	6.8 UJ	6.5 UJ	5.6 U	5.6 U	8.6 UJ
Silver	1	3.7	- -	- -	- -	mg/kg	10.9 J	6.2 J	7.5 J	1.5 J	0.83 J	3.9	10.3	1.9	1.2 J	5.4	0.26 J	5.1	8.7	11.6 J	6.7
Sodium	- -	- -	- -	- -	- -	mg/kg	10,900	9,170	13,500	13,700	6,180	11,200	11,200 J	11,000 J	7,130 J	9,660 J	7,550 J	10,800 J	12,300 J	14,800	16,000
Thallium	- -	- -	- -	- -	- -	mg/kg	0.77 J	4.5 U	4.2 UJ	3.9 U	2.4 U	3.3 U	5 U	4.4 U	3.4 U	3 U	4.9 U	4.6 U	4 U	0.67 J	6.1 UJ
Vanadium	- -	- -	- -	- -	- -	mg/kg	53.4	56.3	51.1	42.8	50.9	40.5	65.7 J	31.1 J	26.9 J	39.1 J	41.8 J	54.8 J	42.6 J	56.4	47.2 J
Zinc	150	410	- -	- -	- -	mg/kg	617 J	503 J	341 J	250 J	215 J	283 J	380 J	3,690 J	330 J	243 J	289 J	300 J	250 J	353 J	324 J
Detected Miscellaneous																					
Percent Solids	- -	- -	- -	- -	- -	%	41.3	36.9	37.8	38.8	57.6	43.3	41.2	37	60.9	43	42.2	41.4	36.6	33.5	34.8
Total Organic Carbon	- -	- -	- -	- -	- -	mg/kg	76,600	49,900	66,100	47,800	59,900	58,300	52,900	28,400	45,200 J	56,200	30,300	51,800	57,000	54,800	69,900

See notes on page 7

Table 8-1
Comparison of Sediment Data to Ecological Screening Criteria

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Location ID: Sample Depth (feet): Date Collected:	ER-L	ER-M	BAL-A	BAL-C	WB	Units	SD-62 1.5 - 2.5 12/20/12	SD-65 1 - 2 12/20/12	SD-66 0 - 1 01/09/13	SD-67 1 - 2 01/09/13	SD-69 0 - 1 01/09/13	SD-72 0 - 1 01/11/13	SD-73 0 - 1 01/14/13	SD-74 1.5 - 2.5 01/14/13	SD-75 0.5 - 1.5 01/14/13	SD-77 0 - 1 01/16/13	SD-78 1 - 2 01/16/13	SD-79 0 - 1 01/17/13	SD-80 1 - 2 01/18/13	SD-81 0.5 - 1.5 01/18/13
Detected Volatile Organics																				
1,2,4-Trichlorobenzene	- -	- -	- -	- -	- -	mg/kg	R	R	0.023 UJ	0.017 UJ	0.001 J	0.013 UJ	0.01 UJ	0.00075 UB	0.0017 UB	0.015 UJ	0.021 UJ	0.0087 U	R	R
1,2-Dibromo-3-chloropropane	- -	- -	- -	- -	- -	mg/kg	R	R	0.023 UJ	0.017 UJ	0.015 UJ	0.013 UJ	0.01 UJ	0.0071 U	0.015 UJ	0.015 UJ	0.021 UJ	0.0087 U	R	R
1,2-Dichloroethene (total)	- -	- -	- -	- -	- -	mg/kg	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 U	0.014 U	0.018 U
1,4-Dichlorobenzene	- -	- -	- -	- -	- -	mg/kg	R	R	0.023 UJ	0.017 UJ	0.015 UJ	0.013 UJ	0.01 UJ	0.0071 U	0.015 UJ	0.015 UJ	0.021 UJ	0.0087 U	R	R
2-Butanone	- -	- -	- -	- -	- -	mg/kg	0.054	0.076	0.19 J	0.072 J	0.11 J	0.046 J	0.01 U	0.011	0.015 U	0.015 U	0.021 U	0.0087 U	0.043	0.07
2-Hexanone	- -	- -	- -	- -	- -	mg/kg	0.016 UJ	0.017 UJ	0.023 UJ	0.017 U	0.015 UJ	0.013 UJ	0.01 U	0.0071 U	0.015 U	0.015 UJ	0.021 U	0.0087 U	0.014 UJ	0.018 UJ
4-Methyl-2-pentanone	- -	- -	- -	- -	- -	mg/kg	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 U	0.014 U	0.018 U
Acetone	- -	- -	- -	- -	- -	mg/kg	0.24 J	0.29 J	0.73 J	0.29 J	0.42 J	0.17 J	0.099	0.046	0.24	0.25	0.51	0.078	0.17	0.27
Benzene	- -	- -	90	26	- -	mg/kg	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 U	0.014 U	0.018 U
Carbon Disulfide	- -	- -	- -	- -	- -	mg/kg	0.04	0.038	0.14	0.051	0.11	0.019	0.012	0.012	0.024	0.036	0.028	0.0098	0.013 J	0.038
Chlorobenzene	- -	- -	34.6	3.5	- -	mg/kg	0.016 UJ	0.017 UJ	0.023 UJ	0.017 U	0.015 UJ	0.013 UJ	0.01 U	0.0071 U	0.015 U	0.015 UJ	0.021 U	0.0087 U	0.014 UJ	0.018 UJ
Chloromethane	- -	- -	- -	- -	- -	mg/kg	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 UJ	0.0071 UJ	0.015 UJ	0.015 U	0.021 U	0.0087 UJ	0.014 U	0.018 U
cis-1,2-Dichloroethene	- -	- -	- -	- -	- -	mg/kg	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 U	0.014 U	0.018 U
Cyclohexane	- -	- -	- -	- -	- -	mg/kg	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.0059 J	0.021 U	0.0087 U	0.014 U	0.018 U
Ethylbenzene	- -	- -	58	6.4	- -	mg/kg	0.016 UJ	0.017 UJ	0.00046 J	0.00071 J	0.015 UJ	0.013 UJ	0.01 U	0.00025 UB	0.00048 UB	0.015 UJ	0.021 U	0.0087 U	0.014 UJ	0.00066 J
Isopropylbenzene	- -	- -	105	12	- -	mg/kg	R	R	0.023 UJ	0.0038 J	0.015 UJ	0.013 UJ	0.01 UJ	0.0071 U	0.0015 J	0.015 UJ	0.021 UJ	0.0087 U	R	0.0017 J
Methyl acetate	- -	- -	- -	- -	- -	mg/kg	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.0061 J	0.01 U	0.0071 U	0.015 U	0.012 J	0.0087 J	0.0087 UJ	0.014 U	0.01 J
Methylcyclohexane	- -	- -	- -	- -	- -	mg/kg	0.0016 J	0.017 U	0.023 U	0.0041 J	0.015 U	0.013 U	0.01 U	0.0071 U	0.0025 J	0.0081 J	0.021 U	0.0087 U	0.014 U	0.0021 J
Methylene Chloride	- -	- -	- -	- -	- -	mg/kg	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 U	0.014 U	0.018 U
Styrene	- -	- -	- -	- -	- -	mg/kg	0.016 UJ	0.017 UJ	0.023 UJ	0.017 U	0.015 UJ	0.013 UJ	0.01 U	0.0071 U	0.015 U	0.015 UJ	0.021 U	0.0087 U	0.014 UJ	0.018 UJ
Toluene	- -	- -	- -	- -	- -	mg/kg	0.0006 J	0.0017 J	0.0012 J	0.017 U	0.0012 J	0.00091 J	0.00041 J	0.00038 J	0.00067 J	0.00086 UB	0.00094 UB	0.00059 J	0.0011 UB	0.0012 UB
Trichlorofluoromethane	- -	- -	- -	- -	- -	mg/kg	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 U	0.014 U	0.018 U
Vinyl Chloride	- -	- -	- -	- -	- -	mg/kg	0.016 U	0.017 U	0.023 U	0.017 U	0.015 U	0.013 U	0.01 U	0.0071 U	0.015 U	0.015 U	0.021 U	0.0087 UJ	0.014 U	0.018 U
Xylenes (total)	- -	- -	- -	- -	- -	mg/kg	0.0013 J	0.017 UJ	0.023 UJ	0.0028 J	0.015 UJ	0.013 UJ	0.01 U	0.0071 U	0.0015 J	0.015 UJ	0.021 U	0.0087 U	0.014 UJ	0.0018 J
Total BTEX	- -	- -	- -	- -	- -	mg/kg	0.0019 J	0.0017 J	0.00166 J	0.00351 J	0.0012 J	0.00091 J	0.00041 J	0.00038 J	0.00217 J	ND	ND	0.00058 J	ND	0.00246 J
Total VOCs	- -	- -	- -	- -	- -	mg/kg	0.3375 J	0.4057 J	1.06166 J	0.42441 J	0.6422 J	0.24201 J	0.11141 J	0.06938 J	0.27017 J	0.312 J	0.5467 J	0.05788 J	0.226 J	0.39426 J
Detected Semivolatile Organics																				
1,1'-Biphenyl	- -	- -	- -	- -	- -	mg/kg	1.5 U	0.088 J	2.8 U	3.6 U	1.6 U	0.036 J	8 U	0.74 U	0.075 J	2.1 U	0.046 J	1.1 U	0.82 U	2.4 U
1-Methylnaphthalene	- -	- -	- -	- -	- -	mg/kg	0.11 J	0.24 J	0.12 J	0.17 JD	0.15 J	0.11 J	0.64 J	0.095 J	0.16 J	0.11 J	0.13 J	0.13 J	0.077 J	0.1 J
2-Methylnaphthalene	0.07	0.67	- -	- -	- -	mg/kg	0.16 J	0.26 J	0.23 J	0.27 JD	0.17 J	0.12 J	0.7 J	0.11 J	0.21 J	0.17 J	0.15 J	0.19 J	0.092 J	0.14 J
2-Nitrophenol	- -	- -	- -	- -	- -	mg/kg	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
4-Chloroaniline	- -	- -	- -	- -	- -	mg/kg	0.23 J	1.4 U	0.53 J	0.53 JD	1.6 U	0.79 U	8 U	0.088 J	0.28 J	2.1 U	0.91 U	1.1 U	0.82 U	0.63 J
Acenaphthene	0.016	0.5	- -	- -	- -	mg/kg	0.21 J	0.48 J	0.24 J	0.34 JD	0.26 J	0.19 J	8.5	0.18 J	0.46 J	0.19 J	0.3 J	0.17 J	0.14 J	0.29 J
Acenaphthylene	0.044	0.64	- -	- -	- -	mg/kg	0.27 J	0.65 J	0.28 J	0.39 JD	0.47 J	0.64 J	2.1 J	0.46 J	0.71 J	0.44 J	0.71 J	0.47 J	0.45 J	0.4 J
Acetophenone	- -	- -	- -	- -	- -	mg/kg	1.5 U	0.12 UB	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.073 UB	1.1 U	0.82 U	2.4 U
Anthracene	0.0853	1.1	- -	- -	- -	mg/kg	0.57 J	1.3 J	0.71 J	0.76 JD	1.1 J	0.82	12	0.57 J	1.3	0.57 J	1.1	0.53 J	0.61 J	0.74 J
Azobenzene	- -	- -	- -	- -	- -	mg/kg	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
Benzaldehyde	- -	- -	- -	- -	- -	mg/kg	1.5 U	0.2 UB	2.8 U	3.6 U	0.1 J	0.79 U	8 U	0.04 J	1.2 U	2.1 U	0.084 UB	1.1 U	0.062 UB	2.4 U
Benzo(a)anthracene	0.261	1.6	- -	- -	- -	mg/kg	2.2	5	2 J	2 JD	3.9	2.9	19	2.3	3.5	1.8 J	3.6	1.9	2.2	2 J
Benzo(a)pyrene	0.43	1.6	- -	- -	- -	mg/kg	2.6	5.8	2.2 J	2.2 JD	4.9	3.5	15	2.7	4.1	2.4	4	3.3	2.8	2.4
Benzo(b)fluoranthene	- -	- -	- -	- -	- -	mg/kg	2.7	5.4	2.1 J	1.7 JD	4.2	2.7 J	8.9 J	1.8 J	3.3 J	2.1 J	3.9 J	2.4 J	2.3 J	1.5 J
Benzo(g,h,i)perylene	- -	- -	- -	- -	- -	mg/kg	1 J	2.2 J	0.86 J	1.3 JD	1.6	1.7 J	6.6 J	0.95 J	1.4 J	0.63 J	1.1 J	1.8 J	1.2 J	0.97 J
Benzo(k)fluoranthene	- -	- -	- -	- -	- -	mg/kg	1.9	4.1	1.5 J	1.3 JD	3	1.9	8.2	1.2	2	2 J	2.9	1.7	1.7	1.7 J
Benzo[e]pyrene	- -	- -	- -	- -	- -	mg/kg	1.8	4	1.5 J	1.4 JD	2.8	2.3	7.9 J	1.5	2.5	1.6 J	2.7	1.9	2.2	1.6 J
Benzoic Acid	- -	- -	- -	- -	- -	mg/kg	3.7 UJ	3.6 UJ	7 U	9 UJ	4 U	2 U	20 UJ	0.21 J	3 UJ	5.3 U	0.34 J	2.8 U	2.1 U	6 U
Benzyl Alcohol	- -	- -	- -	- -	- -	mg/kg	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
bis(2-Ethylhexyl)phthalate	- -	- -	- -	- -	- -	mg/kg	9.1	9.1	10	8.1	4.1	4.6 J	8 UJ	3.7 J	7.1 J	7.1	2.9	0.86 UB	4.8	14
Butylbenzylphthalate	- -	- -	- -	- -	- -	mg/kg	0.24 J	0.26 J	0.2 J	0.69	0.11 J	0.16 UB	8 U	0.078 J	0.17 J	0.22 J	0.57 UB	0.074 UB	0.23 UB	0.28 UB
Caprolactam	- -	- -	- -	- -	- -	mg/kg	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
Carbazole	- -	- -	- -	- -	- -	mg/kg	1.5 U	1.4 U	2.8 U	3.6 U	0.083 J	0.056 J	8 U	0.74 U	1.2 U	2.1 U	0.042 J	1.1 U	0.085 J	2.4 U
Chrysene	0.384	2.8	- -	- -	- -	mg/kg	2.4	5.7	2.4 J	2.6 JD	4.5	3.5	23	2.7	4.7	2.6	4.4	2.5	2.8	2.8

See notes on page 7

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Bronx, New York

Location ID: / Sample Depth (feet): / Date Collected:	ER-L	ER-M	BAL-A	BAL-C	WB	Units	SD-62 1.5 - 2.5 12/20/12	SD-65 1 - 2 12/20/12	SD-66 0 - 1 01/09/13	SD-67 1 - 2 01/09/13	SD-69 0 - 1 01/09/13	SD-72 0 - 1 01/11/13	SD-73 0 - 1 01/14/13	SD-74 1.5 - 2.5 01/14/13	SD-75 0.5 - 1.5 01/14/13	SD-77 0 - 1 01/16/13	SD-78 1 - 2 01/16/13	SD-79 0 - 1 01/17/13	SD-80 1 - 2 01/18/13	SD-81 0.5 - 1.5 01/18/13
Dibenzo(a,h)anthracene	0.0634	0.26	- -	- -	- -	mg/kg	0.28 J	0.7 J	0.33 J	0.29 JD	0.76 J	0.54 J	1.8 J	0.36 J	0.43 J	0.2 J	0.36 J	0.57 J	0.37 J	0.33 J
Dibenzofuran	- -	- -	- -	- -	- -	mg/kg	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.041 J	8 U	0.74 U	0.084 J	2.1 U	0.06 J	1.1 U	0.057 J	2.4 U
Diethylphthalate	- -	- -	- -	- -	- -	mg/kg	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
Dimethylphthalate	- -	- -	- -	- -	- -	mg/kg	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
Di-n-Butylphthalate	- -	- -	- -	- -	- -	mg/kg	0.12 J	1.4 U	0.16 J	3.6 U	0.08 J	0.27 J	8 U	0.048 J	0.13 J	0.21 J	0.078 J	1.1 U	0.08 J	0.11 J
Di-n-Octylphthalate	- -	- -	- -	- -	- -	mg/kg	1.5 U	1.4 U	2.8 U	3.6 UJ	1.6 U	0.79 UJ	8 UJ	0.74 UJ	1.2 UJ	2.1 UJ	0.91 UJ	1.1 UJ	0.82 UJ	2.4 UJ
Fluoranthene	0.6	5.1	- -	- -	- -	mg/kg	3.1	7.4	3.1	2.8 JD	4.2	3.3 J	32 J	2.3 J	4 J	2.1	3.2	1.8	2.7	2.6
Fluorene	0.019	0.54	- -	- -	- -	mg/kg	0.12 J	1.4 U	0.15 J	0.23 JD	1.6 U	0.13 J	1.2 J	0.084 J	0.27 J	0.15 J	0.18 J	0.11 J	0.11 J	0.18 J
Indeno(1,2,3-cd)pyrene	- -	- -	- -	- -	- -	mg/kg	0.76 J	1.7	0.67 J	0.92 JD	1.3 J	1.5 J	5.4 J	0.9 J	1.3 J	0.52 J	0.9 J	1.4 J	1 J	0.81 J
Naphthalene	0.16	2.1	- -	- -	- -	mg/kg	0.2 J	0.48 J	0.24 J	0.29 JD	0.23 J	0.13 J	0.68 J	0.12 J	0.22 J	0.18 J	0.16 J	0.19 J	0.11 J	0.16 J
N-Nitrosodimethylamine	- -	- -	- -	- -	- -	mg/kg	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
N-Nitroso-di-n-propylamine	- -	- -	- -	- -	- -	mg/kg	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
Perylene	- -	- -	- -	- -	- -	mg/kg	0.63 J	1.2 J	0.53 J	0.52 JD	0.83 J	0.85	2.6 J	0.61 J	0.89 J	0.56 J	0.91	0.63 J	0.69 J	0.68 J
Phenanthrene	0.24	1.5	- -	- -	- -	mg/kg	0.95 J	2.4	1 J	1.6 JD	1.6	1.2	15	0.82	1.6	0.98 J	1.4	0.88 J	0.97	1.1 J
Phenol	- -	- -	- -	- -	- -	mg/kg	1.5 U	1.4 U	2.8 U	3.6 U	1.6 U	0.79 U	8 U	0.74 U	1.2 U	2.1 U	0.91 U	1.1 U	0.82 U	2.4 U
Pyrene	0.665	2.6	- -	- -	- -	mg/kg	4	11	3.3	4.2 D	5.9	4.6	55	3.7	5.7	3.1	5.3	6.7	3.5	3.6
Total PAHs	4.022	44.792	- -	- -	- -	mg/kg	23.42 J	54.57 J	21.31 J	23.19 J	38.09 J	29.37 J	215.08 J	21.254 J	35.2 J	20.13 J	33.66 J	26.61 J	23.052 J	21.72 J
Total SVOCs	- -	- -	- -	- -	- -	mg/kg	35.65 J	69.458 J	34.35 J	34.6 J	46.343 J	37.633 J	226.22 J	27.623 J	46.589 J	29.93 J	40.866 J	29.27 J	31.041 J	38.84 J
Detected Inorganics																				
Aluminum	- -	- -	- -	- -	- -	mg/kg	15,400 J	14,300 J	26,400	41,300	14,500	13,500 J	15,600 J	8,170 J	15,200 J	15,600 J	16,100 J	9,630 J	14,600 J	15,300 J
Antimony	- -	- -	- -	- -	- -	mg/kg	10.9 U	10.5 U	1.5 J	1.9 J	1.3 J	7.9 U	1.6 J	0.81 J	1.3 J	1.2 J	1.4 J	0.87 J	1.3 J	1.5 J
Arsenic	8.2	70	- -	- -	- -	mg/kg	15.9	15.5	27.3	41.7	14	13	15.8	8.1	18.8	17.6 J	11.4 J	8.7 J	13.6 J	17.2 J
Barium	- -	- -	- -	- -	- -	mg/kg	124 J	119 J	251	418 J	133	116 J	182 J	88.5 J	157 J	184 J	89.8 J	80.4 J	91.6	139
Beryllium	- -	- -	- -	- -	- -	mg/kg	0.74 J	0.75 J	1.2 J	2.3	0.65 J	0.59 J	1.1	0.4 J	1.1	1.2	1.1	0.69	1	1.1
Cadmium	1.2	9.6	- -	- -	- -	mg/kg	3.7 J	3.3 J	9	16.5	2.4	2.6	1.1	1.7	3.9	7.3	0.91	0.55 J	1.6	3.3
Calcium	- -	- -	- -	- -	- -	mg/kg	4,460	4,000	8,760	13,000 J	7,720	10,700 J	3,180 J	5,880 J	5,800 J	4,940 J	7,760 J	6,030 J	5,060 J	6,200 J
Chromium	81	370	- -	- -	- -	mg/kg	173 J	131 J	328	560 J	124	117 J	57.1 J	75.5 J	187 J	261 J	82.3 J	41.6 J	76.7 J	191 J
Cobalt	- -	- -	- -	- -	- -	mg/kg	9.3 J	8.9 J	16.4	26.2 J	10.7	9.5 J	11.6	6.5 J	9.9	10.1	11	7.4	9.4	9.9
Copper	34	270	- -	- -	- -	mg/kg	287 J	228 J	577	1,130	206	217 J	132	121	300	430 J	130 J	69 J	148 J	300 J
Cyanide	- -	- -	- -	- -	- -	mg/kg	0.55 UB	0.36 UB	0.87 J	1.2 J	0.24 J	1.2 U	0.17 J	0.18 J	0.84 J	0.5 J	0.26 J	0.85 U	0.14 J	0.82 J
Iron	- -	- -	- -	- -	- -	mg/kg	30,100 J	31,800 J	50,200	80,300 J	30,400	27,800 J	30,400 J	18,200 J	30,300 J	30,300 J	29,900 J	19,600 J	29,200 J	31,000 J
Lead	46.7	218	- -	- -	- -	mg/kg	332	284	573	863	238	226	272	164	397	451 J	185 J	111 J	194	353
Magnesium	- -	- -	- -	- -	- -	mg/kg	8,190 J	7,850 J	14,200	21,300	8,620	7,710 J	8,110 J	5,670 J	8,440 J	8,200 J	9,080 J	6,380 J	8,810 J	8,600 J
Manganese	- -	- -	- -	- -	- -	mg/kg	418 J	365 J	766	1,170 J	589	490 J	377 J	346 J	560 J	400 J	912 J	414 J	431 J	600 J
Mercury	0.15	0.71	- -	- -	- -	mg/kg	2.9	2.1	2.9	2.6	2.2	2	2.7	1.2	3.1	3.4	1.4	0.79	1.5	3
Nickel	20.9	51.6	- -	- -	- -	mg/kg	39 J	33.6 J	78.3	139 J	35.3	32.7 J	33.6 J	22.2 J	41.7 J	53.1	27.8	18.3	27.8 J	41.5 J
Potassium	- -	- -	- -	- -	- -	mg/kg	3,930 J	3,750 J	7,410	10,700	4,130	3,970 J	5,780 J	2,770 J	4,140 J	4,190 J	4,430 J	2,930 J	3,820 J	4,160 J
Selenium	- -	- -	- -	- -	- -	mg/kg	6.4 UJ	6.1 UJ	9.1 U	13.8 U	7.1 U	4.6 U	3.7 U	3.4 U	5.4 U	4.7 U	5.1 U	4 U	5.9 U	5.5 U
Silver	1	3.7	- -	- -	- -	mg/kg	8	5.9	17.5	32.7 J	6.9	6.4	2.8	3.2	8.7	13.8 J	3.9 J	1.8 J	3.8 J	9.2 J
Sodium	- -	- -	- -	- -	- -	mg/kg	11,600 J	11,000 J	26,800	29,100	11,800	11,200 J	6,940 J	5,250 J	12,400 J	11,900 J	12,800 J	6,190 J	11,600 J	14,000 J
Thallium	- -	- -	- -	- -	- -	mg/kg	4.5 U	4.4 U	6.5 U	4.9 U	5.1 U	3.3 U	2.7 UJ	3.7 UJ	3.9 UJ	0.64 J	3.7 U	2.9 U	4.2 U	3.9 U
Vanadium	- -	- -	- -	- -	- -	mg/kg	47.5 J	43.2 J	95	162	46.2	41.5 J	55.7 J	26.7 J	50.4 J	72.1 J	45.8 J	27.7 J	40.9 J	53.5 J
Zinc	150	410	- -	- -	- -	mg/kg	326 J	326 J	668	1,040 J	294	287 J	310 J	164 J	320 J	477 J	216 J	131 J	311 J	347 J
Detected Miscellaneous																				
Percent Solids	- -	- -	- -	- -	- -	%	38.5	39.1	29.9	37.4	40.8	41.2	51.5	58.9	38.2	39.4	36.4	57.5	40.1	34.5
Total Organic Carbon	- -	- -	- -	- -	- -	mg/kg	41,200	43,100	58,500	53,100	51,900	50,400	53,800	25,000	46,900	72,100	41,800	20,500	52,800	53,200

See notes on page 7

Table 8-1
Comparison of Sediment Data to Ecological Screening Criteria

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
Hunts Point Former Manufactured Gas Plant
Bronx, New York

Notes:
Constituents detected above ER-L are highlighted blue.
Constituents detected above ER-M are highlighted green.
Constituents detected above BAL-A, BAL-C, and/or WB are highlighted yellow
Total PAHs were screened against the total PAH background value of 70 mg/kg established by AECOM (2009). Total PAH values greater than 70 mg/kg are highlighted red.
1. Samples that were not detected are reported at the reporting limit
2. Qualifiers are as follows:

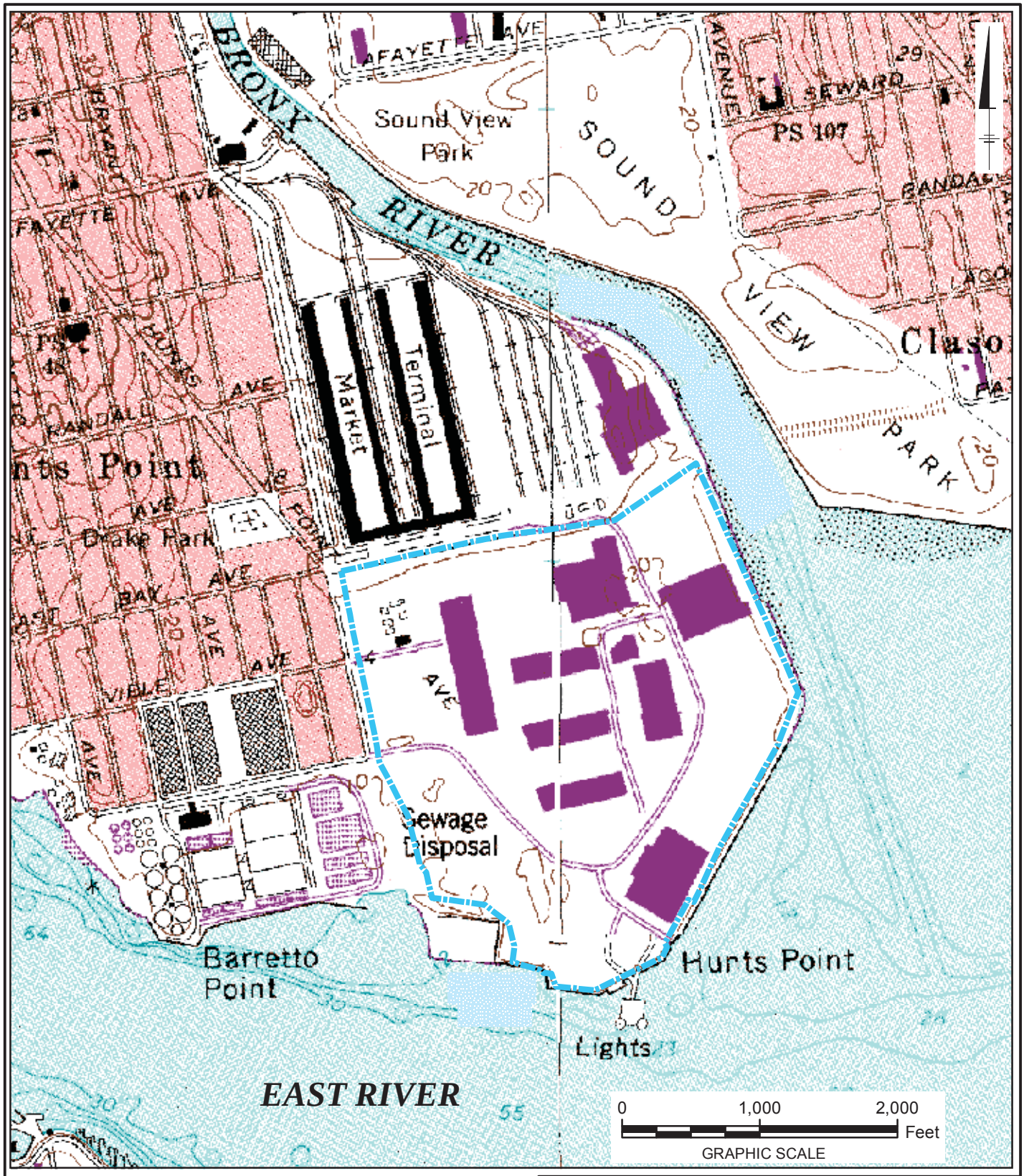
J	=	Result is less than the reporting limit but greater than or equal to the method detection limit
ND	=	None detected. This applies to summations were there were no detects for all individual constituents
R	=	The value was rejected during data validation.
U	=	The compound was analyzed for but not detected. The associated value is the reporting limit
D	=	Sample results are obtained from a dilution.
B	=	Compound was found in the blank and sample.
H	=	Sample was prepped or analyzed beyond the specified holding time

3. ER-L and ER-M from Table 3 and 4 of the NYSDEC (1999) Technical Guidance for Screening Contaminated Sediments
4. BAL-A, BAL-C, and WB from Table 1 of the NYSDEC (1999) Technical Guidance for Screening Contaminated Sediments. They are recorded in micrograms per gram of organic carbon (µg/gOC).
5. Results for duplicate samples are presented in brackets.

BAL-A	=	benthic aquatic life acute toxicity
BAL-C	=	benthic aquatic life chronic toxicity
BTEX	=	benzene, toluene, ethylbenzene, and xylene
ER-L	=	effects range-low
ER-M	=	effects range-median
mg/kg	=	milligrams per kilogram
NYSDEC	=	New York State Department of Environmental Conservation
PAH	=	polycyclic aromatic hydrocarbons
Total PAHs	=	the summation of the 17 Target Analyte List PAHs. Non-detects were taken as zero
Total VOCs	=	the summation of all detected VOCs. Non-detects were taken as zero
Total SVOCs	=	the summation of all detected SVOCs. Non-detects were taken as zero
Total BTEX	=	the summation of detected values for benzene, toluene, ethylbenzene and xylenes. Non-detects were taken as zero
VOC	=	volatile organic compounds
WB	=	wildlife bioaccumulation

ARCADIS

Figures



LEGEND:

APPROXIMATE EXTENT OF FORMER MGP

NOTE:

1. 1979 FLUSHING, N.Y. AND CENTRAL PARK, N.Y. - N.J. USGS QUADRANGLE.

AREA LOCATION

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

SITE LOCATION MAP

ARCADIS

FIGURE 1-1

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
Hunts Point (Project #)
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LEGEND:

- CURRENT/FORMER OUTFALL LOCATION
- COAL TAR (EXTENT UNKNOWN)
- SHEEN (EXTENT UNKNOWN)
- TAR BOILS (EXTENT UNKNOWN)

VISUAL OBSERVATION:

- SHEEN
- STAINING AND ODOR
- PURIFIER WASTE AND ODOR
- TAR SATURATED

- HISTORICAL SITE FEATURE (APPROXIMATE)
- HISTORICAL SURFACE DRAINAGE (APPROXIMATE)
- BRONX RIVER FEDERAL NAVIGATION CHANNEL
- CURRENT/FORMER DREDGED CHANNEL (APPROXIMATE)
- FILLED LAND (1947-1975)
- PURIFIER WASTE AREA
- SHEEN
- COAL TAR
- TAR BOILS
- MIXTURE OF COAL TAR AND PURIFIER WASTE AREA
- APPROXIMATE EXTENT OF FORMER MGP
- PARCEL BOUNDARY
- PETROLEUM IMPACTS

NOTES:

1. IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. PARCEL BOUNDARIES ADOPTED FROM CADD FILE PREPARED BY LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP.
3. HISTORIC SITE FEATURES ADOPTED FROM CADD FILE PREPARED BY PARSONS ENGINEERING SCIENCE.
4. SITE CHARACTERIZATION DETAILS FOR PARCEL C ADOPTED FROM RESPONSE PLAN FOR THE OPERATING UNIT PORTION OF PARCEL C. LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP, REVISED OCTOBER 2001. EXTENT OF COAL TAR, TAR BOILS, AND SHEEN DEPICTED FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL EXTENT OBSERVED DURING INVESTIGATION ACTIVITIES WAS NOT REPORTED.
5. SITE CHARACTERIZATION DETAILS FOR PARCEL D AND ADJACENT PERIMETER PARCEL ADOPTED FROM INVESTIGATIVE REPORT FOR PARCEL D. LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP, REVISED OCTOBER 2005.
6. SITE CHARACTERIZATION DETAILS FOR PARCEL F ADOPTED FROM SITE INVESTIGATIVE REPORT FOR PARCEL F, HDR/LMS, NOVEMBER 2007.
7. COAL TAR AND PURIFIER WASTE ON PERIMETER PARCEL EXCAVATED DURING THE CONSTRUCTION OF THE IROQUOIS PIPELINE.
8. SOIL BORING OBSERVATIONS ON THE KRASDALE PROPERTY ARE SUMMARIZED IN THE SITE CHARACTERIZATION REPORT (ARCADIS 2013).

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

SITE FEATURES

ARCADIS

FIGURE 2-1

City:SYR Div/Group:: SWG Created By:J.Rapp Last Saved By: jrapp
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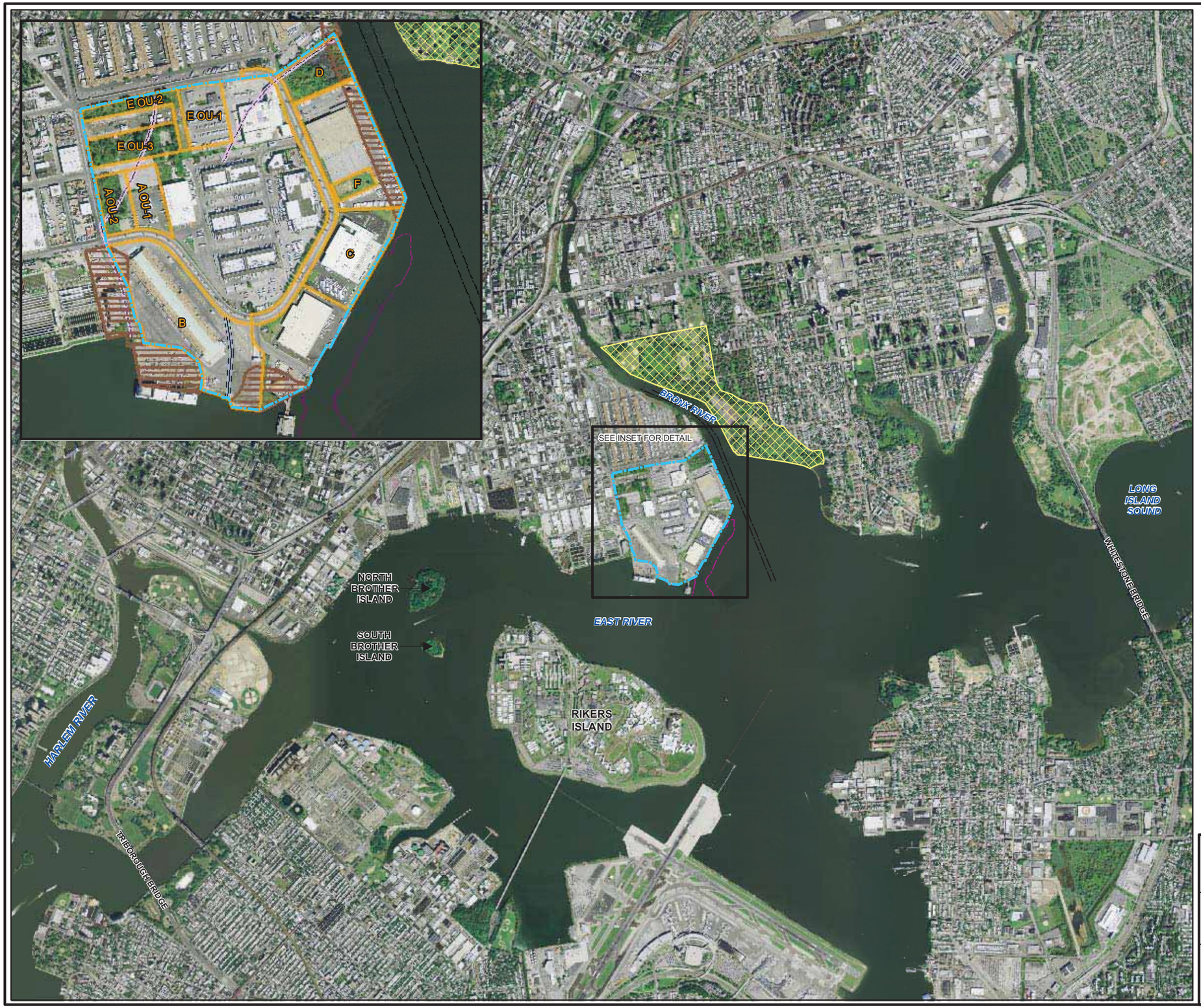

LEGEND:

- HISTORICAL SURFACE DRAINAGE (APPROXIMATE)
- NYCEP CSO (APPROXIMATE)
- BRONX RIVER FEDERAL NAVIGATION CHANNEL
- CURRENT/FORMER DREDGED CHANNEL (APPROXIMATE)
- APPROXIMATE EXTENT OF FORMER MGP
- PARCEL BOUNDARY
- FILLED LAND (1947-1975)
- INACTIVE LANDFILL

0 2,700 5,400 Feet

GRAPHIC SCALE

NOTES:

1. IMAGERY OBTAINED FROM DIGITAL GLOBE, SEPTEMBER 19, 2009.
2. PARCEL BOUNDARIES ADOPTED FROM CADD FILE PREPARED BY LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP.

NYCEP = NEW YORK CITY ENVIRONMENTAL PROTECTION
CSO = COMBINED SEWER OVERFLOW.

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

SITE SETTING

ARCADIS

FIGURE
2-2

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
Hunts Point (Project #)
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Hunts Point (Project #)
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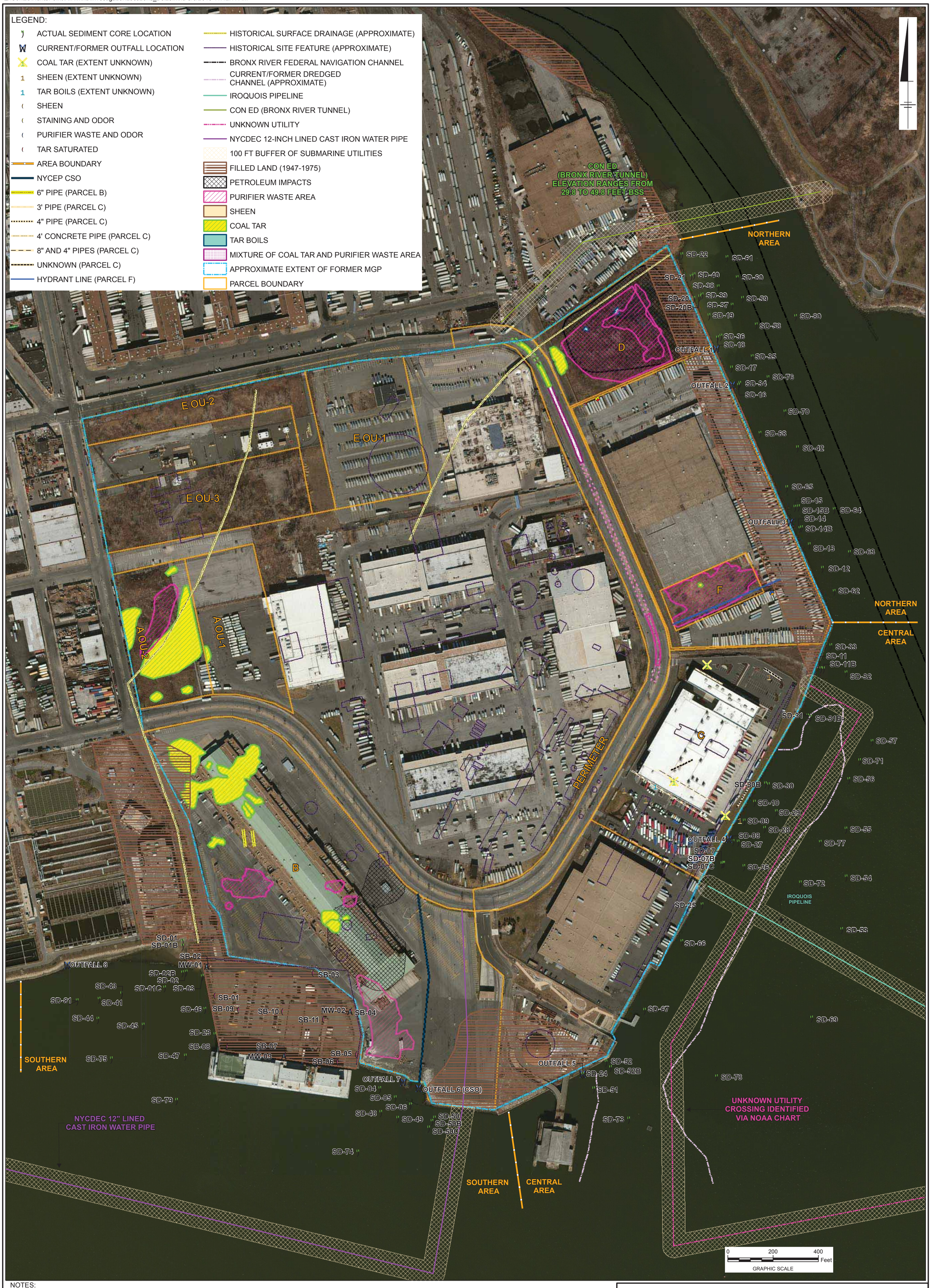

NOTES:

1. IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. ALL LOCATIONS ARE APPROXIMATE.
3. PARCEL BOUNDARIES ADOPTED FROM CADDFILE PREPARED BY LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP.
4. SITE CHARACTERIZATION DETAILS FOR PARCEL C ADOPTED FROM RESPONSE PLAN FOR THE OPERATING UNIT PORTION OF PARCEL C, LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP, REVISED OCTOBER 2001. EXTENT OF COAL TAR, TAR BOILS, AND SHEEN DEPICTED FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL EXTENT OBSERVED DURING INVESTIGATION ACTIVITIES WAS NOT REPORTED.
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8. SOIL BORING OBSERVATIONS ON THE KRASDALE PROPERTY ARE SUMMARIZED IN THE SITE CHARACTERIZATION REPORT (ARCADIS 2013).
9. THE BRONX RIVER TUNNEL SUBMARINE CROSSING LOCATION IS BASED ON THE CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. ELECTRICAL ENGINEERING DEPARTMENT. DRAWING NO. E0-1233-A – SUBMARINE, TUNNEL, AND OVERHEAD TRANSMISSION LINE CROSSING FOR ELECTRIC CABLES AND GAS MAINS ON THE SYSTEM, REVISION 28 (ORIGINALLY DATED 7/6/1937 AND LAST REVISED ON 8/1/2005) AS WELLAS PLATE NO. 6-P OF THE GAS MAINS AND SERVICE PLATE LAST MODIFIED ON 5/1/2012.
10. THE POTENTIAL UNIDENTIFIED UTILITY CROSSINGS AND IROQUOIS PIPELINE ARE APPROXIMATE AND BASED ON A REVIEW OF THE NAVIGATIONAL CHART FOR THE EAST RIVER FROM TALLMAN ISLAND TO QUEENSBORO BRIDGE (CHART NUMBER 12339, EDITION 46, JUNE 2008) AVAILABLE AT THE NOAA OFFICE OF COAST SURVEY ON-LINE CHART VIEWER.
11. THE NYCDEC 12-INCH LINED CAST IRON WATER PIPE UPLAND LOCATION IS BASED ON THE WATER MAPPING FIGURE PROVIDED THE NYCDEC BUREAU OF WATER, PRINTED ON APRIL 12, 2012 FOR THE KRASDALE PROPERTY UTILITY REQUEST.
12. HISTORIC SITE FEATURES ADOPTED FROM CADD FILE PREPARED BY PARSONS ENGINEERING SCIENCE.

NYCEP = NEW YORK CITY ENVIRONMENTAL PROTECTION
CSO = COMBINED SEWER OVERFLOW

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

INVESTIGATION LOCATION MAP

ARCADIS

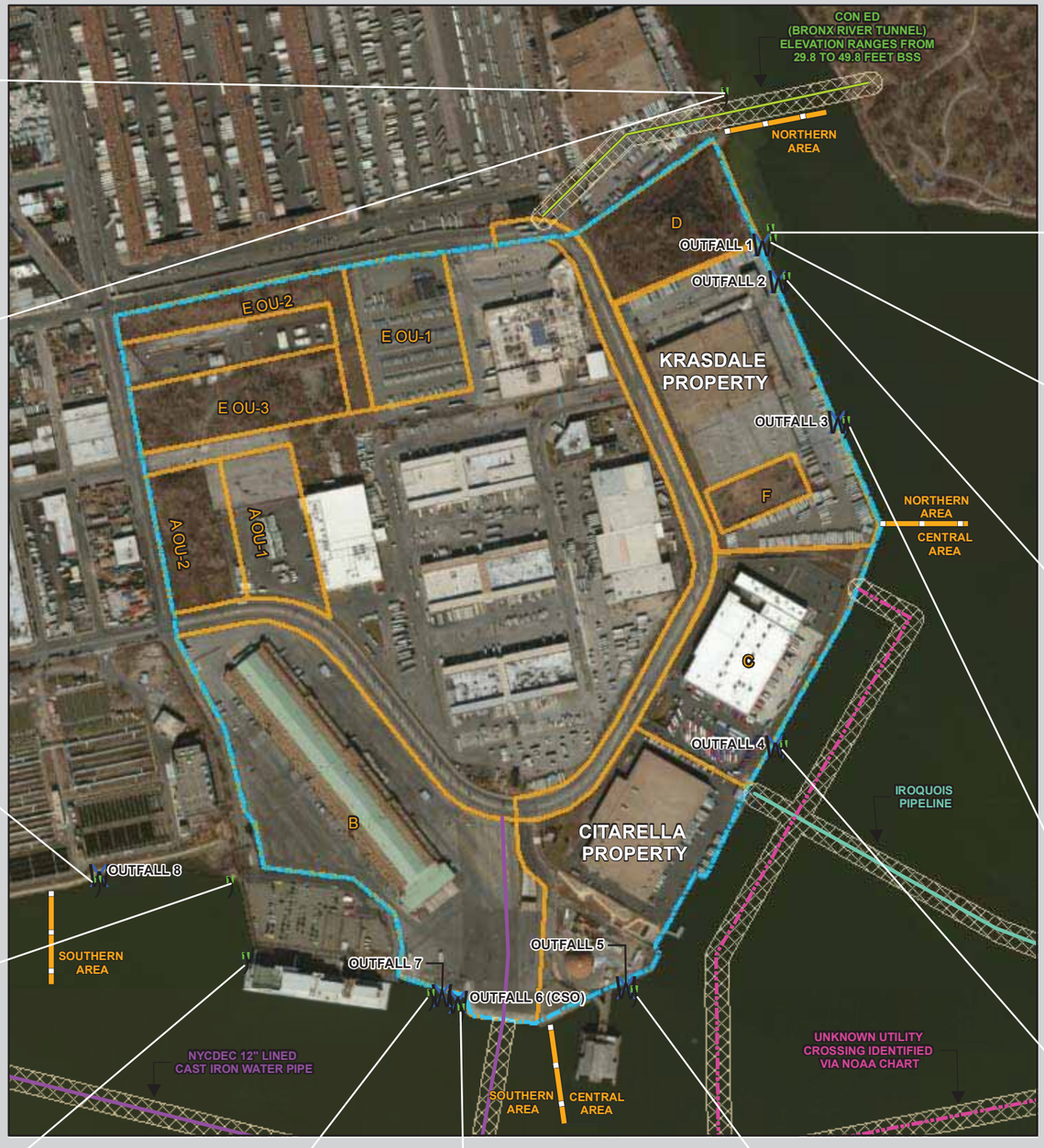
FIGURE 3-1

CON ED SUBMARINE UTILITY CROSSING; WESTERN SHORELINE OF BRONX RIVER

CON ED SUBMARINE UTILITY CROSSING; EASTERN SHORELINE OF BRONX RIVER

24" OUTFALL SEEN TO WEST OF ADJACENT PROPERTY BUILDING

FORMER SURFACE WATER DRAINAGE AREA



BLUE TINTED SURFACE WATER

12" DRAIN PIPE

12" DRAIN PIPE

12" DRAIN PIPE

60" CONCRETE OUTFALL

MULTIPLE 2" DIAMETER DRAIN PIPES/LOCATIONS

24" OUTFALL/DISCHARGE PIPE

OUTFALL TUNNEL

12" DRAIN PIPE

LEGEND:

- PHOTO LOCATION
- CURRENT/FORMER OUTFALL LOCATION
- AREA BOUNDARY
- APPROXIMATE EXTENT OF FORMER MGP
- PARCEL BOUNDARY

0 600 1,200 Feet

GRAPHIC SCALE

NOTES:

1. 2011 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. PARCEL BOUNDARIES ADOPTED FROM CADD FILE PREPARED BY LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP.
4. SITE CHARACTERIZATION DETAILS FOR PARCEL C ADOPTED FROM RESPONSE PLAN FOR THE OPERATING UNIT PORTION OF PARCEL C, LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP, REVISED OCTOBER 2001. EXTENT OF COAL TAR, TAR BOILS, AND SHEEN DEPICTED FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL EXTENT OBSERVED DURING INVESTIGATION ACTIVITIES WAS NOT REPORTED.
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NYCEP = NEW YORK CITY ENVIRONMENTAL PROTECTION
CSO = COMBINED SEWER OVERFLOW

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

SITE RECONNAISSANCE

ARCADIS

FIGURE 4-1

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
Hunts Point (Project #)
Q:\ConEd\HuntsPoint\RI\RImxd\SiteReconnaissance.mxd 8/6/2013 1:27:26 PM

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
Hunts Point (Project #)
Q:\ConEd\HuntsPoint\RIR\mxd\CrossSectionMap.mxd 7/31/2013 9:50:03 AM

NOTES:

1. IMAGERY OBTAINED FROM DIGITAL GLOBE, SEPTEMBER 19, 2009.
2. ALL LOCATIONS ARE APPROXIMATE.
3. PARCEL BOUNDARIES ADOPTED FROM CADD FILE PREPARED BY LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP.
4. SITE CHARACTERIZATION DETAILS FOR PARCEL C ADOPTED FROM RESPONSE PLAN FOR THE OPERATING UNIT PORTION OF PARCEL C, LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP, REVISED OCTOBER 2001. EXTENT OF COAL TAR, TAR BOILS, AND SHEEN DEPICTED FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL EXTENT OBSERVED DURING INVESTIGATION ACTIVITIES WAS NOT REPORTED.
5. SITE CHARACTERIZATION DETAILS FOR PARCEL D AND ADJACENT PERIMETER PARCEL ADOPTED FROM INVESTIGATIVE REPORT FOR PARCEL D, LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP, REVISED OCTOBER 2005.
6. SITE CHARACTERIZATION DETAILS FOR PARCEL F ADOPTED FROM SITE INVESTIGATIVE REPORT FOR PARCEL F, HDR/LMS, NOVEMBER 2007.
7. COAL TAR AND PURIFIER WASTE ON PERIMETER PARCEL EXCAVATED DURING THE CONSTRUCTION OF THE IROQUOIS PIPELINE.

NYCEP = NEW YORK CITY ENVIRONMENTAL PROTECTION
CSO = COMBINED SEWER OVERFLOW

0 200 400 Feet
GRAPHIC SCALE

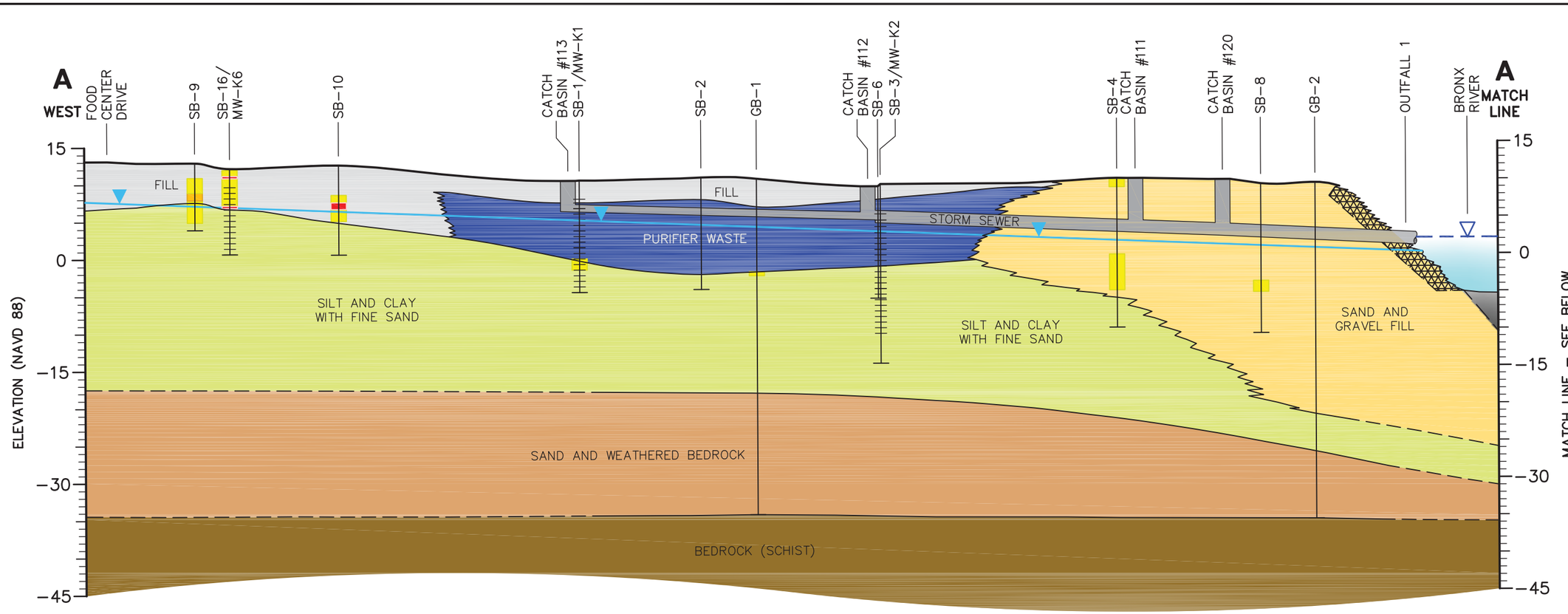
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

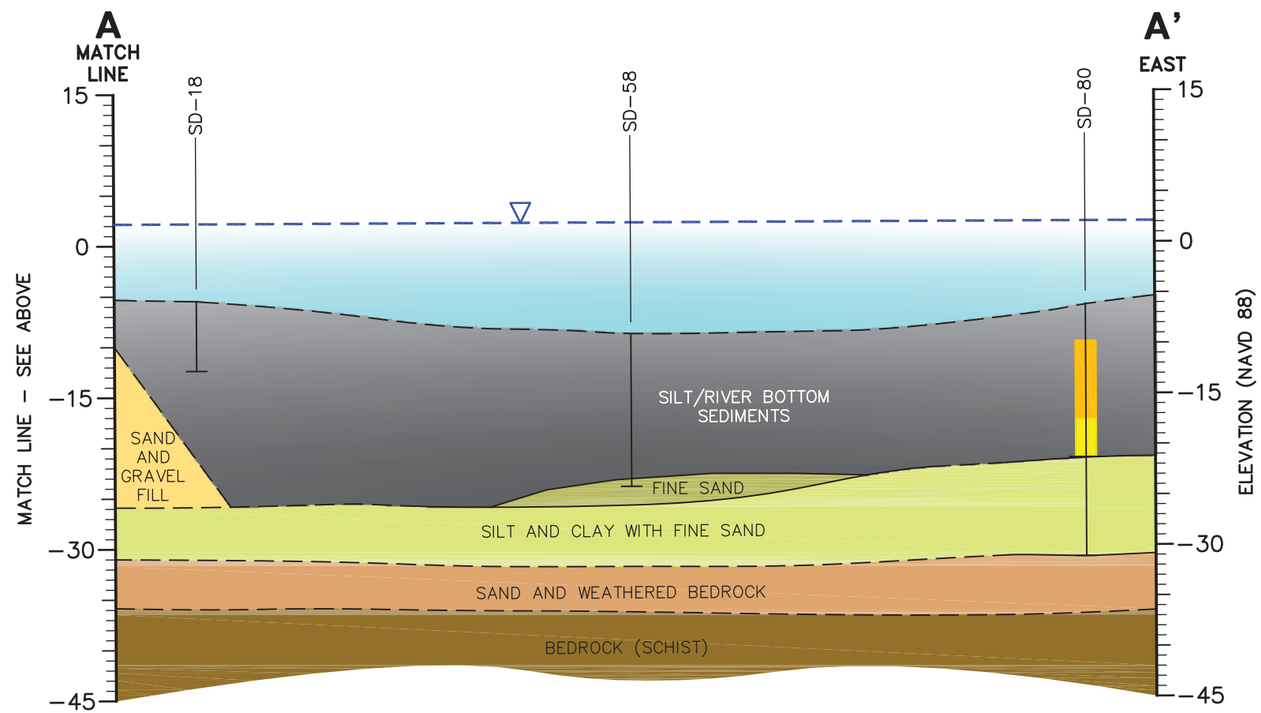
REMEDIAL INVESTIGATION REPORT

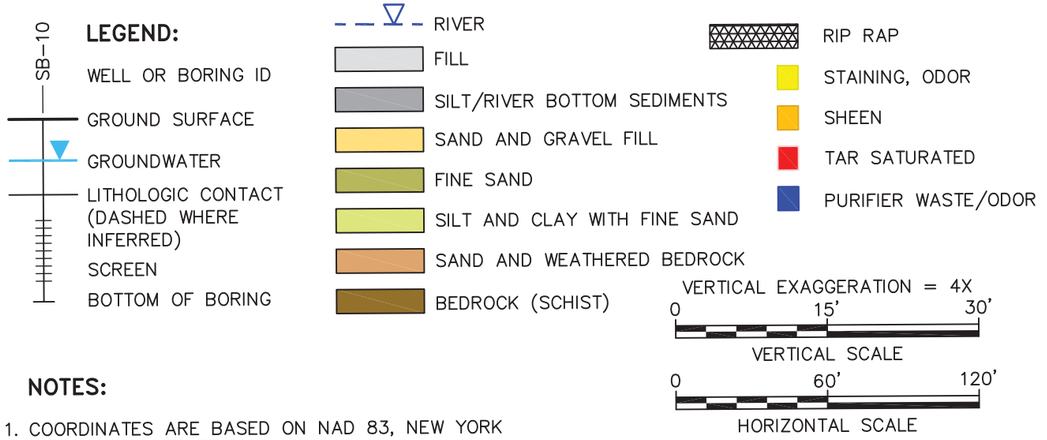
CROSS SECTION LOCATION PLAN

ARCADIS

FIGURE
4-2







NOTES:

1. COORDINATES ARE BASED ON NAD 83, NEW YORK LONG ISLAND STATE PLANE.
2. VERTICAL DATUM BASED ON NAVD 88.
3. BORING INFORMATION FOR GP-01 WAS OBTAINED FROM THE INVESTIGATIVE REPORT FOR PARCEL D, BRONX, NEW YORK, PREPARED BY LAWLER, MATUSKY & SKELLY ENGINEERING, LLP, OCTOBER 2005.
4. ALL LOCATIONS ARE APPROXIMATE.
5. SEE FIGURE 5-9 FOR CROSS SECTION LOCATION.

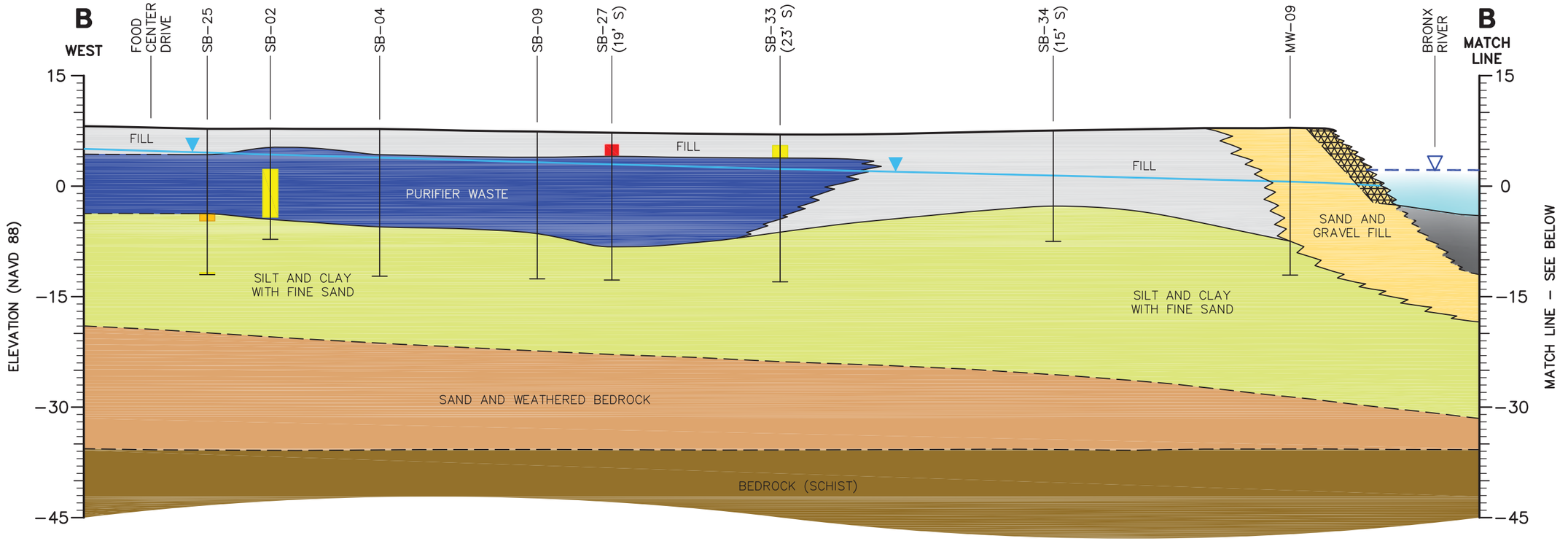
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT
REMEDIAL INVESTIGATION REPORT

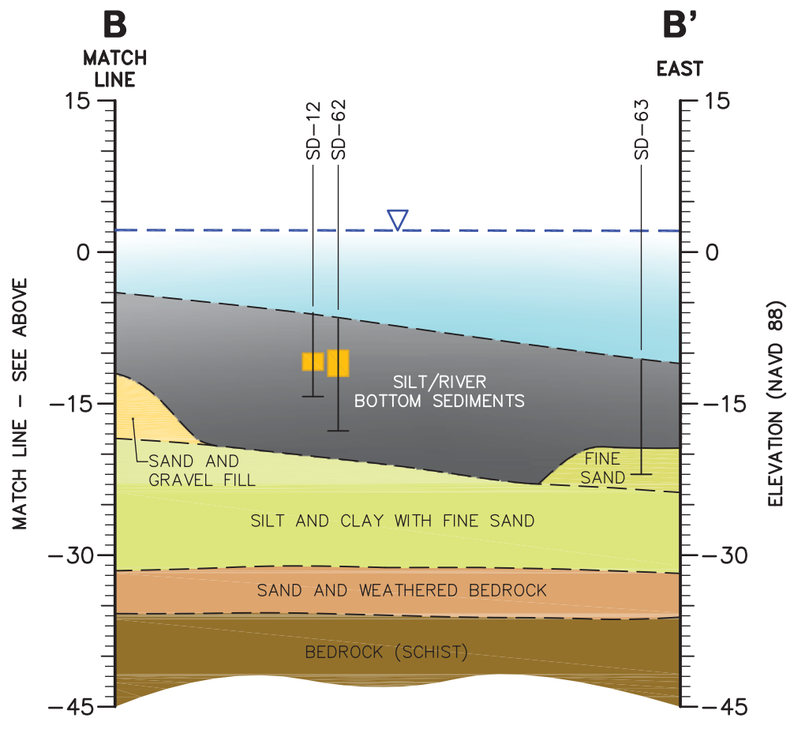
CROSS SECTION A-A'

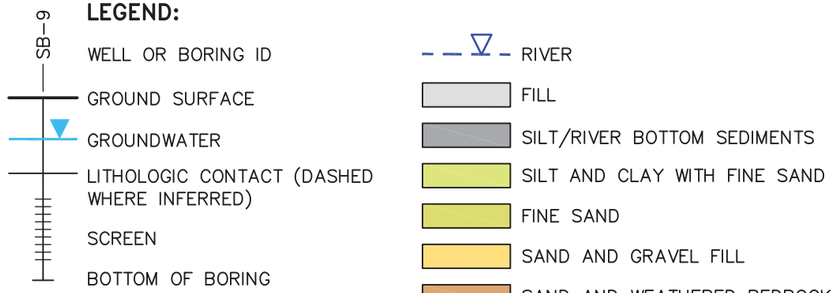
ARCADIS

FIGURE
4-3

CITY:SYRACUSE, N.Y. DIV/GROUP:ENV/IM-DV DB:R.ALLEN LD:R.PETRIE PIC:(Opt) PM:M.HAYES TM:B.HAMILTON RB:M.BELL/R.SHATT
G:\ENV\CAD\SYRACUSE\ACTIB\0043026\0003\0006000\DWG\OSR\-RPTIB0043026_0002_V10.dwg LAYOUT: 4-3 SAVED: 6/26/2013 3:51 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 7/30/2013 2:09 PM BY: FORAKER, LYDIA
XREFS: IMAGES: PROJECTNAME: ---
B0043026_0002_XBL

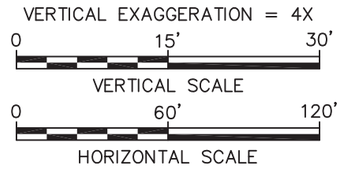






NOTES:

1. COORDINATES ARE BASED ON NAD 83, NEW YORK LONG ISLAND STATE PLANE.
2. VERTICAL DATUM BASED ON NAVD 88.
3. BORING INFORMATION FOR SB-02, SB-04, SB-09, SB-27, SB-33 AND SB-34 WAS OBTAINED FROM BORING LOGS PROVIDED BY THE NEW YORK CITY ECONOMIC DEVELOPMENT CORPORATION. BORINGS WERE COMPLETED AS PART OF PRE-DESIGN INVESTIGATION ACTIVITIES FOR PARCEL F.
4. ALL LOCATIONS ARE APPROXIMATE.
5. SEE FIGURE 5-9 FOR CROSS SECTION LOCATION.



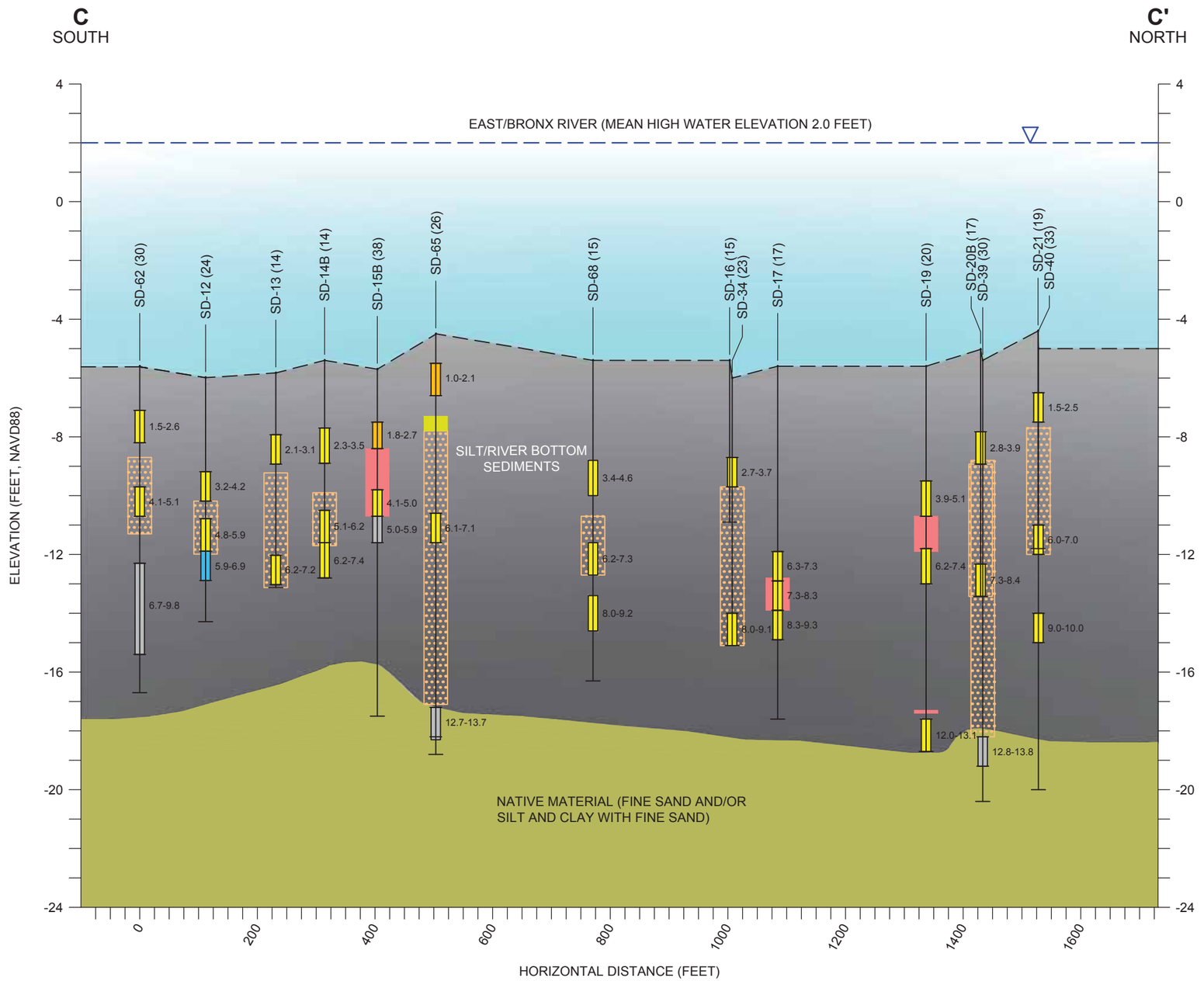
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT
REMEDIAL INVESTIGATION REPORT

CROSS SECTION B-B'

ARCADIS

FIGURE
4-4

CITY:SYRACUSE, N.Y. DIV/GROUP:ENV/IM-DIV DB:R.ALLEN LD:R.PETRIE PIC:(Opt) PM:MJHAYES TM:B.HAMILTON RB:M.BELL/R.SHATT LYR:(Opt)ON=*;OFF=*REF*
G:\ENV\CAD\SYRACUSE\ACT\B0043026\0003\0600\DWG\OSR\RPT\B0043026_0002_V11.dwg LAYOUT: 4-4 SAVED: 7/30/2013 2:10 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 7/30/2013 2:10 PM BY: FORAKER, LYDIA
XREFS: IMAGES: PROJECTNAME: ---
B0043026_0002_XBL



LEGEND:

SD-62 — BORING ID (AND DISTANCE PROJECTED IF OVER 20 FEET)

TOP OF SEDIMENT

SHEEN

TRACE TO LITTLE SHEEN

ODOR

5.0-6.0 — TOTAL PAH SAMPLE DEPTH IN FEET BELOW SEDIMENT SURFACE

TOTAL PAH KEY:

- ND
- <4.0 mg/kg
- 4.0-44.8 mg/kg
- 44.8-70 mg/kg

BORING BOTTOM

SILT / RIVER BOTTOM SEDIMENTS

NATIVE MATERIAL (FINE SAND AND/OR SILT AND CLAY WITH FINE SAND)

VERTICAL SCALE (FEET) 0 4

HORIZONTAL SCALE (FEET) 0 200

NOTES:

1. ELEVATIONS IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. MHW OBTAINED FROM NOAA STATION 8518639, PORT MORRIS, EAST 138TH STREET.
3. DEPTHS HAVE BEEN ADJUSTED BASED ON PERCENT RECOVERY OBTAINED IN EACH CORE (EXCEPT FOR LOCATION SD-7B) .
4. mg/kg = MILLIGRAM PER KILOGRAM
5. THE SEDIMENT CORE COLLECTED AT SD-36 WAS NOT PROCESSED BECAUSE THE ACTUAL PENETRATION WAS NOT SIGNIFICANTLY GREATER THAN THE ACTUAL PENETRATION RECORDED AT SD-18.

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT
REMEDIAL INVESTIGATION REPORT

CROSS SECTION C-C'

ARCADIS

FIGURE
4-5

CITY:SYRACUSE DIV/GROUP:ENVAD DB:R.PETRIE LD:(Opt) PIC:(Opt) PM:T.GRANZEIER TM:C.KUBACKI RB:M.BELL/R.SHATT LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\SYRACUSE\ACT\B0043026\0003\06000\DWG\OSRI-RPT\B0043026_0002_V12.dwg LAYOUT: 4-5 SAVED: 8/6/2013 12:44 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: C-LB-PDF-GMS PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 8/6/2013 12:50 PM BY: STOWELL, GARY
XREFS: IMAGES: PROJECTNAME: ----
B0043026_0002_XBL

CITY:SYRACUSE DIV/GROUP:ENVAD DB:R.PETRIE LD:(Opt) PIC:(Opt) PM:.T.GRANZEIER TM:C.KUBACKI RB:M.BELL/R.SHATT LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\SYRACUSE\ACT\B0043026\0003\06000\DWG\OSRI-RPT\B0043026_0002_V12.dwg LAYOUT: 4-6 SAVED: 7/31/2013 6:04 PM ACADVER: 18.1S (LMS TECH) PAGESETUP:.... PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 7/31/2013 6:06 PM BY: PETRIE, RICH
XREFS: IMAGES: PROJECTNAME: ----
B0043026_0002_XBL

D SOUTHWEST — **D'** NORTHEAST

EAST/BRONX RIVER (MEAN HIGH WATER ELEVATION 2.0 FEET)

ELEVATION (FEET, NAVD88)

+4, -8, -12, -16, -20, -24, -28, -32, -36, -40

SD-52B, SD-67, SD-66, SD-25, SD-07B, SD-27, SD-08, SD-09, SD-10, SD-30B, SD-31B (35), SD-11B (14), SD-33 (34)

0.5-1.6, 3.5-10.6, 1.3-2.5, 13.6-14.9, 0.0-1.1, 6.4-7.5, 0.0-1.1, 2.7-3.7, 0.0-1.0, 7.7-8.7, 1.2-2.4, 4.2-5.4, 0.0-0.5, 0.5-1.3, 1.3-2.2, 5.2-5.6, 5.6-6.4, 5.9-7.0, 10.2-11.4, 11.4-12.5, 5.5-6.5, 13.8-14.9, 1.1-2.2, 3.9-5.0, 11.8-12.9, 3.3-4.4, 6.5-7.6, 8.1-9.1, 6.8-7.9

SILT/RIVER BOTTOM SEDIMENTS

SILT/RIVER BOTTOM SEDIMENTS

NATIVE MATERIAL (FINE SAND AND/OR SILT AND CLAY WITH FINE SAND)

FORMER DREDGED AREA

HORIZONTAL DISTANCE (FEET)

0, 200, 400, 600, 800, 1000, 1200, 1400, 1600, 1800, 2000, 2200

LEGEND:

- BORING ID (AND DISTANCE PROJECTED IF OVER 20 FEET)
- TOP OF SEDIMENT
- SHEEN
- TRACE TO LITTLE SHEEN
- ODOR
- TOTAL PAH SAMPLE DEPTH IN FEET BELOW SEDIMENT SURFACE (e.g. 5.0-6.0)
- TOTAL PAH KEY:
  - ND
  - <4.0 mg/kg
  - 4.0-44.8 mg/kg
  - 44.8-70 mg/kg
  - >70 mg/kg
- BORING BOTTOM
- SILT / RIVER BOTTOM SEDIMENTS
- NATIVE MATERIAL (FINE SAND AND/OR SILT AND CLAY WITH FINE SAND)

VERTICAL SCALE (FEET): 0, 4

HORIZONTAL SCALE (FEET): 0, 200

NOTES:

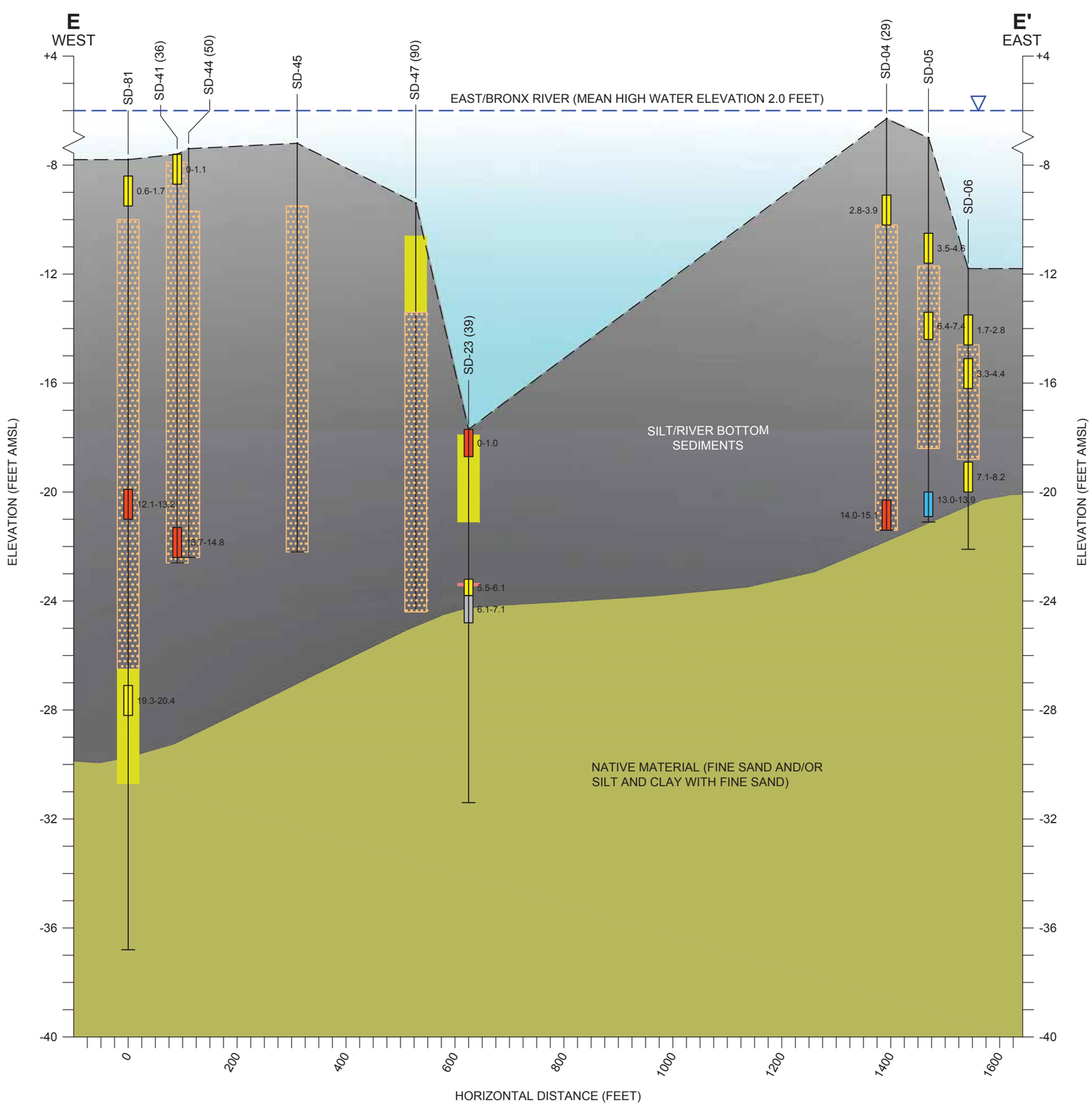
1. ELEVATIONS IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. MHW OBTAINED FROM NOAA STATION 8518639, PORT MORRIS, EAST 138TH STREET.
3. DEPTHS HAVE BEEN ADJUSTED BASED ON PERCENT RECOVERY OBTAINED IN EACH CORE.
4. mg/kg = MILLIGRAM PER KILOGRAM

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT
REMEDIAL INVESTIGATION REPORT

CROSS SECTION D-D'

ARCADIS

FIGURE **4-6**



LEGEND:

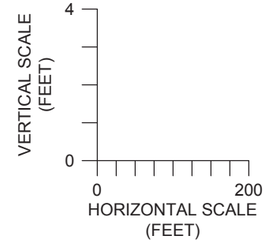
SD-04 (29) — BORING ID (AND DISTANCE PROJECTED IF OVER 20 FEET)

- TOP OF SEDIMENT
- SHEEN
- TRACE TO LITTLE SHEEN
- ODOR
- 5.0-6.0 — TOTAL PAH SAMPLE DEPTH IN FEET BELOW SEDIMENT SURFACE
- BORING BOTTOM

TOTAL PAH KEY:

- ND
- <4.0 mg/kg
- 4.0-44.8 mg/kg
- 44.8-70 mg/kg
- >70 mg/kg

- SILT / RIVER BOTTOM SEDIMENTS
- NATIVE MATERIAL (FINE SAND AND/OR SILT AND CLAY WITH FINE SAND)



NOTES:

1. ELEVATIONS IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. MHW OBTAINED FROM NOAA STATION 8518639, PORT MORRIS, EAST 138TH STREET.
3. DEPTHS HAVE BEEN ADJUSTED BASED ON PERCENT RECOVERY OBTAINED IN EACH CORE.
4. mg/kg = MILLIGRAM PER KILOGRAM.

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT
REMEDIAL INVESTIGATION REPORT

IN RIVER CROSS SECTION E-E'

ARCADIS

FIGURE 4-7

CITY:SYRACUSE DIV/GROUP:ENVAD DB:R.PETRIE LD:(Opt) PIC:(Opt) PM:.T GRANZEIER TM:C.KUBACKI RB:M.BELL/R.SHATT LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\SYRACUSE\ACTIB\0043026\0003\0600\DWG\OSRI-RPT\B0043026_0002_V12.dwg LAYOUT: 4-7 SAVED: 8/6/2013 12:44 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: C-LB-PDF-GMS PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 8/6/2013 12:50 PM BY: STOWELL, GARY
XREFS: IMAGES PROJECTNAME: ----
B0043026_0002_XBL

0-2 FT (BSS)

CONED (BRONX RIVER TUNNEL) ELEVATION RANGES FROM 29.8 TO 49.4 FEET BSS

NORTHERN AREA

NORTHERN AREA

CENTRAL AREA

SOUTHERN AREA

SOUTHERN AREA

CENTRAL AREA

E OU-1

E OU-2

E OU-3

A OU-1

A OU-2

B

C

D

F

PERIMETER

OUTFALL 1

OUTFALL 2

OUTFALL 3

OUTFALL 4

OUTFALL 5

OUTFALL 6

OUTFALL 7

OUTFALL 8

OUTFALL C (CSO)

IROQUOIS PIPELINE

NYCDEC 12" LINED CAST IRON WATER PIPE

UNKNOWN UTILITY CROSSING IDENTIFIED VIA NOAA CHART

0 300 600 Feet

GRAPHIC SCALE

LEGEND:

- (NO SHEEN
- (TRACE TO LITTLE SHEEN OBSERVED
- (SHEEN OBSERVED
- C SHEEN GENERATED DURING CORING
- (STAINING AND ODOR
- (PURIFIER WASTE AND ODOR
- (TAR SATURATED
- W CURRENT/FORMER OUTFALL LOCATION
- 1 COAL TAR (EXTENT UNKNOWN)
- 1 SHEEN (EXTENT UNKNOWN)
- 1 TAR BOILS (EXTENT UNKNOWN)
- AREA BOUNDARY
- IROQUOIS PIPELINE
- CON ED (BRONX RIVER TUNNEL)
- UNKNOWN UTILITY
- NYCDEC 12-INCH LINED CAST IRON WATER PIPE
- 100 FT BUFFER OF SUBMARINE UTILITIES
- HISTORICAL SITE FEATURE (APPROXIMATE)
- HISTORICAL SURFACE DRAINAGE (APPROXIMATE)
- BRONX RIVER FEDERAL NAVIGATION CHANNEL CURRENT/FORMER DREDGED CHANNEL (APPROXIMATE)
- FILLED LAND (1947-1975)
- PURIFIER WASTE AREA
- SHEEN
- COAL TAR
- TAR BOILS
- MIXTURE OF COAL TAR AND PURIFIER WASTE AREA
- APPROXIMATE EXTENT OF FORMER MGP
- PARCEL BOUNDARY
- PETROLEUM IMPACTS

NOTES:

1. IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. ALL LOCATIONS ARE APPROXIMATE.
3. PARCEL BOUNDARIES ADOPTED FROM CADD FILE PREPARED BY LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP.
4. THE POTENTIAL UNIDENTIFIED UTILITY CROSSINGS AND IROQUOIS PIPELINE ARE APPROXIMATE AND BASED ON A REVIEW OF THE NAVIGATIONAL CHART FOR THE EAST RIVER FROM TALLMAN ISLAND TO QUEENSBORO BRIDGE (CHART NUMBER 12339, EDITION 46, JUNE 2008) AVAILABLE AT THE NOAA OFFICE OF COAST SURVEY ON-LINE CHART VIEWER.
5. THE NYCDEC 12-INCH LINED CAST IRON WATER PIPE UPLAND LOCATION IS BASED ON THE WATER MAPPING FIGURE PROVIDED THE NYCDEC BUREAU OF WATER, PRINTED ON APRIL 12, 2012 FOR THE KRASDALE PROPERTY UTILITY REQUEST.
6. HISTORIC SITE FEATURES ADOPTED FROM CADD FILE PREPARED BY PARSONS ENGINEERING SCIENCE.
7. SITE CHARACTERIZATION DETAILS FOR PARCEL C ADOPTED FROM RESPONSE PLAN FOR THE OPERATING UNIT PORTION OF PARCEL C, LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP, REVISED OCTOBER 2001. EXTENT OF COAL TAR, TAR BOILS, AND SHEEN DEPICTED FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL EXTENT OBSERVED DURING INVESTIGATION ACTIVITIES WAS NOT REPORTED.
8. SITE CHARACTERIZATION DETAILS FOR PARCEL D AND ADJACENT PERIMETER PARCEL ADOPTED FROM INVESTIGATIVE REPORT FOR PARCEL D, LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP, REVISED OCTOBER 2005.
9. SITE CHARACTERIZATION DETAILS FOR PARCEL F ADOPTED FROM SITE INVESTIGATIVE REPORT FOR PARCEL F, HDR/LMS, NOVEMBER 2007.
10. COAL TAR AND PURIFIER WASTE ON PERIMETER PARCEL EXCAVATED DURING THE CONSTRUCTION OF THE IROQUOIS PIPELINE.
11. SOIL BORING OBSERVATIONS ON THE KRASDALE PROPERTY ARE SUMMARIZED IN THE SITE CHARACTERIZATION REPORT (ARCADIS 2013).
12. THE BRONX RIVER TUNNEL SUBMARINE CROSSING LOCATION IS BASED ON THE CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. ELECTRICAL ENGINEERING DEPARTMENT, DRAWING NO. E0-1233-A – SUBMARINE, TUNNEL, AND OVERHEAD TRANSMISSION LINE CROSSING FOR ELECTRIC CABLES AND GAS MAINS ON THE SYSTEM, REVISION 28 (ORIGINALLY DATED 7/6/1937 AND LAST REVISED ON 8/1/2005) AS WELL AS PLATE NO. 6-P OF THE GAS MAINS AND SERVICE PLATE LAST MODIFIED ON 5/1/2012.
13. LITTLE TO TRACE SHEEN OBSERVED IN SEDIMENT CORES DURING SEDIMENT SAMPLING WAS NOT CONTINUOUS ON THE SEDIMENT THAT WAS RECOVERED DURING SAMPLING. THE SHEEN OBSERVED DID NOT RESEMBLE AN IRIDESCENT COATING COVERING THE SEDIMENT, BUT CONSISTED OF TINY DROPLETS.

NYCEP = NEW YORK CITY ENVIRONMENTAL PROTECTION
BSS= BELOW SEDIMENT SURFACE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

SHEEN OBSERVATIONS

ARCADIS

FIGURE 4-8

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
Hunts Point (Project #)
Q:\ConEd\HuntsPoint\RIR\mxd\SheenObservations_onepanel.mxd 8/6/2013 1:33:52 PM

LEGEND:

TOTAL PAHs CONCENTRATION RANGE

RESULTS IN mg/kg:

- (ND
- (< 4
- (4 - 44.8
- (44.8 - 70
- (> 70

- W CURRENT/FORMER OUTFALL LOCATION
- HISTORICAL SURFACE DRAINAGE (APPROXIMATE)
- BRONX RIVER FEDERAL NAVIGATION CHANNEL
- CURRENT/FORMER DREDGED CHANNEL (APPROXIMATE)
- APPROXIMATE EXTENT OF FORMER MGP
- PARCEL BOUNDARY

NOTES:

1. IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. ALL LOCATIONS ARE APPROXIMATE.
3. PARENT AND DUPLICATE SAMPLES HAVE BEEN AVERAGED.
4. PARCEL BOUNDARIES ADOPTED FROM CADD FILE PREPARED BY LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP.
5. SAMPLES WITH CONCENTRATIONS BELOW THE ER-L ARE SHOWN IN BLUE, SAMPLES ABOVE THE ER-L ARE SHOWN IN YELLOW, AND SAMPLES ABOVE THE ER-M ARE SHOWN IN ORANGE AND SAMPLES ABOVE THE BACKGROUND VALUE (AECOM 2009) ARE SHOWN IN PINK.
6. THE BRONX RIVER TUNNEL SUBMARINE CROSSING LOCATION IS BASED ON THE CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. ELECTRICAL ENGINEERING DEPARTMENT. DRAWING NO. E0-1233-A – SUBMARINE, TUNNEL, AND OVERHEAD TRANSMISSION LINE CROSSING FOR ELECTRIC CABLES AND GAS MAINS ON THE SYSTEM, REVISION 28 (ORIGINALLY DATED 7/6/1937 AND LAST REVISED ON 8/1/2005) AS WELL AS PLATE NO. 6-P OF THE GAS MAINS AND SERVICE PLATE LAST MODIFIED ON 5/1/2012.
7. THE POTENTIAL UNIDENTIFIED UTILITY CROSSINGS AND IROQUOIS PIPELINE ARE APPROXIMATE AND BASED ON A REVIEW OF THE NAVIGATIONAL CHART FOR THE EAST RIVER FROM TALLMAN ISLAND TO QUEENSBORO BRIDGE (CHART NUMBER 12339, EDITION 46, JUNE 2008) AVAILABLE AT THE NOAA OFFICE OF COAST SURVEY ON-LINE CHART VIEWER.
8. THE NYCDEC 12-INCH LINED CAST IRON WATER PIPE UPLAND LOCATION IS BASED ON THE WATER MAPPING FIGURE PROVIDED THE NYCDEC BUREAU OF WATER, PRINTED ON APRIL 12, 2012 FOR THE KRASDALE PROPERTY UTILITY REQUEST.
9. SAMPLE DEPTHS HAVE BEEN ADJUSTED TO REFLECT THE PERCENT RECOVERY OF THE SAMPLE CORES EXCEPT AT LOCATIONS SD-07B AND SD-09.

NYCEP = NEW YORK CITY ENVIRONMENTAL PROTECTION
CSO = COMBINED SEWER OVERFLOW
MG/KG = MILLIGRAMS PER KILOGRAM
ND = NOT DETECTED
BSS = BELOW SEDIMENT SURFACE
PAH = POLYCYCLIC AROMATIC HYDROCARBONS
TOTAL PAHS = THE SUMMATION OF THE 17 TARGET ANALYTE LIST PAHS. NON-DETECTS WERE TAKEN AS ZERO

0 400 800 Feet
GRAPHIC SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

TOTAL PAHs CONCENTRATIONS IN SEDIMENT

ARCADIS

FIGURE 5-1

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
Hunts Point (Project #)
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LEGEND:

COPPER CONCENTRATION RANGE

RESULTS IN mg/kg:

- (ND
- (< 34
- (34 - 270
- (> 270

- CURRENT/FORMER OUTFALL LOCATION
- HISTORICAL SURFACE DRAINAGE (APPROXIMATE)
- BRONX RIVER FEDERAL NAVIGATION CHANNEL
- CURRENT/FORMER DREDGED CHANNEL (APPROXIMATE)
- APPROXIMATE EXTENT OF FORMER MGP
- PARCEL BOUNDARY

NOTES:

1. IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. ALL LOCATIONS ARE APPROXIMATE.
3. PARENT AND DUPLICATE SAMPLES HAVE BEEN AVERAGED.
4. PARCEL BOUNDARIES ADOPTED FROM CADD FILE PREPARED BY LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP.
5. SAMPLES WITH CONCENTRATIONS BELOW THE ER-L ARE SHOWN IN BLUE, SAMPLES ABOVE THE ER-L ARE SHOWN IN YELLOW, AND SAMPLES ABOVE THE ER-M ARE SHOWN IN ORANGE.
6. THE BRONX RIVER TUNNEL SUBMARINE CROSSING LOCATION IS BASED ON THE CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. ELECTRICAL ENGINEERING DEPARTMENT. DRAWING NO. E0-1233-A – SUBMARINE, TUNNEL AND OVERHEAD TRANSMISSION LINE CROSSING FOR ELECTRIC CABLES AND GAS MAINS ON THE SYSTEM, REVISION 28 (ORIGINALLY DATED 7/6/1937 AND LAST REVISED ON 8/1/2005) AS WELL AS PLATE NO. 6-P OF THE GAS MAINS AND SERVICE PLATE LAST MODIFIED ON 5/1/2012.
7. THE POTENTIAL UNIDENTIFIED UTILITY CROSSINGS AND IROQUOIS PIPELINE ARE APPROXIMATE AND BASED ON A REVIEW OF THE NAVIGATIONAL CHART FOR THE EAST RIVER FROM TALLMAN ISLAND TO QUEENSBORO BRIDGE (CHART NUMBER 12339, EDITION 46, JUNE 2008) AVAILABLE AT THE NOAA OFFICE OF COAST SURVEY ON-LINE CHART VIEWER.
8. THE NYCDEC 12-INCH LINED CAST IRON WATER PIPE UPLAND LOCATION IS BASED ON THE WATER MAPPING FIGURE PROVIDED THE NYCDEC BUREAU OF WATER, PRINTED ON APRIL 12, 2012 FOR THE KRASDALE PROPERTY UTILITY REQUEST.
9. SAMPLE DEPTHS HAVE BEEN ADJUSTED TO REFLECT THE PERCENT RECOVERY OF THE SAMPLE CORES EXCEPT AT LOCATIONS SD-07B AND SD-09.

NYCEP = NEW YORK CITY ENVIRONMENTAL PROTECTION
CSO = COMBINED SEWER OVERFLOW
MG/KG = MILLIGRAMS PER KILOGRAM
ND = NOT DETECTED
BSS = BELOW SEDIMENT SURFACE

0 400 800 Feet
GRAPHIC SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

COPPER CONCENTRATIONS IN SEDIMENT

ARCADIS

FIGURE 5-2

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
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LEGEND:

LEAD CONCENTRATION RANGE

RESULTS IN mg/kg:

- (ND
- (< 46.7
- (46.7 - 218
- (218 - 466
- (> 466

- CURRENT/FORMER OUTFALL LOCATION
- HISTORICAL SURFACE DRAINAGE (APPROXIMATE)
- BRONX RIVER FEDERAL NAVIGATION CHANNEL
- CURRENT/FORMER DREDGED CHANNEL (APPROXIMATE)
- APPROXIMATE EXTENT OF FORMER MGP
- PARCEL BOUNDARY

NOTES:

1. IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. ALL LOCATIONS ARE APPROXIMATE.
3. PARENT AND DUPLICATE SAMPLES HAVE BEEN AVERAGED.
4. PARCEL BOUNDARIES ADOPTED FROM CADD FILE PREPARED BY LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP.
5. SAMPLES WITH CONCENTRATIONS BELOW THE ER-L ARE SHOWN IN BLUE. SAMPLES ABOVE THE ER-L ARE SHOWN IN YELLOW. SAMPLES ABOVE THE ER-M ARE SHOWN IN ORANGE. AND SAMPLES ABOVE THE BACKGROUND VALUE (ASI 2005 AND 2009) ARE SHOWN IN PINK.
6. THE BRONX RIVER TUNNEL SUBMARINE CROSSING LOCATION IS BASED ON THE CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. ELECTRICAL ENGINEERING DEPARTMENT. DRAWING NO. E0-1233-A – SUBMARINE, TUNNEL, AND OVERHEAD TRANSMISSION LINE CROSSING FOR ELECTRIC CABLES AND GAS MAINS ON THE SYSTEM, REVISION 28 (ORIGINALLY DATED 7/6/1937 AND LAST REVISED ON 8/1/2005) AS WELL AS PLATE NO. 6-P OF THE GAS MAINS AND SERVICE PLATE LAST MODIFIED ON 5/1/2012.
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9. SAMPLE DEPTHS HAVE BEEN ADJUSTED TO REFLECT THE PERCENT RECOVERY OF THE SAMPLE CORES EXCEPT AT LOCATIONS SD-07B AND SD-09.

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MG/KG = MILLIGRAMS PER KILOGRAM
ND = NOT DETECTED
BSS = BELOW SEDIMENT SURFACE

0 400 800 Feet
GRAPHIC SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

LEAD CONCENTRATIONS IN SEDIMENT

ARCADIS

FIGURE 5-3

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
Hunts Point (Project #)
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LEGEND:

MERCURY CONCENTRATION RANGE
RESULTS IN mg/kg:

- (ND
- (<0.15
- (0.15 - 0.71
- (0.71 - 2.2
- (> 2.2

- CURRENT/FORMER OUTFALL LOCATION
- HISTORICAL SURFACE DRAINAGE (APPROXIMATE)
- BRONX RIVER FEDERAL NAVIGATION CHANNEL
- CURRENT/FORMER DREDGED CHANNEL (APPROXIMATE)
- APPROXIMATE EXTENT OF FORMER MGP
- PARCEL BOUNDARY

NOTES:

1. IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. ALL LOCATIONS ARE APPROXIMATE.
3. PARENT AND DUPLICATE SAMPLES HAVE BEEN AVERAGED.
4. PARCEL BOUNDARIES ADOPTED FROM CADD FILE PREPARED BY LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP.
5. SAMPLES WITH CONCENTRATIONS BELOW THE ER-L ARE SHOWN IN BLUE. SAMPLES ABOVE THE ER-L ARE SHOWN IN YELLOW, SAMPLES ABOVE THE ER-M ARE SHOWN IN ORANGE, AND SAMPLES ABOVE THE BACKGROUND VALUE (ASI 2005 AND 2009) ARE SHOWN IN PINK.
6. THE BRONX RIVER TUNNEL SUBMARINE CROSSING LOCATION IS BASED ON THE CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. ELECTRICAL ENGINEERING DEPARTMENT, DRAWING NO. E0-1233-A – SUBMARINE, TUNNEL, AND OVERHEAD TRANSMISSION LINE CROSSING FOR ELECTRIC CABLES AND GAS MAINS ON THE SYSTEM, REVISION 28 (ORIGINALLY DATED 7/6/1937 AND LAST REVISED ON 8/1/2005) AS WELL AS PLATE NO. 6-P OF THE GAS MAINS AND SERVICE PLATE LAST MODIFIED ON 5/1/2012.
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9. SAMPLE DEPTHS HAVE BEEN ADJUSTED TO REFLECT THE PERCENT RECOVERY OF THE SAMPLE CORES EXCEPT AT LOCATIONS SD-07B AND SD-09.

NYCEP = NEW YORK CITY ENVIRONMENTAL PROTECTION
CSO = COMBINED SEWER OVERFLOW
MG/KG = MILLIGRAMS PER KILOGRAM
ND = NOT DETECTED
BSS = BELOW SEDIMENT SURFACE

0 400 800 Feet
GRAPHIC SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

MERCURY CONCENTRATIONS IN SEDIMENT

ARCADIS

FIGURE 5-4

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
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LEGEND:

NICKEL CONCENTRATION RANGE

RESULTS IN mg/kg:

- (ND
- (< 20.9
- (20.9 - 51.6
- (> 51.6

- CURRENT/FORMER OUTFALL LOCATION
- HISTORICAL SURFACE DRAINAGE (APPROXIMATE)
- BRONX RIVER FEDERAL NAVIGATION CHANNEL
- CURRENT/FORMER DREDGED CHANNEL (APPROXIMATE)
- APPROXIMATE EXTENT OF FORMER MGP
- PARCEL BOUNDARY

NOTES:

1. IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. ALL LOCATIONS ARE APPROXIMATE.
3. PARENT AND DUPLICATE SAMPLES HAVE BEEN AVERAGED.
4. PARCEL BOUNDARIES ADOPTED FROM CADD FILE PREPARED BY LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP.
5. SAMPLES WITH CONCENTRATIONS BELOW THE ER-L ARE SHOWN IN BLUE, SAMPLES ABOVE THE ER-L ARE SHOWN IN YELLOW, AND SAMPLES ABOVE THE ER-M ARE SHOWN IN ORANGE.
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9. SAMPLE DEPTHS HAVE BEEN ADJUSTED TO REFLECT THE PERCENT RECOVERY OF THE SAMPLE CORES EXCEPT AT LOCATIONS SD-07B AND SD-09.

NYCEP = NEW YORK CITY ENVIRONMENTAL PROTECTION
CSO = COMBINED SEWER OVERFLOW
MG/KG = MILLIGRAMS PER KILOGRAM
ND = NOT DETECTED
BSS = BELOW SEDIMENT SURFACE

0 400 800 Feet
GRAPHIC SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

NICKEL CONCENTRATIONS IN SEDIMENT

ARCADIS

FIGURE 5-5

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
Hunts Point (Project #)
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LEGEND:

SILVER CONCENTRATION RANGE

RESULTS IN mg/kg:

- (ND
- (< 1
- (1 - 3.7
- (3.7 - 7.9
- (> 7.9

- CURRENT/FORMER OUTFALL LOCATION
- HISTORICAL SURFACE DRAINAGE (APPROXIMATE)
- BRONX RIVER FEDERAL NAVIGATION CHANNEL
- CURRENT/FORMER DREDGED CHANNEL (APPROXIMATE)
- APPROXIMATE EXTENT OF FORMER MGP
- PARCEL BOUNDARY

NOTES:

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3. PARENT AND DUPLICATE SAMPLES HAVE BEEN AVERAGED.
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6. THE BRONX RIVER TUNNEL SUBMARINE CROSSING LOCATION IS BASED ON THE CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. ELECTRICAL ENGINEERING DEPARTMENT, DRAWING NO. E0-1233-A – SUBMARINE, TUNNEL, AND OVERHEAD TRANSMISSION LINE CROSSING FOR ELECTRIC CABLES AND GAS MAINS ON THE SYSTEM, REVISION 28 (ORIGINALLY DATED 7/6/1937 AND LAST REVISED ON 8/1/2005) AS WELL AS PLATE NO. 6-P OF THE GAS MAINS AND SERVICE PLATE LAST MODIFIED ON 5/1/2012.
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CSO = COMBINED SEWER OVERFLOW
MG/KG = MILLIGRAMS PER KILOGRAM
ND = NOT DETECTED
BSS = BELOW SEDIMENT SURFACE

0 400 800 Feet
GRAPHIC SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

SILVER CONCENTRATIONS IN SEDIMENT

ARCADIS

FIGURE 5-6

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
Hunts Point (Project #)
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LEGEND:

ZINC CONCENTRATION RANGE

RESULTS IN mg/kg:

- (ND
- (< 150
- (150 - 410
- (410 - 865
- (> 865

- CURRENT/FORMER OUTFALL LOCATION
- HISTORICAL SURFACE DRAINAGE (APPROXIMATE)
- BRONX RIVER FEDERAL NAVIGATION CHANNEL
- CURRENT/FORMER DREDGED CHANNEL (APPROXIMATE)
- APPROXIMATE EXTENT OF FORMER MGP
- PARCEL BOUNDARY

NOTES:

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2. ALL LOCATIONS ARE APPROXIMATE.
3. PARENT AND DUPLICATE SAMPLES HAVE BEEN AVERAGED.
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8. THE NYCDEC 12-INCH LINED CAST IRON WATER PIPE UPLAND LOCATION IS BASED ON THE WATER MAPPING FIGURE PROVIDED THE NYCDEC BUREAU OF WATER, PRINTED ON APRIL 12, 2012 FOR THE KRASDALE PROPERTY UTILITY REQUEST.
9. SAMPLE DEPTHS HAVE BEEN ADJUSTED TO REFLECT THE PERCENT RECOVERY OF THE SAMPLE CORES EXCEPT AT LOCATIONS SD-07B AND SD-09.

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CSO = COMBINED SEWER OVERFLOW
MG/KG = MILLIGRAMS PER KILOGRAM
ND = NOT DETECTED
BSS = BELOW SEDIMENT SURFACE

0 400 800 Feet
GRAPHIC SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

ZINC CONCENTRATIONS IN SEDIMENT

ARCADIS

FIGURE 5-7

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
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City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
Hunts Point (Project #)
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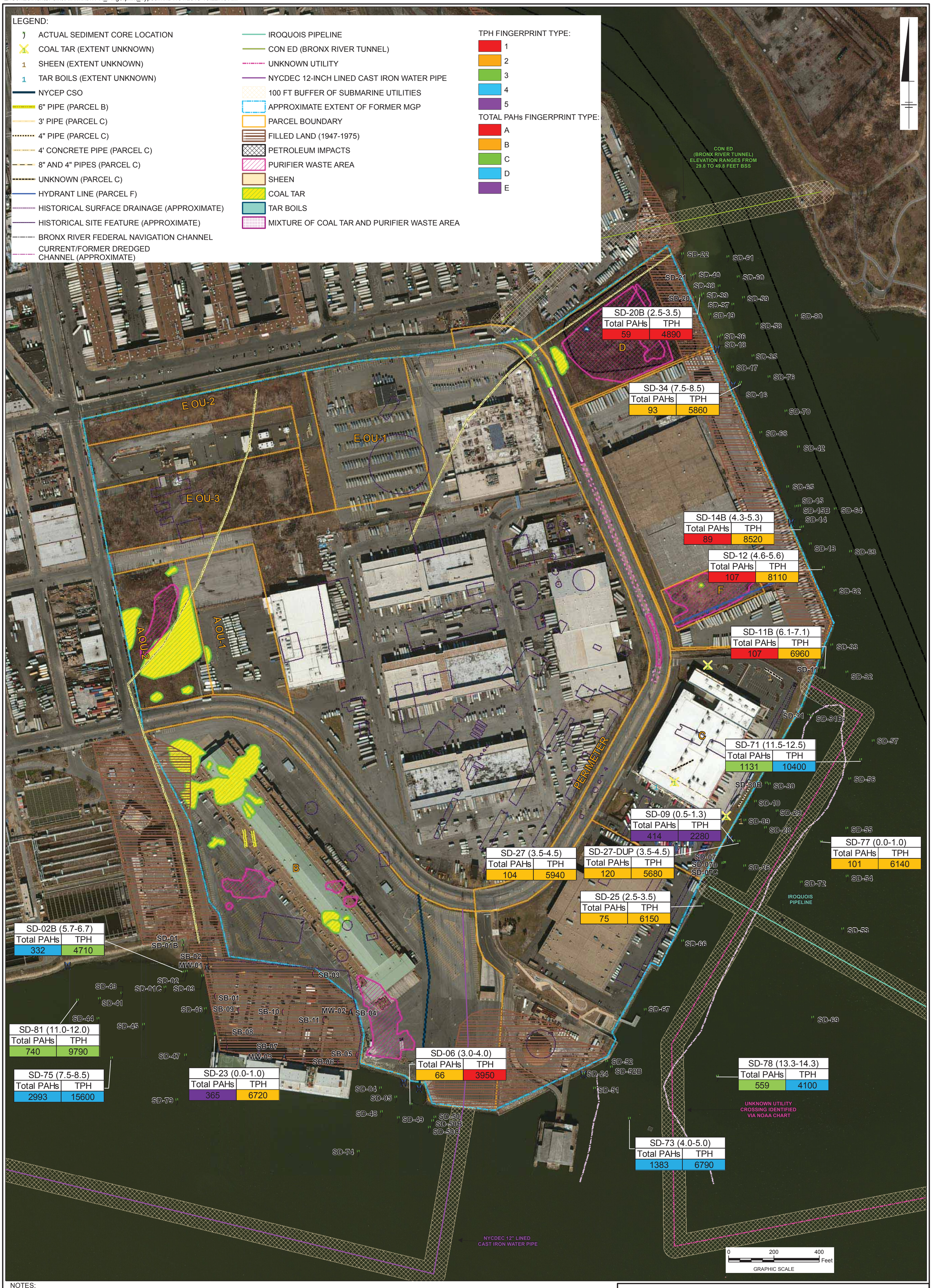

NOTES:

1. IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. ALL LOCATIONS ARE APPROXIMATE.
3. PARCEL BOUNDARIES ADOPTED FROM CADDFILE PREPARED BY LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP.
4. SITE CHARACTERIZATION DETAILS FOR PARCEL C ADOPTED FROM RESPONSE PLAN FOR THE OPERATING UNIT PORTION OF PARCEL C, LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP, REVISED OCTOBER 2001. EXTENT OF COAL TAR, TAR BOILS, AND SHEEN DEPICTED FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL EXTENT OBSERVED DURING INVESTIGATION ACTIVITIES WAS NOT REPORTED.
5. SITE CHARACTERIZATION DETAILS FOR PARCEL D AND ADJACENT PERIMETER PARCEL ADOPTED FROM INVESTIGATIVE REPORT FOR PARCEL D, LAWLER, MATUSKY, AND SKELLY ENGINEERS, LLP, REVISED OCTOBER 2005.
6. SITE CHARACTERIZATION DETAILS FOR PARCEL F ADOPTED FROM SITE INVESTIGATIVE REPORT FOR PARCEL F, HDR/LMS, NOVEMBER 2007.
7. COAL TAR AND PURIFIER WASTE ON PERIMETER PARCEL EXCAVATED DURING THE CONSTRUCTION OF THE IROQUOIS PIPELINE.
8. THE BRONX RIVER TUNNEL SUBMARINE CROSSING LOCATION IS BASED ON THE CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. ELECTRICAL ENGINEERING DEPARTMENT. DRAWING NO. E0-1233-A – SUBMARINE, TUNNEL, AND OVERHEAD TRANSMISSION LINE CROSSING FOR ELECTRIC CABLES AND GAS MAINS ON THE SYSTEM, REVISION 28 (ORIGINALLY DATED 7/6/1937 AND LAST REVISED ON 8/1/2005) AS WELLAS PLATE NO. 6-P OF THE GAS MAINS AND SERVICE PLATE LAST MODIFIED ON 5/1/2012.
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11. HISTORIC SITE FEATURES ADOPTED FROM CADD FILE PREPARED BY PARSONS ENGINEERING SCIENCE.

NYCEP = NEW YORK CITY ENVIRONMENTAL PROTECTION
CSO = COMBINED SEWER OVERFLOW

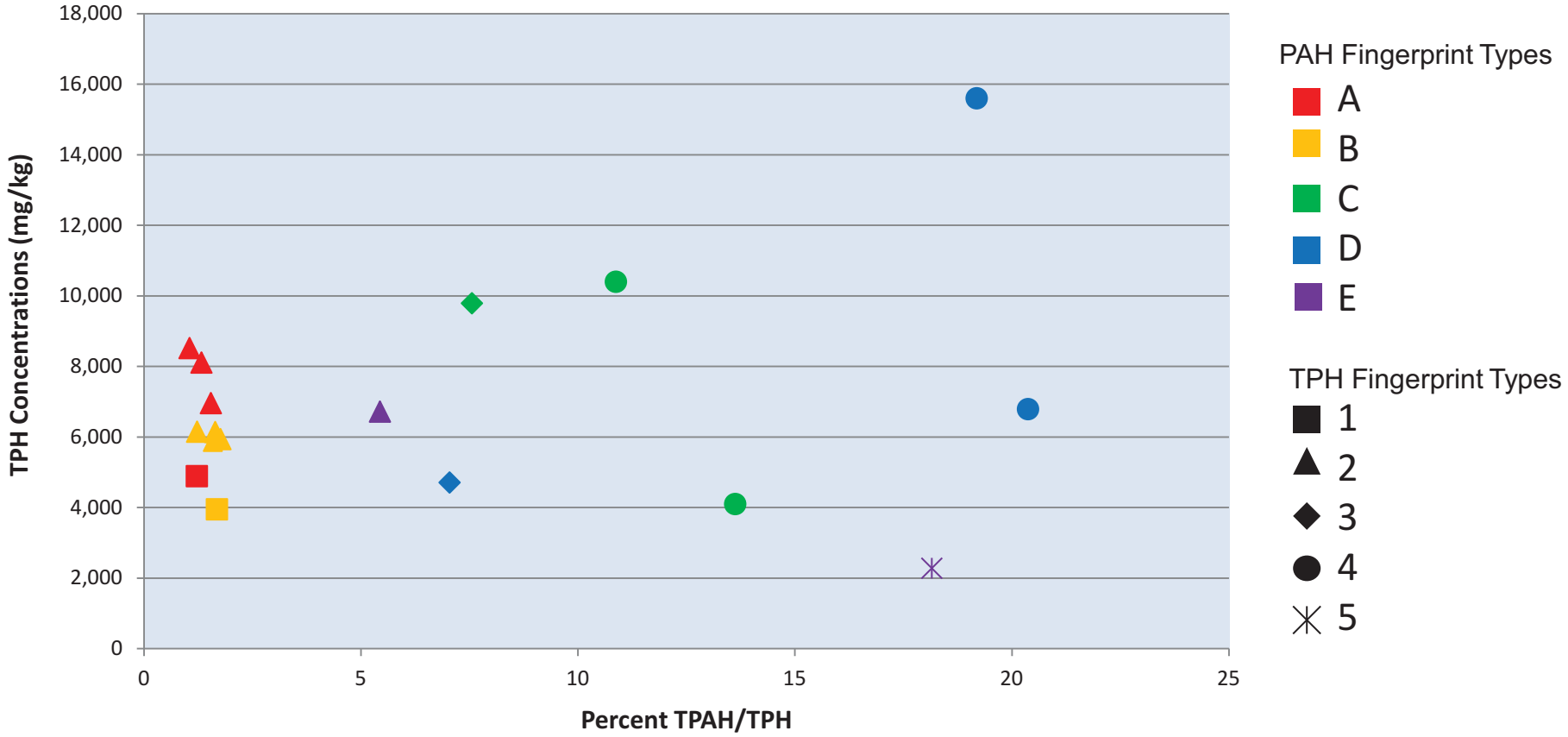
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT

REMEDIAL INVESTIGATION REPORT

FINGERPRINT TYPES

ARCADIS

FIGURE
6-1



NOTES:

TPH = total petroleum hydrocarbons

TPAH = total PAHs

PAH = polycyclic aromatic hydrocarbons

Total PAHs = the summation of the 17 target analyte list PAHs. Non-detects were taken as zero.

mg/kg = milligrams per kilogram.

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT
REMEDIAL INVESTIGATION REPORT

TPH CONCENTRATIONS VERSUS PERCENT TPAH/TPH

ARCADIS

FIGURE
6-2

LEGEND:

- SITE BOUNDARY (APPROXIMATE EXTENT OF FORMER MGP)
- HALF MILE SITE RADIUS
- COMMERCIAL/INDUSTRIAL/RESIDENTIAL
- COMMUNITY PARK
- CONFINED RIVER
- TIDAL RIVER

NOTE:

1. FEBRUARY 26, 2012 IMAGERY PROVIDED BY BING IMAGE SERVICE.

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT
BRONX, NY

FISH AND WILDLIFE RESOURCE IMPACT ANALYSIS

COVERTYPE MAP

ARCADIS

FIGURE 8-1

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
Hunts Point (Project #)
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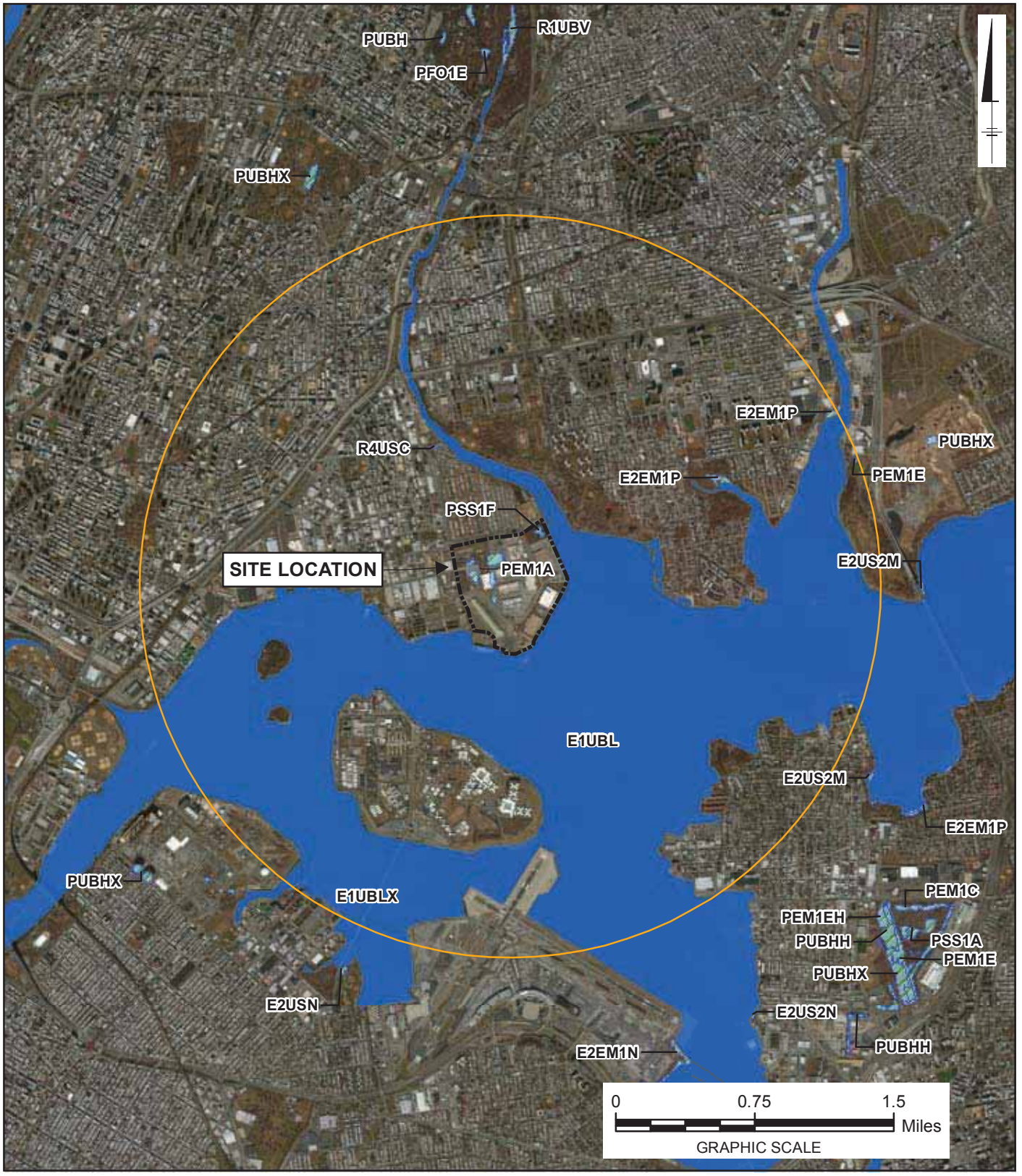


LEGEND:

- SITE BOUNDARY (APPROXIMATE EXTENT OF FORMER MGP)
- TWO MILE SITE RADIUS
- ESTAURINE AND MARINE DEEPWATER
- NWI WETLAND

NOTES:

1. FEBRUARY 26, 2012 IMAGERY PROVIDED BY BING IMAGE SERVICE.
2. NWI WETLAND DATA PROVIDED BY THE U.S. FISH AND WILDLIFE SERVICE AT WWW.FWS.GOV/WETLANDS/.

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT
BRONX, NY

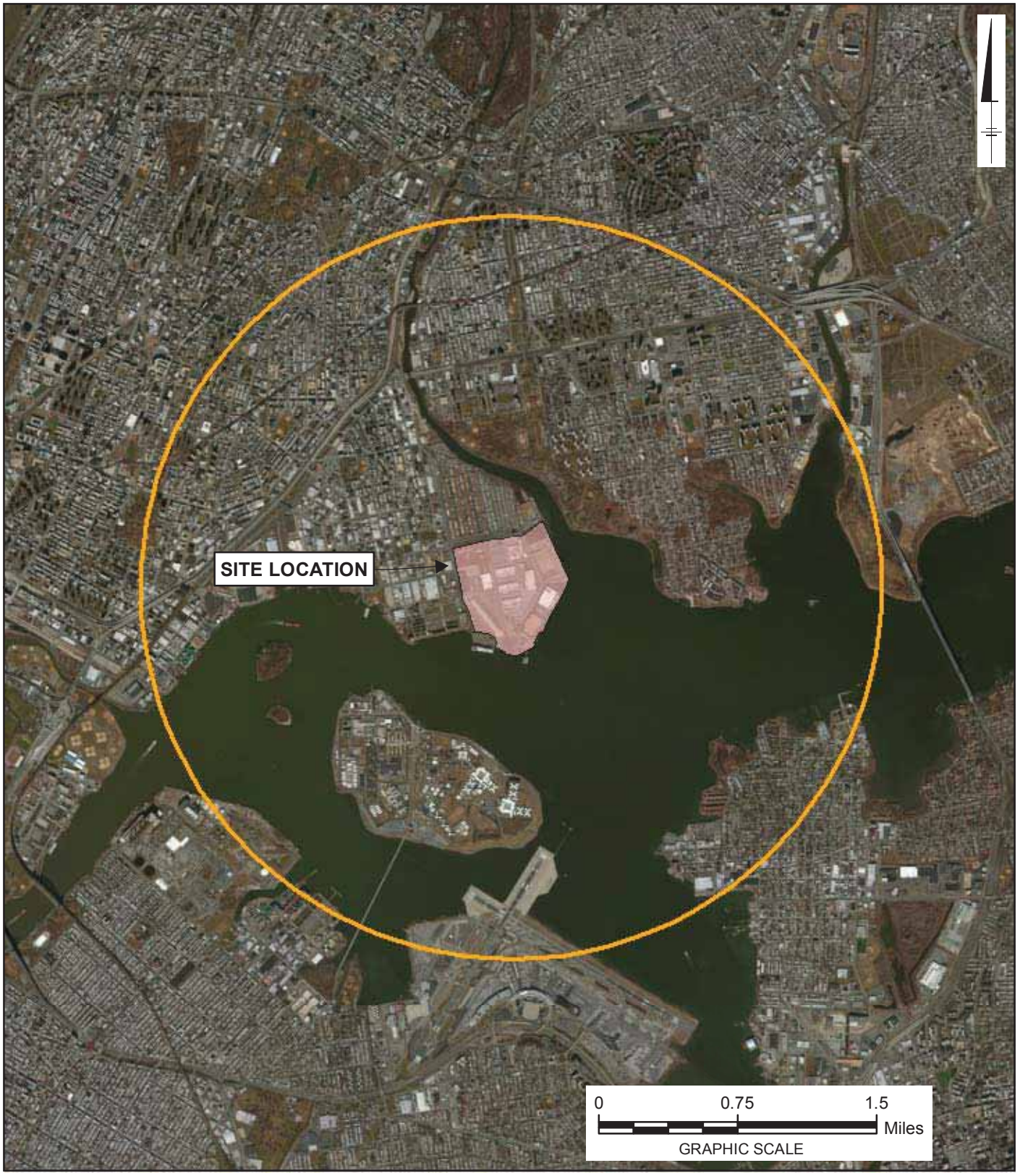
FISH AND WILDLIFE RESOURCE IMPACT ANALYSIS

NATIONAL WETLANDS INVENTORY

ARCADIS

FIGURE
8-2

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
Hunts Point (Project #)
Q:\ConEd\HuntsPoint\FWRIA\mxd\NWI_WetlandMap.mxd 7/23/2013 1:13:49 PM



LEGEND:

- SITE BOUNDARY (APPROXIMATE EXTENT OF FORMER MGP)
- TWO MILE SITE RADIUS
- NYS WETLAND

NOTES:

1. FEBRUARY 26, 2012 IMAGERY PROVIDED BY BING IMAGE SERVICE.
2. NEW YORK STATE WETLANDS DATA PROVIDED BY THE CORNELL UNIVERSITY GEOSPATIAL INFORMATION REPOSITORY.

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
HUNTS POINT FORMER MANUFACTURED GAS PLANT
BRONX, NY

FISH AND WILDLIFE RESOURCE IMPACT ANALYSIS

NEW YORK STATE FRESHWATER WETLANDS MAP

ARCADIS

FIGURE 8-3

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
Hunts Point (Project #)
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Appendix A

Analytical Laboratory Data
(electronic only)

Appendix B

Data Usability Summary Report
(electronic only)

Appendix C

Sediment Core Logs

Date Start/Finish: 12/04/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718040.20
Easting: 664166.92
Sediment Surface Elev: 1.8'

Penetration Depth: 0.5' bss
Water Depth: 1.4'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-01**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	1	0-0.5	0				No recovery. End of core. Refusal on rip-rap.
0							
5							
-5							
10							
-10							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/04/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718019.01
Easting: 664166.39
Sediment Surface Elev: 0.8'

Penetration Depth: 0.5' bss
Water Depth: 2.4'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-01B**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	1	0-0.5	0				No recovery. End of core. Refusal on rip-rap.
0 / 5 / -5 / 10 / -10 / 15 / -15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/4/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717834.58
Easting: 664087.37
Sediment Surface Elev: -7.1'

Penetration Depth: 15' bss
Water Depth: 10.4'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-01C**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0 / -5							
0 / -5				21.9			Dark brown to black SILT, trace Organics (vegetation), soft to very soft, trace sheen spots, organic odor.
				5.0			Dark brown to black SILT, trace Organics (vegetation), soft to medium dense, trace sheen spots, odor.
-10				1.4			
				0.9			Dark brown to black SILT, trace Organics (vegetation lamination at 4.4' bss), soft to medium dense, trace sheen spots, odor.
5				0.9			
				0.8			
	1	0-15	12.8	0.8			
-15							
10							Dark brown to black SILT, trace Clay, trace Organics (vegetation), medium dense, moderate, trace sheen spots, odor.
-20					X		
15					X		Brown SILT, trace Organics (shell fragments), soft to medium dense, organic odor.
							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/03/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717904.73
Easting: 664182.39
Sediment Surface Elev: -4.6'

Penetration Depth: 1.1 bss
Water Depth: 7.3'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-02**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0								
	-5	1	0-1.1	0				No recovery.
								End of core. Refusal on rip-rap.
5	-10							
10	-15							
15	-20							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/3/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717901.23
Easting: 664166.21
Sediment Surface Elev: -5.2'

Penetration Depth: 9.4' bss
Water Depth: 7.9'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-02B**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0							Dark brown to black fine SAND, trace Silt, Organics (vegetation, shell fragments), medium dense, organic odor.
				15.1			Dark brown to black SILT, trace Clay, trace fine Sand, trace Organics (vegetation), organic odor, trace sheen.
				4.0	X		
-10				0.3			
				0.8			
5	1	0-9.4	8.7	1.5			Dark brown to black SILT, trace Clay, trace fine Sand seam at 5.8', 7.5', 7.9' and 8.7', trace Organics (vegetation, shell fragments), trace Slag between 4.2' and 6.7', trace sheen.
				1.3	X		
				2.9			
-15				1.6			
				2.4			
10							End of core.
-20							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/27/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717884.26
Easting: 664253.45
Sediment Surface Elev: -4.3'

Penetration Depth: 6.6' bss
Water Depth: 8'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-03**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0 / -5				0.0			Light gray medium to coarse SAND, some Organics (shells), trace fine Gravel.
				0.0			Gray to brown fine to medium SAND, trace Silt and coarse Sand, trace Organics (shells).
	1	0-6.6	4.5	1.3			Dark brown SILT and fine to medium subangular GRAVEL, little to trace Organics (shells), trace fine Sand, organic odor.
							Dark brown to black SILT, trace fine Sand, trace Clay, trace Organics (vegetation and shells), soft.
5 / -10				0.1			Fine to medium SAND, some coarse Sand, fine Gravel (increasing size with depth), trace Organics (shells).
				0.5			Dark brown to black SILT, little Clay, trace Organics (vegetation), soft.
							End of core.
10 / -15							
15 / -20							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/3/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717388.83
Easting: 665039.00
Sediment Surface Elev: -6.3'

Penetration Depth: 15.1' bss
Water Depth: 7.5'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-04**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0					4.5			Dark brown to black SILT, trace Organics (vegetation), soft, odor.
					0.1			Dark brown to black SILT, trace fine Sand at 2.9', trace Organics (vegetation), soft to medium dense, trace sheen, odor.
	-10				0.0	X		
					0.0			Dark brown to black SILT, trace Clay, trace Organics (vegetation), medium dense, trace sheen, coal tar-like odor.
5					0.0			
					0.0			
		1	0-15.1	13.5	0.0			
	-15				0.0			
10					0.0			Dark brown to black SILT, trace Clay, trace Organics (vegetation), medium dense, trace sheen, odor.
					0.0			
					0.0			
	-20				0.0			
					0.0	X		
15					0.0			
								End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/3/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717348.28
Easting: 665106.91
Sediment Surface Elev: -7.0'

Penetration Depth: 14.1' bss
Water Depth: 6.3'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-05**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0				4.5			Dark brown to black SILT, trace Clay, trace Organics (vegetation), soft, organic odor.
				0.1			
-10				0.0			
				0.0	X		Dark brown to black SILT, trace Clay, trace Organics (vegetation), soft to medium dense, organic odor.
5				0.0			Dark brown to black SILT, trace fine Sand, trace Clay, trace Organics (vegetation), trace sheen, odor.
				0.0			
	1	0-14.1	13.3	0.0	X		
-15				0.0			
				0.0			Dark brown to black SILT, trace Clay, trace dark brown Sand seam at 8.8', 9.8' and 10.0' bss, trace Organics (vegetation), medium dense, trace sheen, odor.
10				0.0			
				0.0			
				0.0			Dark brown to black SAND (increasing size with depth), moderately degraded Organics (vegetation, shell fragments) between 11.5' bss and 13.4' bss, medium dense to dense, well sorted.
-20				0.0	X		
				0.0			(No description available, cross-reference not found)
							End of core.
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/3/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717316.53
Easting: 665173.55
Sediment Surface Elev: -11.8'

Penetration Depth: 10.3' bss
Water Depth: 9.6'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-06**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-10							
0				0.7			Dark brown to black SILT, trace Clay, little Organics (vegetation, shell fragments, hair), soft to medium dense, trace sheen below 2.7' bss, faint odor.
				7.8	X		
				5.8			
-15				6.6	X		
5	1	0-10.3	9.3	0.0			Dark brown to black SILT, trace Clay, brown to dark brown fine Sand seam at 4.5' bss, trace Organics (vegetation), soft to medium dense, trace sheen.
				0.0			
							Dark brown to black medium SAND, trace Organics (vegetation).
				0.0	X		Gray fine to coarse SAND and SILT, some fine Gravel, trace Clay, trace Organics (shell fragments), soft.
-20				0.0			Brown to grayish brown fine SAND, some Clay, trace fine Gravel, gray Silt layer at 8.7' and 8.9' bss, trace Organics (shell fragments), low to no plasticity.
				0.0			
10				0.0			
							End of core.
-25							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/30/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718382.22
Easting: 666548.33
Sediment Surface Elev: -17.6

Penetration Depth: 1.7' bss
Water Depth: 15.9'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-07**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-15							
0	1	0-1.7	0				No recovery.
							End of core. Refusal on rip-rap.
-20							
5							
-25							
10							
-30							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/30/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718384.07
Easting: 666557.62
Sediment Surface Elev: -18.6'

Penetration Depth: 15.0' bss
Water Depth: 17.4'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-07B**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0 / -20				7.2	X		Dark brown to black SILT, trace Clay, little Organics (vegetation, shell fragments, hair), soft to medium dense, trace sheen, faint odor.
				0.0			Dark brown to black SILT, trace Clay, brown to dark brown fine Sand seam at 4.5' bss, trace Organics (vegetation), soft to medium dense, trace sheen, potential odor.
				0.0			
				0.0			
5 / -25				0.0			
				0.0			Dark brown to black SILT, trace Clay, trace fine Sand, trace Organics (vegetation), little to trace sheen, moderate odor.
				0.0			
	1	0-15.0	8.7	0.0			
				0.0	X		
10 / -30							Sample lost.
15							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/30/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718383.46
Easting: 666553.03
Sediment Surface Elev: -18.0'

Penetration Depth: 15' bss
Water Depth: 16.1'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-07C**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0								Core not characterized. Recovery less than SD-07B. See stratigraphic description for SD-07B.
	-20							
5								
	-25	1	0-15	5.0				
10								
	-30							
15								End of core. Offset due to rip rap shoreline, refusal on rock.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/30/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718480.85
Easting: 666598.61
Sediment Surface Elev: -13.2'

Penetration Depth: 5' bss
Water Depth: 15.0'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-08**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0							
				0.0			Black medium SAND, some to little fine and coarse Sand, organic odor.
-15	1	0-5	4	4.1			Black fine SAND, some to little coarse Sand, trace Silt, Organics (vegetation, shell fragments), organic odor.
				13.2			
5				8.0			End of core. Offset due to rip rap shoreline, refusal on rock.
-20							
10							
-25							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/27/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718570.74
Easting: 666647.94
Sediment Surface Elev: -12.8'

Penetration Depth: 8.4' bss
Water Depth: 10.9'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-09**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-10							
0							
				1.3	X		Dark brown to black SILT, trace Organics (vegetation and shells), very soft.
					X		Dark brown to black SILT and fine SAND, trace Clay (increasing size with depth), sheen between 0.7 to 1.3' bss.
				1.0	X		Dark brown to black SILT, trace Clay, trace Organics (shell fragments), medium dense .
-15				0.9			
				0.9			
	1	0-8.4	8.6				Dark brown to black SILT, trace Clay, trace fine Sand, trace Organics (shell fragments), Dropstone at 4.4' bss.
				2.0			
5							
				12.4	X		Dark gray medium SAND, little to trace fine and coarse Sand, trace Silt, Wood fragments and sheen at 5.3' bss.
					X		Dark brown to black SILT, trace Clay, trace fine Sand, trace Organics (shells ,vegetation), soft to medium dense, trace sheen.
				3.4			
-20				3.0			
				5.7			End of core.
10							
-25							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/29/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718654.13
Easting: 666693.60
Sediment Surface Elev: -10.6'

Penetration Depth: 12.8' bss
Water Depth: 10.2'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-10**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-10							
0								
					0.2			Black medium to coarse SAND and angular to subangular fine to medium GRAVEL, little Silt, trace Clay, trace Organics (vegetation, shell fragments), organic odor.
					0.5			
					0.7			
					1.2			Black fine to coarse well sorted SAND, trace fine Gravel.
	-15							Black medium to coarse SAND and subangular fine to medium GRAVEL, trace Silt.
5					8.3			Black SILT, trace medium Gravel and fine Sand, trace Clay, faint odor after 7' bss.
		1	0-12.8	11.5	0.7	X		
					0.6			
					0.7			Black SILT, seams of fine Sand at 10.2', 10.7', and between 11.1' and 11.4' bss, trace Clay, trace Organics (Shells), faint odor.
	-20				4.8			
10					0.5	X		
					1.9	X		
					0.5			
								End of core. Refusal on rock.
	-25							
15								

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/29/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719244.23
Easting: 666987.12
Sediment Surface Elev: -8.3'

Penetration Depth: 3.7' bss
Water Depth: 11.6'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-11**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0							
							No Recovery.
-10	1	0-3.7	0				
							End of core. Refusal on rock.
5							
-15							
10							
-20							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/29/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719243.26
Easting: 666998.56
Sediment Surface Elev: -9.1'

Penetration Depth: 15' bss
Water Depth: 12.5'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-11B**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0								
	-10				20			Black SILT, trace Organics (shell fragments), soft, organic odor.
					16.6			
					9.7			Dark brown to black SILT, trace Organics (vegetation, shell fragments), medium dense, organic odor.
					8.3	X		
5					9.7			Black SILT, trace Clay, trace Organics (vegetation), soft to medium dense, possible organic sheen, odor.
	-15							
					11.5	X		
		1	0-15	14.1				Gray to dark gray SILT, trace fine Sand, trace Clay (light gray Clay layer between 8.0' and 8.3' bss), trace Organics (shell fragments).
					12.2			
					2.5	X		
10					4.4			Gray to dark gray SILT and CLAY, trace Organics (vegetation, shell fragments), medium plasticity, medium dense.
	-20				3.1			
								Light gray to gray SILT, trace Clay, some to little Organics (shell fragments).
					6.2			Gray to dark gray SILT, little to trace Clay, trace Organics (shell fragments), low plasticity, medium dense.
					2.7			
					4.7			Description not available.
15								End of core.
	-25							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/4/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719686.60
Easting: 666993.84
Sediment Surface Elev: -6.0'

Penetration Depth: 8.3' bss
Water Depth: 4.2'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-12**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0 / -5							
0 / -5				0.0			Dark brown to black SILT, trace Organics (vegetation), soft to very soft.
				0.0			
				0.0			Dark brown to black SILT, trace Organics (vegetation, shell fragments), soft to medium dense.
				0.0	X		
-10 / 5	1	0-8.3	7.9				Dark brown to black SILT, trace Clay, trace Organics (vegetation), soft to medium dense, trace sheen, odor.
				0.0	X		
				0.0	X		Brown SILT, trace Clay, trace Organics (shell fragments/vegetation), soft to medium dense, organic odor.
				0.0			
				0.0			SILT and fine SAND, some to little Organics (shell fragments), organic odor.
							End of core. Offset due to rip rap shoreline, refusal on rock.
-15 / 10							
-20 / 15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/3/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719791.25
Easting: 666935.66
Sediment Surface Elev: -5.8'

Penetration Depth: 7.3' bss
Water Depth: 2.8'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-13**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0							
				38.0			Back SILT, trace fine Sand, trace Organics (vegetation), soft to very soft.
				3.5			Black to brown SILT, trace Clay, trace Organics (vegetation), soft to medium dense, organic odor.
				0.9	X		
-10	1	0-7.3	7.1	0.5			Dark brown to black SILT, trace Clay, trace Organics (vegetation, shell fragments), medium dense, trace sheen (heaviest impact at 6.4' bss), coal tar-like odor (failnt odor until ~0.4' and increasing with depth).
5				0.6			
				0.7			
				1.0	X		
							End of core. Offset due to rip rap shoreline, refusal on rock.
-15							
10							
-20							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/29/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719864.74
Easting: 666894.24
Sediment Surface Elev: -5.3'

Penetration Depth: 4.5' bss
Water Depth: 8.4'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-14**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0		1	0-4.5	3.4				Core not characterized. Location moved to SD-14B for deeper penetration.
5	-10							End of core. Offset due to rip rap shoreline. Refusal on rock.
10	-15							
15	-20							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/30/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719866.90
Easting: 666901.80
Sediment Surface Elev: -5.4'

Penetration Depth: 7.4' bss
Water Depth: 8.6'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-14B**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0							
				10.6			Dark brown to black SILT, trace Organics (vegetation), soft to very soft, organic odor.
				4.4			Dark brown to black SILT, trace Clay, trace fine Sand seam at 3.8' bss, Organics (vegetation), soft to medium dense, organic odor.
	1	0-7.4	6.3	0.1	X		
-10				0.0			Dark brown to black SILT, trace Clay, Organics (vegetation), medium dense, trace sheen between 4.4' and 6.4' bss, potential coal tar-like ocor.
5				0.0	X		
				0.0	X		
				0.0			
							End of core.Offset due to rip rap shoreline, refusal on rock.
-15							
10							
-20							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/5/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719956.57
Easting: 666872.45
Sediment Surface Elev: -6.0'

Penetration Depth: 6.0' bss
Water Depth: 3.0'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-15**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0 / -5							
5 / -10	1	0-6.0	5.6				Core not characterized. Location moved to SD-15B for deeper penetration.
10 / -15							End of core. Offset due to rip rap shoreline. Refusal on rock.
15 / -20							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/5/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719959.05
Easting: 666888.03
Sediment Surface Elev: -5.7'

Penetration Depth: 11.8' bss
Water Depth: 3.1'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-15B**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0				10.6			Dark brown to black SILT, trace brown fine Sand, trace Organics (vegetation, shell fragments), soft to very soft, organic odor.
				1.9			Dark brown to black SILT, fine Sand seams at 2.1', 2.6' and 2.9' bss, trace Organics (vegetation), soft to medium dense, trace sheen starting 2.9' bss, odor.
				2.7	X		
				3.1	X		
-10				2.5			Dark brown to black SILT, trace Organics (vegetation, shell fragments), soft to medium dense, trace sheen.
5				9.0	X		Brown SILT, some to little very fine to fine Sand seams at 6.7', 6.9' and 7.9' bss, trace Organics (vegetation, shell fragments), medium dense, trace sheen.
	1	0-11.8	12.4	2.5			
				1.0			
				1.4			Brown SILT and fine SAND, trace Organics (vegetation, shell fragments), medium dense.
				0.8			Dark gray to dark brown moderately degraded SILT, some Organics (vegetation), trace fine Sand, moderately dense, organic odor.
-15							Brown moderately degraded SILT, some Organics (vegetation), trace fine Sand, moderately dense, organic odor.
10				0.8			Brown SILT, trace Sand, very soft.
				0.9			Brown fine SAND and SILT, trace medium Gravel, trace Organics (vegetation, shell fragments), medium dense.
				0.8			Brown fine SAND, trace Clay, trace fine Gravel, trace Organics (vegetation, shell fragments), dense to very dense.
							End of core.
-20							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/29/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720496.78
Easting: 666623.55
Sediment Surface Elev: -5.4'

Penetration Depth: 5.5' bss
Water Depth: 9.1'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-16**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	-5							
		1	0-5.5	4.2	24.3			Black to dark brown SILT, trace fine Sand, trace Clay, trace Organics (vegetation), organic odor.
					17.5			
					3.3			Black to dark brown SILT, trace Clay, trace Organics (vegetation), medium dense, organic odor.
5	-10				0.5			
					0.5			End of core. Offset due to rip rap shoreline, refusal on rock.
10	-15							
15	-20							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/28/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720571.94
Easting: 666591.75
Sediment Surface Elev: -5.6'

Penetration Depth: 12.0' bss
Water Depth: 6.3'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-17**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0								Black SILT, trace Organics (roots), very soft.
					28.4			Dark brown to black SILT, trace Clay, trace Organics (vegetation), soft, odor at 1' bss.
					8.6			
					11.6			
					2.4			Dark brown to black SILT, trace Clay, trace Organics (vegetation), soft to medium dense, trace sheen at ~7.5' bss, coal tar-like odor at 8.2' bss.
	-10				0.0			
5					2.2			
		1	0-12.0	11.7	5.5	X		
					6.9	X		Dark brown to black SILT, trace Clay, fine Sand seam at 8.2' bss, trace Organics (vegetation), soft to medium dense, trace sheen.
					0.0	X		
	-15				0.0			
10					0.5			Gray SILT, little to trace Clay, trace Organics (shell fragments), soft to medium dense, low to no plasticity.
					0.0			End of core. Refusal on rock.
	-20							
15								

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/28/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720706.46
Easting: 666529.58
Sediment Surface Elev: -5.5'

Penetration Depth: 6.9' bss
Water Depth: 8.1'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-18**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0								
					12.0			Black SILT, trace Organics (vegetation), soft.
					9.6			
					9.5			
		1	0-6.9	6.1	0.0			Dark brown to black SILT, trace Organics (vegetation), soft to medium dense, organic sheen at 6.9' bss.
	-10				47.4			
5					0.2			
					0.0			
								End of core. Offset due to rip rap shoreline, refusal on rock.
	-15							
10								
	-20							
15								

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/29/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720803.93
Easting: 666492.28
Sediment Surface Elev: -5.6'

Penetration Depth: 13.1' bss
Water Depth: 9.3'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-19**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5 / 0							
-10 / 5	1	0-13.1	11.4	18.4			Dark brown to black SILT, trace Organics (vegetation), very soft.
				33.1			
				15.2			
				7.5	X		Black SILT, trace medium dense Clay, trace Organics (vegetation), no plasticity, sheen from 6.3 to 8.5' bss, coal tar-like odor below 6.3' bss.
				4.9			
				8.8	X		
				10.4			
-15 / 10				6.8			Black SILT, trace soft to medium dense Clay, trace brown fine Sand seam at 11.7' bss, trace Organics (vegetation), sheen spots.
				0.8			
				3.8			
				5.2	X		Gray to dark gray SILT, trace medium dense laminated Clay (no plasticity), trace Organics (vegetation, shell fragments), no odor.
				2.0			
-20 / 15							End of core. Refusal on rock.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/27/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720887.00
Easting: 666451.12
Sediment Surface Elev: -5.0'

Penetration Depth: 8.4' bss
Water Depth: 9.0'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-20B**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	-5				1.8			Black to dark brown SILT, little to trace soft Clay, trace Organics (vegetation,shell fragments), organic odor.
					8.6			
					3.9	X		
		1	0-8.4	7.5	3.3			Black to dark brown SILT, little to trace soft to medium dense Clay, trace Organics (vegetation, roots, shell fragments), trace sheen spots, odor.
5	-10				0.4			
					0.2			
					0.3	X		
					0.2			End of core. Offset due to rip rap shoreline, refusal on rock.
10	-15							
15	-20							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/28/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720977.26
Easting: 666413.27
Sediment Surface Elev: -4.4'

Penetration Depth: 7.4' bss
Water Depth: 8.5'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-21**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0								
	-5				1.9			Dark brown to black SILT, trace fine Sand, trace Organics (vegetation), organic odor.
					2.6			Dark brown to black SILT, trace Clay, trace Organics (vegetation, shell fragments), organic odor.
		1	0-7.4	6.8	3.5			
					9.3			Dark brown to black SILT, trace Clay, trace Organics (vegetation).
5	-10				0			
					0			
					0			
								End of core. Offset due to rip rap shoreline, refusal on rock.
10	-15							
15	-20							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 11/28/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 721072.59
Easting: 666372.07
Sediment Surface Elev: -2.3'

Penetration Depth: 15' bss
Water Depth: 5.6'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-22**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	0							
0					0.4			Black fine to coarse SAND, some Silt, trace Organics (vegetation, shell fragments).
					25.4			Gray to dark gray SILT, trace medium dense Clay, trace Organics (vegetation, shell fragments between 3.3' to 5' bss), organic odor.
	-5				57			
					22			
					9.5			
5					32.1			Gray SILT, little to trace medium dense Clay, trace Organics (vegetation, shell fragments), seam of fine to medium Sand at 10' bss.
					26.4			
	-10	1	0-15	15.2	22.1			
					10.3			
					19.0			
10					5.1			Gray SILT, trace medium dense Clay (Clay amount increases with depth, low plasticity between 13' and 15' bss), trace Organics (shell fragments), organic odor.
					11.3			
	-15				18.8			
					29.1			
					39.1			
15								End of core. Offset due to rip rap shoreline, refusal on rock.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/5/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717627.33
Easting: 664309.45
Sediment Surface Elev: NA

Penetration Depth: 13.7' bss
Water Depth: 17.1'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-23**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	0				8.8	X		Black SILT, trace Organics (vegetation), soft to very soft, organic odor.
					0.7			Dark brown to black SILT, trace Clay, little to trace Organics (vegetation), soft to medium dense, organic sheen, petroleum-like odor.
					0.8			
					0.5			Dark brown to black SILT, trace Clay, trace Organics (vegetation, shell fragments), soft to medium dense, odor.
					0.5			
5	-5							Brown to light gray fine SAND (well sorted, increasing size with depth), medium dense.
					0.4	X		Black SILT, trace Organics (vegetation), medium dense, Sand seam at 6' bss, sheen at 5.7' bss, odor.
		1	0-13.7	13.3	0.4	X		Brown to light brown fine to coarse SAND (increasing size with depth, gray fine Sand seam at 7.5' bss), trace Organics (shell fragments).
					0.2			
					0.3			Light brown to brown fine to medium SAND, trace coarse Sand (dark gray to black fine Sand seam at 10.3', 11.2', 12.0', 12.6' bss), trace Organics (shell fragments), black Silt lamination at 11.1' bss.
10	-10				0.3			
					0.3			
					0.4			
					0.4			
15	-15							End of core. Refusal on hard sediment.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/5/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717451.94
Easting: 665934.86
Sediment Surface Elev: -10.7'

Penetration Depth: 15.1' bss
Water Depth: 10.4'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-24**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-10							
0								
					2.6			Dark brown to black SILT, trace fine Sand, trace Organics (vegetation), soft to very soft, organic odor.
					10.6			Dark brown to black SILT, trace Organics (vegetation), soft to medium dense, odor.
					3.7	X		
	-15				0.9			Dark brown to black SILT, trace Clay, trace Organics (vegetation, piece of wood at 7.8' bss, shell fragments), soft to medium dense, trace sheen, odor.
5					0.7			
					0.8			
		1	0-15	13.1	0.9			
					1.0			
	-20							
10					0.8			Dark brown to black SILT, trace Clay, trace Organics (vegetation, shell fragments), Slag at 10.5' bss soft to medium dense, trace sheen, faint odor (odor strongest between 10.5' and 11.2' bss).
					0.9	X		
					1.0			
					1.8			
	-25				1.0			
15								
								End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/11/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718201.48
Easting: 666461.57
Sediment Surface Elev: -22.0'

Penetration Depth: 15.0' bss
Water Depth: 18.5'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-25**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-20							
0				3.4	X		Dark brown to black SILT and fine SAND, trace Organics (vegetation), very soft, organic odor, trace sheen between 1.4' and 2.0' bss.
				0.5			
-25				0.7	X		Black SILT, trace fine Sand, soft to medium dense, trace sheen, potential coal tar-like odor.
				0.6			
5				0.5			Dark brown to black SILT , trace Organics (vegetation), medium dense, trace sheen, potential coal tar-like odor.
				0.5			
				0.3			
	1	0-15	14.1				
-30				0.7			
				0.3			
10				0.4			Dark brown to black SILT, trace fine Sand (medium to coarse Sand seam at 13.5' bss), medium dense, odor, trace sheen, odor.
				0.7			
				1.7			
-35				0.3			
				0.4			
15							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/14/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718369.21
Easting: 666646.65
Sediment Surface Elev: -17.0'

Penetration Depth: 15.0' bss
Water Depth: 19.2'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-26**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-15							
0				7.2			Dark brown to black SILT, trace Organics (vegetation, shell fragments), very soft to soft, organic odor.
				5.9			
-20				0.4			
				0.3			Dark brown to black SILT , trace Organics (vegetation), trace sheen, odor.
5				0.6			
				0.7			
	1	0-15	13.2	0.7			
-25				1.1			
				0.1			Dark brown to black SILT , trace Sand seam at 10.2' bss, trace Organics (vegetation), soft to medium dense, trace sheen.
10				0.1			
				0.2			
-30				0.2			
				0.3			
15							Black SILT, soft to very soft, trace sheen, odor.
							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/11/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718477.90
Easting: 666621.38
Sediment Surface Elev: -19.1'

Penetration Depth: 15.0' bss
Water Depth: 14.9'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-27**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	-20				7.3			Dark brown to black SILT , trace fine Sand, little to trace Organics (vegetation, shell fragments), soft to very soft, organic odor.
					1.9	X		Fine GRAVEL and ORGANICS (vegetation) , trace Silt and fine Sand, debris.
								Dark brown to black fine SAND and SILT, trace Organics (vegetation, shell fragments), soft, trace sheen.
					0.2			Dark brown to black SILT ,some to little fine Sand seam at 3.5' bss, little to trace Organics (shell fragments), soft, sheen, odor.
					0.4	X		Dark brown to black SILT, trace Organics (vegetation, shell fragments), trace fine Sand seams at 4.2', 6.6', 7.8', 8.7' bss, soft to medium dense, sheen, odor.
5	-25				0.5			
					0.8			
		1	0-15	12.6	0.7			
					0.8			Dark brown to black SILT, trace Organics (vegetation), lamination of fine Sand at 9.5' bss, medium dense, sheen (heaviest impact at 10.6' bss), odor.
10	-30				0.6			
					0.8			
					0.5			
					0.5			
15	-35				1.4			End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/13/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718538.78
Easting: 666737.97
Sediment Surface Elev: -17.9'

Penetration Depth: 15.0' bss
Water Depth: 16.9' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-28**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-15							
0				38.1			Dark brown to black SILT, trace Organics (vegetation), very soft, organic odor.
-20				9.1 0.4 0.1			Dark brown to black SILT, trace Organics (vegetation/ shell fragments), soft, medium dense, organic odor.
5				0.1 0.1			Dark brown to black SILT (getting dark at 5.3' bss), trace Clay, trace Organics (vegetation), seam of fine-medium-coarse gray Sand at 4.8', 5' and 5.3' bss, seam of brown fine Sand at 8.5', 8.6', 8.7' bss, medium dense, trace sheen spots throughout, odor, heaviest impact within bottom 2' of the core.
-25	1	0-15.0	14.1	0.4 0.2 0.3			
10				0.3 0.2			Dark brown to black SILT, trace Clay, trace Organics (vegetation), medium dense, odor, trace sheen spots throughout (heaviest impact at 13.1' bss). Color changes to gray/brown at 13.9' bss.
-30				0.3 0.9			
15				0.2			End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/13/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718612.85
Easting: 666790.00
Sediment Surface Elev: -17.5'

Penetration Depth: 15.0' bss
Water Depth: 18.8'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-29**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-15							
0							Dark gray SILT, very soft.
				28.4			Dark brown to black SILT (turning dark at 4.9' bss), trace Clay, fine-medium-coarse Sand lamination at 6.9' bss, seam of fine Sand and fine to medium Gravel at 7.15' bss, grain size fining with depth, trace Organics (vegetation), medium dense, trace sheen spots, odor at 8.2' bss.
				12.9			
-20				7.3			
				0.3			
				0.2			Dark brown to black SILT, trace Organics (vegetation), soft to medium dense, organic odor.
5				0.2			
				0.5			
	1	0-15.0	13.8				
-25				0.3			
				1.1			Brown to dark brown fine to medium SAND laminated (coarse sand seam at 9.2' bss), trace Organics (shell fragments), medium dense.
							Black SILT, trace Organics (vegetation), medium dense, trace sheen spots.
10				1.3			Black SILT, fine Sand lamination at 9.8' and 9.9' bss, last 0.25' turns to grey/black color, trace organics (vegetation), sheen spots throughout, heaviest impact at 10.1' bss.
				0.7			
				0.6			
-30				0.9			
				0.9			
15							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/12/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718735.57
Easting: 666742.06
Sediment Surface Elev: -12.2'

Penetration Depth: 2.1' bss
Water Depth: 12.9' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-30**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-10							
0	1	0-2.1	NA	NA			No recovery.
-15							End of core. Offset due to riprap shoreline. Refusal on rocks.
5							
-20							
10							
-25							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/12/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718731.51
Easting: 666755.30
Sediment Surface Elev: -15.0'

Penetration Depth: 15.0' bss
Water Depth: 14.7'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-30B**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	-15				0.3			Dark brown to black SILT, some fine Sand, trace Organics (vegetation/shell fragments), organic odor.
					9.9			Dark gray medium GRAVEL, angular, trace Silt, loose.
					29.8			Dark gray SILT, trace fine Sand, trace Organics (shell fragments), medium dense, trace sheen spots, odor.
					0.5			Brown to dark brown fine to medium SAND, Silt lamination at 3.7' bss, trace Organics (shell fragments), medium dense to dense.
5	-20				0.3			Brown medium SAND, little to trace coarse to fine Sand, trace fine Gravel (subrounded), medium dense to dense.
					0.3			
		1	0-15.0	14.3	0.5			Brown/dark brown/black SILT and fine SAND, seams/laminations, trace Organics (vegetation), medium dense, trace sheen spots, odor, heaviest impact at 7.4' bss.
					0.2			Brown medium SAND, little to trace coarse to fine Sand, fine Sand between 7.8' bss and 8.2' bss, trace Organics (shell fragments/vegetation).
					0.3			
10	-25				0.3			Brown medium SAND, little to trace fine to coarse Sand (laminations of coarse to fine Sand at 10.6-10.8' bss), trace Organics (shell fragments).
					0.4			Gray CLAY, trace Silt, medium plasticity.
					0.9			Gray to black fine to medium SAND, trace coarse Sand, seam of degraded coal fragments at 12' bss, trace Organics (shell fragments)
					1.0			Dark brown to black SILT, trace Clay, trace Organics (vegetation), medium dense, low plasticity, trace sheen spots throughout, odor.
					1.1			
15	-30				0.8			End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/12/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719034.19
Easting: 666928.82
Sediment Surface Elev: -15.4

Penetration Depth: 5.2' bss
Water Depth: 12.6' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-31**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0 / -5							
5 / -10	1	0-5.2	<50%	NA			Low recovery (<50%), moved location out ~13 feet to get better penetration. New location will be 50' from the shoreline.
10 / -15							End of core.
15 / -20							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/12/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719030.96
Easting: 666941.70
Sediment Surface Elev: -17.4'

Penetration Depth: 15' bss
Water Depth: 13.9' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-31B**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-15							
0				1.7			Black to dark brown SILT, some fine Sand, trace fine Gravel, trace Organics (vegetation), subrounded to subangular, organic odor, soft to very soft.
				1.9			
-20				0.5			Dark brown to black SILT, trace Organics (vegetation), soft, odor.
				3.2			Dark gray to black fine GRAVEL, loose.
5				8.5			Dark brown to black SILT, trace fine Sand, trace Organics (vegetation), medium dense, odor, sheen spots throughout.
				3.9			
	1	0-15.0	13.4	0.4			Brown to dark brown fine to medium SAND, trace Silt at 6.9' bss, trace Organics throughout (shell fragments).
-25				10.4			Dark brown to black SILT, some fine Sand, laminations of fine to medium Sand seams at 8.2', 8.3', 8.4' and 9.3' bss, trace odor, sheen.
10				6.5			Seams of Sand at 9.7', 9.9', 10.4', 11.1', 11.3' bss, trace sheen, odor between 9.5' and 11.8' bss.
				0.8			
				0.4			Brown to dark brown fine to medium SAND, trace coarse Sand (upper 2" dark brown to black. Silt intervals at 11.9' and 11.98' bss), gray Clay at 14.8' bss, medium dense to dense throughout.
-30				0.6			
				0.6			
15				0.4			End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/13/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719226.38
Easting: 667098.03
Sediment Surface Elev: -10.2'

Penetration Depth: 15.5' bss
Water Depth: 14.1' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-32**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-15							
0				9.9			Dark brown to black SILT, trace fine Sand, very soft to soft, organic odor.
				28.9			Dark brown to black SILT, trace fine Sand, trace Organics (vegetation), soft, odor.
-20				7.3			Gray SILT, trace Clay, trace Organics (shells, shell fragments), medium dense to soft, organic odor.
				3.1			Gray SILT, trace Clay, little to trace Organics (shells/shell fragments). medium dense, organic odor.
5				11.6			
				9.7			
				19.2			Gray SILT (interval of soft-very soft wet silt at 8.4' bss), trace Clay, little to trace Organics, (shell/shell fragments), medium dense, organic odor, .
-25				7.1			
	1	0-15.5	16.6	12.8			
				4.1			
10				12.4			
				3.0			Gray SILT, some trace fine Sand (sand increasing with depth), little Organics (shell/shell fragments), soft, organic odor.
				1.4			
-30				2.5			
				2.3			Gray fine SAND and SILT, sand increasing with depth, little Organics (shell fragments/shells), very soft.
				0.3			
15				0.2			Gray fine SAND, trace Clay, trace Organics (shell/shell fragments), dense.
							End of boring.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/13/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719345.99
Easting: 667030.67
Sediment Surface Elev: -8.4'

Penetration Depth: 7.9' bss
Water Depth: 13.3' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-33**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0							
0 / -8.4				14.3			Dark brown to black SILT, trace Organics (vegetation/shell fragments), very soft to soft, organic odor.
-10				21.8			
				6.6			
	1	0-7.9	7				Dark brown to black SILT, trace fine Sand, soft-medium dense, odor (strongest near bottom).
5				4.0			
				0.8			
-15				0.7			
				0.8			
							End of core.
10							
-20							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/12/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720503.97
Easting: 666628.49
Sediment Surface Elev: -6.0'

Penetration Depth: 9.1' bss
Water Depth: 9.1' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-34**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0							
				15.1			Brown to black SILT, trace Organics (vegetation/shell fragments), very soft-soft/medium dense at 0.99' bss, organic odor.
				20.0			
				5.3			
-10				1.3			Dark brown to black SILT, trace Organics (vegetation), medium dense, trace sheen spots throughout, heaviest impact at 8.6' bss, odor.
5	1	0-9.1	8.4	0.5			
				0.5			
				0.8			
-15				1.1			
							End of core.
10							
-20							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/7/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720622.76
Easting: 666683.24
Sediment Surface Elev: -5.5'

Penetration Depth: 15.0' bss
Water Depth: 3.1' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-35**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0								Dark brown to black SILT, trace fine Sand, little to trace Organics (shell fragments/vegetation), and fine Gravel, organic odor.
								Gray SILT, trace Organics (vegetation/shells/shell fragments) medium dense, organic odor.
	-10							
5								Gray SILT, little trace Clay, trace Organics (shell fragments/ shells/vegetation), soft to medium dense, organic odor.
		1	0-15	15.3				
	-15							
10								
	-20							
15								End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/7/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720712.80
Easting: 666544.77
Sediment Surface Elev: -5.9'

Penetration Depth: 7.0' bss
Water Depth: 4.6' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-36**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0							
	1	0-7.0	6.6	NA			Core was not processed, because the SD-36 penetration depth was not significantly greater than the SD-18 penetration depth of 6.9' bss
-10							
5							
							End of core.
-15							
10							
-20							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/6/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720849.29
Easting: 666594.07
Sediment Surface Elev: -6.7'

Penetration Depth: 15' bss
Water Depth: 4.1' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-37**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0							
				29.2			Dark brown to black SILT, trace fine Sand, soft to medium dense, organic odor, trace sheen starting at 1.5' bss.
				21.3			
				6.8			Dark brown to black SILT, trace Organics (vegetation), soft to medium dense, trace sheen spots, odor.
-10				5.7			
				45			Dark brown to black SILT, trace Clay, trace Organics (vegetation/ shell fragments), soft to medium dense, trace sheen spots, odor.
5				15.5			
				12.9			
	1	0-15	14.5				
				11.7			
-15				8.6			Gray SILT, trace Clay, trace fine Sand, trace Organics (vegetation/ shell fragments), soft to medium dense, no obvious impacts.
10				NA			Gray SILT, trace Clay, trace fine Sand, trace Organics (shells/shell fragments), medium dense.
				NA			
				NA			Dark gray to dark brown fine SAND and SILT, trace fine Gravel, trace Organics (shell fragments), medium dense (color becoming lightering with depth).
-20				NA			
				NA			Brown fine to medium SAND, trace coarse Sand, trace Organics (shell fragments), well sorted, medium dense.
15				NA			
							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/6/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720931.21
Easting: 666532.86
Sediment Surface Elev: -6.1'

Penetration Depth: 15' bss
Water Depth: 3.7' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-38**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0				5.9			Dark brown to black SILT, very soft, organic odor.
				6.4			Dark brown to black SILT, trace Clay, trace Organics (shell fragments), medium dense, organic odor.
				1.6			
-10				0.4			Dark brown to black SILT, trace Organics (vegetation), medium dense, odor.
5				0.5			
				0.5			Dark brown to black SILT, trace Organics, soft, sheen spots, odor.
				0.6			
	1	0-15	13.8				Dark gray/black medium to coarse SAND, trace fine Sand, trace Organics (shell fragments) medium dense.
				0.4			Gray to dark gray SILT, little trace Clay, trace Organics (vegetation, moderately degraded).
-15				0.5			
10				0.4			Gray SILT, little to trace Clay, trace Organics (vegetation-moderately degraded). Black organic lamination at 10.3' bss, organic odor.
				0.4			
				0.3			Black/gray interbedded SILT and trace Clay, trace Organics (vegetation/shell fragments), medium dense.
				0.3			Dark gray SILT, trace fine Sand, trace Organics (shell fragments), soft to medium dense.
-20				0.3			Dark brown medium degraded organic SILT (peat?), trace fine Sand.
15							Dark gray SILT and trace fine Sand, trace Organics (vegetation).
							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/7/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720895.75
Easting: 666461.42
Sediment Surface Elev: -5.4'

Penetration Depth: 15' bss
Water Depth: 5.6' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-39**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0							Black SILT, trace fine Sand, very soft, organic odor.
							Dark brown to black SILT, soft, organic odor, sheen starting at 2.8' bss.
							Black SILT, trace Organics (vegetation), medium dense, trace sheen spots.
-10 / 5							
	1	0-15	15.0	NA			Green/brown/black SILT, little to trace fine Sand, trace Organics (shell fragments/vegetation), odor.
							Black SILT, little Organics (vegetation), sheen spots throughout, heaviest at 8.6' bss.
-15 / 10							Green/brown black SILT, little to trace fine Sand with color laminations at 9.8' bss, trace Organics (shell fragments/vegetation), odor.
							Dark brown to dark black SILT, seams of fine to coarse Sand between 11' and 12' bss, trace Organics (vegetation/shell fragments), medium dense to soft, organic odor.
							Brown medium degraded organic SILT (Peat).
							Gray SILT, little Clay, trace Organics, layer of Organic at 13.3' bss.
							Brown to gray, color becoming lighter with depth, SILT, little to trace Clay, trace fine Sand, trace Organics (vegetation), medium dense.
-20 / 15							
							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/6/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720983.59
Easting: 666426.24
Sediment Surface Elev: -5.0'

Penetration Depth: 15' bss
Water Depth: 2.9' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-40**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	-5							
					20.2			Dark brown to black SILT, trace fine Sand, trace Organics (shells/vegetation), soft, organic odor.
					13.9			Dark brown/black to black SILT at 2.7' bss, possible faint blebs at 2.7-5' bss, trace Organics (vegetation) throughout, organic odor.
					1.0			
					0.5			
					0.6			
5	-10							
					2.0			Dark brown to black SILT, trace Organics (vegetation), soft to medium dense, trace sheen spots, odor.
					1.8			
		1	0-15	15.0	0.4			Brown to black interbedded SILT, trace Organics (vegetation), soft to medium dense, one (1) sheen spot at 7.2' bss.
					0.5			
					0.5			Gray SILT, trace Clay, little to trace Organics (shell/shell fragments), medium dense, no obvious impacts.
10	-15							
					2.0			Gray SILT, trace Clay increasing with depth, very soft Silt interval at 10.8' bss, little to trace Organics (shell fragments), medium dense to dense.
					1.8			
					0.4			
					0.5			Dark brown organic SILT and VEGETATION, trace fine Sand, organic odor (peat).
					0.7			Dark brown to gray becoming more gray with depth, fine SAND and SILT, little Clay, trace Organics/vegetation, dense.
15	-20							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/10/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717784.53
Easting: 663798.14
Sediment Surface Elev: -7.6'

Penetration Depth: 15.0' bss
Water Depth: 10.7'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-41**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0								
					21.8	X		Black SILT, very soft, organic odor.
								Dark brown SILT, trace Organics (vegetation, shell fragments), soft, organic odor, trace sheen spots at 1.9' bss.
					2.4			
	-10				0.2			Black SILT, trace Organics (vegetation), soft to medium dense, trace sheen spots, odor.
					0.8			
								Dark brown to black SILT, trace Organics (vegetation, shell fragments), soft, trace sheen spots (heaviest sheen from 8.6' to 9.7' bss).
5					0.5			
					0.8			
					0.5			
	-15	1	0-15	14.2	0.9			
					0.8			
10					1.5			Black SILT, trace Organics (vegetation), medium dense, trace sheen spots, odor.
					1.6			
	-20				2.6			
					2.8			
					4.1	X		
15								End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/10/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720219.55
Easting: 666883.67
Sediment Surface Elev: -5.7'

Penetration Depth: 15.0' bss
Water Depth: 8.7'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-42**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0					19.0			Dark brown to black SILT, trace fine Sand, trace Organics (vegetation, shell fragments), soft to medium dense, organic odor.
					18.4			Grayish brown SILT, trace Organics (vegetation, shell fragments), soft to medium dense, organic odor, trace sheen spots at 2.1' bss.
					5.3			
					12.2			
	-10				6.9			
5					11.1			Gray SILT, some to little Organics (vegetation, shell fragments), very soft, organic odor.
					24.4			Gray SILT, little to trace Organics (shell fragments), soft, organic odor.
					7.2	X		Gray SILT, trace fine Sand, some Organics (shell fragments), very soft, organic odor.
		1	0-15	15.4	9.6			
					5.0			
	-15				5.1			
10					0.8			Gray SILT, trace Clay, trace fine Sand (Sand content increases at the bottom), some Organics (shell fragments), soft to medium dense, organic odor.
					3.6			
					1.3			
					2.1			
	-20				2.6			
15					1.5			End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/8/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717808.25
Easting: 663897.65
Sediment Surface Elev: -7.2'

Penetration Depth: 15' bss
Water Depth: 10.7' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-43**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0								Dark brown to black SILT, very soft , organic odor.
					15.0			Dark brown SILT, trace Organics (vegetation), soft to medium dense, organic odor, trace sheen spots.
	-10				4.3			
					1.1			Dark brown to black SILT, medium dense, trace sheen spots, odor.
					0.0			Dark brown to black SILT, medium dense, trace sheen spots, coal tar-like odor.
5					0.4			
					0.8			
	-15	1	0-15	13.0	0.9			
					1.4			
10					0.3			Dark brown to black SILT, medium dense, trace sheen spots, coal tar-like odor.
					1.8			
	-20				3.1			
					3.1			
					3.9			
15								End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/8/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717695.70
Easting: 663792.41
Sediment Surface Elev: -7.4'

Penetration Depth: 15' bss
Water Depth: 10.0' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-44**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0							Dark brown to black SILT, trace Organics (vegetation), very soft , organic odor.
				12.7			Dark brown SILT, trace Organics (vegetation), soft to medium dense, organic odor, trace sheen spots.
				10.0			
-10				1.1			Dark brown to black SILT, trace Organics (vegetation), medium dense, trace sheen spots, odor.
				1.1			
5				0.9			Dark brown to black SILT, trace Organics (vegetation), medium dense, trace sheen spots, coal tar-like odor.
				1.0			
				0.8			
-15	1	0-15	14.0	1.4			
				0.8			
10				1.6			Dark brown to black SILT, trace Organics (vegetation), medium dense, trace sheen spots, coal tar-like odor.
				2.8			
-20				2.8			
				3.3			
				4.8			
15							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/7/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717668.80
Easting: 663992.75
Sediment Surface Elev: -7.2'

Penetration Depth: 15' bss
Water Depth: 3.3' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-45**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0							Dark brown to black SILT, trace fine Sand, trace Organics (vegetation), very soft, organic odor.
				9.4			Dark brown to black SILT, trace Organics (vegetation), soft, organic odor.
				6.0			
-10				1.3			Black to dark brown SILT, trace Organics (vegetation, shell fragments, wood fragments), soft to medium dense, trace sheen spots, faint odor.
				1.0			
5				1.8			
				1.4			Black to dark brown SILT, medium dense, trace sheen spots, moderate to faint odor.
				0.4			
-15	1	0-15	14.8	1.3			
				2.8			
10				2.5			
				2.3			Black to dark brown SILT, trace fine Sand seam at 13.9' bss, trace Organics (vegetation) at 14.6' bss, medium dense, trace sheen spots, moderate to faint odor.
				2.2			
-20				6.5			
				4.3			
15				5.4			
							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/7/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717740.02
Easting: 664265.40
Sediment Surface Elev: -7.5'

Penetration Depth: 15.0' bss
Water Depth: 4.4'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-46**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0								
					6.0			Dark brown to black SILT, very soft , organic odor.
					2.0	X		Dark brown to black SILT, trace Organics (vegetation), soft to medium dense , organic odor.
	-10				0.2			Dark brown to black SILT, trace Organics (vegetation), medium dense, trace sheen spots, odor.
					0.5			
					0.4			
5								
					0.3			Dark brown to black SILT, trace Organics (vegetation, debris at 5.9' and 6.9' bss), medium dense, trace sheen spots (heaviest sheen between 7.5' to 7.9' bss), odor.
					1.4			
	-15	1	0-15	14.8	0.7			
					2.4			
					1.8			Dark brown to black fine SAND and SILT (Silt seam at 9.2' bss), trace Organics (vegetation, shell fragments), coal tar-like odor.
					1.1			Brown to dark gray fine to medium SAND, trace coarse Sand, medium dense, odor.
10								
					1.0			Brown to grayish brown fine SAND and SILT interbedded between 10.1' to 10.4.1' bss, trace Organics (vegetation, shell fragments), medium dense, odor.
					2.3			Gray SILT, trace Clay, medium dense, odor.
	-20				1.0	X		Dark brown to black SILT, trace Organics (vegetation), medium dense, trace sheen spots, coal tar-like odor.
					1.0			Brown interbedded fine to coarse SAND and black to dark brown SILT and fine SAND, trace sheen spots in silt intervals, odor.
					0.2	X		Brown fine to medium SAND, little coarse Sand, trace Organics (shell fragments), gray Silt lamination at 14.6' bss.
15								End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/7/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717533.08
Easting: 664178.56
Sediment Surface Elev: -9.4'

Penetration Depth: 15' bss
Water Depth: 5.9' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-47**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	-10				10.4			Dark brown to black SILT, trace Organics (vegetation), very soft , organic odor.
					1.7			Dark brown to black SILT, trace Organics (vegetation, shell fragments), soft to medium dense, odor.
					1.0			
					0.1			
								Dark brown to black SILT, trace Organics (vegetation), medium dense, trace sheen spots, odor.
5	-15				0.1			Dark brown to black SILT, trace Organics (vegetation), medium dense, trace sheen spots, odor.
					0.1			
					0.1			
		1	0-15	14.3	0.3			
					0.6			
10	-20				2.1			Dark brown to black SILT, trace Organics (vegetation increasing with depth), medium dense, trace sheen spots, coal tar-like odor.
					4.7			
					4.0			
					4.1			
					10.2			
15	-25							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/3/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717283.44
Easting: 665042.76
Sediment Surface Elev: -21.3'

Penetration Depth: 14.1' bss
Water Depth: 22.0'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-48**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0				5.8			Dark gray SILT, little fine Sand, trace coarse Sand, trace Organics (grass), trace sheen spots, coal tar-like odor.
				0.5			Gray SILT, little fine Sand, trace Clay, slightly dense.
-10				0.1			
				0.0			
				0.9			Dark gray SILT, trace Organics (grass, roots), trace sheen spots, coal tar-like odor.
5				0.1	X		Grayish brown SILT (black between 4.6' and 5.0', 5.6' and 6.0', 6.6' and 6.9', 7.3' and 7.6' bss), some Clay, little fine and coarse Sand, trace Organics (grass, roots, leaf litter, shell fragments), medium dense.
				0.7			
	1	0-14.1	14.9	0.1			
-15				0.0			
				0.0			
10				0.2			Grayish brown SILT, some Clay, little fine Sand, trace Organics (grass, roots), medium dense.
				0.1			Grayish brown fine to coarse SAND, trace Gravel, soft.
				0.0	X		Gray GRAVEL, fine to coarse Sand, soft.
-20				0.0			
				0.1			Grayish brown fine to coarse SAND, some Gravel, medium dense.
15							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/3/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717257.43
Easting: 665117.37
Sediment Surface Elev: -21.5'

Penetration Depth: 9.2' bss
Water Depth: 20.6'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-49**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-20							
0				4.1			Dark gray SILT, little fine Sand, trace medium to coarse Sand, trace Organics (grass, roots), medium dense, no visible impact, organic and coal tar-like odor.
				0.6			Dark gray to brown GRAVEL, fine to coarse Sand.
				1.1			Dark gray SILT, little fine Sand, trace Organics (grass, roots), medium dense, no visible impact, coal tar-like odor.
-25				0.3			Gray SILT, some Clay, trace fine Sand, no visible impact.
				1.6			Dark gray SILT, some Clay, trace Organics (grass, roots), no visible impact, coal tar-like odor.
5	1	0-9.2	9.7	0.6			Grayish brown SILT, some Clay, trace fine Sand, dark gray to black fine to coarse Sand seams between 4.9' and 5.2', 6.0' and 6.3' bss, trace Organics (leaf litter, grass), trace gravel, pyrite and coal-like chunks, medium dense, coal tar-like odor.
				0.6	X		
				0.0			Gray GRAVEL, fine to coarse Sand.
-30				0.0			
				0.0			Grayish brown fine SAND, little medium Sand, trace Gravel, medium dense, no odor.
							End of core.
10							
-35							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/4/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717259.05
Easting: 665279.33
Sediment Surface Elev: -17.2'

Penetration Depth: 2.4' bss
Water Depth: 13.9'

Descriptions By: J. LeMessurier/
B. Hamilton

Boring ID: **SD-50**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-15							
0	1	0-2.4	1.8				Core not processed due to shallow refusal.
-20							End of core. Refusal on dense brown soil.
5							
-25							
10							
-30							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/7/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717244.01
Easting: 665268.99
Sediment Surface Elev: -19.6'

Penetration Depth: 2.9' bss
Water Depth: 18.9'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-50B**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	-20	1	0-2.9	3.1				Core not processed due to shallow refusal.
5	-25							End of core. Refusal on dense coarse brown sand.
10	-30							
15	-35							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/7/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717214.64
Easting: 665254.06
Sediment Surface Elev: -21.5'

Penetration Depth: 2.3' bss
Water Depth: 19.0'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-50C**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	-20	1	1-2.3	NA				Core not processed due to shallow refusal.
5	-25							End of core. Refusal on dense coarse brown sand.
10	-30							
15	-35							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/3/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717387.24
Easting: 665982.76
Sediment Surface Elev: -26.0'

Penetration Depth: 15' bss
Water Depth: 23.0' bss

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-51**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-25							
0					4.6			Grayish brown SILT, little coarse Sand, trace fine Sand, trace Organics (roots, wood, vegetation, shell fragments), organic odor.
					0.1			Dark gray to brown SILT, some fine Sand, trace coarse Sand, soft, trace sheen spots, coal tar-like odor.
					0.1			
	-30				0.2			
5					0.2			Dark gray SILT, little fine Sand, trace coarse Sand, trace Organics (leaf litter, roots, vegetation), trace debris, density increases with depth, trace sheen spots, coal tar-like odor.
					0.2			
					0.3			
		1	0-15	14.6	0.1			
	-35				0.6			
10					1.2			Dark gray SILT, little fine Sand, trace coarse Sand, trace Organics (leaf litter, roots, vegetation), trace debris, density increases with depth, trace sheen spots, coal tar-like odor.
					0.7			
					1.0			
					0.3			
	-40				0.5			
15					0.8			End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/3/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717506.84
Easting: 666037.41
Sediment Surface Elev: -19.1'

Penetration Depth: 3.8' bss
Water Depth: 15.5'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-52**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	-20	1	0-3.8	NA				Core not processed due to shallow refusal.
5	-25							End of core. Refusal on black silt.
10	-30							
15	-35							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3. Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/3/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717482.29
Easting: 666057.49
Sediment Surface Elev: -23.7'

Penetration Depth: 15.0' bss
Water Depth: 20.2'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-52B**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0								
	-25				2.7	X		Gray to brown SILT, trace fine Sand, trace Gravel, trace Organics (leaf litter, grass), organic odor.
					1.1			Dark gray to brown SILT, little fine Sand, trace coarse Sand, little Gravel, trace sheen spots, coal tar-like odor.
					0.2			
					0.1			
5					0.1			Dark gray to brown SILT, little fine Sand, trace medium to coarse Sand, medium dense, trace sheen spots, coal tar-like odor.
	-30				0.1			
		1	0-15	14.2	0.2			
					0.2			Gray to brown SILT, some fine Sand, little coarse Sand, trace medium Sand and Gravel, Gravel and fine to coarse Sand between 8.3' and 8.6' bss, trace sheen spots, coal tar-like odor.
					0.4			
10					0.1	X		Dark gray SILT, trace fine Sand, trace Organics (grass, roots, leaf litter), trace sheen spots, coal tar-like odor.
	-35				0.3			
					0.4			
					0.4			
					0.1			
15								End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/2/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718091.87
Easting: 667078.96
Sediment Surface Elev: -6.8'

Penetration Depth: 15' bss
Water Depth: 9.5' bss

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-53**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0					4.0			Dark grayish brown SILT, trace fine Sand, trace Organics (vegetation, roots), density increases with depth, organic odor, trace sheen spots at 2.1' bss.
	-10				5.8			
					9.0			
					0.6			
5					0.2			Dark grayish brown SILT, trace fine Sand, trace Organics (vegetation, roots), density increases with depth, trace sheen spots, coal tar-like odor.
					0.2			
		1	0-15	13.9	0.1			
	-15				0.7			
					1.5			
10					0.2			Dark gray to brown SILT, little fine Sand, trace medium to coarse Sand, trace Organics (vegetation, roots, leaf litter), coal tar-like odor.
					1.1			Dark gray to brown SILT, trace Organics (vegetation, roots), density increases with depth, coal tar-like odor.
	-20				1.0			
					1.4			
15					0.9			End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/2/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718323.59
Easting: 667098.29
Sediment Surface Elev: -6.9'

Penetration Depth: 15' bss
Water Depth: 9.4' bss

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-54**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0 / -5							
0 / -10				1.0			Gray to brown SILT, little fine Sand, trace coarse Sand, trace Organics (vegetation, roots), organic odor, trace sheen spots starting at 2.1' bss.
				0.8			
				0.0			
				0.1			
5 / -15	1	0-15	13.8	0.3			Dark gray SILT, trace fine Sand, trace Organics (vegetation, roots), density increases with depth, trace sheen spots, coal tar-like odor.
				0.4			
				0.8			
				1.8			
				1.6			
10 / -20				0.5			Dark gray SILT, trace fine Sand, trace Organics (vegetation, roots), density increases with depth, trace sheen spots, coal tar-like odor.
				0.9			
				0.6			
				1.7			
15				1.7			End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/20/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718535.15
Easting: 667097.44
Sediment Surface Elev: -6.9

Penetration Depth: 15' bss
Water Depth: 5.7' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-55**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0				29			Dark gray SILT, trace fine Sand, trace Organics (roots), trace sheen spots from 2.1'-4.4' bss.
				6.7			
				0.7			
-10				0.3			
5				0.6			Dark gray SILT, trace fine Sand, trace Organics (roots), black moderate coal tar-like odor throughout, trace sheen spots throughout.
				1.0			
				0.7			
	1	0-15	14.2				
-15				1.1			
				1.0			
10				1.1			Dark gray SILT, trace fine Sand, trace Organics (roots), increased coal tar like odor throughout, density increases with depth.
				1.0			
				1.6			
-20				1.3			
				1.3			
15							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/18/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718754.67
Easting: 667110.17
Sediment Surface Elev: -6.9'

Penetration Depth: 15' bss
Water Depth: 8.6' bss

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-56**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0					16.5			Dark brown SILT, trace fine Sand, trace Organics (shells/roots), organic sheen seen at 1.2' bss, organic odor.
					3.2			
	-10				1.7			
					2.8			Dark gray/black SILT, trace fine Sand, trace Organics (roots and leaf litter), trace sheen spots throughout, moderate coal tar-like odor.
5					3.2			
					1.0			
		1	0-15	13.0	1.0			
	-15				1.6			
10					NA			
					NA			
					NA			
	-20				NA			
					NA			
15								End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/18/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718922.00
Easting: 667212.97
Sediment Surface Elev: -7.1'

Penetration Depth: 15' bss
Water Depth: 6.5' bss

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-57**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0				42.2			Black SILT, trace fine Sand, trace Organics (roots), trace sheen spots from 1.7-5.6' bss (increasing with depth), moderate odor (coal tar-like odor from 3.8-5.6' bss, more dense with depth.
				8.8			
				1.9			
-10				1.3			
				1.6			
5				1.3			
				2.3			Black SILT, trace fine Sand, trace Organics (roots), trace sheen spots, moderate coal tar-like odor throughout, trace Glass Fragment at 9.5' bss.
	1	0-15.0	15.8	1.8			
-15				1.9			
				1.9			
10				5.6			
				5.9			Black SILT, trace fine Sand, trace Organics (roots), trace sheen spots, moderate coal tar-like odor throughout.
				1.4			
-20				1.2			Gray/brown SILT, some faint Clay, small odor (Organics), no visual impact.
				1.8			
15				1.8			Dark gray SILT, trace Clay, trace Glass.
							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core. Visual impacts were observed within core that were consistent with impacts seen in other cores previously sampled, thus no samples were collected.

Date Start/Finish: 12/17/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720763.70
Easting: 666701.33
Sediment Surface Elev: -9.0'

Penetration Depth: 15' bss
Water Depth: 13.9' bss

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-58**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0								
					5.6			Dark gray SILT, trace fine Sand, Shells, soft, odor.
	-10				5.1			Dark gray SILT, trace fine Sand, trace Organics (leaf litter).
					4.3			
					4.0			Dark gray SILT, trace fine Sand, trace Organics (leaf litter), medium dense, organic sheen.
5					0.5			
					0.4			Dark gray/brown SILT, little fine Sand, trace coarse Sand, trace Orgnaics (roots/shells), medium dense.
	-15				0.4			
					0.4			Dark gray/brown SILT, trace fine Sand, trace Organics (roots/shell fragments), organic odor.
		1	0-15	15.4	0.7			Gray/brown SILT, trace fine Sand, trace Organics (roots/shells) dense, organic odor.
					5.7			
10					3.3			Gray/brown SILT, some fine Sand, little coarse Sand, trace Organics (shells).
	-20				1.4			
					1.0			
					1.4			Gray/brown SILT, some fine Sand, little coarse Sand, trace Organics (shells).
					0.6			Gray/brown fine SAND and SILT, little coarse Sand, trace Organics (shells).
15								End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/17/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720880.11
Easting: 666641.00
Sediment Surface Elev: -8.2'

Penetration Depth: 15' bss
Water Depth: 11.9' bss

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-59**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0					7.4			Gray brown to dark gray brown SILT, trace fine Sand, trace Organics (roots/shells), organic odor from 0-3.1' bss, 3.1-4.8' bss, coal tar-like odor, trace sheen spots.
	-10				1.8			
					0.5			
					0.9			
5					0.2			Dark gray SILT, trace Organics (roots), moderate coal tar-like odor, trace sheen spots.
					2.1			
	-15				2.4			Gray/brown SILT, little Clay, trace Organics (roots/shells/fragments), dense, no obvious odor.
		1	0-15	14.5	0.9			
					0.4			
10					0.6			Gray/brown SILT, little Clay, trace Organics (roots/shells/fragments), dense, organic odor.
					2.5			
	-20				1.7			
					4.3			Gray/brown fine to coarse SAND, little Silt, Gravel and Organics (shell fragments).
					3.2			Dark brown fine SAND, some Silt, little coarse Sand, little Organics (shell fragments, leaf litter).
15					3.9			
								End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/17/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720971.38
Easting: 666617.76
Sediment Surface Elev: -10.3'

Penetration Depth: 15' bss
Water Depth: 10.8' bss

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-60**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	-10							
					15.2			Dark brown/dark gray SILT, trace Organics (roots), organic odor within top, coal tar-like odor from 4.1-4.8' bss.
					1.3			
					1.7			
					1.9			
5	-15				1.9			
					0.1			Gray/brown SILT, trace fine Sand, trace Organics (roots/shell fragments), debris, trace sheen spots, coal tar-like odor.
					0.2			Gray SILT, little Clay, trace fine Sand, trace Organics (grass/roots/shells), no odor.
		1	0-15.0	14.8	0.1			
					0.1			
10	-20				0.1			
					1.2			Gray/brown SILT some Clay, trace fine Sand, trace Organics throughout (shell/shell fragments), moderate dense.
					3.2			
					4.5			
					4.4			
15	-25				0.7			
								End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core. Visual impacts were observed within core that were consistent with impacts seen in other cores previously sampled, thus no samples were collected.

Date Start/Finish: 12/17/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 721060.30
Easting: 666571.68
Sediment Surface Elev: -8.5'

Penetration Depth: 15' bss
Water Depth: 7' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-61**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0							
0				46.8			Dark gray SILT, trace fine Sand, trace Organics (roots), soft, organic odor.
-10				6.1			
				5.1			Gray/brown SILT, some Clay, trace fine Sand, trace Organics (roots/leaf litter/shells), increasing density with depth, organic odor.
				3.0			
				2.0			
5				0.9			
							Gray/brown SILT, some Clay, trace fine Sand, trace Organics (roots/leaf litter/shells), Shell fragments at 7.2' bss, increasing density with depth, no odor.
-15				0.6			
	1	0-15	15.2	0.0			
				0.1			
				0.4			
10				0.1			Gray/brown SILT, some Clay, trace fine Sand, trace Organics (roots/leaf litter/shells), Shell fragments at 7.2' bss, increasing density with depth, organic odor.
-20				0.2			
				2.2			
				0.2			
				1.0			
15							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/20/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719585.66
Easting: 667045.35
Sediment Surface Elev: -6.6'

Penetration Depth: 11.1' bss
Water Depth: 5.6' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-62**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0					1.1			Gray/brown SILT, little fine Sand, trace coarse Sand, increasing density with depth, very soft at top organic odor (faint coal tar-like odor), some sheen spots between 3.1-5.6' bss,
					5.0			
					2.9			
	-10				2.3			
5					1.0			
		1	0-11.1	10.8	4.3			Dark gray SILT, trace fine Sand, organic odor, soft.
					2.3			Gray/brown SILT and fine SAND, little coarse Sand, trace medium Sand, trace Gravel, trace Organics (shells/shell fragments) throughout.
	-15				1.5			
					0.5			
10					0.5			
					0.1			
								End of core.
	-20							
15								

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/19/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719757.86
Easting: 667113.15
Sediment Surface Elev: -10.7'

Penetration Depth: 11.3' bss
Water Depth: 7.9' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-63**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-10							
0					1.9			Black/brown SILT, trace Organics (roots/leaf litter), increasing density with depth.
					0.0			
					0.0			
					0.0			
	-15				0.0			
5		1	0-11.3	11.3	0.0			Dark gray SILT, trace fine Sand, trace Organics (roots), slight organic odor.
					0.0			
					0.0			
					0.1			
	-20				0.7			Gray/brown fine SAND, little Silt, trace Gravel (possible schist), increasing density with depth.
10					0.2			
								End of core.
	-25							
15								

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/19/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 719946.83
Easting: 667045.74
Sediment Surface Elev: -11.2'

Penetration Depth: 11.0' bss
Water Depth: 8.6' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-64**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-10							
0							Black SILT, trace Organic (shell fragments), slight odor, increasing density with depth.
				1.7			
				0.8			
				0.2			
-15				0.2			
5				0.3			
	1	0-11.0	10.1	0.0			Dark gray black SILT, trace coarse to fine Sand, trace Organics (roots), trace odor.
				0.1			
				0.0			
-20							Gray/brown fine SAND, some Silt, little coarse Sand, trace Organics (shell fragments).
				0.3			
10				3.2			
							Brown fine SAND, some Organics (wood pulp).
							End of core.
-25							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 12/20/12
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720043.84
Easting: 666836.48
Sediment Surface Elev: -4.9'

Penetration Depth: 14.3' bss
Water Depth: 4.5' bss

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-65**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	-5				5.0			Gray/brown SILT, trace Organics (roots), soft, organic odor.
					0.7			
					0.1			Dark gray SILT, trace fine Sand, moderate coal tar-like odor, increasing density with depth.
					0.0			
5	-10				0.1			Dark gray SILT, trace fine Sand, moderate coal tar-like odor, increasing density with depth, trace sheen spots throughout.
					0.2			
		1	0-14.3	13.7	0.1			
					0.0			
					0.0			
10	-15				0.2			Dark gray/brown SILT, little fine Sand, trace medium Sand, trace Organics (shells/roots), moderate coal tar-like odor, trace sheen spots.
					0.5			
					0.2			
					0.0			Orange/brown/gray fine SAND, trace Gravel, unsorted.
					0.1			
15	-20							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot Pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/8/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718039.01
Easting: 666372.10
Sediment Surface Elev: -21.3'

Penetration Depth: 15.0' bss
Water Depth: 16.3'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-66**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-20							
0				16.8	X		Dark brown to black SILT, trace fine Sand, trace Organics (vegetation), soft, organic odor, trace sheen spots.
				1.6			Dark brown to black SILT, trace Organics (vegetation, shell fragments), soft to medium dense, trace sheen spots (heaviest sheen at 4.1' bss), odor.
-25				0.6			
5				1.4			
				0.3			Dark brown to black SILT, trace Organics (vegetation, shell fragments), soft to medium dense, trace sheen spots (heaviest sheen at 7.0' bss), odor.
				0.6			
	1	0-15	14.0	0.6	X		
-30				0.4			
10				0.4			
				0.2			Dark brown to black SILT, gray Silt and Clay layer at 12.6' bss, brown to dark brown fine Sand layer with trace Silt between 13.8' and 14.1'bss, trace Organics (vegetation, shell fragments), medium dense, organic odor, trace sheen spots.
				0.5			
				0.9			
-35				0.8			
15				1.3			
							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/9/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717735.31
Easting: 666207.20
Sediment Surface Elev: -7.1'

Penetration Depth: 15.0' bss
Water Depth: 18.7'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-67**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0							
				15.1			Dark brown to black SILT, trace fine Sand, trace Organics (vegetation, wood fragments), very soft, organic odor.
-10				0.6	X		Dark brown SILT, trace fine Sand, trace Organics (vegetation, shell fragments), soft, organic odor.
				0.4			Dark brown to black SILT, trace Organics (vegetation, shell fragments), soft to medium dense, trace sheen spots, odor.
5				1.3			
				0.5			
-15				0.2			
	1	0-15.0	11.8	1.0			Dark brown to black SILT, trace fine Sand seams at 8.3' and 13.9' bss, trace Organics (vegetation, shell fragments), soft to medium dense, trace sheen spots, odor.
10				1.4			
				1.9			
-20				0.8			
				1.1			
				2.4	X		
15							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/10/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720283.44
Easting: 666717.98
Sediment Surface Elev: -5.4'

Penetration Depth: 10.4' bss
Water Depth: 8.6'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-68**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0					7.1			Dark brown to black SILT, trace Organics (vegetation), very soft to soft, organic sheen, organic odor.
					13.6			
					12.0			
					1.7	X		
	-10							
5					1.1			
		1	0-10.9	9.5				Dark gray to black SILT, trace Organics (vegetation, shell fragments), soft to medium dense, color lightens with depth, trace sheen spots, odor.
						X		
								Black fine to medium GRAVEL and fine SAND (decreasing size with depth), trace Silt.
						X		Gray to dark gray to black SILT, some fine Sand, trace coarse Sand, trace Organics (vegetation, shell fragments), soft to medium dense.
	-15							
10								Dark gray to black SILT, trace Clay, trace Organics (vegetation, shell fragments), soft to medium dense, organic odor.
								End of core.
	-20							
15								

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/9/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717701.40
Easting: 666946.49
Sediment Surface Elev: -8.5'

Penetration Depth: 15.0' bss
Water Depth: 12.5'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-69**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0							
0 / -8.5				42.9	X		Dark brown to black SILT, trace Organics (vegetation), very soft, organic odor.
-10 / -18.5				14.0			Dark brown to black SILT, trace Organics (vegetation, shell fragments), soft to medium dense, trace sheen spots, odor.
				3.1			
				0.5			Dark brown to black SILT, trace Organics (vegetation, shell fragments), medium dense, trace sheen spots (heaviest sheen at aproximately 8.5' bss), coal tar-like odor.
5 / -13.5				0.5			
-15 / -23.5				0.6			
	1	0-15.0	13.3	1.1			
				2.8			
10 / -18.5				4.2			Dark brown to black SILT, trace Organics (vegetation, shell fragments), medium dense, trace sheen spots, coal tar-like odor.
				1.8			
-20 / -28.5				1.2			
				0.5			Black SILT, medium SAND layer at 13.0' bss, little Organics (vegetation, shell fragments), medium dense, trace sheen spots, coal tar-like odor.
				3.3	X		
15 / -23.5				3.9			End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/10/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720378.16
Easting: 666828.13
Sediment Surface Elev: -6.0'

Penetration Depth: 15.0' bss
Water Depth: 9.2'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-70**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0								Dark brown to black SILT, trace Organics (vegetation), very soft, organic odor.
					41.7			Gray to brown SILT (darkening of color between 2.7' and 3.8' bss), trace Organics (vegetation), soft to medium dense, organic odor.
					52.8			
					24.4			
	-10				9.2			Dark gray SILT, trace Organics (vegetation), soft to medium dense, odor.
5					0.1			Gray SILT, trace Organics (vegetation), medium dense, organic odor.
					0.0			
					0.0	X		
		1	0-15.0	13.9				Dark gray SILT, trace Organics (vegetation), soft to medium dense, odor.
					0.6			Gray SILT, trace Organics (vegetation), medium dense, organic odor.
	-15				0.1			Dark gray SILT, trace Organics (vegetation), soft to medium dense, odor.
10					0.0			Gray SILT, trace Organics (vegetation, shell fragments), medium dense, organic odor.
								Dark gray SILT, trace Organics (vegetation), soft to medium dense, odor.
					0.3			Gray SILT, trace Organics (vegetation), medium dense, organic odor.
								Gray SILT, trace fine to medium Sand, trace Organics (shell fragments), very soft.
					2.1			Gray to brown SILT, trace fine Sand, trace Clay, little to trace Organics (shell fragments), medium dense, organic odor.
	-20				3.2			
15					4.3			End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/11/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718837.82
Easting: 667158.37
Sediment Surface Elev: -6.6'

Penetration Depth: 15.0' bss
Water Depth: 11.2'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-71**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	-5							
					21.4			Dark gray to black SILT, trace fine Sand, trace Organics (vegetation), very soft, organic odor.
					14.9			Dark brown to black SILT, trace Organics (vegetation), soft to medium dense, organic odor, trace sheen spots.
					1.9	X		
	-10				1.2			Dark brown to black SILT, trace Organics (vegetation), soft to medium dense, organic odor, trace sheen spots.
5					1.8			Black SILT, little Organics (vegetation), soft to medium dense, trace sheen spots, odor.
					1.4			
		1	0-15.0	12.7	1.4			
	-15				1.2			Black SILT, little Organics (vegetation), soft to medium dense, trace sheen spots, coal tar-like odor (strongest odor at bottom of core).
10					0.5			
					1.2			
					1.5			
	-20				1.8			
					1.7	X		
15								End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/11/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718298.30
Easting: 666895.87
Sediment Surface Elev: -7.4'

Penetration Depth: 15.0' bss
Water Depth: 11.4'

Descriptions By: J. Oliver/B. Hamilton

Boring ID: **SD-72**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0 / -5							
0 / -10				10.6	X		Dark brown to black SILT, trace Sand in upper 0.4' bss, trace Organics (vegetation, shell fragments), very soft to soft, organic odor, trace sheen spots.
				10.6			
				0.3			Black SILT, trace Organics (vegetation, shell fragments), soft to medium dense, trace sheen spots.
				0.5			Black to dark brown SILT, little to trace fine Sand below 8.2' bss, soft to medium dense, trace sheen spots (heaviest impact between 7.3' to 9.5' bss), coal tar-like odor.
5 / -15	1	0-15.0	13.7	0.4			
				0.6			
				0.7			
				1.4			
				1.9			
10 / -20				1.5			Black SILT, trace fine Sand, trace Organics (vegetation, shell fragments), medium dense, trace sheen spots, coal tar-like odor.
				1.4			
				1.2			
				1.9			
15				1.5	X		
							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/14/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717253.90
Easting: 666137.38
Sediment Surface Elev: -35.9'

Penetration Depth: 7.9' bss
Water Depth: 37.6'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-73**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0							
				1.0	X		Dark gray fine to coarse SAND, little Gravel, trace Silt, organic odor.
				1.7			Dark gray to brown SILT, some fine Sand, little coarse Sand, trace Gravel, trace Organics (grass, roots), organic odor (coal tar-like odor with depth).
-10				0.4			Dark gray SILT, trace fine Sand, trace Organics (roots, grass), trace trash/debris, very soft, trace sheen from 2.2' to 2.6' and 3.6' to 3.7' bss, coal tar-like odor.
	1	0-7.9	7.4	0.4			Dark gray to brown SILT, little Clay, trace fine Sand, trace Organics (roots, leaf litter, grass), trace garbage/debris, trace sheen spots (sheen spots increase with depth), coal tar-like odor.
5				0.6	X		
				1.9	X		Gray to brown SILT, some Clay, trace fine Sand, very dense.
-15				0.0			
				0.0			End of core.
10							
-20							
15							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/14/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717108.55
Easting: 664941.27
Sediment Surface Elev: -40.5'

Penetration Depth: 7.5' bss
Water Depth: 45.1'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-74**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	-40							
		1	0-7.5	5.1	6.9			Dark gray to black SILT, little fine Sand, trace coarse Sand, trace Organics (leaf litter, grass, shell fragments), trace Garbage/debris, soft, organic odor.
					1.7	X		
					3.4			
5	-45				0.1	X		Green to gray SILT, little Clay, trace fine and coarse Sand, trace Organics (shell fragments), trace Trash, soft (increasing density with depth), organic odor.
					0.0			Gray to brown fine SAND, some coarse Sand, trace medium Sand, trace Clay, trace Gravel, soft (increasing density with depth).
								End of core.
10	-50							
15	-55							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/14/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717520.39
Easting: 663852.12
Sediment Surface Elev: -12.5'

Penetration Depth: 15.0' bss
Water Depth: 16.9'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-75**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-10							
0							
				3.2	X		Dark gray to brown SILT, trace fine Sand, soft, organic odor.
				0.6			
-15							Dark gray SILT, trace fine Sand, increasing density with depth, trace sheen spots, coal tar-like odor.
				0.2			
				0.2			Dark gray to black SILT, trace fine Sand, increasing density with depth, trace sheen spots (increasing sheen spots with depth), coal tar-like odor (increasing odor with depth).
5							
				0.2			
-20	1	0-15.0	11.6	0.1			
				0.4			
				1.0			
10							Dark gray to black SILT, trace fine Sand, increasing density with depth, trace sheen spots (increasing sheen spots with depth), coal tar-like odor (increasing odor with depth, petroleum odor at approximately 14.7' bss).
				2.9	X		
-25				4.5			
				2.8			
				2.7	X		Gray to green SILT, some Clay, odor.
15							End of core.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/17/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720529.78
Easting: 666753.70
Sediment Surface Elev: -5.9'

Penetration Depth: 17.8' bss
Water Depth: 5.8'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-76**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0								Dark gray to gray SILT, little fine Sand, trace Clay, trace Organics (vegetation), soft, moderate organic odor.
					1.4			Gray SILT, some Clay, trace fine Sand, trace Organics (wood chips, shell fragments), soft (increasing density with depth), faint organic odor.
					0.9			
					9.1			
	-10				2.5			Gray SILT, little Clay, trace fine Sand, trace Organics (leaf litter, wood chips, shell fragments), medium dense (increasing density with depth; soft layers between 4.9' and 5.2' bss, and between 6.4' and 6.7' bss), organic odor.
5					5.8			
					8.1			
					8.0	X		
					3.0			Gray SILT, little Clay, trace fine Sand, trace Organics (wood chips, shell fragments), medium dense, moderate organic odor.
	-15	1	0-17.8	16.7	3.8			
10								Gray SILT, little Clay, little fine Sand, trace medium to coarse Sand, trace Organics (wood chips, shell fragments).
					1.1			Gray SILT, little Clay, trace fine Sand.
					1.5			Gray CLAY, some Silt, trace Organics (leaf litter, shell fragments), medium dense (soft layer between 11.0' and 11.1' bss).
					0.5			
					0.0			Gray CLAY, trace Silt, trace Organics (shell fragments), medium dense (increasing density with depth).
	-20				0.4			
15					0.3			

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Client: Consolidated Edison Company of New York, Inc.

Well/Boring ID: SD-76

Penetration Depth: 17.8' bss

Site Location:
Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
					0.9			
					1.1			End of core.
	-25							
20								
	-30							
25								
	-35							
30								
	-40							
35								

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/16/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 718477.44
Easting: 666984.40
Sediment Surface Elev: -7.2'

Penetration Depth: 29.0' bss
Water Depth: 8.1'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-77**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0				30.5	X		Dark gray to brown SILT, trace fine Sand, trace Organics (vegetation, shell fragments), density increases with depth, organic odor, trace sheen spots.
-10				7.1			
				0.5			
				0.4			Dark gray to black SILT, trace fine Sand, trace Organics (vegetation), medium dense (density increases with depth), trace sheen spots, faint coal tar-like odor.
5				2.0			
				1.4			
				2.0			
-15	1	0-29.0	27.4	3.2			
				3.3			Dark gray to black SILT, trace fine Sand, trace Organics (vegetation), trace debris/garbage, medium dense (density increases with depth), trace sheen spots, moderate coal tar-like odor.
10				3.6			
				1.5			
				3.5			
-20				4.2			
				4.4			Dark gray to black SILT, trace fine Sand, trace Organics (vegetation), medium dense (density increases with depth), trace sheen spots, moderate coal tar-like odor.
15				2.3			

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Client: Consolidated Edison Company of New York, Inc.

Well/Boring ID: SD-77

Penetration Depth: 29.0' bss

Site Location:
Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
					2.9			
	-25				2.7			
					2.7			
20					3.4	X		Dark gray SILT, little Clay, trace fine Sand, medium dense, trace sheen spots, moderate coal tar-like odor.
					1.4			Gray SILT, some Clay, trace fine Sand, trace Organics (vegetation, shell fragments), medium dense (density increases with depth).
		1	0-29.0	27.4	0.1	X		
	-30				0.0			
					0.0			Gray CLAY, some Silt, trace Organics (shell fragments), medium dense (increasing density with depth), organic odor.
25					0.1			
					0.2			
	-35				1.5			
					1.0			
					1.0			End of core.
30								
	-40							
35								

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/16/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717441.15
Easting: 666525.60
Sediment Surface Elev: -12.6'

Penetration Depth: 19.6' bss
Water Depth: 9.7'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-78**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-10							
0				19.3			Dark gray to black SILT, little fine Sand, trace Organics (roots, shell fragments, leaf litter), density increases with depth, faint organic odor from 0' to 1.8' bss, trace sheen spots between 1.8' and 2.0' bss, faint coal tar-like odor from 1.8' to 3.0' bss.
				15.4	X		
-15				3.1			
				0.8			Dark gray to black SILT, trace fine Sand, trace Organics (grass, shell fragments), density increases with depth, trace sheen spots, faint coal tar-like odor.
				0.5			
5				0.5			
				0.7			
				0.6			Dark gray to black SILT, trace fine Sand, trace Organics (grass, shell fragments), density increases with depth, trace sheen spots, medium coal tar-like odor.
-20	1	0-19.6	21.4	1.6			
				2.6			
				1.7			
10				6.3			
				4.0			Dark gray SILT, little fine Sand, trace Organics (vegetation), trace sheen spots, faint coal tar-like odor.
-25				1.0	X		
				0.6			Gray to green SILT, little fine Sand, trace Organics (shell fragments), density increases with depth, odor, no visible sheen.
				0.6			
15				0.6	X		Gray to brown fine SAND, some Silt, trace coarse Sand, trace Organics (shell fragments), no visible sheen, no odor.
							Grayish brown fine SAND, trace coarse Sand, no visible impacts, no odor.

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Client: Consolidated Edison Company of New York, Inc.

Well/Boring ID: SD-78

Penetration Depth: 19.6' bss

Site Location:
Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-30				0.0			Gray to green fine SAND, some Silt, little coarse Sand, trace medium Sand, dense, no visible impact, no odor.
				0.0			
							Brown fine SAND, little coarse Sand, trace Gravel, dense.
	1	0-19.6	21.4	0.0			Gray to brown GRAVEL, dense.
				0.0			Gray to brown fine SAND, little coarse Sand, trace Gravel, dense, no visible impact, no odor.
				0.0			End of core.
20							
-35							
25							
-40							
30							
-45							
35							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/17/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717336.82
Easting: 664140.20
Sediment Surface Elev: -30.7'

Penetration Depth: 28.5' bss
Water Depth: 27.9'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-79**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-30							
0					1.2	X		Dark gray SILT, little fine Sand, trace coarse Sand, very soft, moderate organic odor.
					2.9			Gray CLAY, little Silt, trace Organics (Shell fragments) density increases with depth, faint organic odor.
	-35				0.9			
5					0.5			
					1.3			
					1.8			Gray CLAY, little Silt, trace Organics (Shell fragments), dense, faint organic odor.
					0.4			
					0.6			
					0.4			
	-40				0.4			
10					0.5			
					1.6			
					0.1			
					0.5			
					0.7			
	-45	1	0-28.5	30.1				
15					3.6			Gray CLAY, trace Silt (silt content decreases with depth), trace Organics (Shell fragments), dense, faint organic odor.
					0.7			

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Client: Consolidated Edison Company of New York, Inc.

Well/Boring ID: SD-79

Penetration Depth: 28.5' bss

Site Location:
Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
					0.5			Gray CLAY, trace Silt (silt content decreases with depth), trace Organics (Shell fragments), dense, faint organic odor.
					0.6			
					0.1			
	-50				7.1			
20					1.4			
					0.7			
					7.7			
					2.6			
	-55				2.5			
25					6.2			
					6.8			
					3.9			
					8.0			End of core.
	-60							
30								
	-65							
35								

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/18/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 720799.59
Easting: 666875.22
Sediment Surface Elev: -6.1

Penetration Depth: 25.0' bss
Water Depth: 3.0'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-80**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	-5							
0					5.0			Dark gray to black SILT, trace fine Sand, trace Organics (vegetation), very soft to soft (density increases with depth), faint organic odor between 0' and 3.7' bss, coal tar-like odor between 3.7' and 4.7' bss.
					1.2	X		
					0.6			
	-10				0.0			
5					0.0			Dark gray SILT, trace fine Sand, trace Organics (vegetation), soft to medium dense (density increases with depth), trace sheen spots at 7.8' and 9.4' bss, faint coal tar-like odor.
					0.0			
					0.0	X		
		1	0-25.0	23.7	0.0			
	-15				0.0			
10					0.1			Dark gray SILT, little fine Sand, trace Organics (vegetation), medium dense (density increases with depth), trace sheen spots, coal tar-like odor.
					0.1			
					0.1			
	-20				0.0			
					0.1	X		Gray to green SILT, some Clay, trace fine Sand, trace Organics (shell fragments), medium dense (density increases with depth), trace sheen spots, coal tar-like odor.
15					0.0			Gray CLAY, some Silt, trace Organics (shell fragments), medium dense to dense (density increases with depth).

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Client: Consolidated Edison Company of New York, Inc.

Well/Boring ID: SD-80

Penetration Depth: 25.0' bss

Site Location:
Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
20	-25	1	0-25.0	23.7	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0			Gray CLAY, trace Silt, trace Organics (shell fragments). End of core.
25	-30							
30	-35							
35	-40							

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Date Start/Finish: 1/18/13
Drilling Company: Ocean Surveys, Inc.
Driller's Name: J. Delorenzo
Drilling Method: VibraCore
Sampling Method: 4" Lexan

Northing: 717776.86
Easting: 663701.53
Sediment Surface Elev: -7.8'

Penetration Depth: 29.0' bss
Water Depth: 5.3'

Descriptions By: J. LeMessurier/ B. Hamilton

Boring ID: **SD-81**

Client: Consolidated Edison Company of New York, Inc.

Location: Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-5							
0				18.9	X		Dark gray to brown SILT, trace fine Sand, very soft to soft (density increases with depth), moderate organic odor.
-10				5.0			
				0.2			Dark gray SILT, trace fine Sand, trace Organics (shell fragments), medium dense (density increases with depth), trace sheen spots, faint coal tar-like odor.
5				0.6			
				0.2			
				0.2			
-15				0.8			
	1	0-29	26.3	0.7			Dark gray SILT, trace fine Sand, trace Organics (shell fragments), medium dense (density increases with depth), trace sheen spots, coal tar-like odor.
10				1.5			
				1.7			
-20				2.0			
				3.3	X		
				1.4			Dark gray SILT, trace fine Sand, trace Organics (shell fragments), medium dense (density increases with depth), trace sheen spots, coal tar-like odor.
15				2.1			

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Client: Consolidated Edison Company of New York, Inc.

Well/Boring ID: SD-81

Penetration Depth: 29.0' bss

Site Location:
Hunts Point Former Manufactured Gas Plant
Bronx, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
					1.1			
	-25				5.0			
					5.2			Gray to green SILT, some Clay, trace fine Sand, trace Organics (shell fragments), medium dense (density increases with depth), petroleum-like odor.
20					0.6	X		
					0.8			
					0.2			
	-30	1	0-29	26.3				Gray to green fine SAND, little Silt, trace Clay, trace Organics (shell fragments), medium dense, petroleum-like odor.
					0.0			
					0.0			Gray to green fine SAND, trace coarse Sand, trace Organics (shell fragments), medium dense.
25					0.6			
					0.8			Gray to green CLAY, trace Silt, trace Organics (shell fragments), medium dense to dense (density increases with depth).
	-35				1.8			
					16.6			End of core.
30								
	-40							
35								

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Remarks: BSS = below sediment surface. NA = Not Applicable/Available.
Vessel: R/V Candu (37-foot pontoon)
1. Coordinates are based on the North American Datum of 1983 (NAD83) – State Plane New York Long Island.
2. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
3.Depths have been adjusted based on percent recovery obtained in each core.

Appendix D

Sediment Core Processing Photos

SEDIMENT CORE PHOTOLOG

SD−01C

SEDIMENT CORE PHOTOLOG

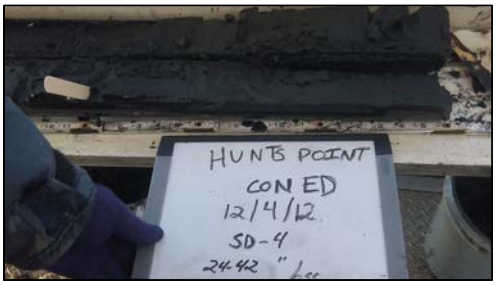
SD−02B

SEDIMENT CORE PHOTOLOG

SD−03

SEDIMENT CORE PHOTOLOG

SD−04



SEDIMENT CORE PHOTOLOG

SD−05

SEDIMENT CORE PHOTOLOG

SD−06

SEDIMENT CORE PHOTOLOG

SD−07B

SEDIMENT CORE PHOTOLOG

SD−08

SEDIMENT CORE PHOTOLOG

SD−09

SEDIMENT CORE PHOTOLOG

SD−10

SEDIMENT CORE PHOTOLOG

SD−11B

SEDIMENT CORE PHOTOLOG

SD−12

SEDIMENT CORE PHOTOLOG

SD−13

SEDIMENT CORE PHOTOLOG

SD−14B

SEDIMENT CORE PHOTOLOG

SD−15B

SEDIMENT CORE PHOTOLOG

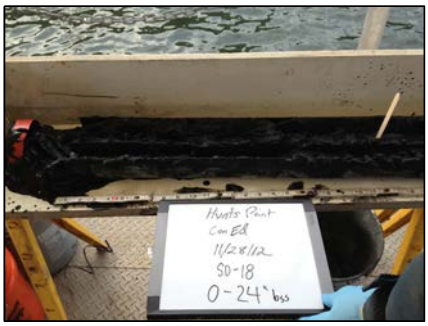
SD−16

SEDIMENT CORE PHOTOLOG

SD−17

SEDIMENT CORE PHOTOLOG

SD−18

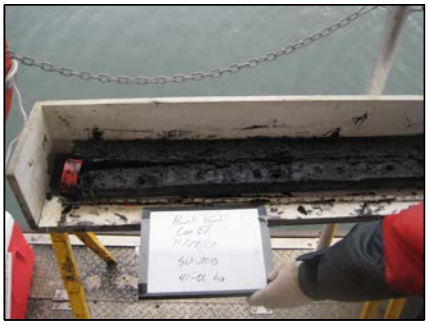


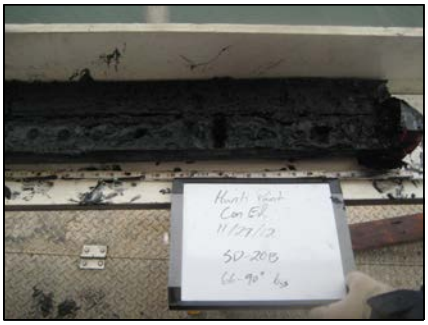
SEDIMENT CORE PHOTOLOG

SD−19

SEDIMENT CORE PHOTOLOG

SD−20B



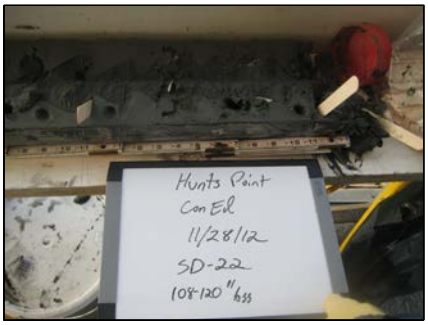


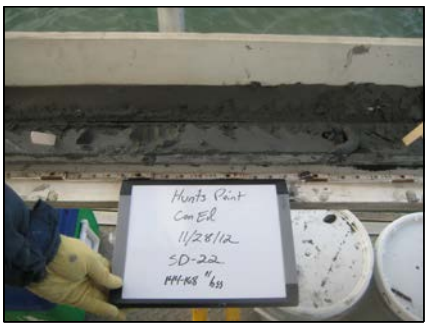
SEDIMENT CORE PHOTOLOG

SD−21

SEDIMENT CORE PHOTOLOG

SD−22



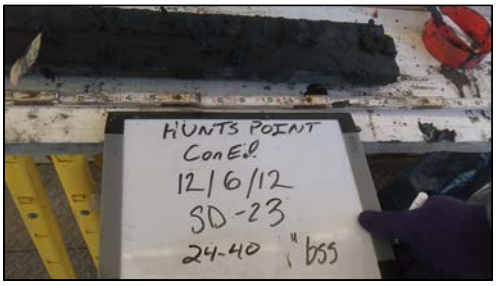


SEDIMENT CORE PHOTOLOG

SD−22 (Continued)

SEDIMENT CORE PHOTOLOG

SD−23



SEDIMENT CORE PHOTOLOG

SD−24

SEDIMENT CORE PHOTOLOG

SD−25

SEDIMENT CORE PHOTOLOG

SD−26

SEDIMENT CORE PHOTOLOG

SD−27

SEDIMENT CORE PHOTOLOG

SD−28

SEDIMENT CORE PHOTOLOG

SD−29

SEDIMENT CORE PHOTOLOG

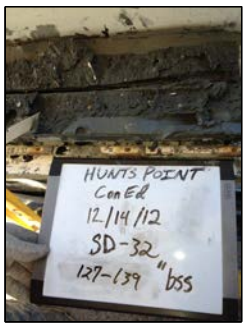
SD−30B

SEDIMENT CORE PHOTOLOG

SD−31B

SEDIMENT CORE PHOTOLOG

SD−32



SEDIMENT CORE PHOTOLOG

SD−32 (Continued)

SEDIMENT CORE PHOTOLOG

SD−33

SEDIMENT CORE PHOTOLOG

SD−34

SEDIMENT CORE PHOTOLOG

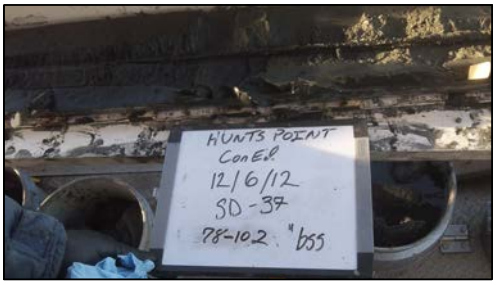
SD−35

SEDIMENT CORE PHOTOLOG

SD−35 (Continued)

SEDIMENT CORE PHOTOLOG

SD−37



SEDIMENT CORE PHOTOLOG

SD−38

SEDIMENT CORE PHOTOLOG

SD−39

SEDIMENT CORE PHOTOLOG

SD−39 (Continued)

SEDIMENT CORE PHOTOLOG

SD−40

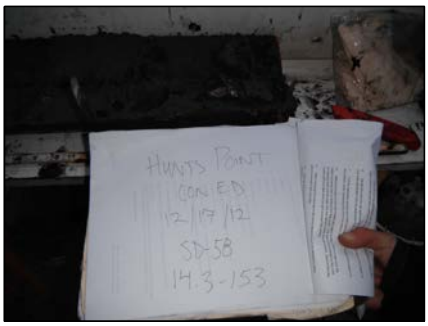
Note:
1. Interval from 60"−120" bss was not captured

SEDIMENT CORE PHOTOLOG

SD−58

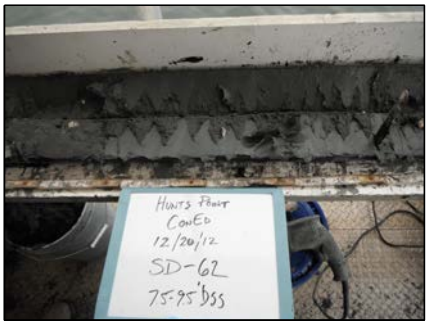
SEDIMENT CORE PHOTOLOG

SD−58 (Continued)



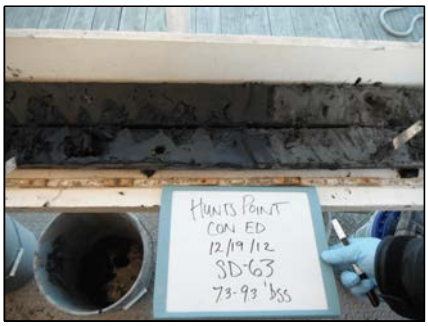
SEDIMENT CORE PHOTOLOG

SD−62



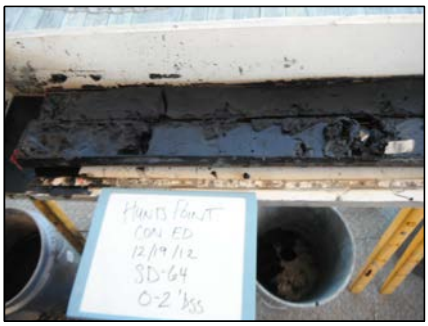
SEDIMENT CORE PHOTOLOG

SD−63



SEDIMENT CORE PHOTOLOG

SD−64



SEDIMENT CORE PHOTOLOG

SD−65

Appendix E

USACE Background Data

Bronx River, Composite A - Sediment Volatiles

Volatiles	Action Level		Action Level		Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080806		20080814		20080814	
STL ID #	ug/kg		ug/L		Comp A	Q	A Comp A	Q	A Comp A	Q
Chloromethane (Methyl Chloride)	520000		30		14	U	11	U	5	U
Bromomethane	79000		10		14	U	11	U	5	U
Vinyl chloride	2000		5		14	U	11	U	5	U
Chloroethane	NA		NA		14	U	11	U	5	U
Methylene chloride (Dichloromethane)	49000		3		2.2	J	14		1.1	J
Acetone	1,000,000		700		22	J	160		170	
Carbon disulfide	NA		NA		14	U	9.2	J	5	U
1,1-Dichloroethene	8000		2		14	U	11	U	5	U
1,1-Dichloroethane	570000		50		14	U	11	U	5	U
1,2-Dichloroethene (total)	NA		10		27	U	23	U	10	U
Chloroform	19000		6		14	U	11	U	5	U
1,2-Dichloroethane	NA		NA		14	U	11	U	5	U
2-Butanone (MEK)	1000000		300		14	U	25		5	U
1,1,1-Trichloroethane	210000		30		14	U	11	U	5	U
Carbon tetrachloride	2000		2		14	U	11	U	5	U
Bromodichloromethane	11000		1		14	U	11	U	5	U
1,2-Dichloropropane	10000		1		14	U	11	U	5	U
cis-1,3-Dichloropropene	NA		NA		14	U	11	U	5	U
Trichloroethene	23000		1		14	U	11	U	5	U
Dibromochloromethane	110000		10		14	U	11	U	5	U
1,1,2-Trichloroethane	22000		3		14	U	11	U	5	U
Benzene	3000		1		14	U	11	U	5	U
trans-1,3-dichloropropene	NA		NA		14	U	11	U	5	U
Bromoform	86000		4		14	U	11	U	5	U
4-Methyl-2-pentanone (MIBK)	1000000		400		14	U	11	U	5	U
2-Hexanone	NA		NA		14	U	11	U	5	U
Tetrachloroethene	4000		1		14	U	11	U	5	U
1,1,2,2-Tetrachloroethane	NA		NA		14	U	11	U	5	U
Toluene	1000000		1000		14	U	11	U	5	U
Chlorobenzene	37000		50		14	U	11	U	5	U
Ethyl benzene	1000000		700		14	U	11	U	5	U
Styrene	23000		100		14	U	11	U	5	U
Xylenes(Total)	410000		1000		41	U	34	U	15	U
Combined 1,3-dichloropropenes (SUM) cis + trans	4000		0.2							

Bronx River, Composite A - Sediment Semivolatiles

Semivolatiles	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080806		20080814		20080814	
	ug/kg	ug/kg	mg/L	mg/L	Comp A	Q	A Comp A	Q	A Comp A	Q
Phenol	10,000,000	660	4	0.01	460	U	150	U	0.0019	U
bis(2-Chloroethyl)ether	660	660	0.01	0.01	460	U	150	U	0.0019	U
2-Chlorophenol	2000	660	0.005	0.01	2200	U	740	U	0.0095	U
1,3-Dichlorobenzene	5100000	660	0.6	0.01	460	U	150	U	0.0019	U
1,4-Dichlorobenzene	570000	660	0.075	0.01	460	U	150	U	0.0019	U
1,2-Dichlorobenzene	5100000	660	0.6	0.01	460	U	150	U	0.0019	U
2-Methylphenol (o-cresol)	2800000	660	NA	0.01	2200	U	740	U	0.0095	U
1-Chloropropane-2,2'-oxybis	2300000	660	0.3	0.01	460	U	150	U	0.0019	U
4-Methylphenol (p-cresol) (co-elutes with 3-methylphenol (m-cresol))	2800000	660	NA	0.01	2200	U	53	J	0.0095	U
N-Nitroso-Di-N-Propylamine	660	660	0.02	0.01	460	U	150	U	0.0019	U
Hexachloroethane	6000	660	0.01	0.01	2200	U	740	U	0.0095	U
Nitrobenzene	28000	660	0.01	0.01	460	U	150	U	0.0019	U
Isophorone	1100000	660	0.1	0.01	2200	U	740	U	0.0095	U
2-Nitrophenol	NA	660	NA	0.01	2200	U	740	U	0.0095	U
2,4-Dimethylphenol	1100000	660	0.1	0.01	2200	U	740	U	0.0095	U
bis(2-Chloroethoxy)methane	NA	660	NA	0.01	2200	U	740	U	0.0095	U
2,4-Dichlorophenol	170000	660	0.02	0.01	460	U	150	U	0.0019	U
1,2,4-Trichlorobenzene	68000	660	0.009	0.01	2200	U	740	U	0.0019	U
Naphthalene	230000	660	0.3	0.01	320	J	150		0.0019	U
4-Chloroaniline	230000	1300	NA	0.02	2200	U	740	U	0.0095	U
Hexachloro-1,3-butadiene	NA	660	NA	0.01	460	U	150	U	0.0019	U
4-Chloro-3-methylphenol	10,000,000	1,300	NA	0.02	2200	U	740	U	0.0095	U
2-Methylnaphthalene	NA	660	NA	0.01	260	J	110	J	0.0019	U
Hexachlorocyclopentadiene	400000	660	0.05	0.01	2200	U	740	U	0.0095	U
2,4,6-Trichlorophenol	62000	660	0.02	0.01	2200	U	740	U	0.0095	U
2,4,5-Trichlorophenol	5600000	660	0.7	0.01	2200	U	740	U	0.0095	U
2-Chloronaphthalene	NA	660	NA	0.01	460	U	150	U	0.0019	U
2-Nitroaniline	NA	3300	NA	0.05	12000	U	3800	U	0.048	U
Dimethylphthalate	10,000,000	660	NA	0.01	2200	U	740	U	0.0095	U
Acenaphthylene	NA	660	NA	0.01	1000		400		0.0019	U
2,6-Dinitrotoluene	1000	660	0.01	0.01	2200	U	740	U	0.0095	U
3-Nitroaniline	NA	3300	NA	0.05	12000	U	3800	U	0.048	U

Bronx River, Composite A - Sediment Semivolatiles, Con't.

Semivolatiles continued	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080806		20080814		20080814	
	ug/kg	ug/kg	mg/L	mg/L	Comp A	Q	A Comp A	Q	A Comp A	
Acenaphthene	3400000	660	0.4	0.01	1000		340		0.0019	U
2,4-Dinitrophenol	110000	3300	0.04	0.05	12000	U	3800	U	0.048	U
4-Nitrophenol	NA	3300	NA	0.05	12000	U	3800	U	0.048	U
Dibenzofuran	NA	660	NA	0.01	2200	U	740	U	0.0095	U
2,4-Dinitrotoluene	1000	660	0.01	0.01	2200	U	740	U	0.0095	U
Diethylphthalate	10,000,000	660	5	0.01	2200	U	740	U	0.0095	U
4-Chlorophenyl-phenylether	NA	660	NA	0.01	2200	U	740	U	0.0095	U
Fluorene	2300000	660	0.3	0.01	1800		610		0.0019	U
4-Nitroaniline	NA	660	NA	0.02	5600	U	1900	U	0.019	U
4,6-Dinitro-2-methylphenol	NA	3300	NA	0.05	12000	U	3800	U	0.048	U
N-Nitrosodiphenylamine	140000	660	0.02	0.01	2200	U	740	U	0.0019	U
4-Bromophenyl-phenylether	NA	660	NA	0.01	2200	U	740	U	0.0095	U
Hexachlorobenzene	660	660	0.01	0.01	460	U	150	U	0.0019	U
Pentachlorophenol	6000	3300	0.001	0.05	2200	U	740	U	0.0095	U
Phenanthrene	NA	6600	NA	0.01	1400		590		0.0019	U
Anthracene	10000000	6600	2	0.01	1900		730		0.0019	U
Carbazole	NA	330	NA	0.01	460	U	120	J	0.0019	U
Di-n-butylphthalate	5700000	330	0.9	0.01	870	J	290	J	0.0095	U
Fluoranthene	2300000	660	0.3	0.01	3600		1400		0.0019	U
Pyrene	1700000	660	0.2	0.01	5000		2200		0.0019	U
Butylbenzylphthalate	1100000	660	0.1	0.01	1100	J	740	U	0.0095	U
3,3'-Dichlorobenzidine	2000	1300	0.06	0.02	2200	U	740	U	0.0095	U
Benzo(a)anthracene	900	660	NA	0.01	3600		1600		0.0019	U
Chrysene	9000	660	NA	0.01	3900		1700		0.0019	U
bis(2-Ethylhexyl)phthalate	49000	660	0.03	0.01	2800		1000		0.0095	U
DI-n-octylphthalate	1100000	660	0.1	0.01	2200	U	740	U	0.0095	U
Benzo(b)fluoranthene	900	660	NA	0.01	2900		1700		0.0019	U
Benzo(k)fluoranthene	900	660	NA	0.01	1100		150	U	0.0019	U
Benzo(a)pyrene	660	660	NA	0.01	4300		1900		0.0019	U
Indeno(1,2,3-cd)pyrene	900	660	NA	0.01	2000		860		0.0019	U
Dibenzo(a,h))anthracene	660	660	NA	0.01	800		420		0.0019	U
Benzo(ghi)perylene	NA	660	NA	0.01	2600		1100		0.0019	U
Pyridine					2200	U	740	U	0.0095	U
Total Cresol						U	53	J		U

Bronx River, Composite A - Pesticides/Aroclors

Pesticides/Aroclors	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080806		20080814		20080814	
	ug/kg	ug/kg	mg/L	mg/L	Comp A	Q	A Comp A	Q	A Comp A	
alpha-BHC	NA	1.9	0.00002	0.00005	4.6	U	3.8	U	0.047	U
beta-BHC	NA	3.3	0.0002	0.00005	4.6	U	3	J PG	0.047	U
delta-BHC	NA	1.7	NA	0.00005	5.6	PG	5.6	PG	0.047	U
gamma-BHC (Lindane)	520	2	0.0002	0.00005	9.1		3.7	J	0.047	U
Heptachlor	150	2.1	0.0004	0.00005	4.6	U	3.8	U	0.047	U
Aldrin	40	2	0.00004	0.00005	4.6	U	4.2		0.047	U
Heptachlor epoxide	NA	2.1	0.0002	0.00005	1.4	J PG	2.5	J PG	0.047	U
Endosulfan I	NA	2.1	0.0004	0.00005	4.6	U	3.8	U	0.047	U
Dieldrin	42	3.3	0.00003	0.0001	4.6	U	3.8	U	0.047	U
4,4'-DDE	2000	4.2	0.0001	0.0001	10	PG	9		0.047	U
Endrin	17000	3.6	0.002	0.0001	4.6	U	3.8	U	0.047	U
Endosulfan II	NA	3.3	0.0004	0.0001	1.8	J PG	3.8	U	0.047	U
4,4'-DDD	381000	4.2	0.0001	0.0001	9.9	PG	8	PG	0.047	U
Endosulfan sulfate	NA	3.6	0.0004	0.0001	7.2		1.8	J PG	0.047	U
4,4'-DDT	2000	3.6	0.0001	0.0001	5.5	PG	4	PG	0.047	U
Methoxychlor	280000	17	0.04	0.001	8.5	J PG	7.4	U	0.094	U
Endrin ketone	NA	3.3	NA	0.0001	4.6	U	3.8	U	0.047	U
Endrin aldehyde	NA	3.3	NA	0.0001	4.6	U	3.8	U	0.047	U
alpha-Chlordane	500	1.7	NA	0.00005	4.6	U	3.8	U	0.047	U
gamma-Chlordane	NA	1.7	0.0005	0.00005	4.6	U	11		0.047	U
Toxaphene	100	170	0.003	0.005	180	U	150	U	1.9	U
Aroclor-1016	NA	33	NA	0.001	45	U	38	U	0.38	U
Aroclor-1221	NA	67	NA	0.002	45	U	38	U	0.38	U
Aroclor-1232	NA	33	NA	0.001	45	U	38	U	0.38	U
Aroclor-1242	NA	33	NA	0.001	45	U	38	U	0.38	U
Aroclor-1248	NA	33	NA	0.001	200		59		0.38	U
Aroclor-1254	NA	33	NA	0.001	220		67		0.38	U
Aroclor-1260	NA	33	NA	0.001	190		33	J	0.38	U
Total Aroclor(SUM)	490	NA	0.005	NA						

Bronx River, Composite A - Herbicides

Herbicides	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ug/kg)		Amended Sediment (Units: ug/kg)		SPLP Units: mg/L	
	Soil		Leachate		20080806		20080814		20080814	
					Comp A	Q	A Comp A	Q	A Comp A	Q
2,4,5-TP (Silvex)	NA	NA	NA	NA	60	U	33	U	0.99	U
2,4-D	NA	NA	NA	NA	240	U	130	U	4	U

Bronx River, Composite A - Metals

Metals	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: mg/kg)		Amended Sediment (Units: mg/kg)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080806		20080814		20080814	
	mg/kg	mg/kg	mg/L	mg/L	Comp A	Q	A Comp A	Q	A Comp A	Q
Aluminum	NA	40	0.2	0.2	15900		16400		1200	
Antimony	14	12	0.02	0.06	0.33	J	1.1	U	10	U
Arsenic	20	2	0.008	0.01	14.3		11		2.7	J
Barium	700	40	2	0	115		107		34.8	J
Beryllium	1	1	0.02	0.005	0.97		0.88		4	U
Cadmium	1	1	0.004	0.005	1.7		1.3		5	U
Calcium	NA	1000	NA	5	7820		66400		217000	B
Chromium	NA	2	0.1	0.01	106		84		5	U
Cobalt	NA	10	NA	0.05	11.9		9.5		1.7	J
Copper	600	5	1	0.025	187		131		25	U
Iron	NA	20	0.3	1	34200		27000		18.5	J
Lead	400	0.6	0.01	0.003	184		134		3	U
Magnesium	NA	1000	NA	5	9370		8880		35.3	J
Manganese	NA	3	0.05	0.015	876		730		15	U
Mercury	14	0.1	0.002	0.0002	1.8		1.3		0.14	J
Nickel	250	8	0.1	0.04	35.4		28.3		12.4	J
Potassium	NA	1000	NA	5	4360		4790		41900	
Selenium	63	1	0.05	0.015	0.99		0.7		5	U
Silver	110	2	NA	0.01	6.6		5		5	U
Sodium	NA	1000	50	5	13200		10900		240000	
Thallium	2	2	0.01	0.01	1.1	J	1.1	U	7	J
Vanadium	370	10	NA	0.05	49.1		41.2		5.6	J
Zinc	1500	4	5	0.02	292	E	263		20	U
Cyanide, total	1100	0.5	0.2	0.01	1.4	U	1.1	U	10	U
%Solids	NA	NA	NA	NA	36.8		44.4			

Bronx River, Composite A - Dioxin/Furan

Dioxin/Furan	Action Level	NJDEP DL	Action Level	NJDEP DL	Unamended Sediment (Units: ppt)		Amended Sediment (Units: ppt)		SPLP (Units: pg/L)	
ASI ID #	Soil		Leachate		20080806		20080814		20080814	
	ng/kg		pg/L		Comp A	Q	A Comp A	Q	A Comp A	Q
2,3,7,8-TCDD	NA	NA	NA	NA	3.8		2.05		9.5	U
1,2,3,7,8-PeCDD	NA	NA	NA	NA	3.24		1.71		48	U
1,2,3,4,7,8-HxCDD	NA	NA	NA	NA	3.98		1.56		48	U
1,2,3,6,7,8-HxCDD	NA	NA	NA	NA	12.79		7.57		48	U
1,2,3,7,8,9-HxCDD	NA	NA	NA	NA	11.12		6.26		48	U
1,2,3,4,6,7,8-HpCDD	NA	NA	NA	NA	226.99		139.44		48	U
OCDD	NA	NA	NA	NA	2357.21		1936.15		5.8	Q B J
2,3,7,8-TCDF	NA	NA	NA	NA	20	#	12.24	#	9.5	U
1,2,3,7,8-PeCDF	NA	NA	NA	NA	8		4.06		48	U
2,3,4,7,8-PeCDF	NA	NA	NA	NA	9.4		4.74		48	U
1,2,3,4,7,8-HxCDF	NA	NA	NA	NA	15.78		9.81		48	U
1,2,3,6,7,8-HxCDF	NA	NA	NA	NA	7.12		4.7		48	U
2,3,4,6,7,8-HxCDF	NA	NA	NA	NA	6.32		3.78		48	U
1,2,3,7,8,9-HxCDF	NA	NA	NA	NA	0.92	J	2.03	U	48	U
1,2,3,4,6,7,8-HpCDF	NA	NA	NA	NA	79.7		46.71		48	U
1,2,3,4,7,8,9-HpCDF	NA	NA	NA	NA	5.11	J	2.61	J	48	U
OCDF	NA	NA	NA	NA	161.05		86.32		3.5	B J

Bronx River, Composite B - Sediment Volatiles

Volatiles	Action Level		Action Level		Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080807		20080815		20080815	
STL ID #	ug/kg		ug/L		Comp B	Q	A Comp B	Q	A Comp B	Q
Chloromethane (Methyl Chloride)	520000		30		11	U	11	U	5	U
Bromomethane	79000		10		11	U	11	U	5	U
Vinyl chloride	2000		5		11	U	11	U	5	U
Chloroethane	NA		NA		11	U	11	U	5	U
Methylene chloride (Dichloromethane)	49000		3		3.5	J	3.3	J	2.9	J
Acetone	1,000,000		700		28	J	190		38	
Carbon disulfide	NA		NA		11	U	11	U	5	U
1,1-Dichloroethene	8000		2		11	U	11	U	5	U
1,1-Dichloroethane	570000		50		11	U	11	U	5	U
1,2-Dichloroethene (total)	NA		10		22	U	22	U	10	U
Chloroform	19000		6		11	U	11	U	5	U
1,2-Dichloroethane	NA		NA		11	U	11	U	5	U
2-Butanone (MEK)	1000000		300		11	U	27		5	U
1,1,1-Trichloroethane	210000		30		11	U	11	U	5	U
Carbon tetrachloride	2000		2		11	U	11	U	5	U
Bromodichloromethane	11000		1		11	U	11	U	5	U
1,2-Dichloropropane	10000		1		11	U	11	U	5	U
cis-1,3-Dichloropropene	NA		NA		11	U	11	U	5	U
Trichloroethene	23000		1		11	U	11	U	5	U
Dibromochloromethane	110000		10		11	U	11	U	5	U
1,1,2-Trichloroethane	22000		3		11	U	11	U	5	U
Benzene	3000		1		11	U	11	U	5	U
trans-1,3-dichloropropene	NA		NA		11	U	11	U	5	U
Bromoform	86000		4		11	U	11	U	5	U
4-Methyl-2-pentanone (MIBK)	1000000		400		11	U	11	U	5	U
2-Hexanone	NA		NA		11	U	11	U	5	U
Tetrachloroethene	4000		1		11	U	11	U	5	U
1,1,2,2-Tetrachloroethane	NA		NA		11	U	11	U	5	U
Toluene	1000000		1000		11	U	11	U	5	U
Chlorobenzene	37000		50		11	U	11	U	5	U
Ethyl benzene	1000000		700		11	U	11	U	5	U
Styrene	23000		100		11	U	11	U	5	U
Xylenes(Total)	410000		1000		33	U	33	U	15	U
Combined 1,3-dichloropropenes (SUM) cis + trans	4000		0.2							

Bronx River, Composite B - Sediment Semivolatiles

Semivolatiles	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080807		20080815		20080815	
	ug/kg	ug/kg	mg/L	mg/L	Comp B	Q	A Comp B	Q	A Comp B	Q
Phenol	10,000,000	660	4	0.01	370	U	150	U	0.0019	U
bis(2-Chloroethyl)ether	660	660	0.01	0.01	370	U	150	U	0.0019	U
2-Chlorophenol	2000	660	0.005	0.01	1800	U	720	U	0.0095	U
1,3-Dichlorobenzene	5100000	660	0.6	0.01	370	U	150	U	0.0019	U
1,4-Dichlorobenzene	570000	660	0.075	0.01	370	U	150	U	0.0019	U
1,2-Dichlorobenzene	5100000	660	0.6	0.01	370	U	150	U	0.0019	U
2-Methylphenol (o-cresol)	2800000	660	NA	0.01	1800	U	720	U	0.0095	U
1-Chloropropane-2,2'-oxybis	2300000	660	0.3	0.01	370	U	150	U	0.0019	U
4-Methylphenol (p-cresol) (co-elutes with 3-methylphenol (m-cresol))	2800000	660	NA	0.01	1800	U	52	J	0.0095	U
N-Nitroso-Di-N-Propylamine	660	660	0.02	0.01	370	U	150	U	0.0019	U
Hexachloroethane	6000	660	0.01	0.01	1800	U	720	U	0.0095	U
Nitrobenzene	28000	660	0.01	0.01	370	U	150	U	0.0019	U
Isophorone	1100000	660	0.1	0.01	1800	U	720	U	0.0095	U
2-Nitrophenol	NA	660	NA	0.01	1800	U	720	U	0.0095	U
2,4-Dimethylphenol	1100000	660	0.1	0.01	1800	U	720	U	0.0095	U
bis(2-Chloroethoxy)methane	NA	660	NA	0.01	1800	U	720	U	0.0095	U
2,4-Dichlorophenol	170000	660	0.02	0.01	370	U	150	U	0.0019	U
1,2,4-Trichlorobenzene	68000	660	0.009	0.01	1800	U	720	U	0.0019	U
Naphthalene	230000	660	0.3	0.01	230	J	95	J	0.0019	U
4-Chloroaniline	230000	1300	NA	0.02	1800	U	720	U	0.0095	U
Hexachloro-1,3-butadiene	NA	660	NA	0.01	370	U	150	U	0.0019	U
4-Chloro-3-methylphenol	10,000,000	1,300	NA	0.02	1800	U	720	U	0.0095	U
2-Methylnaphthalene	NA	660	NA	0.01	180	J	78	J	0.0019	U
Hexachlorocyclopentadiene	400000	660	0.05	0.01	1800	U	720	U	0.0095	U
2,4,6-Trichlorophenol	62000	660	0.02	0.01	1800	U	720	U	0.0095	U
2,4,5-Trichlorophenol	5600000	660	0.7	0.01	1800	U	720	U	0.0095	U
2-Chloronaphthalene	NA	660	NA	0.01	370	U	150	U	0.0019	U
2-Nitroaniline	NA	3300	NA	0.05	9400	U	3700	U	0.048	U
Dimethylphthalate	10,000,000	660	NA	0.01	1800	U	720	U	0.0095	U
Acenaphthylene	NA	660	NA	0.01	560		180		0.0019	U
2,6-Dinitrotoluene	1000	660	0.01	0.01	680	J	720	U	0.0095	U
3-Nitroaniline	NA	3300	NA	0.05	9400	U	3700	U	0.048	U

Bronx River, Composite B - Sediment Semivolatiles, Con't.

Semivolatiles continued	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080807		20080815		20080815	
	ug/kg	ug/kg	mg/L	mg/L	Comp B	Q	A Comp B	Q	A Comp B	
Acenaphthene	3400000	660	0.4	0.01	730		290		0.0019	U
2,4-Dinitrophenol	110000	3300	0.04	0.05	9400	U	3700	U	0.048	U
4-Nitrophenol	NA	3300	NA	0.05	9400	U	3700	U	0.048	U
Dibenzofuran	NA	660	NA	0.01	1800	U	720	U	0.0095	U
2,4-Dinitrotoluene	1000	660	0.01	0.01	1800	U	720	U	0.0095	U
Diethylphthalate	10,000,000	660	5	0.01	1800	U	720	U	0.0095	U
4-Chlorophenyl-phenylether	NA	660	NA	0.01	1800	U	720	U	0.0095	U
Fluorene	2300000	660	0.3	0.01	1400		560		0.0019	U
4-Nitroaniline	NA	660	NA	0.02	4600	U	1800	U	0.019	U
4,6-Dinitro-2-methylphenol	NA	3300	NA	0.05	9400	U	3700	U	0.048	U
N-Nitrosodiphenylamine	140000	660	0.02	0.01	1800	U	720	U	0.0019	U
4-Bromophenyl-phenylether	NA	660	NA	0.01	1800	U	720	U	0.0095	U
Hexachlorobenzene	660	660	0.01	0.01	370	U	150	U	0.0019	U
Pentachlorophenol	6000	3300	0.001	0.05	1800	U	720	U	0.0095	U
Phenanthrene	NA	6600	NA	0.01	720		300		0.0019	U
Anthracene	10000000	6600	2	0.01	1200		470		0.0019	U
Carbazole	NA	330	NA	0.01	260	J	150	U	0.0019	U
Di-n-butylphthalate	5700000	330	0.9	0.01	720	J	290	J	0.0095	U
Fluoranthene	2300000	660	0.3	0.01	2000		770		0.0019	U
Pyrene	1700000	660	0.2	0.01	2500		1100		0.0019	U
Butylbenzylphthalate	1100000	660	0.1	0.01	980	J	380	J	0.0095	U
3,3'-Dichlorobenzidine	2000	1300	0.06	0.02	1800	U	720	U	0.0095	U
Benzo(a)anthracene	900	660	NA	0.01	1700		670		0.0019	U
Chrysene	9000	660	NA	0.01	1800		730		0.0019	U
bis(2-Ethylhexyl)phthalate	49000	660	0.03	0.01	3100		1000		0.0021	J
DI-n-octylphthalate	1100000	660	0.1	0.01	1800	U	720	U	0.0095	U
Benzo(b)fluoranthene	900	660	NA	0.01	1700		820		0.0019	U
Benzo(k)fluoranthene	900	660	NA	0.01	370	U	150	U	0.0019	U
Benzo(a)pyrene	660	660	NA	0.01	2400		910		0.0019	U
Indeno(1,2,3-cd)pyrene	900	660	NA	0.01	1300		500		0.0019	U
Dibenzo(a,h))anthracene	660	660	NA	0.01	650		200		0.0019	U
Benzo(ghi)perylene	NA	660	NA	0.01	1500		600		0.0019	U
Pyridine					2200	U	740	U	0.0095	U
Total Cresol						U	52	J		U

Bronx River, Composite B - Pesticides/Aroclors

Pesticides/Aroclors	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080807		20080815		20080815	
	ug/kg	ug/kg	mg/L	mg/L	Comp B	Q	A Comp B	Q	A Comp B	
alpha-BHC	NA	1.9	0.00002	0.00005	3.8	U	3.6	U	0.047	U
beta-BHC	NA	3.3	0.0002	0.00005	3.8	U	3.6	U	0.047	U
delta-BHC	NA	1.7	NA	0.00005	4.5	PG	1.8	J PG	0.047	U
gamma-BHC (Lindane)	520	2	0.0002	0.00005	6.4		2.9	J	0.047	U
Heptachlor	150	2.1	0.0004	0.00005	3.8	U	3.6	U	0.047	U
Aldrin	40	2	0.00004	0.00005	3.8	U	3.6	U	0.047	U
Heptachlor epoxide	NA	2.1	0.0002	0.00005	1.7	J PG	1.7	J PG	0.047	U
Endosulfan I	NA	2.1	0.0004	0.00005	3.8	U	3.6	U	0.047	U
Dieldrin	42	3.3	0.00003	0.0001	3.8	U	3.6	U	0.047	U
4,4'-DDE	2000	4.2	0.0001	0.0001	11	PG	5.8	PG	0.047	U
Endrin	17000	3.6	0.002	0.0001	3.8	U	3.6	U	0.047	U
Endosulfan II	NA	3.3	0.0004	0.0001	3.8	U	3.6	U	0.047	U
4,4'-DDD	381000	4.2	0.0001	0.0001	13	PG	6	PG	0.047	U
Endosulfan sulfate	NA	3.6	0.0004	0.0001	5		1.9	J	0.047	U
4,4'-DDT	2000	3.6	0.0001	0.0001	5.4	PG	5.5	PG	0.047	U
Methoxychlor	280000	17	0.04	0.001	7.3	U	7.1	U	0.094	U
Endrin ketone	NA	3.3	NA	0.0001	6.8	PG	3.3	J PG	0.047	U
Endrin aldehyde	NA	3.3	NA	0.0001	3.8	U	3.6	U	0.047	U
alpha-Chlordane	500	1.7	NA	0.00005	3.8	U	3.6	U	0.047	U
gamma-Chlordane	NA	1.7	0.0005	0.00005	3.8	U	3.6	U	0.047	U
Toxaphene	100	170	0.003	0.005	150	U	140	U	1.9	U
Aroclor-1016	NA	33	NA	0.001	37	U	36	U	0.38	U
Aroclor-1221	NA	67	NA	0.002	37	U	36	U	0.38	U
Aroclor-1232	NA	33	NA	0.001	37	U	36	U	0.38	U
Aroclor-1242	NA	33	NA	0.001	37	U	36	U	0.38	U
Aroclor-1248	NA	33	NA	0.001	190		120		0.38	U
Aroclor-1254	NA	33	NA	0.001	240		150		0.38	U
Aroclor-1260	NA	33	NA	0.001	110		66		0.38	U
Total Aroclor(SUM)	490	NA	0.005	NA						

Bronx River, Composite B - Herbicides

Herbicides	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ug/kg)		Amended Sediment (Units: ug/kg)		SPLP Units: mg/L	
	Soil		Leachate		20080807		20080815		20080815	
					Comp B	Q	A Comp B	Q	A Comp B	Q
2,4,5-TP (Silvex)	NA	NA	NA	NA	59	U	41	U	0.97	U
2,4-D	NA	NA	NA	NA	230	U	170	U	3.9	U

Bronx River, Composite B - Metals

Metals	Action Level	NJDEP DL	Action Leve	NJDEP DL	UnameUed Sediment (Units: mg/kg)		AmeUed Sediment (Units: mg/kg)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080807		20080815		20080815	
	mg/kg	mg/kg	mg/L	mg/L	Comp B	Q	A Comp B	Q	A Comp B	Q
Aluminum	NA	40	0.2	0.2	13300		16100		1570	
Antimony	14	12	0.02	0.06	0.3	J	0.24	J	10	U
Arsenic	20	2	0.008	0.01	10.4		9.8		2.8	J
Barium	700	40	2	0	93.2		103		36.4	J
Beryllium	1	1	0.02	0.005	0.81		0.86		4	U
Cadmium	1	1	0.004	0.005	1.8		1.6		5	U
Calcium	NA	1000	NA	5	5390		64900		205000	B
Chromium	NA	2	0.1	0.01	90.5		87.1		5	U
Cobalt	NA	10	NA	0.05	9.1		8.9		1.7	J
Copper	600	5	1	0.025	161		143		0.79	J
Iron	NA	20	0.3	1	27200		25800		36	J
Lead	400	0.6	0.01	0.003	146		127		3	U
Magnesium	NA	1000	NA	5	7450		8510		48.2	J
Manganese	NA	3	0.05	0.015	491		512		15	U
Mercury	14	0.1	0.002	0.0002	1.8		1.3		0.13	J
Nickel	250	8	0.1	0.04	29.1		28.6		8.6	J
Potassium	NA	1000	NA	5	3530		4570		44100	
Selenium	63	1	0.05	0.015	0.87		0.67		5	U
Silver	110	2	NA	0.01	5.4		5		5	U
Sodium	NA	1000	50	5	10800		10100		239000	
Thallium	2	2	0.01	0.01	1.1	U	1.1	U	8.5	J
Vanadium	370	10	NA	0.05	38.8		39		5.9	J
Zinc	1500	4	5	0.02	239		265		20	U
Cyanide, total	1100	0.5	0.2	0.01	1.1	U	1.1	U	2.3	J
%Solids	NA	NA	NA	NA	45.1		46.1			

Bronx River, Composite B - Dioxin/Furan

Dioxin/Furan	Action Level	NJDEP DL	Action Level	NJDEP DL	Unamended Sediment (Units: ppt)		Amended Sediment (Units: ppt)		SPLP (Units: ppt)	
ASI ID #	Soil		Leachate		20080807		20080815		20080815	
	ng/kg		pg/L		Comp B	Q	A Comp B	Q	A Comp B	Q
2,3,7,8-TCDD	NA	NA	NA	NA	3.65		2.11		9.5	U
1,2,3,7,8-PeCDD	NA	NA	NA	NA	2.87		1.76		4	Q J
1,2,3,4,7,8-HxCDD	NA	NA	NA	NA	3.1285	K	1.92		3.5	Q J
1,2,3,6,7,8-HxCDD	NA	NA	NA	NA	14.98		9.13		48	U
1,2,3,7,8,9-HxCDD	NA	NA	NA	NA	11.99		7.23		6.1	J
1,2,3,4,6,7,8-HpCDD	NA	NA	NA	NA	230.84		156.99		48	U
OCDD	NA	NA	NA	NA	2545.72		1603.8		50	B J
2,3,7,8-TCDF	NA	NA	NA	NA	20	#	13.04	#	9.5	U
1,2,3,7,8-PeCDF	NA	NA	NA	NA	7.68		6.11		4.4	J
2,3,4,7,8-PeCDF	NA	NA	NA	NA	8.71		5.44		2.4	Q J
1,2,3,4,7,8-HxCDF	NA	NA	NA	NA	17.05		10.91		2.4	J
1,2,3,6,7,8-HxCDF	NA	NA	NA	NA	6.82		5.07		2.7	J
2,3,4,6,7,8-HxCDF	NA	NA	NA	NA	5.81		4.26		3.9	Q J
1,2,3,7,8,9-HxCDF	NA	NA	NA	NA	0.42	J	1.36	U	12	B J
1,2,3,4,6,7,8-HpCDF	NA	NA	NA	NA	85.19		51.01		8.1	Q J
1,2,3,4,7,8,9-HpCDF	NA	NA	NA	NA	5.34	J	1.87	J	12	J
OCDF	NA	NA	NA	NA	152.82		81.31		30	Q B J

Bronx River, Composite C - Sediment Volatiles

Volatiles	Action Level		Action Level		Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080808		20080816		20080816	
STL ID #	ug/kg		ug/L		Comp C	Q	A Comp C	Q	A Comp C	Q
Chloromethane (Methyl Chloride)	520000		30		14	U	11	U	5	U
Bromomethane	79000		10		14	U	11	U	5	U
Vinyl chloride	2000		5		14	U	11	U	5	U
Chloroethane	NA		NA		14	U	11	U	5	U
Methylene chloride (Dichloromethane)	49000		3		4	J	2.3	J	3	J
Acetone	1,000,000		700		29	J	350		20	
Carbon disulfide	NA		NA		14	U	11	U	5	U
1,1-Dichloroethene	8000		2		14	U	11	U	5	U
1,1-Dichloroethane	570000		50		14	U	11	U	5	U
1,2-Dichloroethene (total)	NA		10		28	U	23	U	10	U
Chloroform	19000		6		14	U	11	U	5	U
1,2-Dichloroethane	NA		NA		14	U	11	U	5	U
2-Butanone (MEK)	1000000		300		14	U	45		5	U
1,1,1-Trichloroethane	210000		30		14	U	11	U	5	U
Carbon tetrachloride	2000		2		14	U	11	U	5	U
Bromodichloromethane	11000		1		14	U	11	U	5	U
1,2-Dichloropropane	10000		1		14	U	11	U	5	U
cis-1,3-Dichloropropene	NA		NA		14	U	11	U	5	U
Trichloroethene	23000		1		14	U	11	U	5	U
Dibromochloromethane	110000		10		14	U	11	U	5	U
1,1,2-Trichloroethane	22000		3		14	U	11	U	5	U
Benzene	3000		1		14	U	11	U	5	U
trans-1,3-dichloropropene	NA		NA		14	U	11	U	5	U
Bromoform	86000		4		14	U	11	U	5	U
4-Methyl-2-pentanone (MIBK)	1000000		400		14	U	11	U	5	U
2-Hexanone	NA		NA		14	U	11	U	5	U
Tetrachloroethene	4000		1		14	U	11	U	5	U
1,1,2,2-Tetrachloroethane	NA		NA		14	U	11	U	5	U
Toluene	1000000		1000		14	U	11	U	5	U
Chlorobenzene	37000		50		14	U	11	U	5	U
Ethyl benzene	1000000		700		14	U	11	U	5	U
Styrene	23000		100		14	U	11	U	5	U
Xylenes(Total)	410000		1000		41	U	34	U	15	U
Combined 1,3-dichloropropenes (SUM) cis + trans	4000		0.2							

Bronx River, Composite C - Sediment Semivolatiles

Semivolatiles	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080808		20080816		20080816	
	ug/kg	ug/kg	mg/L	mg/L	Comp C	Q	A Comp C	Q	A Comp C	Q
Phenol	10,000,000	660	4	0.01	460	U	150	U	0.0019	U
bis(2-Chloroethyl)ether	660	660	0.01	0.01	460	U	150	U	0.0019	U
2-Chlorophenol	2000	660	0.005	0.01	2300	U	740	U	0.0094	U
1,3-Dichlorobenzene	5100000	660	0.6	0.01	460	U	150	U	0.0019	U
1,4-Dichlorobenzene	570000	660	0.075	0.01	460	U	150	U	0.0019	U
1,2-Dichlorobenzene	5100000	660	0.6	0.01	460	U	150	U	0.0019	U
2-Methylphenol (o-cresol)	2800000	660	NA	0.01	2300	U	740	U	0.0094	U
1-Chloropropane-2,2'-oxybis	2300000	660	0.3	0.01	460	U	150	U	0.0019	U
4-Methylphenol (p-cresol) (co-elutes with 3-methylphenol (m-cresol))	2800000	660	NA	0.01	2300	U	76	J	0.0094	U
N-Nitroso-Di-N-Propylamine	660	660	0.02	0.01	460	U	150	U	0.0019	U
Hexachloroethane	6000	660	0.01	0.01	2300	U	740	U	0.0094	U
Nitrobenzene	28000	660	0.01	0.01	460	U	150	U	0.0019	U
Isophorone	1100000	660	0.1	0.01	2300	U	740	U	0.0094	U
2-Nitrophenol	NA	660	NA	0.01	2300	U	740	U	0.0094	U
2,4-Dimethylphenol	1100000	660	0.1	0.01	2300	U	740	U	0.0094	U
bis(2-Chloroethoxy)methane	NA	660	NA	0.01	2300	U	740	U	0.0094	U
2,4-Dichlorophenol	170000	660	0.02	0.01	460	U	150	U	0.0019	U
1,2,4-Trichlorobenzene	68000	660	0.009	0.01	2300	U	740	U	0.0019	U
Naphthalene	230000	660	0.3	0.01	360	J	160		0.0019	U
4-Chloroaniline	230000	1300	NA	0.02	2300	U	740	U	0.0094	U
Hexachloro-1,3-butadiene	NA	660	NA	0.01	460	U	150	U	0.0019	U
4-Chloro-3-methylphenol	10,000,000	1,300	NA	0.02	2300	U	740	U	0.0094	U
2-Methylnaphthalene	NA	660	NA	0.01	250	J	94	J	0.0019	U
Hexachlorocyclopentadiene	400000	660	0.05	0.01	2300	U	740	U	0.0094	U
2,4,6-Trichlorophenol	62000	660	0.02	0.01	2300	U	740	U	0.0094	U
2,4,5-Trichlorophenol	5600000	660	0.7	0.01	2300	U	740	U	0.0094	U
2-Chloronaphthalene	NA	660	NA	0.01	460	U	150	U	0.0019	U
2-Nitroaniline	NA	3300	NA	0.05	12000	U	3800	U	0.047	U
Dimethylphthalate	10,000,000	660	NA	0.01	2300	U	740	U	0.0094	U
Acenaphthylene	NA	660	NA	0.01	920		380		0.0019	U
2,6-Dinitrotoluene	1000	660	0.01	0.01	2300	U	740	U	0.0094	U
3-Nitroaniline	NA	3300	NA	0.05	12000	U	3800	U	0.047	U

Bronx River, Composite C - Sediment Semivolatiles, Con't.

Semivolatiles continued	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080808		20080816		20080816	
	ug/kg	ug/kg	mg/L	mg/L	Comp C	Q	A Comp C	Q	A Comp C	
Acenaphthene	3400000	660	0.4	0.01	930		320		0.0019	U
2,4-Dinitrophenol	110000	3300	0.04	0.05	12000	U	3800	U	0.047	U
4-Nitrophenol	NA	3300	NA	0.05	12000	U	3800	U	0.047	U
Dibenzofuran	NA	660	NA	0.01	2300	U	740	U	0.0094	U
2,4-Dinitrotoluene	1000	660	0.01	0.01	2300	U	740	U	0.0094	U
Diethylphthalate	10,000,000	660	5	0.01	580	J	740	U	0.0094	U
4-Chlorophenyl-phenylether	NA	660	NA	0.01	2300	U	740	U	0.0094	U
Fluorene	2300000	660	0.3	0.01	1800		590		0.0019	U
4-Nitroaniline	NA	660	NA	0.02	5700	U	1900	U	0.019	U
4,6-Dinitro-2-methylphenol	NA	3300	NA	0.05	12000	U	3800	U	0.047	U
N-Nitrosodiphenylamine	140000	660	0.02	0.01	2300	U	740	U	0.0019	U
4-Bromophenyl-phenylether	NA	660	NA	0.01	2300	U	740	U	0.0094	U
Hexachlorobenzene	660	660	0.01	0.01	460	U	150	U	0.0019	U
Pentachlorophenol	6000	3300	0.001	0.05	2300	U	740	U	0.0094	U
Phenanthrene	NA	6600	NA	0.01	950		430		0.0019	U
Anthracene	10000000	6600	2	0.01	1700		610		0.0019	U
Carbazole	NA	330	NA	0.01	350	J	130	J	0.0019	U
Di-n-butylphthalate	5700000	330	0.9	0.01	930	J	300	J	0.0094	U
Fluoranthene	2300000	660	0.3	0.01	3000		1300		0.0019	U
Pyrene	1700000	660	0.2	0.01	3700		1500		0.0019	U
Butylbenzylphthalate	1100000	660	0.1	0.01	1200	J	740	U	0.0094	U
3,3'-Dichlorobenzidine	2000	1300	0.06	0.02	2300	U	740	U	0.0094	U
Benzo(a)anthracene	900	660	NA	0.01	2600		1100		0.0019	U
Chrysene	9000	660	NA	0.01	2900		1200		0.0019	U
bis(2-Ethylhexyl)phthalate	49000	660	0.03	0.01	5000		1500		0.0017	J
DI-n-octylphthalate	1100000	660	0.1	0.01	2300	U	740	U	0.0094	U
Benzo(b)fluoranthene	900	660	NA	0.01	2100		1300		0.0019	U
Benzo(k)fluoranthene	900	660	NA	0.01	1700		150	U	0.0019	U
Benzo(a)pyrene	660	660	NA	0.01	3600		1400		0.0019	U
Indeno(1,2,3-cd)pyrene	900	660	NA	0.01	2000		740		0.0019	U
Dibenzo(a,h))anthracene	660	660	NA	0.01	950		290		0.0019	U
Benzo(ghi)perylene	NA	660	NA	0.01	2600		950		0.0019	U
Pyridine					2300	U	740	U	0.0094	U
Total Cresol						U	76	J		U

Bronx River, Composite C - Pesticides/Aroclors

Pesticides/Aroclors	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080808		20080816		20080816	
	ug/kg	ug/kg	mg/L	mg/L	Comp C	Q	A Comp C	Q	A Comp C	
alpha-BHC	NA	1.9	0.00002	0.00005	4.6	U	3.9	U	0.047	U
beta-BHC	NA	3.3	0.0002	0.00005	4.6	U	3.9	U	0.047	U
delta-BHC	NA	1.7	NA	0.00005	4.1	J PG	1.2	J PG	0.047	U
gamma-BHC (Lindane)	520	2	0.0002	0.00005	6.2		2.8	J	0.047	U
Heptachlor	150	2.1	0.0004	0.00005	4.6	U	3.9	U	0.047	U
Aldrin	40	2	0.00004	0.00005	4.6	U	3.9	U	0.047	U
Heptachlor epoxide	NA	2.1	0.0002	0.00005	1	J PG	4	PG	0.047	U
Endosulfan I	NA	2.1	0.0004	0.00005	4.6	U	3.9	U	0.047	U
Dieldrin	42	3.3	0.00003	0.0001	4.6	U	3.9	U	0.047	U
4,4'-DDE	2000	4.2	0.0001	0.0001	9.6	PG	6.4	PG	0.047	U
Endrin	17000	3.6	0.002	0.0001	4.6	U	3.9	U	0.047	U
Endosulfan II	NA	3.3	0.0004	0.0001	4.6	U	3.9	U	0.047	U
4,4'-DDD	381000	4.2	0.0001	0.0001	18	PG	6.2	PG	0.047	U
Endosulfan sulfate	NA	3.6	0.0004	0.0001	3.4	J	1.9	J	0.047	U
4,4'-DDT	2000	3.6	0.0001	0.0001	27	PG	4.8	PG	0.047	U
Methoxychlor	280000	17	0.04	0.001	9	U	7.5	U	0.094	U
Endrin ketone	NA	3.3	NA	0.0001	3.4	J PG	2.6	J PG	0.047	U
Endrin aldehyde	NA	3.3	NA	0.0001	4.6	U	3.9	U	0.047	U
alpha-Chlordane	500	1.7	NA	0.00005	4.6	U	3.9	U	0.047	U
gamma-Chlordane	NA	1.7	0.0005	0.00005	4.6	U	3.9	U	0.047	U
Toxaphene	100	170	0.003	0.005	180	U	150	U	1.9	U
Aroclor-1016	NA	33	NA	0.001	46	U	38	U	0.38	U
Aroclor-1221	NA	67	NA	0.002	46	U	38	U	0.38	U
Aroclor-1232	NA	33	NA	0.001	46	U	38	U	0.38	U
Aroclor-1242	NA	33	NA	0.001	46	U	38	U	0.38	U
Aroclor-1248	NA	33	NA	0.001	180		100		0.38	U
Aroclor-1254	NA	33	NA	0.001	240		130		0.38	U
Aroclor-1260	NA	33	NA	0.001	110		59		0.38	U
Total Aroclor(SUM)	490	NA	0.005	NA						

Bronx River, Composite C - Herbicides

Herbicides	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ug/kg)		Amended Sediment (Units: ug/kg)		SPLP Units: mg/L	
	Soil		Leachate		20080808		20080816		20080816	
	ug/kg	ug/kg	ug/L	ug/L	Comp C	Q	A Comp C	Q	A Comp C	Q
2,4,5-TP (Silvex)	NA	NA	NA	NA	56	U	43	U	0.97	U
2,4-D	NA	NA	NA	NA	230	U	170	U	3.9	U

Bronx River, Composite C - Metals

Metals	Action Level	NJDEP DL	Action Leve	NJDEP DL	UnameUed Sediment (Units: mg/Cg)		AmeUed Sediment (Units: mg/Cg)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080808		20080816		20080816	
	mg/kg	mg/kg	mg/L	mg/L	Comp C	Q	A Comp C	Q	A Comp C	Q
Aluminum	NA	40	0.2	0.2	15200		15800		1350	
Antimony	14	12	0.02	0.06	0.37	J	0.28	J	10	U
Arsenic	20	2	0.008	0.01	11.7		9.5		2.5	J
Barium	700	40	2	0	108		106		37.6	J
Beryllium	1	1	0.02	0.005	0.93		0.83		4	U
Cadmium	1	1	0.004	0.005	2		1.6		5	U
Calcium	NA	1000	NA	5	5490		66200		214000	B
Chromium	NA	2	0.1	0.01	104		83.1		5	U
Cobalt	NA	10	NA	0.05	10.5		8.8		2.1	J
Copper	600	5	1	0.025	189		135		25	U
Iron	NA	20	0.3	1	31300		25800		17.2	J
Lead	400	0.6	0.01	0.003	175		134		3	U
Magnesium	NA	1000	NA	5	8950		8730		30.2	J
Manganese	NA	3	0.05	0.015	478		443		15	U
Mercury	14	0.1	0.002	0.0002	1.8		1.4		0.12	J
Nickel	250	8	0.1	0.04	33.9		27.3		7.2	J
Potassium	NA	1000	NA	5	4080		4660		44500	
Selenium	63	1	0.05	0.015	1.1		0.79		5	U
Silver	110	2	NA	0.01	6.2		4.9		0.74	J
Sodium	NA	1000	50	5	13700		10500		232000	
Thallium	2	2	0.01	0.01	1	J	1.1	U	10	U
Vanadium	370	10	NA	0.05	43.5		37.3		5.2	J
Zinc	1500	4	5	0.02	296		285		20	U
Cyanide, total	1100	0.5	0.2	0.01	1.4	U	1.1	U	10	U
%Solids	NA	NA	NA	NA	36.2		43.9			

Bronx River, Composite C - Dioxin/Furan

Dioxin/Furan	Action Level	NJDEP DL	Action Level	NJDEP DL	Unamended Sediment (Units: ppt)		Amended Sediment (Units: ppt)		SPLP (Units: ppt)	
ASI ID #	Soil		Leachate		20080808		20080816		20080816	
	ng/kg		pg/L		Comp C	Q	A Comp C	Q	A Comp C	Q
2,3,7,8-TCDD	NA	NA	NA	NA	3.86		2.31		9.5	U
1,2,3,7,8-PeCDD	NA	NA	NA	NA	3.23		1.79		48	U
1,2,3,4,7,8-HxCDD	NA	NA	NA	NA	4.13		2.4		48	U
1,2,3,6,7,8-HxCDD	NA	NA	NA	NA	14.25		9.23		48	U
1,2,3,7,8,9-HxCDD	NA	NA	NA	NA	12.19		8.39		48	U
1,2,3,4,6,7,8-HpCDD	NA	NA	NA	NA	249.36		177.79		48	U
OCDD	NA	NA	NA	NA	2658.28		1823.51		38	B J
2,3,7,8-TCDF	NA	NA	NA	NA	20.86	#	13.45	#	9.5	U
1,2,3,7,8-PeCDF	NA	NA	NA	NA	7.57		4.99		48	U
2,3,4,7,8-PeCDF	NA	NA	NA	NA	9.37		6.11		48	U
1,2,3,4,7,8-HxCDF	NA	NA	NA	NA	18.24		9.7		48	U
1,2,3,6,7,8-HxCDF	NA	NA	NA	NA	7.28		5.16		48	U
2,3,4,6,7,8-HxCDF	NA	NA	NA	NA	6.73		4.7		1.4	Q J
1,2,3,7,8,9-HxCDF	NA	NA	NA	NA	6.38	U	0.56	U	8.1	Q B J
1,2,3,4,6,7,8-HpCDF	NA	NA	NA	NA	88.13		51.88		2.6	Q J
1,2,3,4,7,8,9-HpCDF	NA	NA	NA	NA	5.41	J	3.04	J	48	U
OCDF	NA	NA	NA	NA	157.2		98.56		22	B J

Bronx River, Composite D - Sediment Volatiles

Volatiles	Action Level		Action Level		Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080809		20080817		20080817	
STL ID #	ug/kg		ug/L		Comp D	Q	A Comp D	Q	A Comp D	Q
Chloromethane (Methyl Chloride)	520000		30		13	U	11	U	5	U
Bromomethane	79000		10		13	U	11	U	5	U
Vinyl chloride	2000		5		13	U	11	U	5	U
Chloroethane	NA		NA		13	U	11	U	5	U
Methylene chloride (Dichloromethane)	49000		3		2.8	J	8.7	J	2.2	J
Acetone	1,000,000		700		38	J	290		13	J
Carbon disulfide	NA		NA		13	U	11	U	5	U
1,1-Dichloroethene	8000		2		13	U	11	U	5	U
1,1-Dichloroethane	570000		50		13	U	11	U	5	U
1,2-Dichloroethene (total)	NA		10		27	U	22	U	10	U
Chloroform	19000		6		13	U	11	U	5	U
1,2-Dichloroethane	NA		NA		13	U	11	U	5	U
2-Butanone (MEK)	1000000		300		13	U	39		5	U
1,1,1-Trichloroethane	210000		30		13	U	11	U	5	U
Carbon tetrachloride	2000		2		13	U	11	U	5	U
Bromodichloromethane	11000		1		13	U	11	U	5	U
1,2-Dichloropropane	10000		1		13	U	11	U	5	U
cis-1,3-Dichloropropene	NA		NA		13	U	11	U	5	U
Trichloroethene	23000		1		13	U	11	U	5	U
Dibromochloromethane	110000		10		13	U	11	U	5	U
1,1,2-Trichloroethane	22000		3		13	U	11	U	5	U
Benzene	3000		1		13	U	11	U	5	U
trans-1,3-dichloropropene	NA		NA		13	U	11	U	5	U
Bromoform	86000		4		13	U	11	U	5	U
4-Methyl-2-pentanone (MIBK)	1000000		400		13	U	11	U	5	U
2-Hexanone	NA		NA		13	U	11	U	5	U
Tetrachloroethene	4000		1		13	U	11	U	5	U
1,1,2,2-Tetrachloroethane	NA		NA		13	U	11	U	5	U
Toluene	1000000		1000		13	U	11	U	5	U
Chlorobenzene	37000		50		13	U	11	U	5	U
Ethyl benzene	1000000		700		13	U	11	U	5	U
Styrene	23000		100		13	U	11	U	5	U
Xylenes(Total)	410000		1000		40	U	34	U	15	U
Combined 1,3-dichloropropenes (SUM) cis + trans	4000		0.2							

Bronx River, Composite D - Sediment Semivolatiles

Semivolatiles	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080809		20080817		20080817	
	ug/kg	ug/kg	mg/L	mg/L	Comp D	Q	A Comp D	Q	A Comp D	Q
Phenol	10,000,000	660	4	0.01	450	U	150	U	0.0019	U
bis(2-Chloroethyl)ether	660	660	0.01	0.01	450	U	150	U	0.0019	U
2-Chlorophenol	2000	660	0.005	0.01	2200	U	740	U	0.0094	U
1,3-Dichlorobenzene	5100000	660	0.6	0.01	450	U	150	U	0.0019	U
1,4-Dichlorobenzene	570000	660	0.075	0.01	450	U	79	J	0.0019	U
1,2-Dichlorobenzene	5100000	660	0.6	0.01	450	U	150	U	0.0019	U
2-Methylphenol (o-cresol)	2800000	660	NA	0.01	2200	U	740	U	0.0094	U
1-Chloropropane-2,2'-oxybis	2300000	660	0.3	0.01	450	U	150	U	0.0019	U
4-Methylphenol (p-cresol) (co-elutes with 3-methylphenol (m-cresol))	2800000	660	NA	0.01	2200	U	130	J	0.0094	U
N-Nitroso-Di-N-Propylamine	660	660	0.02	0.01	450	U	150	U	0.0019	U
Hexachloroethane	6000	660	0.01	0.01	2200	U	740	U	0.0094	U
Nitrobenzene	28000	660	0.01	0.01	450	U	150	U	0.0019	U
Isophorone	1100000	660	0.1	0.01	2200	U	740	U	0.0094	U
2-Nitrophenol	NA	660	NA	0.01	2200	U	740	U	0.0094	U
2,4-Dimethylphenol	1100000	660	0.1	0.01	2200	U	740	U	0.0094	U
bis(2-Chloroethoxy)methane	NA	660	NA	0.01	2200	U	740	U	0.0094	U
2,4-Dichlorophenol	170000	660	0.02	0.01	450	U	150	U	0.0019	U
1,2,4-Trichlorobenzene	68000	660	0.009	0.01	2200	U	740	U	0.0019	U
Naphthalene	230000	660	0.3	0.01	220	J	230		0.0019	U
4-Chloroaniline	230000	1300	NA	0.02	2200	U	250	J	0.0094	U
Hexachloro-1,3-butadiene	NA	660	NA	0.01	450	U	150	U	0.0019	U
4-Chloro-3-methylphenol	10,000,000	1,300	NA	0.02	2200	U	740	U	0.0094	U
2-Methylnaphthalene	NA	660	NA	0.01	140	J	140	J	0.0019	U
Hexachlorocyclopentadiene	400000	660	0.05	0.01	2200	U	740	U	0.0094	U
2,4,6-Trichlorophenol	62000	660	0.02	0.01	2200	U	740	U	0.0094	U
2,4,5-Trichlorophenol	5600000	660	0.7	0.01	2200	U	740	U	0.0094	U
2-Chloronaphthalene	NA	660	NA	0.01	450	U	150	U	0.0019	U
2-Nitroaniline	NA	3300	NA	0.05	11000	U	3800	U	0.047	U
Dimethylphthalate	10,000,000	660	NA	0.01	2200	U	740	U	0.0094	U
Acenaphthylene	NA	660	NA	0.01	310	J	370		0.0019	U
2,6-Dinitrotoluene	1000	660	0.01	0.01	2200	U	740	U	0.0094	U
3-Nitroaniline	NA	3300	NA	0.05	11000	U	3800	U	0.047	U

Bronx River, Composite D - Sediment Semivolatiles, Con't.

Semivolatiles continued	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080809		20080817		20080817	
	ug/kg	ug/kg	mg/L	mg/L	Comp D	Q	A Comp D	Q	A Comp D	
Acenaphthene	3400000	660	0.4	0.01	840		370		0.0019	U
2,4-Dinitrophenol	110000	3300	0.04	0.05	11000	U	3800	U	0.047	U
4-Nitrophenol	NA	3300	NA	0.05	11000	U	3800	U	0.047	U
Dibenzofuran	NA	660	NA	0.01	2200	U	740	U	0.0094	U
2,4-Dinitrotoluene	1000	660	0.01	0.01	2200	U	740	U	0.0094	U
Diethylphthalate	10,000,000	660	5	0.01	2200	U	740	U	0.0094	U
4-Chlorophenyl-phenylether	NA	660	NA	0.01	2200	U	740	U	0.0094	U
Fluorene	2300000	660	0.3	0.01	1700		640		0.0019	U
4-Nitroaniline	NA	660	NA	0.02	5500	U	1900	U	0.019	U
4,6-Dinitro-2-methylphenol	NA	3300	NA	0.05	11000	U	3800	U	0.047	U
N-Nitrosodiphenylamine	140000	660	0.02	0.01	2200	U	740	U	0.0019	U
4-Bromophenyl-phenylether	NA	660	NA	0.01	2200	U	740	U	0.0094	U
Hexachlorobenzene	660	660	0.01	0.01	450	U	150	U	0.0019	U
Pentachlorophenol	6000	3300	0.001	0.05	2200	U	330	J	0.0094	U
Phenanthrene	NA	6600	NA	0.01	890		730		0.0019	U
Anthracene	10000000	6600	2	0.01	1200		670		0.0019	U
Carbazole	NA	330	NA	0.01	330	J	160		0.0019	U
Di-n-butylphthalate	5700000	330	0.9	0.01	860	J	330	J	0.0094	U
Fluoranthene	2300000	660	0.3	0.01	2300		2100		0.0019	U
Pyrene	1700000	660	0.2	0.01	2200		1800		0.0019	U
Butylbenzylphthalate	1100000	660	0.1	0.01	1200	J	430	J	0.0094	U
3,3'-Dichlorobenzidine	2000	1300	0.06	0.02	2200	U	740	U	0.0094	U
Benzo(a)anthracene	900	660	NA	0.01	1300		1300		0.0019	U
Chrysene	9000	660	NA	0.01	1400		1400		0.0019	U
bis(2-Ethylhexyl)phthalate	49000	660	0.03	0.01	5000		3800		0.0094	U
DI-n-octylphthalate	1100000	660	0.1	0.01	2200	U	540	J	0.0094	U
Benzo(b)fluoranthene	900	660	NA	0.01	1500		1700		0.0019	U
Benzo(k)fluoranthene	900	660	NA	0.01	520		150	U	0.0019	U
Benzo(a)pyrene	660	660	NA	0.01	1900		1500		0.0019	U
Indeno(1,2,3-cd)pyrene	900	660	NA	0.01	1300		900		0.0019	U
Dibenzo(a,h))anthracene	660	660	NA	0.01	450	U	400		0.0019	U
Benzo(ghi)perylene	NA	660	NA	0.01	1400		1200		0.0019	U
Pyridine					2200	U	740	U	0.0094	U
Total Cresol						U	130	J		U

Bronx River, Composite D - Pesticides/Aroclors

Pesticides/Aroclors	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080809		20080817		20080817	
	ug/kg	ug/kg	mg/L	mg/L	Comp D	Q	A Comp D	Q	A Comp D	
alpha-BHC	NA	1.9	0.00002	0.00005	4.5	U	3.8	U	0.047	U
beta-BHC	NA	3.3	0.0002	0.00005	4.5	U	3.8	U	0.047	U
delta-BHC	NA	1.7	NA	0.00005	4.8	PG	1.3	J PG	0.047	U
gamma-BHC (Lindane)	520	2	0.0002	0.00005	7.6		4.6		0.047	U
Heptachlor	150	2.1	0.0004	0.00005	1.1	J PG	0.72	J PG	0.047	U
Aldrin	40	2	0.00004	0.00005	4.5	U	3.8	U	0.047	U
Heptachlor epoxide	NA	2.1	0.0002	0.00005	1.5	J PG	2.1	J PG	0.047	U
Endosulfan I	NA	2.1	0.0004	0.00005	4.5	U	3.8	U	0.047	U
Dieldrin	42	3.3	0.00003	0.0001	4.5	U	3.8	U	0.047	U
4,4'-DDE	2000	4.2	0.0001	0.0001	12	PG	6.7	PG	0.047	U
Endrin	17000	3.6	0.002	0.0001	4.5	U	3.8	U	0.047	U
Endosulfan II	NA	3.3	0.0004	0.0001	4.5	U	3.8	U	0.047	U
4,4'-DDD	381000	4.2	0.0001	0.0001	22	PG	9.3	PG	0.047	U
Endosulfan sulfate	NA	3.6	0.0004	0.0001	4.6		1.9	J PG	0.047	U
4,4'-DDT	2000	3.6	0.0001	0.0001	3.1	J PG	0.95	J PG	0.047	U
Methoxychlor	280000	17	0.04	0.001	8.7	U	7.4	U	0.094	U
Endrin ketone	NA	3.3	NA	0.0001	4.1	J PG	2.4	J PG	0.047	U
Endrin aldehyde	NA	3.3	NA	0.0001	4.5	U	3.8	U	0.047	U
alpha-Chlordane	500	1.7	NA	0.00005	4.5	U	3.8	U	0.047	U
gamma-Chlordane	NA	1.7	0.0005	0.00005	4.5	U	3.8	U	0.047	U
Toxaphene	100	170	0.003	0.005	180	U	150	U	1.9	U
Aroclor-1016	NA	33	NA	0.001	44	U	37	U	0.38	U
Aroclor-1221	NA	67	NA	0.002	44	U	37	U	0.38	U
Aroclor-1232	NA	33	NA	0.001	44	U	37	U	0.38	U
Aroclor-1242	NA	33	NA	0.001	44	U	37	U	0.38	U
Aroclor-1248	NA	33	NA	0.001	180		88		0.38	U
Aroclor-1254	NA	33	NA	0.001	280		140		0.38	U
Aroclor-1260	NA	33	NA	0.001	140		62		0.38	U
Total Aroclor(SUM)	490	NA	0.005	NA						

Bronx River, Composite D - Herbicides

Herbicides	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ug/kg)		Amended Sediment (Units: ug/kg)		SPLP Units: mg/L	
	Soil		Leachate		20080809		20080817		20080817	
					Comp D	Q	A Comp D	Q	A Comp D	Q
2,4,5-TP (Silvex)	NA	NA	NA	NA	53	U	55	U	0.95	U
2,4-D	NA	NA	NA	NA	210	U	220	U	3.8	U

Bronx River, Composite D - Metals

Metals	Action Level	NJDEP DL	Action Leve	NJDEP DL	UnameUed Sediment (Units: mg/kg)		AmeUed Sediment (Units: mg/kg)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080809		20080817		20080817	
	mg/kg	mg/kg	mg/L	mg/L	Comp D	Q	A Comp D	Q	A Comp D	Q
Aluminum	NA	40	0.2	0.2	15800		15600		1420	
Antimony	14	12	0.02	0.06	0.4	B	0.4	B	10	U
Arsenic	20	2	0.008	0.01	11.1		8.8		10	U
Barium	700	40	2	0	123		111		38.5	B
Beryllium	1	1	0.02	0.005	0.94		0.83		4	U
Cadmium	1	1	0.004	0.005	2.8		2.2		5	U
Calcium	NA	1000	NA	5	6340		61700		214000	J
Chromium	NA	2	0.1	0.01	106		83.7		5	U
Cobalt	NA	10	NA	0.05	10.9		9		1.6	B
Copper	600	5	1	0.025	227		181		25	U
Iron	NA	20	0.3	1	32000		25000		100	U
Lead	400	0.6	0.01	0.003	225		170		3	U
Magnesium	NA	1000	NA	5	9370		8690		24.4	B
Manganese	NA	3	0.05	0.015	429		387		15	U
Mercury	14	0.1	0.002	0.0002	2.2		1.4		0.11	B
Nickel	250	8	0.1	0.04	37.3		29.6		8.5	B
Potassium	NA	1000	NA	5	4190		4470		44900	
Selenium	63	1	0.05	0.015	1.1		0.56	U	5	U
Silver	110	2	NA	0.01	6.9		5.2		0.7	B
Sodium	NA	1000	50	5	13400		10300		234000	
Thallium	2	2	0.01	0.01	0.88	B	1.1	U	10	U
Vanadium	370	10	NA	0.05	47.5		39		5.7	B
Zinc	1500	4	5	0.02	406		348		20	U
Cyanide, total	1100	0.5	0.2	0.01	1.3	U	1.1	U	10	U
%Solids	NA	NA	NA	NA	37.6		44.7			

Bronx River, Composite D - Dioxin/Furan

Dioxin/Furan	Action Level	NJDEP DL	Action Level	NJDEP DL	Unamended Sediment (Units: ppt)		Amended Sediment (Units: ppt)		SPLP (Units: ppt)	
ASI ID #	Soil		Leachate		20080809		20080817		20080817	
	ng/kg		pg/L		Comp D	Q	A Comp D	Q	A Comp D	Q
2,3,7,8-TCDD	NA	NA	NA	NA	4.25		2		9.5	U
1,2,3,7,8-PeCDD	NA	NA	NA	NA	4.58		3.71		48	U
1,2,3,4,7,8-HxCDD	NA	NA	NA	NA	5.96		4.47		48	U
1,2,3,6,7,8-HxCDD	NA	NA	NA	NA	18.81		15.35		48	U
1,2,3,7,8,9-HxCDD	NA	NA	NA	NA	15.44		12.08		48	U
1,2,3,4,6,7,8-HpCDD	NA	NA	NA	NA	358.7		297.08		48	U
OCDD	NA	NA	NA	NA	3671.58		2951.71		6.5	Q B J
2,3,7,8-TCDF	NA	NA	NA	NA	20.65	#	16.93	#	9.5	U
1,2,3,7,8-PeCDF	NA	NA	NA	NA	8.04		6.02		48	U
2,3,4,7,8-PeCDF	NA	NA	NA	NA	10.94		7.99		48	U
1,2,3,4,7,8-HxCDF	NA	NA	NA	NA	21		15.63		3	J
1,2,3,6,7,8-HxCDF	NA	NA	NA	NA	8.88		8.02		48	U
2,3,4,6,7,8-HxCDF	NA	NA	NA	NA	8.44		6.74		1.4	Q J
1,2,3,7,8,9-HxCDF	NA	NA	NA	NA	6.5	U	1.31	U	4.4	B J
1,2,3,4,6,7,8-HpCDF	NA	NA	NA	NA	114.44		93.12		4.2	Q J
1,2,3,4,7,8,9-HpCDF	NA	NA	NA	NA	6.29	J	3.9	J	2.9	J
OCDF	NA	NA	NA	NA	232.81		147.59		14	Q B J

Bronx River, Composite E - Sediment Volatiles

Volatiles	Action Level		Action Level		Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080810		20080818		20080818	
STL ID #	ug/kg		ug/L		Comp E	Q	A Comp E	Q	A Comp E	Q
Chloromethane (Methyl Chloride)	520000		30		14	U	12	U	5	U
Bromomethane	79000		10		14	U	12	U	5	U
Vinyl chloride	2000		5		14	U	12	U	5	U
Chloroethane	NA		NA		14	U	12	U	5	U
Methylene chloride (Dichloromethane)	49000		3		3.5	J	2.9	J	2	J
Acetone	1,000,000		700		37	J	390		16	J
Carbon disulfide	NA		NA		14	U	17		5	U
1,1-Dichloroethene	8000		2		14	U	12	U	5	U
1,1-Dichloroethane	570000		50		14	U	12	U	5	U
1,2-Dichloroethene (total)	NA		10		29	U	23	U	10	U
Chloroform	19000		6		14	U	12	U	5	U
1,2-Dichloroethane	NA		NA		14	U	12	U	5	U
2-Butanone (MEK)	1000000		300		14	U	51		5	U
1,1,1-Trichloroethane	210000		30		14	U	12	U	5	U
Carbon tetrachloride	2000		2		14	U	12	U	5	U
Bromodichloromethane	11000		1		14	U	12	U	5	U
1,2-Dichloropropane	10000		1		14	U	12	U	5	U
cis-1,3-Dichloropropene	NA		NA		14	U	12	U	5	U
Trichloroethene	23000		1		14	U	12	U	5	U
Dibromochloromethane	110000		10		14	U	12	U	5	U
1,1,2-Trichloroethane	22000		3		14	U	12	U	5	U
Benzene	3000		1		14	U	12	U	5	U
trans-1,3-dichloropropene	NA		NA		14	U	12	U	5	U
Bromoform	86000		4		14	U	12	U	5	U
4-Methyl-2-pentanone (MIBK)	1000000		400		14	U	12	U	5	U
2-Hexanone	NA		NA		14	U	12	U	5	U
Tetrachloroethene	4000		1		14	U	12	U	5	U
1,1,2,2-Tetrachloroethane	NA		NA		14	U	12	U	5	U
Toluene	1000000		1000		14	U	12	U	5	U
Chlorobenzene	37000		50		14	U	12	U	5	U
Ethyl benzene	1000000		700		14	U	12	U	5	U
Styrene	23000		100		14	U	12	U	5	U
Xylenes(Total)	410000		1000		43	U	35	U	15	U
Combined 1,3-dichloropropenes (SUM) cis + trans	4000		0.2							

Bronx River, Composite E - Sediment Semivolatiles

Semivolatiles	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080810		20080818		20080818	
	ug/kg	ug/kg	mg/L	mg/L	Comp E	Q	A Comp E	Q	A Comp E	Q
Phenol	10,000,000	660	4	0.01	480	U	160	U	0.0019	U
bis(2-Chloroethyl)ether	660	660	0.01	0.01	480	U	160	U	0.0019	U
2-Chlorophenol	2000	660	0.005	0.01	2400	U	770	U	0.0095	U
1,3-Dichlorobenzene	5100000	660	0.6	0.01	480	U	160	U	0.0019	U
1,4-Dichlorobenzene	570000	660	0.075	0.01	140	J	57	J	0.0019	U
1,2-Dichlorobenzene	5100000	660	0.6	0.01	480	U	160	U	0.0019	U
2-Methylphenol (o-cresol)	2800000	660	NA	0.01	2400	U	770	U	0.0095	U
1-Chloropropane-2,2'-oxybis	2300000	660	0.3	0.01	480	U	160	U	0.0019	U
4-Methylphenol (p-cresol) (co-elutes with 3-methylphenol (m-cresol))	2800000	660	NA	0.01	170	J	110	J	0.0095	U
N-Nitroso-Di-N-Propylamine	660	660	0.02	0.01	480	U	160	U	0.0019	U
Hexachloroethane	6000	660	0.01	0.01	2400	U	770	U	0.0095	U
Nitrobenzene	28000	660	0.01	0.01	480	U	160	U	0.0019	U
Isophorone	1100000	660	0.1	0.01	2400	U	770	U	0.0095	U
2-Nitrophenol	NA	660	NA	0.01	2400	U	770	U	0.0095	U
2,4-Dimethylphenol	1100000	660	0.1	0.01	2400	U	770	U	0.0095	U
bis(2-Chloroethoxy)methane	NA	660	NA	0.01	2400	U	770	U	0.0095	U
2,4-Dichlorophenol	170000	660	0.02	0.01	480	U	160	U	0.0019	U
1,2,4-Trichlorobenzene	68000	660	0.009	0.01	2400	U	770	U	0.0019	U
Naphthalene	230000	660	0.3	0.01	330	J	140	J	0.0019	U
4-Chloroaniline	230000	1300	NA	0.02	360	J	250	J	0.0095	U
Hexachloro-1,3-butadiene	NA	660	NA	0.01	480	U	160	U	0.0019	U
4-Chloro-3-methylphenol	10,000,000	1,300	NA	0.02	2400	U	770	U	0.0095	U
2-Methylnaphthalene	NA	660	NA	0.01	230	J	110	J	0.0019	U
Hexachlorocyclopentadiene	400000	660	0.05	0.01	2400	U	770	U	0.0095	U
2,4,6-Trichlorophenol	62000	660	0.02	0.01	2400	U	770	U	0.0095	U
2,4,5-Trichlorophenol	5600000	660	0.7	0.01	2400	U	770	U	0.0095	U
2-Chloronaphthalene	NA	660	NA	0.01	480	U	160	U	0.0019	U
2-Nitroaniline	NA	3300	NA	0.05	12000	U	4000	U	0.048	U
Dimethylphthalate	10,000,000	660	NA	0.01	2400	U	770	U	0.0095	U
Acenaphthylene	NA	660	NA	0.01	520		220		0.0019	U
2,6-Dinitrotoluene	1000	660	0.01	0.01	2400	U	770	U	0.0095	U
3-Nitroaniline	NA	3300	NA	0.05	12000	U	4000	U	0.048	U

Bronx River, Composite E - Sediment Semivolatiles, Con't.

Semivolatiles continued	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080810		20080818		20080818	
	ug/kg	ug/kg	mg/L	mg/L	Comp E	Q	A Comp E	Q	A Comp E	
Acenaphthene	3400000	660	0.4	0.01	930		310		0.0019	U
2,4-Dinitrophenol	110000	3300	0.04	0.05	12000	U	4000	U	0.048	U
4-Nitrophenol	NA	3300	NA	0.05	12000	U	4000	U	0.048	U
Dibenzofuran	NA	660	NA	0.01	2400	U	770	U	0.0095	U
2,4-Dinitrotoluene	1000	660	0.01	0.01	2400	U	770	U	0.0095	U
Diethylphthalate	10,000,000	660	5	0.01	2400	U	770	U	0.0095	U
4-Chlorophenyl-phenylether	NA	660	NA	0.01	2400	U	770	U	0.0095	U
Fluorene	2300000	660	0.3	0.01	1800		610		0.0019	U
4-Nitroaniline	NA	660	NA	0.02	6000	U	1900	U	0.019	U
4,6-Dinitro-2-methylphenol	NA	3300	NA	0.05	12000	U	4000	U	0.048	U
N-Nitrosodiphenylamine	140000	660	0.02	0.01	2400	U	770	U	0.0019	U
4-Bromophenyl-phenylether	NA	660	NA	0.01	2400	U	770	U	0.0095	U
Hexachlorobenzene	660	660	0.01	0.01	480	U	160	U	0.0019	U
Pentachlorophenol	6000	3300	0.001	0.05	2400	U	770	U	0.0095	U
Phenanthrene	NA	6600	NA	0.01	1100		410		0.0019	U
Anthracene	10000000	6600	2	0.01	1500		490		0.0019	U
Carbazole	NA	330	NA	0.01	390	J	130	J	0.0019	U
Di-n-butylphthalate	5700000	330	0.9	0.01	950	J	320	J	0.0095	U
Fluoranthene	2300000	660	0.3	0.01	3200		1300		0.0019	U
Pyrene	1700000	660	0.2	0.01	3100		1000		0.0019	U
Butylbenzylphthalate	1100000	660	0.1	0.01	1400	J	450	J	0.0095	U
3,3'-Dichlorobenzidine	2000	1300	0.06	0.02	2400	U	770	U	0.0095	U
Benzo(a)anthracene	900	660	NA	0.01	2100		740		0.0019	U
Chrysene	9000	660	NA	0.01	2100		750		0.0019	U
bis(2-Ethylhexyl)phthalate	49000	660	0.03	0.01	9500		3100		0.0095	U
DI-n-octylphthalate	1100000	660	0.1	0.01	2400	U	770	U	0.0095	U
Benzo(b)fluoranthene	900	660	NA	0.01	2400		870		0.0019	U
Benzo(k)fluoranthene	900	660	NA	0.01	860		270		0.0019	U
Benzo(a)pyrene	660	660	NA	0.01	2600		970		0.0019	U
Indeno(1,2,3-cd)pyrene	900	660	NA	0.01	1800		630		0.0019	U
Dibenzo(a,h))anthracene	660	660	NA	0.01	790		240		0.0019	U
Benzo(ghi)perylene	NA	660	NA	0.01	2100		790		0.0019	U
Pyridine					2400	U	770	U	0.0095	U
Total Cresol						U	110	J		U

Bronx River, Composite E - Pesticides/Aroclors

Pesticides/Aroclors	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080810		20080818		20080818	
	ug/kg	ug/kg	mg/L	mg/L	Comp E	Q	A Comp E	Q	A Comp E	
alpha-BHC	NA	1.9	0.00002	0.00005	4.9	U	4	U	0.047	U
beta-BHC	NA	3.3	0.0002	0.00005	4.9	U	4	U	0.047	U
delta-BHC	NA	1.7	NA	0.00005	5	PG	1.9	J PG	0.047	U
gamma-BHC (Lindane)	520	2	0.0002	0.00005	6.4		3	J	0.047	U
Heptachlor	150	2.1	0.0004	0.00005	1.1	J PG	4	U	0.047	U
Aldrin	40	2	0.00004	0.00005	4.9	U	4	U	0.047	U
Heptachlor epoxide	NA	2.1	0.0002	0.00005	3.7	J PG	2	J PG	0.047	U
Endosulfan I	NA	2.1	0.0004	0.00005	4.9	U	4	U	0.047	U
Dieldrin	42	3.3	0.00003	0.0001	4.9	U	4	U	0.047	U
4,4'-DDE	2000	4.2	0.0001	0.0001	17	PG	8.6	PG	0.047	U
Endrin	17000	3.6	0.002	0.0001	4.9	U	4	U	0.047	U
Endosulfan II	NA	3.3	0.0004	0.0001	4.9	U	4	U	0.047	U
4,4'-DDD	381000	4.2	0.0001	0.0001	18	PG	9	PG	0.047	U
Endosulfan sulfate	NA	3.6	0.0004	0.0001	6.2		1.8	J PG	0.047	U
4,4'-DDT	2000	3.6	0.0001	0.0001	8.5	PG	4	U	0.047	U
Methoxychlor	280000	17	0.04	0.001	3.8	J PG	7.7	U	0.094	U
Endrin ketone	NA	3.3	NA	0.0001	4.7	J PG	3.4	J PG	0.047	U
Endrin aldehyde	NA	3.3	NA	0.0001	4.9	U	4	U	0.047	U
alpha-Chlordane	500	1.7	NA	0.00005	4.9	U	4	U	0.047	U
gamma-Chlordane	NA	1.7	0.0005	0.00005	4.9	U	4	U	0.047	U
Toxaphene	100	170	0.003	0.005	190	U	160	U	1.9	U
Aroclor-1016	NA	33	NA	0.001	48	U	39	U	0.38	U
Aroclor-1221	NA	67	NA	0.002	48	U	39	U	0.38	U
Aroclor-1232	NA	33	NA	0.001	48	U	39	U	0.38	U
Aroclor-1242	NA	33	NA	0.001	48	U	39	U	0.38	U
Aroclor-1248	NA	33	NA	0.001	220		130		0.38	U
Aroclor-1254	NA	33	NA	0.001	360		180		0.38	U
Aroclor-1260	NA	33	NA	0.001	170		86		0.38	U
Total Aroclor(SUM)	490	NA	0.005	NA						

Bronx River, Composite E - Herbicides

Herbicides	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ug/kg)		Amended Sediment (Units: ug/kg)		SPLP Units: mg/L	
	Soil		Leachate		20080810		20080818		20080818	
					Comp E	Q	A Comp E	Q	A Comp E	Q
2,4,5-TP (Silvex)	NA	NA	NA	NA	60	U	46	U	0.94	U
2,4-D	NA	NA	NA	NA	240	U	190	U	3.8	U

Bronx River, Composite E - Metals

Metals	Action Level	NJDEP DL	Action Leve	NJDEP DL	UnameUed Sediment (Units: mg/kg)		AmeUed Sediment (Units: mg/kg)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080810		20080818		20080818	
	mg/kg	mg/kg	mg/L	mg/L	Comp E	Q	A Comp E	Q	A Comp E	Q
Aluminum	NA	40	0.2	0.2	16600		16000		1360	
Antimony	14	12	0.02	0.06	0.4	J	0.37	J	10	U
Arsenic	20	2	0.008	0.01	11.5		9.2		2.4	J
Barium	700	40	2	0	128		115		38	J
Beryllium	1	1	0.02	0.005	0.99		0.84		4	U
Cadmium	1	1	0.004	0.005	3.3		2.5		5	U
Calcium	NA	1000	NA	5	6600		63200		213000	B
Chromium	NA	2	0.1	0.01	122		94.6		5	U
Cobalt	NA	10	NA	0.05	11.3		9.2		1.2	J
Copper	600	5	1	0.025	262		209		25	U
Iron	NA	20	0.3	1	33400		26400		100	U
Lead	400	0.6	0.01	0.003	263		194		3	U
Magnesium	NA	1000	NA	5	9830		9000		23.8	J
Manganese	NA	3	0.05	0.015	439		395		15	U
Mercury	14	0.1	0.002	0.0002	2.1		1.6		0.11	J
Nickel	250	8	0.1	0.04	39.9		31.4		7.7	J
Potassium	NA	1000	NA	5	4390		4630		43900	
Selenium	63	1	0.05	0.015	1.4		0.82		5	U
Silver	110	2	NA	0.01	7.9		5.5		5	U
Sodium	NA	1000	50	5	14000		10500		230000	
Thallium	2	2	0.01	0.01	1.4	U	1.2	U	10	U
Vanadium	370	10	NA	0.05	51.5		41.4		6.6	J
Zinc	1500	4	5	0.02	441		378		20	U
Cyanide, total	1100	0.5	0.2	0.01	1.4	U	1.2	U	10	U
%Solids	NA	NA	NA	NA	34.7		43			

Bronx River, Composite E - Dioxin/Furan

Dioxin/Furan	Action Level	NJDEP DL	Action Level	NJDEP DL	Unamended Sediment (Units: ppt)		Amended Sediment (Units: ppt)		SPLP (Units: ppt)	
ASI ID #	Soil		Leachate		20080810		20080818		20080818	
	ng/kg		pg/L		Comp E	Q	A Comp E	Q	A Comp E	Q
2,3,7,8-TCDD	NA	NA	NA	NA	4.13		3.04		9.5	U
1,2,3,7,8-PeCDD	NA	NA	NA	NA	7.31		3.71		48	U
1,2,3,4,7,8-HxCDD	NA	NA	NA	NA	8.26		4.94		48	U
1,2,3,6,7,8-HxCDD	NA	NA	NA	NA	25.68		21.32		48	U
1,2,3,7,8,9-HxCDD	NA	NA	NA	NA	21.68		16.3		48	U
1,2,3,4,6,7,8-HpCDD	NA	NA	NA	NA	490.22		391.85		48	U
OCDD	NA	NA	NA	NA	5311.95		4351.08		95	U
2,3,7,8-TCDF	NA	NA	NA	NA	26.9	#	17.37	#	9.5	U
1,2,3,7,8-PeCDF	NA	NA	NA	NA	10.85		6.28		48	U
2,3,4,7,8-PeCDF	NA	NA	NA	NA	12.93		8.85		48	U
1,2,3,4,7,8-HxCDF	NA	NA	NA	NA	27.47		17.66		48	U
1,2,3,6,7,8-HxCDF	NA	NA	NA	NA	11.24		8.11		48	U
2,3,4,6,7,8-HxCDF	NA	NA	NA	NA	11.64		7.98		48	U
1,2,3,7,8,9-HxCDF	NA	NA	NA	NA	0.84	J	3.17	U	48	U
1,2,3,4,6,7,8-HpCDF	NA	NA	NA	NA	161.34		105.55		48	U
1,2,3,4,7,8,9-HpCDF	NA	NA	NA	NA	7.99	J	6.27	J	48	U
OCDF	NA	NA	NA	NA	293.43		214.42		95	U

Bronx River, Composite F - Sediment Volatiles

Volatiles	Action Level		Action Level		Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080811		20080819		20080819	
STL ID #	ug/kg		ug/L		Comp F	Q	A Comp F	Q	A Comp F	Q
Chloromethane (Methyl Chloride)	520000		30		15	U	12	U	5	U
Bromomethane	79000		10		15	U	12	U	5	U
Vinyl chloride	2000		5		15	U	12	U	5	U
Chloroethane	NA		NA		15	U	12	U	5	U
Methylene chloride (Dichloromethane)	49000		3		3.2	J	4	J	4.6	J
Acetone	1,000,000		700		45	J	480		24	
Carbon disulfide	NA		NA		9	J	19		5	U
1,1-Dichloroethene	8000		2		15	U	12	U	5	U
1,1-Dichloroethane	570000		50		15	U	12	U	5	U
1,2-Dichloroethene (total)	NA		10		30	U	24	U	10	U
Chloroform	19000		6		15	U	12	U	5	U
1,2-Dichloroethane	NA		NA		15	U	12	U	5	U
2-Butanone (MEK)	1000000		300		13	J	55		5	U
1,1,1-Trichloroethane	210000		30		15	U	12	U	5	U
Carbon tetrachloride	2000		2		15	U	12	U	5	U
Bromodichloromethane	11000		1		15	U	12	U	5	U
1,2-Dichloropropane	10000		1		15	U	12	U	5	U
cis-1,3-Dichloropropene	NA		NA		15	U	12	U	5	U
Trichloroethene	23000		1		15	U	12	U	5	U
Dibromochloromethane	110000		10		15	U	12	U	5	U
1,1,2-Trichloroethane	22000		3		15	U	12	U	5	U
Benzene	3000		1		15	U	12	U	5	U
trans-1,3-dichloropropene	NA		NA		15	U	12	U	5	U
Bromoform	86000		4		15	U	12	U	5	U
4-Methyl-2-pentanone (MIBK)	1000000		400		15	U	12	U	5	U
2-Hexanone	NA		NA		15	U	12	U	5	U
Tetrachloroethene	4000		1		15	U	12	U	5	U
1,1,2,2-Tetrachloroethane	NA		NA		15	U	12	U	5	U
Toluene	1000000		1000		15	U	12	U	2.1	J
Chlorobenzene	37000		50		15	U	12	U	5	U
Ethyl benzene	1000000		700		15	U	12	U	5	U
Styrene	23000		100		15	U	12	U	5	U
Xylenes(Total)	410000		1000		46	U	37	U	15	U
Combined 1,3-dichloropropenes (SUM) cis + trans	4000		0.2							

Bronx River, Composite F - Sediment Semivolatiles

Semivolatiles	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080811		20080819		20080819	
	ug/kg	ug/kg	mg/L	mg/L	Comp F	Q	A Comp F	Q	A Comp F	Q
Phenol	10,000,000	660	4	0.01	510	U	160	U	0.0019	U
bis(2-Chloroethyl)ether	660	660	0.01	0.01	510	U	160	U	0.0019	U
2-Chlorophenol	2000	660	0.005	0.01	2500	U	810	U	0.0094	U
1,3-Dichlorobenzene	5100000	660	0.6	0.01	510	U	160	U	0.0019	U
1,4-Dichlorobenzene	570000	660	0.075	0.01	510	U	160	U	0.0019	U
1,2-Dichlorobenzene	5100000	660	0.6	0.01	510	U	160	U	0.0019	U
2-Methylphenol (o-cresol)	2800000	660	NA	0.01	2500	U	810	U	0.0094	U
1-Chloropropane-2,2'-oxybis	2300000	660	0.3	0.01	510	U	160	U	0.0019	U
4-Methylphenol (p-cresol) (co-elutes with 3-methylphenol (m-cresol))	2800000	660	NA	0.01	2500	U	93	J	0.0094	U
N-Nitroso-Di-N-Propylamine	660	660	0.02	0.01	510	U	160	U	0.0019	U
Hexachloroethane	6000	660	0.01	0.01	2500	U	810	U	0.0094	U
Nitrobenzene	28000	660	0.01	0.01	510	U	160	U	0.0019	U
Isophorone	1100000	660	0.1	0.01	2500	U	810	U	0.0094	U
2-Nitrophenol	NA	660	NA	0.01	2500	U	810	U	0.0094	U
2,4-Dimethylphenol	1100000	660	0.1	0.01	2500	U	810	U	0.0094	U
bis(2-Chloroethoxy)methane	NA	660	NA	0.01	2500	U	810	U	0.0094	U
2,4-Dichlorophenol	170000	660	0.02	0.01	510	U	160	U	0.0019	U
1,2,4-Trichlorobenzene	68000	660	0.009	0.01	2500	U	810	U	0.0019	U
Naphthalene	230000	660	0.3	0.01	210	J	110	J	0.0019	U
4-Chloroaniline	230000	1300	NA	0.02	2500	U	150	J	0.0094	U
Hexachloro-1,3-butadiene	NA	660	NA	0.01	510	U	160	U	0.0019	U
4-Chloro-3-methylphenol	10,000,000	1,300	NA	0.02	2500	U	810	U	0.0094	U
2-Methylnaphthalene	NA	660	NA	0.01	170	J	79	J	0.0019	U
Hexachlorocyclopentadiene	400000	660	0.05	0.01	2500	U	810	U	0.0094	U
2,4,6-Trichlorophenol	62000	660	0.02	0.01	2500	U	810	U	0.0094	U
2,4,5-Trichlorophenol	5600000	660	0.7	0.01	2500	U	810	U	0.0094	U
2-Chloronaphthalene	NA	660	NA	0.01	510	U	160	U	0.0019	U
2-Nitroaniline	NA	3300	NA	0.05	13000	U	4200	U	0.047	U
Dimethylphthalate	10,000,000	660	NA	0.01	2500	U	810	U	0.0094	U
Acenaphthylene	NA	660	NA	0.01	320	J	160		0.0019	U
2,6-Dinitrotoluene	1000	660	0.01	0.01	2500	U	810	U	0.0094	U
3-Nitroaniline	NA	3300	NA	0.05	13000	U	4200	U	0.047	U

Bronx River, Composite F - Sediment Semivolatiles, Con't.

Semivolatiles continued	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080811		20080819		20080819	
	ug/kg	ug/kg	mg/L	mg/L	Comp F	Q	A Comp F	Q	A Comp F	
Acenaphthene	3400000	660	0.4	0.01	980		300		0.0019	U
2,4-Dinitrophenol	110000	3300	0.04	0.05	13000	U	4200	U	0.047	U
4-Nitrophenol	NA	3300	NA	0.05	13000	U	4200	U	0.047	U
Dibenzofuran	NA	660	NA	0.01	2500	U	810	U	0.0094	U
2,4-Dinitrotoluene	1000	660	0.01	0.01	2500	U	810	U	0.0094	U
Diethylphthalate	10,000,000	660	5	0.01	2500	U	810	U	0.0094	U
4-Chlorophenyl-phenylether	NA	660	NA	0.01	2500	U	810	U	0.0094	U
Fluorene	2300000	660	0.3	0.01	1900		620		0.0019	U
4-Nitroaniline	NA	660	NA	0.02	6300	U	2000	U	0.019	U
4,6-Dinitro-2-methylphenol	NA	3300	NA	0.05	13000	U	4200	U	0.047	U
N-Nitrosodiphenylamine	140000	660	0.02	0.01	2500	U	810	U	0.0019	U
4-Bromophenyl-phenylether	NA	660	NA	0.01	2500	U	810	U	0.0094	U
Hexachlorobenzene	660	660	0.01	0.01	510	U	160	U	0.0019	U
Pentachlorophenol	6000	3300	0.001	0.05	2500	U	810	U	0.0094	U
Phenanthrene	NA	6600	NA	0.01	740		350		0.0019	U
Anthracene	10000000	6600	2	0.01	1300		470		0.0019	U
Carbazole	NA	330	NA	0.01	350	J	130	J	0.0019	U
Di-n-butylphthalate	5700000	330	0.9	0.01	1000	J	330	J	0.0094	U
Fluoranthene	2300000	660	0.3	0.01	2500		1100		0.0019	U
Pyrene	1700000	660	0.2	0.01	2400		870		0.0019	U
Butylbenzylphthalate	1100000	660	0.1	0.01	1400	J	810	U	0.0094	U
3,3'-Dichlorobenzidine	2000	1300	0.06	0.02	2500	U	810	U	0.0094	U
Benzo(a)anthracene	900	660	NA	0.01	1300		570		0.0019	U
Chrysene	9000	660	NA	0.01	1700		700		0.0019	U
bis(2-Ethylhexyl)phthalate	49000	660	0.03	0.01	6200		2000		0.0019	J
DI-n-octylphthalate	1100000	660	0.1	0.01	2500	U	810	U	0.0094	U
Benzo(b)fluoranthene	900	660	NA	0.01	1800		700		0.0019	U
Benzo(k)fluoranthene	900	660	NA	0.01	500	J	160	U	0.0019	U
Benzo(a)pyrene	660	660	NA	0.01	2000		790		0.0019	U
Indeno(1,2,3-cd)pyrene	900	660	NA	0.01	1400		610		0.0019	U
Dibenzo(a,h))anthracene	660	660	NA	0.01	510	U	280		0.0019	U
Benzo(ghi)perylene	NA	660	NA	0.01	1800		750		0.0019	U
Pyridine					2500	U	810	U	0.0094	U
Total Cresol						U	93	J		U

Bronx River, Composite F - Pesticides/Aroclors

Pesticides/Aroclors	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080811		20080819		20080819	
	ug/kg	ug/kg	mg/L	mg/L	Comp F	Q	A Comp F	Q	A Comp F	
alpha-BHC	NA	1.9	0.00002	0.00005	5.2	U	4.2	U	0.047	U
beta-BHC	NA	3.3	0.0002	0.00005	5.2	U	4.2	U	0.047	U
delta-BHC	NA	1.7	NA	0.00005	6.7	PG	2.8	J PG	0.047	U
gamma-BHC (Lindane)	520	2	0.0002	0.00005	7.3		3.4	J	0.047	U
Heptachlor	150	2.1	0.0004	0.00005	1.7	J PG	0.91	J PG	0.047	U
Aldrin	40	2	0.00004	0.00005	5.2	U	4.2	U	0.047	U
Heptachlor epoxide	NA	2.1	0.0002	0.00005	3.4	J PG	2.7	J PG	0.047	U
Endosulfan I	NA	2.1	0.0004	0.00005	5.2	U	4.2	U	0.047	U
Dieldrin	42	3.3	0.00003	0.0001	6.2	PG	4.2	U	0.047	U
4,4'-DDE	2000	4.2	0.0001	0.0001	21	PG	13		0.047	U
Endrin	17000	3.6	0.002	0.0001	5.2	U	4.2	U	0.047	U
Endosulfan II	NA	3.3	0.0004	0.0001	5.2	U	1.3	J PG	0.047	U
4,4'-DDD	381000	4.2	0.0001	0.0001	23	PG	9.4	PG	0.047	U
Endosulfan sulfate	NA	3.6	0.0004	0.0001	9.9		1.7	J PG	0.047	U
4,4'-DDT	2000	3.6	0.0001	0.0001	5.2	U	9.7	PG	0.025	J
Methoxychlor	280000	17	0.04	0.001	10	U	8.1	U	0.094	U
Endrin ketone	NA	3.3	NA	0.0001	9	PG	3	J PG	0.047	U
Endrin aldehyde	NA	3.3	NA	0.0001	5.2	U	4.2	U	0.047	U
alpha-Chlordane	500	1.7	NA	0.00005	5.2	U	12	PG	0.047	U
gamma-Chlordane	NA	1.7	0.0005	0.00005	5.2	U	4.2	U	0.047	U
Toxaphene	100	170	0.003	0.005	200	U	160	U	1.9	U
Aroclor-1016	NA	33	NA	0.001	51	U	41	U	0.38	U
Aroclor-1221	NA	67	NA	0.002	51	U	41	U	0.38	U
Aroclor-1232	NA	33	NA	0.001	51	U	41	U	0.38	U
Aroclor-1242	NA	33	NA	0.001	51	U	41	U	0.38	U
Aroclor-1248	NA	33	NA	0.001	320		120		0.38	U
Aroclor-1254	NA	33	NA	0.001	470		180		0.38	U
Aroclor-1260	NA	33	NA	0.001	240		94		0.38	U
Total Aroclor(SUM)	490	NA	0.005	NA						

Bronx River, Composite F - Herbicides

Herbicides	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ug/kg)		Amended Sediment (Units: ug/kg)		SPLP Units: mg/L	
	Soil		Leachate		20080811		20080819		20080819	
					Comp F	Q	A Comp F	Q	A Comp F	Q
2,4,5-TP (Silvex)	NA	NA	NA	NA	58	U	48	U	0.96	U
2,4-D	NA	NA	NA	NA	230	U	190	U	3.8	U

Bronx River, Composite F - Metals

Metals	Action Level	NJDEP DL	Action Leve	NJDEP DL	UnameUed Sediment (Units: mg/kg)		AmeUed Sediment (Units: mg/kg)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080811		20080819		20080819	
	mg/kg	mg/kg	mg/L	mg/L	Comp F	Q	A Comp F	Q	A Comp F	Q
Aluminum	NA	40	0.2	0.2	16900		16900		1430	
Antimony	14	12	0.02	0.06	0.54	J	0.4	J	10	U
Arsenic	20	2	0.008	0.01	11.2		9.1		10	U
Barium	700	40	2	0	125		117		39.3	J
Beryllium	1	1	0.02	0.005	0.96		0.87		4	U
Cadmium	1	1	0.004	0.005	3.2		2.5		5	U
Calcium	NA	1000	NA	5	8800		83800		203000	B
Chromium	NA	2	0.1	0.01	113		89.3		5	U
Cobalt	NA	10	NA	0.05	11.1		9.1		1.5	J
Copper	600	5	1	0.025	242		162		25	U
Iron	NA	20	0.3	1	32900		26400		100	U
Lead	400	0.6	0.01	0.003	264		193		3	U
Magnesium	NA	1000	NA	5	10200		9670		26.9	J
Manganese	NA	3	0.05	0.015	435		409		15	U
Mercury	14	0.1	0.002	0.0002	1.7		1.3		0.11	J
Nickel	250	8	0.1	0.04	39.1		30		10.3	J
Potassium	NA	1000	NA	5	4340		4770		42000	
Selenium	63	1	0.05	0.015	1		0.61	U	5	U
Silver	110	2	NA	0.01	6.3		4.9		5	U
Sodium	NA	1000	50	5	14600		11000		224000	
Thallium	2	2	0.01	0.01	1.5	U	1.2	U	4	J
Vanadium	370	10	NA	0.05	51.4		42.4		6.1	J
Zinc	1500	4	5	0.02	442		392		20	U
Cyanide, total	1100	0.5	0.2	0.01	1.5	U	0.27	J	10	U
%Solids	NA	NA	NA	NA	32.9		40.9			

Bronx River, Composite F - Dioxin/Furan

Dioxin/Furan	Action Level	NJDEP DL	Action Level	NJDEP DL	Unamended Sediment (Units: ppt)		Amended Sediment (Units: ppt)		SPLP (Units: ppt)	
ASI ID #	Soil		Leachate		20080811		20080819		20080819	
	ng/kg		pg/L		Comp F	Q	A Comp F	Q	A Comp F	Q
2,3,7,8-TCDD	NA	NA	NA	NA	5.96		3		9.5	U
1,2,3,7,8-PeCDD	NA	NA	NA	NA	6.78		3.24		48	U
1,2,3,4,7,8-HxCDD	NA	NA	NA	NA	8.86		4.82		48	U
1,2,3,6,7,8-HxCDD	NA	NA	NA	NA	28.53		19.26		48	U
1,2,3,7,8,9-HxCDD	NA	NA	NA	NA	22.03		15.33		48	U
1,2,3,4,6,7,8-HpCDD	NA	NA	NA	NA	588.17		364.38		48	U
OCDD	NA	NA	NA	NA	6247.46		4091		95	U
2,3,7,8-TCDF	NA	NA	NA	NA	27.98	#	17.23	#	9.5	U
1,2,3,7,8-PeCDF	NA	NA	NA	NA	11.47		6.54		48	U
2,3,4,7,8-PeCDF	NA	NA	NA	NA	14.07		8.23		48	U
1,2,3,4,7,8-HxCDF	NA	NA	NA	NA	25.73		18.17		48	U
1,2,3,6,7,8-HxCDF	NA	NA	NA	NA	13.64		9.03		48	U
2,3,4,6,7,8-HxCDF	NA	NA	NA	NA	12.05		7.8		48	U
1,2,3,7,8,9-HxCDF	NA	NA	NA	NA	12.3	U	3.13	U	48	U
1,2,3,4,6,7,8-HpCDF	NA	NA	NA	NA	179.49		107.25		48	U
1,2,3,4,7,8,9-HpCDF	NA	NA	NA	NA	10.61	J	5.3	J	48	U
OCDF	NA	NA	NA	NA	351.81		192.21		95	U

Bronx River, Composite G - Sediment Volatiles

Volatiles	Action Level		Action Level		Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080812		20080820		20080820	
STL ID #	ug/kg		ug/L		Comp G	Q	A Comp G	Q	Comp G	Q
Chloromethane (Methyl Chloride)	520000		30		15	U	12	U	10	U
Bromomethane	79000		10		15	U	12	U	10	U
Vinyl chloride	2000		5		15	U	12	U	10	U
Chloroethane	NA		NA		15	U	12	U	10	U
Methylene chloride (Dichloromethane)	49000		3		2.9	J	2.8	J	2.5	J
Acetone	1,000,000		700		27	J	480		290	
Carbon disulfide	NA		NA		15	U	8.4	J	10	U
1,1-Dichloroethene	8000		2		15	U	12	U	10	U
1,1-Dichloroethane	570000		50		15	U	12	U	10	U
1,2-Dichloroethene (total)	NA		10		31	U	24	U	20	U
Chloroform	19000		6		15	U	12	U	10	U
1,2-Dichloroethane	NA		NA		15	U	12	U	10	U
2-Butanone (MEK)	1000000		300		15	U	56		10	U
1,1,1-Trichloroethane	210000		30		15	U	12	U	10	U
Carbon tetrachloride	2000		2		15	U	12	U	10	U
Bromodichloromethane	11000		1		15	U	12	U	10	U
1,2-Dichloropropane	10000		1		15	U	12	U	10	U
cis-1,3-Dichloropropene	NA		NA		15	U	12	U	10	U
Trichloroethene	23000		1		15	U	12	U	10	U
Dibromochloromethane	110000		10		15	U	12	U	10	U
1,1,2-Trichloroethane	22000		3		15	U	12	U	10	U
Benzene	3000		1		15	U	12	U	10	U
trans-1,3-dichloropropene	NA		NA		15	U	12	U	10	U
Bromoform	86000		4		15	U	12	U	10	U
4-Methyl-2-pentanone (MIBK)	1000000		400		15	U	12	U	10	U
2-Hexanone	NA		NA		15	U	12	U	10	U
Tetrachloroethene	4000		1		15	U	12	U	10	U
1,1,2,2-Tetrachloroethane	NA		NA		15	U	12	U	10	U
Toluene	1000000		1000		15	U	12	U	10	U
Chlorobenzene	37000		50		15	U	12	U	10	U
Ethyl benzene	1000000		700		15	U	12	U	10	U
Styrene	23000		100		15	U	12	U	10	U
Xylenes(Total)	410000		1000		46	U	37	U	30	U
Combined 1,3-dichloropropenes (SUM) cis + trans	4000		0.2							

Bronx River, Composite G - Sediment Semivolatiles

Semivolatiles	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080812		20080820		20080820	
	ug/kg	ug/kg	mg/L	mg/L	Comp G	Q	A Comp G	Q	Comp G	Q
Phenol	10,000,000	660	4	0.01	510	U	49	J	0.0019	U
bis(2-Chloroethyl)ether	660	660	0.01	0.01	510	U	160	U	0.0019	U
2-Chlorophenol	2000	660	0.005	0.01	2500	U	810	U	0.0094	U
1,3-Dichlorobenzene	5100000	660	0.6	0.01	510	U	160	U	0.0019	U
1,4-Dichlorobenzene	570000	660	0.075	0.01	510	U	63	J	0.0019	U
1,2-Dichlorobenzene	5100000	660	0.6	0.01	510	U	160	U	0.0019	U
2-Methylphenol (o-cresol)	2800000	660	NA	0.01	2500	U	810	U	0.0094	U
1-Chloropropane-2,2'-oxybis	2300000	660	0.3	0.01	510	U	160	U	0.0019	U
4-Methylphenol (p-cresol) (co-elutes with 3-methylphenol (m-cresol))	2800000	660	NA	0.01	2500	U	85	J	0.0094	U
N-Nitroso-Di-N-Propylamine	660	660	0.02	0.01	510	U	160	U	0.0019	U
Hexachloroethane	6000	660	0.01	0.01	2500	U	810	U	0.0094	U
Nitrobenzene	28000	660	0.01	0.01	510	U	160	U	0.0019	U
Isophorone	1100000	660	0.1	0.01	2500	U	810	U	0.0094	U
2-Nitrophenol	NA	660	NA	0.01	2500	U	810	U	0.0094	U
2,4-Dimethylphenol	1100000	660	0.1	0.01	2500	U	810	U	0.0094	U
bis(2-Chloroethoxy)methane	NA	660	NA	0.01	2500	U	810	U	0.0094	U
2,4-Dichlorophenol	170000	660	0.02	0.01	510	U	160	U	0.0019	U
1,2,4-Trichlorobenzene	68000	660	0.009	0.01	2500	U	810	U	0.0019	U
Naphthalene	230000	660	0.3	0.01	180	J	110	J	0.0019	U
4-Chloroaniline	230000	1300	NA	0.02	2500	U	150	J	0.0094	U
Hexachloro-1,3-butadiene	NA	660	NA	0.01	510	U	160	U	0.0019	U
4-Chloro-3-methylphenol	10,000,000	1,300	NA	0.02	2500	U	810	U	0.0094	U
2-Methylnaphthalene	NA	660	NA	0.01	510	U	91	J	0.0019	U
Hexachlorocyclopentadiene	400000	660	0.05	0.01	2500	U	810	U	0.0094	U
2,4,6-Trichlorophenol	62000	660	0.02	0.01	2500	U	810	U	0.0094	U
2,4,5-Trichlorophenol	5600000	660	0.7	0.01	2500	U	810	U	0.0094	U
2-Chloronaphthalene	NA	660	NA	0.01	510	U	160	U	0.0019	U
2-Nitroaniline	NA	3300	NA	0.05	13000	U	4200	U	0.047	U
Dimethylphthalate	10,000,000	660	NA	0.01	2500	U	810	U	0.0094	U
Acenaphthylene	NA	660	NA	0.01	260	J	200		0.0019	U
2,6-Dinitrotoluene	1000	660	0.01	0.01	2500	U	810	U	0.0094	U
3-Nitroaniline	NA	3300	NA	0.05	13000	U	4200	U	0.047	U

Bronx River, Composite G - Sediment Semivolatiles, Con't.

Semivolatiles continued	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080812		20080820		20080820	
	ug/kg	ug/kg	mg/L	mg/L	Comp G	Q	A Comp G	Q	Comp G	Q
Acenaphthene	3400000	660	0.4	0.01	900		320		0.0019	U
2,4-Dinitrophenol	110000	3300	0.04	0.05	13000	U	4200	U	0.047	U
4-Nitrophenol	NA	3300	NA	0.05	13000	U	4200	U	0.047	U
Dibenzofuran	NA	660	NA	0.01	2500	U	45	J	0.0094	U
2,4-Dinitrotoluene	1000	660	0.01	0.01	2500	U	810	U	0.0094	U
Diethylphthalate	10,000,000	660	5	0.01	2500	U	810	U	0.0094	U
4-Chlorophenyl-phenylether	NA	660	NA	0.01	2500	U	810	U	0.0094	U
Fluorene	2300000	660	0.3	0.01	1900		620		0.0019	U
4-Nitroaniline	NA	660	NA	0.02	6300	U	2000	U	0.019	U
4,6-Dinitro-2-methylphenol	NA	3300	NA	0.05	13000	U	4200	U	0.047	U
N-Nitrosodiphenylamine	140000	660	0.02	0.01	2500	U	810	U	0.0019	U
4-Bromophenyl-phenylether	NA	660	NA	0.01	2500	U	810	U	0.0094	U
Hexachlorobenzene	660	660	0.01	0.01	510	U	160	U	0.0019	U
Pentachlorophenol	6000	3300	0.001	0.05	2500	U	810	U	0.0094	U
Phenanthrene	NA	6600	NA	0.01	820		490		0.0019	U
Anthracene	10000000	6600	2	0.01	1300		530		0.0019	U
Carbazole	NA	330	NA	0.01	390	J	160		0.0019	U
Di-n-butylphthalate	5700000	330	0.9	0.01	1000	J	340	J	0.0094	U
Fluoranthene	2300000	660	0.3	0.01	2900		1800		0.0019	U
Pyrene	1700000	660	0.2	0.01	2700		1300		0.0019	U
Butylbenzylphthalate	1100000	660	0.1	0.01	1400	J	810	U	0.0094	U
3,3'-Dichlorobenzidine	2000	1300	0.06	0.02	2500	U	810	U	0.0094	U
Benzo(a)anthracene	900	660	NA	0.01	1400		850		0.0019	U
Chrysene	9000	660	NA	0.01	1900		970		0.0019	U
bis(2-Ethylhexyl)phthalate	49000	660	0.03	0.01	6800		2900		0.0094	U
DI-n-octylphthalate	1100000	660	0.1	0.01	1800	J	810	U	0.0094	U
Benzo(b)fluoranthene	900	660	NA	0.01	1900		1500		0.0019	U
Benzo(k)fluoranthene	900	660	NA	0.01	510	U	160	U	0.0019	U
Benzo(a)pyrene	660	660	NA	0.01	2100		1100		0.0019	U
Indeno(1,2,3-cd)pyrene	900	660	NA	0.01	1600		790		0.0019	U
Dibenzo(a,h))anthracene	660	660	NA	0.01	690		290		0.0019	U
Benzo(ghi)perylene	NA	660	NA	0.01	1900		1000		0.0019	U
Pyridine					2500	U	810	U	0.0094	U
Total Cresol						U	85	J		U

Bronx River, Composite G - Pesticides/Aroclors

Pesticides/Aroclors	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080812		20080820		20080820	
	ug/kg	ug/kg	mg/L	mg/L	Comp G	Q	A Comp G	Q	Comp G	Q
alpha-BHC	NA	1.9	0.00002	0.00005	5.2	U	4.2	U	0.047	U
beta-BHC	NA	3.3	0.0002	0.00005	5.2	U	4.2	U	0.047	U
delta-BHC	NA	1.7	NA	0.00005	7.1	PG	2.6	J PG	0.047	U
gamma-BHC (Lindane)	520	2	0.0002	0.00005	9.6		4	J	0.047	U
Heptachlor	150	2.1	0.0004	0.00005	3.9	J PG	2.6	J PG	0.047	U
Aldrin	40	2	0.00004	0.00005	2.7	J PG	2.3	J PG	0.047	U
Heptachlor epoxide	NA	2.1	0.0002	0.00005	1.8	J PG	2.2	J PG	0.047	U
Endosulfan I	NA	2.1	0.0004	0.00005	5.2	U	4.2	U	0.047	U
Dieldrin	42	3.3	0.00003	0.0001	6.5	PG	3.6	J PG	0.047	U
4,4'-DDE	2000	4.2	0.0001	0.0001	22	PG	7.4	PG	0.047	U
Endrin	17000	3.6	0.002	0.0001	5.2	U	4.2	U	0.047	U
Endosulfan II	NA	3.3	0.0004	0.0001	5.2	U	1.7	J PG	0.047	U
4,4'-DDD	381000	4.2	0.0001	0.0001	31	PG	8.6	PG	0.047	U
Endosulfan sulfate	NA	3.6	0.0004	0.0001	7.8	PG	1.3	J PG	0.047	U
4,4'-DDT	2000	3.6	0.0001	0.0001	15	PG	6.7	PG	0.047	U
Methoxychlor	280000	17	0.04	0.001	10	U	8.1	U	0.094	U
Endrin ketone	NA	3.3	NA	0.0001	9.1	PG	2.5	J PG	0.047	U
Endrin aldehyde	NA	3.3	NA	0.0001	5.2	U	4.2	U	0.047	U
alpha-Chlordane	500	1.7	NA	0.00005	5.2	U	17	PG	0.047	U
gamma-Chlordane	NA	1.7	0.0005	0.00005	5.2	U	4.2	U	0.047	U
Toxaphene	100	170	0.003	0.005	200	U	160	U	1.9	U
Aroclor-1016	NA	33	NA	0.001	51	U	41	U	0.38	U
Aroclor-1221	NA	67	NA	0.002	51	U	41	U	0.38	U
Aroclor-1232	NA	33	NA	0.001	51	U	41	U	0.38	U
Aroclor-1242	NA	33	NA	0.001	51	U	41	U	0.38	U
Aroclor-1248	NA	33	NA	0.001	380		110		0.38	U
Aroclor-1254	NA	33	NA	0.001	540		150		0.38	U
Aroclor-1260	NA	33	NA	0.001	260		77		0.38	U
Total Aroclor(SUM)	490	NA	0.005	NA						

Bronx River, Composite G - Herbicides

Herbicides	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ug/kg)		Amended Sediment (Units: ug/kg)		SPLP Units: mg/L	
	Soil		Leachate		20080812		20080820		20080820	
					Comp G	Q	A Comp G	Q	Comp G	Q
2,4,5-TP (Silvex)	NA	NA	NA	NA	61	U	46	U	0.96	U
2,4-D	NA	NA	NA	NA	240	U	180	U	3.8	U

Bronx River, Composite G - Metals

Metals	Action Level	NJDEP DL	Action Leve	NJDEP DL	UnameUed Sediment (Units: mg/kg)		AmeUed Sediment (Units: mg/kg)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080812		20080820		20080820	
	mg/kg	mg/kg	mg/L	mg/L	Comp G	Q	A Comp G	Q	Comp G	Q
Aluminum	NA	40	0.2	0.2	17700		16500		1180	
Antimony	14	12	0.02	0.06	0.69	J	0.52	J	10	U
Arsenic	20	2	0.008	0.01	11.1		8.5		10	U
Barium	700	40	2	0	138		118		47.1	J
Beryllium	1	1	0.02	0.005	0.96		0.83		4	U
Cadmium	1	1	0.004	0.005	3.1		2.2		5	U
Calcium	NA	1000	NA	5	8510		73100		249000	B
Chromium	NA	2	0.1	0.01	107		81.7		5	U
Cobalt	NA	10	NA	0.05	12		9.3		1.8	J
Copper	600	5	1	0.025	237		166		25	U
Iron	NA	20	0.3	1	34900		26200		18.8	J
Lead	400	0.6	0.01	0.003	296		208		3	U
Magnesium	NA	1000	NA	5	11500		10100		24.9	J
Manganese	NA	3	0.05	0.015	439		387		15	U
Mercury	14	0.1	0.002	0.0002	1.5		1.1		0.2	U
Nickel	250	8	0.1	0.04	42.1		30.7		6.7	J
Potassium	NA	1000	NA	5	4500		4630		42900	
Selenium	63	1	0.05	0.015	1		0.85		5	U
Silver	110	2	NA	0.01	5.6		4		5	U
Sodium	NA	1000	50	5	16100		12200		254000	
Thallium	2	2	0.01	0.01	1.2	J	1.2	U	10	U
Vanadium	370	10	NA	0.05	54.7		42.1		5.1	J
Zinc	1500	4	5	0.02	547		452		8.9	J
Cyanide, total	1100	0.5	0.2	0.01	1.5	U	1.2	U	10	U
%Solids	NA	NA	NA	NA	32.8		41			

Bronx River, Composite G - Dioxin/Furan

Dioxin/Furan	Action Level	NJDEP DL	Action Level	NJDEP DL	Unamended Sediment (Units: ppt)		Amended Sediment (Units: ppt)		SPLP (Units: ppt)	
ASI ID #	Soil		Leachate		20080812		20080820		20080820	
	ng/kg		pg/L		Comp G	Q	A Comp G	Q	Comp G	Q
2,3,7,8-TCDD	NA	NA	NA	NA	4.6		2.23		9.5	U
1,2,3,7,8-PeCDD	NA	NA	NA	NA	6.91		3.23		48	U
1,2,3,4,7,8-HxCDD	NA	NA	NA	NA	9.36		5.67		48	U
1,2,3,6,7,8-HxCDD	NA	NA	NA	NA	29.74		20.24		48	U
1,2,3,7,8,9-HxCDD	NA	NA	NA	NA	23.95		16.26		2.3	Q J
1,2,3,4,6,7,8-HpCDD	NA	NA	NA	NA	585.87		414.06		2.7	J
OCDD	NA	NA	NA	NA	6403.71		4760.03		8.9	Q B J
2,3,7,8-TCDF	NA	NA	NA	NA	21.32	#	12.68	#	9.5	U
1,2,3,7,8-PeCDF	NA	NA	NA	NA	6.91		5.08		1.5	Q J
2,3,4,7,8-PeCDF	NA	NA	NA	NA	11.9		7.37		1.7	Q J
1,2,3,4,7,8-HxCDF	NA	NA	NA	NA	23.05		15.12		1.8	Q J
1,2,3,6,7,8-HxCDF	NA	NA	NA	NA	10.49		7.87		48	U
2,3,4,6,7,8-HxCDF	NA	NA	NA	NA	10.3	J	6.91		48	U
1,2,3,7,8,9-HxCDF	NA	NA	NA	NA	12.54	U	5.95	U	3.9	Q B J
1,2,3,4,6,7,8-HpCDF	NA	NA	NA	NA	169.13		116.36		2.3	J
1,2,3,4,7,8,9-HpCDF	NA	NA	NA	NA	7.19	J	6.33	J	1.9	Q J
OCDF	NA	NA	NA	NA	351.93		228.96		5.7	Q B J

Bronx River, Composite H - Sediment Volatiles

Volatiles	Action Level		Action Level		Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080813		20080821		20080821	
STL ID #	ug/kg		ug/L		Comp H	Q	A Comp H	Q	Comp H	Q
Chloromethane (Methyl Chloride)	520000		30		14	U	11	U	5	U
Bromomethane	79000		10		14	U	11	U	5	U
Vinyl chloride	2000		5		14	U	11	U	5	U
Chloroethane	NA		NA		14	U	11	U	5	U
Methylene chloride (Dichloromethane)	49000		3		4.9	J	9.3	J	2.2	J
Acetone	1,000,000		700		38	J	550		7.8	J
Carbon disulfide	NA		NA		14	U	7.7	J	5	U
1,1-Dichloroethene	8000		2		14	U	11	U	5	U
1,1-Dichloroethane	570000		50		14	U	11	U	5	U
1,2-Dichloroethene (total)	NA		10		29	U	23	U	10	U
Chloroform	19000		6		14	U	11	U	5	U
1,2-Dichloroethane	NA		NA		14	U	11	U	5	U
2-Butanone (MEK)	1000000		300		14	U	53		5	U
1,1,1-Trichloroethane	210000		30		14	U	11	U	5	U
Carbon tetrachloride	2000		2		14	U	11	U	5	U
Bromodichloromethane	11000		1		14	U	11	U	5	U
1,2-Dichloropropane	10000		1		14	U	11	U	5	U
cis-1,3-Dichloropropene	NA		NA		14	U	11	U	5	U
Trichloroethene	23000		1		14	U	11	U	5	U
Dibromochloromethane	110000		10		14	U	11	U	5	U
1,1,2-Trichloroethane	22000		3		14	U	11	U	5	U
Benzene	3000		1		14	U	11	U	5	U
trans-1,3-dichloropropene	NA		NA		14	U	11	U	5	U
Bromoform	86000		4		14	U	11	U	5	U
4-Methyl-2-pentanone (MIBK)	1000000		400		14	U	11	U	5	U
2-Hexanone	NA		NA		14	U	11	U	5	U
Tetrachloroethene	4000		1		14	U	11	U	5	U
1,1,2,2-Tetrachloroethane	NA		NA		14	U	11	U	5	U
Toluene	1000000		1000		14	U	11	U	5	U
Chlorobenzene	37000		50		14	U	11	U	5	U
Ethyl benzene	1000000		700		14	U	11	U	5	U
Styrene	23000		100		14	U	11	U	5	U
Xylenes(Total)	410000		1000		43	U	34	U	15	U
Combined 1,3-dichloropropenes (SUM) cis + trans	4000		0.2							

Bronx River, Composite H - Sediment Semivolatiles

Semivolatiles	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080813		20080821		20080821	
	ug/kg	ug/kg	mg/L	mg/L	Comp H	Q	A Comp H	Q	Comp H	Q
Phenol	10,000,000	660	4	0.01	480	U	150	U	0.0019	U
bis(2-Chloroethyl)ether	660	660	0.01	0.01	480	U	150	U	0.0019	U
2-Chlorophenol	2000	660	0.005	0.01	2400	U	760	U	0.0094	U
1,3-Dichlorobenzene	5100000	660	0.6	0.01	480	U	150	U	0.0019	U
1,4-Dichlorobenzene	570000	660	0.075	0.01	160	J	64	J	0.0019	U
1,2-Dichlorobenzene	5100000	660	0.6	0.01	480	U	150	U	0.0019	U
2-Methylphenol (o-cresol)	2800000	660	NA	0.01	2400	U	760	U	0.0094	U
1-Chloropropane-2,2'-oxybis	2300000	660	0.3	0.01	480	U	150	U	0.0019	U
4-Methylphenol (p-cresol) (co-elutes with 3-methylphenol (m-cresol))	2800000	660	NA	0.01	180	J	90	J	0.0094	U
N-Nitroso-Di-N-Propylamine	660	660	0.02	0.01	480	U	150	U	0.0019	U
Hexachloroethane	6000	660	0.01	0.01	2400	U	760	U	0.0094	U
Nitrobenzene	28000	660	0.01	0.01	480	U	150	U	0.0019	U
Isophorone	1100000	660	0.1	0.01	2400	U	760	U	0.0094	U
2-Nitrophenol	NA	660	NA	0.01	2400	U	760	U	0.0094	U
2,4-Dimethylphenol	1100000	660	0.1	0.01	2400	U	760	U	0.0094	U
bis(2-Chloroethoxy)methane	NA	660	NA	0.01	2400	U	760	U	0.0094	U
2,4-Dichlorophenol	170000	660	0.02	0.01	480	U	150	U	0.0019	U
1,2,4-Trichlorobenzene	68000	660	0.009	0.01	2400	U	760	U	0.0019	U
Naphthalene	230000	660	0.3	0.01	340	J	210		0.0019	U
4-Chloroaniline	230000	1300	NA	0.02	2400	U	170	J	0.0094	U
Hexachloro-1,3-butadiene	NA	660	NA	0.01	480	U	150	U	0.0019	U
4-Chloro-3-methylphenol	10,000,000	1,300	NA	0.02	2400	U	760	U	0.0094	U
2-Methylnaphthalene	NA	660	NA	0.01	210	J	130	J	0.0019	U
Hexachlorocyclopentadiene	400000	660	0.05	0.01	2400	U	760	U	0.0094	U
2,4,6-Trichlorophenol	62000	660	0.02	0.01	2400	U	760	U	0.0094	U
2,4,5-Trichlorophenol	5600000	660	0.7	0.01	2400	U	760	U	0.0094	U
2-Chloronaphthalene	NA	660	NA	0.01	480	U	150	U	0.0019	U
2-Nitroaniline	NA	3300	NA	0.05	12000	U	3900	U	0.047	U
Dimethylphthalate	10,000,000	660	NA	0.01	2400	U	760	U	0.0094	U
Acenaphthylene	NA	660	NA	0.01	280	J	300		0.0019	U
2,6-Dinitrotoluene	1000	660	0.01	0.01	2400	U	760	U	0.0094	U
3-Nitroaniline	NA	3300	NA	0.05	12000	U	3900	U	0.047	U

Bronx River, Composite H - Sediment Semivolatiles, Con't.

Semivolatiles continued	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: mg/L	
ASI ID #	Soil		Leachate		20080813		20080821		20080821	
	ug/kg	ug/kg	mg/L	mg/L	Comp H	Q	A Comp H	Q	Comp H	Q
Acenaphthene	3400000	660	0.4	0.01	1100		150	U	0.0019	U
2,4-Dinitrophenol	110000	3300	0.04	0.05	12000	U	3900	U	0.047	U
4-Nitrophenol	NA	3300	NA	0.05	12000	U	3900	U	0.047	U
Dibenzofuran	NA	660	NA	0.01	230	J	94	J	0.0094	U
2,4-Dinitrotoluene	1000	660	0.01	0.01	2400	U	760	U	0.0094	U
Diethylphthalate	10,000,000	660	5	0.01	2400	U	760	U	0.0094	U
4-Chlorophenyl-phenylether	NA	660	NA	0.01	2400	U	760	U	0.0094	U
Fluorene	2300000	660	0.3	0.01	2000		680		0.0019	U
4-Nitroaniline	NA	660	NA	0.02	6000	U	1900	U	0.019	U
4,6-Dinitro-2-methylphenol	NA	3300	NA	0.05	12000	U	3900	U	0.047	U
N-Nitrosodiphenylamine	140000	660	0.02	0.01	2400	U	760	U	0.0019	U
4-Bromophenyl-phenylether	NA	660	NA	0.01	2400	U	760	U	0.0094	U
Hexachlorobenzene	660	660	0.01	0.01	480	U	150	U	0.0019	U
Pentachlorophenol	6000	3300	0.001	0.05	2400	U	760	U	0.0094	U
Phenanthrene	NA	6600	NA	0.01	3100		1100		0.0019	U
Anthracene	10000000	6600	2	0.01	1800		610		0.0019	U
Carbazole	NA	330	NA	0.01	590		180		0.0019	U
Di-n-butylphthalate	5700000	330	0.9	0.01	970	J	320	J	0.0094	U
Fluoranthene	2300000	660	0.3	0.01	5300		2600		0.0019	U
Pyrene	1700000	660	0.2	0.01	5000		1600		0.0019	U
Butylbenzylphthalate	1100000	660	0.1	0.01	2400	U	480	J	0.0094	U
3,3'-Dichlorobenzidine	2000	1300	0.06	0.02	2400	U	760	U	0.0094	U
Benzo(a)anthracene	900	660	NA	0.01	2700		1200		0.0019	U
Chrysene	9000	660	NA	0.01	3100		1200		0.0019	U
bis(2-Ethylhexyl)phthalate	49000	660	0.03	0.01	8500		3000		0.0013	J
DI-n-octylphthalate	1100000	660	0.1	0.01	2400	U	560	J	0.0094	U
Benzo(b)fluoranthene	900	660	NA	0.01	2800		1700		0.0019	U
Benzo(k)fluoranthene	900	660	NA	0.01	1600		150	U	0.0019	U
Benzo(a)pyrene	660	660	NA	0.01	3000		1200		0.0019	U
Indeno(1,2,3-cd)pyrene	900	660	NA	0.01	2100		880		0.0019	U
Dibenzo(a,h))anthracene	660	660	NA	0.01	800		300		0.0019	U
Benzo(ghi)perylene	NA	660	NA	0.01	2500		1100		0.0019	U
Pyridine					2400	U	760	U	0.0094	U
Total Cresol						U	90	J		U

Bronx River, Composite H - Pesticides/Aroclors

Pesticides/Aroclors	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ppb)		Amended Sediment (Units: ppb)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080813		20080821		20080821	
	ug/kg	ug/kg	mg/L	mg/L	Comp H	Q	A Comp H	Q	Comp H	Q
alpha-BHC	NA	1.9	0.00002	0.00005	4.9	U	3.9	U	0.047	U
beta-BHC	NA	3.3	0.0002	0.00005	4.9	U	3.9	U	0.047	U
delta-BHC	NA	1.7	NA	0.00005	20	PG	29		0.047	U
gamma-BHC (Lindane)	520	2	0.0002	0.00005	11	PG	73		0.047	U
Heptachlor	150	2.1	0.0004	0.00005	13	PG	16	PG	0.047	U
Aldrin	40	2	0.00004	0.00005	4.9	U	3.9	U	0.047	U
Heptachlor epoxide	NA	2.1	0.0002	0.00005	9.2	PG	8.7	PG	0.047	U
Endosulfan I	NA	2.1	0.0004	0.00005	4.9	U	3.9	U	0.047	U
Dieldrin	42	3.3	0.00003	0.0001	9.6	PG	3.9	U	0.047	U
4,4'-DDE	2000	4.2	0.0001	0.0001	31	PG	25		0.047	U
Endrin	17000	3.6	0.002	0.0001	4.9	U	3.9	U	0.047	U
Endosulfan II	NA	3.3	0.0004	0.0001	4.9	U	1.8	J PG	0.047	U
4,4'-DDD	381000	4.2	0.0001	0.0001	38	PG	33	PG	0.047	U
Endosulfan sulfate	NA	3.6	0.0004	0.0001	17		10		0.047	U
4,4'-DDT	2000	3.6	0.0001	0.0001	4.9	U	22	PG	0.047	U
Methoxychlor	280000	17	0.04	0.001	9.5	U	7.6	U	0.094	U
Endrin ketone	NA	3.3	NA	0.0001	10	PG	7.8	PG	0.047	U
Endrin aldehyde	NA	3.3	NA	0.0001	4.9	U	3.9	U	0.047	U
alpha-Chlordane	500	1.7	NA	0.00005	4.9	U	28	PG	0.047	U
gamma-Chlordane	NA	1.7	0.0005	0.00005	4.9	U	3.9	U	0.047	U
Toxaphene	100	170	0.003	0.005	190	U	150	U	1.9	U
Aroclor-1016	NA	33	NA	0.001	48	U	38	U	0.38	U
Aroclor-1221	NA	67	NA	0.002	48	U	38	U	0.38	U
Aroclor-1232	NA	33	NA	0.001	48	U	38	U	0.38	U
Aroclor-1242	NA	33	NA	0.001	48	U	38	U	0.38	U
Aroclor-1248	NA	33	NA	0.001	820		430		0.38	U
Aroclor-1254	NA	33	NA	0.001	710		410		0.38	U
Aroclor-1260	NA	33	NA	0.001	380		200		0.38	U
Total Aroclor(SUM)	490	NA	0.005	NA						

Bronx River, Composite H - Herbicides

Herbicides	Action Level	NJDEP DL	Action Leve	NJDEP DL	Unamended Sediment (Units: ug/kg)		Amended Sediment (Units: ug/kg)		SPLP Units: mg/L	
	Soil		Leachate		20080813		20080821		20080821	
					Comp H	Q	A Comp H	Q	Comp H	Q
2,4,5-TP (Silvex)	NA	NA	NA	NA	47	U	43	U	0.95	U
2,4-D	NA	NA	NA	NA	190	U	170	U	3.8	U

Bronx River, Composite H - Metals

Metals	Action Level	NJDEP DL	Action Leve	NJDEP DL	UnameUed Sediment (Units: mg/kg)		AmeUed Sediment (Units: mg/kg)		SPLP Units: ug/L	
ASI ID #	Soil		Leachate		20080813		20080821		20080821	
	mg/kg	mg/kg	mg/L	mg/L	Comp H	Q	A Comp H	Q	Comp H	Q
Aluminum	NA	40	0.2	0.2	14000		12200		1460	
Antimony	14	12	0.02	0.06	1.5		2.9		10	U
Arsenic	20	2	0.008	0.01	11.1		10.2		10	U
Barium	700	40	2	0	189		123		92.8	J
Beryllium	1	1	0.02	0.005	0.75		0.56		4	U
Cadmium	1	1	0.004	0.005	4.6		4.1		5	U
Calcium	NA	1000	NA	5	9100		81800		293000	B
Chromium	NA	2	0.1	0.01	109		78.7		5	U
Cobalt	NA	10	NA	0.05	10.1		8.1		0.84	J
Copper	600	5	1	0.025	246		135		25	U
Iron	NA	20	0.3	1	33000		100000		19.7	J
Lead	400	0.6	0.01	0.003	466		313		3	U
Magnesium	NA	1000	NA	5	10500		10000		22.4	J
Manganese	NA	3	0.05	0.015	356		476		15	U
Mercury	14	0.1	0.002	0.0002	1.6		0.81		0.2	U
Nickel	250	8	0.1	0.04	43.2		29.2		7.9	J
Potassium	NA	1000	NA	5	3420		3880		44600	
Selenium	63	1	0.05	0.015	1.1		1.1	U	5	U
Silver	110	2	NA	0.01	4.6		2.8		0.64	J
Sodium	NA	1000	50	5	13500		11200		229000	
Thallium	2	2	0.01	0.01	1.4	U	2.3	U	10	U
Vanadium	370	10	NA	0.05	50.3		35.5		1.8	J
Zinc	1500	4	5	0.02	865		526		20	U
Cyanide, total	1100	0.5	0.2	0.01	0.4	J	1.1	U	10	U
%Solids	NA	NA	NA	NA	34.7		43.6			

Bronx River, Composite H - Dioxin/Furan

Dioxin/Furan	Action Level	NJDEP DL	Action Level	NJDEP DL	Unamended Sediment (Units: ppt)		Amended Sediment (Units: ppt)		SPLP (Units: ppt)	
ASI ID #	Soil		Leachate		20080813		20080821		20080821	
	ng/kg		pg/L		Comp H	Q	A Comp H	Q	Comp H	Q
2,3,7,8-TCDD	NA	NA	NA	NA	3.53		3.22		9.5	U
1,2,3,7,8-PeCDD	NA	NA	NA	NA	6.58		5.32		48	U
1,2,3,4,7,8-HxCDD	NA	NA	NA	NA	9.75		7.87		48	U
1,2,3,6,7,8-HxCDD	NA	NA	NA	NA	34.72		25.75		48	U
1,2,3,7,8,9-HxCDD	NA	NA	NA	NA	26.43		20.15		48	U
1,2,3,4,6,7,8-HpCDD	NA	NA	NA	NA	743.28		587.06		48	U
OCDD	NA	NA	NA	NA	7591.02		6956.91		95	U
2,3,7,8-TCDF	NA	NA	NA	NA	19.51	#	15.4	#	9.5	U
1,2,3,7,8-PeCDF	NA	NA	NA	NA	8.53		7.78		48	U
2,3,4,7,8-PeCDF	NA	NA	NA	NA	13.62		10.62		48	U
1,2,3,4,7,8-HxCDF	NA	NA	NA	NA	33.5		25.42		48	U
1,2,3,6,7,8-HxCDF	NA	NA	NA	NA	18.12		12.2		48	U
2,3,4,6,7,8-HxCDF	NA	NA	NA	NA	14.34		10.06		48	U
1,2,3,7,8,9-HxCDF	NA	NA	NA	NA	6.24	U	5.96	U	48	U
1,2,3,4,6,7,8-HpCDF	NA	NA	NA	NA	276.61		170.86		4.6	Q J
1,2,3,4,7,8,9-HpCDF	NA	NA	NA	NA	15.27	J	9.03	J	48	U
OCDF	NA	NA	NA	NA	535.71		365.6		95	U

Bronx River, Composite A

Bronx River, Composite A - Sediment Volatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080806	20080814
	Comp A	A Comp A
Chloromethane (Methyl Chloride)	2.3	1.9
Bromomethane	2	1.7
Vinyl chloride	1.3	1.1
Chloroethane	4.2	3.5
Methylene chloride (Dichloromethane)	1.8	1.5
Acetone	14	11
Carbon disulfide	1.4	1.2
1,1-Dichloroethene	2.3	1.9
1,1-Dichloroethane	1.6	1.3
1,2-Dichloroethene (total)	3.5	2.9
Chloroform	1.6	1.3
1,2-Dichloroethane	1.7	1.4
2-Butanone (MEK)	2.4	2
1,1,1-Trichloroethane	1.3	1.1
Carbon tetrachloride	1.2	1
Bromodichloromethane	1.5	1.3
1,2-Dichloropropane	1.5	1.2
cis-1,3-Dichloropropene	1.8	1.5
Trichloroethene	1.8	1.5
Dibromochloromethane	1.9	1.6
1,1,2-Trichloroethane	2.3	1.9
Benzene	1.8	1.5
trans-1,3-dichloropropene	1.6	1.3
Bromoform	1.2	1
4-Methyl-2-pentanone (MIBK)	1.8	1.5
2-Hexanone	1.9	1.6
Tetrachloroethene	1.8	1.5
1,1,2,2-Tetrachloroethane	2	1.6
Toluene	2	1.6
Chlorobenzene	2.1	1.7
Ethyl benzene	1.7	1.4
Styrene	1.4	1.2
Xylenes(Total)	6.1	5
Combined 1,3-dichloropropenes (SUM) cis + trans		

	MDL SPLP Units: ug/L
	20080814
	A Comp A
Chloromethane (Methyl Chloride) - SPLP	0.87
Bromomethane - SPLP	0.75
Vinyl chloride - SPLP	0.94
Chloroethane - SPLP	1.2
Methylene chloride (Dichloromethane) - SPLP	0.75
Acetone - SPLP	0.83
Carbon disulfide - SPLP	1.1
1,1-Dichloroethene - SPLP	0.87
1,1-Dichloroethane - SPLP	1
1,2-Dichloroethene (total) - SPLP	1.9
Chloroform - SPLP	0.78
1,2-Dichloroethane - SPLP	0.64
2-Butanone (MEK) - SPLP	0.73
1,1,1-Trichloroethane - SPLP	0.79
Carbon tetrachloride - SPLP	0.91
Bromodichloromethane - SPLP	0.58
1,2-Dichloropropane - SPLP	0.67
cis-1,3-Dichloropropene - SPLP	0.79
Trichloroethene - SPLP	0.88
Dibromochloromethane - SPLP	0.5
1,1,2-Trichloroethane - SPLP	0.79
Benzene - SPLP	0.81
trans-1,3-dichloropropene - SPLP	0.57
Bromoform - SPLP	0.37
4-Methyl-2-pentanone (MIBK) - SPLP	0.46
2-Hexanone - SPLP	0.45
Tetrachloroethene - SPLP	0.57
1,1,2,2-Tetrachloroethane - SPLP	0.63
Toluene - SPLP	0.8
Chlorobenzene - SPLP	0.71
Ethyl benzene - SPLP	0.58
Styrene - SPLP	0.8
Xylenes(Total) - SPLP	2.4
Combined 1,3-dichloropropenes (SUM) cis + trans	

Bronx River, Composite A - Sediment Semivolatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080806	20080814
	Comp A	A Comp A
Phenol	140	45
bis(2-Chloroethyl) ether	51	17
2-Chlorophenol	110	38
1,3-Dichlorobenzene	83	28
1,4-Dichlorobenzene	86	29
1,2-Dichlorobenzene	130	42
2-Methylphenol	140	47
2,2'-oxybis(1-Chloropropane)	140	45
4-Methylphenol	140	47
N-Nitrosodi-n-propylamine	55	18
Hexachloroethane	100	33
Nitrobenzene	56	19
Isophorone	130	42
2-Nitrophenol	180	59
2,4-Dimethylphenol	97	32
bis(2-Chloroethoxy)methane	100	35
2,4-Dichlorophenol	67	22
1,2,4-Trichlorobenzene	110	36
Naphthalene	110	36
4-Chloroaniline	190	64
Hexachlorobenzene	140	46
4-Chloro-3-methylphenol	140	45
2-Methylnaphthalene	120	41
Hexachlorocyclopentadiene	100	34
2,4,6-Trichlorophenol	180	60
2,4,5-Trichlorophenol	190	62
2-Chloronaphthalene	130	43
2-Nitroaniline	140	45
Dimethyl phthalate	130	42
Acenaphthylene	130	43
2,6-Dinitrotoluene	140	48
3-Nitroaniline	190	64

	MDL SPLP Units: mg/L
	20080814
	A Comp A
Phenol-SPLP	0.00021
bis(2-Chloroethyl) ether-SPLP	0.00044
2-Chlorophenol-SPLP	0.00043
1,3-Dichlorobenzene-SPLP	0.00035
1,4-Dichlorobenzene-SPLP	0.00046
1,2-Dichlorobenzene-SPLP	0.0003
2-Methylphenol-SPLP	0.00049
2,2'-oxybis(1-Chloropropane)-SPLP	0.00025
4-Methylphenol-SPLP	0.0007
N-Nitrosodi-n-propylamine-SPLP	0.00056
Hexachloroethane-SPLP	0.00041
Nitrobenzene-SPLP	0.00061
Isophorone-SPLP	0.00045
2-Nitrophenol-SPLP	0.00051
2,4-Dimethylphenol-SPLP	0.00049
bis(2-Chloroethoxy)methane-SPLP	0.0012
2,4-Dichlorophenol-SPLP	0.00046
1,2,4-Trichlorobenzene-SPLP	0.00038
Naphthalene-SPLP	0.00041
4-Chloroaniline-SPLP	0.00044
Hexachlorobenzene-SPLP	0.00036
4-Chloro-3-methylphenol-SPLP	0.00056
2-Methylnaphthalene-SPLP	0.00044
Hexachlorocyclopentadiene-SPLP	0.00016
2,4,6-Trichlorophenol-SPLP	0.00054
2,4,5-Trichlorophenol-SPLP	0.00059
2-Chloronaphthalene-SPLP	0.00042
2-Nitroaniline-SPLP	0.00045
Dimethyl phthalate-SPLP	0.0004
Acenaphthylene-SPLP	0.00044
2,6-Dinitrotoluene-SPLP	0.00048
3-Nitroaniline-SPLP	0.00038

Bronx River, Composite A - Sediment Semivolatiles, Con't.

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080806	20080814
	Comp A	A Comp A
Acenaphthene	120	39
2,4-Dinitrophenol	2700	880
4-Nitrophenol	180	58
Dibenzofuran	120	41
2,4-Dinitrotoluene	120	39
Diethyl phthalate	200	67
4-Chlorophenyl phenyl ether	110	37
Fluorene	110	36
4-Nitroaniline	95	31
4,6-Dinitro-2-methylphenol	1600	530
N-Nitrosodiphenylamine	120	40
4-Bromophenyl phenyl ether	100	33
Hexachlorobutadiene	140	45
Pentachlorophenol	170	56
Phenanthrene	110	36
Anthracene	130	42
Carbazole	92	31
Di-n-butyl phthalate	370	120
Fluoranthene	150	48
Pyrene	140	46
Butyl benzyl phthalate	180	60
3,3'-Dichlorobenzidine	510	170
Benzo(a)anthracene	89	30
Chrysene	89	30
bis(2-Ethylhexyl) phthalate	170	57
Di-n-octyl phthalate	160	52
Benzo(b)fluoranthene	87	29
Benzo(k)fluoranthene	72	24
Benzo(a)pyrene	69	23
Indeno(1,2,3-cd)pyrene	80	26
Dibenz(a,h)anthracene	140	47
Benzo(ghi)perylene	77	25
Pyridine	84	28

	MDL SPLP Units: mg/L
	20080814
	A Comp A
Acenaphthene-SPLP	0.0005
2,4-Dinitrophenol-SPLP	0.012
4-Nitrophenol-SPLP	0.00067
Dibenzofuran-SPLP	0.00051
2,4-Dinitrotoluene-SPLP	0.00043
Diethyl phthalate-SPLP	0.0023
4-Chlorophenyl phenyl ether-SPLP	0.0004
Fluorene-SPLP	0.00051
4-Nitroaniline-SPLP	0.00024
4,6-Dinitro-2-methylphenol-SPLP	0.013
N-Nitrosodiphenylamine-SPLP	0.00046
4-Bromophenyl phenyl ether-SPLP	0.00047
Hexachlorobutadiene-SPLP	0.00041
Pentachlorophenol-SPLP	0.00079
Phenanthrene-SPLP	0.00052
Anthracene-SPLP	0.00048
Carbazole-SPLP	0.0005
Di-n-butyl phthalate-SPLP	0.00044
Fluoranthene-SPLP	0.00047
Pyrene-SPLP	0.00054
Butyl benzyl phthalate-SPLP	0.0013
3,3'-Dichlorobenzidine-SPLP	0.00039
Benzo(a)anthracene-SPLP	0.00039
Chrysene-SPLP	0.00034
bis(2-Ethylhexyl) phthalate-SPLP	0.0011
Di-n-octyl phthalate-SPLP	0.00041
Benzo(b)fluoranthene-SPLP	0.0003
Benzo(k)fluoranthene-SPLP	0.00037
Benzo(a)pyrene-SPLP	0.00042
Indeno(1,2,3-cd)pyrene-SPLP	0.00045
Dibenz(a,h)anthracene-SPLP	0.00033
Benzo(ghi)perylene-SPLP	0.00026
Pyridine	0.00067

Bronx River, Composite A - Sediment Pesticides/Aroclor

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080806	20080814
	Comp A	A Comp A
alpha-BHC	0.69	0.57
beta-BHC	0.53	0.44
delta-BHC	0.48	0.4
gamma-BHC (Lindane)	0.63	0.52
Heptachlor	0.58	0.48
Aldrin	0.48	0.4
Heptachlor epoxide	0.45	0.38
Endosulfan I	0.47	0.39
Dieldrin	0.34	0.28
4,4'-DDE	0.27	0.23
Endrin	0.36	0.3
Endosulfan II	1	0.86
4,4'-DDD	0.4	0.33
Endosulfan sulfate	0.73	0.61
4,4'-DDT	0.62	0.51
Methoxychlor	1.9	1.6
Endrin ketone	0.53	0.44
Endrin aldehyde	0.57	0.48
alpha-Chlordane	0.28	0.23
gamma-Chlordane	0.46	0.38
Toxaphene	31	26
Aroclor 1016	6.7	5.6
Aroclor 1221	8.6	7.2
Aroclor 1232	7.8	6.4
Aroclor 1242	7.4	6.1
Aroclor 1248	4.3	3.5
Aroclor 1254	6.4	5.3
Aroclor 1260	6.4	5.3

	MDL SPLP Units: ug/L
	20080814
	A Comp A
alpha-BHC-SPLP	0.014
beta-BHC-SPLP	0.014
delta-BHC-SPLP	0.0089
gamma-BHC (Lindane)-SPLP	0.014
Heptachlor-SPLP	0.013
Aldrin-SPLP	0.01
Heptachlor epoxide-SPLP	0.0093
Endosulfan I-SPLP	0.007
Dieldrin-SPLP	0.0075
4,4'-DDE-SPLP	0.0064
Endrin-SPLP	0.0072
Endosulfan II-SPLP	0.014
4,4'-DDD-SPLP	0.0073
Endosulfan sulfate-SPLP	0.015
4,4'-DDT-SPLP	0.013
Methoxychlor-SPLP	0.017
Endrin ketone-SPLP	0.0094
Endrin aldehyde-SPLP	0.011
alpha-Chlordane-SPLP	0.011
gamma-Chlordane-SPLP	0.0071
Toxaphene-SPLP	0.39
Aroclor 1016-SPLP	0.095
Aroclor 1221-SPLP	0.094
Aroclor 1232-SPLP	0.11
Aroclor 1242-SPLP	0.07
Aroclor 1248-SPLP	0.085
Aroclor 1254-SPLP	0.086
Aroclor 1260-SPLP	0.051

Bronx River, Composite A - Herbicides

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080806	20080814
	Comp A	A Comp A
2,4,5-TP (Silvex)	7.5	4.1
2,4-D	61	33

	MDL SPLP Units: ug/L
	20080814
	A Comp A
2,4,5-TP (Silvex)	0.13
2,4-D	0.51

Bronx River, Composite A - Metals

	MDL Unamended Sediment (Units: ppm)	MDL Amended Sediment (Units: ppm)
	20080806	20080814
	Comp A	A Comp A
Aluminum	1.9	1.6
Antimony	0.12	0.1
Arsenic	0.31	0.26
Barium	0.049	0.041
Beryllium	0.042	0.035
Cadmium	0.064	0.053
Calcium	34.1	28.3
Chromium	0.11	0.092
Cobalt	0.058	0.048
Copper	0.19	0.16
Iron	4.1	3.4
Lead	0.21	0.18
Magnesium	1.8	1.5
Manganese	0.036	0.03
Mercury	0.0096	0.008
Nickel	0.14	0.12
Potassium	67.9	56.3
Selenium	0.39	0.32
Silver	0.05	0.042
Sodium	18.9	15.7
Thallium	0.44	0.36
Vanadium	0.35	0.29
Zinc	0.47	0.39
Cyanide, Total	0.26	0.22

	MDL SPLP Units: ug/L
	20080814
	A Comp A
Aluminum-SPLP	8.2
Antimony-SPLP	2.9
Arsenic-SPLP	2.2
Barium-SPLP	0.1
Beryllium-SPLP	0.32
Cadmium-SPLP	0.23
Calcium-SPLP	10.2
Chromium-SPLP	1.2
Cobalt-SPLP	0.7
Copper-SPLP	0.72
Iron-SPLP	15.8
Lead-SPLP	2.4
Magnesium-SPLP	5.1
Manganese-SPLP	0.32
Mercury-SPLP	0.055
Nickel-SPLP	1.1
Potassium-SPLP	500
Selenium-SPLP	2.5
Silver-SPLP	0.59
Sodium-SPLP	271
Thallium-SPLP	3.1
Vanadium-SPLP	1
Zinc-SPLP	1.3
DI Leachable Cyanide	1.7

Bronx River, Composite A - Dioxin/Furan

	EDL Unamended Sediment (Units: ng/Kg)	EDL Amended Sediment (Units: ng/Kg)
	20080806	20080814
	Comp A	A Comp A
2,3,7,8-TCDD	0.49	0.47
1,2,3,7,8-PeCDD	0.9	1.19
1,2,3,4,7,8-HxCDD	0.81	0.62
1,2,3,6,7,8-HxCDD	0.96	0.74
1,2,3,7,8,9-HxCDD	0.81	0.62
1,2,3,4,6,7,8-HpCDD	24.82	18.86
OCDD	9	6.89
2,3,7,8-TCDF	12.41	6.69
1,2,3,7,8-PeCDF	1.38	1.14
2,3,4,7,8-PeCDF	1.42	1.18
1,2,3,4,7,8-HxCDF	3.08	1.69
1,2,3,6,7,8-HxCDF	3.17	1.69
2,3,4,6,7,8-HxCDF	3.29	1.73
1,2,3,7,8,9-HxCDF	3.96	2.03
1,2,3,4,6,7,8-HpCDF	8.3	3.55
1,2,3,4,7,8,9-HpCDF	10.59	4.46
OCDF	1.11	1.18

	EDL SPLP (Units: pg/L)
	20080814
	A Comp A
2,3,7,8-TCDD	3.6
1,2,3,7,8-PeCDD	1.7
1,2,3,4,7,8-HxCDD	1.3
1,2,3,6,7,8-HxCDD	1.4
1,2,3,7,8,9-HxCDD	1.2
1,2,3,4,6,7,8-HpCDD	1.9
OCDD	2.2
2,3,7,8-TCDF	2.1
1,2,3,7,8-PeCDF	1.2
2,3,4,7,8-PeCDF	1.1
1,2,3,4,7,8-HxCDF	0.71
1,2,3,6,7,8-HxCDF	0.75
2,3,4,6,7,8-HxCDF	0.83
1,2,3,7,8,9-HxCDF	1
1,2,3,4,6,7,8-HpCDF	1
1,2,3,4,7,8,9-HpCDF	1.5
OCDF	2

Bronx River, Composite B

Bronx River, Composite B - Sediment Volatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080807	20080815
	Comp B	A Comp B
Chloromethane (Methyl Chloride)	1.9	1.8
Bromomethane	1.6	1.6
Vinyl chloride	1	1
Chloroethane	3.4	3.4
Methylene chloride (Dichloromethane)	1.5	1.5
Acetone	11	11
Carbon disulfide	1.1	1.1
1,1-Dichloroethene	1.9	1.8
1,1-Dichloroethane	1.3	1.2
1,2-Dichloroethene (total)	2.8	2.8
Chloroform	1.3	1.3
1,2-Dichloroethane	1.4	1.3
2-Butanone (MEK)	2	1.9
1,1,1-Trichloroethane	1.1	1.1
Carbon tetrachloride	0.99	0.97
Bromodichloromethane	1.2	1.2
1,2-Dichloropropane	1.2	1.2
cis-1,3-Dichloropropene	1.5	1.5
Trichloroethene	1.5	1.4
Dibromochloromethane	1.6	1.5
1,1,2-Trichloroethane	1.8	1.8
Benzene	1.5	1.5
trans-1,3-dichloropropene	1.3	1.3
Bromoform	0.98	0.96
4-Methyl-2-pentanone (MIBK)	1.4	1.4
2-Hexanone	1.5	1.5
Tetrachloroethene	1.5	1.5
1,1,2,2-Tetrachloroethane	1.6	1.6
Toluene	1.6	1.6
Chlorobenzene	1.7	1.6
Ethyl benzene	1.4	1.4
Styrene	1.2	1.2
Xylenes(Total)	5	4.9
Combined 1,3-dichloropropenes (SUM) cis + trans		

	MDL SPLP Units: ug/L
	20080815
	A Comp B
Chloromethane (Methyl Chloride) - SPLP	0.87
Bromomethane - SPLP	0.75
Vinyl chloride - SPLP	0.94
Chloroethane - SPLP	1.2
Methylene chloride (Dichloromethane) - SPLP	0.75
Acetone - SPLP	0.83
Carbon disulfide - SPLP	1.1
1,1-Dichloroethene - SPLP	0.87
1,1-Dichloroethane - SPLP	1
1,2-Dichloroethene (total) - SPLP	1.9
Chloroform - SPLP	0.78
1,2-Dichloroethane - SPLP	0.64
2-Butanone (MEK) - SPLP	0.73
1,1,1-Trichloroethane - SPLP	0.79
Carbon tetrachloride - SPLP	0.91
Bromodichloromethane - SPLP	0.58
1,2-Dichloropropane - SPLP	0.67
cis-1,3-Dichloropropene - SPLP	0.79
Trichloroethene - SPLP	0.88
Dibromochloromethane - SPLP	0.5
1,1,2-Trichloroethane - SPLP	0.79
Benzene - SPLP	0.81
trans-1,3-dichloropropene - SPLP	0.57
Bromoform - SPLP	0.37
4-Methyl-2-pentanone (MIBK) - SPLP	0.46
2-Hexanone - SPLP	0.45
Tetrachloroethene - SPLP	0.57
1,1,2,2-Tetrachloroethane - SPLP	0.63
Toluene - SPLP	0.8
Chlorobenzene - SPLP	0.71
Ethyl benzene - SPLP	0.58
Styrene - SPLP	0.8
Xylenes(Total) - SPLP	2.4
Combined 1,3-dichloropropenes (SUM) cis + trans	

Bronx River, Composite B - Sediment Semivolatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080807	20080815
	Comp B	A Comp B
Phenol	110	43
bis(2-Chloroethyl) ether	41	16
2-Chlorophenol	92	36
1,3-Dichlorobenzene	68	27
1,4-Dichlorobenzene	70	28
1,2-Dichlorobenzene	100	40
2-Methylphenol	110	45
2,2'-oxybis(1-Chloropropane)	110	43
4-Methylphenol	120	45
N-Nitrosodi-n-propylamine	45	18
Hexachloroethane	82	32
Nitrobenzene	46	18
Isophorone	100	40
2-Nitrophenol	150	57
2,4-Dimethylphenol	79	31
bis(2-Chloroethoxy)methane	86	34
2,4-Dichlorophenol	55	21
1,2,4-Trichlorobenzene	89	35
Naphthalene	89	35
4-Chloroaniline	160	62
Hexachlorobenzene	110	44
4-Chloro-3-methylphenol	110	44
2-Methylnaphthalene	100	40
Hexachlorocyclopentadiene	84	33
2,4,6-Trichlorophenol	150	58
2,4,5-Trichlorophenol	150	59
2-Chloronaphthalene	110	42
2-Nitroaniline	110	43
Dimethyl phthalate	100	41
Acenaphthylene	110	42
2,6-Dinitrotoluene	120	46
3-Nitroaniline	160	62

	MDL SPLP Units: mg/L
	20080815
	A Comp B
Phenol-SPLP	0.00021
bis(2-Chloroethyl) ether-SPLP	0.00044
2-Chlorophenol-SPLP	0.00043
1,3-Dichlorobenzene-SPLP	0.00035
1,4-Dichlorobenzene-SPLP	0.00046
1,2-Dichlorobenzene-SPLP	0.0003
2-Methylphenol-SPLP	0.00049
2,2'-oxybis(1-Chloropropane)-SPLP	0.00025
4-Methylphenol-SPLP	0.0007
N-Nitrosodi-n-propylamine-SPLP	0.00056
Hexachloroethane-SPLP	0.00041
Nitrobenzene-SPLP	0.00061
Isophorone-SPLP	0.00045
2-Nitrophenol-SPLP	0.00051
2,4-Dimethylphenol-SPLP	0.00049
bis(2-Chloroethoxy)methane-SPLP	0.0012
2,4-Dichlorophenol-SPLP	0.00046
1,2,4-Trichlorobenzene-SPLP	0.00038
Naphthalene-SPLP	0.00041
4-Chloroaniline-SPLP	0.00044
Hexachlorobenzene-SPLP	0.00036
4-Chloro-3-methylphenol-SPLP	0.00056
2-Methylnaphthalene-SPLP	0.00044
Hexachlorocyclopentadiene-SPLP	0.00016
2,4,6-Trichlorophenol-SPLP	0.00054
2,4,5-Trichlorophenol-SPLP	0.00059
2-Chloronaphthalene-SPLP	0.00042
2-Nitroaniline-SPLP	0.00045
Dimethyl phthalate-SPLP	0.0004
Acenaphthylene-SPLP	0.00044
2,6-Dinitrotoluene-SPLP	0.00048
3-Nitroaniline-SPLP	0.00038

Bronx River, Composite B - Sediment Semivolatiles, Con't.

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080807	20080815
	Comp B	A Comp B
Acenaphthene	96	37
2,4-Dinitrophenol	2200	850
4-Nitrophenol	140	56
Dibenzofuran	100	40
2,4-Dinitrotoluene	95	37
Diethyl phthalate	160	64
4-Chlorophenyl phenyl ether	91	36
Fluorene	89	35
4-Nitroaniline	77	30
4,6-Dinitro-2-methylphenol	1300	510
N-Nitrosodiphenylamine	100	39
4-Bromophenyl phenyl ether	82	32
Hexachlorobutadiene	110	43
Pentachlorophenol	140	54
Phenanthrene	88	34
Anthracene	100	41
Carbazole	75	29
Di-n-butyl phthalate	300	120
Fluoranthene	120	46
Pyrene	110	44
Butyl benzyl phthalate	150	58
3,3'-Dichlorobenzidine	410	160
Benzo(a)anthracene	73	28
Chrysene	73	28
bis(2-Ethylhexyl) phthalate	140	55
Di-n-octyl phthalate	130	50
Benzo(b)fluoranthene	71	28
Benzo(k)fluoranthene	59	23
Benzo(a)pyrene	57	22
Indeno(1,2,3-cd)pyrene	65	26
Dibenz(a,h)anthracene	120	46
Benzo(ghi)perylene	62	24
Pyridine	69	27

	MDL SPLP Units: mg/L
	20080815
	A Comp B
Acenaphthene-SPLP	0.0005
2,4-Dinitrophenol-SPLP	0.012
4-Nitrophenol-SPLP	0.00067
Dibenzofuran-SPLP	0.00051
2,4-Dinitrotoluene-SPLP	0.00043
Diethyl phthalate-SPLP	0.0023
4-Chlorophenyl phenyl ether-SPLP	0.0004
Fluorene-SPLP	0.00051
4-Nitroaniline-SPLP	0.00024
4,6-Dinitro-2-methylphenol-SPLP	0.013
N-Nitrosodiphenylamine-SPLP	0.00046
4-Bromophenyl phenyl ether-SPLP	0.00047
Hexachlorobutadiene-SPLP	0.00041
Pentachlorophenol-SPLP	0.00079
Phenanthrene-SPLP	0.00052
Anthracene-SPLP	0.00048
Carbazole-SPLP	0.0005
Di-n-butyl phthalate-SPLP	0.00044
Fluoranthene-SPLP	0.00047
Pyrene-SPLP	0.00054
Butyl benzyl phthalate-SPLP	0.0013
3,3'-Dichlorobenzidine-SPLP	0.00039
Benzo(a)anthracene-SPLP	0.00039
Chrysene-SPLP	0.00034
bis(2-Ethylhexyl) phthalate-SPLP	0.0011
Di-n-octyl phthalate-SPLP	0.00041
Benzo(b)fluoranthene-SPLP	0.0003
Benzo(k)fluoranthene-SPLP	0.00037
Benzo(a)pyrene-SPLP	0.00042
Indeno(1,2,3-cd)pyrene-SPLP	0.00045
Dibenz(a,h)anthracene-SPLP	0.00033
Benzo(ghi)perylene-SPLP	0.00026
Pyridine	0.00067

Bronx River, Composite B - Sediment Pesticides/Aroclor

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080807	20080815
	Comp B	A Comp B
alpha-BHC	0.56	0.55
beta-BHC	0.43	0.42
delta-BHC	0.39	0.38
gamma-BHC (Lindane)	0.51	0.5
Heptachlor	0.47	0.46
Aldrin	0.39	0.38
Heptachlor epoxide	0.37	0.36
Endosulfan I	0.39	0.37
Dieldrin	0.27	0.27
4,4'-DDE	0.22	0.22
Endrin	0.3	0.29
Endosulfan II	0.85	0.82
4,4'-DDD	0.33	0.32
Endosulfan sulfate	0.6	0.58
4,4'-DDT	0.51	0.49
Methoxychlor	1.5	1.5
Endrin ketone	0.43	0.42
Endrin aldehyde	0.47	0.45
alpha-Chlordane	0.23	0.22
gamma-Chlordane	0.38	0.37
Toxaphene	26	25
Aroclor 1016	5.5	5.3
Aroclor 1221	7	6.8
Aroclor 1232	6.3	6.1
Aroclor 1242	6	5.8
Aroclor 1248	3.5	3.4
Aroclor 1254	5.3	5.1
Aroclor 1260	5.3	5.1

	MDL SPLP Units: ug/L
	20080815
	A Comp B
alpha-BHC-SPLP	0.014
beta-BHC-SPLP	0.014
delta-BHC-SPLP	0.0089
gamma-BHC (Lindane)-SPLP	0.014
Heptachlor-SPLP	0.013
Aldrin-SPLP	0.01
Heptachlor epoxide-SPLP	0.0093
Endosulfan I-SPLP	0.007
Dieldrin-SPLP	0.0075
4,4'-DDE-SPLP	0.0064
Endrin-SPLP	0.0072
Endosulfan II-SPLP	0.014
4,4'-DDD-SPLP	0.0073
Endosulfan sulfate-SPLP	0.015
4,4'-DDT-SPLP	0.013
Methoxychlor-SPLP	0.017
Endrin ketone-SPLP	0.0094
Endrin aldehyde-SPLP	0.011
alpha-Chlordane-SPLP	0.011
gamma-Chlordane-SPLP	0.0071
Toxaphene-SPLP	0.39
Aroclor 1016-SPLP	0.095
Aroclor 1221-SPLP	0.094
Aroclor 1232-SPLP	0.11
Aroclor 1242-SPLP	0.07
Aroclor 1248-SPLP	0.085
Aroclor 1254-SPLP	0.086
Aroclor 1260-SPLP	0.051

Bronx River, Composite A - Herbicides

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080807	20080815
	Comp B	A Comp B
2,4,5-TP (Silvex)	7.3	5.2
2,4-D	59	42

	MDL SPLP Units: ug/L
	20080815
	A Comp B
2,4,5-TP (Silvex)	0.13
2,4-D	0.5

Bronx River, Composite B - Metals

	MDL Unamended Sediment (Units: ppm)	MDL Amended Sediment (Units: ppm)
	20080807	20080815
	Comp B	A Comp B
Aluminum	1.6	1.5
Antimony	0.1	0.1
Arsenic	0.25	0.25
Barium	0.04	0.039
Beryllium	0.034	0.033
Cadmium	0.052	0.051
Calcium	27.9	27.3
Chromium	0.091	0.089
Cobalt	0.048	0.047
Copper	0.16	0.15
Iron	3.3	3.3
Lead	0.17	0.17
Magnesium	1.4	1.4
Manganese	0.03	0.029
Mercury	0.0079	0.0077
Nickel	0.12	0.11
Potassium	55.4	54.2
Selenium	0.32	0.31
Silver	0.041	0.04
Sodium	15.5	15.1
Thallium	0.36	0.35
Vanadium	0.29	0.28
Zinc	0.38	0.38
Cyanide, Total	0.21	0.21
Percent Solids		

	MDL SPLP Units: ug/L
	20080815
	A Comp B
Aluminum-SPLP	8.2
Antimony-SPLP	2.9
Arsenic-SPLP	2.2
Barium-SPLP	0.1
Beryllium-SPLP	0.32
Cadmium-SPLP	0.23
Calcium-SPLP	10.2
Chromium-SPLP	1.2
Cobalt-SPLP	0.7
Copper-SPLP	0.72
Iron-SPLP	15.8
Lead-SPLP	2.4
Magnesium-SPLP	5.1
Manganese-SPLP	0.32
Mercury-SPLP	0.055
Nickel-SPLP	1.1
Potassium-SPLP	500
Selenium-SPLP	2.5
Silver-SPLP	0.59
Sodium-SPLP	271
Thallium-SPLP	3.1
Vanadium-SPLP	1
Zinc-SPLP	1.3
DI Leachable Cyanide	1.7

Bronx River, Composite B - Dioxin/Furan

	EDL Unamended Sediment (Units: ng/Kg)	EDL Amended Sediment (Units: ng/Kg)
	20080807	20080815
	Comp B	A Comp B
2,3,7,8-TCDD	0.46	0.24
1,2,3,7,8-PeCDD	1.27	0.83
1,2,3,4,7,8-HxCDD	1.41	0.29
1,2,3,6,7,8-HxCDD	1.64	0.35
1,2,3,7,8,9-HxCDD	1.4	0.29
1,2,3,4,6,7,8-HpCDD	18.54	21.24
OCDD	8.91	10.06
2,3,7,8-TCDF	4.12	3.93
1,2,3,7,8-PeCDF	2.07	1.25
2,3,4,7,8-PeCDF	2.14	1.26
1,2,3,4,7,8-HxCDF	5.08	1.07
1,2,3,6,7,8-HxCDF	4.95	1.13
2,3,4,6,7,8-HxCDF	5.19	1.17
1,2,3,7,8,9-HxCDF	6.14	1.36
1,2,3,4,6,7,8-HpCDF	7.6	3.58
1,2,3,4,7,8,9-HpCDF	9.55	4.6
OCDF	2.03	0.82

	EDL SPLP (Units: pg/L)
	20080815
	A Comp B
2,3,7,8-TCDD	3.3
1,2,3,7,8-PeCDD	1.9
1,2,3,4,7,8-HxCDD	2.3
1,2,3,6,7,8-HxCDD	2.9
1,2,3,7,8,9-HxCDD	2.4
1,2,3,4,6,7,8-HpCDD	7.8
OCDD	16
2,3,7,8-TCDF	3.7
1,2,3,7,8-PeCDF	1.6
2,3,4,7,8-PeCDF	1.1
1,2,3,4,7,8-HxCDF	1
1,2,3,6,7,8-HxCDF	1.1
2,3,4,6,7,8-HxCDF	1.4
1,2,3,7,8,9-HxCDF	3
1,2,3,4,6,7,8-HpCDF	2.6
1,2,3,4,7,8,9-HpCDF	7
OCDF	18

Bronx River, Composite C

Bronx River, Composite C - Sediment Volatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080808	20080816
	Comp C	A Comp C
Chloromethane (Methyl Chloride)	2.4	1.9
Bromomethane	2	1.7
Vinyl chloride	1.3	1.1
Chloroethane	4.3	3.5
Methylene chloride (Dichloromethane)	1.9	1.5
Acetone	14	11
Carbon disulfide	1.4	1.2
1,1-Dichloroethene	2.3	1.9
1,1-Dichloroethane	1.6	1.3
1,2-Dichloroethene (total)	3.5	2.9
Chloroform	1.6	1.3
1,2-Dichloroethane	1.7	1.4
2-Butanone (MEK)	2.4	2
1,1,1-Trichloroethane	1.3	1.1
Carbon tetrachloride	1.2	1
Bromodichloromethane	1.6	1.3
1,2-Dichloropropane	1.5	1.2
cis-1,3-Dichloropropene	1.9	1.5
Trichloroethene	1.8	1.5
Dibromochloromethane	2	1.6
1,1,2-Trichloroethane	2.3	1.9
Benzene	1.9	1.5
trans-1,3-dichloropropene	1.7	1.4
Bromoform	1.2	1
4-Methyl-2-pentanone (MIBK)	1.8	1.5
2-Hexanone	1.9	1.6
Tetrachloroethene	1.9	1.5
1,1,2,2-Tetrachloroethane	2	1.6
Toluene	2	1.7
Chlorobenzene	2.1	1.7
Ethyl benzene	1.8	1.5
Styrene	1.5	1.2
Xylenes(Total)	6.2	5.1
Combined 1,3-dichloropropenes (SUM) cis + trans		

	MDL SPLP Units: ug/L
	20080816
	A Comp C
Chloromethane (Methyl Chloride) - SPLP	0.87
Bromomethane - SPLP	0.75
Vinyl chloride - SPLP	0.94
Chloroethane - SPLP	1.2
Methylene chloride (Dichloromethane) - SPLP	0.75
Acetone - SPLP	0.83
Carbon disulfide - SPLP	1.1
1,1-Dichloroethene - SPLP	0.87
1,1-Dichloroethane - SPLP	1
1,2-Dichloroethene (total) - SPLP	1.9
Chloroform - SPLP	0.78
1,2-Dichloroethane - SPLP	0.64
2-Butanone (MEK) - SPLP	0.73
1,1,1-Trichloroethane - SPLP	0.79
Carbon tetrachloride - SPLP	0.91
Bromodichloromethane - SPLP	0.58
1,2-Dichloropropane - SPLP	0.67
cis-1,3-Dichloropropene - SPLP	0.79
Trichloroethene - SPLP	0.88
Dibromochloromethane - SPLP	0.5
1,1,2-Trichloroethane - SPLP	0.79
Benzene - SPLP	0.81
trans-1,3-dichloropropene - SPLP	0.57
Bromoform - SPLP	0.37
4-Methyl-2-pentanone (MIBK) - SPLP	0.46
2-Hexanone - SPLP	0.45
Tetrachloroethene - SPLP	0.57
1,1,2,2-Tetrachloroethane - SPLP	0.63
Toluene - SPLP	0.8
Chlorobenzene - SPLP	0.71
Ethyl benzene - SPLP	0.58
Styrene - SPLP	0.8
Xylenes(Total) - SPLP	2.4
Combined 1,3-dichloropropenes (SUM) cis + trans	

Bronx River, Composite C - Sediment Semivolatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080808	20080816
	Comp C	A Comp C
Phenol	140	45
bis(2-Chloroethyl) ether	51	17
2-Chlorophenol	110	38
1,3-Dichlorobenzene	84	28
1,4-Dichlorobenzene	87	29
1,2-Dichlorobenzene	130	42
2-Methylphenol	140	47
2,2'-oxybis(1-Chloropropane)	140	45
4-Methylphenol	140	47
N-Nitrosodi-n-propylamine	56	18
Hexachloroethane	100	33
Nitrobenzene	57	19
Isophorone	130	42
2-Nitrophenol	180	59
2,4-Dimethylphenol	98	32
bis(2-Chloroethoxy)methane	110	35
2,4-Dichlorophenol	68	22
1,2,4-Trichlorobenzene	110	36
Naphthalene	110	36
4-Chloroaniline	200	64
Hexachlorobenzene	140	46
4-Chloro-3-methylphenol	140	46
2-Methylnaphthalene	130	41
Hexachlorocyclopentadiene	100	34
2,4,6-Trichlorophenol	180	60
2,4,5-Trichlorophenol	190	62
2-Chloronaphthalene	130	43
2-Nitroaniline	140	45
Dimethyl phthalate	130	42
Acenaphthylene	130	43
2,6-Dinitrotoluene	150	48
3-Nitroaniline	190	64

	MDL SPLP Units: mg/L
	20080816
	A Comp C
Phenol-SPLP	0.00021
bis(2-Chloroethyl) ether-SPLP	0.00043
2-Chlorophenol-SPLP	0.00043
1,3-Dichlorobenzene-SPLP	0.00035
1,4-Dichlorobenzene-SPLP	0.00045
1,2-Dichlorobenzene-SPLP	0.0003
2-Methylphenol-SPLP	0.00048
2,2'-oxybis(1-Chloropropane)-SPLP	0.00024
4-Methylphenol-SPLP	0.00069
N-Nitrosodi-n-propylamine-SPLP	0.00056
Hexachloroethane-SPLP	0.00041
Nitrobenzene-SPLP	0.0006
Isophorone-SPLP	0.00045
2-Nitrophenol-SPLP	0.00051
2,4-Dimethylphenol-SPLP	0.00049
bis(2-Chloroethoxy)methane-SPLP	0.0011
2,4-Dichlorophenol-SPLP	0.00046
1,2,4-Trichlorobenzene-SPLP	0.00037
Naphthalene-SPLP	0.0004
4-Chloroaniline-SPLP	0.00043
Hexachlorobenzene-SPLP	0.00035
4-Chloro-3-methylphenol-SPLP	0.00055
2-Methylnaphthalene-SPLP	0.00044
Hexachlorocyclopentadiene-SPLP	0.00016
2,4,6-Trichlorophenol-SPLP	0.00053
2,4,5-Trichlorophenol-SPLP	0.00059
2-Chloronaphthalene-SPLP	0.00042
2-Nitroaniline-SPLP	0.00045
Dimethyl phthalate-SPLP	0.0004
Acenaphthylene-SPLP	0.00043
2,6-Dinitrotoluene-SPLP	0.00048
3-Nitroaniline-SPLP	0.00038

Bronx River, Composite C - Sediment Semivolatiles, Con't.

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080808	20080816
	Comp C	A Comp C
Acenaphthene	120	39
2,4-Dinitrophenol	2700	880
4-Nitrophenol	180	58
Dibenzofuran	130	41
2,4-Dinitrotoluene	120	39
Diethyl phthalate	200	67
4-Chlorophenyl phenyl ether	110	37
Fluorene	110	36
4-Nitroaniline	95	31
4,6-Dinitro-2-methylphenol	1600	530
N-Nitrosodiphenylamine	120	40
4-Bromophenyl phenyl ether	100	34
Hexachlorobutadiene	140	45
Pentachlorophenol	170	56
Phenanthrene	110	36
Anthracene	130	42
Carbazole	93	31
Di-n-butyl phthalate	380	120
Fluoranthene	150	48
Pyrene	140	46
Butyl benzyl phthalate	180	60
3,3'-Dichlorobenzidine	510	170
Benzo(a)anthracene	90	30
Chrysene	90	30
bis(2-Ethylhexyl) phthalate	170	57
Di-n-octyl phthalate	160	52
Benzo(b)fluoranthene	87	29
Benzo(k)fluoranthene	73	24
Benzo(a)pyrene	70	23
Indeno(1,2,3-cd)pyrene	81	27
Dibenz(a,h)anthracene	140	47
Benzo(ghi)perylene	77	25
Pyridine	85	28

	MDL SPLP Units: mg/L
	20080816
	A Comp C
Acenaphthene-SPLP	0.00049
2,4-Dinitrophenol-SPLP	0.012
4-Nitrophenol-SPLP	0.00066
Dibenzofuran-SPLP	0.0005
2,4-Dinitrotoluene-SPLP	0.00042
Diethyl phthalate-SPLP	0.0023
4-Chlorophenyl phenyl ether-SPLP	0.0004
Fluorene-SPLP	0.00051
4-Nitroaniline-SPLP	0.00024
4,6-Dinitro-2-methylphenol-SPLP	0.013
N-Nitrosodiphenylamine-SPLP	0.00046
4-Bromophenyl phenyl ether-SPLP	0.00047
Hexachlorobutadiene-SPLP	0.00041
Pentachlorophenol-SPLP	0.00078
Phenanthrene-SPLP	0.00052
Anthracene-SPLP	0.00048
Carbazole-SPLP	0.00049
Di-n-butyl phthalate-SPLP	0.00044
Fluoranthene-SPLP	0.00047
Pyrene-SPLP	0.00053
Butyl benzyl phthalate-SPLP	0.0013
3,3'-Dichlorobenzidine-SPLP	0.00039
Benzo(a)anthracene-SPLP	0.00039
Chrysene-SPLP	0.00033
bis(2-Ethylhexyl) phthalate-SPLP	0.0011
Di-n-octyl phthalate-SPLP	0.0004
Benzo(b)fluoranthene-SPLP	0.00029
Benzo(k)fluoranthene-SPLP	0.00037
Benzo(a)pyrene-SPLP	0.00041
Indeno(1,2,3-cd)pyrene-SPLP	0.00045
Dibenz(a,h)anthracene-SPLP	0.00033
Benzo(ghi)perylene-SPLP	0.00026
Pyridine	0.00067

Bronx River, Composite C - Sediment Pesticides/Aroclor

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080808	20080816
	Comp C	A Comp C
alpha-BHC	0.7	0.58
beta-BHC	0.54	0.45
delta-BHC	0.48	0.4
gamma-BHC (Lindane)	0.63	0.53
Heptachlor	0.58	0.48
Aldrin	0.48	0.4
Heptachlor epoxide	0.46	0.38
Endosulfan I	0.48	0.4
Dieldrin	0.34	0.28
4,4'-DDE	0.27	0.23
Endrin	0.36	0.3
Endosulfan II	1.1	0.87
4,4'-DDD	0.41	0.34
Endosulfan sulfate	0.74	0.62
4,4'-DDT	0.62	0.52
Methoxychlor	1.9	1.6
Endrin ketone	0.53	0.44
Endrin aldehyde	0.58	0.48
alpha-Chlordane	0.28	0.24
gamma-Chlordane	0.47	0.39
Toxaphene	32	26
Aroclor 1016	6.8	5.6
Aroclor 1221	8.7	7.2
Aroclor 1232	7.8	6.5
Aroclor 1242	7.4	6.2
Aroclor 1248	4.3	3.6
Aroclor 1254	6.5	5.4
Aroclor 1260	6.5	5.4

	MDL SPLP Units: ug/L
	20080816
	A Comp C
alpha-BHC-SPLP	0.014
beta-BHC-SPLP	0.014
delta-BHC-SPLP	0.0089
gamma-BHC (Lindane)-SPLP	0.014
Heptachlor-SPLP	0.013
Aldrin-SPLP	0.01
Heptachlor epoxide-SPLP	0.0093
Endosulfan I-SPLP	0.007
Dieldrin-SPLP	0.0075
4,4'-DDE-SPLP	0.0064
Endrin-SPLP	0.0072
Endosulfan II-SPLP	0.014
4,4'-DDD-SPLP	0.0073
Endosulfan sulfate-SPLP	0.015
4,4'-DDT-SPLP	0.013
Methoxychlor-SPLP	0.017
Endrin ketone-SPLP	0.0094
Endrin aldehyde-SPLP	0.011
alpha-Chlordane-SPLP	0.011
gamma-Chlordane-SPLP	0.0071
Toxaphene-SPLP	0.39
Aroclor 1016-SPLP	0.095
Aroclor 1221-SPLP	0.094
Aroclor 1232-SPLP	0.11
Aroclor 1242-SPLP	0.07
Aroclor 1248-SPLP	0.085
Aroclor 1254-SPLP	0.086
Aroclor 1260-SPLP	0.051

Bronx River, Composite A - Herbicides

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080808	20080816
	Comp C	A Comp C
2,4,5-TP (Silvex)	7	5.3
2,4-D	57	43

	MDL SPLP Units: ug/L
	20080816
	A Comp C
2,4,5-TP (Silvex)	0.13
2,4-D	0.5

Bronx River, Composite C - Metals

	MDL Unamended Sediment (Units: ppm)	MDL Amended Sediment (Units: ppm)
	20080808	20080816
	Comp C	A Comp C
Aluminum	2	1.6
Antimony	0.13	0.1
Arsenic	0.32	0.26
Barium	0.05	0.041
Beryllium	0.043	0.035
Cadmium	0.065	0.053
Calcium	34.7	28.6
Chromium	0.11	0.093
Cobalt	0.059	0.049
Copper	0.19	0.16
Iron	4.1	3.4
Lead	0.22	0.18
Magnesium	1.8	1.5
Manganese	0.037	0.031
Mercury	0.0098	0.0081
Nickel	0.14	0.12
Potassium	69.1	56.9
Selenium	0.4	0.33
Silver	0.051	0.042
Sodium	19.3	15.9
Thallium	0.44	0.37
Vanadium	0.36	0.29
Zinc	0.48	0.39
Cyanide, Total	0.26	0.22
Percent Solids		

	MDL SPLP Units: ug/L
	20080816
	A Comp C
Aluminum-SPLP	8.2
Antimony-SPLP	2.9
Arsenic-SPLP	2.2
Barium-SPLP	0.1
Beryllium-SPLP	0.32
Cadmium-SPLP	0.23
Calcium-SPLP	10.2
Chromium-SPLP	1.2
Cobalt-SPLP	0.7
Copper-SPLP	0.72
Iron-SPLP	15.8
Lead-SPLP	2.4
Magnesium-SPLP	5.1
Manganese-SPLP	0.32
Mercury-SPLP	0.055
Nickel-SPLP	1.1
Potassium-SPLP	500
Selenium-SPLP	2.5
Silver-SPLP	0.59
Sodium-SPLP	271
Thallium-SPLP	3.1
Vanadium-SPLP	1
Zinc-SPLP	1.3
DI Leachable Cyanide	1.7

Bronx River, Composite C - Dioxin/Furan

	EDL Unamended Sediment (Units: ng/kg)	EDL Amended Sediment (Units: ng/kg)
	20080808	20080816
	Comp C	A Comp C
2,3,7,8-TCDD	0.71	0.52
1,2,3,7,8-PeCDD	1.25	0.96
1,2,3,4,7,8-HxCDD	0.93	0.57
1,2,3,6,7,8-HxCDD	1.08	0.67
1,2,3,7,8,9-HxCDD	0.93	0.57
1,2,3,4,6,7,8-HpCDD	22.31	19.16
OCDD	7.05	5.88
2,3,7,8-TCDF	1.048	2.8
1,2,3,7,8-PeCDF	1.82	1.04
2,3,4,7,8-PeCDF	1.85	1.03
1,2,3,4,7,8-HxCDF	5.17	0.49
1,2,3,6,7,8-HxCDF	5.3	0.49
2,3,4,6,7,8-HxCDF	5.59	0.48
1,2,3,7,8,9-HxCDF	6.38	0.56
1,2,3,4,6,7,8-HpCDF	12.27	5.25
1,2,3,4,7,8,9-HpCDF	15.52	7.01
OCDF	1.05	1.99

	EDL SPLP (Units: pg/L)
	20080816
	A Comp C
2,3,7,8-TCDD	6.2
1,2,3,7,8-PeCDD	2.8
1,2,3,4,7,8-HxCDD	1.5
1,2,3,6,7,8-HxCDD	1.6
1,2,3,7,8,9-HxCDD	1.5
1,2,3,4,6,7,8-HpCDD	3.2
OCDD	5.1
2,3,7,8-TCDF	2.7
1,2,3,7,8-PeCDF	1.7
2,3,4,7,8-PeCDF	1.3
1,2,3,4,7,8-HxCDF	0.72
1,2,3,6,7,8-HxCDF	0.72
2,3,4,6,7,8-HxCDF	1.2
1,2,3,7,8,9-HxCDF	3.1
1,2,3,4,6,7,8-HpCDF	1.1
1,2,3,4,7,8,9-HpCDF	3.1
OCDF	4.9

Bronx River, Composite D

Bronx River, Composite D - Sediment Volatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080809	20080817
	Comp D	A Comp D
Chloromethane (Methyl Chloride)	2.3	1.9
Bromomethane	2	1.7
Vinyl chloride	1.2	1
Chloroethane	4.1	3.5
Methylene chloride (Dichloromethane)	1.8	1.5
Acetone	13	11
Carbon disulfide	1.4	1.1
1,1-Dichloroethene	2.3	1.9
1,1-Dichloroethane	1.5	1.3
1,2-Dichloroethene (total)	3.4	2.9
Chloroform	1.6	1.3
1,2-Dichloroethane	1.6	1.4
2-Butanone (MEK)	2.3	2
1,1,1-Trichloroethane	1.3	1.1
Carbon tetrachloride	1.2	1
Bromodichloromethane	1.5	1.3
1,2-Dichloropropane	1.4	1.2
cis-1,3-Dichloropropene	1.8	1.5
Trichloroethene	1.7	1.5
Dibromochloromethane	1.9	1.6
1,1,2-Trichloroethane	2.2	1.9
Benzene	1.8	1.5
trans-1,3-dichloropropene	1.6	1.3
Bromoform	1.2	0.99
4-Methyl-2-pentanone (MIBK)	1.7	1.5
2-Hexanone	1.8	1.5
Tetrachloroethene	1.8	1.5
1,1,2,2-Tetrachloroethane	1.9	1.6
Toluene	1.9	1.6
Chlorobenzene	2	1.7
Ethyl benzene	1.7	1.4
Styrene	1.4	1.2
Xylenes(Total)	6	5
Combined 1,3-dichloropropenes (SUM) cis + trans		

	MDL SPLP Units: ug/L
	20080817
	A Comp D
Chloromethane (Methyl Chloride) - SPLP	0.87
Bromomethane - SPLP	0.75
Vinyl chloride - SPLP	0.94
Chloroethane - SPLP	1.2
Methylene chloride (Dichloromethane) - SPLP	0.75
Acetone - SPLP	0.83
Carbon disulfide - SPLP	1.1
1,1-Dichloroethene - SPLP	0.87
1,1-Dichloroethane - SPLP	1
1,2-Dichloroethene (total) - SPLP	1.9
Chloroform - SPLP	0.78
1,2-Dichloroethane - SPLP	0.64
2-Butanone (MEK) - SPLP	0.73
1,1,1-Trichloroethane - SPLP	0.79
Carbon tetrachloride - SPLP	0.91
Bromodichloromethane - SPLP	0.58
1,2-Dichloropropane - SPLP	0.67
cis-1,3-Dichloropropene - SPLP	0.79
Trichloroethene - SPLP	0.88
Dibromochloromethane - SPLP	0.5
1,1,2-Trichloroethane - SPLP	0.79
Benzene - SPLP	0.81
trans-1,3-dichloropropene - SPLP	0.57
Bromoform - SPLP	0.37
4-Methyl-2-pentanone (MIBK) - SPLP	0.46
2-Hexanone - SPLP	0.45
Tetrachloroethene - SPLP	0.57
1,1,2,2-Tetrachloroethane - SPLP	0.63
Toluene - SPLP	0.8
Chlorobenzene - SPLP	0.71
Ethyl benzene - SPLP	0.58
Styrene - SPLP	0.8
Xylenes(Total) - SPLP	2.4
Combined 1,3-dichloropropenes (SUM) cis + trans	

Bronx River, Composite D - Sediment Semivolatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080809	20080817
	Comp D	A Comp D
Phenol	130	45
bis(2-Chloroethyl) ether	50	17
2-Chlorophenol	110	37
1,3-Dichlorobenzene	82	27
1,4-Dichlorobenzene	84	28
1,2-Dichlorobenzene	120	42
2-Methylphenol	140	46
2,2'-oxybis(1-Chloropropane)	130	44
4-Methylphenol	140	46
N-Nitrosodi-n-propylamine	54	18
Hexachloroethane	99	33
Nitrobenzene	55	18
Isophorone	120	41
2-Nitrophenol	180	59
2,4-Dimethylphenol	95	32
bis(2-Chloroethoxy)methane	100	35
2,4-Dichlorophenol	66	22
1,2,4-Trichlorobenzene	110	36
Naphthalene	110	36
4-Chloroaniline	190	64
Hexachlorobenzene	130	45
4-Chloro-3-methylphenol	130	45
2-Methylnaphthalene	120	41
Hexachlorocyclopentadiene	100	34
2,4,6-Trichlorophenol	180	60
2,4,5-Trichlorophenol	180	61
2-Chloronaphthalene	130	43
2-Nitroaniline	130	45
Dimethyl phthalate	120	42
Acenaphthylene	130	43
2,6-Dinitrotoluene	140	48
3-Nitroaniline	190	64

	MDL SPLP Units: mg/L
	20080817
	A Comp D
Phenol-SPLP	0.00021
bis(2-Chloroethyl) ether-SPLP	0.00043
2-Chlorophenol-SPLP	0.00043
1,3-Dichlorobenzene-SPLP	0.00035
1,4-Dichlorobenzene-SPLP	0.00045
1,2-Dichlorobenzene-SPLP	0.0003
2-Methylphenol-SPLP	0.00048
2,2'-oxybis(1-Chloropropane)-SPLP	0.00024
4-Methylphenol-SPLP	0.00069
N-Nitrosodi-n-propylamine-SPLP	0.00056
Hexachloroethane-SPLP	0.00041
Nitrobenzene-SPLP	0.0006
Isophorone-SPLP	0.00045
2-Nitrophenol-SPLP	0.00051
2,4-Dimethylphenol-SPLP	0.00049
bis(2-Chloroethoxy)methane-SPLP	0.0011
2,4-Dichlorophenol-SPLP	0.00046
1,2,4-Trichlorobenzene-SPLP	0.00037
Naphthalene-SPLP	0.0004
4-Chloroaniline-SPLP	0.00043
Hexachlorobenzene-SPLP	0.00035
4-Chloro-3-methylphenol-SPLP	0.00055
2-Methylnaphthalene-SPLP	0.00044
Hexachlorocyclopentadiene-SPLP	0.00016
2,4,6-Trichlorophenol-SPLP	0.00053
2,4,5-Trichlorophenol-SPLP	0.00059
2-Chloronaphthalene-SPLP	0.00042
2-Nitroaniline-SPLP	0.00045
Dimethyl phthalate-SPLP	0.0004
Acenaphthylene-SPLP	0.00043
2,6-Dinitrotoluene-SPLP	0.00048
3-Nitroaniline-SPLP	0.00038

Bronx River, Composite D - Sediment Semivolatiles, Con't.

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080809	20080817
	Comp D	A Comp D
Acenaphthene	110	39
2,4-Dinitrophenol	2600	880
4-Nitrophenol	170	58
Dibenzofuran	120	41
2,4-Dinitrotoluene	110	38
Diethyl phthalate	200	66
4-Chlorophenyl phenyl ether	110	37
Fluorene	110	36
4-Nitroaniline	93	31
4,6-Dinitro-2-methylphenol	1600	520
N-Nitrosodiphenylamine	120	40
4-Bromophenyl phenyl ether	99	33
Hexachlorobutadiene	130	45
Pentachlorophenol	160	55
Phenanthrene	110	36
Anthracene	130	42
Carbazole	90	30
Di-n-butyl phthalate	370	120
Fluoranthene	140	48
Pyrene	130	45
Butyl benzyl phthalate	180	59
3,3'-Dichlorobenzidine	500	170
Benzo(a)anthracene	87	29
Chrysene	87	29
bis(2-Ethylhexyl) phthalate	170	57
Di-n-octyl phthalate	150	52
Benzo(b)fluoranthene	85	29
Benzo(k)fluoranthene	71	24
Benzo(a)pyrene	68	23
Indeno(1,2,3-cd)pyrene	78	26
Dibenz(a,h)anthracene	140	47
Benzo(ghi)perylene	75	25
Pyridine	82	28

	MDL SPLP Units: mg/L
	20080817
	A Comp D
Acenaphthene-SPLP	0.00049
2,4-Dinitrophenol-SPLP	0.012
4-Nitrophenol-SPLP	0.00066
Dibenzofuran-SPLP	0.0005
2,4-Dinitrotoluene-SPLP	0.00042
Diethyl phthalate-SPLP	0.0023
4-Chlorophenyl phenyl ether-SPLP	0.0004
Fluorene-SPLP	0.00051
4-Nitroaniline-SPLP	0.00024
4,6-Dinitro-2-methylphenol-SPLP	0.013
N-Nitrosodiphenylamine-SPLP	0.00046
4-Bromophenyl phenyl ether-SPLP	0.00047
Hexachlorobutadiene-SPLP	0.00041
Pentachlorophenol-SPLP	0.00078
Phenanthrene-SPLP	0.00052
Anthracene-SPLP	0.00048
Carbazole-SPLP	0.00049
Di-n-butyl phthalate-SPLP	0.00044
Fluoranthene-SPLP	0.00047
Pyrene-SPLP	0.00053
Butyl benzyl phthalate-SPLP	0.0013
3,3'-Dichlorobenzidine-SPLP	0.00039
Benzo(a)anthracene-SPLP	0.00039
Chrysene-SPLP	0.00033
bis(2-Ethylhexyl) phthalate-SPLP	0.0011
Di-n-octyl phthalate-SPLP	0.0004
Benzo(b)fluoranthene-SPLP	0.00029
Benzo(k)fluoranthene-SPLP	0.00037
Benzo(a)pyrene-SPLP	0.00041
Indeno(1,2,3-cd)pyrene-SPLP	0.00045
Dibenz(a,h)anthracene-SPLP	0.00033
Benzo(ghi)perylene-SPLP	0.00026
Pyridine	0.00067

Bronx River, Composite D - Sediment Pesticides/Aroclor

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080809	20080817
	Comp D	A Comp D
alpha-BHC	0.67	0.57
beta-BHC	0.52	0.44
delta-BHC	0.46	0.39
gamma-BHC (Lindane)	0.61	0.52
Heptachlor	0.56	0.48
Aldrin	0.47	0.4
Heptachlor epoxide	0.44	0.37
Endosulfan I	0.46	0.39
Dieldrin	0.33	0.28
4,4'-DDE	0.26	0.22
Endrin	0.35	0.3
Endosulfan II	1	0.86
4,4'-DDD	0.39	0.33
Endosulfan sulfate	0.71	0.6
4,4'-DDT	0.6	0.51
Methoxychlor	1.8	1.5
Endrin ketone	0.51	0.43
Endrin aldehyde	0.56	0.47
alpha-Chlordane	0.27	0.23
gamma-Chlordane	0.45	0.38
Toxaphene	30	26
Aroclor 1016	6.5	5.5
Aroclor 1221	8.4	7.1
Aroclor 1232	7.5	6.4
Aroclor 1242	7.1	6.1
Aroclor 1248	4.1	3.5
Aroclor 1254	6.2	5.3
Aroclor 1260	6.2	5.3

	MDL SPLP Units: ug/L
	20080817
	A Comp D
alpha-BHC-SPLP	0.014
beta-BHC-SPLP	0.014
delta-BHC-SPLP	0.0089
gamma-BHC (Lindane)-SPLP	0.014
Heptachlor-SPLP	0.013
Aldrin-SPLP	0.01
Heptachlor epoxide-SPLP	0.0093
Endosulfan I-SPLP	0.007
Dieldrin-SPLP	0.0075
4,4'-DDE-SPLP	0.0064
Endrin-SPLP	0.0072
Endosulfan II-SPLP	0.014
4,4'-DDD-SPLP	0.0073
Endosulfan sulfate-SPLP	0.015
4,4'-DDT-SPLP	0.013
Methoxychlor-SPLP	0.017
Endrin ketone-SPLP	0.0094
Endrin aldehyde-SPLP	0.011
alpha-Chlordane-SPLP	0.011
gamma-Chlordane-SPLP	0.0071
Toxaphene-SPLP	0.39
Aroclor 1016-SPLP	0.095
Aroclor 1221-SPLP	0.094
Aroclor 1232-SPLP	0.11
Aroclor 1242-SPLP	0.07
Aroclor 1248-SPLP	0.085
Aroclor 1254-SPLP	0.086
Aroclor 1260-SPLP	0.051

Bronx River, Composite D - Herbicides

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080809	20080817
	Comp D	A Comp D
2,4,5-TP (Silvex)	6.6	6.9
2,4-D	53	56

	MDL SPLP Units: ug/L
	20080817
	A Comp D
2,4,5-TP (Silvex)	0.12
2,4-D	0.49

Bronx River, Composite D - Metals

	MDL Unamended Sediment (Units: ppm)	MDL Amended Sediment (Units: ppm)
	20080809	20080817
	Comp D	A Comp D
Aluminum	1.9	1.6
Antimony	0.12	0.1
Arsenic	0.3	0.26
Barium	0.048	0.041
Beryllium	0.041	0.034
Cadmium	0.062	0.052
Calcium	33.4	28.1
Chromium	0.11	0.091
Cobalt	0.057	0.048
Copper	0.19	0.16
Iron	4	3.4
Lead	0.21	0.18
Magnesium	1.7	1.5
Manganese	0.036	0.03
Mercury	0.0094	0.0079
Nickel	0.14	0.12
Potassium	66.4	55.9
Selenium	0.38	0.32
Silver	0.049	0.041
Sodium	18.5	15.6
Thallium	0.43	0.36
Vanadium	0.34	0.29
Zinc	0.46	0.39
Cyanide, Total	0.25	0.21
Percent Solids	0	0

	MDL SPLP Units: ug/L
	20080817
	A Comp D
Aluminum-SPLP	8.2
Antimony-SPLP	2.9
Arsenic-SPLP	2.2
Barium-SPLP	0.1
Beryllium-SPLP	0.32
Cadmium-SPLP	0.23
Calcium-SPLP	10.2
Chromium-SPLP	1.2
Cobalt-SPLP	0.7
Copper-SPLP	0.72
Iron-SPLP	15.8
Lead-SPLP	2.4
Magnesium-SPLP	5.1
Manganese-SPLP	0.32
Mercury-SPLP	0.055
Nickel-SPLP	1.1
Potassium-SPLP	500
Selenium-SPLP	2.5
Silver-SPLP	0.59
Sodium-SPLP	271
Thallium-SPLP	3.1
Vanadium-SPLP	1
Zinc-SPLP	1.3
DI Leachable Cyanide	1.7

Bronx River, Composite D - Dioxin/Furan

	EDL Unamended Sediment (Units: ng/Kg)	EDL Amended Sediment (Units: ng/Kg)
	20080809	20080817
	Comp D	A Comp D
2,3,7,8-TCDD	0.75	0.35
1,2,3,7,8-PeCDD	1.02	1.03
1,2,3,4,7,8-HxCDD	2.28	0.47
1,2,3,6,7,8-HxCDD	2.65	0.55
1,2,3,7,8,9-HxCDD	2.27	0.47
1,2,3,4,6,7,8-HpCDD	35.47	35.54
OCDD	8.04	13.15
2,3,7,8-TCDF	11.28	4.74
1,2,3,7,8-PeCDF	2.52	2
2,3,4,7,8-PeCDF	2.62	2.05
1,2,3,4,7,8-HxCDF	5.45	1.08
1,2,3,6,7,8-HxCDF	5.24	1.09
2,3,4,6,7,8-HxCDF	5.66	1.1
1,2,3,7,8,9-HxCDF	6.5	1.31
1,2,3,4,6,7,8-HpCDF	22.29	9.88
1,2,3,4,7,8,9-HpCDF	27.95	12.49
OCDF	1.99	1.62

	EDL SPLP (Units: pg/L)
	20080817
	A Comp D
2,3,7,8-TCDD	2.9
1,2,3,7,8-PeCDD	2
1,2,3,4,7,8-HxCDD	1.3
1,2,3,6,7,8-HxCDD	1.5
1,2,3,7,8,9-HxCDD	1.3
1,2,3,4,6,7,8-HpCDD	2.9
OCDD	3.2
2,3,7,8-TCDF	1.7
1,2,3,7,8-PeCDF	1.3
2,3,4,7,8-PeCDF	1
1,2,3,4,7,8-HxCDF	0.76
1,2,3,6,7,8-HxCDF	0.75
2,3,4,6,7,8-HxCDF	0.91
1,2,3,7,8,9-HxCDF	1.6
1,2,3,4,6,7,8-HpCDF	1.5
1,2,3,4,7,8,9-HpCDF	2.5
OCDF	3.6

Bronx River, Composite E

Bronx River, Composite E - Sediment Volatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080810	20080818
	Comp E	A Comp E
Chloromethane (Methyl Chloride)	2.5	2
Bromomethane	2.1	1.7
Vinyl chloride	1.4	1.1
Chloroethane	4.5	3.6
Methylene chloride (Dichloromethane)	1.9	1.6
Acetone	14	12
Carbon disulfide	1.5	1.2
1,1-Dichloroethene	2.4	2
1,1-Dichloroethane	1.7	1.3
1,2-Dichloroethene (total)	3.7	3
Chloroform	1.7	1.4
1,2-Dichloroethane	1.8	1.4
2-Butanone (MEK)	2.5	2.1
1,1,1-Trichloroethane	1.4	1.1
Carbon tetrachloride	1.3	1
Bromodichloromethane	1.6	1.3
1,2-Dichloropropane	1.6	1.3
cis-1,3-Dichloropropene	2	1.6
Trichloroethene	1.9	1.5
Dibromochloromethane	2	1.7
1,1,2-Trichloroethane	2.4	1.9
Benzene	1.9	1.6
trans-1,3-dichloropropene	1.7	1.4
Bromoform	1.3	1
4-Methyl-2-pentanone (MIBK)	1.9	1.5
2-Hexanone	2	1.6
Tetrachloroethene	2	1.6
1,1,2,2-Tetrachloroethane	2.1	1.7
Toluene	2.1	1.7
Chlorobenzene	2.2	1.8
Ethyl benzene	1.9	1.5
Styrene	1.5	1.2
Xylenes(Total)	6.5	5.2
Combined 1,3-dichloropropenes (SUM) cis + trans		

	MDL SPLP Units: ug/L
	20080818
	A Comp E
Chloromethane (Methyl Chloride) - SPLP	0.87
Bromomethane - SPLP	0.75
Vinyl chloride - SPLP	0.94
Chloroethane - SPLP	1.2
Methylene chloride (Dichloromethane) - SPLP	0.75
Acetone - SPLP	0.83
Carbon disulfide - SPLP	1.1
1,1-Dichloroethene - SPLP	0.87
1,1-Dichloroethane - SPLP	1
1,2-Dichloroethene (total) - SPLP	1.9
Chloroform - SPLP	0.78
1,2-Dichloroethane - SPLP	0.64
2-Butanone (MEK) - SPLP	0.73
1,1,1-Trichloroethane - SPLP	0.79
Carbon tetrachloride - SPLP	0.91
Bromodichloromethane - SPLP	0.58
1,2-Dichloropropane - SPLP	0.67
cis-1,3-Dichloropropene - SPLP	0.79
Trichloroethene - SPLP	0.88
Dibromochloromethane - SPLP	0.5
1,1,2-Trichloroethane - SPLP	0.79
Benzene - SPLP	0.81
trans-1,3-dichloropropene - SPLP	0.57
Bromoform - SPLP	0.37
4-Methyl-2-pentanone (MIBK) - SPLP	0.46
2-Hexanone - SPLP	0.45
Tetrachloroethene - SPLP	0.57
1,1,2,2-Tetrachloroethane - SPLP	0.63
Toluene - SPLP	0.8
Chlorobenzene - SPLP	0.71
Ethyl benzene - SPLP	0.58
Styrene - SPLP	0.8
Xylenes(Total) - SPLP	2.4
Combined 1,3-dichloropropenes (SUM) cis + trans	

Bronx River, Composite E - Sediment Semivolatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080810	20080818
	Comp E	A Comp E
Phenol	140	47
bis(2-Chloroethyl) ether	54	17
2-Chlorophenol	120	39
1,3-Dichlorobenzene	88	29
1,4-Dichlorobenzene	92	30
1,2-Dichlorobenzene	130	43
2-Methylphenol	150	48
2,2'-oxybis(1-Chloropropane)	140	46
4-Methylphenol	150	48
N-Nitrosodi-n-propylamine	58	19
Hexachloroethane	110	34
Nitrobenzene	59	19
Isophorone	130	43
2-Nitrophenol	190	61
2,4-Dimethylphenol	100	33
bis(2-Chloroethoxy)methane	110	36
2,4-Dichlorophenol	71	23
1,2,4-Trichlorobenzene	120	37
Naphthalene	120	37
4-Chloroaniline	210	66
Hexachlorobenzene	150	47
4-Chloro-3-methylphenol	150	47
2-Methylnaphthalene	130	43
Hexachlorocyclopentadiene	110	35
2,4,6-Trichlorophenol	190	62
2,4,5-Trichlorophenol	200	64
2-Chloronaphthalene	140	45
2-Nitroaniline	140	46
Dimethyl phthalate	140	44
Acenaphthylene	140	45
2,6-Dinitrotoluene	150	50
3-Nitroaniline	200	66

	MDL SPLP Units: mg/L
	20080818
	A Comp E
Phenol-SPLP	0.00021
bis(2-Chloroethyl) ether-SPLP	0.00044
2-Chlorophenol-SPLP	0.00043
1,3-Dichlorobenzene-SPLP	0.00035
1,4-Dichlorobenzene-SPLP	0.00046
1,2-Dichlorobenzene-SPLP	0.0003
2-Methylphenol-SPLP	0.00049
2,2'-oxybis(1-Chloropropane)-SPLP	0.00025
4-Methylphenol-SPLP	0.0007
N-Nitrosodi-n-propylamine-SPLP	0.00056
Hexachloroethane-SPLP	0.00041
Nitrobenzene-SPLP	0.00061
Isophorone-SPLP	0.00045
2-Nitrophenol-SPLP	0.00051
2,4-Dimethylphenol-SPLP	0.00049
bis(2-Chloroethoxy)methane-SPLP	0.0012
2,4-Dichlorophenol-SPLP	0.00046
1,2,4-Trichlorobenzene-SPLP	0.00038
Naphthalene-SPLP	0.00041
4-Chloroaniline-SPLP	0.00044
Hexachlorobenzene-SPLP	0.00036
4-Chloro-3-methylphenol-SPLP	0.00056
2-Methylnaphthalene-SPLP	0.00044
Hexachlorocyclopentadiene-SPLP	0.00016
2,4,6-Trichlorophenol-SPLP	0.00054
2,4,5-Trichlorophenol-SPLP	0.00059
2-Chloronaphthalene-SPLP	0.00042
2-Nitroaniline-SPLP	0.00045
Dimethyl phthalate-SPLP	0.0004
Acenaphthylene-SPLP	0.00044
2,6-Dinitrotoluene-SPLP	0.00048
3-Nitroaniline-SPLP	0.00038

Bronx River, Composite E - Sediment Semivolatiles, Con't.

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080810	20080818
	Comp E	A Comp E
Acenaphthene	120	40
2,4-Dinitrophenol	2800	910
4-Nitrophenol	190	60
Dibenzofuran	130	43
2,4-Dinitrotoluene	120	40
Diethyl phthalate	210	69
4-Chlorophenyl phenyl ether	120	38
Fluorene	120	37
4-Nitroaniline	100	32
4,6-Dinitro-2-methylphenol	1700	540
N-Nitrosodiphenylamine	130	42
4-Bromophenyl phenyl ether	110	35
Hexachlorobutadiene	140	46
Pentachlorophenol	180	57
Phenanthrene	110	37
Anthracene	140	44
Carbazole	98	32
Di-n-butyl phthalate	400	130
Fluoranthene	150	50
Pyrene	150	47
Butyl benzyl phthalate	190	62
3,3'-Dichlorobenzidine	540	170
Benzo(a)anthracene	94	31
Chrysene	95	31
bis(2-Ethylhexyl) phthalate	180	59
Di-n-octyl phthalate	170	54
Benzo(b)fluoranthene	92	30
Benzo(k)fluoranthene	76	25
Benzo(a)pyrene	74	24
Indeno(1,2,3-cd)pyrene	85	27
Dibenz(a,h)anthracene	150	49
Benzo(ghi)perylene	81	26
Pyridine	89	29

	MDL SPLP Units: mg/L
	20080818
	A Comp E
Acenaphthene	0.0005
2,4-Dinitrophenol	0.012
4-Nitrophenol	0.00067
Dibenzofuran	0.00051
2,4-Dinitrotoluene	0.00043
Diethyl phthalate	0.0023
4-Chlorophenyl phenyl ether	0.0004
Fluorene	0.00051
4-Nitroaniline	0.00024
4,6-Dinitro-2-methylphenol	0.013
N-Nitrosodiphenylamine	0.00046
4-Bromophenyl phenyl ether	0.00047
Hexachlorobutadiene	0.00041
Pentachlorophenol	0.00079
Phenanthrene	0.00052
Anthracene	0.00048
Carbazole	0.0005
Di-n-butyl phthalate	0.00044
Fluoranthene	0.00047
Pyrene	0.00054
Butyl benzyl phthalate	0.0013
3,3'-Dichlorobenzidine	0.00039
Benzo(a)anthracene	0.00039
Chrysene	0.00034
bis(2-Ethylhexyl) phthalate	0.0011
Di-n-octyl phthalate	0.00041
Benzo(b)fluoranthene	0.0003
Benzo(k)fluoranthene	0.00037
Benzo(a)pyrene	0.00042
Indeno(1,2,3-cd)pyrene	0.00045
Dibenz(a,h)anthracene	0.00033
Benzo(ghi)perylene	0.00026
Pyridine	0.00067

Bronx River, Composite E - Sediment Pesticides/Aroclor

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080810	20080818
	Comp E	A Comp E
alpha-BHC	0.73	0.59
beta-BHC	0.57	0.46
delta-BHC	0.51	0.41
gamma-BHC (Lindane)	0.67	0.54
Heptachlor	0.61	0.49
Aldrin	0.51	0.41
Heptachlor epoxide	0.48	0.39
Endosulfan I	0.5	0.4
Dieldrin	0.36	0.29
4,4'-DDE	0.29	0.23
Endrin	0.38	0.31
Endosulfan II	1.1	0.89
4,4'-DDD	0.43	0.35
Endosulfan sulfate	0.78	0.63
4,4'-DDT	0.66	0.53
Methoxychlor	2	1.6
Endrin ketone	0.56	0.45
Endrin aldehyde	0.61	0.49
alpha-Chlordane	0.3	0.24
gamma-Chlordane	0.49	0.4
Toxaphene	33	27
Aroclor 1016	7.1	5.8
Aroclor 1221	9.2	7.4
Aroclor 1232	8.2	6.6
Aroclor 1242	7.8	6.3
Aroclor 1248	4.5	3.7
Aroclor 1254	6.8	5.5
Aroclor 1260	6.8	5.5

	MDL SPLP Units: ug/L
	20080818
	A Comp E
alpha-BHC-SPLP	0.014
beta-BHC-SPLP	0.014
delta-BHC-SPLP	0.0089
gamma-BHC (Lindane)-SPLP	0.014
Heptachlor-SPLP	0.013
Aldrin-SPLP	0.01
Heptachlor epoxide-SPLP	0.0093
Endosulfan I-SPLP	0.007
Dieldrin-SPLP	0.0075
4,4'-DDE-SPLP	0.0064
Endrin-SPLP	0.0072
Endosulfan II-SPLP	0.014
4,4'-DDD-SPLP	0.0073
Endosulfan sulfate-SPLP	0.015
4,4'-DDT-SPLP	0.013
Methoxychlor-SPLP	0.017
Endrin ketone-SPLP	0.0094
Endrin aldehyde-SPLP	0.011
alpha-Chlordane-SPLP	0.011
gamma-Chlordane-SPLP	0.0071
Toxaphene-SPLP	0.39
Aroclor 1016-SPLP	0.095
Aroclor 1221-SPLP	0.094
Aroclor 1232-SPLP	0.11
Aroclor 1242-SPLP	0.07
Aroclor 1248-SPLP	0.085
Aroclor 1254-SPLP	0.086
Aroclor 1260-SPLP	0.051

Bronx River, Composite A - Herbicides

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080810	20080818
	Comp E	A Comp E
2,4,5-TP (Silvex)	7.5	5.8
2,4-D	61	47

	MDL SPLP Units: ug/L
	20080818
	A Comp E
2,4,5-TP (Silvex)	0.12
2,4-D	0.49

Bronx River, Composite E - Metals

	MDL Unamended Sediment (Units: ppm)	MDL Amended Sediment (Units: ppm)
	20080810	20080818
	Comp E	A Comp E
Aluminum	2	1.7
Antimony	0.13	0.11
Arsenic	0.33	0.27
Barium	0.052	0.042
Beryllium	0.044	0.036
Cadmium	0.068	0.055
Calcium	36.2	29.2
Chromium	0.12	0.095
Cobalt	0.062	0.05
Copper	0.2	0.16
Iron	4.3	3.5
Lead	0.23	0.18
Magnesium	1.9	1.5
Manganese	0.039	0.031
Mercury	0.01	0.0083
Nickel	0.15	0.12
Potassium	72	58.1
Selenium	0.41	0.33
Silver	0.053	0.043
Sodium	20.1	16.2
Thallium	0.46	0.37
Vanadium	0.37	0.3
Zinc	0.5	0.4
Cyanide, Total	0.28	0.22
Percent Solids	0	0

	MDL SPLP Units: ug/L
	20080818
	A Comp E
Aluminum-SPLP	8.2
Antimony-SPLP	2.9
Arsenic-SPLP	2.2
Barium-SPLP	0.1
Beryllium-SPLP	0.32
Cadmium-SPLP	0.23
Calcium-SPLP	10.2
Chromium-SPLP	1.2
Cobalt-SPLP	0.7
Copper-SPLP	0.72
Iron-SPLP	15.8
Lead-SPLP	2.4
Magnesium-SPLP	5.1
Manganese-SPLP	0.32
Mercury-SPLP	0.055
Nickel-SPLP	1.1
Potassium-SPLP	500
Selenium-SPLP	2.5
Silver-SPLP	0.59
Sodium-SPLP	271
Thallium-SPLP	3.1
Vanadium-SPLP	1
Zinc-SPLP	1.3
DI Leachable Cyanide	1.7

Bronx River, Composite E - Dioxin/Furan

	EDL Unamended Sediment (Units: ng/Kg)	EDL Amended Sediment (Units: ng/Kg)
	20080810	20080818
	Comp E	A Comp E
2,3,7,8-TCDD	0.67	0.4
1,2,3,7,8-PeCDD	0.82	1.21
1,2,3,4,7,8-HxCDD	1.1	0.52
1,2,3,6,7,8-HxCDD	1.3	0.61
1,2,3,7,8,9-HxCDD	1.1	0.52
1,2,3,4,6,7,8-HpCDD	44.32	48.83
OCDD	16.8	6.66
2,3,7,8-TCDF	1.35	11.72
1,2,3,7,8-PeCDF	4.29	1.81
2,3,4,7,8-PeCDF	4.41	1.83
1,2,3,4,7,8-HxCDF	8.8	2.51
1,2,3,6,7,8-HxCDF	8.22	2.52
2,3,4,6,7,8-HxCDF	8.51	2.63
1,2,3,7,8,9-HxCDF	9.8	3.17
1,2,3,4,6,7,8-HpCDF	27.01	17.47
1,2,3,4,7,8,9-HpCDF	34.23	23.34
OCDF	2.3	1.6

	EDL SPLP (Units: pg/L)
	20080818
	A Comp E
2,3,7,8-TCDD	6.5
1,2,3,7,8-PeCDD	4
1,2,3,4,7,8-HxCDD	3.2
1,2,3,6,7,8-HxCDD	3.3
1,2,3,7,8,9-HxCDD	3
1,2,3,4,6,7,8-HpCDD	5.1
OCDD	6.9
2,3,7,8-TCDF	4
1,2,3,7,8-PeCDF	2.3
2,3,4,7,8-PeCDF	2
1,2,3,4,7,8-HxCDF	1.7
1,2,3,6,7,8-HxCDF	1.5
2,3,4,6,7,8-HxCDF	1.9
1,2,3,7,8,9-HxCDF	2.5
1,2,3,4,6,7,8-HpCDF	2.7
1,2,3,4,7,8,9-HpCDF	4.8
OCDF	6.7

Bronx River, Composite F

Bronx River, Composite F - Sediment Volatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080811	20080819
	Comp F	A Comp F
Chloromethane (Methyl Chloride)	2.6	2.1
Bromomethane	2.2	1.8
Vinyl chloride	1.4	1.1
Chloroethane	4.7	3.8
Methylene chloride (Dichloromethane)	2	1.6
Acetone	15	12
Carbon disulfide	1.6	1.3
1,1-Dichloroethene	2.6	2.1
1,1-Dichloroethane	1.8	1.4
1,2-Dichloroethene (total)	3.9	3.1
Chloroform	1.8	1.4
1,2-Dichloroethane	1.9	1.5
2-Butanone (MEK)	2.7	2.2
1,1,1-Trichloroethane	1.5	1.2
Carbon tetrachloride	1.4	1.1
Bromodichloromethane	1.7	1.4
1,2-Dichloropropane	1.7	1.3
cis-1,3-Dichloropropene	2.1	1.7
Trichloroethene	2	1.6
Dibromochloromethane	2.2	1.7
1,1,2-Trichloroethane	2.5	2
Benzene	2.1	1.7
trans-1,3-dichloropropene	1.8	1.5
Bromoform	1.3	1.1
4-Methyl-2-pentanone (MIBK)	2	1.6
2-Hexanone	2.1	1.7
Tetrachloroethene	2.1	1.7
1,1,2,2-Tetrachloroethane	2.2	1.8
Toluene	2.2	1.8
Chlorobenzene	2.3	1.9
Ethyl benzene	2	1.6
Styrene	1.6	1.3
Xylenes(Total)	6.8	5.5
Combined 1,3-dichloropropenes (SUM) cis + trans		

	MDL SPLP Units: ug/L
	20080819
	A Comp F
Chloromethane (Methyl Chloride) - SPLP	0.87
Bromomethane - SPLP	0.75
Vinyl chloride - SPLP	0.94
Chloroethane - SPLP	1.2
Methylene chloride (Dichloromethane) - SPLP	0.75
Acetone - SPLP	0.83
Carbon disulfide - SPLP	1.1
1,1-Dichloroethene - SPLP	0.87
1,1-Dichloroethane - SPLP	1
1,2-Dichloroethene (total) - SPLP	1.9
Chloroform - SPLP	0.78
1,2-Dichloroethane - SPLP	0.64
2-Butanone (MEK) - SPLP	0.73
1,1,1-Trichloroethane - SPLP	0.79
Carbon tetrachloride - SPLP	0.91
Bromodichloromethane - SPLP	0.58
1,2-Dichloropropane - SPLP	0.67
cis-1,3-Dichloropropene - SPLP	0.79
Trichloroethene - SPLP	0.88
Dibromochloromethane - SPLP	0.5
1,1,2-Trichloroethane - SPLP	0.79
Benzene - SPLP	0.81
trans-1,3-dichloropropene - SPLP	0.57
Bromoform - SPLP	0.37
4-Methyl-2-pentanone (MIBK) - SPLP	0.46
2-Hexanone - SPLP	0.45
Tetrachloroethene - SPLP	0.57
1,1,2,2-Tetrachloroethane - SPLP	0.63
Toluene - SPLP	0.8
Chlorobenzene - SPLP	0.71
Ethyl benzene - SPLP	0.58
Styrene - SPLP	0.8
Xylenes(Total) - SPLP	2.4
Combined 1,3-dichloropropenes (SUM) cis + trans	

Bronx River, Composite F - Sediment Semivolatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080811	20080819
	Comp F	A Comp F
Phenol	150	49
bis(2-Chloroethyl) ether	57	18
2-Chlorophenol	130	41
1,3-Dichlorobenzene	93	30
1,4-Dichlorobenzene	97	31
1,2-Dichlorobenzene	140	45
2-Methylphenol	160	51
2,2'-oxybis(1-Chloropropane)	150	49
4-Methylphenol	160	51
N-Nitrosodi-n-propylamine	62	20
Hexachloroethane	110	36
Nitrobenzene	63	20
Isophorone	140	45
2-Nitrophenol	200	65
2,4-Dimethylphenol	110	35
bis(2-Chloroethoxy)methane	120	38
2,4-Dichlorophenol	75	24
1,2,4-Trichlorobenzene	120	39
Naphthalene	120	39
4-Chloroaniline	220	70
Hexachlorobenzene	150	50
4-Chloro-3-methylphenol	150	49
2-Methylnaphthalene	140	45
Hexachlorocyclopentadiene	120	37
2,4,6-Trichlorophenol	200	65
2,4,5-Trichlorophenol	210	67
2-Chloronaphthalene	150	47
2-Nitroaniline	150	49
Dimethyl phthalate	140	46
Acenaphthylene	150	47
2,6-Dinitrotoluene	160	52
3-Nitroaniline	220	70

	MDL SPLP Units: mg/L
	20080819
	A Comp F
Phenol-SPLP	0.00021
bis(2-Chloroethyl) ether-SPLP	0.00043
2-Chlorophenol-SPLP	0.00043
1,3-Dichlorobenzene-SPLP	0.00035
1,4-Dichlorobenzene-SPLP	0.00045
1,2-Dichlorobenzene-SPLP	0.0003
2-Methylphenol-SPLP	0.00048
2,2'-oxybis(1-Chloropropane)-SPLP	0.00024
4-Methylphenol-SPLP	0.00069
N-Nitrosodi-n-propylamine-SPLP	0.00056
Hexachloroethane-SPLP	0.00041
Nitrobenzene-SPLP	0.0006
Isophorone-SPLP	0.00045
2-Nitrophenol-SPLP	0.00051
2,4-Dimethylphenol-SPLP	0.00049
bis(2-Chloroethoxy)methane-SPLP	0.0011
2,4-Dichlorophenol-SPLP	0.00046
1,2,4-Trichlorobenzene-SPLP	0.00037
Naphthalene-SPLP	0.0004
4-Chloroaniline-SPLP	0.00043
Hexachlorobenzene-SPLP	0.00035
4-Chloro-3-methylphenol-SPLP	0.00055
2-Methylnaphthalene-SPLP	0.00044
Hexachlorocyclopentadiene-SPLP	0.00016
2,4,6-Trichlorophenol-SPLP	0.00053
2,4,5-Trichlorophenol-SPLP	0.00059
2-Chloronaphthalene-SPLP	0.00042
2-Nitroaniline-SPLP	0.00045
Dimethyl phthalate-SPLP	0.0004
Acenaphthylene-SPLP	0.00043
2,6-Dinitrotoluene-SPLP	0.00048
3-Nitroaniline-SPLP	0.00038

Bronx River, Composite F - Sediment Semivolatiles, Con't.

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080811	20080819
	Comp F	A Comp F
Acenaphthene	130	42
2,4-Dinitrophenol	3000	960
4-Nitrophenol	200	63
Dibenzofuran	140	45
2,4-Dinitrotoluene	130	42
Diethyl phthalate	230	72
4-Chlorophenyl phenyl ether	120	40
Fluorene	120	39
4-Nitroaniline	110	34
4,6-Dinitro-2-methylphenol	1800	570
N-Nitrosodiphenylamine	140	44
4-Bromophenyl phenyl ether	110	36
Hexachlorobutadiene	150	49
Pentachlorophenol	190	60
Phenanthrene	120	39
Anthracene	140	46
Carbazole	100	33
Di-n-butyl phthalate	420	130
Fluoranthene	160	52
Pyrene	150	50
Butyl benzyl phthalate	200	65
3,3'-Dichlorobenzidine	570	180
Benzo(a)anthracene	100	32
Chrysene	100	32
bis(2-Ethylhexyl) phthalate	190	62
Di-n-octyl phthalate	180	57
Benzo(b)fluoranthene	97	31
Benzo(k)fluoranthene	81	26
Benzo(a)pyrene	78	25
Indeno(1,2,3-cd)pyrene	90	29
Dibenz(a,h)anthracene	160	51
Benzo(ghi)perylene	86	28
Pyridine	94	30

	MDL SPLP Units: mg/L
	20080819
	A Comp F
Acenaphthene-SPLP	0.00049
2,4-Dinitrophenol-SPLP	0.012
4-Nitrophenol-SPLP	0.00066
Dibenzofuran-SPLP	0.0005
2,4-Dinitrotoluene-SPLP	0.00042
Diethyl phthalate-SPLP	0.0023
4-Chlorophenyl phenyl ether-SPLP	0.0004
Fluorene-SPLP	0.00051
4-Nitroaniline-SPLP	0.00024
4,6-Dinitro-2-methylphenol-SPLP	0.013
N-Nitrosodiphenylamine-SPLP	0.00046
4-Bromophenyl phenyl ether-SPLP	0.00047
Hexachlorobutadiene-SPLP	0.00041
Pentachlorophenol-SPLP	0.00078
Phenanthrene-SPLP	0.00052
Anthracene-SPLP	0.00048
Carbazole-SPLP	0.00049
Di-n-butyl phthalate-SPLP	0.00044
Fluoranthene-SPLP	0.00047
Pyrene-SPLP	0.00053
Butyl benzyl phthalate-SPLP	0.0013
3,3'-Dichlorobenzidine-SPLP	0.00039
Benzo(a)anthracene-SPLP	0.00039
Chrysene-SPLP	0.00033
bis(2-Ethylhexyl) phthalate-SPLP	0.0011
Di-n-octyl phthalate-SPLP	0.0004
Benzo(b)fluoranthene-SPLP	0.00029
Benzo(k)fluoranthene-SPLP	0.00037
Benzo(a)pyrene-SPLP	0.00041
Indeno(1,2,3-cd)pyrene-SPLP	0.00045
Dibenz(a,h)anthracene-SPLP	0.00033
Benzo(ghi)perylene-SPLP	0.00026
Pyridine	0.00067

Bronx River, Composite F - Sediment Pesticides/Aroclor

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080811	20080819
	Comp F	A Comp F
alpha-BHC	0.77	0.62
beta-BHC	0.6	0.48
delta-BHC	0.54	0.43
gamma-BHC (Lindane)	0.7	0.57
Heptachlor	0.65	0.52
Aldrin	0.54	0.43
Heptachlor epoxide	0.51	0.41
Endosulfan I	0.53	0.42
Dieldrin	0.38	0.3
4,4'-DDE	0.31	0.25
Endrin	0.41	0.33
Endosulfan II	1.2	0.94
4,4'-DDD	0.45	0.36
Endosulfan sulfate	0.82	0.66
4,4'-DDT	0.69	0.56
Methoxychlor	2.1	1.7
Endrin ketone	0.59	0.47
Endrin aldehyde	0.64	0.52
alpha-Chlordane	0.32	0.25
gamma-Chlordane	0.52	0.42
Toxaphene	35	28
Aroclor 1016	7.5	6.1
Aroclor 1221	9.7	7.8
Aroclor 1232	8.7	7
Aroclor 1242	8.3	6.6
Aroclor 1248	4.8	3.9
Aroclor 1254	7.2	5.8
Aroclor 1260	7.2	5.8

	MDL SPLP Units: ug/L
	20080819
	A Comp F
alpha-BHC-SPLP	0.014
beta-BHC-SPLP	0.014
delta-BHC-SPLP	0.0089
gamma-BHC (Lindane)-SPLP	0.014
Heptachlor-SPLP	0.013
Aldrin-SPLP	0.01
Heptachlor epoxide-SPLP	0.0093
Endosulfan I-SPLP	0.007
Dieldrin-SPLP	0.0075
4,4'-DDE-SPLP	0.0064
Endrin-SPLP	0.0072
Endosulfan II-SPLP	0.014
4,4'-DDD-SPLP	0.0073
Endosulfan sulfate-SPLP	0.015
4,4'-DDT-SPLP	0.013
Methoxychlor-SPLP	0.017
Endrin ketone-SPLP	0.0094
Endrin aldehyde-SPLP	0.011
alpha-Chlordane-SPLP	0.011
gamma-Chlordane-SPLP	0.0071
Toxaphene-SPLP	0.39
Aroclor 1016-SPLP	0.095
Aroclor 1221-SPLP	0.094
Aroclor 1232-SPLP	0.11
Aroclor 1242-SPLP	0.07
Aroclor 1248-SPLP	0.085
Aroclor 1254-SPLP	0.086
Aroclor 1260-SPLP	0.051

Bronx River, Composite A - Herbicides

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080811	20080819
	Comp F	A Comp F
2,4,5-TP (Silvex)	7.2	6
2,4-D	58	49

	MDL SPLP Units: ug/L
	20080819
	A Comp F
2,4,5-TP (Silvex)	0.13
2,4-D	0.5

Bronx River, Composite F - Metals

	MDL Unamended Sediment (Units: ppm)	MDL Amended Sediment (Units: ppm)
	20080811	20080819
	Comp F	A Comp F
Aluminum	2.2	1.7
Antimony	0.14	0.11
Arsenic	0.35	0.28
Barium	0.055	0.045
Beryllium	0.047	0.038
Cadmium	0.071	0.057
Calcium	38.3	61.5
Chromium	0.12	0.1
Cobalt	0.065	0.053
Copper	0.21	0.17
Iron	4.6	3.7
Lead	0.24	0.19
Magnesium	2	1.6
Manganese	0.041	0.033
Mercury	0.011	0.0087
Nickel	0.16	0.13
Potassium	76.1	61.1
Selenium	0.44	0.35
Silver	0.056	0.045
Sodium	21.2	17
Thallium	0.49	0.39
Vanadium	0.39	0.31
Zinc	0.53	0.42
Cyanide, Total	0.29	0.23
Percent Solids	0	0

	MDL SPLP Units: ug/L
	20080819
	A Comp F
Aluminum	8.2
Antimony	2.9
Arsenic	2.2
Barium	0.1
Beryllium	0.32
Cadmium	0.23
Calcium	10.2
Chromium	1.2
Cobalt	0.7
Copper	0.72
Iron	15.8
Lead	2.4
Magnesium	5.1
Manganese	0.32
Mercury	0.055
Nickel	1.1
Potassium	500
Selenium	2.5
Silver	0.59
Sodium	271
Thallium	3.1
Vanadium	1
Zinc	1.3
Cyanide, Total	1.7
Percent Solids	

Bronx River, Composite F - Dioxin/Furan

	EDL Unamended Sediment (Units: ng/Kg)	EDL Amended Sediment (Units: ng/Kg)
	20080811	20080819
	Comp F	A Comp F
2,3,7,8-TCDD	0.39	0.43
1,2,3,7,8-PeCDD	2.15	1.24
1,2,3,4,7,8-HxCDD	0.66	0.53
1,2,3,6,7,8-HxCDD	0.76	0.65
1,2,3,7,8,9-HxCDD	0.65	0.54
1,2,3,4,6,7,8-HpCDD	40.02	43.83
OCDD	15.89	15.85
2,3,7,8-TCDF	5.62	6.13
1,2,3,7,8-PeCDF	4.7	2.59
2,3,4,7,8-PeCDF	4.78	2.65
1,2,3,4,7,8-HxCDF	9.76	2.64
1,2,3,6,7,8-HxCDF	10.24	2.62
2,3,4,6,7,8-HxCDF	10.75	2.72
1,2,3,7,8,9-HxCDF	12.3	3.13
1,2,3,4,6,7,8-HpCDF	31.99	16.51
1,2,3,4,7,8,9-HpCDF	40.74	21.45
OCDF	2.1	1.23

	EDL SPLP (Units: pg/L)
	20080819
	A Comp F
2,3,7,8-TCDD	6.9
1,2,3,7,8-PeCDD	3.4
1,2,3,4,7,8-HxCDD	2.9
1,2,3,6,7,8-HxCDD	3.3
1,2,3,7,8,9-HxCDD	2.9
1,2,3,4,6,7,8-HpCDD	6
OCDD	8
2,3,7,8-TCDF	3.1
1,2,3,7,8-PeCDF	2.1
2,3,4,7,8-PeCDF	1.9
1,2,3,4,7,8-HxCDF	1.7
1,2,3,6,7,8-HxCDF	1.5
2,3,4,6,7,8-HxCDF	1.8
1,2,3,7,8,9-HxCDF	3.3
1,2,3,4,6,7,8-HpCDF	2.6
1,2,3,4,7,8,9-HpCDF	5
OCDF	8.5

Bronx River, Composite G

Bronx River, Composite G - Sediment Volatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080812	20080820
	Comp G	A Comp G
Chloromethane (Methyl Chloride)	2.6	2.1
Bromomethane	2.3	1.8
Vinyl chloride	1.4	1.1
Chloroethane	4.7	3.8
Methylene chloride (Dichloromethane)	2.1	1.6
Acetone	15	12
Carbon disulfide	1.6	1.3
1,1-Dichloroethene	2.6	2.1
1,1-Dichloroethane	1.8	1.4
1,2-Dichloroethene (total)	3.9	3.1
Chloroform	1.8	1.4
1,2-Dichloroethane	1.9	1.5
2-Butanone (MEK)	2.7	2.2
1,1,1-Trichloroethane	1.5	1.2
Carbon tetrachloride	1.4	1.1
Bromodichloromethane	1.7	1.4
1,2-Dichloropropane	1.7	1.3
cis-1,3-Dichloropropene	2.1	1.7
Trichloroethene	2	1.6
Dibromochloromethane	2.2	1.7
1,1,2-Trichloroethane	2.5	2
Benzene	2.1	1.6
trans-1,3-dichloropropene	1.8	1.5
Bromoform	1.3	1.1
4-Methyl-2-pentanone (MIBK)	2	1.6
2-Hexanone	2.1	1.7
Tetrachloroethene	2.1	1.7
1,1,2,2-Tetrachloroethane	2.2	1.8
Toluene	2.2	1.8
Chlorobenzene	2.3	1.8
Ethyl benzene	2	1.6
Styrene	1.6	1.3
Xylenes(Total)	6.8	5.5
Combined 1,3-dichloropropenes (SUM) cis + trans		

	MDL SPLP Units: ug/L
	20080820
	A Comp G
Chloromethane (Methyl Chloride) - SPLP	1.7
Bromomethane - SPLP	1.5
Vinyl chloride - SPLP	1.9
Chloroethane - SPLP	2.4
Methylene chloride (Dichloromethane) - SPLP	1.5
Acetone - SPLP	1.7
Carbon disulfide - SPLP	2.2
1,1-Dichloroethene - SPLP	1.7
1,1-Dichloroethane - SPLP	2
1,2-Dichloroethene (total) - SPLP	3.8
Chloroform - SPLP	1.6
1,2-Dichloroethane - SPLP	1.3
2-Butanone (MEK) - SPLP	1.5
1,1,1-Trichloroethane - SPLP	1.6
Carbon tetrachloride - SPLP	1.8
Bromodichloromethane - SPLP	1.2
1,2-Dichloropropane - SPLP	1.3
cis-1,3-Dichloropropene - SPLP	1.6
Trichloroethene - SPLP	1.8
Dibromochloromethane - SPLP	1
1,1,2-Trichloroethane - SPLP	1.6
Benzene - SPLP	1.6
trans-1,3-dichloropropene - SPLP	1.1
Bromoform - SPLP	0.74
4-Methyl-2-pentanone (MIBK) - SPLP	0.93
2-Hexanone - SPLP	0.9
Tetrachloroethene - SPLP	1.1
1,1,2,2-Tetrachloroethane - SPLP	1.3
Toluene - SPLP	1.6
Chlorobenzene - SPLP	1.4
Ethyl benzene - SPLP	1.2
Styrene - SPLP	1.6
Xylenes(Total) - SPLP	4.9
Combined 1,3-dichloropropenes (SUM) cis + trans	

Bronx River, Composite G - Sediment Semivolatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080812	20080820
	Comp G	A Comp G
Phenol	150	49
bis(2-Chloroethyl) ether	57	18
2-Chlorophenol	130	41
1,3-Dichlorobenzene	94	30
1,4-Dichlorobenzene	97	31
1,2-Dichlorobenzene	140	45
2-Methylphenol	160	51
2,2'-oxybis(1-Chloropropane)	150	49
4-Methylphenol	160	51
N-Nitrosodi-n-propylamine	62	20
Hexachloroethane	110	36
Nitrobenzene	63	20
Isophorone	140	45
2-Nitrophenol	200	64
2,4-Dimethylphenol	110	35
bis(2-Chloroethoxy)methane	120	38
2,4-Dichlorophenol	75	24
1,2,4-Trichlorobenzene	120	39
Naphthalene	120	39
4-Chloroaniline	220	70
Hexachlorobenzene	150	50
4-Chloro-3-methylphenol	150	49
2-Methylnaphthalene	140	45
Hexachlorocyclopentadiene	120	37
2,4,6-Trichlorophenol	200	65
2,4,5-Trichlorophenol	210	67
2-Chloronaphthalene	150	47
2-Nitroaniline	150	49
Dimethyl phthalate	140	46
Acenaphthylene	150	47
2,6-Dinitrotoluene	160	52
3-Nitroaniline	220	69

	MDL SPLP Units: mg/L
	20080820
	A Comp G
Phenol-SPLP	0.00021
bis(2-Chloroethyl) ether-SPLP	0.00043
2-Chlorophenol-SPLP	0.00043
1,3-Dichlorobenzene-SPLP	0.00035
1,4-Dichlorobenzene-SPLP	0.00045
1,2-Dichlorobenzene-SPLP	0.0003
2-Methylphenol-SPLP	0.00048
2,2'-oxybis(1-Chloropropane)-SPLP	0.00024
4-Methylphenol-SPLP	0.00069
N-Nitrosodi-n-propylamine-SPLP	0.00056
Hexachloroethane-SPLP	0.00041
Nitrobenzene-SPLP	0.0006
Isophorone-SPLP	0.00045
2-Nitrophenol-SPLP	0.00051
2,4-Dimethylphenol-SPLP	0.00049
bis(2-Chloroethoxy)methane-SPLP	0.0011
2,4-Dichlorophenol-SPLP	0.00046
1,2,4-Trichlorobenzene-SPLP	0.00037
Naphthalene-SPLP	0.0004
4-Chloroaniline-SPLP	0.00043
Hexachlorobenzene-SPLP	0.00035
4-Chloro-3-methylphenol-SPLP	0.00055
2-Methylnaphthalene-SPLP	0.00044
Hexachlorocyclopentadiene-SPLP	0.00016
2,4,6-Trichlorophenol-SPLP	0.00053
2,4,5-Trichlorophenol-SPLP	0.00059
2-Chloronaphthalene-SPLP	0.00042
2-Nitroaniline-SPLP	0.00045
Dimethyl phthalate-SPLP	0.0004
Acenaphthylene-SPLP	0.00043
2,6-Dinitrotoluene-SPLP	0.00048
3-Nitroaniline-SPLP	0.00038

Bronx River, Composite G - Sediment Semivolatiles, Con't.

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080812	20080820
	Comp G	A Comp G
Acenaphthene	130	42
2,4-Dinitrophenol	3000	960
4-Nitrophenol	200	63
Dibenzofuran	140	45
2,4-Dinitrotoluene	130	42
Diethyl phthalate	230	72
4-Chlorophenyl phenyl ether	130	40
Fluorene	120	39
4-Nitroaniline	110	34
4,6-Dinitro-2-methylphenol	1800	570
N-Nitrosodiphenylamine	140	44
4-Bromophenyl phenyl ether	110	36
Hexachlorobutadiene	150	49
Pentachlorophenol	190	60
Phenanthrene	120	39
Anthracene	140	46
Carbazole	100	33
Di-n-butyl phthalate	420	130
Fluoranthene	160	52
Pyrene	150	49
Butyl benzyl phthalate	200	65
3,3'-Dichlorobenzidine	570	180
Benzo(a)anthracene	100	32
Chrysene	100	32
bis(2-Ethylhexyl) phthalate	190	62
Di-n-octyl phthalate	180	56
Benzo(b)fluoranthene	97	31
Benzo(k)fluoranthene	81	26
Benzo(a)pyrene	78	25
Indeno(1,2,3-cd)pyrene	90	29
Dibenz(a,h)anthracene	160	51
Benzo(ghi)perylene	86	28
Pyridine	94	30

	MDL SPLP Units: mg/L
	20080820
	A Comp G
Acenaphthene-SPLP	0.00049
2,4-Dinitrophenol-SPLP	0.012
4-Nitrophenol-SPLP	0.00066
Dibenzofuran-SPLP	0.0005
2,4-Dinitrotoluene-SPLP	0.00042
Diethyl phthalate-SPLP	0.0023
4-Chlorophenyl phenyl ether-SPLP	0.0004
Fluorene-SPLP	0.00051
4-Nitroaniline-SPLP	0.00024
4,6-Dinitro-2-methylphenol-SPLP	0.013
N-Nitrosodiphenylamine-SPLP	0.00046
4-Bromophenyl phenyl ether-SPLP	0.00047
Hexachlorobutadiene-SPLP	0.00041
Pentachlorophenol-SPLP	0.00078
Phenanthrene-SPLP	0.00052
Anthracene-SPLP	0.00048
Carbazole-SPLP	0.00049
Di-n-butyl phthalate-SPLP	0.00044
Fluoranthene-SPLP	0.00047
Pyrene-SPLP	0.00053
Butyl benzyl phthalate-SPLP	0.0013
3,3'-Dichlorobenzidine-SPLP	0.00039
Benzo(a)anthracene-SPLP	0.00039
Chrysene-SPLP	0.00033
bis(2-Ethylhexyl) phthalate-SPLP	0.0011
Di-n-octyl phthalate-SPLP	0.0004
Benzo(b)fluoranthene-SPLP	0.00029
Benzo(k)fluoranthene-SPLP	0.00037
Benzo(a)pyrene-SPLP	0.00041
Indeno(1,2,3-cd)pyrene-SPLP	0.00045
Dibenz(a,h)anthracene-SPLP	0.00033
Benzo(ghi)perylene-SPLP	0.00026
Pyridine	0.00067

Bronx River, Composite G - Sediment Pesticides/Aroclor

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080812	20080820
	Comp G	A Comp G
alpha-BHC	0.78	0.62
beta-BHC	0.6	0.48
delta-BHC	0.54	0.43
gamma-BHC (Lindane)	0.71	0.56
Heptachlor	0.65	0.52
Aldrin	0.54	0.43
Heptachlor epoxide	0.51	0.41
Endosulfan I	0.53	0.42
Dieldrin	0.38	0.3
4,4'-DDE	0.31	0.24
Endrin	0.41	0.33
Endosulfan II	1.2	0.94
4,4'-DDD	0.45	0.36
Endosulfan sulfate	0.82	0.66
4,4'-DDT	0.7	0.56
Methoxychlor	2.1	1.7
Endrin ketone	0.59	0.47
Endrin aldehyde	0.64	0.52
alpha-Chlordane	0.32	0.25
gamma-Chlordane	0.52	0.42
Toxaphene	35	28
Aroclor 1016	7.6	6.1
Aroclor 1221	9.7	7.8
Aroclor 1232	8.7	7
Aroclor 1242	8.3	6.6
Aroclor 1248	4.8	3.8
Aroclor 1254	7.2	5.8
Aroclor 1260	7.2	5.8

	MDL SPLP Units: ug/L
	20080820
	A Comp G
alpha-BHC-SPLP	0.014
beta-BHC-SPLP	0.014
delta-BHC-SPLP	0.0089
gamma-BHC (Lindane)-SPLP	0.014
Heptachlor-SPLP	0.013
Aldrin-SPLP	0.01
Heptachlor epoxide-SPLP	0.0093
Endosulfan I-SPLP	0.007
Dieldrin-SPLP	0.0075
4,4'-DDE-SPLP	0.0064
Endrin-SPLP	0.0072
Endosulfan II-SPLP	0.014
4,4'-DDD-SPLP	0.0073
Endosulfan sulfate-SPLP	0.015
4,4'-DDT-SPLP	0.013
Methoxychlor-SPLP	0.017
Endrin ketone-SPLP	0.0094
Endrin aldehyde-SPLP	0.011
alpha-Chlordane-SPLP	0.011
gamma-Chlordane-SPLP	0.0071
Toxaphene-SPLP	0.39
Aroclor 1016-SPLP	0.095
Aroclor 1221-SPLP	0.094
Aroclor 1232-SPLP	0.11
Aroclor 1242-SPLP	0.07
Aroclor 1248-SPLP	0.085
Aroclor 1254-SPLP	0.086
Aroclor 1260-SPLP	0.051

Bronx River, Composite A - Herbicides

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080812	20080820
	Comp G	A Comp G
2,4,5-TP (Silvex)	7.5	5.7
2,4-D	61	47

	MDL SPLP Units: ug/L
	20080820
	A Comp G
2,4,5-TP (Silvex)	0.13
2,4-D	0.5

Bronx River, Composite G - Metals

	MDL Unamended Sediment (Units: ppm)	MDL Amended Sediment (Units: ppm)
	20080812	20080820
	Comp G	A Comp G
Aluminum	2.2	1.7
Antimony	0.14	0.11
Arsenic	0.35	0.28
Barium	0.056	0.044
Beryllium	0.047	0.038
Cadmium	0.072	0.057
Calcium	38.3	30.7
Chromium	0.12	0.1
Cobalt	0.066	0.052
Copper	0.21	0.17
Iron	4.6	3.7
Lead	0.24	0.19
Magnesium	2	1.6
Manganese	0.041	0.033
Mercury	0.011	0.0087
Nickel	0.16	0.13
Potassium	76.3	61
Selenium	0.44	0.35
Silver	0.057	0.045
Sodium	21.3	17
Thallium	0.49	0.39
Vanadium	0.39	0.31
Zinc	0.53	0.42
Cyanide, Total	0.29	0.23
Percent Solids	0	0

	MDL SPLP Units: ug/L
	20080820
	A Comp G
Aluminum-SPLP	8.2
Antimony-SPLP	2.9
Arsenic-SPLP	2.2
Barium-SPLP	0.1
Beryllium-SPLP	0.32
Cadmium-SPLP	0.23
Calcium-SPLP	10.2
Chromium-SPLP	1.2
Cobalt-SPLP	0.7
Copper-SPLP	0.72
Iron-SPLP	15.8
Lead-SPLP	2.4
Magnesium-SPLP	5.1
Manganese-SPLP	0.32
Mercury-SPLP	0.055
Nickel-SPLP	1.1
Potassium-SPLP	500
Selenium-SPLP	2.5
Silver-SPLP	0.59
Sodium-SPLP	271
Thallium-SPLP	3.1
Vanadium-SPLP	1
Zinc-SPLP	1.3
DI Leachable Cyanide	1.7

Bronx River, Composite G - Dioxin/Furan

	EDL Unamended Sediment (Units: ng/Kg)	EDL Amended Sediment (Units: ng/Kg)
	20080812	20080820
	Comp G	A Comp G
2,3,7,8-TCDD	0.96	0.56
1,2,3,7,8-PeCDD	1.84	1.74
1,2,3,4,7,8-HxCDD	2.03	0.6
1,2,3,6,7,8-HxCDD	2.42	0.7
1,2,3,7,8,9-HxCDD	2.04	0.59
1,2,3,4,6,7,8-HpCDD	42.53	52.07
OCDD	14.36	16.81
2,3,7,8-TCDF	3.07	0.874
1,2,3,7,8-PeCDF	2.71	2.97
2,3,4,7,8-PeCDF	2.82	3.02
1,2,3,4,7,8-HxCDF	10.64	5.06
1,2,3,6,7,8-HxCDF	10.36	4.95
2,3,4,6,7,8-HxCDF	10.87	5.18
1,2,3,7,8,9-HxCDF	12.54	5.95
1,2,3,4,6,7,8-HpCDF	27.97	19.36
1,2,3,4,7,8,9-HpCDF	35.19	25.44
OCDF	1.4	3.56

	EDL SPLP (Units: pg/L)
	20080820
	A Comp G
2,3,7,8-TCDD	2.9
1,2,3,7,8-PeCDD	1.7
1,2,3,4,7,8-HxCDD	1
1,2,3,6,7,8-HxCDD	1.2
1,2,3,7,8,9-HxCDD	1
1,2,3,4,6,7,8-HpCDD	1.6
OCDD	1.6
2,3,7,8-TCDF	1.7
1,2,3,7,8-PeCDF	1
2,3,4,7,8-PeCDF	0.92
1,2,3,4,7,8-HxCDF	0.68
1,2,3,6,7,8-HxCDF	0.65
2,3,4,6,7,8-HxCDF	0.71
1,2,3,7,8,9-HxCDF	0.88
1,2,3,4,6,7,8-HpCDF	0.99
1,2,3,4,7,8,9-HpCDF	1.5
OCDF	2.1

Bronx River, Composite H

Bronx River, Composite H - Sediment Volatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080813	20080820
	Comp H	A Comp H
Chloromethane (Methyl Chloride)	2.5	2
Bromomethane	2.1	1.7
Vinyl chloride	1.4	1.1
Chloroethane	4.5	3.6
Methylene chloride (Dichloromethane)	1.9	1.5
Acetone	14	11
Carbon disulfide	1.5	1.2
1,1-Dichloroethene	2.4	1.9
1,1-Dichloroethane	1.7	1.3
1,2-Dichloroethene (total)	3.7	2.9
Chloroform	1.7	1.3
1,2-Dichloroethane	1.8	1.4
2-Butanone (MEK)	2.5	2
1,1,1-Trichloroethane	1.4	1.1
Carbon tetrachloride	1.3	1
Bromodichloromethane	1.6	1.3
1,2-Dichloropropane	1.6	
cis-1,3-Dichloropropene	2	1.6
Trichloroethene	1.9	1.5
Dibromochloromethane	2	1.6
1,1,2-Trichloroethane	2.4	1.9
Benzene	1.9	1.5
trans-1,3-dichloropropene	1.7	1.4
Bromoform	1.3	1
4-Methyl-2-pentanone (MIBK)	1.9	1.5
2-Hexanone	2	1.6
Tetrachloroethene	2	1.6
1,1,2,2-Tetrachloroethane	2.1	1.6
Toluene	2.1	1.7
Chlorobenzene	2.2	1.7
Ethyl benzene	1.9	1.5
Styrene	1.5	1.2
Xylenes(Total)	6.5	5.1
Combined 1,3-dichloropropenes (SUM) cis + trans		

	MDL SPLP Units: ug/L
	20080820
	A Comp H
Chloromethane (Methyl Chloride) - SPLP	0.87
Bromomethane - SPLP	0.75
Vinyl chloride - SPLP	0.94
Chloroethane - SPLP	1.2
Methylene chloride (Dichloromethane) - SPLP	0.75
Acetone - SPLP	0.83
Carbon disulfide - SPLP	1.1
1,1-Dichloroethene - SPLP	0.87
1,1-Dichloroethane - SPLP	1
1,2-Dichloroethene (total) - SPLP	1.9
Chloroform - SPLP	0.78
1,2-Dichloroethane - SPLP	0.64
2-Butanone (MEK) - SPLP	0.73
1,1,1-Trichloroethane - SPLP	0.79
Carbon tetrachloride - SPLP	0.91
Bromodichloromethane - SPLP	0.58
1,2-Dichloropropane - SPLP	0.67
cis-1,3-Dichloropropene - SPLP	0.79
Trichloroethene - SPLP	0.88
Dibromochloromethane - SPLP	0.5
1,1,2-Trichloroethane - SPLP	0.79
Benzene - SPLP	0.81
trans-1,3-dichloropropene - SPLP	0.57
Bromoform - SPLP	0.37
4-Methyl-2-pentanone (MIBK) - SPLP	0.46
2-Hexanone - SPLP	0.45
Tetrachloroethene - SPLP	0.57
1,1,2,2-Tetrachloroethane - SPLP	0.63
Toluene - SPLP	0.8
Chlorobenzene - SPLP	0.71
Ethyl benzene - SPLP	0.58
Styrene - SPLP	0.8
Xylenes(Total) - SPLP	2.4
Combined 1,3-dichloropropenes (SUM) cis + trans	

Bronx River, Composite H - Sediment Semivolatiles

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080813	20080820
	Comp H	A Comp H
Phenol	140	46
bis(2-Chloroethyl) ether	54	17
2-Chlorophenol	120	38
1,3-Dichlorobenzene	88	28
1,4-Dichlorobenzene	92	29
1,2-Dichlorobenzene	130	43
2-Methylphenol	150	48
2,2'-oxybis(1-Chloropropane)	140	46
4-Methylphenol	150	48
N-Nitrosodi-n-propylamine	59	19
Hexachloroethane	110	34
Nitrobenzene	60	19
Isophorone	130	42
2-Nitrophenol	190	60
2,4-Dimethylphenol	100	33
bis(2-Chloroethoxy)methane	110	35
2,4-Dichlorophenol	71	23
1,2,4-Trichlorobenzene	120	37
Naphthalene	120	37
4-Chloroaniline	210	65
Hexachlorobenzene	150	46
4-Chloro-3-methylphenol	150	46
2-Methylnaphthalene	130	42
Hexachlorocyclopentadiene	110	35
2,4,6-Trichlorophenol	190	61
2,4,5-Trichlorophenol	200	63
2-Chloronaphthalene	140	44
2-Nitroaniline	140	46
Dimethyl phthalate	140	43
Acenaphthylene	140	44
2,6-Dinitrotoluene	150	49
3-Nitroaniline	210	65

	MDL SPLP Units: mg/L
	20080820
	A Comp H
Phenol-SPLP	0.00021
bis(2-Chloroethyl) ether-SPLP	0.00043
2-Chlorophenol-SPLP	0.00043
1,3-Dichlorobenzene-SPLP	0.00035
1,4-Dichlorobenzene-SPLP	0.00045
1,2-Dichlorobenzene-SPLP	0.0003
2-Methylphenol-SPLP	0.00048
2,2'-oxybis(1-Chloropropane)-SPLP	0.00024
4-Methylphenol-SPLP	0.00069
N-Nitrosodi-n-propylamine-SPLP	0.00056
Hexachloroethane-SPLP	0.00041
Nitrobenzene-SPLP	0.0006
Isophorone-SPLP	0.00045
2-Nitrophenol-SPLP	0.00051
2,4-Dimethylphenol-SPLP	0.00049
bis(2-Chloroethoxy)methane-SPLP	0.0011
2,4-Dichlorophenol-SPLP	0.00046
1,2,4-Trichlorobenzene-SPLP	0.00037
Naphthalene-SPLP	0.0004
4-Chloroaniline-SPLP	0.00043
Hexachlorobenzene-SPLP	0.00035
4-Chloro-3-methylphenol-SPLP	0.00055
2-Methylnaphthalene-SPLP	0.00044
Hexachlorocyclopentadiene-SPLP	0.00016
2,4,6-Trichlorophenol-SPLP	0.00053
2,4,5-Trichlorophenol-SPLP	0.00059
2-Chloronaphthalene-SPLP	0.00042
2-Nitroaniline-SPLP	0.00045
Dimethyl phthalate-SPLP	0.0004
Acenaphthylene-SPLP	0.00043
2,6-Dinitrotoluene-SPLP	0.00048
3-Nitroaniline-SPLP	0.00038

Bronx River, Composite H - Sediment Semivolatiles, Con't.

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080813	20080820
	Comp H	A Comp H
Acenaphthene	120	40
2,4-Dinitrophenol	2800	900
4-Nitrophenol	190	59
Dibenzofuran	130	42
2,4-Dinitrotoluene	120	39
Diethyl phthalate	210	68
4-Chlorophenyl phenyl ether	120	38
Fluorene	120	37
4-Nitroaniline	100	32
4,6-Dinitro-2-methylphenol	1700	540
N-Nitrosodiphenylamine	130	41
4-Bromophenyl phenyl ether	110	34
Hexachlorobutadiene	140	46
Pentachlorophenol	180	57
Phenanthrene	110	36
Anthracene	140	43
Carbazole	98	31
Di-n-butyl phthalate	400	130
Fluoranthene	150	49
Pyrene	150	46
Butyl benzyl phthalate	190	61
3,3'-Dichlorobenzidine	540	170
Benzo(a)anthracene	95	30
Chrysene	95	30
bis(2-Ethylhexyl) phthalate	180	58
Di-n-octyl phthalate	170	53
Benzo(b)fluoranthene	92	29
Benzo(k)fluoranthene	77	24
Benzo(a)pyrene	74	23
Indeno(1,2,3-cd)pyrene	85	27
Dibenz(a,h)anthracene	150	48
Benzo(ghi)perylene	81	26
Pyridine	89	28

	MDL SPLP Units: mg/L
	20080820
	A Comp H
Acenaphthene-SPLP	0.00049
2,4-Dinitrophenol-SPLP	0.012
4-Nitrophenol-SPLP	0.00066
Dibenzofuran-SPLP	0.0005
2,4-Dinitrotoluene-SPLP	0.00042
Diethyl phthalate-SPLP	0.0023
4-Chlorophenyl phenyl ether-SPLP	0.0004
Fluorene-SPLP	0.00051
4-Nitroaniline-SPLP	0.00024
4,6-Dinitro-2-methylphenol-SPLP	0.013
N-Nitrosodiphenylamine-SPLP	0.00046
4-Bromophenyl phenyl ether-SPLP	0.00047
Hexachlorobutadiene-SPLP	0.00041
Pentachlorophenol-SPLP	0.00078
Phenanthrene-SPLP	0.00052
Anthracene-SPLP	0.00048
Carbazole-SPLP	0.00049
Di-n-butyl phthalate-SPLP	0.00044
Fluoranthene-SPLP	0.00047
Pyrene-SPLP	0.00053
Butyl benzyl phthalate-SPLP	0.0013
3,3'-Dichlorobenzidine-SPLP	0.00039
Benzo(a)anthracene-SPLP	0.00039
Chrysene-SPLP	0.00033
bis(2-Ethylhexyl) phthalate-SPLP	0.0011
Di-n-octyl phthalate-SPLP	0.0004
Benzo(b)fluoranthene-SPLP	0.00029
Benzo(k)fluoranthene-SPLP	0.00037
Benzo(a)pyrene-SPLP	0.00041
Indeno(1,2,3-cd)pyrene-SPLP	0.00045
Dibenz(a,h)anthracene-SPLP	0.00033
Benzo(ghi)perylene-SPLP	0.00026
Pyridine	0.00067

Bronx River, Composite H - Sediment Pesticides/Aroclor

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080813	20080820
	Comp H	A Comp H
alpha-BHC	0.73	0.58
beta-BHC	0.57	0.45
delta-BHC	0.51	0.4
gamma-BHC (Lindane)	0.67	0.53
Heptachlor	0.61	0.49
Aldrin	0.51	0.41
Heptachlor epoxide	0.48	0.38
Endosulfan I	0.5	0.4
Dieldrin	0.36	0.28
4,4'-DDE	0.29	0.23
Endrin	0.38	0.31
Endosulfan II	1.1	0.88
4,4'-DDD	0.43	0.34
Endosulfan sulfate	0.78	0.62
4,4'-DDT	0.66	0.52
Methoxychlor	2	1.6
Endrin ketone	0.56	0.44
Endrin aldehyde	0.61	0.48
alpha-Chlordane	0.3	0.24
gamma-Chlordane	0.49	0.39
Toxaphene	33	27
Aroclor 1016	7.2	5.7
Aroclor 1221	9.2	7.3
Aroclor 1232	8.2	6.5
Aroclor 1242	7.8	6.2
Aroclor 1248	4.5	3.6
Aroclor 1254	6.8	5.4
Aroclor 1260	6.8	5.4

	MDL SPLP Units: ug/L
	20080820
	A Comp H
alpha-BHC-SPLP	0.014
beta-BHC-SPLP	0.014
delta-BHC-SPLP	0.0089
gamma-BHC (Lindane)-SPLP	0.014
Heptachlor-SPLP	0.013
Aldrin-SPLP	0.01
Heptachlor epoxide-SPLP	0.0093
Endosulfan I-SPLP	0.007
Dieldrin-SPLP	0.0075
4,4'-DDE-SPLP	0.0064
Endrin-SPLP	0.0072
Endosulfan II-SPLP	0.014
4,4'-DDD-SPLP	0.0073
Endosulfan sulfate-SPLP	0.015
4,4'-DDT-SPLP	0.013
Methoxychlor-SPLP	0.017
Endrin ketone-SPLP	0.0094
Endrin aldehyde-SPLP	0.011
alpha-Chlordane-SPLP	0.011
gamma-Chlordane-SPLP	0.0071
Toxaphene-SPLP	0.39
Aroclor 1016-SPLP	0.095
Aroclor 1221-SPLP	0.094
Aroclor 1232-SPLP	0.11
Aroclor 1242-SPLP	0.07
Aroclor 1248-SPLP	0.085
Aroclor 1254-SPLP	0.086
Aroclor 1260-SPLP	0.051

Bronx River, Composite H - Herbicides

	MDL Unamended Sediment (Units: ppb)	MDL Amended Sediment (Units: ppb)
	20080813	20080820
	Comp H	A Comp H
2,4,5-TP (Silvex)	5.8	5.3
2,4-D	47	43

	MDL SPLP Units: ug/L
	20080820
	A Comp H
2,4,5-TP (Silvex)	0.12
2,4-D	0.49

Bronx River, Composite H - Metals

	MDL Unamended Sediment (Units: ppm)	MDL Amended Sediment (Units: ppm)
	20080813	20080820
	Comp H	A Comp H
Aluminum	2	1.6
Antimony	0.13	0.21
Arsenic	0.33	0.26
Barium	0.053	0.042
Beryllium	0.044	0.035
Cadmium	0.068	0.11
Calcium	36.3	57.6
Chromium	0.12	0.19
Cobalt	0.062	0.049
Copper	0.2	0.16
Iron	4.3	6.9
Lead	0.23	0.36
Magnesium	1.9	1.5
Manganese	0.039	0.031
Mercury	0.01	0.0081
Nickel	0.15	0.12
Potassium	72.1	57.3
Selenium	0.41	0.66
Silver	0.054	0.043
Sodium	20.1	32
Thallium	0.46	0.74
Vanadium	0.37	0.59
Zinc	0.5	0.79
Cyanide, Total	0.28	0.22
Percent Solids		

	MDL SPLP Units: ug/L
	20080820
	A Comp H
Aluminum-SPLP	8.2
Antimony-SPLP	2.9
Arsenic-SPLP	2.2
Barium-SPLP	0.1
Beryllium-SPLP	0.32
Cadmium-SPLP	0.23
Calcium-SPLP	10.2
Chromium-SPLP	1.2
Cobalt-SPLP	0.7
Copper-SPLP	0.72
Iron-SPLP	15.8
Lead-SPLP	2.4
Magnesium-SPLP	5.1
Manganese-SPLP	0.32
Mercury-SPLP	0.055
Nickel-SPLP	1.1
Potassium-SPLP	500
Selenium-SPLP	2.5
Silver-SPLP	0.59
Sodium-SPLP	271
Thallium-SPLP	3.1
Vanadium-SPLP	1
Zinc-SPLP	1.3
DI Leachable Cyanide	1.7

Bronx River, Composite H - Dioxin/Furan

	EDL Unamended Sediment (Units: ng/Kg)	EDL Amended Sediment (Units: ng/Kg)
	20080813	20080820
	Comp H	A Comp H
2,3,7,8-TCDD	0.39	0.46
1,2,3,7,8-PeCDD	1.63	1.43
1,2,3,4,7,8-HxCDD	0.78	0.74
1,2,3,6,7,8-HxCDD	0.91	0.88
1,2,3,7,8,9-HxCDD	0.78	0.75
1,2,3,4,6,7,8-HpCDD	55.74	71.58
OCDD	24.8	26.15
2,3,7,8-TCDF	3.74	3.61
1,2,3,7,8-PeCDF	2.46	3.89
2,3,4,7,8-PeCDF	2.59	4.03
1,2,3,4,7,8-HxCDF	5.21	5.2
1,2,3,6,7,8-HxCDF	5.09	5.18
2,3,4,6,7,8-HxCDF	5.32	5.29
1,2,3,7,8,9-HxCDF	6.24	5.96
1,2,3,4,6,7,8-HpCDF	48.99	30.7
1,2,3,4,7,8,9-HpCDF	61.63	38.41
OCDF	3.95	1.6

	EDL SPLP (Units: pg/L)
	20080820
	A Comp H
2,3,7,8-TCDD	8
1,2,3,7,8-PeCDD	4
1,2,3,4,7,8-HxCDD	3.3
1,2,3,6,7,8-HxCDD	3.8
1,2,3,7,8,9-HxCDD	3.3
1,2,3,4,6,7,8-HpCDD	5.2
OCDD	8.5
2,3,7,8-TCDF	4.2
1,2,3,7,8-PeCDF	2.9
2,3,4,7,8-PeCDF	2.3
1,2,3,4,7,8-HxCDF	1.8
1,2,3,6,7,8-HxCDF	1.7
2,3,4,6,7,8-HxCDF	2
1,2,3,7,8,9-HxCDF	3
1,2,3,4,6,7,8-HpCDF	2.8
1,2,3,4,7,8,9-HpCDF	5
OCDF	8.9

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

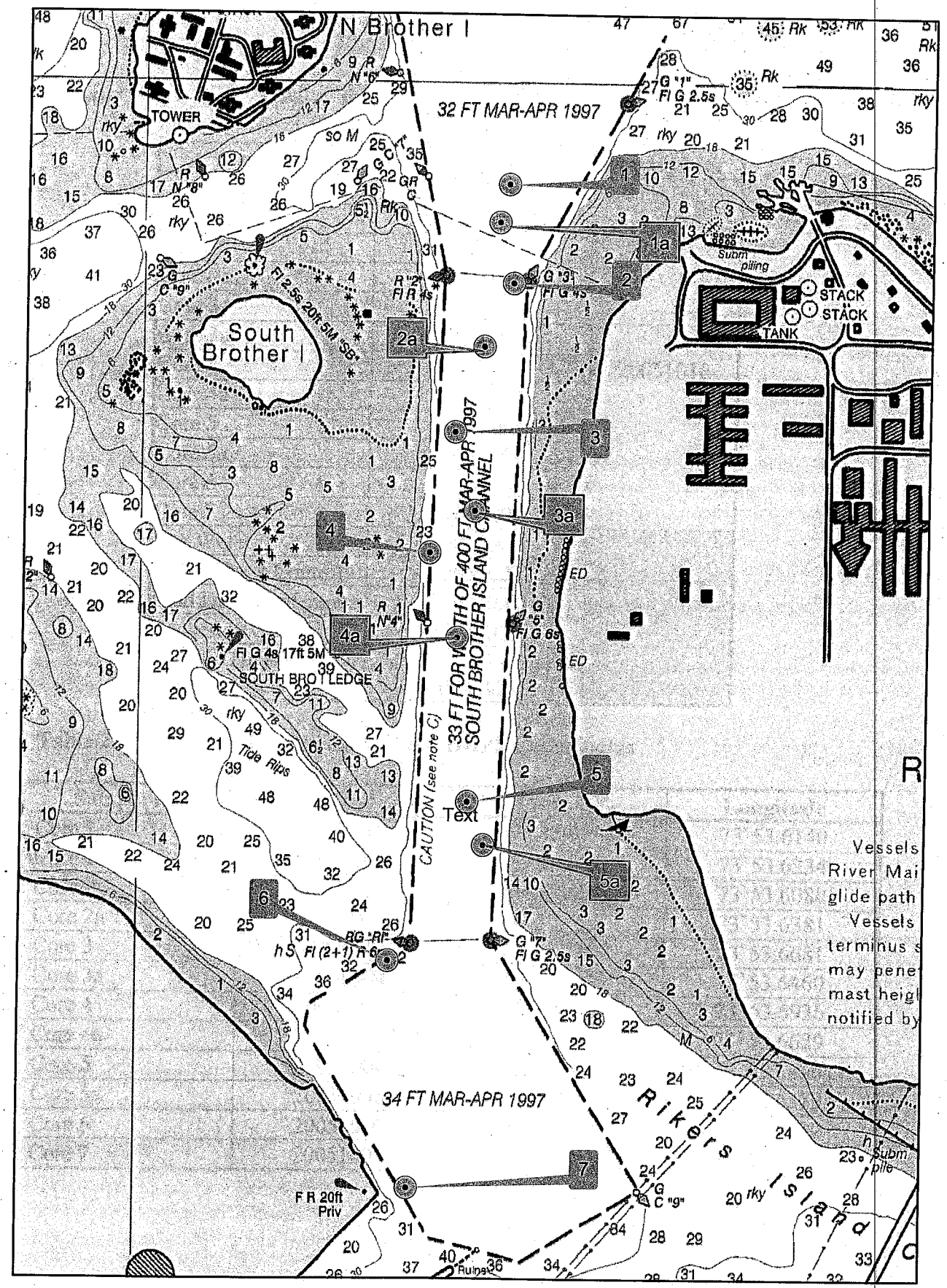
Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides)
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Data Qualifier Flags – Dioxins/Furans

B	Indicates the associated analyte is found in the method blank, as well as in the sample
C	Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on second column (DB-225.) The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.
E	Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range
J	Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimat detection limit (EDL)
K	EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.
U	Indicates the compound was analyzed and not detected
Y	Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y' flags on the Form 2s. In a cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.
B	Indicates the associated analyte is found in the method blank, as well as in the sample
ND	Indicates concentration is reported as 'Not Detected'
S	Peak is saturated; data not reportable
Q	Lock-mass interference by ether compounds

Figure 1


N Brother I
TOWER
32 FT MAR-APR 1997
South Brother I
2a
33 FT FOR WIDTH OF 400 FT MAR-APR 1997
SOUTH BROTHER ISLAND CHANNEL
CAUTION (see note C)
4
4a
SOUTH BRO LEDGE
Tide Rips
Text
6
5
5a
34 FT MAR-APR 1997
Rikers Island
F R 20ft
Priv
1
1a
2
3
3a
STACK
STACK
TANK
Subm piling
Vessels
River Mai
glide path
Vessels
terminus s
may pene
mast heig
notified by

1,000 500 0 1,000 Feet
N
W E
S

Table 1. **Sample Identification Keys**

Sample ID	ASI #	Composite
Core 1	20051002	
Core 1a	20050990	
Core 2	20050992	
Core 2a	20050991	
Core 3	20050993	
Core 3a	20050994	
Core 4	20050995	20051010
Core 4a	20051003	
Core 5	20051004	
Core 5a	20051005	
Core 6	20051006	
Core 7	20051007	
Site Water	20051008	
Sandy Hook Control	20051027	
Mud Dump Reference	20051022	
Tuckerton Control	20051025	
Atlantic Highlands Control	20051029	

Table 2. **Core Locations and DGPS Coordinates**

Sample ID#	ASI #	Latitude	Longitude
Core 1	20051002	40° 47.9190	73° 53.6140
Core 1a	20050990	40° 47.8882	73° 53.6234
Core 2	20050992	40° 47.8398	73° 53.6080
Core 2a	20050991	40° 47.7891	73° 53.6381
Core 3	20050993	40° 47.7207	73° 53.6681
Core 3a	20050994	40° 47.6579	73° 53.6460
Core 4	20050995	40° 47.6243	73° 53.6936
Core 4a	20051003	40° 47.5570	73° 53.6629
Core 5	20051004	40° 47.4257	73° 53.6496
Core 5a	20051005	40° 47.3913	73° 53.6319
Core 6	20051006	40° 47.2988	73° 53.7312
Core 7	20051007	40° 47.1184	73° 53.7085

Table 4. Particle Size Distribution, % Moisture, and TOC Values

Sample	ASI ID #	% Clay	% Silt	% Sand	% Gravel	% Moisture	TOC ppm	% TOC of dry weight
Core 1	20051002	53.1	46.9	0.00	0.00	64.0	45,717	4.57
Core 1a	20050990	56.1	43.9	0.00	0.00	63.2	49,531	4.95
Core 2	20050992	53.5	46.5	0.00	0.00	63.7	47,378	4.74
Core 2a	20050991	52.9	47.1	0.00	0.00	63.2	46,710	4.67
Core 3	20050993	52.5	47.5	0.00	0.00	64.5	46,785	4.68
Core 3a	20050994	52.5	47.5	0.00	0.00	63.6	46,358	4.64
Core 4	20050995	54.9	45.1	0.00	0.00	65.9	46,510	4.65
Core 4a	20051003	53.5	46.5	0.00	0.00	64.0	46,915	4.69
Core 5	20051004	51.4	48.6	0.00	0.00	64.1	47,956	4.80
Core 5a	20051005	50.1	49.9	0.00	0.00	64.5	47,490	4.75
Core 6	20051006	22.0	23.0	52.5	2.42	53.3	110,052	11.0
Core 7	20051007	36.5	45.3	14.8	3.36	54.6	58,194	5.82
Composite	20051010	52.2	47.5	0.00	0.27	63.2	44,963	4.50
Composite dup	20051010	50.7	49.0	0.00	0.24	63.1		
Composite trip	20051010	49.8	50.0	0.00	0.17	63.1		
Mud Dump Reference	20051022	4.28	0.00	97.2	0.00	19.9	335	0.03
Tuckerton Control	20051025	43.4	42.8	13.8	0.00	57.5	35,315	35.3
Sandy Hook Control	20051027	3.53	0.13	96.3	0.00	20.1	376	0.03
Sandy Hook Control dup	20051027	3.85	0.00	98.1	0.00	20.3		
Sandy Hook Control trip	20051027	3.51	0.00	97.8	0.00	20.6		
Atlantic Highlands Control	20051029	44.3	55.7	0.00	0.00	73.3	51,960	5.20

Table 5. **Specific Gravity, Bulk Density, Atterberg Limits, and Total Suspended Solids**

Total Suspended Solids (mg/l)	240
Total Suspended Solids Duplicate (mg/l)	240
Total Suspended Solids Triplicate (mg/l)	260
Mean	**247**
Specific Gravity	2.49
Specific Gravity Duplicate (g)	2.48
Specific Gravity Triplicate (g)	2.49
Mean	**2.49**
Bulk Density (g/wet ml) / (g/dry ml)	1.28 / 0.46
Bulk Density Duplicate (g/wet ml) / (g/dry ml)	1.28 / 0.46
Bulk Density Triplicate (g/wet ml) / (g/dry ml)	1.28 / 0.47
Mean (g/wet ml) / (g/dry ml)	**1.28 / 0.47**
Atterberg Limits (Liquid Limit Moisture Content) Atterberg Limits (Liquid Limit % Moisture)	1.14 53.31
Atterberg Limits (Liquid Limit Moisture Content) Dup. Atterberg Limits (Liquid Limit % Moisture) Dup.	1.12 52.94
Atterberg Limits (Liquid Limit Moisture Content) Trip. Atterberg Limits (Liquid Limit % Moisture) Trip.	1.13 53.00
Mean (Moisture Content) **Mean (% Moisture)**	**1.13** **53.08**
Atterberg Limits (Plastic Limit Moisture Content) Atterberg Limits (Plastic Limit % Moisture)	0.58 36.58
Atterberg Limits (Plastic Limit Moisture Content) Dup. Atterberg Limits (Plastic Limit % Moisture) Dup.	0.57 36.16
Atterberg Limits (Plastic Limit Moisture Content) Trip. Atterberg Limits (Plastic Limit % Moisture) Trip.	0.56 35.84
Mean (Moisture Content) **Mean (% Moisture)**	**0.58** **36.19**

BATTELLE MARINE SCIENCES LABORATORIES
Jill Brandenberger, Project Manager
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Sequim, Washington 98382
(360) 681-4564

USACE/NYD
East River - South Brothers Island
METALS IN SEDIMENT

(concentrations in µg/g dry wt - data are not blank corrected)

ASI Code	BOS Code	MSL Code	Description	Date Collected	Percent Moisture	Ag	As	Cd	Cr	Cu	Hg	Ni	Pb	Zn
					Instrument:	ICP-MS	ICP-MS	ICP-MS	ICP-OES	ICP-MS	CVAA	ICP-MS	ICP-MS	ICP-MS
20051010	S8950	2448-2 R1	Composite	8/10/05	64.3	5.79	14.6	1.15	123	150	1.34	41.3	164	243
20051010	S8950	2448-2 R2	Composite	8/10/05	64.3	5.84	15.1	1.11	121	155	1.29	41.6	168	245
20051010	S8950	2448-2 R3	Composite	8/10/05	64.3	5.90	14.8	1.10	121	154	1.36	41.3	148	239
20051010	*S8950*	*Mean*	Composite	*8/10/05*	*64.3*	*5.84*	*14.8*	*1.12*	*122*	*153*	*1.33*	*41.4*	*160*	*242*
Replicate Precision				**RSD**		**1%**	**2%**	**2%**	**1%**	**2%**	**3%**	**0%**	**7%**	**1%**
PDL Verification														
20051022	S9128	2448-4 PDL	Reference	8/12/05	14.9	0.0713	4.71	0.0160	12.9	3.24	0.0083	3.20	7.39	16.7
20051022	S9128	2448-4 PDL	Reference	8/12/05	14.9	0.0950	5.32	0.0131	13.7	3.54	0.0065	3.45	8.22	17.1
20051022	S9128	2448-4 PDL	Reference	8/12/05	14.9	0.0484	4.58	0.0132	9.68	1.99	0.0106	3.09	7.28	14.5
20051022	S9128	2448-4 PDL	Reference	8/12/05	14.9	0.0496	5.58	0.0118	10.6	1.99	0.0098	3.06	8.63	15.3
20051022	*S9128*	*Mean*	*Reference*	*8/12/05*	14.9	*0.0661*	*5.05*	*0.0135*	*11.7*	*2.69*	*0.0088*	*3.20*	*7.88*	*15.9*
		Standard Deviation				0.0220	0.480	0.00177	1.90	0.818	0.002	0.177	0.65	1.21
		PDL Verification (SD * 4.541)				**0.0998**	**2.18**	**0.00803**	**8.6**	**3.71**	**0.0082**	**0.805**	**2.96**	**5.50**
Target Detection Limits [1]						0.1	0.1	0.01	0.02	0.1	0.03 [3]	0.1	0.1	0.1
Achieved Method Detection Limits (MDL) [2]						**0.007**	**0.02**	**0.008**	**0.06**	**0.06**	**0.006**	**0.09**	**0.007**	**0.3**
Method Blank														
MB 1		Blank 100405				0.007 U	0.0491	0.008 U	0.150	0.06 U	0.006 U	0.09 U	0.007 U	0.648
BLANK SPIKE ACCURACY														
LCS		LCS 100405				5.43	4.7	5.22	5.18	5.30	4.86	5.34	5.40	5.27
MB 1		Blank 100405				0.007 U	0.0491	0.008 U	0.150	0.06 U	0.006 U	0.09 U	0.007 U	0.648
		Spike Conconcentration				5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
		Percent Recovery				**109%**	**92%**	**104%**	**101%**	**106%**	**97%**	**107%**	**108%**	**92%**

Battelle
The Business of Innovation

Project Client: ARMY CORPS OF ENGINEERS NYC DIST
Project Name: USACE/NYD - East River, South Brother Island
Project Number: G603321

Client ID	20051010	20051022
Battelle ID	S8950-P	S9128-P
Sample Type	SA	SA
Collection Date	08/10/05	08/12/05
Extraction Date	08/22/05	08/22/05
Analysis Date	09/10/05	09/10/05
Analytical Instrument	MS	MS
% Moisture	62.66	17.04
% Lipid	NA	NA
Matrix	SEDIMENT	SEDIMENT
Sample Size	11.39	25.18
Size Unit-Basis	G_DRY	G_DRY
Units	NG/G_DRY	NG/G_DRY
1,4-Dichlorobenzene	55.36	0.2 J
Naphthalene	455.6	0.38 B
Acenaphthylene	212.89	0.1 J
Acenaphthene	226.4	0.05 U
Fluorene	174.52	0.1 J
Anthracene	726.48	0.19 J
Phenanthrene	725.64 D	0.43 B
Fluoranthene	1034.24 D	0.52
Pyrene	1458.46 D	0.51
Benzo(a)anthracene	1419.26 D	0.31 J
Chrysene	1518.01 D	0.45
Benzo(b)fluoranthene	1017.15 D	0.43
Benzo(j/k)fluoranthene	1321.27 D	0.4 J
Benzo(a)pyrene	1927.11 D	0.42
Indeno(1,2,3-cd)pyrene	970.05 D	0.37
Dibenz(a,h)anthracene	334.36	0.08 J
Benzo(g,h,i)perylene	981.51 D	0.39
Surrogate Recoveries (%)		
Naphthalene-d8	63	79
Acenaphthene-d10	59	78
Phenanthrene-d10	60	87
Benzo(b)fluoranthene-d12	93	102
Benzo(a)pyrene-d12	77	72

Not Surrogate Corrected

Analyzed by Sisson, Jeannine
1/3/2006

Battelle
The Business of Innovation

Project Client: ARMY CORPS OF ENGINEERS NYC DIST
Project Name: USACE/NYD - East River, South Brother Island
Project Number: G603321

Client ID	20051010	20051022
Battelle ID	S8950-P	S9128-P
Sample Type	SA	SA
Collection Date	08/10/05	08/12/05
Extraction Date	08/22/05	08/22/05
Analysis Date	08/31/05	09/01/05
Analytical Instrument	ECD	ECD
% Moisture	62.66	17.04
% Lipid	NA	NA
Matrix	SEDIMENT	SEDIMENT
Sample Size	11.39	25.18
Size Unit-Basis	G_DRY	G_DRY
Units	NG/G_DRY	NG/G_DRY
2,4'-DDD	9.13	0.04 U
2,4'-DDE	0.59	0.03 U
2,4'-DDT	0.78	0.04 U
4,4'-DDD	6.03	0.02 J
4,4'-DDE	7.44	0.02 J
4,4'-DDT	2.2	0.03 U
aldrin	0.05 U	0.02 U
a-chlordane	0.98	0.03 U
trans-nonachlor	0.77	0.03 U
dieldrin	1.76	0.03 U
endosulfan I	0.06 U	0.03 U
endosulfan II	1.67	0.11 U
endosulfan sulfate	0.54 U	0.25 U
heptachlor	0.05 U	0.02 U
heptachlor epoxide	0.06 U	0.03 U
Cl2(8)	6.35	0.03 U
Cl3(18)	3.85	0.03 U
Cl3(28)	13.86	0.03 J
Cl4(44)	3.41	0.02 U
Cl4(49)	6.18	0.05 U
Cl4(52)	6.97	0.04 U
Cl4(66)	7.41	0.04 U
Cl5(87)	5.09	0.03 U
Cl5(101)	6.43	0.03 U
Cl5(105)	3.06	0.04 U
Cl5(118)	8.47	0.04 J
Cl6(128)	1.43	0.03 U
Cl6(138)	11.2	0.05 J
Cl6(153)	12.8	0.05 J
Cl7(170)	1.98	0.03 U
Cl7(180)	5.61	0.01 J
Cl7(183)	0.05 U	0.02 U
Cl7(184)	0.06 U	0.03 U
Cl7(187)	3.68	0.02 U
Cl8(195)	0.75	0.03 U
Cl9(206)	1.16	0.06 J
Cl10(209)	1.75	0.03 U
Surrogate Recoveries (%)		
Cl2(14)	72	79
Cl3(34)	56	83
Cl3(36)	81	83
Cl4(61)	82	84
Cl6(152)	65	90

Not Surrogate Corrected

Analyzed by Sisson, Jeannine
1/3/2006

Main: S05-0298ECD.xls

CT_NAME	USACE-NYD East River Sediments							
L	BCO							
SDG	51050-32							
ANALYSIS_METH	MOD 1613B							
REACH								
SAMP_TYPE		LB		ER-Composite		ER-Composite		
NOTES		QC		TEST		QADUP		
CLIENT_ID		PROCEDURAL BLANK						
LAB_SAMP_ID		METHOD BLANK		S8950		S8950 DUP		
REP				1		1		
SUBREP				1		2		
FRACTION								
SAMPLE_WGT_VOL		7.1364		3.2236		3.2075		
SAMP_WGT_VOL_UNIT		G DRYWT		G DRYWT		G DRYWT		
PCT_DRY_WT		68.98		31.10		31.10		
DETECT_LIM_CODE		SPDL		SPDL		SPDL		
RECEIPT_DATE				8/23/2005		8/23/2005		
EXTRACT_DATE		9/6/2005		9/6/2005		9/6/2005		
ANALYSIS_DATE		9/26/2005		9/26/2005		9/26/2005		
DIOXIN_EXTRACT_LRB_NUMBER		51050-32-13		51050-32-02		51050-32-03		
PARAM_NAME	UNIT	RESULT	LAB_QUAL	DETECT_LIMIT	RESULT	LAB_QUAL	DETECT_LIMIT	RESULT LAB_QUAL DETECT_LIMIT
2378-TCDD	PG/G DRYWT	0.70	U	0.70	3.71		1.05	2.67 1.07
12378-PECDD	PG/G DRYWT	0.55	U	0.55	2.71		1.20	1.80 U 1.80
123478-HXCDD	PG/G DRYWT	0.38	U	0.38	3.02		1.77	1.97 J 2.33
123678-HXCDD	PG/G DRYWT	0.37	U	0.37	10.26		1.60	8.95 2.28
123789-HXCDD	PG/G DRYWT	0.34	U	0.34	8.88		1.51	7.73 2.08
1234678-HPCDD	PG/G DRYWT	0.52	U	0.52	178.69		0.84	178.36 12.79
OCDD	PG/G DRYWT	0.96		0.59	1795.81		0.79	1844.91 1.08
2378-TCDF	PG/G DRYWT	6.71	U#	6.71	20.85	#	4.46	19.82 # 8.38
12378-PECDF	PG/G DRYWT	0.57	U	0.57	5.92		1.78	5.70 1.94
23478-PECDF	PG/G DRYWT	0.45	U	0.45	7.39		1.64	6.55 1.88
123478-HXCDF	PG/G DRYWT	0.17	U	0.17	11.80		1.67	10.91 2.19
123678-HXCDF	PG/G DRYWT	0.17	U	0.17	5.36		1.54	4.75 2.09
123789-HXCDF	PG/G DRYWT	0.20	U	0.20	0.33	J	1.76	0.52 J 2.32
234678-HXCDF	PG/G DRYWT	0.04	J	0.17	4.12		1.56	3.99 2.06
1234678-HPCDF	PG/G DRYWT	0.10	J	0.23	65.79		2.19	70.58 3.92
1234789-HPCDF	PG/G DRYWT	0.29	U	0.29	3.01		2.58	2.81 J 4.58
OCDF	PG/G DRYWT	0.44	J	0.85	93.18		0.72	101.57 1.19
Total Tetra-Furans	PG/G DRYWT	0.49	U	0.49	88.73		1.14	61.98 1.15
Total Tetra-Dioxins	PG/G DRYWT	0.70	U	0.70	37.07		1.05	31.75 1.07
Total Penta-Furans	PG/G DRYWT	0.51	U	0.51	100.80		1.71	93.50 1.91
Total Penta-Dioxins	PG/G DRYWT	0.55	U	0.55	30.36		1.20	23.85 1.80
Total Hexa-Furans	PG/G DRYWT	0.04	J	0.18	84.61		1.62	75.81 2.16
Total Hexa-Dioxins	PG/G DRYWT	0.36	U	0.36	121.79		1.62	106.36 2.22
Total Hepta-Furans	PG/G DRYWT	0.10	J	0.26	126.12		2.37	136.78 4.23
Total Hepta-Dioxins	PG/G DRYWT	0.52	U	0.52	468.95		0.84	465.85 12.79
13C-2378-TCDD	PCT REC	48			65			69
13C-12378-PECDD	PCT REC	65			74			64
13C-123478-HXCDD	PCT REC	77			81			80
13C-123678-HXCDD	PCT REC	90			90			89
13C-1234678-HPCDD	PCT REC	86			87			87
13C-OCDD	PCT REC	95			100			100
13C-2378-TCDF	PCT REC	44	#		49	#		52 #
13C-12378-PECDF	PCT REC	61			74			69
13C-23478-PECDF	PCT REC	66			69			62
13C-123478-HXCDF	PCT REC	74			79			75
13C-123678-HXCDF	PCT REC	79			83			81
13C-123789-HXCDF	PCT REC	76			83			80
13C-234678-HXCDF	PCT REC	79			84			82
13C-1234678-HPCDF	PCT REC	78			80			81
13C-1234789-HPCDF	PCT REC	72			77			79
37Cl-2378-TCDD	PCT REC	58			74			78

J = reported value < EDL (reported as Dectection Limit)
U = not detected, or value detected below EDL (reported as Detection Limit)
# = value from confirmation run.

PROJECT_NAME	USACE-NYD East River Sediments					
LAB	BCO					
SDG	51050-32					
ANALYSIS_METH	MOD 1613B					
REACH		ER-Composite			Reference	
SAMP_TYPE		QATRIP			TEST	
NOTES						
CLIENT_ID						
LAB_SAMP_ID		S8950 TRIP			S9128	
REP		1			1	
SUBREP		3			1	
FRACTION						
SAMPLE_WGT_VOL		3.2005			8.3634	
SAMP_WGT_VOL_UNIT		G DRYWT			G DRYWT	
PCT_DRY_WT		31.10			83.08	
DETECT_LIM_CODE		SPDL			SPDL	
RECEIPT_DATE		8/23/2005			8/23/2005	
EXTRACT_DATE		9/6/2005			9/6/2005	
ANALYSIS_DATE		9/26/2005			9/26/2005	
DIOXIN_EXTRACT_LRB_NUMBER		51050-32-04			51050-32-05	
PARAM_NAME	UNIT	RESULT	LAB_QUAL	DETECT_LIMIT	RESULT	LAB_QUAL DETECT_LIMIT
2378-TCDD	PG/G DRYWT	2.59		0.92	0.17	J 0.36
12378-PECDD	PG/G DRYWT	2.26		1.20	0.42	U 0.42
123478-HXCDD	PG/G DRYWT	2.64		1.58	0.43	U 0.43
123678-HXCDD	PG/G DRYWT	8.81		1.52	0.07	J 0.41
123789-HXCDD	PG/G DRYWT	7.79		1.40	0.38	U 0.38
1234678-HPCDD	PG/G DRYWT	167.68		4.32	1.37	0.46
OCDD	PG/G DRYWT	1674.83		20.45	20.16	3.31
2378-TCDF	PG/G DRYWT	22.57	#	5.64	0.13	J 0.31
12378-PECDF	PG/G DRYWT	5.33		2.09	0.09	J 0.52
23478-PECDF	PG/G DRYWT	6.94		1.94	0.43	U 0.43
123478-HXCDF	PG/G DRYWT	9.86		1.49	0.17	0.14
123678-HXCDF	PG/G DRYWT	4.24		1.48	0.14	U 0.14
123789-HXCDF	PG/G DRYWT	0.31	J	1.62	0.05	J 0.16
234678-HXCDF	PG/G DRYWT	3.83		1.43	0.15	U 0.15
1234678-HPCDF	PG/G DRYWT	57.98		2.89	0.38	0.26
1234789-HPCDF	PG/G DRYWT	2.92	J	3.30	0.11	J 0.31
OCDF	PG/G DRYWT	88.41		1.03	1.47	0.48
Total Tetra-Furans	PG/G DRYWT	58.45		0.66	0.13	J 0.31
Total Tetra-Dioxins	PG/G DRYWT	33.66		0.92	0.24	J 0.36
Total Penta-Furans	PG/G DRYWT	92.25		2.02	0.09	J 0.48
Total Penta-Dioxins	PG/G DRYWT	23.74		1.20	0.42	U 0.42
Total Hexa-Furans	PG/G DRYWT	73.75		1.50	0.21	0.15
Total Hexa-Dioxins	PG/G DRYWT	112.38		1.49	0.52	0.41
Total Hepta-Furans	PG/G DRYWT	111.92		3.08	0.76	0.28
Total Hepta-Dioxins	PG/G DRYWT	420.33		4.32	4.01	0.46
13C-2378-TCDD	PCT REC	75			57	
13C-12378-PECDD	PCT REC	73			65	
13C-123478-HXCDD	PCT REC	82			77	
13C-123678-HXCDD	PCT REC	92			80	
13C-1234678-HPCDD	PCT REC	90			83	
13C-OCDD	PCT REC	101			91	
13C-2378-TCDF	PCT REC	64	#		53	
13C-12378-PECDF	PCT REC	75			66	
13C-23478-PECDF	PCT REC	71			69	
13C-123478-HXCDF	PCT REC	83			75	
13C-123678-HXCDF	PCT REC	87			77	
13C-123789-HXCDF	PCT REC	87			76	
13C-234678-HXCDF	PCT REC	88			77	
13C-1234678-HPCDF	PCT REC	83			77	
13C-1234789-HPCDF	PCT REC	82			75	
37Cl-2378-TCDD	PCT REC	84			70	

J = reported value < EDL (reported as Dectection Limit)
U = not detected, or value detected below EDL (reported as Detection Limit)
# = value from confirmation run.

Renee McIsaac	Staff Scientist
Daniel Melnick	Staff Scientist
Andy Moore	Technician
Jenna Queior	Technician
Kevin Sondag	Field Operations Support
Mike Telesco	Field Operations Specialist
York Terrell	Staff Scientist
Michelle Thomas	Laboratory Manager

III. MATERIALS AND METHODS

All sampling and testing was performed according to the sediment sampling and testing plan on file with the NYD/COE.

A. Sampling

Test sediment from 15 locations and site water were collected from the South Brother Island Channel by ASI personnel on August 25 and 26, 2009. The site map is provided in Figure 1.

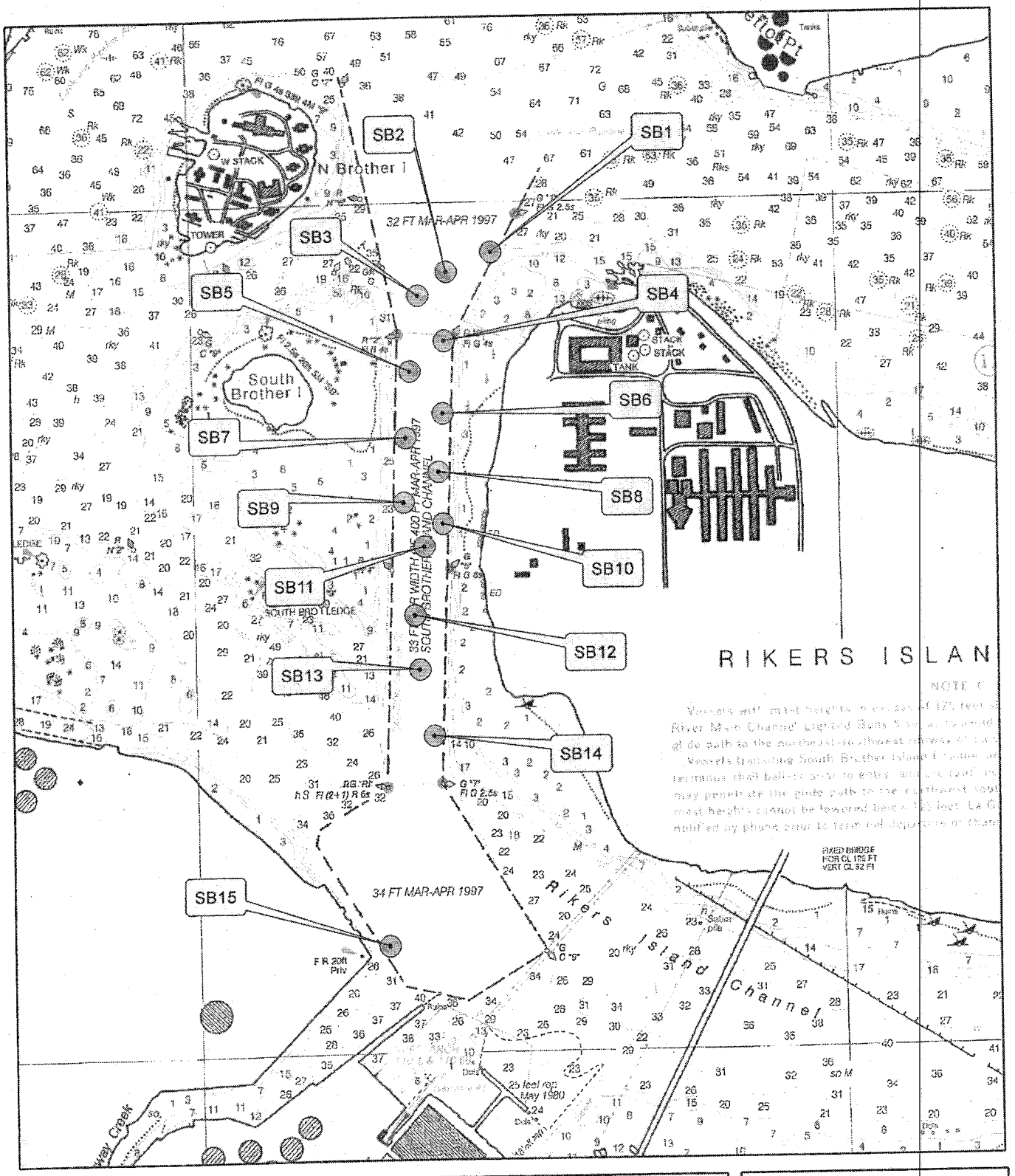
35'+ 2' over-depth

The vessel used for sampling, the R/V Raritan, was positioned using a Trimble NT200D Differential Global Positioning Receiver (DGPR). Collection of sediment was performed using a Rossfelder P-3 vibracore with flexible plastic core liners. Every core taken was inspected and its characteristics were recorded on a sediment core log. Photographs were taken of each core; photographs are provided in Appendix B.

Upon arrival at ASI, all samples were logged in and assigned a unique sample number (Table 1). Samples were received in good condition at ASI in Flemington, NJ and stored at 2°C to 4°C. All supporting documentation, including chains-of-custody and sample use forms can be found in Volume II (Appendices A-H).

There were three control sediment samples and one reference sediment used in the biological bioassays. The Atlantic Highlands Control sediment (ASI sample ID # 20091210) was collected on September 25, 2009. The Sandy Hook Control sediment (ASI ID # 20091212) was obtained from the Gateway National Recreation Area, Atlantic Highlands, NJ, on September 16, 2009. The Tuckerton Control sediment (ASI ID # 20091244) was obtained from Tuckerton Creek at the third bridge, Tuckerton, NJ, on September 23, 2009. The Mud Dump Reference sediment (ASI ID # 20091203) was obtained from the ACOE-designated area six miles off of the coast of Sandy Hook, NJ on September 13, 2009 (Geodetic coordinates 40° 20.151 N, 73° 52.102 W).

The Atlantic Highlands Control was used for the *A. abdita* solid phase bioassay. The Sandy Hook Control was used for the *A. bahia* solid phase bioassay and the *N. virens* bioaccumulation bioassay. The Tuckerton Control was used for the *M. nasuta* bioaccumulation bioassay. The Mud



Aqua Survey, Inc.

Job # 29-170

N W E S

1,200 600 0 1,200 Feet

Army Corp of Engineers
South Brother Island Channel
29-170

Figure 1
Sample Locations

Table 1 Sample Identification and Compositing

Core Location	ASI ID #	Composite
SB-1	20090975	Composite 20091036
SB-2	20090976	
SB-3	20090977	
SB-4	20090978	
SB-5	20090979	
SB-6	20090980	
SB-7	20090983	
SB-8	20090984	
SB-9	20090985	
SB-10	20090986	
SB-11	20090995	
SB-12	20090996	
SB-13	20090997	
SB-14	20090998	
SB-15	20090999	
Site Water	20091000	
Atlantic Highlands Control	20091210	
Mud Dump Reference	20091203	
Sandy Hook Control	20091212	
Tuckerton Control	20091244	

Table 2 **DGPS Coordinates, Core Locations**

Core Name	LAT	LONG
SB1	40° 47' 56.4826"	73° 53' 31.9600"
SB2	40° 47' 55.1299"	73° 53' 36.2112"
SB3	40° 47' 53.4987"	73° 53' 38.9279"
SB4	40° 47' 50.3267"	73° 53' 36.5552"
SB5	40° 47' 48.1859"	73° 53' 39.7826"
SB6	40° 47' 45.1932"	73° 53' 36.7416"
SB7	40° 47' 43.5125"	73° 53' 40.2543"
SB8	40° 47' 41.0760"	73° 53' 37.2106"
SB9	40° 47' 38.9256"	73° 53' 40.5198"
SB10	40° 47' 37.3910"	73° 53' 36.9017"
SB11	40° 47' 35.7929"	73° 53' 38.6635"
SB12	40° 47' 30.9993"	73° 53' 39.6260"
SB13	40° 47' 27.1404"	73° 53' 39.2489"
SB14	40° 47' 22.4124"	73° 53' 38.0250"
SB15	40° 47' 7.5853"	73° 53' 42.4541"

Table 4a **Particle Size Distribution, Percent Moisture, and TOC Values of South Brother Island Samples**

Sample ID	ASI #	% Sand ≥2 mm + Gravel	% Sand <2 mm	% Silt	% Clay	% Moisture	TOC ppm	% TOC of Dry Weight
SB-1	20090975	0.0	20.6	60.3	19.1	60.5	50,959	5.10
SB-2	20090976	0.0	23.6	50.7	25.7	61.1	43,363	4.34
SB-3	20090977	0.0	22.4	53.8	23.8	61.1	44,435	4.44
SB-4	20090978	0.0	19.3	52.7	28.0	60.7	41,931	4.19
SB-5	20090979	0.0	19.6	53.1	27.3	61.1	42,128	4.21
SB-6	20090980	0.0	25.6	49.2	25.2	59.9	40,484	4.05
SB-7	20090983	0.1	25.3	50.6	24.0	61.2	40,061	4.01
SB-8	20090984	0.0	22.7	53.8	23.5	61.8	41,773	4.18
SB-9	20090985	0.0	22.6	50.2	27.2	61.8	42,228	4.22
SB-9	20090985 dup	0.0	22.0	47.7	30.3			
SB-9	20090985 trip	0.0	22.9	46.5	30.6			
SB-10	20090986	0.0	26.8	46.1	27.1	60.6	41,928	4.19
SB-11	20090995	0.0	22.8	52.3	24.9	62.1	40,819	4.08
SB-12	20090996	0.0	19.4	51.1	29.5	60.2	36,723	3.67
SB-13	20090997	0.0	22.0	49.6	28.4	61.7	41,810	4.18
SB-14	20090998	0.0	24.8	52.5	22.7	63.3	42,027	4.20
SB-15	20090999	0.0	24.3	54.5	21.2	61.9	40,932	4.09
SB-15	20090999 dup					62.0		
SB-15	20090999 trip					60.4		
Composite	20091036	0.0	24.2	51.1	24.7	61.4	43,203	4.32
Composite	20091036 dup	0.0	27.0	45.5	27.5			
Composite	20091036 trip	0.0	28.2	45.8	26.0			

Table 4b **Particle Size Distribution, Percent Moisture, and TOC Values of Reference and Control Sediments**

Sample ID	ASI #	% Sand ≥2 mm + Gravel	% Sand <2 mm	% Silt	% Clay	% Moisture	TOC ppm	% TOC of Dry Weight
AH Control	20091210	0.0	16.0	58.7	25.3	71.0	43,787	4.38
Mud Dump	20091203	0.0	92.0	6.8	1.2	19.5	314	0.03
Sandy Hook	20091212	0.0	92.0	6.8	1.2	18.8	296	0.03
Tuckerton	20091244	0.0	13.7	52.3	34.0	69.7	38,158	3.82

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Table 5 Specific Gravity, Bulk Density, Atterberg Limits, and Total Suspended Solids

	Composite 20091036
Specific Gravity (g)	2.63
Specific Gravity Duplicate (g)	2.44
Specific Gravity Triplicate (g)	2.46
Mean	**2.51**
Bulk Density (g/wet ml) / (g/dry ml)	0.51 / 1.30
Bulk Density Duplicate (g/wet ml) / (g/dry ml)	0.50 / 1.29
Bulk Density Triplicate (g/wet ml) / (g/dry ml)	0.50 / 1.29
Mean (g/wet ml) / (g/dry ml)	**0.50 /1.30**
Atterberg Limits (Liquid Limit Moisture Content) Atterberg Limits (Liquid Limit % Moisture)	1.03 50.75
Atterberg Limits (Liquid Limit Moisture Content) Dup. Atterberg Limits (Liquid Limit % Moisture) Dup.	1.03 50.67
Atterberg Limits (Liquid Limit Moisture Content) Trip. Atterberg Limits (Liquid Limit % Moisture) Trip.	1.02 50.45
Mean (Moisture Content) **Mean (% Moisture)**	**1.03** **50.62**
Atterberg Limits (Plastic Limit Moisture Content) Atterberg Limits (Plastic Limit % Moisture)	0.46 31.50
Atterberg Limits (Plastic Limit Moisture Content) Dup. Atterberg Limits (Plastic Limit % Moisture) Dup.	0.50 33.27
Atterberg Limits (Plastic Limit Moisture Content) Trip. Atterberg Limits (Plastic Limit % Moisture) Trip.	0.51 33.61
Mean (Moisture Content) **Mean (% Moisture)**	**0.49** **32.79**
Elutriate used in SPP	**20091278**
Total Suspended Solids (mg/l)	147
Total Suspended Solids Duplicate (mg/l)	155
Total Suspended Solids Triplicate (mg/l)	155
Mean	**152**

BATTELLE MARINE SCIENCES LABORATORIES
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Bulk Sediment Metals Chemistry
East River South Brothers Island
METALS IN SEDIMENT

(concentrations in µg/g dry wt - data are not blank corrected)

ASI Code	BOS Code	MSL Code	Description	Date Collected	Percent Moisture	Ag	As	Cd	Cr	Cu	Hg	Ni	Pb	Zn
					Instrument:	ICP-MS	ICP-MS	ICP-MS	ICP-OES	ICP-OES	CVAA	ICP-MS	ICP-MS	ICP-OES
Target Detection Limits [1]						0.1	0.1	0.01	0.02	0.1	0.04 [3]	0.1	0.1	0.1
Achieved Method Detection Limits (MDL) [2]						**0.002**	**0.4**	**0.002**	**0.03**	**0.03**	**0.007**	**0.008**	**0.004**	**0.1**
20091036	Q7898	3063-2 R1	sediment	8/25/09	61.8	4.84	14.9	1.16	115	162	1.37	39.0	145	270
20091036	Q7898	3063-2 R2	sediment	8/25/09	61.8	4.74	15.2	1.17	116	165	1.36	38.4	143	271
20091036	Q7898	3063-2 R3	sediment	8/25/09	61.8	5.13	15.4	1.16	118	168	1.38	39.3	141	271
20091036	*Q7898*	*Mean*	sediment	*8/25/09*	*61.8*	*4.90*	*15.2*	*1.16*	*116*	*165*	*1.37*	*38.9*	*143*	*271*
Replicate Precision				**RSD**		**4%**	**2%**	**0%**	**1%**	**2%**	**1%**	**1%**	**1%**	**0%**
PDL Verification														
20080025	Q7899	3063-3 R1	Ref Sediment	1/31/08	17.7	0.0201	5.90	0.0183	8.39	1.34	0.00660	2.91	5.64	14.2
20080025	Q7899	3063-3 R2	Ref Sediment	1/31/08	17.7	0.0192	5.56	0.0132	8.96	1.15	0.00570	2.69	5.01	14.4
20080025	Q7899	3063-3 R3	Ref Sediment	1/31/08	17.7	0.0242	6.05	0.0161	8.78	1.65	0.00550	2.89	5.75	15.6
20080025	Q7899	3063-3 R4	Ref Sediment	1/31/08	17.7	0.0171	5.98	0.0138	8.71	1.25	0.00590	2.95	5.16	15.3
20080025	*Q7899*	*Mean*	*Ref Sediment*	*1/31/08*	17.7	*0.0202*	*5.87*	*0.0154*	*8.71*	*1.35*	*0.00593*	*2.86*	*5.39*	*14.9*
		Standard Deviation				0.0030	0.22	0.00233	0.2	0.22	0.00048	0.12	0.36	0.68
		PDL Verification (SD * 4.541)				**0.014**	**1.0**	**0.011**	**1.1**	**1.0**	**0.0022**	**0.5**	**1.6**	**3.1**
Method Blank														
MB 1		Blank 101309				0.002 U	0.4 U	0.002 U	0.03 U	0.0415	0.007 U	0.008 U	0.004 U	0.201
BLANK SPIKE ACCURACY														
LCS 1		LCS1 101309				4.45	5.18	4.86	5.21	5.06	1.99	4.81	4.77	5.21
LCS 2		LCS2 101309				9.49	10.6	10.2	10.5	10.3	--	10.0	9.87	10.3
MB 1		Blank 101309				0.002 U	0.4 U	0.002 U	0.03 U	0.0415	0.007 U	0.008 U	0.004 U	0.201
		Spike Conconcentration LCS 1				5	5	5	5	5	2.0	5	5	5
		Spike Conconcentration LCS 2				10	10	10	10	10	--	10	10	10
		Percent Recovery LCS 1				**89%**	**104%**	**97%**	**104%**	**100%**	**100%**	**96%**	**95%**	**100%**
		Percent Recovery LCS 2				**95%**	**106%**	**102%**	**105%**	**103%**	--	**100%**	**99%**	**101%**

037

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The Business of Innovation

Project Client: USACE/NYD
Project Name: USACE/NYD - East River South Brothers Island HARS
Project Number: G924124-0001

Client ID	20091036	20080025
Battelle ID	Q7898-P	Q7899-P
Sample Type	SA	SA
Collection Date	08/25/09	09/03/09
Extraction Date	09/03/09	09/03/09
Analysis Date	09/30/09	10/01/09
Analytical Instrument	MS	MS
% Moisture	60.87	17.25
% Lipid	NA	NA
Matrix	SEDIMENT	SEDIMENT
Sample Size	11.81	25.04
Size Unit-Basis	G_DRY	G_DRY
Units	NG/G_DRY	NG/G_DRY
Naphthalene	341.23	0.21 J
Acenaphthylene	406.96	0.04 J
Acenaphthene	288.97	0.03 J
Fluorene	211.44	0.03 J
Phenanthrene	1024.21	0.1 J
Anthracene	890.02	0.03 J
Fluoranthene	3058.89 D	0.11 J
Pyrene	4153.06 D	0.13 J
Benzo(a)anthracene	2935.19 D	0.08 J
Chrysene	2977.91 D	0.1 J
Benzo(b)fluoranthene	1817.96 D	0.1 J
Benzo(k)fluoranthene	1221.62	0.12 J
Benzo(a)pyrene	3184.73 D	0.14 J
Indeno(1,2,3-cd)pyrene	1256.21	0.07 J
Dibenz(a,h)anthracene	367.05	0.15 U
Benzo(g,h,i)perylene	1057.85	0.08 J
1,4-Dichlorobenzene	45.23	1.13 B
Surrogate Recoveries (%)		
Naphthalene-d8	64	66
Acenaphthene-d10	68	69
Phenanthrene-d10	76	72
Benzo(a)pyrene-d12	88	72

Not Surrogate Corrected

Analyzed by Restucci Jr, Richard
2/2/2010

Main: S09-0100MS-Master_157-Final.xls

Battelle
The Business of Innovation

Project Client: USACE/NYD
Project Name: USACE/NYD - East River South Brothers Island HARS
Project Number: G924124-0001

Client ID	20091036	20080025
Battelle ID	Q7898-P	Q7899-P
Sample Type	SA	SA
Collection Date	08/25/09	09/03/09
Extraction Date	09/03/09	09/03/09
Analysis Date	09/15/09	09/16/09
Analytical Instrument	ECD	ECD
% Moisture	60.87	17.25
% Lipid	NA	NA
Matrix	SEDIMENT	SEDIMENT
Sample Size	11.81	25.04
Size Unit-Basis	G_DRY	G_DRY
Units	NG/G_DRY	NG/G_DRY
aldrin	0.11 U	0.11 U
a-chlordane	1.57	0.13 U
trans-nonachlor	1.93	0.13 U
dieldrin	1.67	0.16 U
4,4'-DDT	0.14 U	0.14 U
2,4'-DDT	0.14 U	0.14 U
4,4'-DDD	6.9	0.13 U
2,4'-DDD	0.13 U	0.13 U
4,4'-DDE	9.72	0.16 U
2,4'-DDE	0.15 U	0.15 U
endosulfan I	0.15 U	0.15 U
endosulfan II	0.13 U	0.13 U
endosulfan sulfate	0.14 U	0.14 U
heptachlor	0.12 U	0.12 U
heptachlor epoxide	0.14 U	0.14 U
Cl2(8)	6.27	0.11 U
Cl3(18)	6.58	0.14 U
Cl3(28)	15.08	0.11 U
Cl4(44)	7.45	0.13 U
Cl4(49)	16.55	0.13 U
Cl4(52)	12.41	0.13 U
Cl4(66)	13.27	0.14 U
Cl5(87)	3.69	0.11 U
Cl5(101)	11.84	0.09 U
Cl5(105)	3.48	0.11 U
Cl5(118)	10.47	0.15 U
Cl6(128)	0.13 U	0.13 U
Cl6(138)	11.64	0.12 U
Cl6(153)	14.58	0.11 U
Cl7(170)	9.52	0.14 U
Cl7(180)	7.28	0.14 U
Cl7(183)	6.4	0.14 U
Cl7(184)	0.12 U	0.12 U
Cl7(187)	4.48	0.14 U
Cl8(195)	2.81	0.11 U
Cl9(206)	2.99	0.13 U
Cl10(209)	6.33	0.12 U
Surrogate Recoveries (%)		
Cl3(34)	95	69
Cl6(152)	99	81

Not Surrogate Corrected

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2/2/2010

PROJECT_NAME		USACE-NYD East River						
LAB		BCO						
SDG		52345-101						
ANALYSIS_METH		1613M						
REACH								
SAMP_TYPE			LB		LCS		Reach 1 Composite	
NOTES			QC				TEST	
CLIENT_ID			PROCEDURAL BLANK					
LAB_SAMP_ID			METHOD BLANK				20091038	
REP					OPR		Q7898	
SUBREP							1	
FRACTION							T	
SAMPLE_WGT_VOL			6 9739		10 0276		3 6591	
SAMP_WGT_VOL_UNIT			G DRY		G DRY		G DRY	
DETECT_LIM_CODE			SPDL				SPDL	
RECEIPT_DATE							09/03/2009	
EXTRACT_DATE			09/03/2009		09/03/2009		09/03/2009	
ANALYSIS_DATE			09/15/2009		09/15/2009		09/15/2009	
DIOXIN_EXTRACT_LRB_NUMBER			52345-101-12		52345-101-11		52345-101-02	
PARAM_NAME	UNIT	RESULT	LAB_QUAL	DETECT_LIMIT	RESULT	LAB_QUAL	DETECT_LIMIT	RESULT	LAB_QUAL	DETECT_LIMIT
2378-TCDD	PG/G DRYWT	0 40	U	0 40	4.64		1 90	3.17		2 25
12378-PECDD	PG/G DRYWT	4 22	U	4 22	23 54		2 85	2 00	J	3 89
123478-HXCDD	PG/G DRYWT	2 37	U	2 37	22 79		2 08	1 98	J	5 84
123678-HXCDD	PG/G DRYWT	2 54	U	2 54	26 05		2 19	9 53		6 43
123789-HXCDD	PG/G DRYWT	2 29	U	2 29	24 52		2 00	7 32		5 74
1234678-HPCDD	PG/G DRYWT	2 46	U	2 46	22 70		2 33	103 66		3 74
OCDD	PG/G DRYWT	2 59	J	4 38	55 78		4 22	1793 72		3 17
2378-TCDF	PG/G DRYWT	0 56	U#	0 56	4 06		1 17	13 91	#	1 71
12378-PECDF	PG/G DRYWT	2 14	U	2 14	22 42		1 80	5 88		3 26
23478-PECDF	PG/G DRYWT	2 26	U	2 26	21 25		1 67	6 41		3 48
123478-HXCDF	PG/G DRYWT	1 97	U	1 97	25 44		1 51	10 45		4 51
123678-HXCDF	PG/G DRYWT	1 76	U	1 76	23 25		1 32	5 25		4 23
123789-HXCDF	PG/G DRYWT	2 27	U	2 27	24 97		1 63	5 01	U	5 01
234678-HXCDF	PG/G DRYWT	1 75	U	1 75	23 37		1 32	4 61		4 26
1234678-HPCDF	PG/G DRYWT	0 39	J	1 13	23 54		2 08	56 90		9 14
1234789-HPCDF	PG/G DRYWT	1 42	U	1 42	23 01		2 31	3 04	J	9 80
OCDF	PG/G DRYWT	1 22	J	2 78	57 85		1 46	109 53		4 45
Total Tetra-Furans	PG/G DRYWT	1 81	U	1 81	NA			80 84		1.75
Total Tetra-Dioxins	PG/G DRYWT	2 16	U	2 16	NA			29 97		2 25
Total Penta-Furans	PG/G DRYWT	2 19	U	2 19	NA			93 21		3 36
Total Penta-Dioxins	PG/G DRYWT	4 22	U	4 22	NA			30 98		3.88
Total Hexa-Furans	PG/G DRYWT	1 92	U	1 92	NA			75 63		4.48
Total Hexa-Dioxins	PG/G DRYWT	2 40	U	2 40	NA			112 90		6.00
Total Hepta-Furans	PG/G DRYWT	0 39	J	1 27	NA			105 08		9 46
Total Hepta-Dioxins	PG/G DRYWT	2 46	U	2 46	NA			426 77		3 74
13C-2378-TCDD	PCT REC	63			50			71		
13C-12378-PECDD	PCT REC	47			52			57		
13C-123478-HXCDD	PCT REC	76			72			77		
13C-123678-HXCDD	PCT REC	71			68			76		
13C-1234678-HPCDD	PCT REC	79			77			76		
13C-OCDD	PCT REC	68			75			74		
13C-2378-TCDF	PCT REC	51	#		47			46	#	
13C-12378-PECDF	PCT REC	59			55			68		
13C-23478-PECDF	PCT REC	51			54			58		
13C-123478-HXCDF	PCT REC	75			68			78		
13C-123678-HXCDF	PCT REC	82			77			80		
13C-123789-HXCDF	PCT REC	72			68			78		
13C-234678-HXCDF	PCT REC	83			61			83		
13C-1234678-HPCDF	PCT REC	86			78			81		
13C-1234789-HPCDF	PCT REC	82			81			83		
37Cl-2378-TCDD	PCT REC	71			54			75		

J = reported value < detection limit
U = not detected
# = value from confirmation analysis
& = outside QC limits

Appendix F

Background Memo

Evaluation of Background Constituent Levels in Sediment
East 21st St. Works Site

Subsurface MGP impacts were identified at the former East 21st Street Works site and in Stuyvesant Cove Park adjacent to the East River during the Remedial Investigation (RI) performed at the site in 2006. As a result, AECOM, on behalf of Con Edison, performed river investigations in 2008 to further evaluate the impact of former MGP operations on local surficial river sediment quality. Analytical results and observations of surface sediments offshore of Stuyvesant Cove Park indicated a defined area that had likely been impacted by MGP-related residuals. Therefore, additional investigations were performed to evaluate the background quality of surficial sediments within the East River to use as a baseline of comparison with constituent concentrations in surface sediments adjacent to the site. The composition of these reference samples will be used to facilitate the delineation of site impacts since background concentrations may be used in the context of developing site-specific remedial strategies (6 NYCRR Part 375).

Background Data Set

Forty surface sediment samples (0-1 foot below the top of sediment [btos]) were collected from the East River at the 13 general background reference locations illustrated on Figure 1. These locations were selected from depositional environments (shoal), water depths and sediment assemblages that are similar to areas located adjacent to the site. Background samples were obtained from relatively easily accessible, low traffic areas and were not biased to visibly impacted areas with surface sheens, or collected within 100 feet of storm water discharge points. Two to four samples were collected from different water depths within each general background reference location. Table 1 provides a summary of information on the sample locations including sample identification, date collected, coordinates, water depth at the time of sampling, type of sediment, and observations noted during sample collection.

The main constituents of interest (COI) associated with the former MGP site, based on previous RI results, include benzene, toluene, ethylbenzene, and xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAHs). As indicated in the analytical results from the background locations (Attachment 1), BTEX compounds were rarely detected in the background surface sediment samples. When detected, individual BTEX compound concentrations were present at “trace” levels that were estimated to be less than 0.23 milligrams per kilogram (mg/Kg). However, PAHs were frequently detected in the background surface sediment samples and should form the basis for the background evaluation. For simplicity, the calculations for this evaluation of background concentrations were conducted using values for total PAHs. These values were calculated for each sample using one half of the detection level in instances where individual PAHs were not detected. As illustrated on Figure 2, total PAH concentrations ranged from 13.6 mg/Kg in sample BG09C to 350.6 mg/Kg in BG10A.

An outlier test was used to identify and remove from the evaluation samples that may be atypical of the data set. The background data were evaluated for upper and lower outliers using quartiles of the natural log-transformed data. Upper end outliers were defined as those values that exceeded the 75th percentile of the data plus 1.5 times the interquartile range (IQR[1]). Lower end outliers were identified as those values determined to be less than the 25th percentile of the data minus 1.5 times the IQR. This method is consistent with Helsel and Hirsch, 2002.
Three samples were identified as outliers; two upper end (BG10A and BG11C) and one lower end (BG13B). The outlier analysis is presented as Attachment 2 to this memo. Following the removal of the three outlier samples, 37 distinct data points remained in the background data set. Of these, 2 samples were non-detect for total PAHs (BG07A and BG09C). The frequency of detect was 35:37, or 94.59%. Table 2 presents a summary of pertinent information for the raw

data, with the full summary statistics for raw and log-transformed data presented as Attachment 3 to this memo.

The distribution of the data was tested using histograms and Shapiro Wilk's test. All tests were performed using the USEPA (2007) software ProUCL version 4.00.02. The results of the distribution tests are presented as Attachment 4 and indicate that the data appear to have a log normal distribution when regression on order statistics (ROS) estimates are used in the treatment of non-detects. With ROS estimates, a regression line is fit to the normal scores of the order (i.e., rank) of the non-detected concentrations. Absolute concentrations for these values are then estimated using extrapolation of the regression line. A histogram of the data is presented in Attachment 5.

Consistent with NYSDEC comments on another Con Ed site (Pemart Ave in Peekskill, NY), a 90th percentile on the data was used to estimate a background concentration in the East River. A 90th percentile represents a moderate upper bound of the data, and is a rank calculation; a 90th percentile is the value that is the 90th highest in a dataset. The 90th percentile was calculated in ProUCL using log-transformed data and ROS estimates. The 90th percentile of the background data using these methods is 71.18 mg/Kg. The output file for the 90th percentile is presented in Attachment 6.

Tables

East River Surface Sediment Grab Sampling
Field Summary of Background Reference Locations

Sample ID	Date Collected	Sample Coordinates		Water Depth (ft)	Approx. Distance From Shore (ft)	Sediment Type	Observations
		Easting	Northing				
BG13a	10/7/2008	979923.89	194467.47	20	120	fine sandy silt	No odor, no visible impact
BG13b	10/7/2008	979864.12	194439.12	22	180	v. fine silt and clay, some muck and shells	No odor, no visible impact
BG13c		NC	NC				Not collected - too much ferry traffic to access
BG12a	10/6/2008	986816.59	196097.46	8	168	silt/muck	No odor, no visible impact
BG12b	10/6/2008	986790.43	196167.25	9.6	218	peat/silt	organic odor, very slight sheen
BG12c	10/6/2008	986781.27	196220.33	24	230	silt and sand	v. faint hydrocarbon odor, no visible impact
BG11a	10/7/2008	986897.14	197769.46	24	124	vf. silt, tr. Gravel	organic odor, no visible impact
BG11b	10/7/2008	986916.37	197676.72	31	196	f. silt some peat	sl. hydrocarbon odor, no visible impact
BG11c	10/7/2008	986922.28	197626.94	25	240	f. silt and peat	hydrocarbon odor, some sheen blebs
BG10a	10/8/2008	984217.34	196889.80	11	75	silt and peat	hydrocarbon and petroleum like odors, no visible impact
BG10b	10/8/2008	984260.52	196831.00	12	150	sandy silt and peat	organic odor, no visible impact
BG10c	10/8/2008	984371.18	196672.27	24	351	sandy silt and peat	organic odor, no visible impact
BG9a	10/7/2008	992550.47	197640.92	17	10	silt, tr. shell	organic odor, no visible impact
BG9b	10/7/2008	992501.26	197623.83	13	60	silt	sl. organic odor, no visible impact
BG9c	10/7/2008	992332.41	197540.99	9	280	silt, tr. Clay	No odor, no visible impact
BG9d	10/7/2008	992222.32	197755.96	38	370	silty sand, tr. vf sand	petroleum odor, no visible impact
BG8a	10/10/2008	996470.80	206767.63	13	46	silt and vf-f sand, tr peat	organic odor, no visible impact
BG8b	10/10/2008	994607.25	206790.83	17	81	vf sandy silt, tr peat	strong organic odor, no visible impact
BG8c	10/10/2008	994539.76	206827.97	19	233	silt and peat, wood/hair fibers	organic odor, sl hydrocarbon odor, no visible impact
BG7a	10/7/2008	994385.35	202452.13	11	50	silt, tr. clay	sl organic odor, no visible impact
BG7b	10/7/2008	994315.65	202385.59	14	225	silt, tr. Peat	organic odor, no visible impact
BG7c	10/8/2008	994262.00	202423.56	19	249	rounded gravel to 0.4 then silt, tr. vf sand	sl. petroleum like odor, no visible impact
BG6a	10/8/2008	994767.38	203936.16	8	100	silt, tr. vf sand	organic odor, no visible impact
BG6b	10/8/2008	994696.66	203934.65	9	175	silt, tr vf sand	organic odor, no visible impact
BG6c	10/8/2008	994551.74	203946.42	20	330	silt, tr vf sand	organic odor, no visible impact
BG6d	10/8/2008	994419.70	203957.40	41	450	silt and peat	organic odor, no visible impact
BG5a	10/8/2008	994522.73	208660.09	23	117	peat and silty sand	organic odor, no visible impact
BG5b	10/8/2008	994513.03	208673.58	26	59	rock frags to 0.2 then silty clay and peat	strong organic odor, no visible impact
BG5c	10/8/2008	994516.70	208664.48	28	129	silt and peat, vf sand 0.6-0.75'	sl. organic and hydrocarbon odor, no visible impact
BG4a	10/8/2008	996790.98	212687.36	5	20	silt, tr.peat, tr.clay	v sl. organic odor, no visible impact
BG4b	10/8/2008	996745.84	212734.38	13	88	silt and peat, gravel from 0.4-0.6	No odor, no visible impact
BG4c	10/8/2008	996706.22	212748.34	10	90	silt and peat, tr clay	No odor, no visible impact
BG3a	10/8/2008	995218.47	210257.05	12	191	silt, clay and peat	v sl. organic odor, no visible impact
BG3b	10/8/2008	995141.34	210276.45	18	268	silt and peat	organic odor, no visible impact
BG3c	10/8/2008	995087.39	210278.63	25	320	silt, tr silty sand and peat	organic odor, no visible impact
BG2a	10/10/2008	1001957.05	219698.97	16	143	silt, tr gravel and organics	organic odor, no visible impact
BG2b	10/10/2008	1002238.21	220339.12	10	124	silt, tr peat	organic odor, no visible impact
BG2c	10/10/2008	1002195.61	220328.18	12	160	silt, tr peat	sl organic and hydrocarbon odor, no visible impact
BG1a	10/10/2008	1002341.29	226340.55	3	202	silt, tr peat	organic odor, no visible impact
BG1b	10/10/2008	1002261.82	226397.96	10	299	silt and peat	sl organic odor, no visible impact
BG1c	10/10/2008	1002169.97	226467.01	17	424	silt, some gravel	sl organic odor, no visible impact
EROF04(0-1)	10/11/2008	1001502.80	226267.78	3	10	silt tr organics to 2.1 then SAA with tr vf sand throughout	sewer and organic odor, tr sheen from 2.1 to 2.9
EROF04(1-2)							outfall (WI(M)-022) SPDES NY0026131
EROF04(2-3)							

Notes
Coordinate system is New York State Plane Coordinate System Long Island Lambert
Water depth at time sample collected
TBP - To be provided A3
NR - No Recovery

Figures

UNITED STATES - EAST COAST
NEW YORK
EAST RIVER
TALLMAN ISLAND TO QUEENSBORO BRIDGE

BG1b
10/10/2008
BG1c
10/10/2008
BG1a
10/10/2008
EROF04
10/11/2008
0-1, 1-2, 2-3

BG2c
10/10/2008
BG2b
10/10/2008
BG2a
10/8/2008

12335

UNITED STATES - EAST COAST
NEW YORK AND NEW JERSEY
HUDSON AND EAST RIVERS
GOVERNORS ISLAND TO 67TH STREET

BG4c
10/8/2008
BG4b
10/8/2008
BG4a
10/8/2008

BG3b
10/8/2008
BG3a
10/8/2008
BG3c
10/8/2008

BG5b
10/8/2008
BG5a
10/8/2008
BG5c
10/8/2008

BG8a
10/7/2008
BG8b
10/10/2008
BG8c
10/10/2008

BG6d
10/8/2008
BG6a
10/8/2008
BG6b
10/8/2008
BG6c
10/8/2008

BG7a
10/10/2008
BG7b
10/7/2008
BG7c
10/7/2008

BG9d
10/7/2008
BG9a
10/8/2008
BG9b
10/7/2008
BG9c
10/7/2008

BG11b
10/7/2008
BG11a
10/6/2008
BG11c
10/7/2008

BG12c
10/6/2008
BG12a
NA
BG12b
10/6/2008

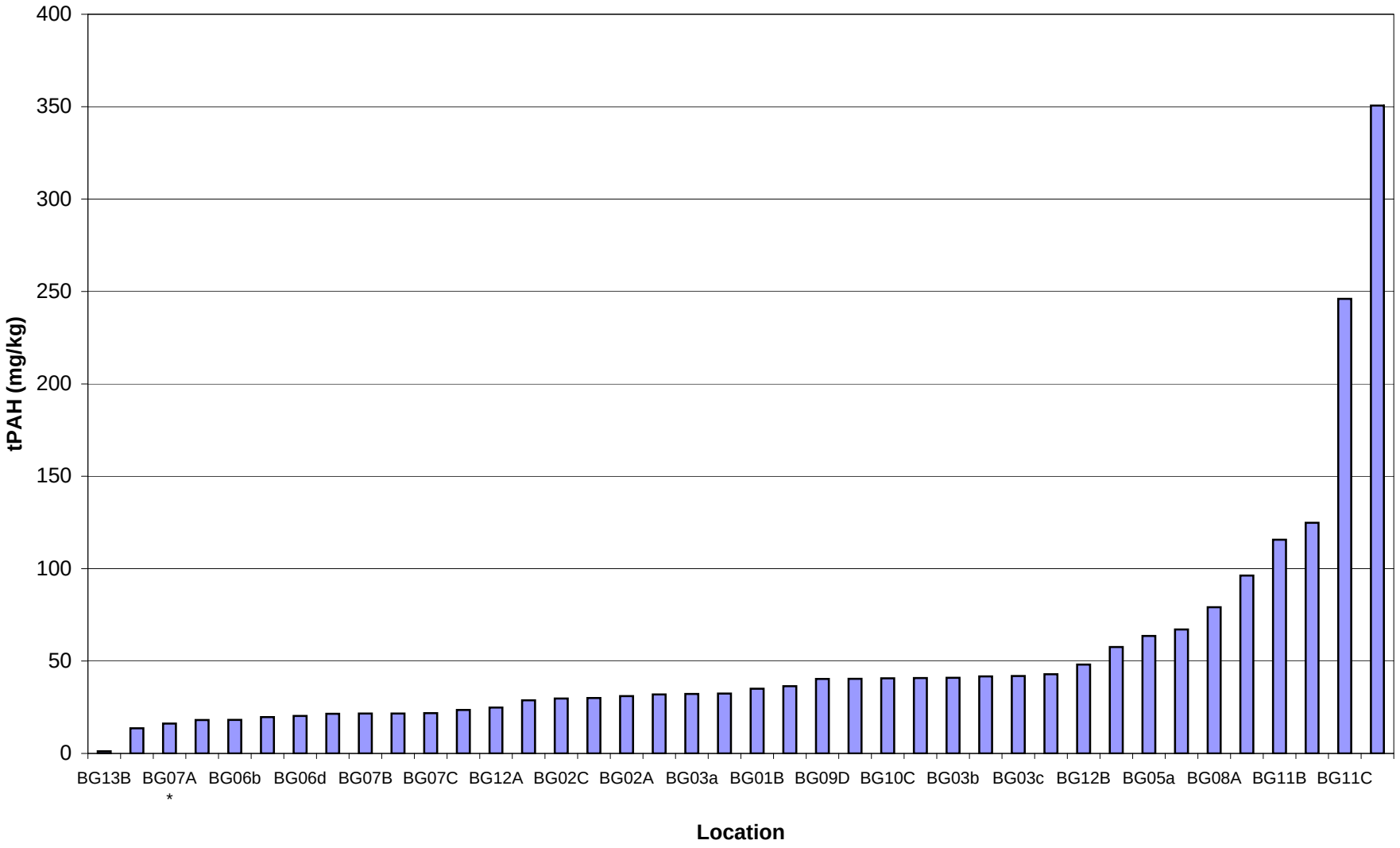
BG10a
10/7/2008
BG10b
10/8/2008
BG10c
10/8/2008

BG13b
10/7/2008
BG13a
10/7/2008

AECOM

CONSOLIDATED EDISON EAST 21st ST PETER COOPER VILLAGE 01869-170			**EAST RIVER** **BACKGROUND GRAB SAMPLE LOCATIONS**
DATE: 3/19/09	DRWN: BcV/W-MA		**FIGURE 1**

Figure 2 - Total PAH Concentration in Background Sediment Samples



Attachments

Attachment 1 - Analytical Results Background Locations

Location ID Sample ID Sample Data Depth Interval	BG01A BG01A-101008 10/10/2008 0-1		BG01B BG01B-101008 10/10/2008 0-1		BG01C BG01C-101008 10/10/2008 0-1		BG02A BG02A-101008 10/10/2008 0-1		BG02B BG02B-101008 10/10/2008 0-1		BG02C BG02C-101008 10/10/2008 0-1		BG03a BG03A-100808 10/8/2008 0-1		BG03b BG03B-100808 10/8/2008 0-1		BG03c BG03C-100808 10/8/2008 0-1		BG04a BG04A-100808 10/8/2008 0-1		BG04b BG04B-100808 10/8/2008 0-1		BG04c SEDDUP104-100808 10/8/2008 0-1	
BTEX (mg/kg)																								
BENZENE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
ETHYLBENZENE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
m,p-Xylene	< 0.100	UJ	< 0.100	UJ	< 0.012	UJ	< 0.093	UJ	< 0.013	UJ	< 0.012	UJ	< 0.014	UJ	< 0.013	UJ	< 0.011	UJ	< 0.013	UJ	< 0.012	UJ	< 0.014	UJ
XYLENE, O-	< 0.100	UJ	< 0.100	UJ	< 0.012	UJ	< 0.093	UJ	< 0.013	UJ	< 0.012	UJ	< 0.014	UJ	< 0.013	UJ	< 0.011	UJ	< 0.013	UJ	< 0.012	UJ	< 0.014	UJ
TOLUENE	< 0.079	UJ	< 0.077	UJ	< 0.0089	UJ	< 0.070	UJ	< 0.0099	UJ	< 0.0094	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.0082	UJ	< 0.0099	UJ	< 0.0094	UJ	< 0.010	UJ
Total Xylene (calculated)	< 0.100		< 0.100		< 0.012		< 0.093		< 0.013		< 0.012		< 0.014		< 0.013		< 0.011		< 0.013		< 0.012		< 0.014	
Total BTEX	< 0.1925		< 0.1895		< 0.02245		< 0.174		< 0.02455		< 0.0229		< 0.0258		< 0.0242		< 0.0205		< 0.02455		< 0.0229		< 0.0258	
VOC (mg/kg)																								
1,1,1-TRICHLOROETHANE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
1,1,2,2-TETRACHLOROETHANE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
1,1,2-TRICHLOROETHANE	< 0.079	UJ	< 0.077	UJ	< 0.0089	UJ	< 0.070	UJ	< 0.0099	UJ	< 0.0094	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.0082	UJ	< 0.0099	UJ	< 0.0094	UJ	< 0.010	UJ
1,1-DICHLOROETHANE	< 0.079	UJ	< 0.077	UJ	< 0.0089	UJ	< 0.070	UJ	< 0.0099	UJ	< 0.0094	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.0082	UJ	< 0.0099	UJ	< 0.0094	UJ	< 0.010	UJ
1,1-DICHLOROETHENE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
1,2-DICHLOROETHANE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
1,2-DICHLOROPROPANE	< 0.180	UJ	< 0.180	UJ	< 0.021	UJ	< 0.160	UJ	< 0.023	UJ	< 0.022	UJ	< 0.024	UJ	< 0.022	UJ	< 0.019	UJ	< 0.023	UJ	< 0.022	UJ	< 0.024	UJ
2-BUTANONE	< 0.530	UJ	< 0.510	UJ	< 0.060	UJ	< 0.460	UJ	< 0.066	UJ	< 0.062	UJ	< 0.068	UJ	< 0.064	UJ	< 0.054	UJ	< 0.066	UJ	< 0.062	UJ	< 0.068	UJ
2-HEXANONE	< 0.530	UJ	< 0.510	UJ	< 0.060	UJ	< 0.460	UJ	< 0.066	UJ	< 0.062	UJ	< 0.068	UJ	< 0.064	UJ	< 0.054	UJ	< 0.066	UJ	< 0.062	UJ	< 0.068	UJ
4-METHYL-2-PENTANONE (MIBK)	< 0.530	UJ	< 0.510	UJ	< 0.060	UJ	< 0.460	UJ	< 0.066	UJ	< 0.062	UJ	< 0.068	UJ	< 0.064	UJ	< 0.054	UJ	< 0.066	UJ	< 0.062	UJ	< 0.068	UJ
ACETONE	< 0.530	UJ	< 0.510	UJ	**0.074**	**J**	< 0.460	UJ	**0.092**	**J**	**0.1**	**J**	**0.15**	**J**	**0.2**	**J**	**0.056**	**J**	**0.13**	**J**	**0.15**	**J**	**0.21**	**J**
BROMODICHLOROMETHANE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
BROMOFORM	< 0.210	UJ	< 0.200	UJ	< 0.024	UJ	< 0.190	UJ	< 0.026	UJ	< 0.025	UJ	< 0.027	UJ	< 0.026	UJ	< 0.022	UJ	< 0.026	UJ	< 0.025	UJ	< 0.027	UJ
BROMOMETHANE	< 0.100	UJ	< 0.100	UJ	< 0.012	UJ	< 0.093	UJ	< 0.013	UJ	< 0.012	UJ	< 0.014	UJ	< 0.013	UJ	< 0.011	UJ	< 0.013	UJ	< 0.012	UJ	< 0.014	UJ
CARBON DISULFIDE	< 0.530	UJ	< 0.510	UJ	< 0.060	UJ	< 0.460	UJ	< 0.066	UJ	< 0.062	UJ	< 0.068	UJ	< 0.064	UJ	< 0.054	UJ	< 0.066	UJ	< 0.062	UJ	< 0.068	UJ
CARBON TETRACHLORIDE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
CHLOROBENZENE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	**0.064**	**J**	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
CHLORODIBROMOMETHANE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
CHLOROETHANE	< 0.100	UJ	< 0.100	UJ	< 0.012	UJ	< 0.093	UJ	< 0.013	UJ	< 0.012	UJ	< 0.014	UJ	< 0.013	UJ	< 0.011	UJ	< 0.013	UJ	< 0.012	UJ	< 0.014	UJ
CHLOROFORM	< 0.079	UJ	< 0.077	UJ	< 0.0089	UJ	< 0.070	UJ	< 0.0099	UJ	< 0.0094	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.0082	UJ	< 0.0099	UJ	< 0.0094	UJ	< 0.010	UJ
CHLOROMETHANE (METHYL CHLORIDE)	< 0.260	UJ	< 0.260	UJ	< 0.030	UJ	< 0.230	UJ	< 0.033	UJ	< 0.031	UJ	< 0.034	UJ	< 0.032	UJ	< 0.027	UJ	< 0.033	UJ	< 0.031	UJ	< 0.034	UJ
CIS-1,2-DICHLOROETHENE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
CIS-1,3-DICHLOROPROPENE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
DICHLOROMETHANE	< 0.530	UJ	< 0.510	UJ	< 0.060	UJ	< 0.460	UJ	< 0.066	UJ	< 0.062	UJ	< 0.068	UJ	< 0.064	UJ	< 0.054	UJ	< 0.066	UJ	< 0.062	UJ	< 0.068	UJ
STYRENE	< 0.100	UJ	< 0.100	UJ	< 0.012	UJ	< 0.093	UJ	< 0.013	UJ	< 0.012	UJ	< 0.014	UJ	< 0.013	UJ	< 0.011	UJ	< 0.013	UJ	< 0.012	UJ	< 0.014	UJ
TETRACHLOROETHENE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
TRANS-1,2-DICHLOROETHENE	< 0.079	UJ	< 0.077	UJ	< 0.0089	UJ	< 0.070	UJ	< 0.0099	UJ	< 0.0094	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.0082	UJ	< 0.0099	UJ	< 0.0094	UJ	< 0.010	UJ
TRANS-1,3-DICHLOROPROPENE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
TRICHLOROETHENE	< 0.053	UJ	< 0.051	UJ	< 0.0060	UJ	< 0.046	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0054	UJ	< 0.0066	UJ	< 0.0062	UJ	< 0.0068	UJ
VINYL CHLORIDE	< 0.100	UJ	< 0.100	UJ	< 0.012	UJ	< 0.093	UJ	< 0.013	UJ	< 0.012	UJ	< 0.014	UJ	< 0.013	UJ	< 0.011	UJ	< 0.013	UJ	< 0.012	UJ	< 0.014	UJ
Total VOC	< 11.610		< 9.525		**8.36475**		< 10.269		**9.27195**		**8.8**		**9.4805**		**9.111**		**7.519**		**9.24925**		**8.85**		**9.5405**	
PAH (mg/kg)																								
2-METHYLNAPHTHALENE	< 1.800	UJ	< 1.700	UJ	**3.4**	**J**	< 1.600	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ	< 1.700	UJ	< 1.400	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ
ACENAPHTHENE	< 1.800	UJ	< 1.700	UJ	**1.7**	**J**	< 1.600	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ	< 1.700	UJ	< 1.400	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ
ACENAPHTHYLENE	< 1.800	UJ	< 1.700	UJ	< 1.600	UJ	< 1.600	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ	< 1.700	UJ	< 1.400	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ
ANTHRACENE	< 1.800	UJ	< 1.700	UJ	**4.8**	**J**	**1.9**	**J**	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ	**1.8**	**J**	**2**	**J**	< 1.800	UJ	< 1.700	UJ	**2**	**J**
BENZO(A)ANTHRACENE	**2.2**	**J**	**2.6**	**J**	**12**	**J**	**1.8**	**J**	**2.5**	**J**	**2**	**J**	**3**	**J**	**3.5**	**J**	**3.7**	**J**	< 1.800	UJ	**2.3**	**J**	**3.6**	**J**
BENZO(A)PYRENE	**4.4**	**J**	**4.5**	**J**	**9.6**	**J**	**3.8**	**J**	**4.6**	**J**	**4.2**	**J**	**6.8**	**J**	**6.8**	**J**	**6.2**	**J**	< 1.800	UJ	**6**	**J**	**7**	**J**
BENZO(B)FLUORANTHENE	< 1.800	UJ	< 1.700	UJ	**7.4**	**J**	< 1.600	UJ	**3.8**	**J**	< 1.700	UJ	< 1.800	UJ	< 1.700	UJ	**4**	**J**	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ
BENZO(G,H,I)PERYLENE	< 1.800	UJ	< 1.700	UJ	**5.4**	**J**	< 1.600	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ	< 1.700	UJ	< 1.400	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ
BENZO(K)FLUORANTHENE	< 1.800	UJ	< 1.700	UJ	**6.6**	**J**	< 1.600	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ	**4.1**	**J**	**3.8**	**J**	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ
CHRYSENE	**2.7**	**J**	**3**	**J**	**10**	**J**	**2.1**	**J**	**2.6**	**J**	**2.2**	**J**	**3**	**J**	**3.3**	**J**	**3.4**	**J**	< 1.800	UJ	**2.3**	**J**	**3.4**	**J**
DIBENZ(A,H)ANTHRACENE	< 1.800	UJ	< 1.700	UJ	< 1.600	UJ	< 1.600	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ	< 1.700	UJ	< 1.400	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ
FLUORANTHENE	**5.7**	**J**	**6.2**	**J**	**17**	**J**	**5**	**J**	**5.5**	**J**	**4.7**	**J**	**3.8**	**J**	**5**	**J**	**4.8**	**J**	**2.1**	**J**	**3.1**	**J**	**4.8**	**J**
FLUORENE	< 1.800	UJ	< 1.700	UJ	**2**	**J**	< 1.600	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ	< 1.700	UJ	< 1.400	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ
INDENO(1,2,3-CD)PYRENE	< 1.800	UJ	< 1.700	UJ	**5.5**	**J**	< 1.600	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ	< 1.700	UJ	< 1.400	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ
NAPHTHALENE	< 1.800	UJ	< 1.700	UJ	**4.3**	**J**	< 1.600	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ	< 1.700	UJ	< 1.400	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ
PHENANTHRENE	< 1.800	UJ	**2.4**	**J**	**8.5**	**J**	**2.4**	**J**	**2.1**	**J**	**1.7**	**J**	< 1.800	UJ	**2.7**	**J**	**2.5**	**J**	< 1.800	UJ	**1.7**	**J**	**2.1**	**J**
PYRENE	**6.6**	**J**	**7**	**J**	**25**	**J**	**6**	**J**	**6.3**	**J**	**5.6**	**J**	**4.8**	**J**	**6.1**	**J**	**5.9**	**J**	**2.5**	**J**	**4**	**J**	**6**	**J**
Total PAH	**32.4**		**35.05**		**124.8**		**31**		**36.4**		**29.75**		**32.2**		**40.95**		**41.9**		**18.1**		**28.75**		**37.9**	
Calculated High MW PAH	**20.4**		**21.35**		**82.3**		**17.7**		**23.4**		**18.25**		**22.1**		**27.2**		**29.1**		**9.7**		**18.85**		**24.5**	
Calculated Low MW PAH	**12**		**13.7**		**42.5**		**13.3**		**13**		**11.5**		**10.1**		**13.75**		**12.8**		**8.4**		**9.9**		**13.4**	

Attachment 1 - Analytical Results Background Locations

Location ID Sample ID Sample Data Depth Interval	BG01A BG01A-101008 10/10/2008 0-1		BG01B BG01B-101008 10/10/2008 0-1		BG01C BG01C-101008 10/10/2008 0-1		BG02A BG02A-101008 10/10/2008 0-1		BG02B BG02B-101008 10/10/2008 0-1		BG02C BG02C-101008 10/10/2008 0-1		BG03a BG03A-100808 10/8/2008 0-1		BG03b BG03B-100808 10/8/2008 0-1		BG03c BG03C-100808 10/8/2008 0-1		BG04a BG04A-100808 10/8/2008 0-1		BG04b BG04B-100808 10/8/2008 0-1		BG04c SEDDUP104-100808 10/8/2008 0-1	
SVOC (mg/kg)																								
1,2,4-TRICHLOROBENZENE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
1,2-DICHLOROBENZENE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
1,3-DICHLOROBENZENE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
1,4-DICHLOROBENZENE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
2,2-OXYBIS(1-CHLOROPROPANE)	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
2,4,5-TRICHLOROPHENOL	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
2,4,6-TRICHLOROPHENOL	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
2,4-DICHLOROPHENOL	< 8.800	UJ	< 6.800	UJ	< 7.900	UJ	< 7.800	UJ	< 8.800	UJ	< 8.300	UJ	< 9.000	UJ	< 8.500	UJ	< 7.200	UJ	< 8.800	UJ	< 8.300	UJ	< 9.000	UJ
2,4-DIMETHYLPHENOL	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
2,4-DINITROPHENOL	< 18.000	UJ	< 14.000	UJ	< 16.000	UJ	< 16.000	UJ	< 18.000	UJ	< 17.000	UJ	< 18.000	UJ	< 17.000	UJ	< 14.000	UJ	< 18.000	UJ	< 17.000	UJ	< 18.000	UJ
2,4-DINITROTOLUENE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
2,6-DINITROTOLUENE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
2-CHLORONAPHTHALENE	< 1.800	UJ	< 1.700	UJ	< 1.600	UJ	< 1.600	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ	< 1.700	UJ	< 1.400	UJ	< 1.800	UJ	< 1.700	UJ	< 1.800	UJ
2-CHLOROPHENOL	< 5.300	UJ	< 4.100	UJ	< 4.800	UJ	< 4.600	UJ	< 5.300	UJ	< 5.000	UJ	< 5.400	UJ	< 5.100	UJ	< 4.300	UJ	< 5.300	UJ	< 5.000	UJ	< 5.400	UJ
2-METHYLPHENOL	< 5.300	UJ	< 4.100	UJ	< 4.800	UJ	< 4.600	UJ	< 5.300	UJ	< 5.000	UJ	< 5.400	UJ	< 5.100	UJ	< 4.300	UJ	< 5.300	UJ	< 5.000	UJ	< 5.400	UJ
2-NITROANILINE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
2-NITROPHENOL	< 18.000	UJ	< 14.000	UJ	< 16.000	UJ	< 16.000	UJ	< 18.000	UJ	< 17.000	UJ	< 18.000	UJ	< 17.000	UJ	< 14.000	UJ	< 18.000	UJ	< 17.000	UJ	< 18.000	UJ
3,3-DICHLOROBENZIDINE	< 8.800	UJ	< 6.800	UJ	< 7.900	UJ	< 7.800	UJ	< 8.800	UJ	< 8.300	UJ	< 9.000	UJ	< 8.500	UJ	< 7.200	UJ	< 8.800	UJ	< 8.300	UJ	< 9.000	UJ
3+4-Methylphenols	< 5.300	UJ	< 4.100	UJ	< 4.800	UJ	< 4.600	UJ	< 5.300	UJ	< 5.000	UJ	< 5.400	UJ	< 5.100	UJ	< 4.300	UJ	< 5.300	UJ	< 5.000	UJ	< 5.400	UJ
3-NITROANILINE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
4,6-DINITRO-2-METHYLPHENOL	< 18.000	UJ	< 14.000	UJ	< 16.000	UJ	< 16.000	UJ	< 18.000	UJ	< 17.000	UJ	< 18.000	UJ	< 17.000	UJ	< 14.000	UJ	< 18.000	UJ	< 17.000	UJ	< 18.000	UJ
4-BROMOPHENYL PHENYL ETHER	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
4-CHLORO-3-METHYLPHENOL	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
4-CHLOROANILINE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
4-CHLOROPHENYL PHENYL ETHER	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
4-NITROANILINE	< 6.100	UJ	< 4.800	UJ	< 5.600	UJ	< 5.400	UJ	< 6.100	UJ	< 5.800	UJ	< 6.300	UJ	< 6.000	UJ	< 5.100	UJ	< 6.100	UJ	< 5.800	UJ	< 6.300	UJ
4-NITROPHENOL	< 8.800	UJ	< 6.800	UJ	< 7.900	UJ	< 7.800	UJ	< 8.800	UJ	< 8.300	UJ	< 9.000	UJ	< 8.500	UJ	< 7.200	UJ	< 8.800	UJ	< 8.300	UJ	< 9.000	UJ
BIS(2-CHLOROETHOXY)METHANE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
BIS(2-CHLOROETHYL) ETHER	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
BIS(2-ETHYLHEXYL) PHTHALATE	**10**	**J**	< 6.800	UJ	< 7.900	UJ	< 7.800	UJ	**18**	**J**	< 8.300	UJ	< 9.000	UJ	**18**	**J**	**8.8**	**J**	< 8.800	UJ	**17**	**J**	**12**	**J**
BUTYLBENZYLPHTHALATE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
CARBAZOLE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
DIBENZOFURAN	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
DIETHYL PHTHALATE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
DIMETHYLPHTHALATE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
DI-N-BUTYL PHTHALATE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
DI-N-OCTYL PHTHALATE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
HEXACHLORO-1,3-BUTADIENE	< 4.400	UJ	< 4.300	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
HEXACHLOROBENZENE	< 7.000	UJ	< 6.800	UJ	< 6.300	UJ	< 6.200	UJ	< 7.000	UJ	< 6.700	UJ	< 7.200	UJ	< 6.800	UJ	< 5.800	UJ	< 7.000	UJ	< 6.700	UJ	< 7.200	UJ
HEXACHLOROCYCLOPENTADIENE	< 8.800	UJ	< 6.800	UJ	< 7.900	UJ	< 7.800	UJ	< 8.800	UJ	< 8.300	UJ	< 9.000	UJ	< 8.500	UJ	< 7.200	UJ	< 8.800	UJ	< 8.300	UJ	< 9.000	UJ
HEXACHLOROETHANE	< 7.000	UJ	< 6.800	UJ	< 6.300	UJ	< 6.200	UJ	< 7.000	UJ	< 6.700	UJ	< 7.200	UJ	< 6.800	UJ	< 5.800	UJ	< 7.000	UJ	< 6.700	UJ	< 7.200	UJ
ISOPHORONE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
NITROBENZENE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
SVOC (mg/kg)																								
N-NITROSODI-N-PROPYLAMINE	< 4.400	UJ	< 3.400	UJ	< 4.000	UJ	< 3.900	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ	< 4.300	UJ	< 3.600	UJ	< 4.400	UJ	< 4.200	UJ	< 4.500	UJ
N-NITROSODIPHENYLAMINE	< 13.000	UJ	< 10.000	UJ	< 12.000	UJ	< 12.000	UJ	< 13.000	UJ	< 12.000	UJ	< 14.000	UJ	< 13.000	UJ	< 11.000	UJ	< 13.000	UJ	< 12.000	UJ	< 14.000	UJ
PENTACHLOROPHENOL	< 7.000	UJ	< 6.800	UJ	< 6.300	UJ	< 6.200	UJ	< 7.000	UJ	< 6.700	UJ	< 7.200	UJ	< 6.800	UJ	< 5.800	UJ	< 7.000	UJ	< 6.700	UJ	< 7.200	UJ
PHENOL	< 6.100	UJ	< 4.800	UJ	< 5.600	UJ	< 5.400	UJ	< 6.100	UJ	< 5.800	UJ	< 6.300	UJ	< 6.000	UJ	< 5.100	UJ	< 6.100	UJ	< 5.800	UJ	< 6.300	UJ
Total SVOC	**182.75**		**149.8**		**255.6**		**159.45**		**194.75**		**167.1**		**180.05**		**195**		**164.75**		**162.85**		**178.95**		**193.25**	
TOC (percent)																								
Average Total Organic Carbon	**3.2**		**3.7**		**6.6**		**5.2**		**3.9**		**4.5**		**2.5**	**J**	**3.6**	**J**	**3.2**	**J**	**2.1**	**J**	**3.3**	**J**	**3**	**J**
TOTAL ORGANIC CARBON	**3.3**		**3.8**		**7.5**		**4.8**		**3.8**		**4.6**		**2.5**	**J**	**3.8**	**J**	**3.1**	**J**	**2.1**	**J**	**3.3**	**J**	**3.1**	**J**
Total Organic Carbon (Run 2)	**3.2**		**3.7**		**6.5**		**5.3**		**4**		**4.6**		**2.4**	**J**	**3.5**	**J**	**3**	**J**	**2.2**	**J**	**3.2**	**J**	**2.9**	**J**
Total Organic Carbon (Run 3)	**3.3**		**3.6**		**5.8**		**5.3**		**4**		**4.2**		**2.5**	**J**	**3.4**	**J**	**3.6**	**J**	**1.9**	**J**	**3.5**	**J**	**3.1**	**J**

Notes:
mg/Kg = miligram per kilogram
Bold = detected above reporting limit
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Attachment 1 - Analytical Results Background Locations

Location ID Sample ID Sample Data Depth Interval	BG04c BG04C-100808 10/8/2008 0-1		BG05a BG05A-100808 10/8/2008 0-1		BG05b BG05B-100808 10/8/2008 0-1		BG05c BG05C-100808 10/8/2008 0-1		BG06A BG06A-100808 10/8/2008 0-1		BG06b BG06B-100808 10/8/2008 0-1		BG06c BG06C-100808 10/8/2008 0-1		BG06d SEDDUP103-100808 10/8/2008 0-1		BG06d BG06D-100808 10/8/2008 0-1		BG07A BG07A-100708 10/7/2008 0-1		BG07B BG07B-100708 10/7/2008 0-1		BG07C BG07C-100808 10/8/2008 0-1	
BTEX (mg/kg)																								
BENZENE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	**0.0076**	**J**	**0.007**	**J**	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
ETHYLBENZENE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
m,p-Xylene	< 0.012	UJ	< 0.010	UJ	< 0.010	U	< 0.0078	U	< 0.014	UJ	< 0.014	UJ	< 0.013	UJ	< 0.014	UJ	< 0.013	UJ	< 0.014	UJ	< 0.014	UJ	< 0.013	UJ
XYLENE, O-	< 0.012	UJ	< 0.010	UJ	< 0.010	U	< 0.0078	U	< 0.014	UJ	< 0.014	UJ	< 0.013	UJ	< 0.014	UJ	< 0.013	UJ	< 0.014	UJ	< 0.014	UJ	< 0.013	UJ
TOLUENE	< 0.0091	UJ	< 0.0076	UJ	< 0.0075	U	< 0.0058	U	< 0.010	UJ	< 0.010	UJ	< 0.0099	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.011	UJ	< 0.010	UJ	< 0.0099	UJ
Total Xylene (calculated)	< 0.012		< 0.010		< 0.010		< 0.0078		< 0.014		< 0.014		< 0.013		< 0.014		< 0.013		< 0.014		< 0.014		< 0.013	
Total BTEX	< 0.02265		< 0.0189		< 0.01875		< 0.0146		< 0.0258		< 0.0259		< 0.02455		**0.03**		**0.028**		< 0.0266		< 0.0258		< 0.02455	
VOC (mg/kg)																								
1,1,1-TRICHLOROETHANE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
1,1,2,2-TETRACHLOROETHANE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
1,1,2-TRICHLOROETHANE	< 0.0091	UJ	< 0.0076	UJ	< 0.0075	U	< 0.0058	U	< 0.010	UJ	< 0.010	UJ	< 0.0099	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.011	UJ	< 0.010	UJ	< 0.0099	UJ
1,1-DICHLOROETHANE	< 0.0091	UJ	< 0.0076	UJ	< 0.0075	U	< 0.0058	U	< 0.010	UJ	< 0.010	UJ	< 0.0099	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.011	UJ	< 0.010	UJ	< 0.0099	UJ
1,1-DICHLOROETHENE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	UJ	< 0.0039	UJ	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
1,2-DICHLOROETHANE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
1,2-DICHLOROPROPANE	< 0.021	UJ	< 0.018	UJ	< 0.018	U	< 0.014	U	< 0.024	UJ	< 0.024	UJ	< 0.023	UJ	< 0.024	UJ	< 0.022	UJ	< 0.025	UJ	< 0.024	UJ	< 0.023	UJ
2-BUTANONE	< 0.061	UJ	< 0.051	UJ	< 0.050	U	< 0.039	U	< 0.068	UJ	< 0.069	UJ	< 0.066	UJ	< 0.068	UJ	< 0.064	UJ	< 0.071	UJ	< 0.068	UJ	< 0.066	UJ
2-HEXANONE	< 0.061	UJ	< 0.051	UJ	< 0.050	U	< 0.039	U	< 0.068	UJ	< 0.069	UJ	< 0.066	UJ	< 0.068	UJ	< 0.064	UJ	< 0.071	UJ	< 0.068	UJ	< 0.066	UJ
4-METHYL-2-PENTANONE (MIBK)	< 0.061	UJ	< 0.051	UJ	< 0.050	U	< 0.039	U	< 0.068	UJ	< 0.069	UJ	< 0.066	UJ	< 0.068	UJ	< 0.064	UJ	< 0.071	UJ	< 0.068	UJ	< 0.066	UJ
ACETONE	**0.14**	**J**	**0.13**	**J**	**0.09**	**J**	**0.086**	**J**	**0.13**	**J**	**0.14**	**J**	**0.091**	**J**	**0.15**	**J**	**0.16**	**J**	**0.14**	**J**	**0.12**	**J**	**0.14**	**J**
BROMODICHLOROMETHANE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
BROMOFORM	< 0.024	UJ	< 0.020	UJ	< 0.020	U	< 0.016	U	< 0.027	UJ	< 0.028	UJ	< 0.026	UJ	< 0.027	UJ	< 0.026	UJ	< 0.028	UJ	< 0.027	UJ	< 0.026	UJ
BROMOMETHANE	< 0.012	UJ	< 0.010	UJ	< 0.010	U	< 0.0078	U	< 0.014	UJ	< 0.014	UJ	< 0.013	UJ	< 0.014	UJ	< 0.013	UJ	< 0.014	UJ	< 0.014	UJ	< 0.013	UJ
CARBON DISULFIDE	< 0.061	UJ	< 0.051	UJ	< 0.050	U	< 0.039	U	< 0.068	UJ	< 0.069	UJ	< 0.066	UJ	< 0.068	UJ	< 0.064	UJ	< 0.071	UJ	< 0.068	UJ	< 0.066	UJ
CARBON TETRACHLORIDE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
CHLOROBENZENE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
CHLORODIBROMOMETHANE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
CHLOROETHANE	< 0.012	UJ	< 0.010	UJ	< 0.010	U	< 0.0078	U	< 0.014	UJ	< 0.014	UJ	< 0.013	UJ	< 0.014	UJ	< 0.013	UJ	< 0.014	UJ	< 0.014	UJ	< 0.013	UJ
CHLOROFORM	< 0.0091	UJ	< 0.0076	UJ	< 0.0075	U	< 0.0058	U	< 0.010	UJ	< 0.010	UJ	< 0.0099	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.011	UJ	< 0.010	UJ	< 0.0099	UJ
CHLOROMETHANE (METHYL CHLORIDE)	< 0.030	UJ	< 0.026	UJ	< 0.025	U	< 0.020	U	< 0.034	UJ	< 0.035	UJ	< 0.033	UJ	< 0.034	UJ	< 0.032	UJ	< 0.036	UJ	< 0.034	UJ	< 0.033	UJ
CIS-1,2-DICHLOROETHENE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
CIS-1,3-DICHLOROPROPENE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
DICHLOROMETHANE	< 0.061	UJ	< 0.051	UJ	< 0.050	U	< 0.039	U	< 0.068	UJ	< 0.069	UJ	< 0.066	UJ	< 0.068	UJ	< 0.064	UJ	< 0.071	UJ	< 0.068	UJ	< 0.066	UJ
STYRENE	< 0.012	UJ	< 0.010	UJ	< 0.010	U	< 0.0078	U	< 0.014	UJ	< 0.014	UJ	< 0.013	UJ	< 0.014	UJ	< 0.013	UJ	< 0.014	UJ	< 0.014	UJ	< 0.013	UJ
TETRACHLOROETHENE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
TRANS-1,2-DICHLOROETHENE	< 0.0091	UJ	< 0.0076	UJ	< 0.0075	U	< 0.0058	U	< 0.010	UJ	< 0.010	UJ	< 0.0099	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.011	UJ	< 0.010	UJ	< 0.0099	UJ
TRANS-1,3-DICHLOROPROPENE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
TRICHLOROETHENE	< 0.0061	UJ	< 0.0051	UJ	< 0.0050	U	< 0.0039	U	< 0.0068	UJ	< 0.0069	UJ	< 0.0066	UJ	< 0.0068	UJ	< 0.0064	UJ	< 0.0071	UJ	< 0.0068	UJ	< 0.0066	UJ
VINYL CHLORIDE	< 0.012	UJ	< 0.010	UJ	< 0.010	U	< 0.0078	U	< 0.014	UJ	< 0.014	UJ	< 0.013	UJ	< 0.014	UJ	< 0.013	UJ	< 0.014	UJ	< 0.014	UJ	< 0.013	UJ
Total VOC	**8.6345**		**7.17675**		**6.93275**		**5.47565**		**9.4605**		**9.67475**		**9.21025**		**9.4847**		**9.0748**		**10.08475**		**9.4505**		**9.25925**	
PAH (mg/kg)																								
2-METHYLNAPHTHALENE	< 1.600	UJ	**1.4**	**J**	< 1.300	U	**1.4**		< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
ACENAPHTHENE	< 1.600	UJ	< 1.400	UJ	< 1.300	U	< 1.000	U	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
ACENAPHTHYLENE	< 1.600	UJ	**1.6**	**J**	< 1.300	U	< 1.000	U	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
ANTHRACENE	< 1.600	UJ	**3**	**J**	**1.9**		**2.2**		< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
BENZO(A)ANTHRACENE	**2**	**J**	**5**	**J**	**3.1**		**3.4**		< 1.800	UJ	< 1.800	UJ	**2.4**	**J**	**1.8**	**J**	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
BENZO(A)PYRENE	**5.8**	**J**	**6.7**	**J**	**5.4**		**4.7**		**5.9**	**J**	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	**6**	**J**	**5.9**	**J**
BENZO(B)FLUORANTHENE	< 1.600	UJ	**4.3**	**J**	**3.6**		**3.1**		< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
BENZO(G,H,I)PERYLENE	< 1.600	UJ	**3.9**	**J**	< 1.300	U	< 1.000	U	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
BENZO(K)FLUORANTHENE	< 1.600	UJ	**4.2**	**J**	**3.4**		**2.9**		< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
CHRYSENE	**2**	**J**	**4.5**	**J**	**3.4**		**3.2**		< 1.800	UJ	< 1.800	UJ	**2.4**	**J**	**2**	**J**	**1.8**	**J**	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
DIBENZ(A,H)ANTHRACENE	< 1.600	UJ	< 1.400	UJ	< 1.300	U	< 1.000	U	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
FLUORANTHENE	**2.7**	**J**	**7.5**	**J**	**5.9**		**5.2**		< 1.800	UJ	**2**	**J**	**3**	**J**	**2.7**	**J**	**2.5**	**J**	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
FLUORENE	< 1.600	UJ	< 1.400	UJ	< 1.300	U	< 1.000	U	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
INDENO(1,2,3-CD)PYRENE	< 1.600	UJ	**4.2**	**J**	< 1.300	U	< 1.000	U	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
NAPHTHALENE	< 1.600	UJ	**1.6**	**J**	< 1.300	U	**1.4**		< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
PHENANTHRENE	< 1.600	UJ	**5**	**J**	**5**		**4.3**		< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
PYRENE	**3.8**	**J**	**8.6**	**J**	**6**		**6**		**2.1**	**J**	**2.7**	**J**	**4**	**J**	**3.2**	**J**	**3**	**J**	< 1.900	UJ	**2.1**	**J**	**2.4**	**J**
Total PAH	**25.9**		**63.6**		**42.9**		**40.8**		**21.5**		**18.2**		**23.5**		**21.4**		**19.2**		< 16.150		**21.6**		**21.8**	
Calculated High MW PAH	**17.6**		**42.1**		**26.85**		**24.8**		**14.3**		**9.9**		**14.2**		**12.4**		**10.75**		< 8.550		**14.4**		**14.6**	
Calculated Low MW PAH	**8.3**		**21.5**		**16.05**		**16**		< 7.200		**8.3**		**9.3**		**9**		**8.45**		< 7.600		< 7.200		< 7.200	

Attachment 1 - Analytical Results Background Locations

Location ID Sample ID Sample Data Depth Interval	BG04c BG04C-100808 10/8/2008 0-1		BG05a BG05A-100808 10/8/2008 0-1		BG05b BG05B-100808 10/8/2008 0-1		BG05c BG05C-100808 10/8/2008 0-1		BG06A BG06A-100808 10/8/2008 0-1		BG06b BG06B-100808 10/8/2008 0-1		BG06c BG06C-100808 10/8/2008 0-1		BG06d SEDDUP103-100808 10/8/2008 0-1		BG06d BG06D-100808 10/8/2008 0-1		BG07A BG07A-100708 10/7/2008 0-1		BG07B BG07B-100708 10/7/2008 0-1		BG07C BG07C-100808 10/8/2008 0-1	
SVOC (mg/kg)																								
1,2,4-TRICHLOROBENZENE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
1,2-DICHLOROBENZENE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
1,3-DICHLOROBENZENE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
1,4-DICHLOROBENZENE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
2,2-OXYBIS(1-CHLOROPROPANE)	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
2,4,5-TRICHLOROPHENOL	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
2,4,6-TRICHLOROPHENOL	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
2,4-DICHLOROPHENOL	< 8.100	UJ	< 6.800	UJ	< 6.700	U	< 5.200	U	< 9.000	UJ	< 9.200	UJ	< 8.800	UJ	< 9.000	UJ	< 8.500	UJ	< 9.500	UJ	< 9.000	UJ	< 8.800	UJ
2,4-DIMETHYLPHENOL	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
2,4-DINITROPHENOL	< 16.000	UJ	< 14.000	UJ	< 13.000	U	< 10.000	U	< 18.000	UJ	< 18.000	UJ	< 18.000	UJ	< 18.000	UJ	< 17.000	UJ	< 19.000	UJ	< 18.000	UJ	< 18.000	UJ
2,4-DINITROTOLUENE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
2,6-DINITROTOLUENE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
2-CHLORONAPHTHALENE	< 1.600	UJ	< 1.400	UJ	< 1.300	U	< 1.000	U	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.800	UJ	< 1.700	UJ	< 1.900	UJ	< 1.800	UJ	< 1.800	UJ
2-CHLOROPHENOL	< 4.900	UJ	< 4.100	UJ	< 4.000	U	< 3.100	U	< 5.400	UJ	< 5.600	UJ	< 5.300	UJ	< 5.400	UJ	< 5.100	UJ	< 5.700	UJ	< 5.400	UJ	< 5.300	UJ
2-METHYLPHENOL	< 4.900	UJ	< 4.100	UJ	< 4.000	U	< 3.100	U	< 5.400	UJ	< 5.600	UJ	< 5.300	UJ	< 5.400	UJ	< 5.100	UJ	< 5.700	UJ	< 5.400	UJ	< 5.300	UJ
2-NITROANILINE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
2-NITROPHENOL	< 16.000	UJ	< 14.000	UJ	< 13.000	U	< 10.000	U	< 18.000	UJ	< 18.000	UJ	< 18.000	UJ	< 18.000	UJ	< 17.000	UJ	< 19.000	UJ	< 18.000	UJ	< 18.000	UJ
3,3-DICHLOROBENZIDINE	< 8.100	UJ	< 6.800	UJ	< 6.700	U	< 5.200	U	< 9.000	UJ	< 9.200	UJ	< 8.800	UJ	< 9.000	UJ	< 8.500	UJ	< 9.500	UJ	< 9.000	UJ	< 8.800	UJ
3+4-Methylphenols	< 4.900	UJ	< 4.100	UJ	< 4.000	U	< 3.100	U	< 5.400	UJ	< 5.600	UJ	< 5.300	UJ	< 5.400	UJ	< 5.100	UJ	< 5.700	UJ	< 5.400	UJ	< 5.300	UJ
3-NITROANILINE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
4,6-DINITRO-2-METHYLPHENOL	< 16.000	UJ	< 14.000	UJ	< 13.000	U	< 10.000	U	< 18.000	UJ	< 18.000	UJ	< 18.000	UJ	< 18.000	UJ	< 17.000	UJ	< 19.000	UJ	< 18.000	UJ	< 18.000	UJ
4-BROMOPHENYL PHENYL ETHER	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
4-CHLORO-3-METHYLPHENOL	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
4-CHLOROANILINE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
4-CHLOROPHENYL PHENYL ETHER	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
4-NITROANILINE	< 5.700	UJ	< 4.800	UJ	< 4.700	U	< 3.600	U	< 6.300	UJ	< 6.500	UJ	< 6.100	UJ	< 6.300	UJ	< 6.000	UJ	< 6.700	UJ	< 6.300	UJ	< 6.100	UJ
4-NITROPHENOL	< 8.100	UJ	< 6.800	UJ	< 6.700	U	< 5.200	U	< 9.000	UJ	< 9.200	UJ	< 8.800	UJ	< 9.000	UJ	< 8.500	UJ	< 9.500	UJ	< 9.000	UJ	< 8.800	UJ
BIS(2-CHLOROETHOXY)METHANE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
BIS(2-CHLOROETHYL) ETHER	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
BIS(2-ETHYLHEXYL) PHTHALATE	< 8.100	UJ	**9.8**	**J**	**6.8**		**7.1**		**13**	**J**	< 9.200	UJ	**21**	**J**	**9.7**	**J**	**11**	**J**	< 9.500	UJ	< 9.000	UJ	< 8.800	UJ
BUTYLBENZYLPHTHALATE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
CARBAZOLE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
DIBENZOFURAN	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
DIETHYL PHTHALATE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
DIMETHYLPHTHALATE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
DI-N-BUTYL PHTHALATE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
DI-N-OCTYL PHTHALATE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
HEXACHLORO-1,3-BUTADIENE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
HEXACHLOROBENZENE	< 6.500	UJ	< 5.400	UJ	< 5.300	U	< 4.200	U	< 7.200	UJ	< 7.400	UJ	< 7.000	UJ	< 7.200	UJ	< 6.800	UJ	< 7.600	UJ	< 7.200	UJ	< 7.000	UJ
HEXACHLOROCYCLOPENTADIENE	< 8.100	UJ	< 6.800	UJ	< 6.700	U	< 5.200	U	< 9.000	UJ	< 9.200	UJ	< 8.800	UJ	< 9.000	UJ	< 8.500	UJ	< 9.500	UJ	< 9.000	UJ	< 8.800	UJ
HEXACHLOROETHANE	< 6.500	UJ	< 5.400	UJ	< 5.300	U	< 4.200	U	< 7.200	UJ	< 7.400	UJ	< 7.000	UJ	< 7.200	UJ	< 6.800	UJ	< 7.600	UJ	< 7.200	UJ	< 7.000	UJ
ISOPHORONE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
NITROBENZENE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
SVOC (mg/kg)																								
N-NITROSODI-N-PROPYLAMINE	< 4.100	UJ	< 3.400	UJ	< 3.300	U	< 2.600	U	< 4.500	UJ	< 4.600	UJ	< 4.400	UJ	< 4.500	UJ	< 4.300	UJ	< 4.800	UJ	< 4.500	UJ	< 4.400	UJ
N-NITROSODIPHENYLAMINE	< 12.000	UJ	< 10.000	UJ	< 10.000	U	< 7.800	U	< 14.000	UJ	< 14.000	UJ	< 13.000	UJ	< 14.000	UJ	< 13.000	UJ	< 14.000	UJ	< 14.000	UJ	< 13.000	UJ
PENTACHLOROPHENOL	< 6.500	UJ	< 5.400	UJ	< 5.300	U	< 4.200	U	< 7.200	UJ	< 7.400	UJ	< 7.000	UJ	< 7.200	UJ	< 6.800	UJ	< 7.600	UJ	< 7.200	UJ	< 7.000	UJ
PHENOL	< 5.700	UJ	< 4.800	UJ	< 4.700	U	< 3.600	U	< 6.300	UJ	< 6.500	UJ	< 6.100	UJ	< 6.300	UJ	< 6.000	UJ	< 6.700	UJ	< 6.300	UJ	< 6.100	UJ
Total SVOC	**159.2**		**182.05**		**154.75**		**129.95**		**177.85**		**168.8**		**184.85**		**174.45**		**166.25**		< 172.600		**169.45**		**166.55**	
TOC (percent)																								
Average Total Organic Carbon	**2.8**	**J**	**3.6**	**J**	**4.4**	**J**	**3**	**J**	**2.2**		**2.4**	**J**	**2.9**	**J**	**4.1**	**J**	**4**	**J**	**2.5**		**2.2**		**3.6**	
TOTAL ORGANIC CARBON	**2.7**	**J**	**3.2**	**J**	**5.3**	**J**	**2.8**	**J**	**2.3**		**2.2**	**J**	**2.9**	**J**	**4**	**J**	**4.1**	**J**	**2.5**		**2.2**		**3.4**	
Total Organic Carbon (Run 2)	**2.8**	**J**	**4.3**	**J**	**4**	**J**	**2.7**	**J**	**2.3**		**2.5**	**J**	**2.9**	**J**	**4**	**J**	**4**	**J**	**2.6**		**2.2**		**3.4**	
Total Organic Carbon (Run 3)	**2.8**	**J**	**3.4**	**J**	**3.9**	**J**	**3.3**	**J**	**2**		**2.3**	**J**	**2.8**	**J**	**4.3**	**J**	**3.9**	**J**	**2.5**		**2.2**		**3.9**	

Notes:
mg/Kg = miligram per kilogram
Bold = detected above reporting limit
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Attachment 1 - Analytical Results Background Locations

Location ID Sample ID Sample Data Depth Interval	BG08A BG08A-101008 10/10/2008 0-1		BG08B BG08B-101008 10/10/2008 0-1		BG08C BG08C-101008 10/10/2008 0-1		BG09A BG09A-100708 10/7/2008 0-1		BG09B BG09B-100708 10/7/2008 0-1		BG09C BG09C-100708 10/7/2008 0-1		BG09D SEDDUP102-100708 10/7/2008 0-1		BG09D BG09D-100708 10/7/2008 0-1		BG10A BG10A-100808 10/8/2008 0-1		BG10B BG10B-100808 10/8/2008 0-1		BG10C BG10C-100808 10/8/2008 0-1		BG11A BG11A-100708 10/7/2008 0-1	
BTEX (mg/kg)																								
BENZENE	< 4.900	U	< 0.0048	U	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	**0.0092**	**J**	**0.0075**	**J**	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
ETHYLBENZENE	< 4.900	U	< 0.0048	U	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	**0.14**	**J**	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
m,p-Xylene	< 9.800	U	< 0.0096	U	< 0.085	UJ	< 0.011	UJ	< 0.013	UJ	< 0.012	UJ	< 0.012	UJ	< 0.012	UJ	**0.065**	**J**	< 0.014	UJ	< 0.013	UJ	< 0.012	UJ
XYLENE, O-	< 9.800	U	< 0.0096	U	< 0.085	UJ	< 0.011	UJ	< 0.013	UJ	< 0.012	UJ	< 0.012	UJ	< 0.012	UJ	**0.078**	**J**	< 0.014	UJ	< 0.013	UJ	< 0.012	UJ
TOLUENE	< 7.400	U	< 0.0072	U	< 0.064	UJ	< 0.0083	UJ	< 0.0099	UJ	< 0.0091	UJ	< 0.0094	UJ	< 0.0089	UJ	< 0.041	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.0091	UJ
Total Xylene (calculated)	< 9.800		< 0.0096		< 0.085		< 0.011		< 0.013		< 0.012		< 0.012		< 0.012		**0.143**		< 0.014		< 0.013		< 0.012	
Total BTEX	< 18.400		< 0.018		< 0.159		< 0.02075		< 0.02455		< 0.02265		**0.029**		**0.02695**		**0.317**		< 0.0259		< 0.0242		< 0.02265	
VOC (mg/kg)																								
1,1,1-TRICHLOROETHANE	< 4.900	U	< 0.0048	U	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
1,1,2,2-TETRACHLOROETHANE	< 4.900	U	< 0.0048	UJ	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
1,1,2-TRICHLOROETHANE	< 7.400	U	< 0.0072	U	< 0.064	UJ	< 0.0083	UJ	< 0.0099	UJ	< 0.0091	UJ	< 0.0094	UJ	< 0.0089	UJ	< 0.041	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.0091	UJ
1,1-DICHLOROETHANE	< 7.400	U	< 0.0072	U	< 0.064	UJ	< 0.0083	UJ	< 0.0099	UJ	< 0.0091	UJ	< 0.0094	UJ	< 0.0089	UJ	< 0.041	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.0091	UJ
1,1-DICHLOROETHENE	< 4.900	UJ	< 0.0048	UJ	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
1,2-DICHLOROETHANE	< 4.900	U	< 0.0048	U	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
1,2-DICHLOROPROPANE	< 17.000	U	< 0.017	U	< 0.150	UJ	< 0.019	UJ	< 0.023	UJ	< 0.021	UJ	< 0.022	UJ	< 0.021	UJ	< 0.095	UJ	< 0.024	UJ	< 0.022	UJ	< 0.021	UJ
2-BUTANONE	< 49.000	U	< 0.048	U	< 0.420	UJ	< 0.056	UJ	**0.071**	**J**	< 0.061	UJ	< 0.062	UJ	< 0.060	UJ	< 0.270	UJ	< 0.069	UJ	< 0.064	UJ	**0.063**	**J**
2-HEXANONE	< 49.000	U	< 0.048	U	< 0.420	UJ	< 0.056	UJ	< 0.066	UJ	< 0.061	UJ	< 0.062	UJ	< 0.060	UJ	< 0.270	UJ	< 0.069	UJ	< 0.064	UJ	< 0.061	UJ
4-METHYL-2-PENTANONE (MIBK)	< 49.000	U	< 0.048	U	< 0.420	UJ	< 0.056	UJ	< 0.066	UJ	< 0.061	UJ	< 0.062	UJ	< 0.060	UJ	< 0.270	UJ	< 0.069	UJ	< 0.064	UJ	< 0.061	UJ
ACETONE	< 49.000	U	< 0.048	U	< 0.420	UJ	**0.1**	**J**	**0.22**	**J**	**0.15**	**J**	**0.18**	**J**	**0.18**	**J**	< 0.270	UJ	**0.13**	**J**	**0.16**	**J**	**0.21**	**J**
BROMODICHLOROMETHANE	< 4.900	U	< 0.0048	U	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
BROMOFORM	< 20.000	U	< 0.019	UJ	< 0.170	UJ	< 0.022	UJ	< 0.026	UJ	< 0.024	UJ	< 0.025	UJ	< 0.024	UJ	< 0.110	UJ	< 0.028	UJ	< 0.026	UJ	< 0.024	UJ
BROMOMETHANE	< 9.800	U	< 0.0096	U	< 0.085	UJ	< 0.011	UJ	< 0.013	UJ	< 0.012	UJ	< 0.012	UJ	< 0.012	UJ	< 0.054	UJ	< 0.014	UJ	< 0.013	UJ	< 0.012	UJ
CARBON DISULFIDE	< 49.000	UJ	< 0.048	UJ	< 0.420	UJ	< 0.056	UJ	< 0.066	UJ	< 0.061	UJ	< 0.062	UJ	< 0.060	UJ	< 0.270	UJ	< 0.069	UJ	< 0.064	UJ	< 0.061	UJ
CARBON TETRACHLORIDE	< 4.900	U	< 0.0048	U	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
CHLOROBENZENE	< 4.900	U	< 0.0048	U	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
CHLORODIBROMOMETHANE	< 4.900	U	< 0.0048	U	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
CHLOROETHANE	< 9.800	U	< 0.0096	U	< 0.085	UJ	< 0.011	UJ	< 0.013	UJ	< 0.012	UJ	< 0.012	UJ	< 0.012	UJ	< 0.054	UJ	< 0.014	UJ	< 0.013	UJ	< 0.012	UJ
CHLOROFORM	< 7.400	U	< 0.0072	U	< 0.064	UJ	< 0.0083	UJ	< 0.0099	UJ	< 0.0091	UJ	< 0.0094	UJ	< 0.0089	UJ	< 0.041	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.0091	UJ
CHLOROMETHANE (METHYL CHLORIDE)	< 24.000	U	< 0.024	U	< 0.210	UJ	< 0.028	UJ	< 0.033	UJ	< 0.030	UJ	< 0.031	UJ	< 0.030	UJ	< 0.140	UJ	< 0.035	UJ	< 0.032	UJ	< 0.030	UJ
CIS-1,2-DICHLOROETHENE	< 4.900	U	< 0.0048	U	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
CIS-1,3-DICHLOROPROPENE	< 4.900	U	< 0.0048	U	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
DICHLOROMETHANE	< 49.000	U	< 0.048	U	< 0.420	UJ	< 0.056	UJ	< 0.066	UJ	< 0.061	UJ	< 0.062	UJ	< 0.060	UJ	< 0.270	UJ	< 0.069	UJ	< 0.064	UJ	< 0.061	UJ
STYRENE	< 9.800	U	< 0.0096	U	< 0.085	UJ	< 0.011	UJ	< 0.013	UJ	< 0.012	UJ	< 0.012	UJ	< 0.012	UJ	< 0.054	UJ	< 0.014	UJ	< 0.013	UJ	< 0.012	UJ
TETRACHLOROETHENE	< 4.900	U	< 0.0048	U	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
TRANS-1,2-DICHLOROETHENE	< 7.400	U	< 0.0072	U	< 0.064	UJ	< 0.0083	UJ	< 0.0099	UJ	< 0.0091	UJ	< 0.0094	UJ	< 0.0089	UJ	< 0.041	UJ	< 0.010	UJ	< 0.0096	UJ	< 0.0091	UJ
TRANS-1,3-DICHLOROPROPENE	< 4.900	U	< 0.0048	U	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
TRICHLOROETHENE	< 4.900	U	< 0.0048	U	< 0.042	UJ	< 0.0056	UJ	< 0.0066	UJ	< 0.0061	UJ	< 0.0062	UJ	< 0.0060	UJ	< 0.027	UJ	< 0.0069	UJ	< 0.0064	UJ	< 0.0061	UJ
VINYL CHLORIDE	< 9.800	U	< 0.0096	U	< 0.085	UJ	< 0.011	UJ	< 0.013	UJ	< 0.012	UJ	< 0.012	UJ	< 0.012	UJ	< 0.054	UJ	< 0.014	UJ	< 0.013	UJ	< 0.012	UJ
Total VOC	< 275.150		< 6.6568		< 7.855		**7.77025**		**9.37725**		**8.6445**		**8.8861**		**8.47525**		**8.865**		**9.66475**		**9.071**		**8.737**	
PAH (mg/kg)																								
2-METHYLNAPHTHALENE	**1.4**		**1.4**		< 1.400	UJ	< 1.500	UJ	< 1.800	UJ	< 1.600	UJ	< 1.700	UJ	**1.7**	**J**	**10**	**J**	< 1.800	UJ	< 1.700	UJ	< 1.600	UJ
ACENAPHTHENE	< 1.300	U	< 1.300	U	< 1.400	UJ	< 1.500	UJ	< 1.800	UJ	< 1.600	UJ	< 1.700	UJ	< 1.600	UJ	**21**	**J**	< 1.800	UJ	< 1.700	UJ	< 1.600	UJ
ACENAPHTHYLENE	< 1.300	U	< 1.300	U	< 1.400	UJ	< 1.500	UJ	< 1.800	UJ	< 1.600	UJ	< 1.700	UJ	< 1.600	UJ	**9.6**	**J**	< 1.800	UJ	< 1.700	UJ	< 1.600	UJ
ANTHRACENE	**2.7**		**3.7**		**1.9**	**J**	**1.9**	**J**	< 1.800	UJ	< 1.600	UJ	< 1.700	UJ	**2**	**J**	**33**	**J**	**2.5**	**J**	< 1.700	UJ	< 1.600	UJ
BENZO(A)ANTHRACENE	**6.3**		**8.8**		**4.5**	**J**	**2.8**	**J**	< 1.800	UJ	< 1.600	UJ	**1.7**	**J**	**3.3**	**J**	**26**	**J**	**3.4**	**J**	**2.7**	**J**	**2**	**J**
BENZO(A)PYRENE	**6.5**		**7.9**		**5.2**	**J**	**5.6**	**J**	< 1.800	UJ	< 1.600	UJ	< 1.700	UJ	**6.9**	**J**	**21**	**J**	**7.6**	**J**	**6.8**	**J**	**5.9**	**J**
BENZO(B)FLUORANTHENE	**5.6**		**6.6**		**4.2**	**J**	**3.9**	**J**	< 1.800	UJ	< 1.600	UJ	< 1.700	UJ	**4.5**	**J**	**10**	**J**	< 1.800	UJ	**4.4**	**J**	< 1.600	UJ
BENZO(G,H,I)PERYLENE	**4.4**		**5**		**3.8**	**J**	< 1.500	UJ	< 1.800	UJ	< 1.600	UJ	< 1.700	UJ	**4.3**	**J**	**9.2**	**J**	< 1.800	UJ	< 1.700	UJ	< 1.600	UJ
BENZO(K)FLUORANTHENE	**4.7**		**5.6**		**4**	**J**	**3.4**	**J**	< 1.800	UJ	< 1.600	UJ	< 1.700	UJ	**4.3**	**J**	**13**	**J**	< 1.800	UJ	**4.1**	**J**	< 1.600	UJ
CHRYSENE	**5.9**		**8**		**4.4**	**J**	**2.5**	**J**	**1.8**	**J**	< 1.600	UJ	**2**	**J**	**4**	**J**	**25**	**J**	**3.1**	**J**	**2.6**	**J**	**2**	**J**
DIBENZ(A,H)ANTHRACENE	< 1.300	U	< 1.300	U	< 1.400	UJ	< 1.500	UJ	< 1.800	UJ	< 1.600	UJ	< 1.700	UJ	< 1.600	UJ	**4.9**	**J**	< 1.800	UJ	< 1.700	UJ	< 1.600	UJ
FLUORANTHENE	**10**		**14**		**7.9**	**J**	**6.2**	**J**	**2.4**	**J**	< 1.600	UJ	**2.9**	**J**	**6.4**	**J**	**43**	**J**	**5.5**	**J**	**4.8**	**J**	**3.9**	**J**
FLUORENE	< 1.300	U	< 1.300	U	< 1.400	UJ	< 1.500	UJ	< 1.800	UJ	< 1.600	UJ	< 1.700	UJ	< 1.600	UJ	**4.4**	**J**	< 1.800	UJ	< 1.700	UJ	< 1.600	UJ
INDENO(1,2,3-CD)PYRENE	**4.5**		**4.9**		**4.1**	**J**	< 1.500	UJ	< 1.800	UJ	< 1.600	UJ	< 1.700	UJ	**4.6**	**J**	**8.4**	**J**	< 1.800	UJ	< 1.700	UJ	< 1.600	UJ
NAPHTHALENE	**6.5**		**5.5**		< 1.400	UJ	< 1.500	UJ	< 1.800	UJ	< 1.600	UJ	< 1.700	UJ	**1.6**	**J**	**9.1**	**J**	< 1.800	UJ	< 1.700	UJ	< 1.600	UJ
PHENANTHRENE	**7**		**7.3**		**4.6**	**J**	**2.7**	**J**	< 1.800	UJ	< 1.600	UJ	**2**	**J**	**4.6**	**J**	**43**	**J**	**3.8**	**J**	**2.7**	**J**	**3**	**J**
PYRENE	**11**		**15**		**8.8**	**J**	**5.4**	**J**	**2.9**	**J**	< 1.600	UJ	**3.4**	**J**	**7.1**	**J**	**60**	**J**	**6.8**	**J**	**4.9**	**J**	**4.4**	**J**
Total PAH	**79.1**		**96.3**		**57.6**		**40.4**		**19.7**		< 13.600		**22.2**		**58.5**		**350.6**		**41.7**		**40.65**		**30**	
Calculated High MW PAH	**49.55**		**62.45**		**39.7**		**25.85**		**11**		< 7.200		**12.2**		**39.8**		**177.5**		**25.4**		**28.05**		**18.3**	
Calculated Low MW PAH	**29.55**		**33.85**		**17.9**		**14.55**		**8.7**		< 6.400		**10**		**18.7**		**173.1**		**16.3**		**12.6**		**11.7**	

Attachment 1 - Analytical Results Background Locations

Location ID Sample ID Sample Data Depth Interval	BG08A BG08A-101008 10/10/2008 0-1		BG08B BG08B-101008 10/10/2008 0-1		BG08C BG08C-101008 10/10/2008 0-1		BG09A BG09A-100708 10/7/2008 0-1		BG09B BG09B-100708 10/7/2008 0-1		BG09C BG09C-100708 10/7/2008 0-1		BG09D SEDDUP102-100708 10/7/2008 0-1		BG09D BG09D-100708 10/7/2008 0-1		BG10A BG10A-100808 10/8/2008 0-1		BG10B BG10B-100808 10/8/2008 0-1		BG10C BG10C-100808 10/8/2008 0-1		BG11A BG11A-100708 10/7/2008 0-1	
SVOC (mg/kg)																								
1,2,4-TRICHLOROBENZENE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
1,2-DICHLOROBENZENE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
1,3-DICHLOROBENZENE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
1,4-DICHLOROBENZENE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
2,2-OXYBIS(1-CHLOROPROPANE)	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
2,4,5-TRICHLOROPHENOL	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
2,4,6-TRICHLOROPHENOL	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
2,4-DICHLOROPHENOL	< 13.000	U	< 6.400	U	< 5.700	UJ	< 7.400	UJ	< 8.800	UJ	< 8.100	UJ	< 8.300	UJ	< 7.900	UJ	< 7.200	UJ	< 9.200	UJ	< 8.500	UJ	< 8.100	UJ
2,4-DIMETHYLPHENOL	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
2,4-DINITROPHENOL	< 26.000	U	< 13.000	U	< 11.000	UJ	< 15.000	UJ	< 18.000	UJ	< 16.000	UJ	< 17.000	UJ	< 16.000	UJ	< 14.000	UJ	< 18.000	UJ	< 17.000	UJ	< 16.000	UJ
2,4-DINITROTOLUENE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
2,6-DINITROTOLUENE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
2-CHLORONAPHTHALENE	< 1.300	U	< 1.300	U	< 1.400	UJ	< 1.500	UJ	< 1.800	UJ	< 1.600	UJ	< 1.700	UJ	< 1.600	UJ	< 1.400	UJ	< 1.800	UJ	< 1.700	UJ	< 1.600	UJ
2-CHLOROPHENOL	< 7.800	U	< 3.800	U	< 3.400	UJ	< 4.400	UJ	< 5.300	UJ	< 4.900	UJ	< 5.000	UJ	< 4.800	UJ	< 4.300	UJ	< 5.600	UJ	< 5.100	UJ	< 4.900	UJ
2-METHYLPHENOL	< 7.800	U	< 3.800	U	< 3.400	UJ	< 4.400	UJ	< 5.300	UJ	< 4.900	UJ	< 5.000	UJ	< 4.800	UJ	< 4.300	UJ	< 5.600	UJ	< 5.100	UJ	< 4.900	UJ
2-NITROANILINE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
2-NITROPHENOL	< 26.000	U	< 13.000	U	< 11.000	UJ	< 15.000	UJ	< 18.000	UJ	< 16.000	UJ	< 17.000	UJ	< 16.000	UJ	< 14.000	UJ	< 18.000	UJ	< 17.000	UJ	< 16.000	UJ
3,3-DICHLOROBENZIDINE	< 13.000	U	< 6.400	U	< 5.700	UJ	< 7.400	UJ	< 8.800	UJ	< 8.100	UJ	< 8.300	UJ	< 7.900	UJ	< 7.200	UJ	< 9.200	UJ	< 8.500	UJ	< 8.100	UJ
3+4-Methylphenols	< 7.800	U	< 3.800	U	< 3.400	UJ	< 4.400	UJ	< 5.300	UJ	< 4.900	UJ	< 5.000	UJ	< 4.800	UJ	< 4.300	UJ	< 5.600	UJ	< 5.100	UJ	< 4.900	UJ
3-NITROANILINE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
4,6-DINITRO-2-METHYLPHENOL	< 26.000	U	< 13.000	U	< 11.000	UJ	< 15.000	UJ	< 18.000	UJ	< 16.000	UJ	< 17.000	UJ	< 16.000	UJ	< 14.000	UJ	< 18.000	UJ	< 17.000	UJ	< 16.000	UJ
4-BROMOPHENYL PHENYL ETHER	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
4-CHLORO-3-METHYLPHENOL	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
4-CHLOROANILINE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
4-CHLOROPHENYL PHENYL ETHER	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
4-NITROANILINE	< 9.200	U	< 4.500	U	< 4.000	UJ	< 5.200	UJ	< 6.100	UJ	< 5.700	UJ	< 5.800	UJ	< 5.600	UJ	< 5.100	UJ	< 6.500	UJ	< 6.000	UJ	< 5.700	UJ
4-NITROPHENOL	< 13.000	U	< 6.400	U	< 5.700	UJ	< 7.400	UJ	< 8.800	UJ	< 8.100	UJ	< 8.300	UJ	< 7.900	UJ	< 7.200	UJ	< 9.200	UJ	< 8.500	UJ	< 8.100	UJ
BIS(2-CHLOROETHOXY)METHANE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
BIS(2-CHLOROETHYL) ETHER	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
BIS(2-ETHYLHEXYL) PHTHALATE	< 13.000	U	**8.8**		**6.3**	**J**	**9.7**	**J**	**23**	**J**	< 8.100	UJ	**9.7**	**J**	**9.9**	**J**	< 7.200	UJ	< 9.200	UJ	< 8.500	UJ	< 8.100	UJ
BUTYLBENZYLPHTHALATE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
CARBAZOLE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
DIBENZOFURAN	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
DIETHYL PHTHALATE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
DIMETHYLPHTHALATE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
DI-N-BUTYL PHTHALATE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
DI-N-OCTYL PHTHALATE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
HEXACHLORO-1,3-BUTADIENE	< 3.300	U	< 3.200	U	< 3.500	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
HEXACHLOROBENZENE	< 5.200	U	< 5.100	U	< 5.700	UJ	< 5.900	UJ	< 7.000	UJ	< 6.500	UJ	< 6.700	UJ	< 6.300	UJ	< 5.800	UJ	< 7.400	UJ	< 6.800	UJ	< 6.500	UJ
HEXACHLOROCYCLOPENTADIENE	< 13.000	U	< 6.400	U	< 5.700	UJ	< 7.400	UJ	< 8.800	UJ	< 8.100	UJ	< 8.300	UJ	< 7.900	UJ	< 7.200	UJ	< 9.200	UJ	< 8.500	UJ	< 8.100	UJ
HEXACHLOROETHANE	< 5.200	U	< 5.100	U	< 5.700	UJ	< 5.900	UJ	< 7.000	UJ	< 6.500	UJ	< 6.700	UJ	< 6.300	UJ	< 5.800	UJ	< 7.400	UJ	< 6.800	UJ	< 6.500	UJ
ISOPHORONE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
NITROBENZENE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
SVOC (mg/kg)																								
N-NITROSODI-N-PROPYLAMINE	< 6.500	U	< 3.200	U	< 2.800	UJ	< 3.700	UJ	< 4.400	UJ	< 4.100	UJ	< 4.200	UJ	< 4.000	UJ	< 3.600	UJ	< 4.600	UJ	< 4.300	UJ	< 4.100	UJ
N-NITROSODIPHENYLAMINE	< 20.000	U	< 9.600	U	< 8.500	UJ	< 11.000	UJ	< 13.000	UJ	< 12.000	UJ	< 12.000	UJ	< 12.000	UJ	< 11.000	UJ	< 14.000	UJ	< 13.000	UJ	< 12.000	UJ
PENTACHLOROPHENOL	< 5.200	U	< 5.100	U	< 5.700	UJ	< 5.900	UJ	< 7.000	UJ	< 6.500	UJ	< 6.700	UJ	< 6.300	UJ	< 5.800	UJ	< 7.400	UJ	< 6.800	UJ	< 6.500	UJ
PHENOL	< 9.200	U	< 4.500	U	< 4.000	UJ	< 5.200	UJ	< 6.100	UJ	< 5.700	UJ	< 5.800	UJ	< 5.600	UJ	< 5.100	UJ	< 6.500	UJ	< 6.000	UJ	< 5.700	UJ
Total SVOC	**282.6**		**207.1**		**155.35**		**167.95**		**183.05**		< 146.900		**165.1**		**195.25**		**468.25**		**192.3**		**180.95**		**163.3**	
TOC (percent)																								
Average Total Organic Carbon	**3.5**		**4.6**		**3.9**		**3**	**J**	**3**	**J**	**2.1**	**J**	**5.9**	**J**	**4.3**	**J**	**5.4**	**J**	**3.4**	**J**	**3.9**		**4.9**	**J**
TOTAL ORGANIC CARBON	**3.3**		**4.5**		**3.9**		**3.2**	**J**	**3.2**	**J**	**2**	**J**	**6.9**	**J**	**4.3**	**J**	**4.8**	**J**	**3.4**	**J**	**2.3**		**5**	**J**
Total Organic Carbon (Run 2)	**3.5**		**4.9**		**3.5**		**3**	**J**	**3.1**	**J**	**1.9**	**J**	**5.8**	**J**	**4.4**	**J**	**5.4**	**J**	**3.3**	**J**	**5.1**		**4.7**	**J**
Total Organic Carbon (Run 3)	**3.6**		**4.3**		**4.2**		**3**	**J**	**2.7**	**J**	**2.2**	**J**	**5**	**J**	**4.1**	**J**	**6.1**	**J**	**3.6**	**J**	**4.3**		**4.9**	**J**

Notes:
mg/Kg = miligram per kilogram
Bold = detected above reporting limit
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Attachment 1 - Analytical Results Background Locations

Location ID	BG11B		BG11C		BG12A		BG12B		BG12C		BG12C		BG13A		BG13B	
Sample ID	BG11B-100708		BG11C-100708		BG12A-100608		BG12B-100608		SEDDUP101-100608		BG12C-100608		BG13A-100708		BG13B-100708	
Sample Data	10/7/2008		10/7/2008		10/6/2008		10/6/2008		10/6/2008		10/6/2008		10/7/2008		10/7/2008	
Depth Interval	0-1		0-1		0-1		0-1		0-1		0-1		0-1		0-1	
BTEX (mg/kg)																
BENZENE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
ETHYLBENZENE	**0.0094**	**J**	**0.22**	**J**	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
m,p-Xylene	**0.012**	**J**	**0.12**	**J**	< 0.012	UJ	< 0.011	UJ	< 0.010	UJ	< 0.010	UJ	< 0.011	UJ	< 0.0060	U
XYLENE, O-	**0.017**	**J**	**0.23**	**J**	< 0.012	UJ	< 0.011	UJ	< 0.010	UJ	< 0.010	UJ	< 0.011	UJ	< 0.0060	U
TOLUENE	< 0.0078	UJ	< 0.033	UJ	< 0.0091	UJ	< 0.0080	UJ	< 0.0078	UJ	< 0.0078	UJ	< 0.0082	UJ	< 0.0045	U
Total Xylene (calculated)	**0.029**		**0.35**		< 0.012		< 0.011		< 0.010		< 0.010		< 0.011		< 0.006	
Total BTEX	**0.0449**		**0.5975**		< 0.02265		< 0.0203		< 0.0191		< 0.0191		< 0.0205		< 0.01125	
VOC (mg/kg)																
1,1,1-TRICHLOROETHANE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
1,1,2,2-TETRACHLOROETHANE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
1,1,2-TRICHLOROETHANE	< 0.0078	UJ	< 0.033	UJ	< 0.0091	UJ	< 0.0080	UJ	< 0.0078	UJ	< 0.0078	UJ	< 0.0082	UJ	< 0.0045	U
1,1-DICHLOROETHANE	< 0.0078	UJ	< 0.033	UJ	< 0.0091	UJ	< 0.0080	UJ	< 0.0078	UJ	< 0.0078	UJ	< 0.0082	UJ	< 0.0045	U
1,1-DICHLOROETHENE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
1,2-DICHLOROETHANE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
1,2-DICHLOROPROPANE	< 0.018	UJ	< 0.076	UJ	< 0.021	UJ	< 0.019	UJ	< 0.018	UJ	< 0.018	UJ	< 0.019	UJ	< 0.010	U
2-BUTANONE	< 0.052	UJ	< 0.220	UJ	< 0.061	UJ	< 0.053	UJ	< 0.052	UJ	< 0.052	UJ	< 0.054	UJ	< 0.030	U
2-HEXANONE	< 0.052	UJ	< 0.220	UJ	< 0.061	UJ	< 0.053	UJ	< 0.052	UJ	< 0.052	UJ	< 0.054	UJ	< 0.030	U
4-METHYL-2-PENTANONE (MIBK)	< 0.052	UJ	< 0.220	UJ	< 0.061	UJ	< 0.053	UJ	< 0.052	UJ	< 0.052	UJ	< 0.054	UJ	< 0.030	U
ACETONE	**0.14**	**J**	**0.25**	**J**	**0.062**	**J**	**0.098**	**J**	**0.073**	**J**	< 0.052	UJ	**0.056**	**J**	< 0.030	U
BROMODICHLOROMETHANE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
BROMOFORM	< 0.021	UJ	< 0.087	UJ	< 0.024	UJ	< 0.021	UJ	< 0.021	UJ	< 0.021	UJ	< 0.022	UJ	< 0.012	U
BROMOMETHANE	< 0.010	UJ	< 0.043	UJ	< 0.012	UJ	< 0.011	UJ	< 0.010	UJ	< 0.010	UJ	< 0.011	UJ	< 0.0060	U
CARBON DISULFIDE	< 0.052	UJ	< 0.220	UJ	< 0.061	UJ	< 0.053	UJ	< 0.052	UJ	< 0.052	UJ	< 0.054	UJ	< 0.030	U
CARBON TETRACHLORIDE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
CHLOROBENZENE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
CHLORODIBROMOMETHANE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
CHLOROETHANE	< 0.010	UJ	< 0.043	UJ	< 0.012	UJ	< 0.011	UJ	< 0.010	UJ	< 0.010	UJ	< 0.011	UJ	< 0.0060	U
CHLOROFORM	< 0.0078	UJ	< 0.033	UJ	< 0.0091	UJ	< 0.0080	UJ	< 0.0078	UJ	< 0.0078	UJ	< 0.0082	UJ	< 0.0045	U
CHLOROMETHANE (METHYL CHLORIDE)	< 0.026	UJ	< 0.110	UJ	< 0.030	UJ	< 0.026	UJ	< 0.026	UJ	< 0.026	UJ	< 0.027	UJ	< 0.015	U
CIS-1,2-DICHLOROETHENE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
CIS-1,3-DICHLOROPROPENE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
DICHLOROMETHANE	< 0.052	UJ	< 0.220	UJ	< 0.061	UJ	< 0.053	UJ	< 0.052	UJ	< 0.052	UJ	< 0.054	UJ	< 0.030	U
STYRENE	< 0.010	UJ	< 0.043	UJ	< 0.012	UJ	< 0.011	UJ	< 0.010	UJ	< 0.010	UJ	< 0.011	UJ	< 0.0060	U
TETRACHLOROETHENE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
TRANS-1,2-DICHLOROETHENE	< 0.0078	UJ	< 0.033	UJ	< 0.0091	UJ	< 0.0080	UJ	< 0.0078	UJ	< 0.0078	UJ	< 0.0082	UJ	< 0.0045	U
TRANS-1,3-DICHLOROPROPENE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
TRICHLOROETHENE	< 0.0052	UJ	< 0.022	UJ	< 0.0061	UJ	< 0.0053	UJ	< 0.0052	UJ	< 0.0052	UJ	< 0.0054	UJ	< 0.0030	U
VINYL CHLORIDE	< 0.010	UJ	< 0.043	UJ	< 0.012	UJ	< 0.011	UJ	< 0.010	UJ	< 0.010	UJ	< 0.011	UJ	< 0.0060	U
Total VOC	**7.4168**		**9.029**		**1.9765**		**7.35625**		**7.324**		< 7.277		**7.519**		< 0.96025	
PAH (mg/kg)																
2-METHYLNAPHTHALENE	**6.8**	**J**	**16**	**J**	< 0.650	UJ	< 1.400	UJ	< 1.400	UJ	< 1.400	UJ	< 1.400	UJ	< 0.080	U
ACENAPHTHENE	**5.8**	**J**	**12**	**J**	< 0.650	UJ	< 1.400	UJ	< 1.400	UJ	**1.4**	**J**	< 1.400	UJ	< 0.080	U
ACENAPHTHYLENE	**2.2**	**J**	**3.4**	**J**	< 0.650	UJ	< 1.400	UJ	**1.5**	**J**	< 1.400	UJ	< 1.400	UJ	< 0.080	U
ANTHRACENE	**7.3**	**J**	**19**	**J**	**0.99**	**J**	**1.7**	**J**	**3**	**J**	**2.8**	**J**	< 1.400	UJ	< 0.080	U
BENZO(A)ANTHRACENE	**6.9**	**J**	**16**	**J**	**1.7**	**J**	**3.1**	**J**	**4.6**	**J**	**5.5**	**J**	**1.6**	**J**	< 0.080	U
BENZO(A)PYRENE	**8.7**	**J**	**14**	**J**	**3.2**	**J**	**6.4**	**J**	**6.3**	**J**	**7.5**	**J**	**5.2**	**J**	**0.27**	
BENZO(B)FLUORANTHENE	**5**	**J**	**7.9**	**J**	**2.1**	**J**	**4.1**	**J**	**4.1**	**J**	**5.6**	**J**	< 1.400	UJ	< 0.080	U
BENZO(G,H,I)PERYLENE	**4.6**	**J**	**7.4**	**J**	**1.9**	**J**	**3.8**	**J**	< 1.400	UJ	**4.4**	**J**	< 1.400	UJ	< 0.080	U
BENZO(K)FLUORANTHENE	**5.4**	**J**	**9.3**	**J**	**2**	**J**	**3.9**	**J**	**3.8**	**J**	**5.9**	**J**	< 1.400	UJ	< 0.080	U
CHRYSENE	**7**	**J**	**13**	**J**	**1.6**	**J**	**3**	**J**	**4.1**	**J**	**5.1**	**J**	**1.6**	**J**	< 0.080	U
DIBENZ(A,H)ANTHRACENE	< 1.400	UJ	**4.3**	**J**	< 0.650	UJ	< 1.400	UJ	< 1.400	UJ	< 1.400	UJ	< 1.400	UJ	< 0.080	U
FLUORANTHENE	**11**	**J**	**23**	**J**	**2.8**	**J**	**5**	**J**	**7.3**	**J**	**12**	**J**	**2.1**	**J**	**0.14**	
FLUORENE	**3.9**	**J**	**10**	**J**	< 0.650	UJ	< 1.400	UJ	< 1.400	UJ	**1.6**	**J**	< 1.400	UJ	< 0.080	U
INDENO(1,2,3-CD)PYRENE	**4.6**	**J**	**6.7**	**J**	**2**	**J**	**4.1**	**J**	< 3.500	UJ	**4.7**	**J**	< 1.400	UJ	< 0.080	U
NAPHTHALENE	**5.8**	**J**	**14**	**J**	**0.66**	**J**	< 1.400	UJ	**1.8**	**J**	**1.8**	**J**	< 1.400	UJ	< 0.080	U
PHENANTHRENE	**14**	**J**	**39**	**J**	**1.3**	**J**	**3.4**	**J**	**4.2**	**J**	**9.7**	**J**	< 1.400	UJ	**0.09**	
PYRENE	**16**	**J**	**31**	**J**	**3**	**J**	**5.4**	**J**	**8.2**	**J**	**10**	**J**	**2.7**	**J**	**0.15**	
Total PAH	**115.7**		**246**		**24.875**		**48.1**		**54.15**		**80.1**		**21.6**		**1.17**	
Calculated High MW PAH	**58.9**		**109.6**		**17.825**		**34.5**		**34.25**		**49.4**		**14.6**		**0.7**	
Calculated Low MW PAH	**56.8**		**136.4**		**7.05**		**13.6**		**19.9**		**30.7**		**7**		**0.47**	

Attachment 1 - Analytical Results Background Locations

Location ID Sample ID Sample Data Depth Interval	BG11B BG11B-100708 10/7/2008 0-1		BG11C BG11C-100708 10/7/2008 0-1		BG12A BG12A-100608 10/6/2008 0-1		BG12B BG12B-100608 10/6/2008 0-1		BG12C SEDDUP101-100608 10/6/2008 0-1		BG12C BG12C-100608 10/6/2008 0-1		BG13A BG13A-100708 10/7/2008 0-1		BG13B BG13B-100708 10/7/2008 0-1	
SVOC (mg/kg)																
1,2,4-TRICHLOROBENZENE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
1,2-DICHLOROBENZENE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
1,3-DICHLOROBENZENE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
1,4-DICHLOROBENZENE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
2,2-OXYBIS(1-CHLOROPROPANE)	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
2,4,5-TRICHLOROPHENOL	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
2,4,6-TRICHLOROPHENOL	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
2,4-DICHLOROPHENOL	< 6.900	UJ	< 7.200	UJ	< 1.600	UJ	< 7.100	UJ	< 6.900	UJ	< 6.900	UJ	< 7.200	UJ	< 0.800	U
2,4-DIMETHYLPHENOL	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
2,4-DINITROPHENOL	< 14.000	UJ	< 14.000	UJ	< 3.200	UJ	< 14.000	UJ	< 14.000	UJ	< 14.000	UJ	< 14.000	UJ	< 1.600	U
2,4-DINITROTOLUENE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
2,6-DINITROTOLUENE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
2-CHLORONAPHTHALENE	< 1.400	UJ	< 1.400	UJ	< 0.650	UJ	< 1.400	UJ	< 1.400	UJ	< 1.400	UJ	< 1.400	UJ	< 0.080	U
2-CHLOROPHENOL	< 4.200	UJ	< 4.300	UJ	< 0.980	UJ	< 4.200	UJ	< 4.200	UJ	< 4.200	UJ	< 4.300	UJ	< 0.480	U
2-METHYLPHENOL	< 4.200	UJ	< 4.300	UJ	< 0.980	UJ	< 4.200	UJ	< 4.200	UJ	< 4.200	UJ	< 4.300	UJ	< 0.480	U
2-NITROANILINE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
2-NITROPHENOL	< 14.000	UJ	< 14.000	UJ	< 3.200	UJ	< 14.000	UJ	< 14.000	UJ	< 14.000	UJ	< 14.000	UJ	< 1.600	U
3,3-DICHLOROBENZIDINE	< 6.900	UJ	< 7.200	UJ	< 1.600	UJ	< 7.100	UJ	< 6.900	UJ	< 6.900	UJ	< 7.200	UJ	< 0.800	U
3+4-Methylphenols	< 4.200	UJ	< 4.300	UJ	< 0.980	UJ	< 4.200	UJ	< 4.200	UJ	< 4.200	UJ	< 4.300	UJ	< 0.480	U
3-NITROANILINE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
4,6-DINITRO-2-METHYLPHENOL	< 14.000	UJ	< 14.000	UJ	< 3.200	UJ	< 14.000	UJ	< 14.000	UJ	< 14.000	UJ	< 14.000	UJ	< 1.600	U
4-BROMOPHENYL PHENYL ETHER	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
4-CHLORO-3-METHYLPHENOL	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
4-CHLOROANILINE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
4-CHLOROPHENYL PHENYL ETHER	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
4-NITROANILINE	< 4.900	UJ	< 5.100	UJ	< 1.100	UJ	< 5.000	UJ	< 4.900	UJ	< 4.900	UJ	< 5.100	UJ	< 0.560	U
4-NITROPHENOL	< 6.900	UJ	< 7.200	UJ	< 1.600	UJ	< 7.100	UJ	< 6.900	UJ	< 6.900	UJ	< 7.200	UJ	< 0.800	U
BIS(2-CHLOROETHOXY)METHANE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
BIS(2-CHLOROETHYL) ETHER	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
BIS(2-ETHYLHEXYL) PHTHALATE	< 6.900	UJ	< 7.200	UJ	**10**	**J**	< 7.100	UJ	< 6.900	UJ	< 6.900	UJ	< 7.200	UJ	< 0.800	U
BUTYLBENZYLPHTHALATE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
CARBAZOLE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
DIBENZOFURAN	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
DIETHYL PHTHALATE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
DIMETHYLPHTHALATE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
DI-N-BUTYL PHTHALATE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
DI-N-OCTYL PHTHALATE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
HEXACHLORO-1,3-BUTADIENE	< 3.500	UJ	< 3.600	UJ	< 1.600	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.200	U
HEXACHLOROBENZENE	< 5.600	UJ	< 5.800	UJ	< 2.600	UJ	< 5.700	UJ	< 5.600	UJ	< 5.600	UJ	< 5.800	UJ	< 0.320	U
HEXACHLOROCYCLOPENTADIENE	< 6.900	UJ	< 7.200	UJ	< 1.600	UJ	< 7.100	UJ	< 6.900	UJ	< 6.900	UJ	< 7.200	UJ	< 0.800	U
HEXACHLOROETHANE	< 5.600	UJ	< 5.800	UJ	< 2.600	UJ	< 5.700	UJ	< 5.600	UJ	< 5.600	UJ	< 5.800	UJ	< 0.320	U
ISOPHORONE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
NITROBENZENE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
SVOC (mg/kg)																
N-NITROSODI-N-PROPYLAMINE	< 3.500	UJ	< 3.600	UJ	< 0.810	UJ	< 3.500	UJ	< 3.500	UJ	< 3.500	UJ	< 3.600	UJ	< 0.400	U
N-NITROSODIPHENYLAMINE	< 10.000	UJ	< 11.000	UJ	< 2.400	UJ	< 11.000	UJ	< 10.000	UJ	< 10.000	UJ	< 11.000	UJ	< 1.200	U
PENTACHLOROPHENOL	< 5.600	UJ	< 5.800	UJ	< 2.600	UJ	< 5.700	UJ	< 5.600	UJ	< 5.600	UJ	< 5.800	UJ	< 0.320	U
PHENOL	< 4.900	UJ	< 5.100	UJ	< 1.100	UJ	< 5.000	UJ	< 4.900	UJ	< 4.900	UJ	< 5.100	UJ	< 0.560	U
Total SVOC	**230**		**363.65**		**63.01**		**163.65**		**168.45**		**194.4**		**139.25**		**13.67**	
TOC (percent)																
Average Total Organic Carbon	**4.6**	**J**	**4.5**	**J**	**3.4**	**J**	**9.5**	**J**	**9.2**	**J**	**11**	**J**	**2.8**	**J**	**0.1**	**J**
TOTAL ORGANIC CARBON	**5.5**	**J**	**4.5**	**J**	**3.1**	**J**	**8**	**J**	**8.6**	**J**	**13**	**J**	**2.7**	**J**	**0.1**	**J**
Total Organic Carbon (Run 2)	**4**	**J**	**4.6**	**J**	**3.9**	**J**	**10**	**J**	**11**	**J**	**10**	**J**	**3**	**J**	**0.09**	**J**
Total Organic Carbon (Run 3)	**4.2**	**J**	**4.3**	**J**	**3.1**	**J**	**10**	**J**	**8.1**	**J**	**11**	**J**	**2.8**	**J**	**0.12**	**J**

Notes:
mg/Kg = miligram per kilogram
Bold = detected above reporting limit
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Attachment 2 - Outlier Analysis of Background Data

25th Percentile ($x_{0.25}$)	3.079606
50th Percentile ($x_{0.50}$)	3.517467
75th Percentile ($x_{0.75}$)	3.787474
IQR ($x_{0.75}$-$x_{0.25}$)	0.707869
Lower Limit ($x_{0.25}$-1.5 * IQF	2.017803
Upper Limit ($x_{0.75}$+1.5 * IQI	4.849277

sys_loc_code	SampleIDforAvgDu	result_unit	TPAH	LN_TPAH	Outlier?
BG01A	BG01A-101008	mg/kg	32.400002	3.478158	No
BG01B	BG01B-101008	mg/kg	35.050002	3.556776	No
BG01C	BG01C-101008	mg/kg	124.800006	4.826713	No
BG02A	BG02A-101008	mg/kg	31.000001	3.433987	No
BG02B	BG02B-101008	mg/kg	36.400002	3.594569	No
BG02C	BG02C-101008	mg/kg	29.750001	3.392829	No
BG03a	BG03A-100808	mg/kg	32.200002	3.471967	No
BG03b	BG03B-100808	mg/kg	40.950002	3.712352	No
BG03c	BG03C-100808	mg/kg	41.900002	3.735286	No
BG04a	BG04A-100808	mg/kg	18.100001	2.895912	No
BG04b	BG04B-100808	mg/kg	28.750001	3.358638	No
BG04c	BG04C-100808	mg/kg	31.9000015	3.462606	No
BG05a	BG05A-100808	mg/kg	63.600003	4.152614	No
BG05b	BG05B-100808	mg/kg	42.900002	3.758872	No
BG05c	BG05C-100808	mg/kg	40.800002	3.708682	No
BG06A	BG06A-100808	mg/kg	21.500001	3.068053	No
BG06b	BG06B-100808	mg/kg	18.200001	2.901422	No
BG06c	BG06C-100808	mg/kg	23.500001	3.157	No
BG06d	BG06D-100808	mg/kg	20.300001	3.010621	No
BG07A	BG07A-100708	mg/kg	16.150001	2.78192	No
BG07B	BG07B-100708	mg/kg	21.600001	3.072693	No
BG07C	BG07C-100808	mg/kg	21.800001	3.08191	No
BG08A	BG08A-101008	mg/kg	79.100004	4.370713	No
BG08B	BG08B-101008	mg/kg	96.300005	4.567468	No
BG08C	BG08C-101008	mg/kg	57.600003	4.053523	No
BG09A	BG09A-100708	mg/kg	40.400002	3.69883	No
BG09B	BG09B-100708	mg/kg	19.700001	2.980619	No
BG09C	BG09C-100708	mg/kg	13.600001	2.61007	No
BG09D	BG09D-100708	mg/kg	40.350002	3.697591	No
BG10A	BG10A-100808	mg/kg	350.600017	5.859646	Upper
BG10B	BG10B-100808	mg/kg	41.700002	3.730501	No
BG10C	BG10C-100808	mg/kg	40.650002	3.704999	No
BG11A	BG11A-100708	mg/kg	30.000001	3.401197	No
BG11B	BG11B-100708	mg/kg	115.700005	4.751001	No
BG11C	BG11C-100708	mg/kg	246.000012	5.505332	Upper
BG12A	BG12A-100608	mg/kg	24.875001	3.213863	No
BG12B	BG12B-100608	mg/kg	48.100002	3.873282	No
BG12C	BG12C-100608	mg/kg	67.1250035	4.206557	No
BG13A	BG13A-100708	mg/kg	21.600001	3.072693	No
BG13B	BG13B-100708	mg/kg	1.17	0.157004	Lower

Notes:
TPAH = total polycyclic aromatic hydrocarbons
LN = Natural log

Attachment 3 - Summary Statistics of Final Background Data Set

Summary Statistics for Raw Dataset with NDs

				Raw Statistics using Detected Observations (mg/kg)						
Variable	**Num Ds**	**NumNDs**	**% NDs**	**Minimum**	**Maximum**	**Mean**	**Median**	**SD**	**Skewness**	**CV**
TPAH	35	2	5.41%	18.1	124.8	42.3	35.05	26.21	1.877	0.62

Simple Summary Statistics for Log-transformed Dataset with NDs

				Statistics using Detected Log-transformed Observations (mg/kg)						
Variable	**Num Ds**	**NumNDs**	**% NDs**	**Minimum**	**Maximum**	**Mean**	**Median**	**SD**	**Skewness**	**CV**
LN_TPAH	35	2	5.41%	2.896	4.827	3.604	3.557	0.509	0.765	0.141

Attachment 4 - Tests for Distribution of Data

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects

User Selected Options

From File	C:\Pro_UCL_4.00.02\projects_proucl\PCV\background_pah_no_outlier.wst
Full Precision	OFF
Confidence Coefficient	0.95

TPAH

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	37	0	37	35	2	5.41%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	2	13.6	16.15	14.88	14.88	1.803
Statistics (Detects Only)	35	18.1	124.8	42.3	35.05	26.21
Statistics (All: NDs treated as DL value)	37	13.6	124.8	40.82	32.4	26.24
Statistics (All: NDs treated as DL/2 value)	37	6.8	124.8	40.42	32.4	26.7
Statistics (Normal ROS Estimated Data)	37	-14.28	124.8	39.24	32.4	28.59
Statistics (Gamma ROS Estimated Data)	37	1E-09	124.8	40.02	32.4	27.26
Statistics (Lognormal ROS Estimated Data)	37	11.06	124.8	40.61	32.4	26.46

	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Detects Only)	3.719	3.435	11.38	3.604	0.509	0.141
Statistics (NDs = DL)	3.407	3.149	11.98	3.555	0.537	0.151
Statistics (NDs = DL/2)	2.912	2.694	13.88	3.518	0.617	0.175
Statistics (Gamma ROS Estimates)	0.46	0.44	87.04	--	--	--
Statistics (Lognormal ROS Estimates)	--	--	--	3.54	0.566	0.16

Normal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.879	0.885	0.9	0.923

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Detects Only)	0.774	0.934	Data Not Normal
Lilliefors (Detects Only)	0.262	0.15	Data Not Normal
Shapiro-Wilks (NDs = DL)	0.786	0.936	Data Not Normal
Lilliefors (NDs = DL)	0.252	0.146	Data Not Normal
Shapiro-Wilks (NDs = DL/2)	0.815	0.936	Data Not Normal
Lilliefors (NDs = DL/2)	0.247	0.146	Data Not Normal
Shapiro-Wilks (Normal ROS Estimates)	0.863	0.936	Data Not Normal
Lilliefors (Normal ROS Estimates)	0.233	0.146	Data Not Normal

Gamma Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Gamma ROS
Correlation Coefficient R	0.956	0.961	0.969	0.963

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Anderson-Darling (Detects Only)	1.195	0.753	
Kolmogorov-Smirnov (Detects Only)	0.192	0.149	Data Not Gamma Distributed
Anderson-Darling (NDs = DL)	1.018	0.753	
Kolmogorov-Smirnov (NDs = DL)	0.176	0.146	Data Not Gamma Distributed
Anderson-Darling (NDs = DL/2)	0.786	0.755	
Kolmogorov-Smirnov (NDs = DL/2)	0.166	0.146	Data Not Gamma Distributed
Anderson-Darling (Gamma ROS Estimates)	8.393	0.822	
Kolmogorov-Smirnov (Gamma ROS Est.)	0.461	0.154	Data Not Gamma Distributed

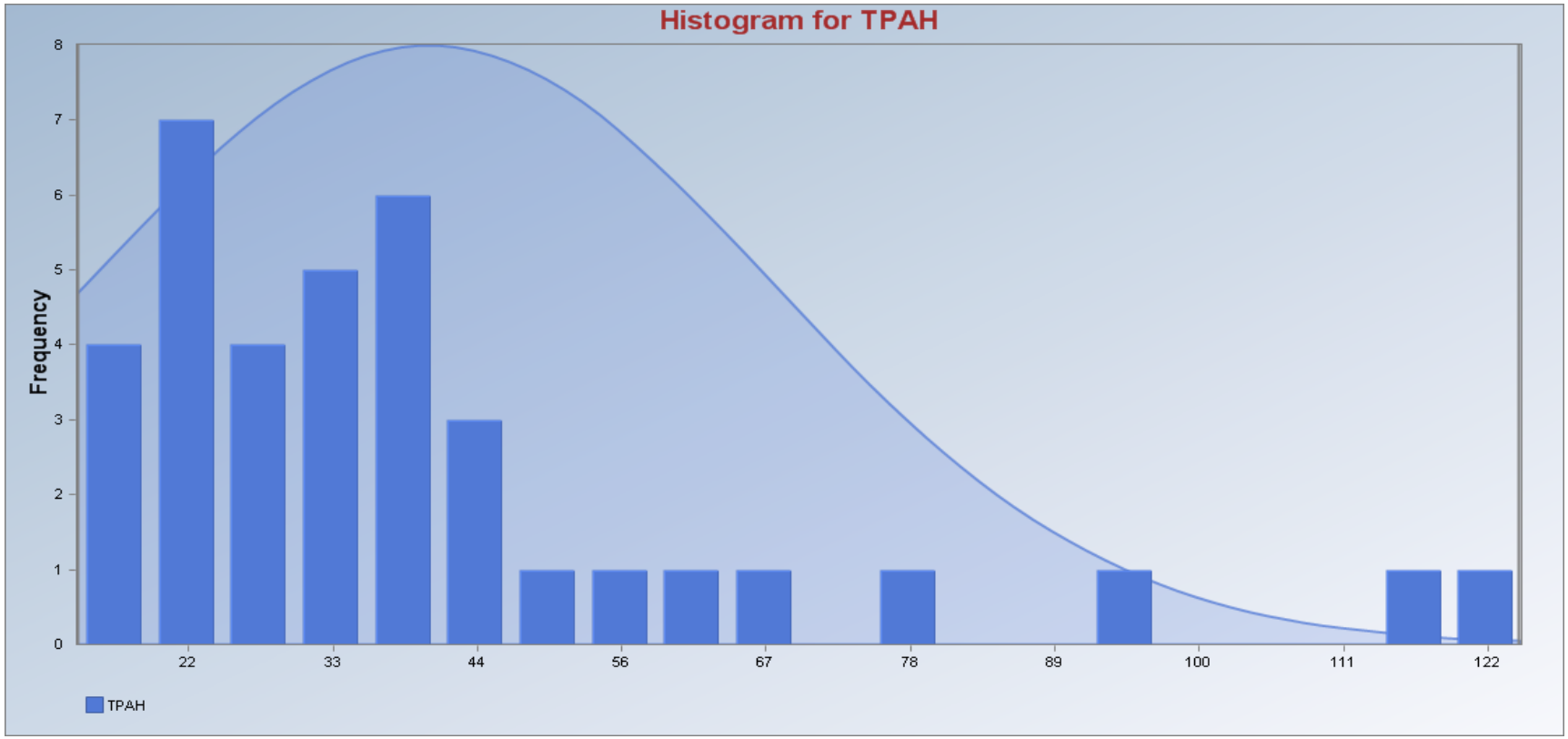
Lognormal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	0.969	0.98	0.977	0.985

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Detects Only)	0.928	0.934	Data Not Lognormal
Lilliefors (Detects Only)	0.152	0.15	Data Not Lognormal
Shapiro-Wilks (NDs = DL)	0.954	0.936	Data Appear Lognormal
Lilliefors (NDs = DL)	0.136	0.146	Data Appear Lognormal
Shapiro-Wilks (NDs = DL/2)	0.959	0.936	Data Appear Lognormal
Lilliefors (NDs = DL/2)	0.132	0.146	Data Appear Lognormal
Shapiro-Wilks (Lognormal ROS Estimates)	0.965	0.936	Data Appear Lognormal
Lilliefors (Lognormal ROS Estimates)	0.133	0.146	Data Appear Lognormal

Note: Substitution methods such as DL or DL/2 are not recommended.

Attachment 5 - Histogram of Background Sediment Data for Total PAH



Attachment 6 - Calculation of 90th Percentile of Data

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	C:\Pro_UCL_4.00.02\projects_proucl\PCV\background_pah_no_outlier.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

TPAH

General Statistics

Number of Valid Data	37	Number of Detected Data	35
Number of Distinct Detected Data	34	Number of Non-Detect Data	2
		Percent Non-Detects	5.41%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	18.1	Minimum Detected	2.896
Maximum Detected	124.8	Maximum Detected	4.827
Mean of Detected	42.3	Mean of Detected	3.604
SD of Detected	26.21	SD of Detected	0.509
Minimum Non-Detect	13.6	Minimum Non-Detect	2.61
Maximum Non-Detect	16.15	Maximum Non-Detect	2.782

Data with Multiple Detection Limits

Note: Data have multiple DLs - Use of KM Method is recommended

For all methods (except KM, DL/2, and ROS Methods),

Observations < Largest ND are treated as NDs

Single Detection Limit Scenario

Number treated as Non-Detect with Single DL	2
Number treated as Detected with Single DL	35
Single DL Non-Detect Percentage	5.41%

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.774	Shapiro Wilk Test Statistic	0.928
5% Shapiro Wilk Critical Value	0.934	5% Shapiro Wilk Critical Value	0.934
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	40.42	Mean (Log Scale)	3.518
SD	26.7	SD (Log Scale)	0.617
95% UTL 90% Coverage	86.05	95% UTL 90% Coverage	96.7
95% UPL (t)	86.1	95% UPL (t)	96.8
90% Percentile (z)	74.63	90% Percentile (z)	74.29
95% Percentile (z)	84.33	95% Percentile (z)	92.94
99% Percentile (z)	102.5	99% Percentile (z)	141.5

Attachment 6 - Calculation of 90th Percentile of Data

Maximum Likelihood Estimate(MLE) Method	
Mean	40.09
SD	26.93
95% UTL with 90% Coverage	86.12
95% UPL (t)	86.17
90% Percentile (z)	74.6
95% Percentile (z)	84.39
99% Percentile (z)	102.7

Log ROS Method	
Mean in Original Scale	40.61
SD in Original Scale	26.46
95% UTL with 90% Coverage	90.68
95% BCA UTL with 90% Coverage	102.1
95% Bootstrap (%) UTL with 90% Coverage	115.7
95% UPL (t)	90.77
90% Percentile (z)	71.18
95% Percentile (z)	87.44
99% Percentile (z)	128.6

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	3.419
Theta Star	12.37
nu star	239.3
A-D Test Statistic	1.195
5% A-D Critical Value	0.753
K-S Test Statistic	0.192
5% K-S Critical Value	0.149

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with extrapolated Data	
Mean	40.02
Median	32.4
SD	27.26
k star	0.44
Theta star	90.85
Nu star	32.6
95% Percentile of Chisquare (2k)	3.539
90% Percentile	111
95% Percentile	160.8
99% Percentile	284.6

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	40.99
SD	25.72
SE of Mean	4.289
95% KM UTL with 90% Coverage	84.95
95% KM Chebyshev UPL	154.6
95% KM UPL (t)	84.99
90% Percentile (z)	73.95
95% Percentile (z)	83.29
99% Percentile (z)	100.8

Note: UPL (or upper percentile for gamma distributed data) represents a preferred estimate of BTV

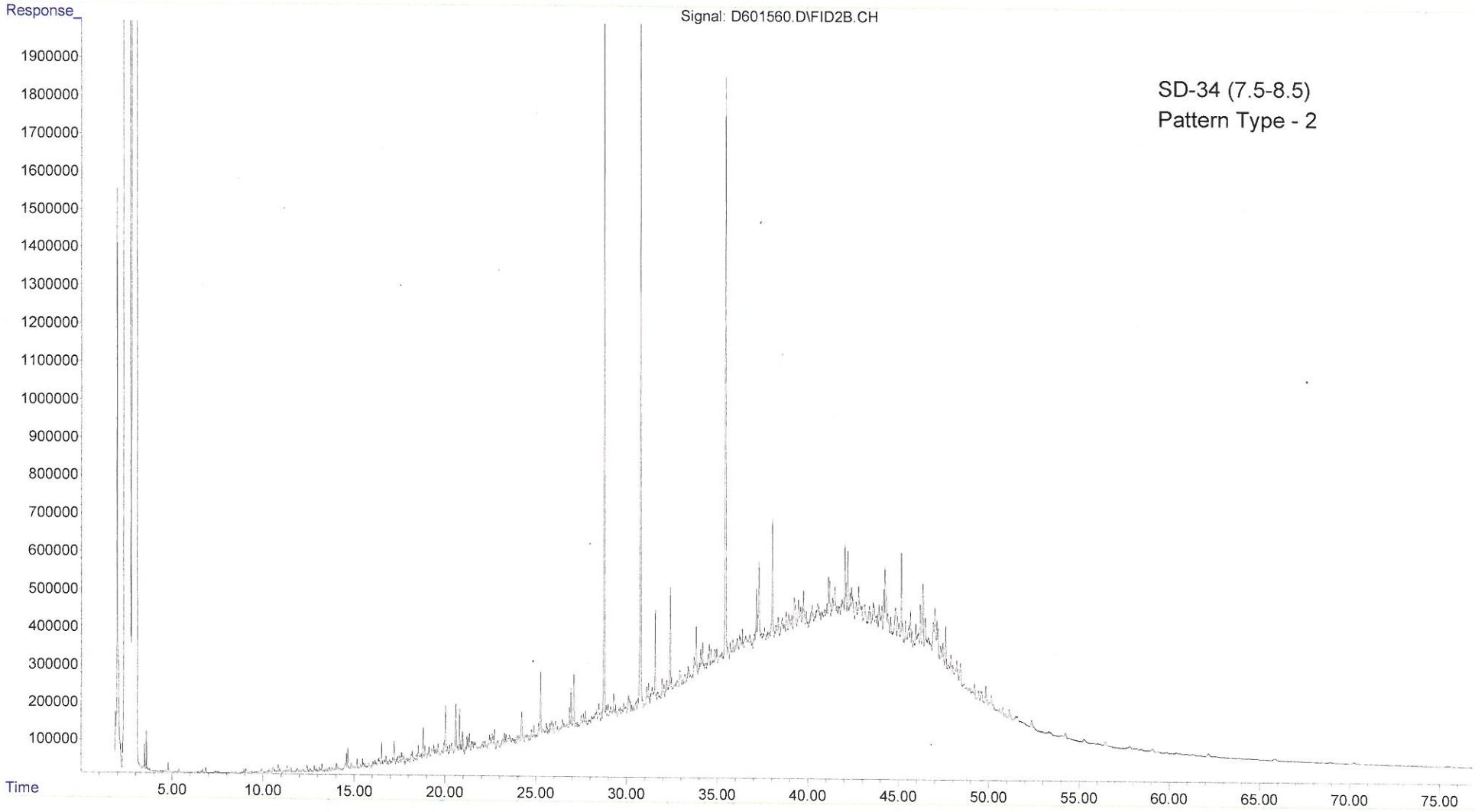
For an Example: KM-UPL may be used when multiple detection limits are present

Note: DL/2 is not a recommended method.

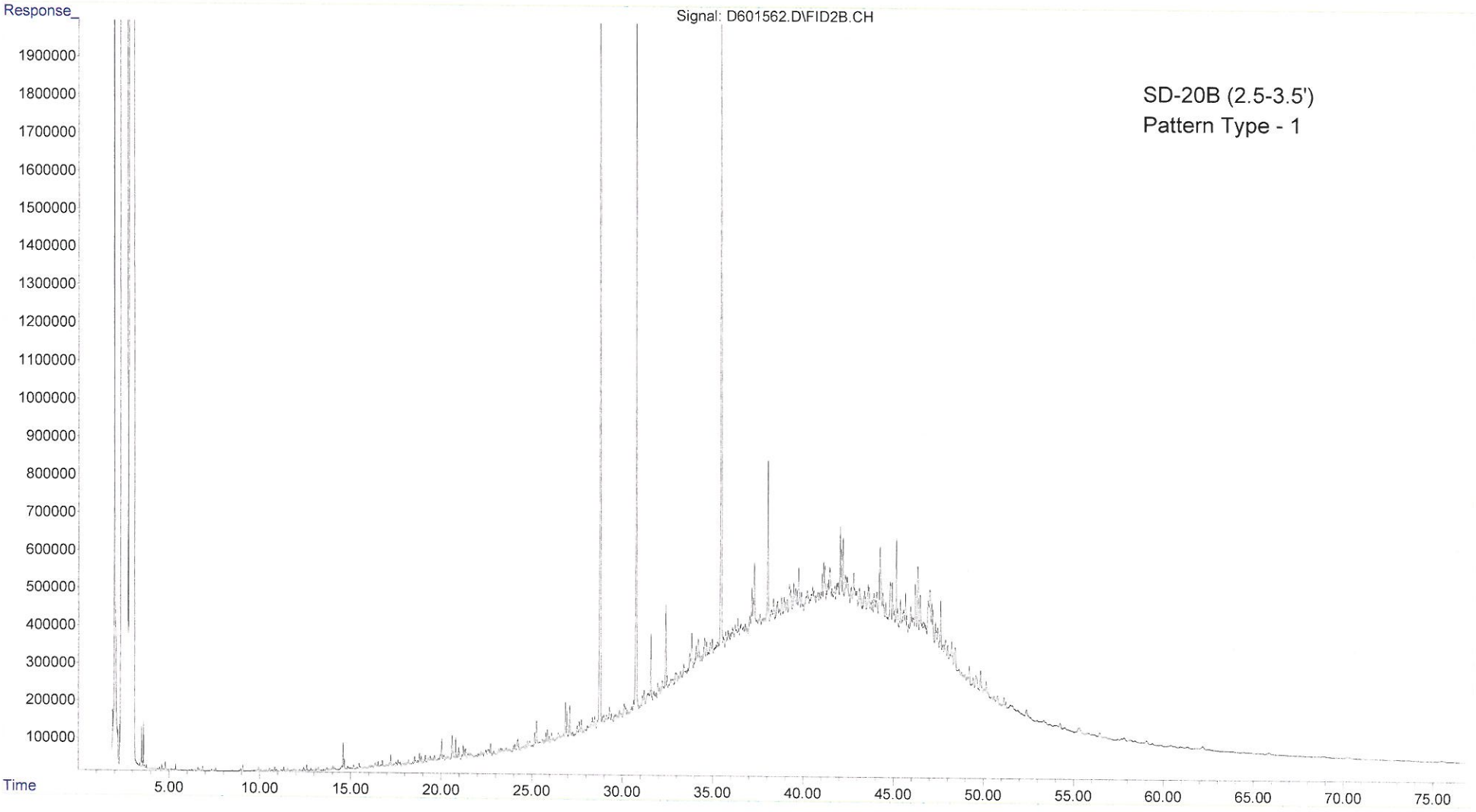
Appendix G

TPH GC Fingerprints

File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 560.D
Operator : FID6:DP
Instrument : FID6
Acquired : 24 May 2013 3:19 am using AcqMethod FID6A.M
Sample : L1307780-01,42
Misc Info : WG611644,WG608706,ICAL7976

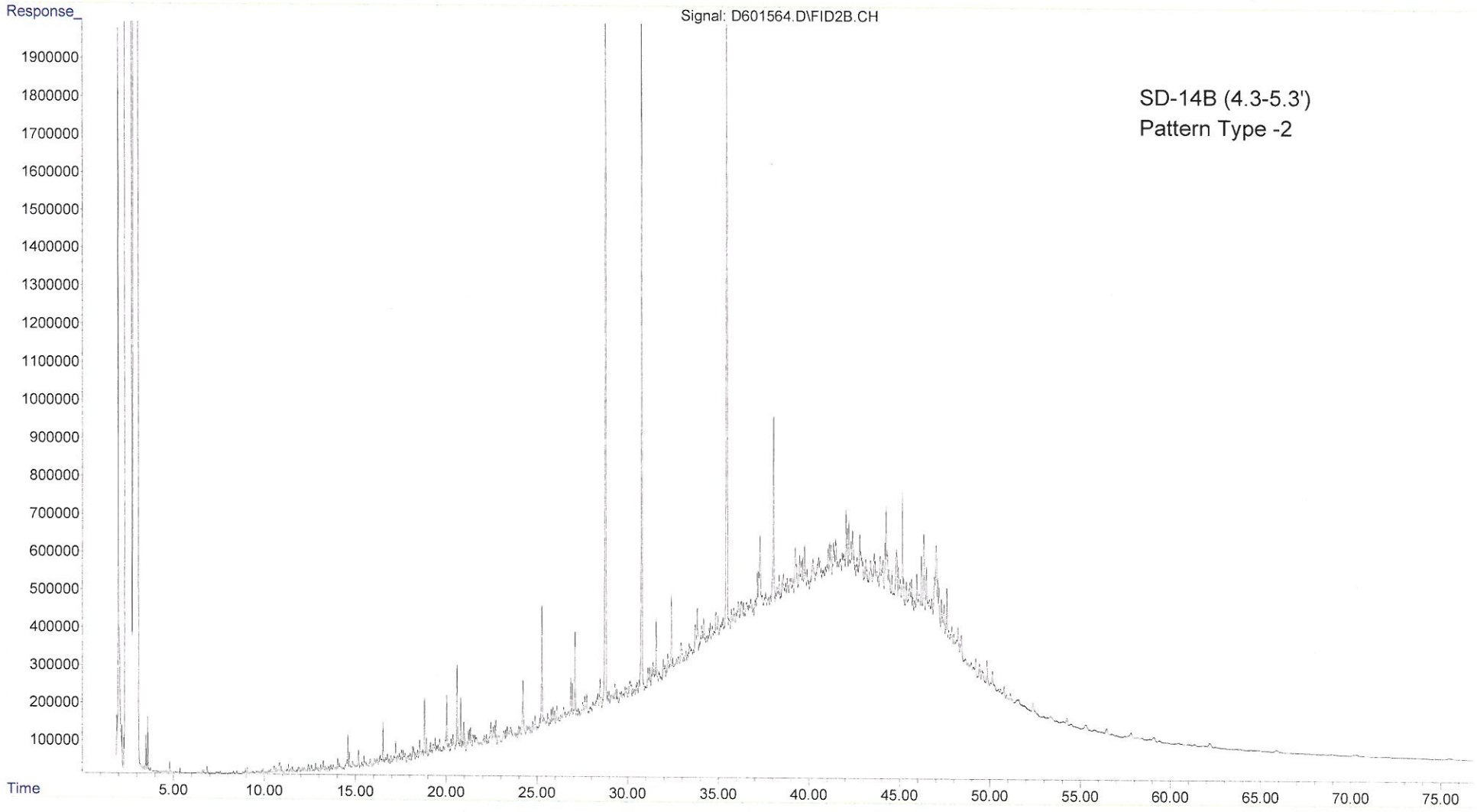


```
File       :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
...         562.D
Operator   : FID6:DP
Instrument :   FID6
Acquired   : 24 May 2013   4:49 am using AcqMethod FID6A.M
Sample     : L1307780-02,42
Misc Info  : WG611644,WG608706
```

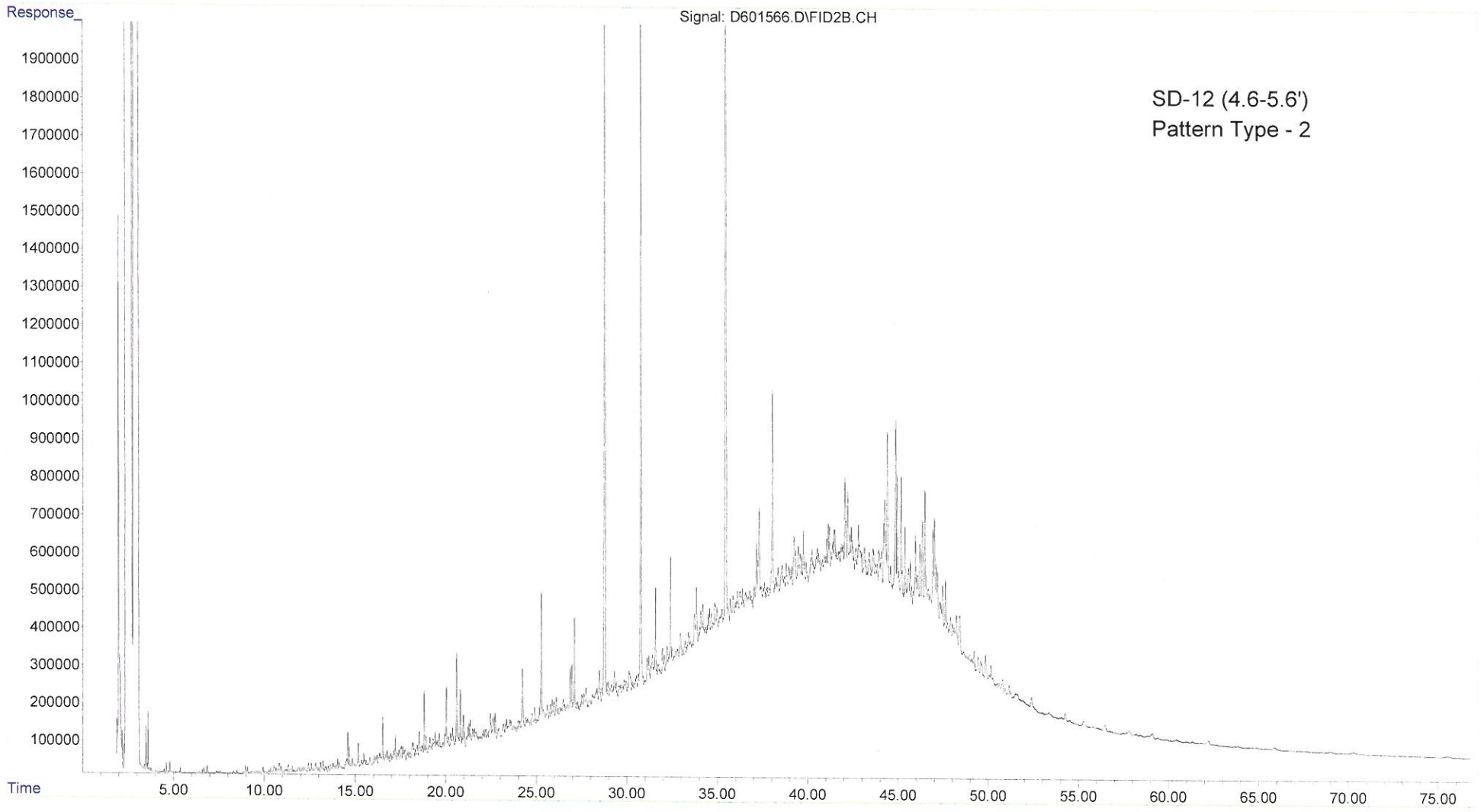


SD-20B (2.5-3.5')
Pattern Type - 1

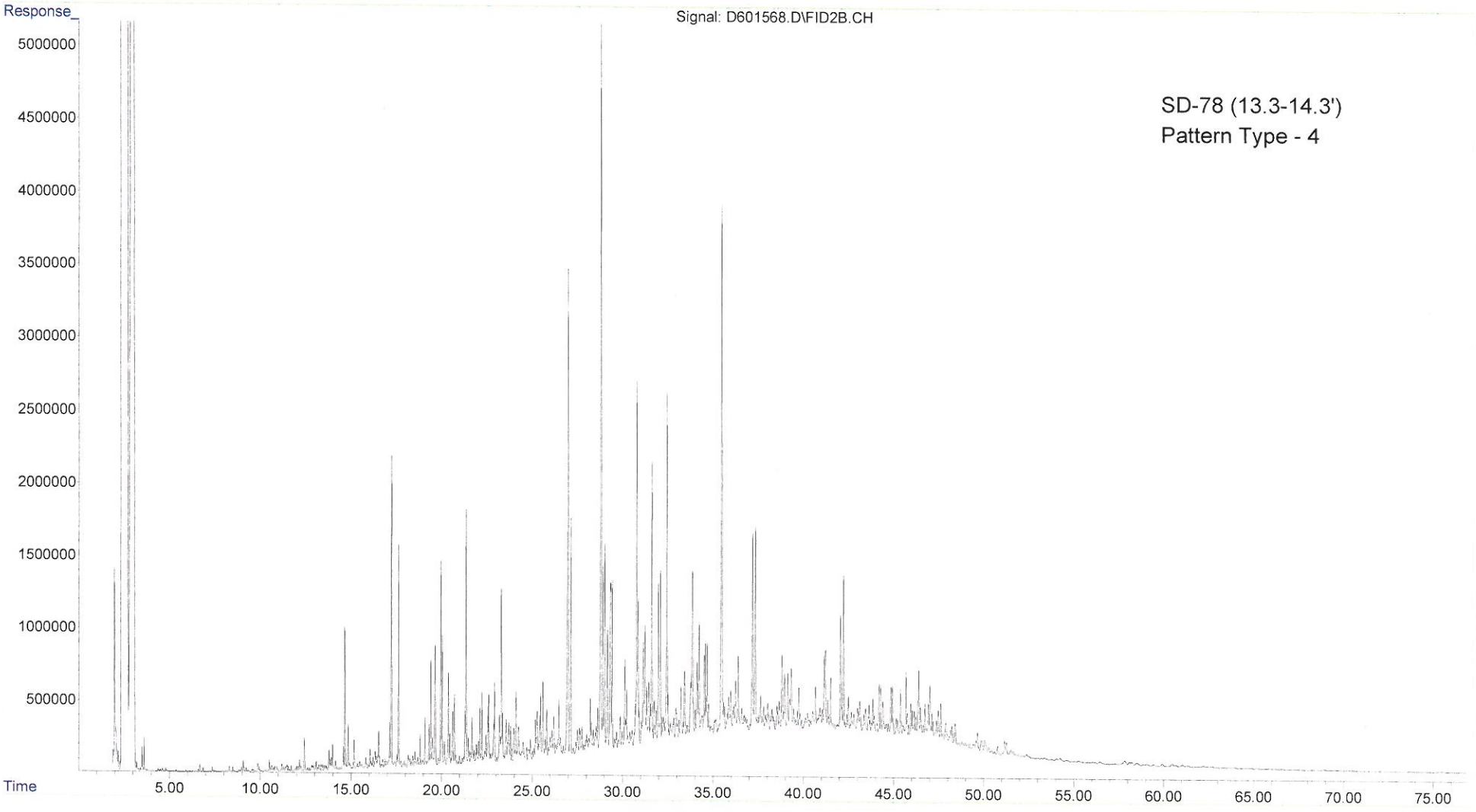
File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 564.D
Operator : FID6:DP
Instrument : FID6
Acquired : 24 May 2013 6:19 am using AcqMethod FID6A.M
Sample : L1307780-03,42
Misc Info : WG611644,WG608706



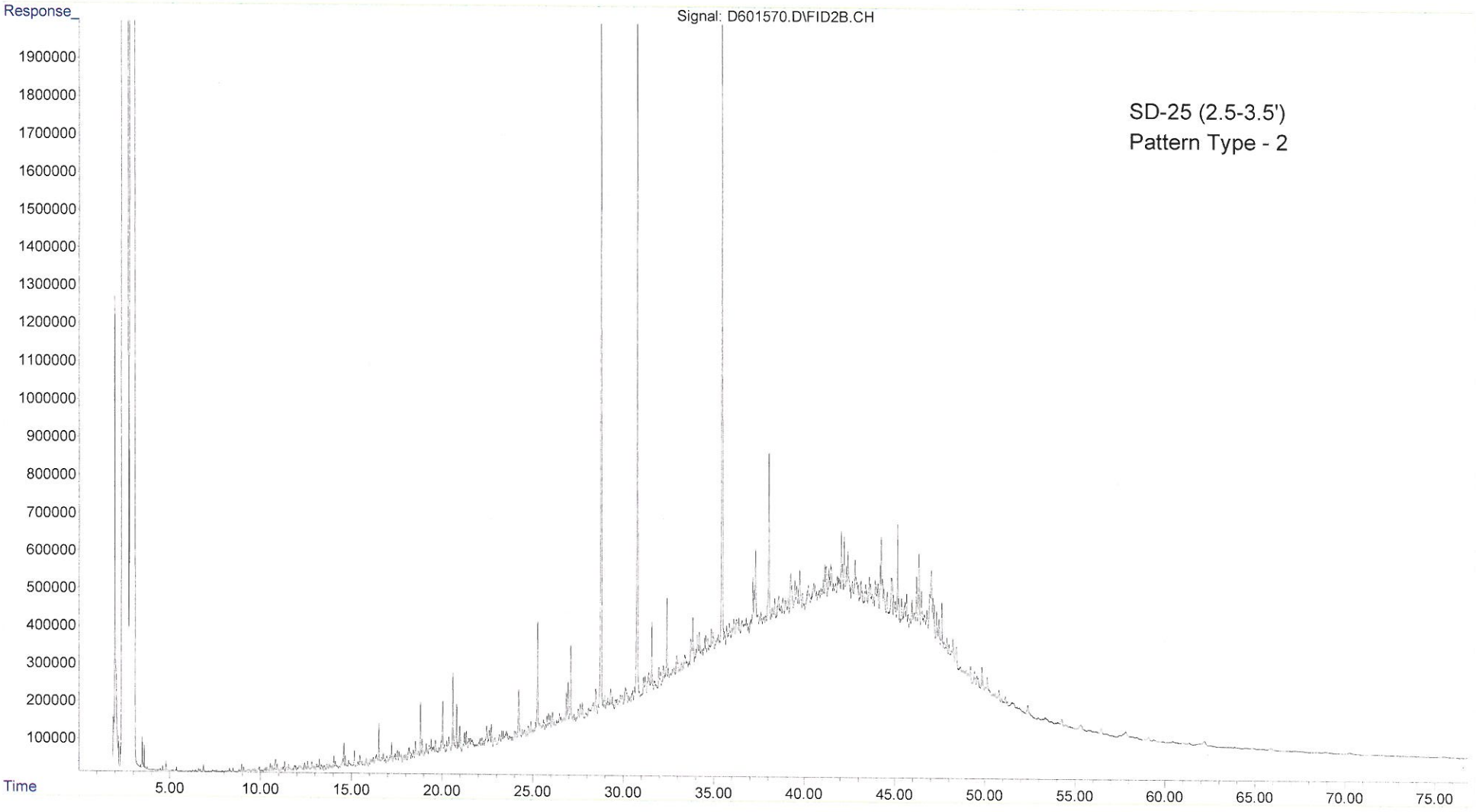
File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 566.D
Operator : FID6:DP
Instrument : FID6
Acquired : 24 May 2013 7:48 am using AcqMethod FID6A.M
Sample : L1307780-04,42
Misc Info : WG611644,WG608706



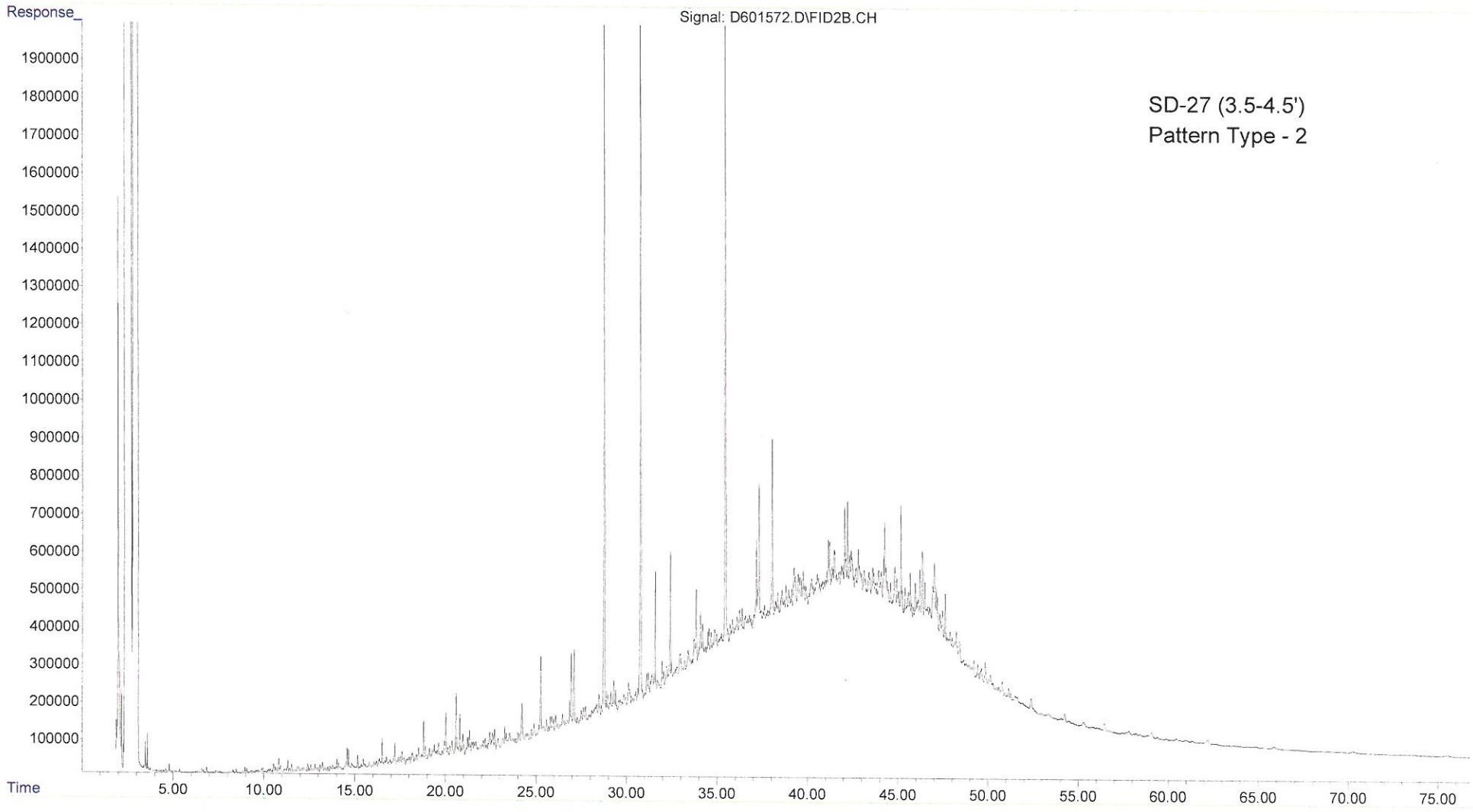
File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 568.D
Operator : FID6:DP
Instrument : FID6
Acquired : 24 May 2013 9:19 am using AcqMethod FID6A.M
Sample : L1307780-05,42
Misc Info : WG611644,WG608706



File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 570.D
Operator : FID6:DP
Instrument : FID6
Acquired : 24 May 2013 10:49 am using AcqMethod FID6A.M
Sample : L1307780-06,42
Misc Info : WG611644,WG608706

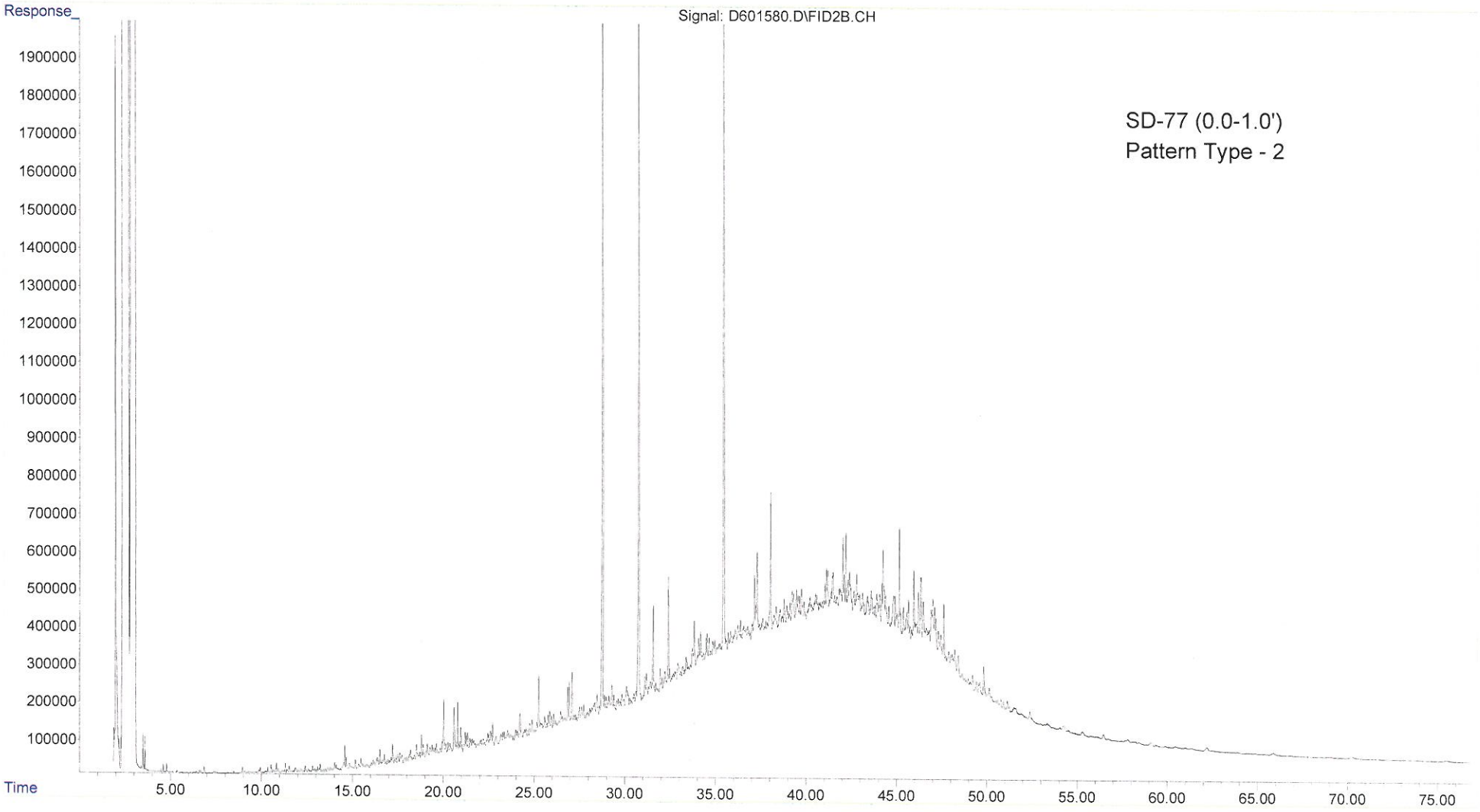


File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 572.D
Operator : FID6:DP
Instrument : FID6
Acquired : 24 May 2013 12:20 pm using AcqMethod FID6A.M
Sample : L1307780-07,42
Misc Info : WG611644,WG608706

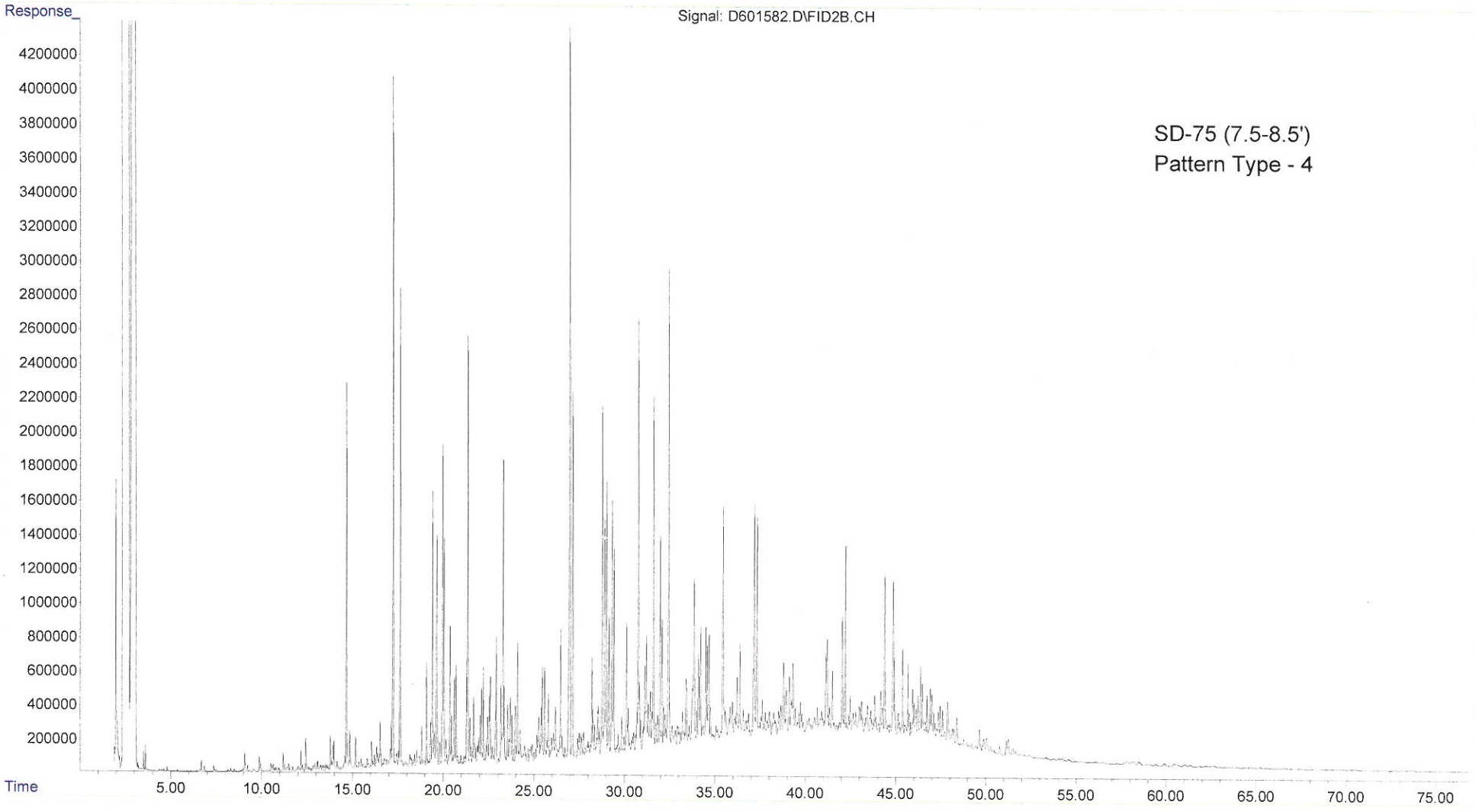


SD-27 (3.5-4.5')
Pattern Type - 2

File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 580.D
Operator : FID6:DP
Instrument : FID6
Acquired : 24 May 2013 6:33 pm using AcqMethod FID6A.M
Sample : L1307780-08,42
Misc Info : WG611644,WG608706

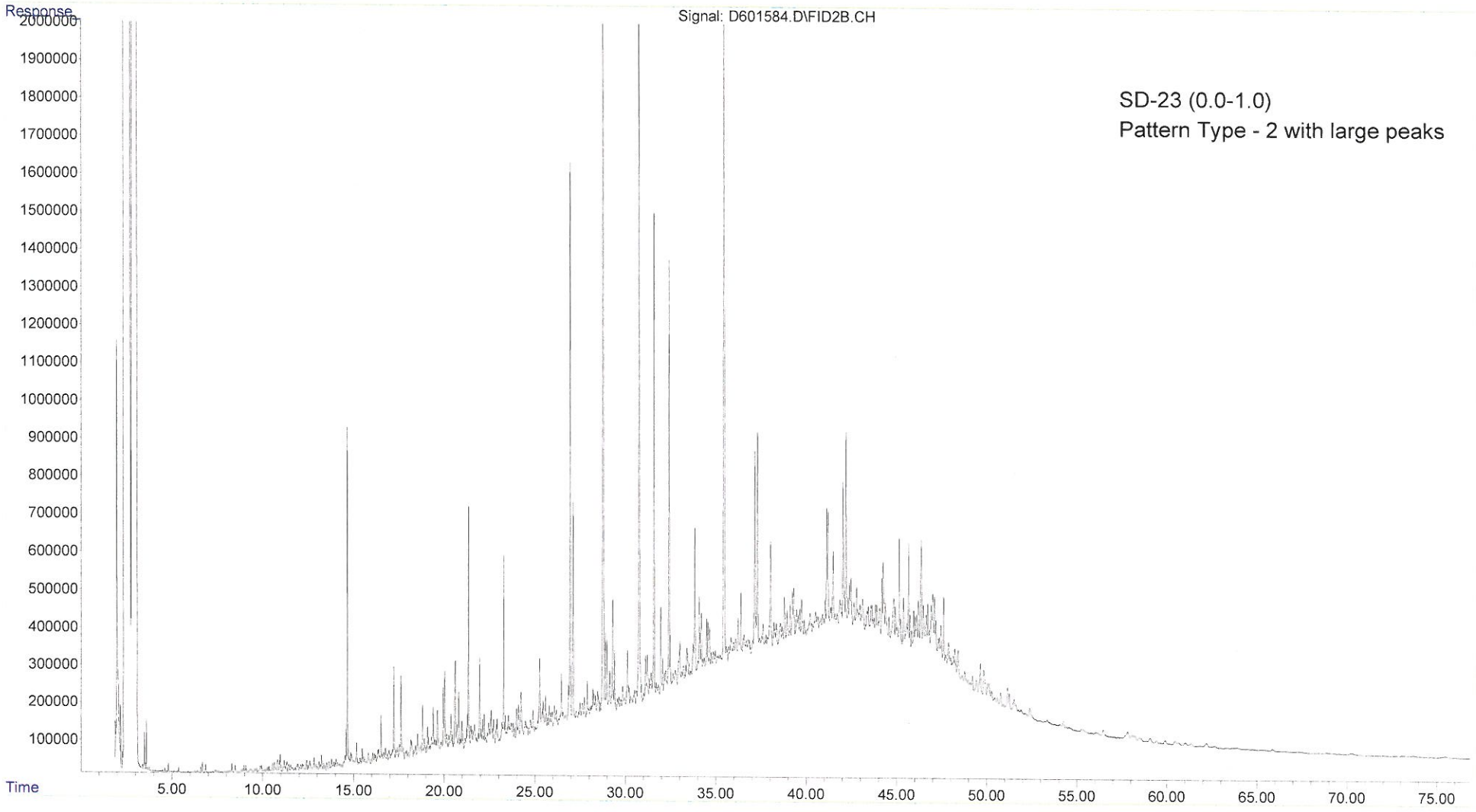


File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 582.D
Operator : FID6:DP
Instrument : FID6
Acquired : 24 May 2013 8:02 pm using AcqMethod FID6A.M
Sample : L1307780-10,42
Misc Info : WG611644,WG608706



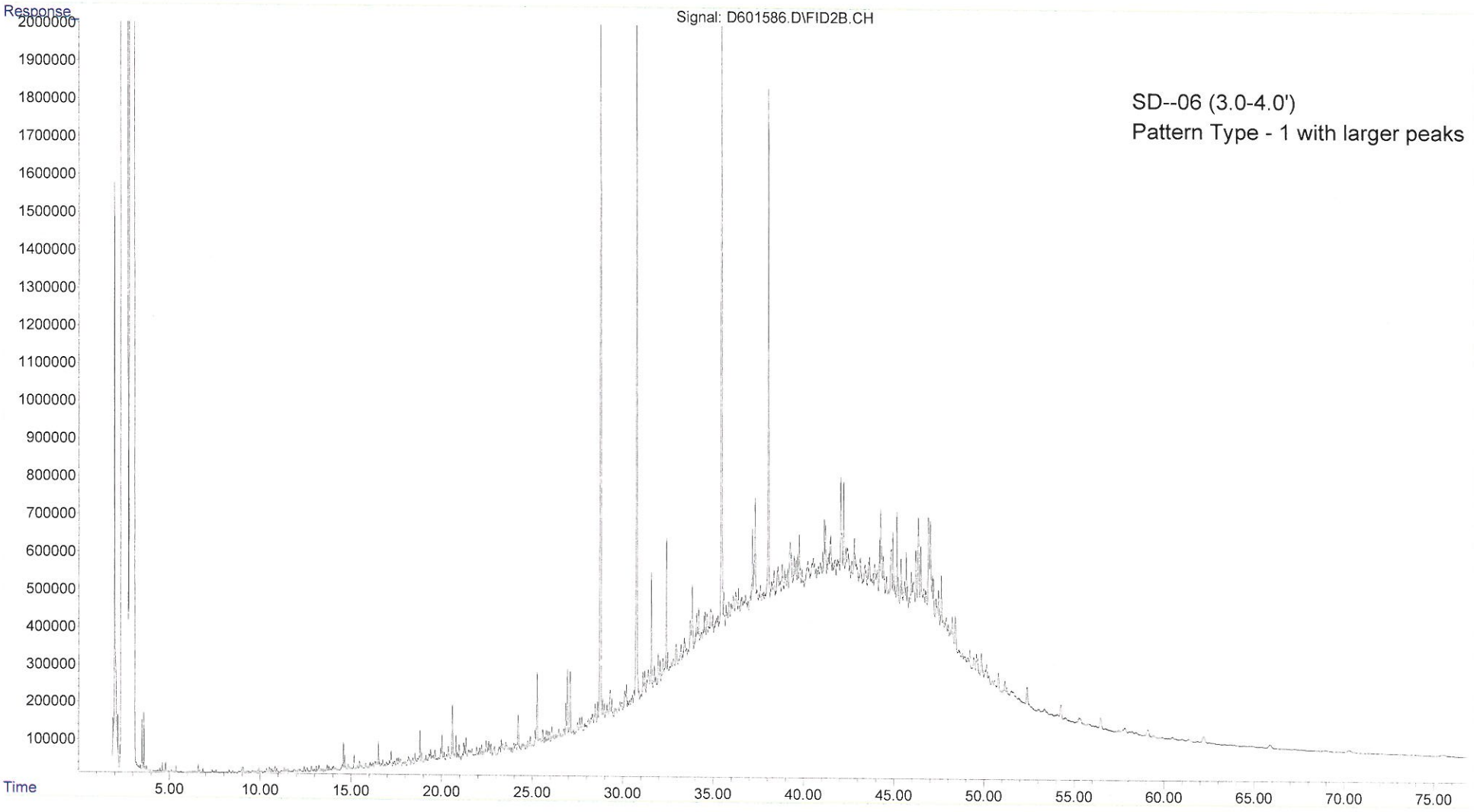
SD-75 (7.5-8.5')
Pattern Type - 4

File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 584.D
Operator : FID6:DP
Instrument : FID6
Acquired : 24 May 2013 9:32 pm using AcqMethod FID6A.M
Sample : L1307780-11,42
Misc Info : WG611644,WG608706

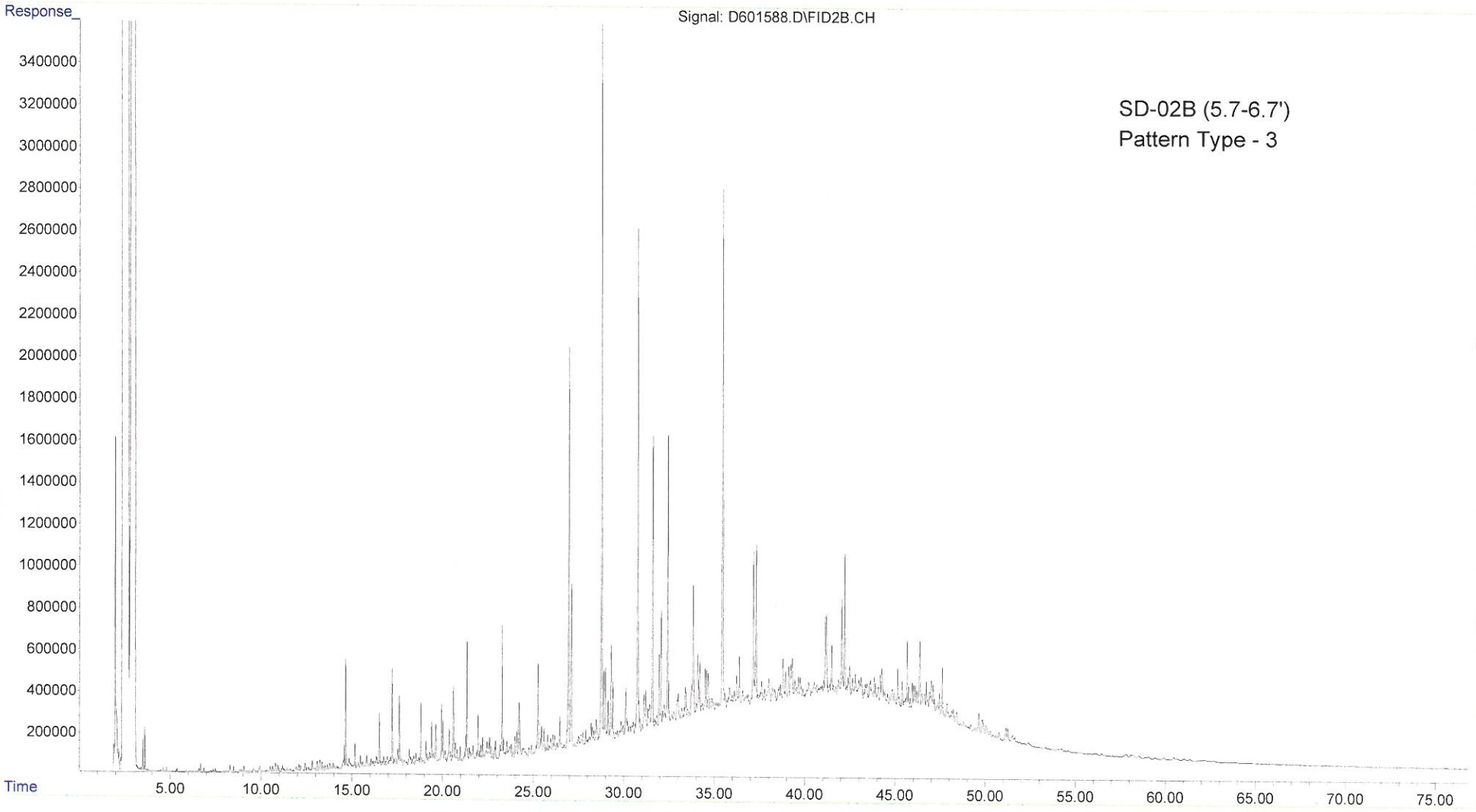


SD-23 (0.0-1.0)
Pattern Type - 2 with large peaks

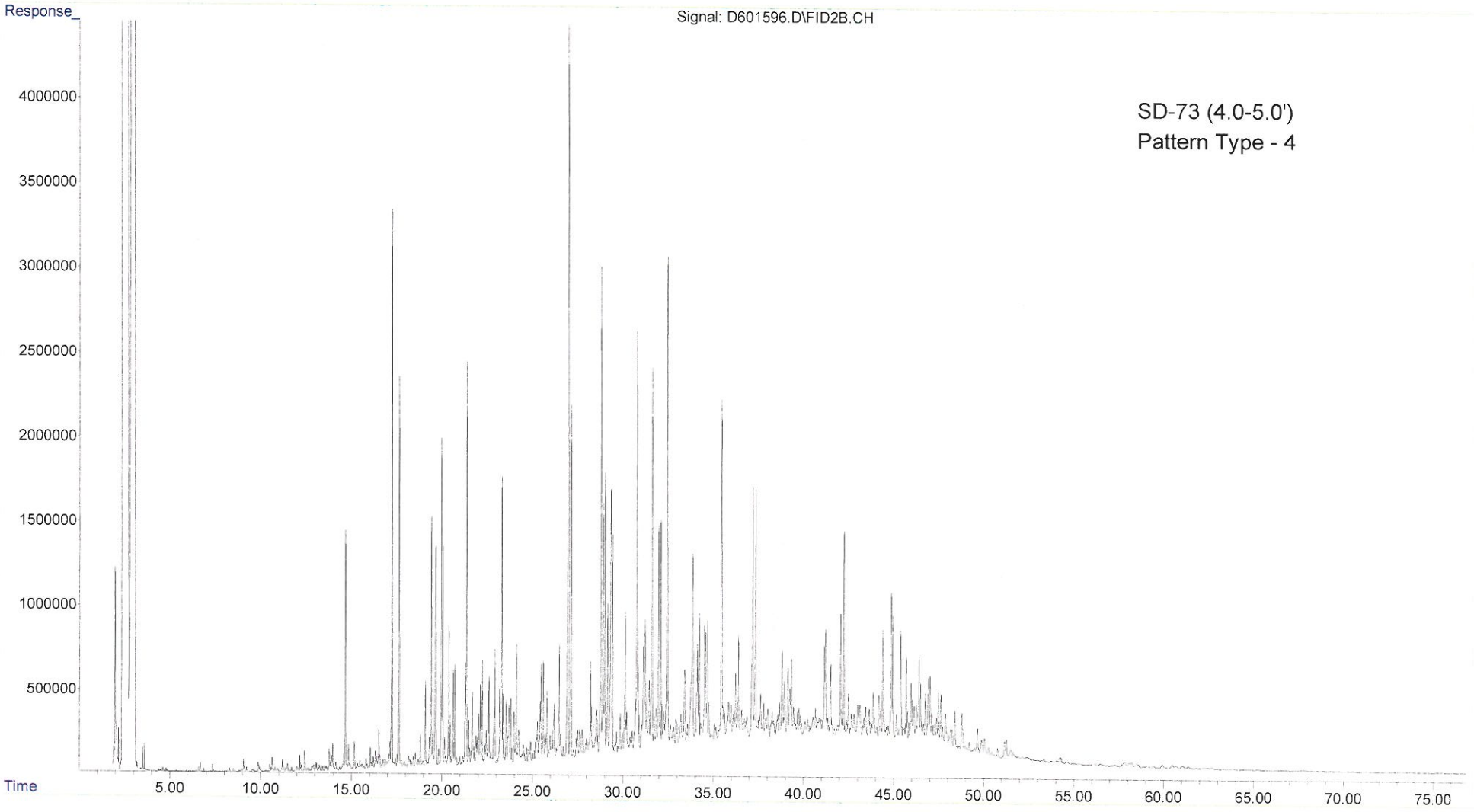
File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 586.D
Operator : FID6:DP
Instrument : FID6
Acquired : 24 May 2013 11:01 pm using AcqMethod FID6A.M
Sample : L1307780-12,42
Misc Info : WG611644,WG608706



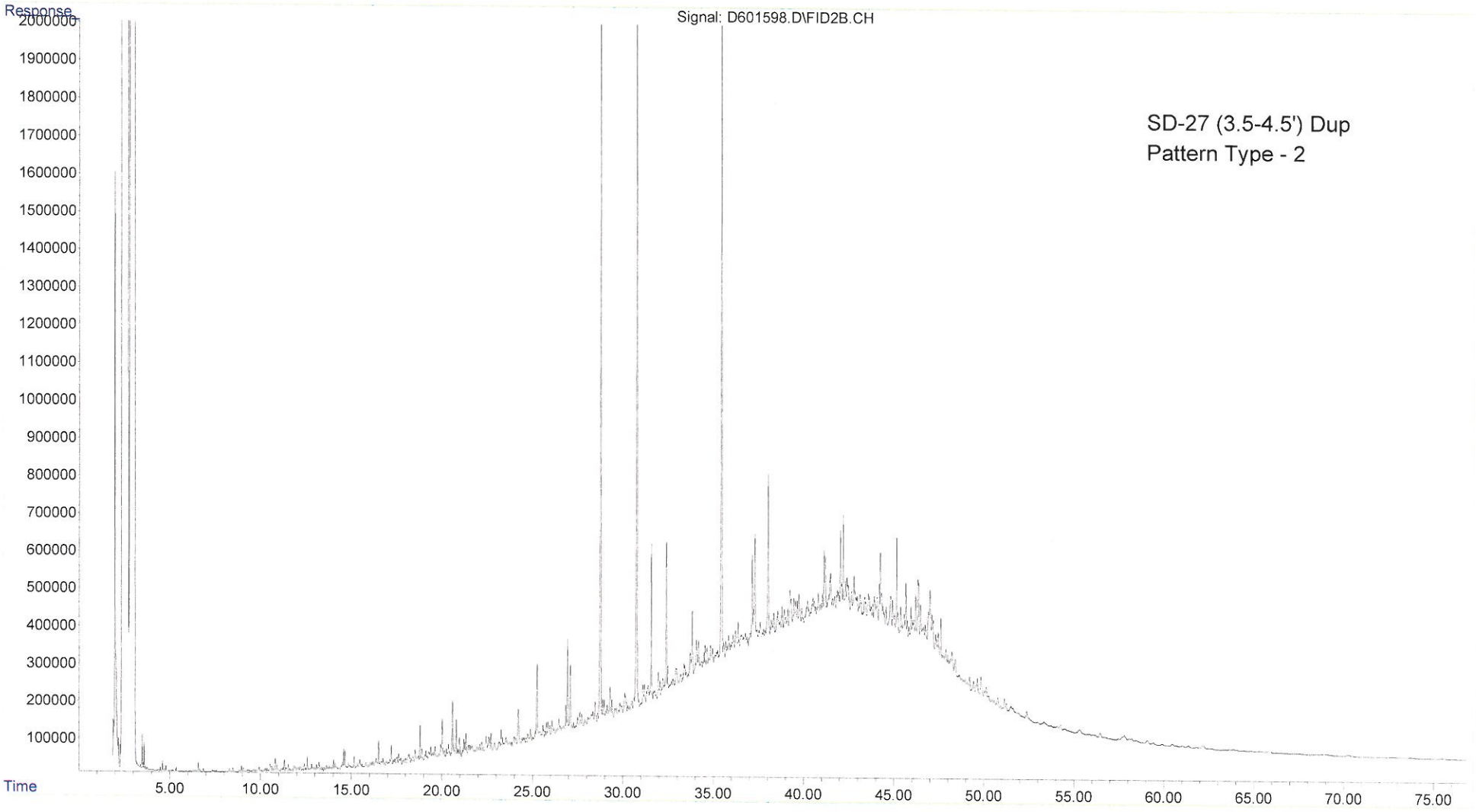
File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601588.D
Operator : FID6:DP
Instrument : FID6
Acquired : 25 May 2013 12:30 am using AcqMethod FID6A.M
Sample : L1307780-13,42
Misc Info : WG611644,WG608706



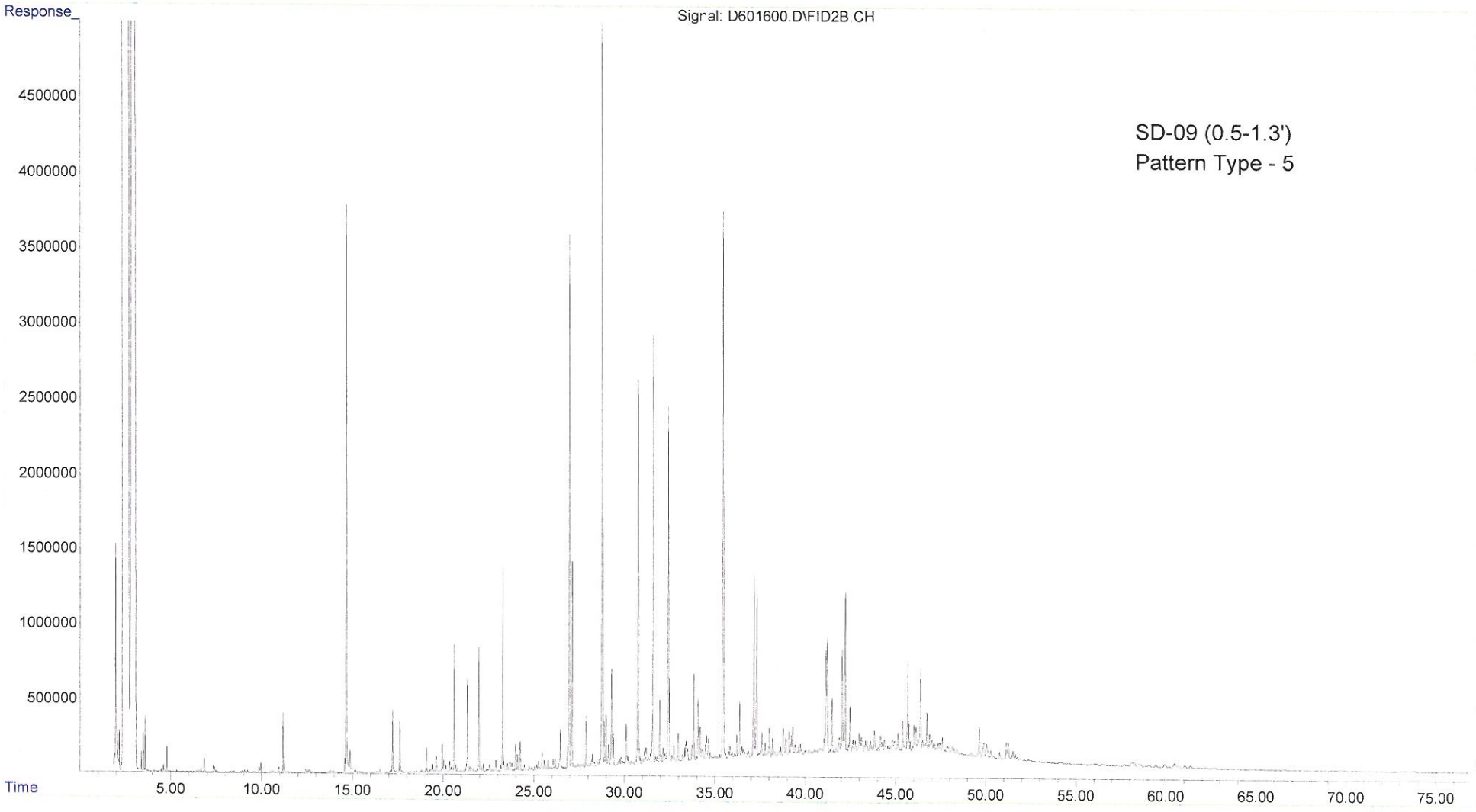
File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 596.D
Operator : FID6:DP
Instrument : FID6
Acquired : 25 May 2013 6:30 am using AcqMethod FID6A.M
Sample : L1307780-15,42
Misc Info : WG611644,WG608706



File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 598.D
Operator : FID6:DP
Instrument : FID6
Acquired : 25 May 2013 8:00 am using AcqMethod FID6A.M
Sample : L1307780-16,42
Misc Info : WG611644,WG608706

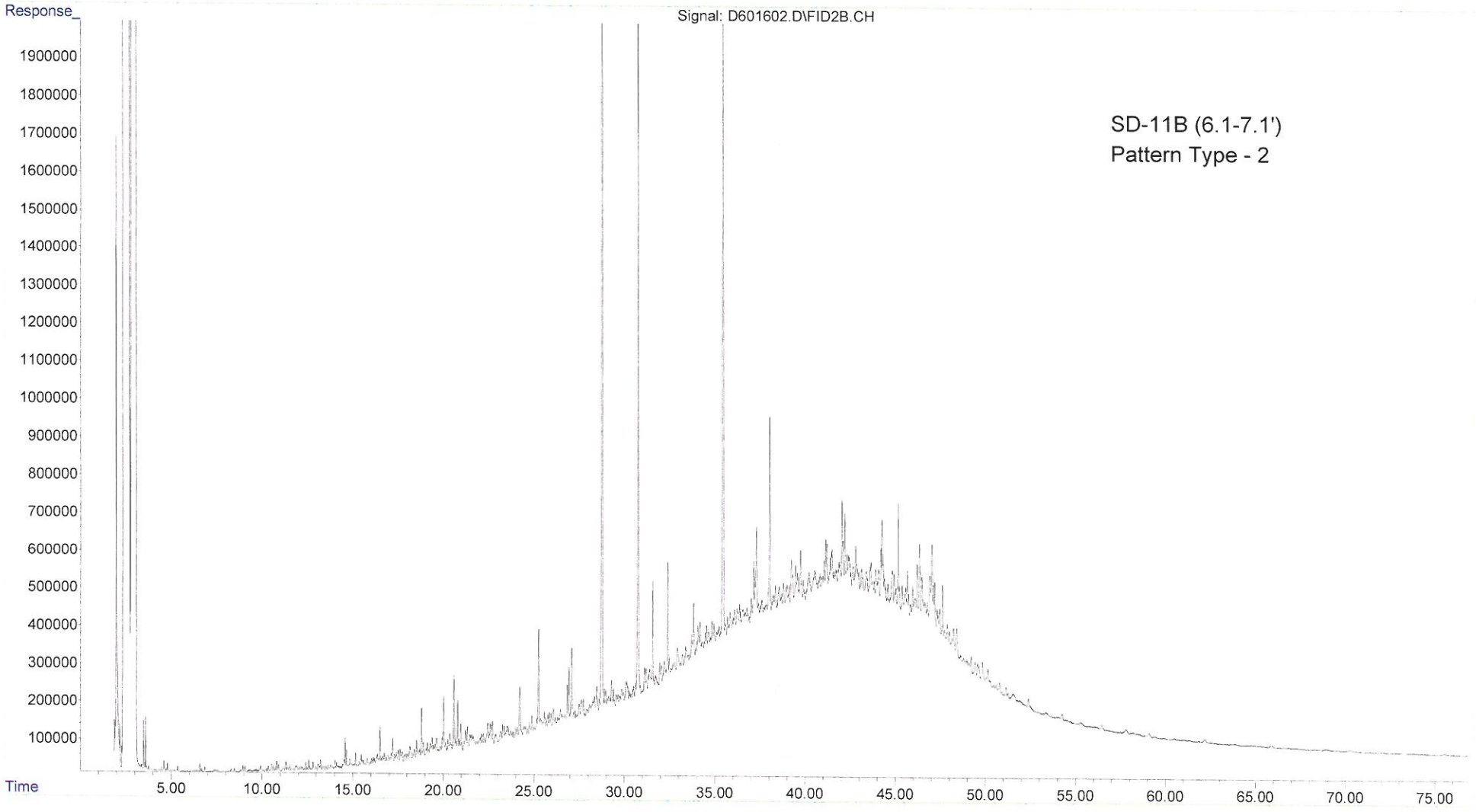


File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 600.D
Operator : FID6:DP
Instrument : FID6
Acquired : 25 May 2013 9:30 am using AcqMethod FID6A.M
Sample : L1307780-17,42
Misc Info : WG611644,WG608706



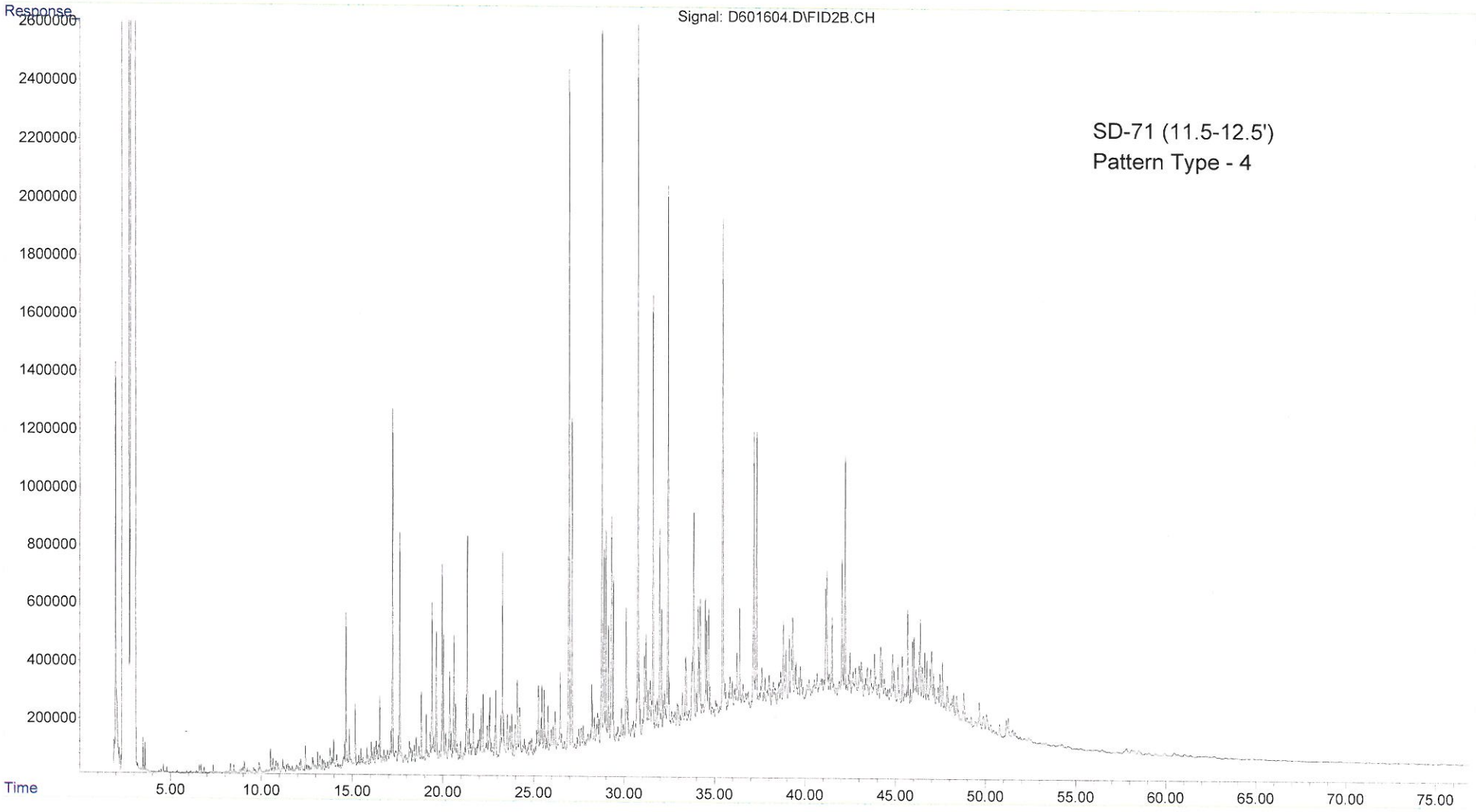
SD-09 (0.5-1.3')
Pattern Type - 5

File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 602.D
Operator : FID6:DP
Instrument : FID6
Acquired : 25 May 2013 11:01 am using AcqMethod FID6A.M
Sample : L1307780-18,42
Misc Info : WG611644,WG608706

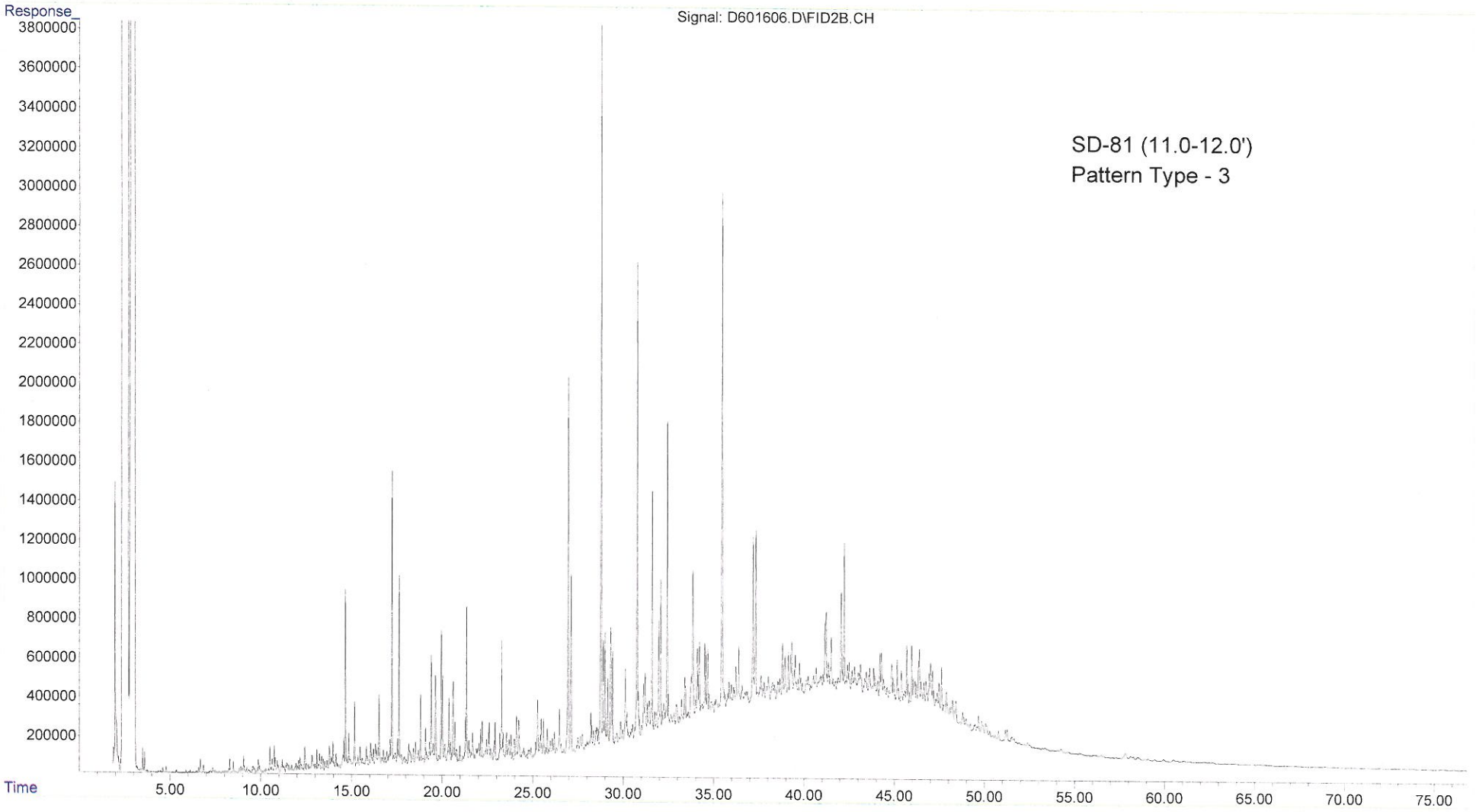


SD-11B (6.1-7.1')
Pattern Type - 2

File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 604.D
Operator : FID6:DP
Instrument : FID6
Acquired : 25 May 2013 12:30 pm using AcqMethod FID6A.M
Sample : L1307780-19,42
Misc Info : WG611644,WG608706



File :\\tsclient\O\Forensics\Data\FID6\2013\MAY2013\MAY23.SEC\D601
... 606.D
Operator : FID6:DP
Instrument : FID6
Acquired : 25 May 2013 1:59 pm using AcqMethod FID6A.M
Sample : L1307780-20,42
Misc Info : WG611644,WG608706

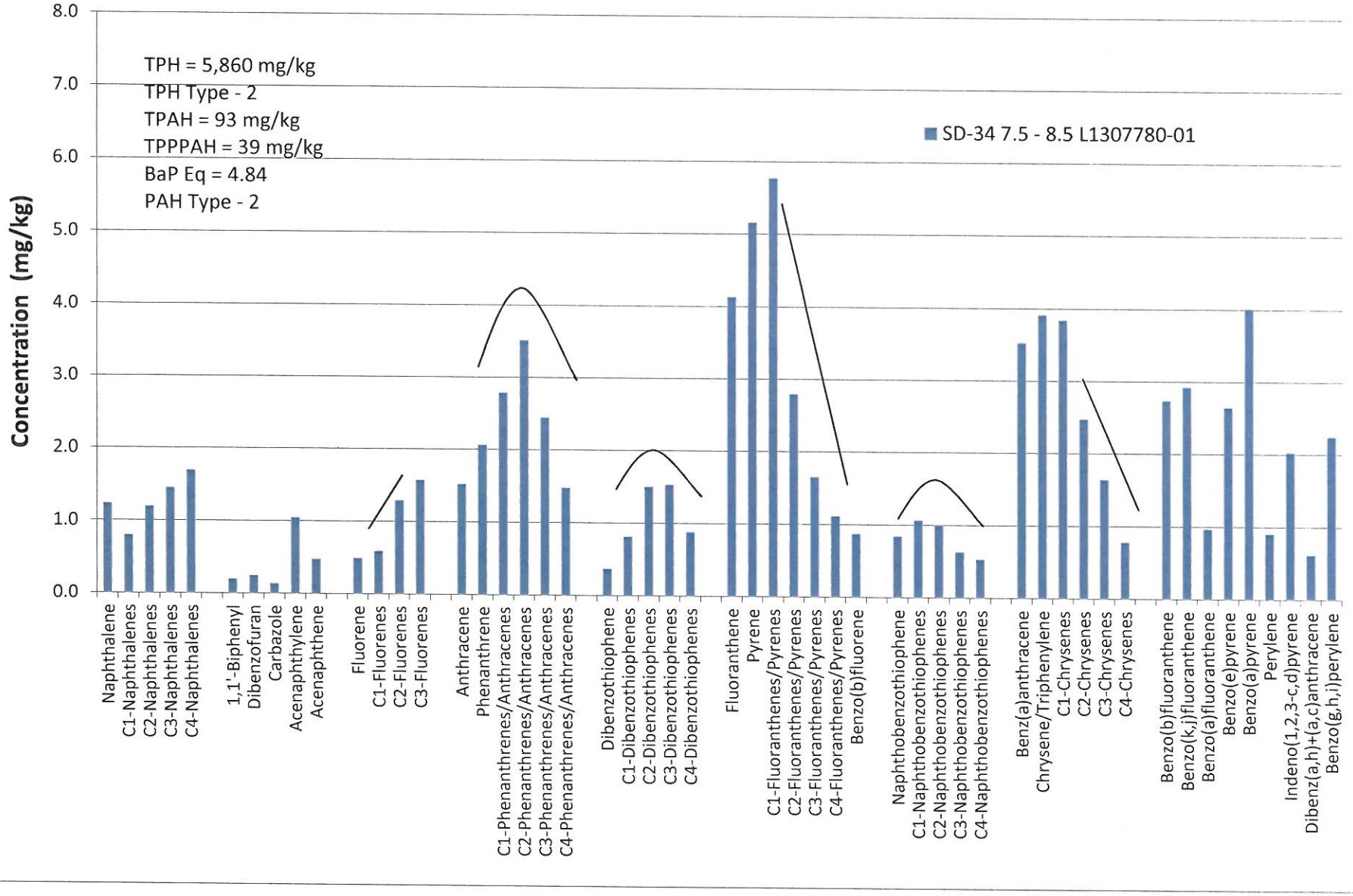


ARCADIS

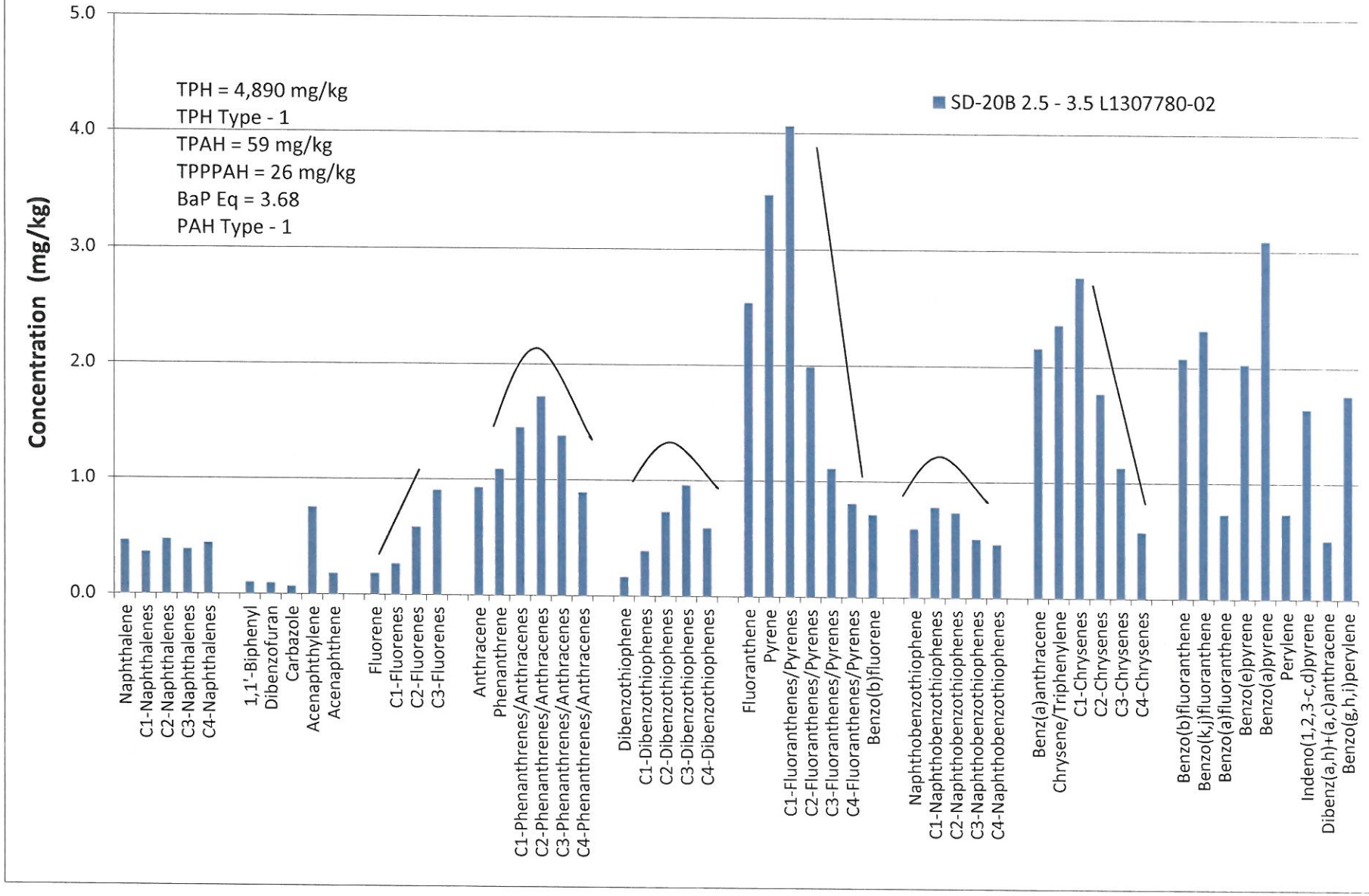
Appendix H

PAH Histograms

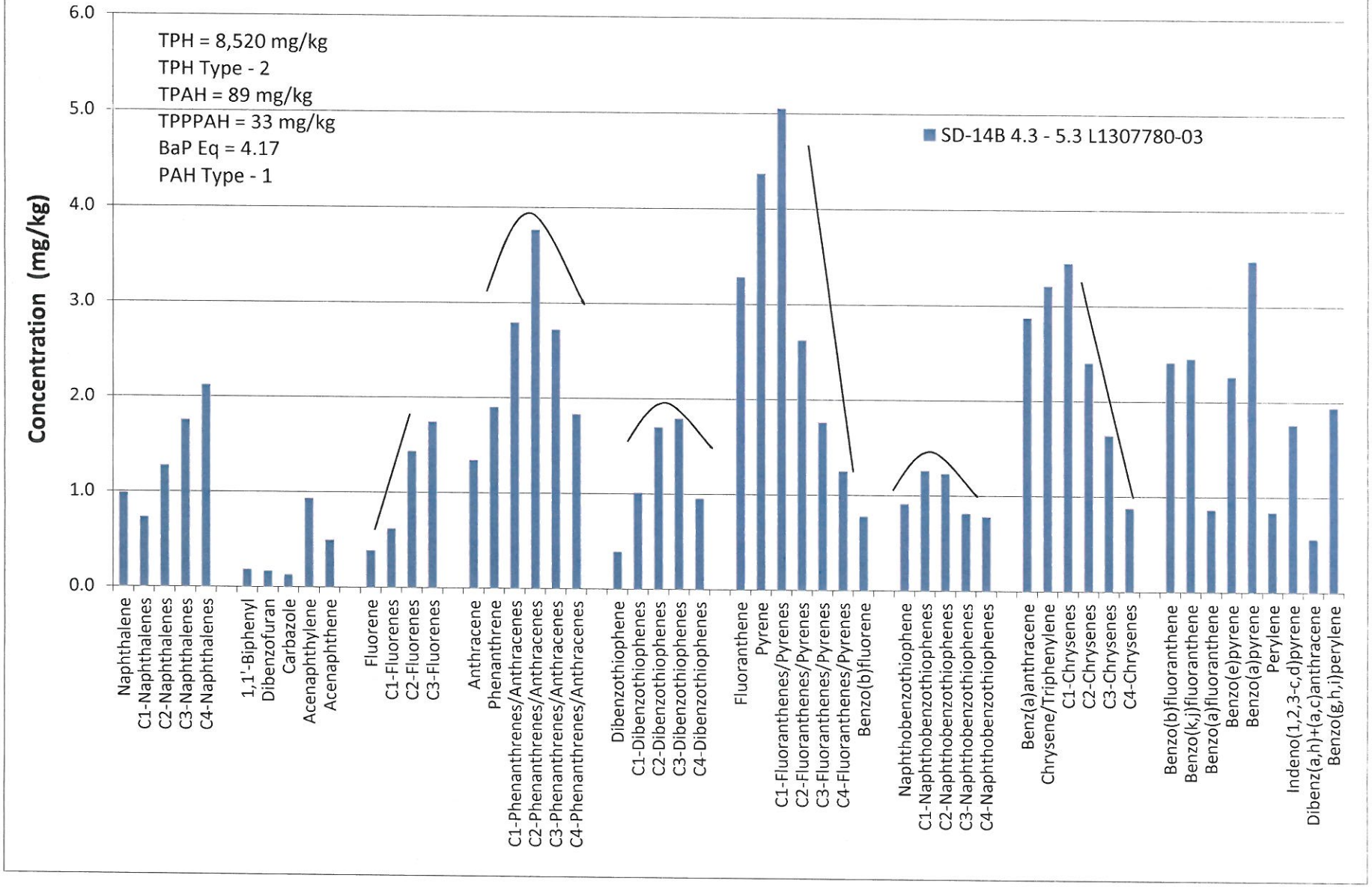
PAH Composition--Upper Bronx River: SD-34 7.5-8.5'
ConEd Hunts Point Former MGP



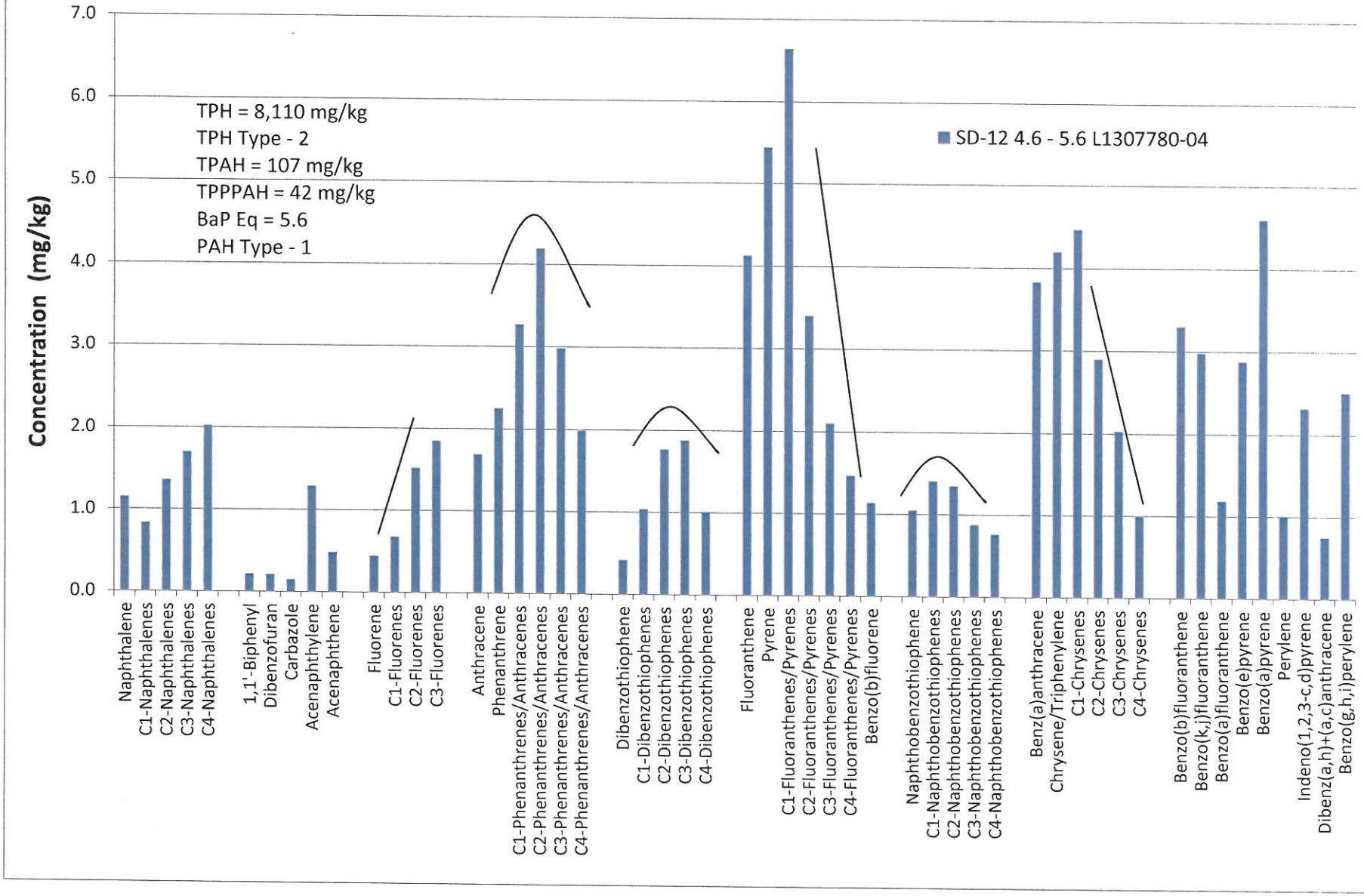
PAH Composition--Upper Bronx River: SD-20B 2.5-3.5'
ConEd Hunts Point Former MGP

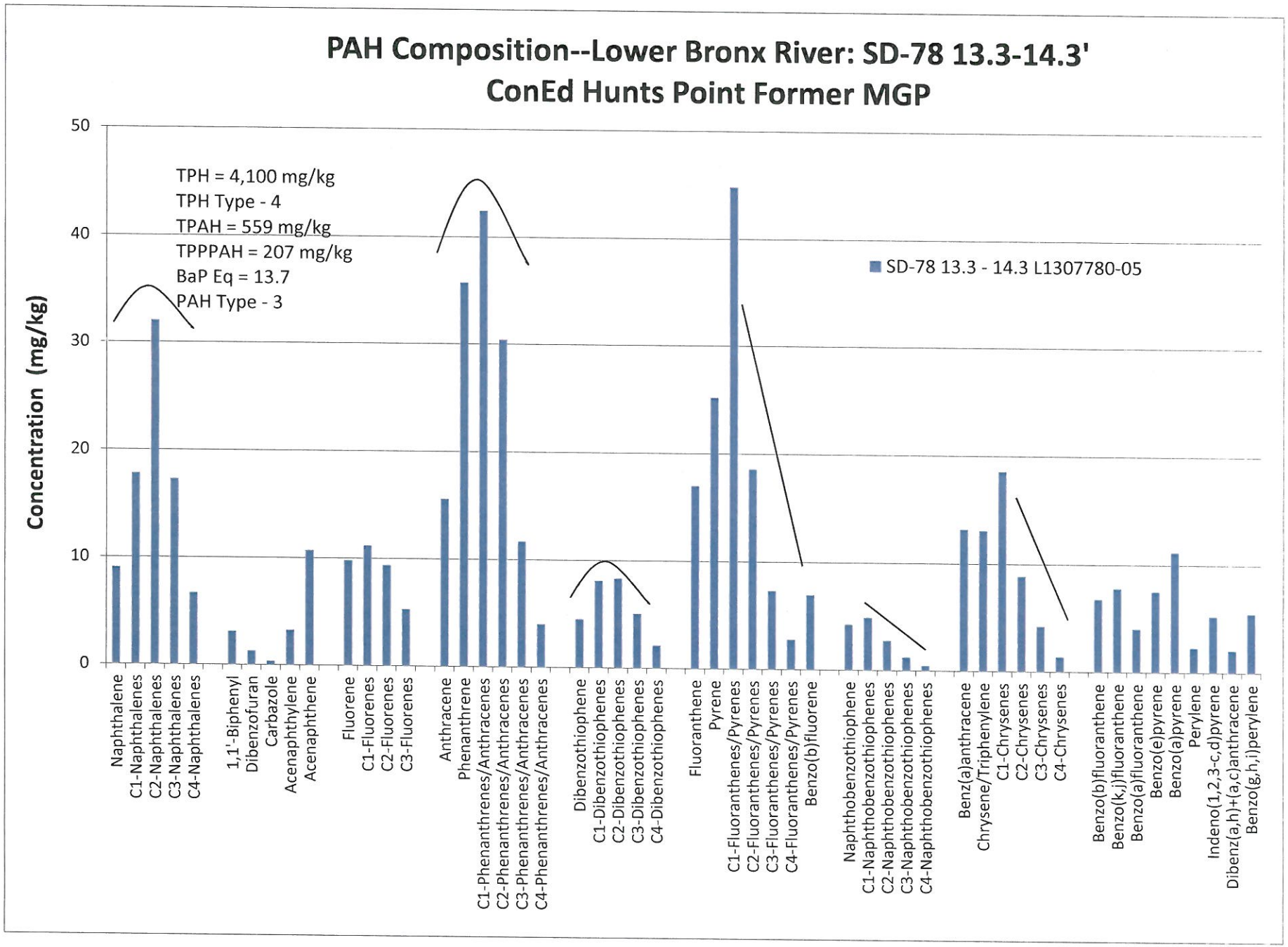


PAH Composition--Upper Bronx River: SD-14B 4.3-5.3'
ConEd Hunts Point Former MGP

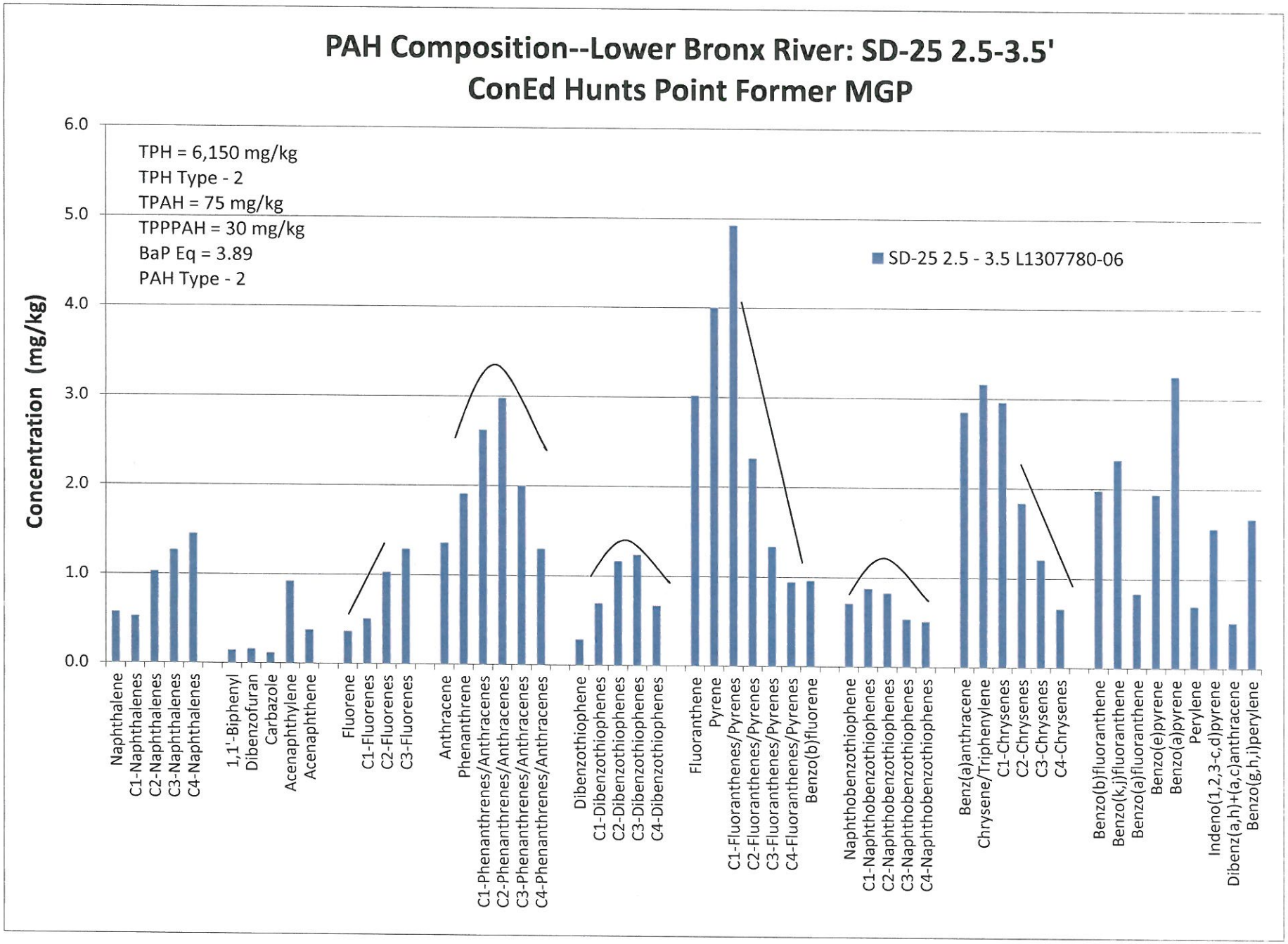


PAH Composition--Upper Bronx River: SD-12 4.6-5.6'
ConEd Hunts Point Former MGP

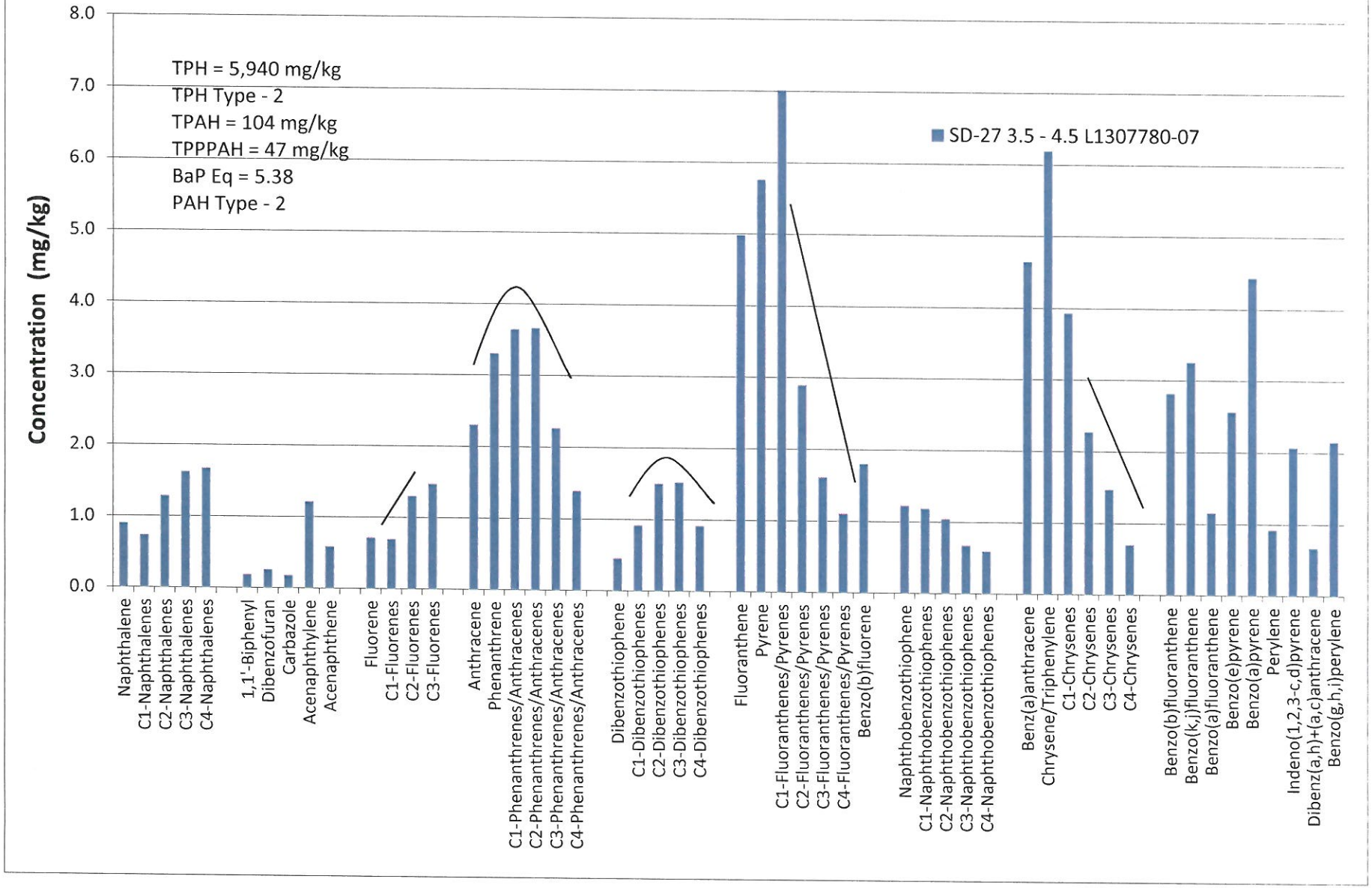



PAH Composition--Lower Bronx River: SD-78 13.3-14.3'
ConEd Hunts Point Former MGP
Concentration (mg/kg)
50
40
30
20
10
0
TPH = 4,100 mg/kg
TPH Type - 4
TPAH = 559 mg/kg
TPPPAH = 207 mg/kg
BaP Eq = 13.7
PAH Type - 3
SD-78 13.3 - 14.3 L1307780-05
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
1,1'-Biphenyl
Dibenzofuran
Carbazole
Acenaphthylene
Acenaphthene
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Benzo(b)fluorene
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenz(a,h)+(a,c)anthracene
Benzo(g,h,i)perylene

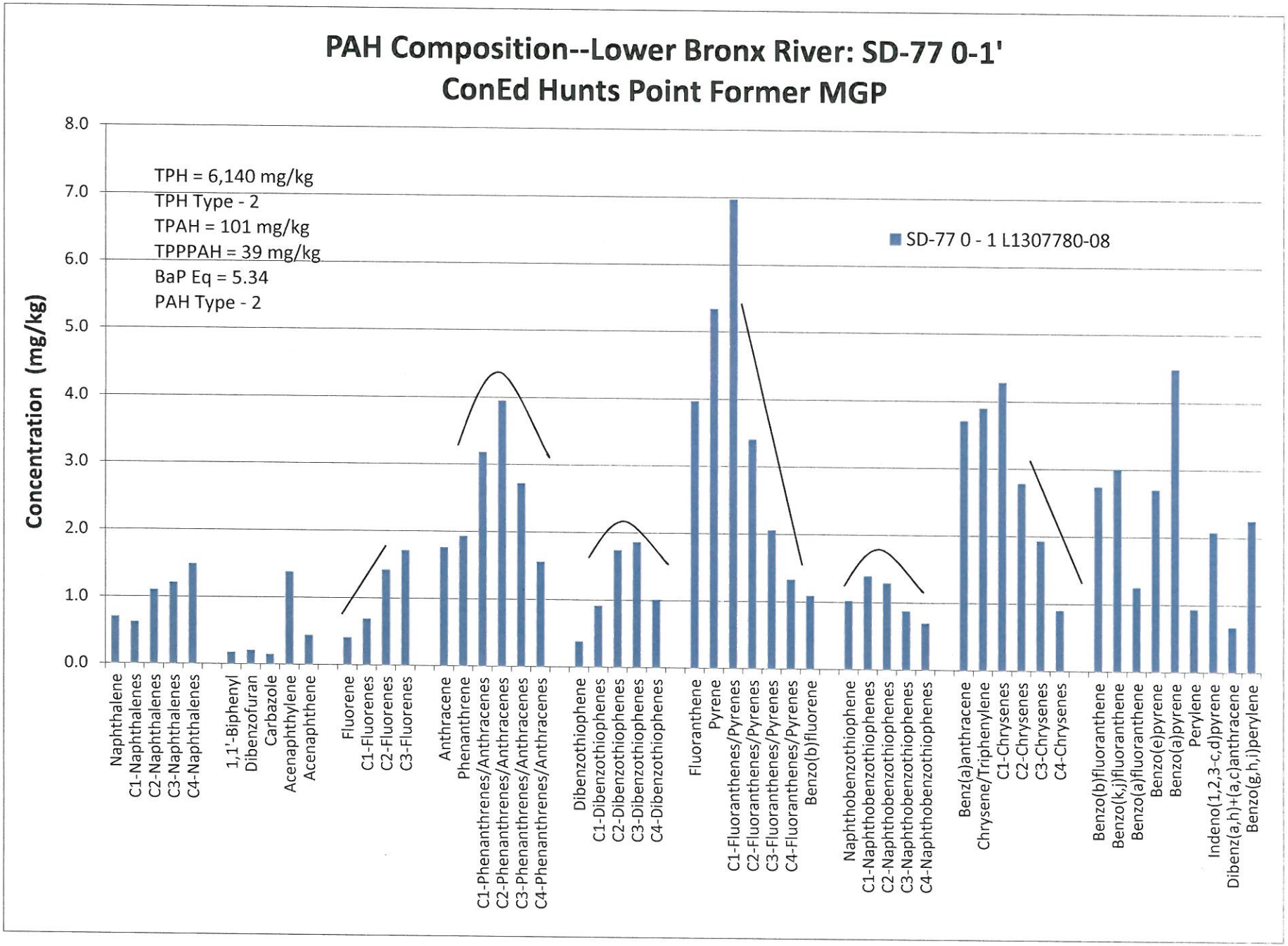
PAH Composition--Lower Bronx River: SD-25 2.5-3.5'
ConEd Hunts Point Former MGP



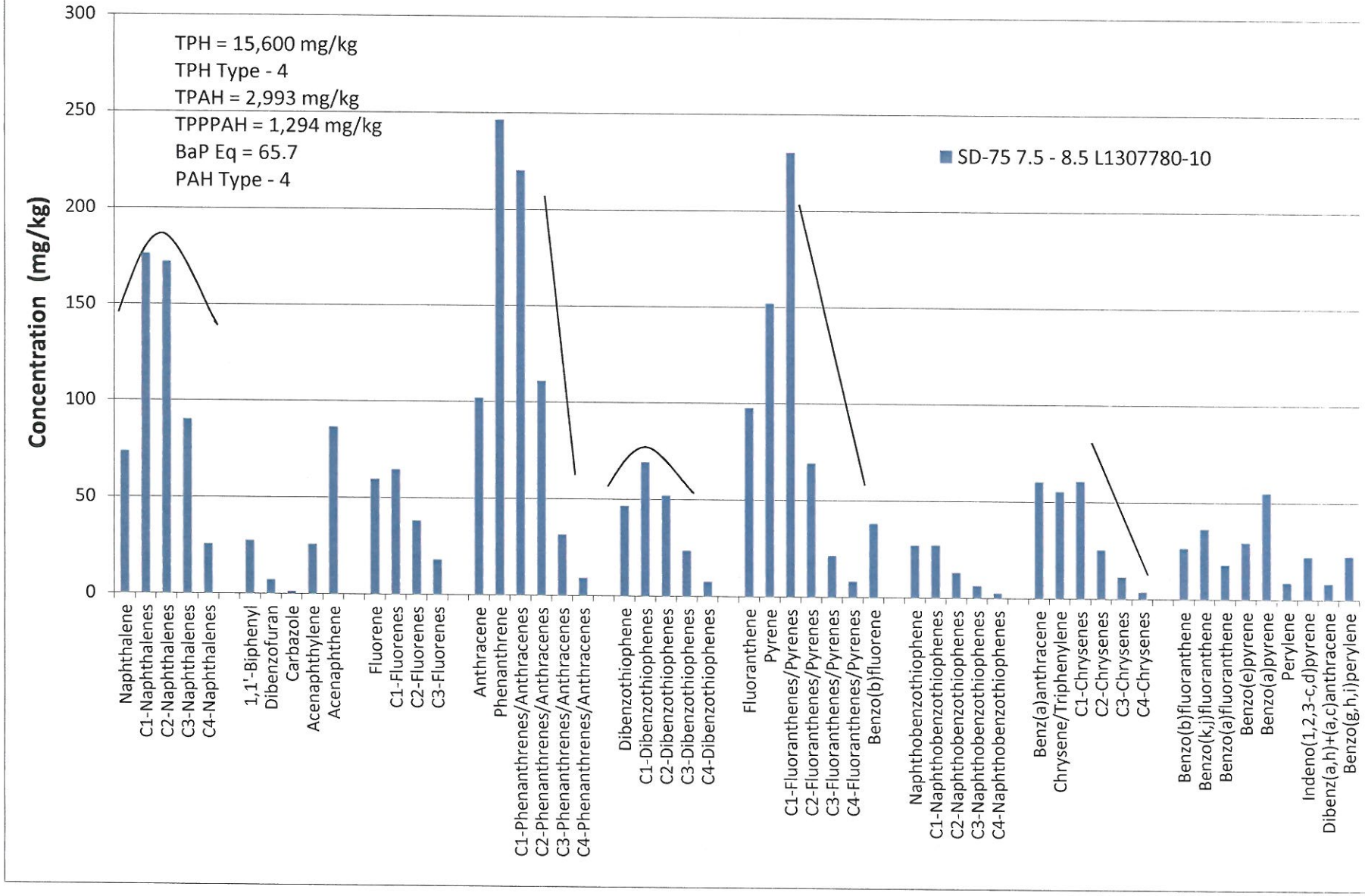
PAH Composition--Lower Bronx River: SD-27 3.5-4.5'
ConEd Hunts Point Former MGP



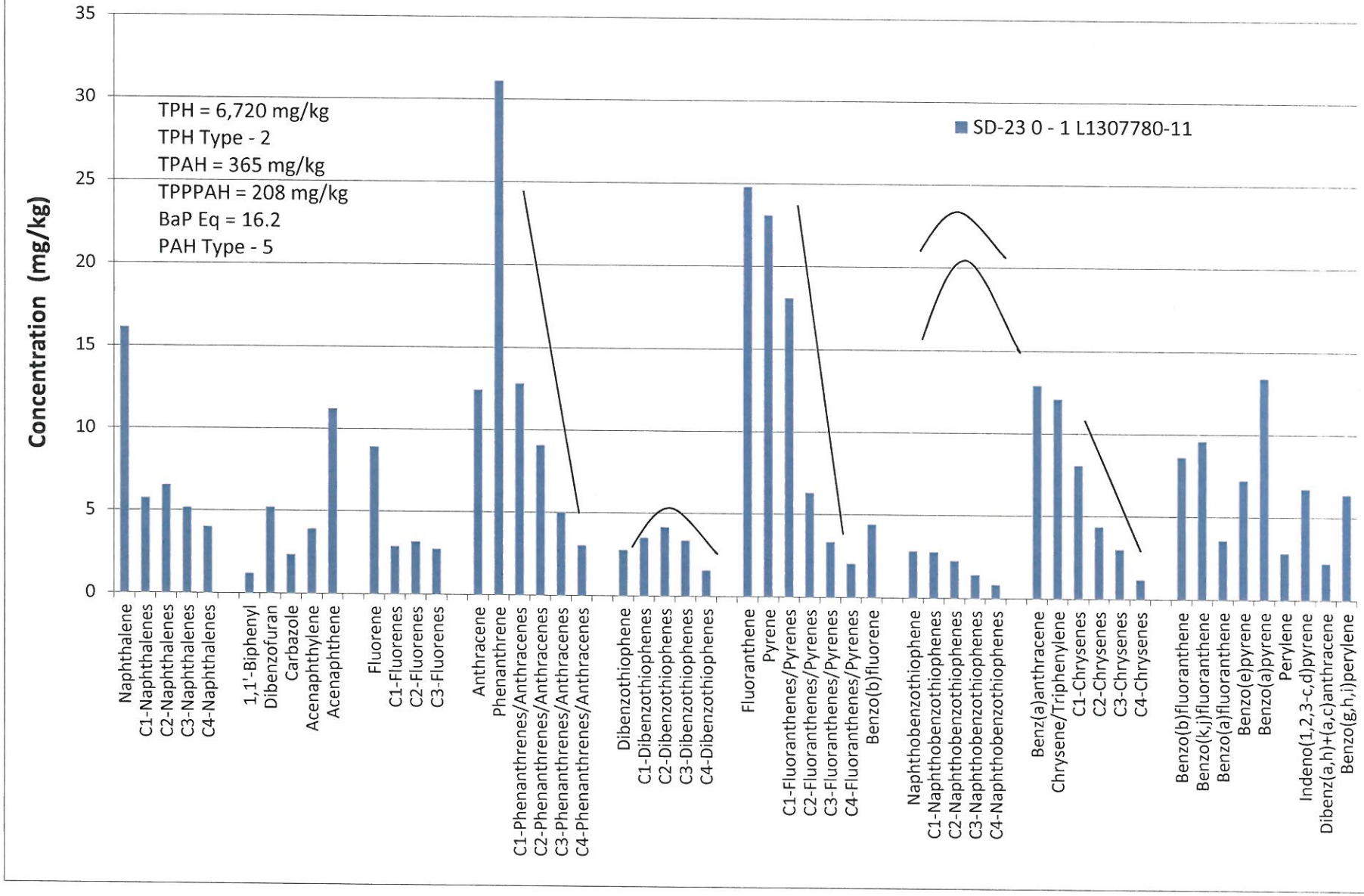
PAH Composition--Lower Bronx River: SD-77 0-1'
ConEd Hunts Point Former MGP



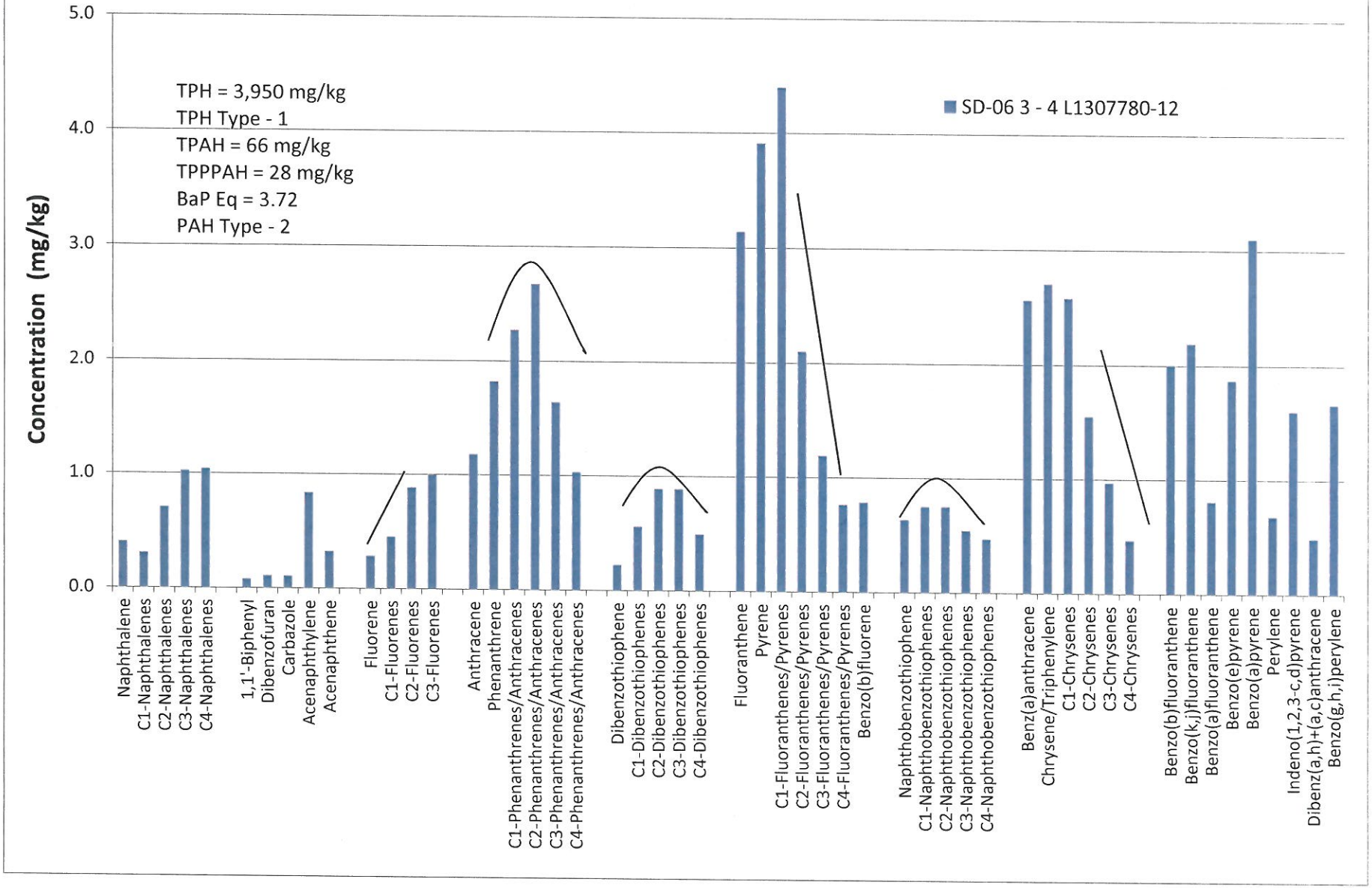
PAH Composition--East River: SD-75 7.5-8.5'
ConEd Hunts Point Former MGP

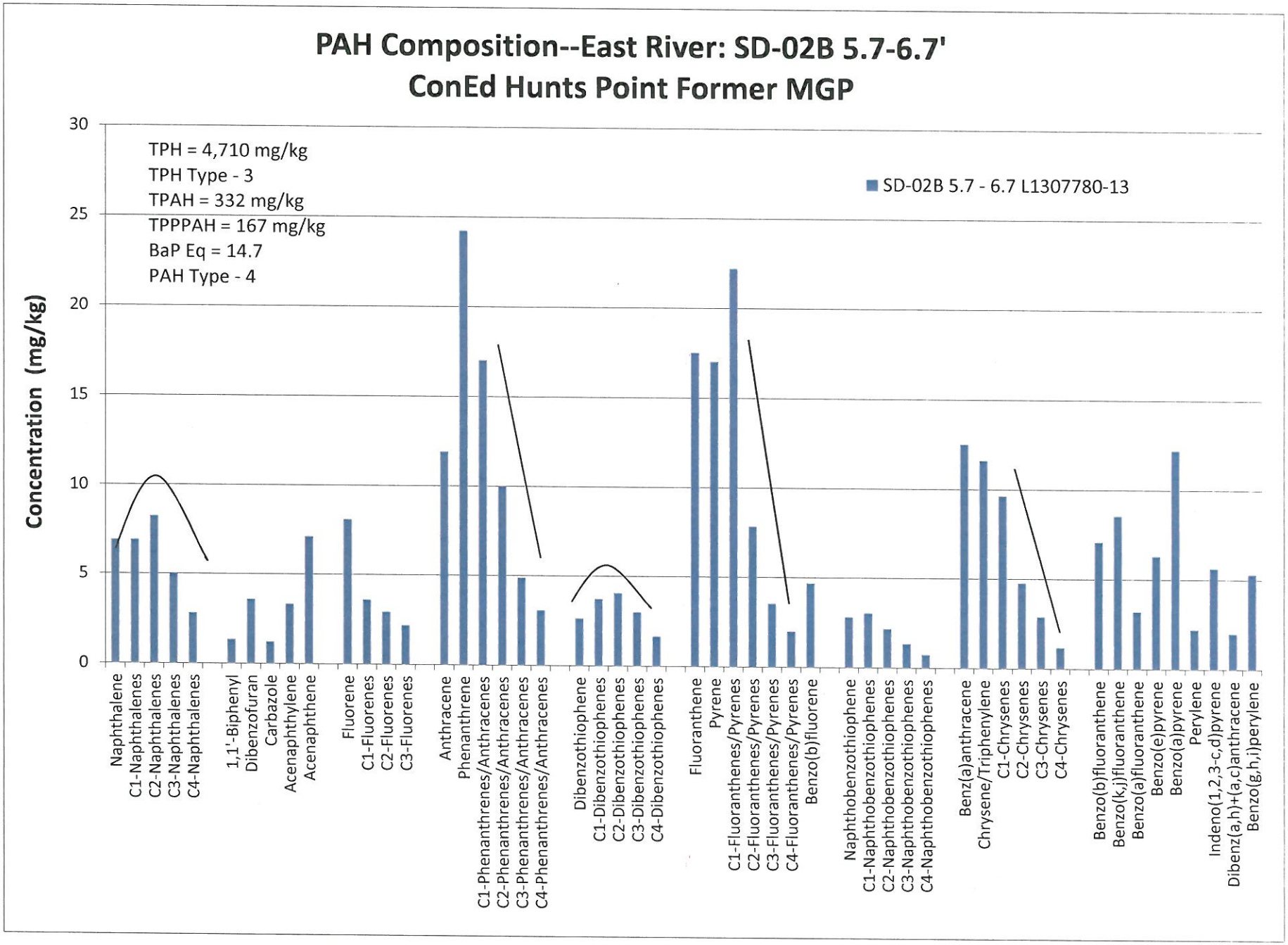


PAH Composition--East River: SD-23 0-1'
ConEd Hunts Point Former MGP

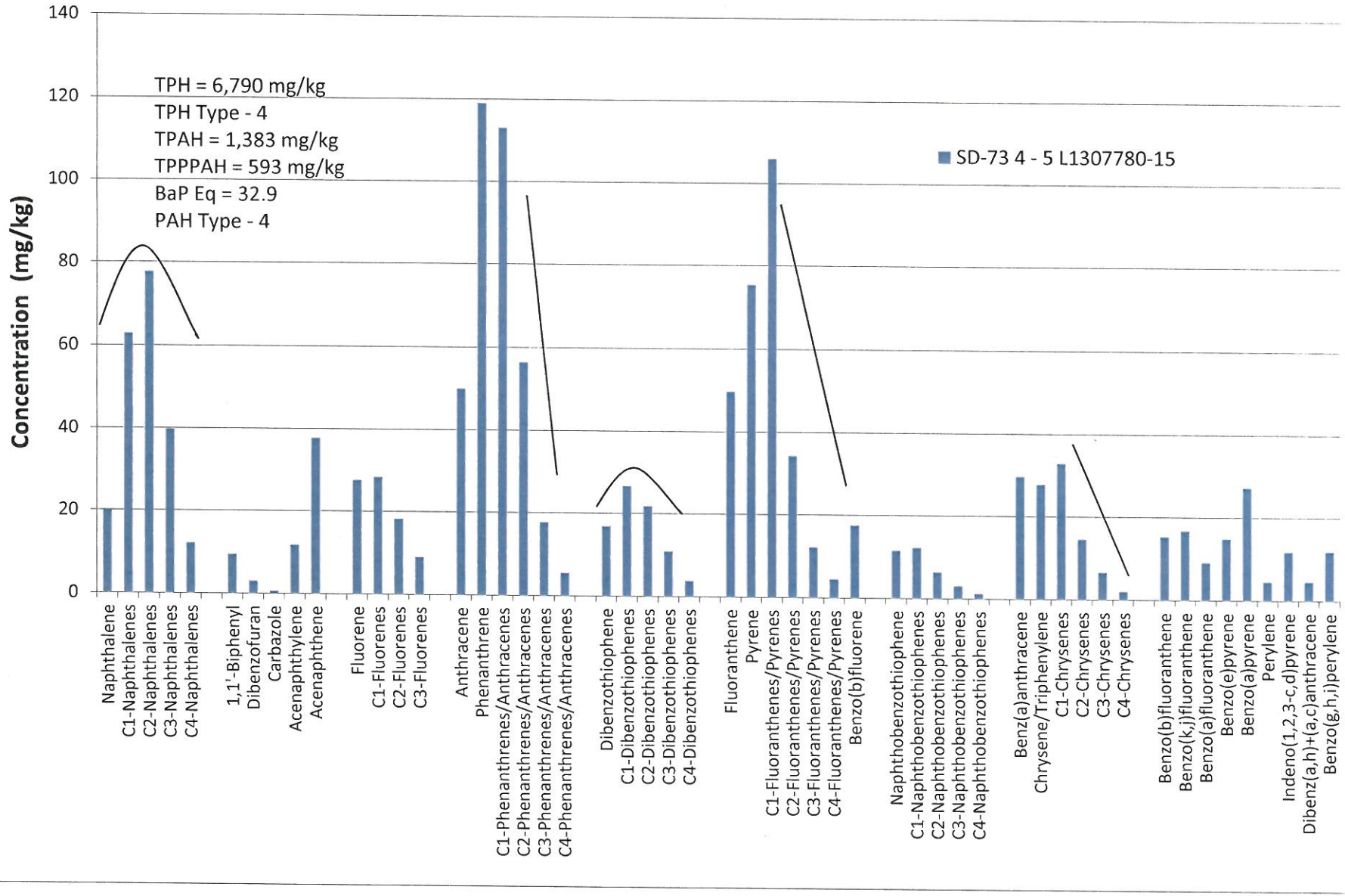


PAH Composition--East River: SD-06 3-4'
ConEd Hunts Point Former MGP

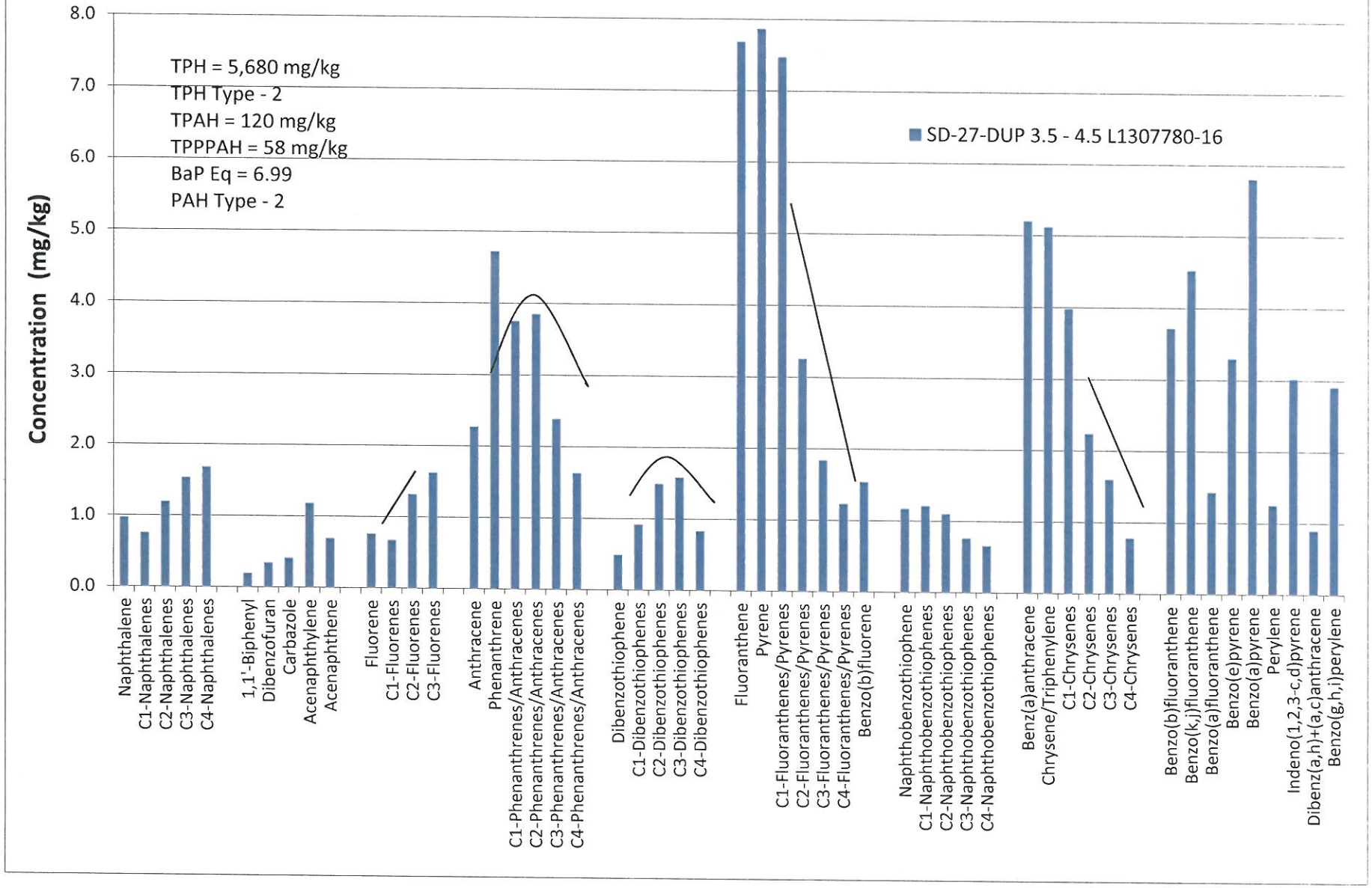


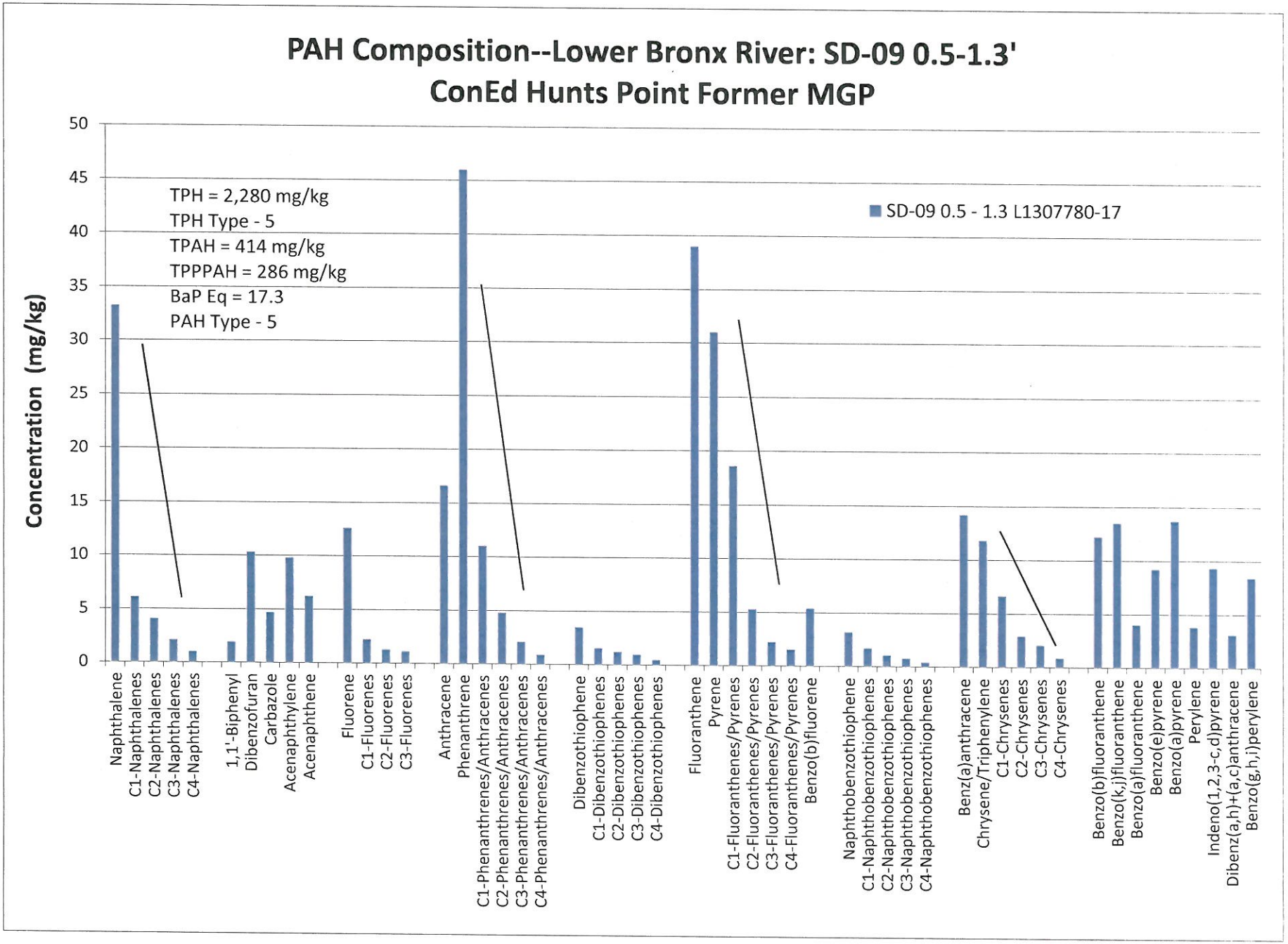

PAH Composition--East River: SD-02B 5.7-6.7'
ConEd Hunts Point Former MGP
TPH = 4,710 mg/kg
TPH Type - 3
TPAH = 332 mg/kg
TPPPAH = 167 mg/kg
BaP Eq = 14.7
PAH Type - 4
SD-02B 5.7 - 6.7 L1307780-13
Concentration (mg/kg)
30
25
20
15
10
5
0
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
1,1'-Biphenyl
Dibenzofuran
Carbazole
Acenaphthylene
Acenaphthene
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Benzo(b)fluorene
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenz(a,h)+(a,c)anthracene
Benzo(g,h,i)perylene

PAH Composition--Lower Bronx River: SD-73 4-5'
ConEd Hunts Point Former MGP

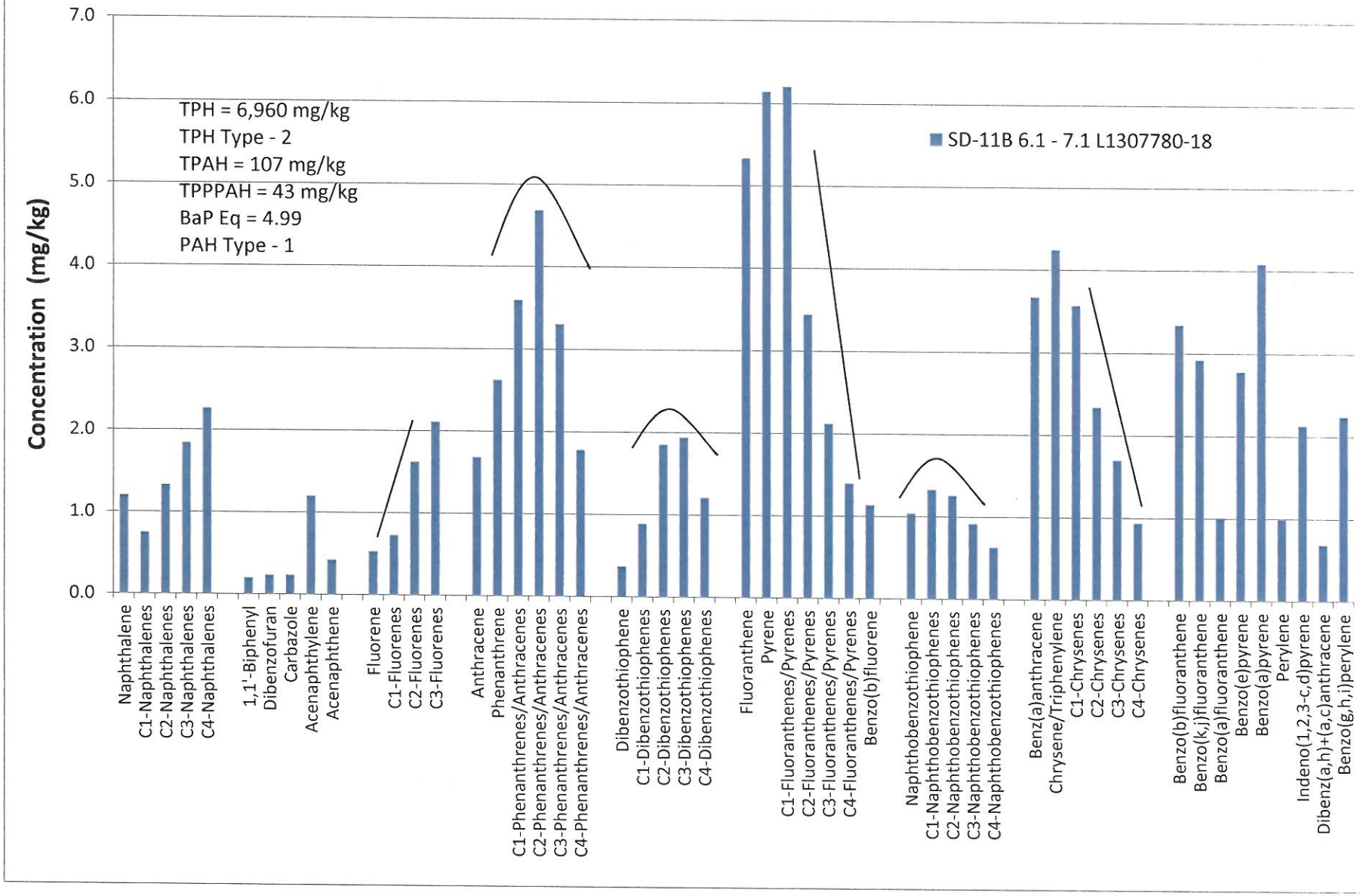


PAH Composition--Lower Bronx River: SD-27 3.5-4.5' Dup
ConEd Hunts Point Former MGP

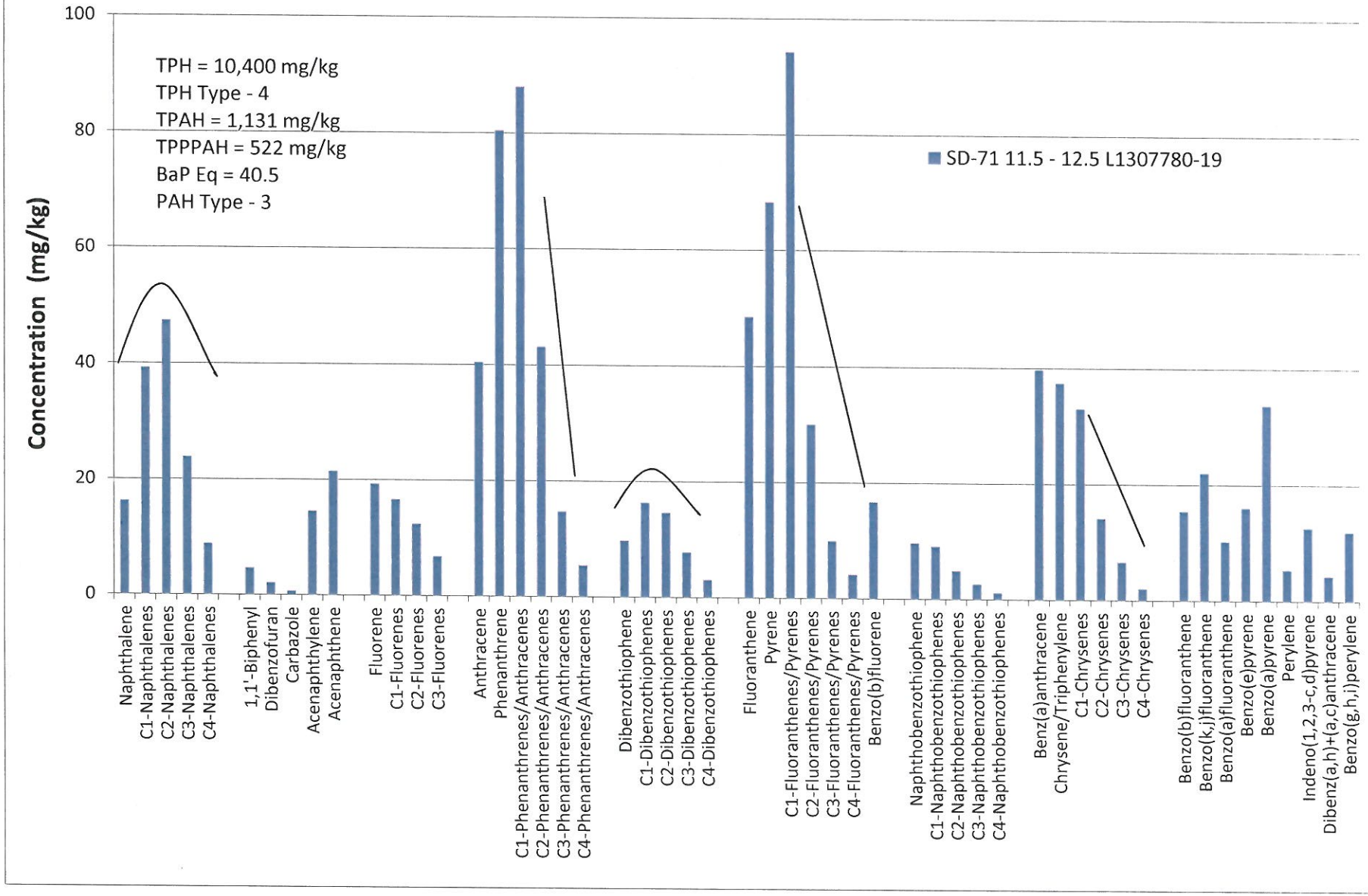


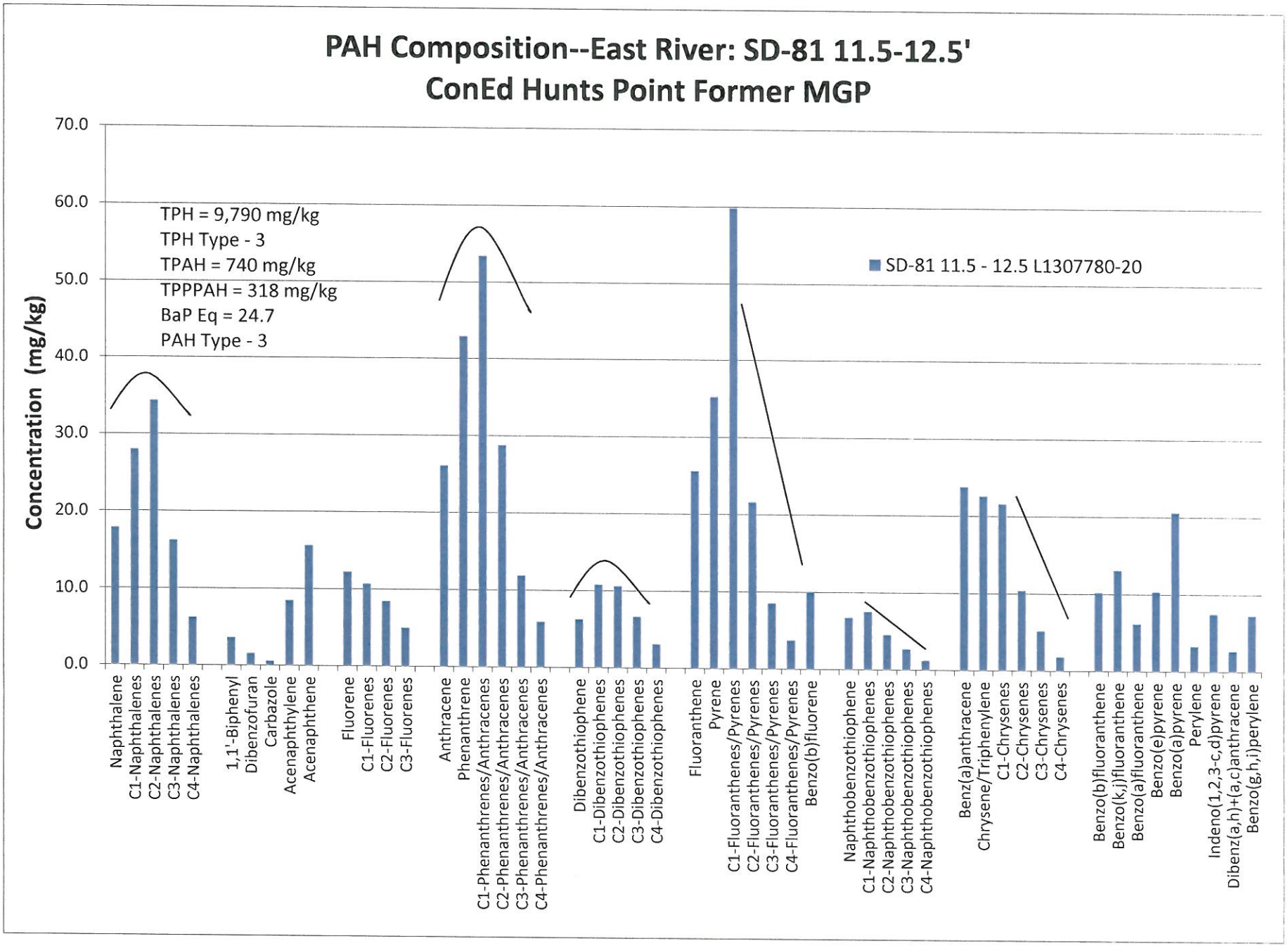

PAH Composition--Lower Bronx River: SD-09 0.5-1.3'
ConEd Hunts Point Former MGP
Concentration (mg/kg)
50
45
40
35
30
25
20
15
10
5
0
TPH = 2,280 mg/kg
TPH Type - 5
TPAH = 414 mg/kg
TPPPAH = 286 mg/kg
BaP Eq = 17.3
PAH Type - 5
SD-09 0.5 - 1.3 L1307780-17
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
1,1'-Biphenyl
Dibenzofuran
Carbazole
Acenaphthylene
Acenaphthene
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Benzo(b)fluorene
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenz(a,h)+(a,c)anthracene
Benzo(g,h,i)perylene

PAH Composition--Lower Bronx River: SD-11B 6.1-7.1'
ConEd Hunts Point Former MGP



PAH Composition--Lower Bronx River: SD-71 11.5-12.5'
ConEd Hunts Point Former MGP




PAH Composition--East River: SD-81 11.5-12.5'
ConEd Hunts Point Former MGP
Concentration (mg/kg)
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
TPH = 9,790 mg/kg
TPH Type - 3
TPAH = 740 mg/kg
TPPPAH = 318 mg/kg
BaP Eq = 24.7
PAH Type - 3
SD-81 11.5 - 12.5 L1307780-20
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
1,1'-Biphenyl
Dibenzofuran
Carbazole
Acenaphthylene
Acenaphthene
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Benzo(b)fluorene
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenz(a,h)+(a,c)anthracene
Benzo(g,h,i)perylene