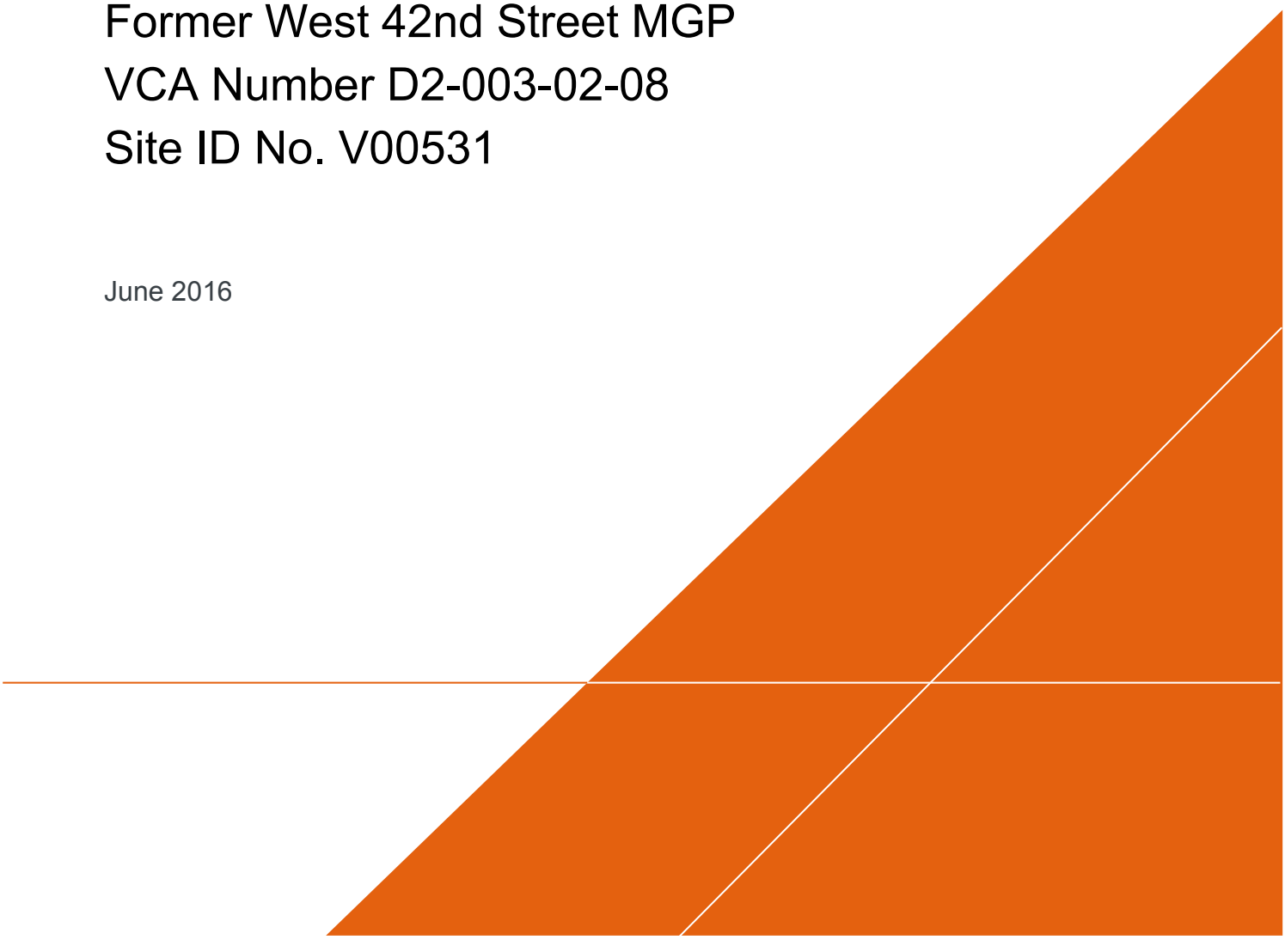
ARCADIS Design & Consultancy for natural and built assets

Consolidated Edison Company
of New York, Inc.

REMEDIAL INVESTIGATION REPORT

Former West 42nd Street MGP
VCA Number D2-003-02-08
Site ID No. V00531

June 2016



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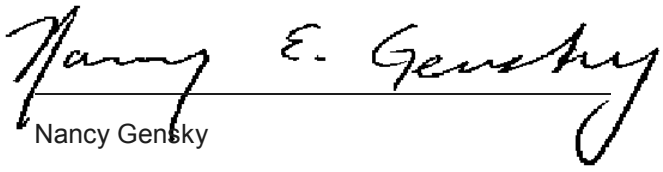

Nancy Gensky

Project Manager

Prepared for:

Consolidated Edison Company of New York

Prepared by:

Arcadis of New York, Inc.

655 Third Avenue

12th Floor

New York

New York 10017

Our Ref.:

B0043036.0000

Date:

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ACRONYMS AND ABBREVIATIONS

ASTM	ASTM International
ATSDR	Agency for Toxic Substances and Disease Registry
BAZ	biologically active zone
BBL	Blasland, Bouck and Lee, Inc.
BCA	Brownfield Cleanup Agreement
bgs	below ground surface
bss	below sediment surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAMP	Community Air Monitoring Plan
Con Edison	Consolidated Edison Company of New York, Inc.
COPIs	constituents of potential interest
CSM	conceptual site model
D&B	Dvirka and Bartilucci Consulting Engineers
DO	dissolved oxygen
DUSR	Data Usability Summary Report
EDD	electronic data deliverable
ER-L	effects range-low
ER-M	effects range-median
FSP	Field Sampling Plan
FWRIA	Fish and Wildlife Resources Impact Analysis
GPR	ground-penetrating radar
GPS	Global Positioning System
HASP	Health and Safety Plan
HHEA	Human Health Exposure Assessment
HRPT	Hudson River Park Trust
ICP	inductively coupled plasma
IDW	investigation-derived waste
Langan	Langan Engineering and Environmental Services, P.C.
LEL	lowest effect levels

mg/kg	milligrams per kilogram
MGP	manufactured gas plant
MS/MSD	matrix spike/matrix spike duplicate
msl	mean sea level
MTA	Metropolitan Transit Authority
µg/kg	micrograms per kilogram
NAD83	North American Datum of 1983
NAVD88	North American Vertical Datum of 1988
NAPL	non-aqueous phase liquids
NHP	Natural Heritage Program
NWI	National Wetlands Inventory
NYC	New York City
NYCDEP	New York City Department of Environmental Protection
NYCDOT	New York City Department of Transportation
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
ORP	oxidation reduction potential
PAH	polycyclic aromatic hydrocarbons
PID	photoionization detector
PM10	particulate matter less than 10 microns in diameter
PPE	personal protective equipment
PVC	polyvinyl chloride
PPL	priority pollutant list
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
RI	remedial investigation
SMP	site management plan
SCG	standards, criteria, and guidelines
SCO	Soil Cleanup Objective
SEL	severe effect level

SOP	standard operating procedure
SVOC	semivolatile organic compound
TAL	target analyte list
TCL	target compound list
TCLP	toxicity characteristic leaching procedure
TOC	total organic carbon
TOGS	Technical and Operational Guidance Series
TPH	total petroleum hydrocarbon
USCS	Unified Soil Classification System
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
VCA	Voluntary Cleanup Agreement
VOCs	volatile organic compounds

1 INTRODUCTION

1.1 Overview

In January 2000, the Consolidated Edison Company of New York, Inc. (Con Edison) entered into a Voluntary Cleanup Agreement (VCA; Index Number D2-003-02-08) with the New York State Department of Environmental Conservation (NYSDEC) for the former West 42nd Street manufactured gas plant (MGP) site located in the Borough of Manhattan, New York, New York. The former site is located between West 41st Street and West 42nd Street and west of 11th Avenue including a portion of the Hudson River as shown on Figure 1-1. The former MGP site occupied approximately 5 acres and included all of Tax Block 1089 (now subdivided into Lots 1 and 3), the Hudson River waterfront property immediately west of Tax Block 1089 (currently designated as Block 1107), and the section of 12th Avenue between Tax Blocks 1089 and 1107 as shown on Figure 1-2.

Subsequent to the VCA, two Brownfield Cleanup Agreements (BCAs) were entered into as follows:

- River Place I, LLC and Con Edison as Volunteer and Participant, respectively, entered into a BCA with NYSDEC for River Place I (Tax Block 1089 Lot 1) in December 2004 (BCA Number W2-1017-04-09, Site Identification Number C231024).
- River Place II, LLC and Con Edison as Volunteer and Participant, respectively, entered into a BCA with NYSDEC for River Place II (Tax Block 1089 Lot 3) in January 2005 (BCA Number W2-1018-04-09, Site Identification Number C231012).

The BCAs cover the land portion of the site in Tax Block 1089 Lots 1 and 3, which lie between West 41st Street and West 42nd Street, and 11th Avenue and 12th Avenue, respectively. After the execution of these BCAs, the site was divided into the BCA portion (River Place I and II) and the VCA portion (the remainder of the site within Tax Block 1107, 12th Avenue, and a portion of the Hudson River as well as off-site areas adjacent to the site). The BCA portion of the site has been investigated and remediated as summarized in the Final Engineering Report (Langan Engineering and Environmental Services, P.C. [Langan] 2007).

This Remedial Investigation (RI) Report covers the VCA portion of the site and off-site areas. As such, this RI Report incorporates relevant data from several previous investigations on the land portion of the site to evaluate the extent of potential MGP impacts. Most notably, relevant site characterization and RI data collected by Dvirka and Bartilucci Consulting Engineers [D&B] were used as reported in the Site Characterization Report (D&B 2004) and the Remedial Investigation Data Summary Report (D&B 2005), as well as additional investigation data and supplemental RI data collected by Arcadis on behalf of Con Edison from 2006 to 2011. The additional RI data were collected in accordance with the Additional Investigation – Transformer Vault Area Work Plan (Blasland, Bouck and Lee, Inc. [BBL] 2006), and the supplemental RI data were collected in accordance with the revised Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b). Further, during the execution of the supplemental RI work, NYSDEC requested the collection of additional RI data to complete the evaluation of potential MGP impacts in the VCA portion of the site.

1.2 RI Objectives

The overall objectives of the RI for the VCA portion of the site are as follows:

- Determine the nature and extent of MGP impacts within the soil and groundwater.
- Determine the presence/absence of MGP impacts in the Hudson River.
- If MGP impacts are present, delineate the nature and extent of those impacts in the Hudson River.
- Evaluate potential risks to human health and the environment.
- Develop a conceptual site model (CSM).

1.3 RI Report Organization

This RI Report has been prepared in accordance with the DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC 2010), U.S. Environmental Protection Agency (USEPA) guidance on RIs and feasibility studies, the VCA, and other appropriate federal and state technical and administrative guidance, as noted. The format of the RI Report is presented in the table below:

Organization of the RI Report

	Section	Contents
1.	Introduction	Provides an overview of the site, RI objectives, and RI Report organization.
2.	Site Description and History	Provides an overview of site conditions and the history of the site and surrounding areas
3.	Summary of Previous Remedial Investigations and Remedial Actions	Summarizes the previous investigations and remedial activities that have been conducted at and adjacent to the site.
4.	Description of Supplemental Land Investigation Activities	Describes the activities conducted on land at and adjacent to the VCA portion of the site as part of the supplemental RI from 2008 to 2011.
5.	Description of Hudson River Investigation Activities	Describes the activities conducted in the Hudson River at and adjacent to the VCA portion of the site as part of the supplemental RI in 2008.
6.	Results of the Remedial Investigation	Presents the results of the RI activities for the VCA portion of the site, including field observations, analytical data, nature and extent of constituents, and qualitative ecological and HHEAs/CSM.
7.	Summary and Conclusions	Presents the summary and conclusions of the RI.
8.	References	Provides the references cited in the RI Report.

2 SITE DESCRIPTION AND HISTORY

2.1 Site Conditions

The former West 42nd Street MGP site is located in the Borough of Manhattan, New York City, New York (Figure 1-1). The former MGP site occupied approximately 5 acres and included all of Tax Block 1089 (now subdivided into Tax Lots 1 and 3), the Hudson River waterfront property immediately west of Tax Block 1089 (currently designated as Tax Block 1107), and the section of 12th Avenue between Blocks 1089 and 1107. Figure 1-2, the site plan, shows the boundaries of the site and the former MGP facilities.

The Hudson River lies to the west of Tax Block 1107. Tax Block 1107 and a portion of the Hudson River to the end of Piers 81 and 83 lie within the Hudson River Park. The Hudson River Park extends from Battery Park to the south, from Pier 99/ West 59th Street to the north, from the bikeway/walkway to the east, and from the end of the piers (known as the Pierhead Line) to the west (Hudson River Park Trust [HRPT] 2001).

Currently, Tax Block 1089 Lot 1 (River Place I) contains a high-rise residential building with retail facilities, and Lot 3 (River Place II) contains a high-rise residential building. Twelfth Avenue is a six-lane paved vehicle boulevard divided by a landscaped median. Tax Block 1107 currently consists of a paved bike and pedestrian pathway and a parking lot partially on a platform that extends west over the Hudson River from the bulkhead (Figure 1-2).

West of and adjacent to the site, World Yacht and the Circle Line use Piers 81 and 83, respectively, as private and commercial vessel marinas and the area between the piers as river access and egress areas. Pier construction began in the Hudson River in the early 1800s and progressed from south to north (HRPT 2001). Piers north of the site are used for museums, passenger terminals, parking, fuel delivery facility, and marine transfer station. Piers south of the site are used for parking, passenger terminals, rail transfer stations, heliport, sports/entertainment complex, and tunnel ventilation shafts among other uses.

South, east, and north of the site are residential, municipal, commercial, and retail facilities, including the Metropolitan Transit Authority (MTA) bus depot.

2.2 Site and Surrounding Area History

Information regarding the site history and ownership information was provided in the West 42nd Street Manufactured Gas Plant Site History Report (Parsons 2002) and summarized in the Site Characterization Report (D&B 2004). The following summarizes the information provided in these two documents with supplemental historic information from Sanborn® fire insurance maps and the HRPT.

2.2.1 Site History – Pre-MGP

Prior to the construction of the West 42nd Street MGP (1863) and until 1850, the former MGP lands consisted of a shallow embayment, a tidal creek, and associated tidal wetlands of the Hudson River (Parsons 2002). This area, known as the Great Kill, was subsequently drained and channeled out to the Hudson River. By 1850, this portion of the river system was filled, and the land on which the MGP was constructed was formed. Rock, soil, refuse, and sunken ships were reportedly used as the fill material.

Filling activities were uncontrolled until 1870, when the New York City Department of Docks constructed a solid block and granite wall that replaced the existing river shoreline. In conjunction with the land development in the mid 1800s, sewers were installed that discharged via outfalls to the Hudson River. Through the early 1920s, development along this portion of the Hudson River waterfront continued with the construction of more than 100 piers to serve shipping, transportation, and passenger vessels (HRPT 2001).

2.2.2 MGP Operational History

The MGP operated as a coal gasification plant from 1863 into the early 1920s. Anthracite coal was delivered by barges or lighters to the MGP's Hudson River pier and then carted to the plant. The coal was stored in two coal houses at the western end of Tax Block 1089, and then transported to one of two retort houses. The first retort house was constructed along West 42nd Street, and later a second was built and enlarged along West 41st Street. At the eastern end of each retort house were the gas condensers. After passing through the condensers, the gas was conveyed to the purifying house, located east of the retort houses. The initial purifying house used the Dry-Lime Process, whereas the second purifying house used the Laming Process. The Laming Process included the use of wood chips treated with iron oxide and stored in boxes. After treatment in the purifying house, the gas was transferred to four gas holders located at the eastern end of the block for storage before distribution to customers. Each of the gas holders was constructed of brick and had a capacity of 250,000 cubic feet.

2.2.3 Post-MGP Operational History

The former MGP operated through the early 1920s and was likely demolished in approximately 1925. In 1932, the New York Central Railroad Company acquired the former MGP site and constructed a railroad yard with several small associated buildings and a gasoline service station.

By 1930, a railroad complex occupied Tax Block 1089 including rail lines, a station, and a gasoline service station (including buried tanks). The MGP facilities were no longer present on the former pier; however, this pier was not removed until approximately 1934, when a bulkhead and relieving platform were installed adjacent to the Hudson River on Tax Block 1107. By 1940, the railroad complex and the gasoline service station were replaced by an assorting station, office, and garage with underground storage tanks (USTs) until Tax Block 1089 was purchased by real estate companies starting in 1967 (Parsons 2002). By the 1980s, a portion of the former MGP site was utilized as a parking lot. In 1999 to 2000, a high-rise residential building known as One River Place was erected on Tax Block 1089 Lot 1 (River Place I), and from 2007 to 2010, a high-rise residential building composed of two towers known as Silver Towers was erected at Tax Block 1089 Lot 3 (River Place II).

2.2.4 Surrounding Areas

Historically, the areas adjacent to the former MGP site contained various industrial, commercial, and retail facilities. To the north, another MGP site existed between 44th and 46th Streets (former West 45th Street MGP) in addition to other industries such as a carpet factory, a boiler manufacturer, a brick company, a lumber yard, a can company, coke and coal companies, a metal works, a gas station, and several warehouses. To the west, several piers were located in the Hudson River and used for various purposes such as passenger ferries, freight lines, ocean liners, recreation, and dumps. To the south, the following

industries were present: stock yards, slaughterhouse, railroad yards, coal yards, junk yards, and a bus garage and service center. To the east, the following industries were present: coke and coal yards, a paper company, and machine shops (Sanborn Map Company 1890, 1899, 1911, 1930, 1950, 1968, 1980, 1984, 1988, 1992, 1996).

2.2.5 Summary of Property Ownership

The following timeline summarizes the property owner information provided in the Site History Report (Parsons 2002).

- 1854 – Charles Appleby (from City of New York)
- 1860 – Metropolitan Gas Light Co.
- 1885 – Consolidated Gas Co. (company was organized in 1884)
- 1924 – New York Edison Co. (MGP shut down)
- 1927 – New York State Realty and Terminal Co.
- 1932 – New York Railroad Co.
- 1962 – Cola Realty Corp.
- 1962 – Railway Express Agency, Inc.
- 1967 – Joseph D. Keenan and Roger Deed, Trustees
- 1969 – Chrysler Realty Corp.
- 1981 – Ivory Forty-two Realty Corp.
- 1984 – Silverstein 42nd Associates
- 1996 – River Place I, LLC (Tax Block 1089 Lot 1)
- 1999 – River Place II, LLC (Tax Block 1089 Lot 3)

3 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

3.1 Previous Investigations

Several previous investigations have been conducted at and near the former West 42nd Street MGP site. Reports submitted and activities conducted at or in the immediate vicinity of the former West 42nd Street site are summarized below. Details regarding the activities of the investigations and the results or findings of the investigations conducted are provided in their respective reports. For additional reference, a more detailed summary of site investigations that occurred prior to April 2004, and the results of the investigations, are summarized in the Site Characterization Report (D&B 2004).

- Underground Storage Tank Closure Report (Woodward-Clyde 1995b) describes activities related to three separate UST systems out of 18 individual USTs located on Tax Block 1089 Lot 3.
- Results of Environmental Investigation Field Activities (Woodward-Clyde 1995a) summarizes the results of an environmental investigation completed throughout Tax Block 1089 (including both Lots 1 and 3). The report includes results of the Phase I activities conducted in February 1995 and Phase II activities conducted in May 1995.
- Results of Environmental Investigations and Plan for Additional Investigations (Woodward-Clyde 1995c) outlines a scope of work for the execution of Phase III environmental investigation of Tax Block 1089 Lots 1 and 3.
- Phase III Environmental Sampling Results (Woodward-Clyde 1996a) describes the Phase III activities conducted at Tax Block 1089 Lots 1 and 3.
- Results of 5/14/96 Groundwater Sampling and Completion of Project at Silverstein 42nd Associates, L.P. (Woodward-Clyde 1996c) provides the results of the second round of groundwater sampling that occurred in May 1996, 1 year after the previous sampling activities.
- Fate and Transport Calculations to Determine Benzene Concentrations in Groundwater as it enters the Hudson River (Woodward-Clyde 1996b) describes the results of the analytical multidimensional fate and transport model.
- Human Health and Environmental Risk Evaluation (Woodward-Clyde 1996d) provides information regarding the potential risk to human health, and the environment associated with site-related contaminants.
- Phase I Environmental Site Assessment (Dames & Moore 1996) identifies potential environmental conditions associated with the activities at the site, which was necessary for the Bank of New York to finance the site.
- Analytical Sample Results from the Vault Installation (Con Edison 2000) provides the results of the soil samples collected in April 2000 beneath the sidewalk on 41st Street, directly south of the former MGP site.

- Geotechnical Engineering Study for River Place Phase II (Langan 2000) provides the results of a subsurface investigation in relation to foundation design and building construction associated with the development of property at Tax Block 1089 Lot 3.
- West 42nd Street Supplemental Investigation (Langan 2001) provides geotechnical boring logs for shoreline and river borings.
- West 42nd Street Manufactured Gas Plant Site History Report (Parsons 2002) discusses the history and ownership of the site.
- Subsurface Investigation and Quarterly Monitoring Report (Roux Associates 2003) summarizes the results of an investigation that took place from May 2003 through July 2003 at the Mobil Service Station located directly north of Tax Block 1089 Lot 3, across 42nd Street where petroleum spills have been documented.
- Site Characterization Report (D&B 2004) provides the results of the soil and groundwater investigation conducted for the land portion of the site to help facilitate planned construction development activities for Tax Block 1089 Lot 3.
- West 42nd Street Works Site Report of Evaluation of Indoor Air Sampling (RETEC 2004) provides the results of the indoor air sampling activities that took place within the River Place I building.
- Remedial Investigation Data Summary Report for the West 42nd Street Former Manufactured Gas Plant Site (D&B 2005) provides the results of the RI that took place in February and March of 2005 and focused on locating potential MGP residuals and associated contaminants in the area of the former MGP located between the eastern side of 12th Avenue and the Hudson River bulkhead.
- Data Report Transformer Vault Area (ARCADIS BBL 2007a) provides the results of a soil investigation adjacent to River Place II to provide data within the proposed transformer vault area. Five borings were conducted and five waste characterization samples and 10 subsurface soil samples were obtained.

Of the aforementioned reports, this RI Report uses certain previous investigation results primarily from the Site Characterization Report (D&B 2004), the Remedial Investigation Data Summary Report (D&B 2005), and the Data Report Transformer Vault Area (ARCADIS BBL 2007a). Specifically, the following boring and monitoring well data from the D&B and vault area reports will be used to characterize the VCA portion of the site:

- Along 12th Avenue and Tax Block 1107: MW-8, SB-24, SB-23, SB-30, and MW-7
- Along West 42nd Street: SB-31, SB-25, and SB-26
- Along West 41st Street: SB-09, SB-22, SB-21, SB-20, and SB-41 to SB-45

The data from these wells and borings are considered in the RI characterization. The actual data are included in the tables and figures of this report, and the boring and well logs are included in the appendices of this report. The specific details of these previous investigations are provided in the respective referenced reports and, for completeness, the D&B and vault area reports are also provided in Appendix A of this RI Report.

3.2 Previous Remedial Actions

Remedial actions have been completed in the BCA portion of the site as documented in the following reports:

- Underground Storage Tank Closure Report (Woodward-Clyde 1995b) describes activities related to the removal of three separate UST systems consisting of 18 individual USTs located on Tax Block 1089 Lot 3.
- Final Engineering Report for West 42nd Street Former MGP Site (Langan 2007) documents the remedial actions at Tax Block 1089 including the excavation and removal of impacted soil to approximately 20 feet below ground surface (bgs) in Lot 3 and a portion of Lot 1, installation of a sheet pile containment wall around the excavation area (both for excavation support and contaminant migration mitigation), excavation and removal of subsurface former MGP structures (four gas holder and purifier house foundations), and the establishment of institutional and engineering controls. This report also documents additional remedial activities conducted during the construction of the Silver Towers at River Place II to accommodate the final building design including additional soil excavation and sealing a gap in the sheeting along West 42nd Street to stop an area of tar seepage.

4 DESCRIPTION OF SUPPLEMENTAL LAND INVESTIGATION ACTIVITIES

4.1 General

Based upon the results of the previous site characterization and RIs (D&B 2004 and 2005), NYSDEC requested a supplemental investigation to further delineate the extent of potential MGP impacts north of SB-32 along the river and south of SB-30 along 12th Avenue (as well as within the Hudson River as discussed in Section 5) in a letter dated August 30, 2005 (NYSDEC 2005). In January 2007, Con Edison submitted a Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b) to the NYSDEC. The NYSDEC provided comments on this work plan on May 4, 2007 and requested additional investigations to further delineate the extent of potential MGP impacts within the soil northeast of SB-26 along West 42nd Street and within the groundwater southeast of MW-3 within West 41st Street. Con Edison submitted responses to NYSDEC comments on August 9, 2007. On August 27, 2007, the NYSDEC approved the proposed work plan changes with the addition of a contingency plan for a well south of the site if a groundwater sample could not be obtained in the transformer vault area. The Final Supplemental Remedial Investigation Work Plan was revised and submitted to NYSDEC in October 2007. In 2008, soil boring SB-46 was installed north of SB-32, and soil boring SB-47 was installed south of SB-30.

After reviewing the data from soil boring SB-46, NYSDEC requested the installation of an additional boring south of SB-46 on March 13, 2009. Based on the tar seepage observations prior to subsequent sealing outside the sheet pile wall installed just south of West 42nd Street during the River Place II construction, NYSDEC requested moving the planned boring north of SB-26 to a location just north of the observed seepage on May 14, 2009. In July 2010, after access was obtained and the permitting completed, soil boring SB-48 was installed north of the former seepage area, and SB-49 was installed south of SB-46. In addition, in July 2010, monitoring well MW-11 was installed south of MW-3 and subsequently sampled. After reviewing the data from soil boring SB-48, NYSDEC requested the installation of two additional borings north of SB-48 on August 30, 2010. In February 2011, after access was available and the permitting completed, soil borings SB-50 and SB-51 were installed north of SB-48. In January 2011, the NYSDEC also requested that the remaining monitoring wells (MW-7 to MW-10) be sampled prior to the completion of the supplemental RI field activities. These wells were sampled in March 2011.

In summary, the specific objectives of the supplemental land investigation activities were to delineate the following:

- Extent of MGP impacts in soil north of SB-32.
- Extent of MGP impacts in soil south of SB-30.
- Extent of MGP impacts in soil south of SB-46.
- Extent of MGP impacts in soil northeast of SB-26 and the former seepage at the base of the sheet pile wall.

- Extent of MGP impacts in soil north of SB-48.
- Extent of groundwater impacts southeast of MW-3.
- Evaluate current (2011) groundwater quality

In order to achieve these specific objectives the following land investigation activities were conducted:

- subsurface soil investigation
- groundwater investigation
- support activities including:
    - permitting and access
    - underground utility clearance
    - air monitoring
    - data usability assessment
    - management of investigation-derived waste (IDW)
    - restoration
    - field surveying

Investigation activities conducted are summarized in the following subsections. Unless otherwise specified, the land investigation field activities were conducted in accordance with the NYSDEC-approved Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b). The detailed descriptions of the investigation methods and techniques followed during the supplemental RI activities are provided in the Supplemental Field Sampling Plan (FSP) and the Supplemental Quality Assurance Project Plan (QAPP) located in Appendix A and B of the Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b).

As part of the intrusive activities, a perimeter community air monitoring program was implemented in accordance with the New York State Department of Health (NYSDOH) generic Community Air Monitoring Plan (CAMP), included in the HASP, Appendix C, of the Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b).

Several subcontractors were employed to help collect and analyze the field data, and to handle transportation and disposal of wastes generated. These subcontractors are listed in the following table.

Subcontractor	Office Location	Service Provided
Aquifer Drilling and Testing, Inc.	New Hyde Park, NY	Utility clearance, drilling
City Pro	Brooklyn, NY	NYCDOT permitting
Clean Earth of North Jersey	South Kearny, NJ	Waste transport and disposal

Subcontractor	Office Location	Service Provided
Clean Ventures	Elizabeth, NJ	Waste transport and disposal
Munoz Engineering, P.C.	New York, NY	Surveying
Metro Clean Express	Long Island City, NY	Traffic control
Naeva Geophysics	Congers, NY	Utility clearance
Nico Asphalt Paving	Brooklyn, NY	Pavement repair
Paragon Environmental Construction	Brewerton, NY	Utility clearance, drilling
Summit Drilling Company, Inc.	Bound Brook, NJ	Utility clearance, drilling
Test America Laboratories	Shelton, CT	Analytical services

4.2 Subsurface Soil Investigation

Subsurface soils were investigated by the advancement of soil borings. Soils accessed during drilling were characterized in the field and sampled for laboratory analysis.

4.2.1 Soil Boring Installation

During the supplemental RI, seven soil borings were drilled to depths that ranged up to 30 feet bgs including:

Soil Boring/ Monitoring Well Identification	Purpose and Location (Date of Installation)
SB-46	Delineate the extent of MGP impacts in soil south of SB-30 (June 2008)
SB-47	Delineate the extent of MGP impacts in soil north of SB-32 (March 2008)
SB-48	Delineate the extent of MGP impacts in soil northeast of SB-26 and the former seepage at the base of the sheet pile wall (July 2010)
SB-49	Delineate the extent of MGP impacts in soil south of SB-46 (July 2010)
SB-50	Delineate the extent of MGP impacts in soil north of SB-48 (February 2011)
SB-51	Delineate the extent of MGP impacts in soil north of SB-48 (February 2011)
MW-11	For a monitoring well installation south of MW-3 (July 2010)

Soil borings were advanced using one of two drilling methods: direct push (i.e., GeoProbe®) and hollow-stem augers. For borings SB-48 to SB-51, direct push borings were advanced by a hydraulically powered drill rig using a probing hammer to advance 2-inch-diameter 5-foot-long Macro-Core® samplers to obtain soil samples. For borings SB-46 and SB-47, and the boring for monitoring well MW-11, hollow-stem auger drilling and sample collection using 2-inch-outside-diameter by 2-foot-long split-spoon samplers were used. The detailed procedures followed for the direct push and hollow-stem auger drilling methods are contained in the Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b).

Regardless of the drilling method used, soil borings were sampled continuously from the land surface to the boring bottom. The soil samples were retrieved and the recovered soils were photographed, visually characterized, and screened with a photoionization detector (PID). Soil observations, Unified Soil Classification System (USCS) descriptions, descriptions of non-aqueous phase liquid (NAPLs)/staining/odors/sheens, and PID readings are provided on the boring logs presented in Appendix B of this RI Report. A photograph log of each boring is also provided in Appendix B.

Upon completion, each boring was backfilled with bentonite/grout except at MW-11, which was completed as a monitoring well. Soil boring and sampling equipment were cleaned prior to initiating sampling activities, between locations, and at the completion of investigation activities in accordance with the procedures documented in the Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b). Cleaning water and residuals were appropriately containerized for subsequent disposal as set forth in Section 4.4.5.

Figure 4-1 presents the locations of soil borings drilled during the supplemental RI. Note that the previous soil borings installed by D&B and during the transformer vault investigation (ARCADIS BBL 2007a) are also shown on Figure 4-1. Data collected and observations made during drilling are presented on boring logs provided in Appendix B of this RI Report. Note that this appendix contains logs for borings drilled both during previous investigations and during the supplemental RI.

4.2.2 Soil Sample Collection and Analysis

Up to two soil samples were collected from each boring for laboratory analysis. The samples were selected following the protocol presented in the Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b), as summarized below:

- One sample was collected from the zone with the highest PID readings or visual impacts. If no visual impacts or elevated PID readings were observed, a sample was collected from directly above the water table.
- If contamination was observed, an additional sample was collected below the impacted zone at or near the base of the boring to define the vertical extent of impacts at that location.

The soil samples were submitted following chain-of-custody protocols to Test America and analyzed for the following parameters:

- Target Compound List (TCL) volatile organic compounds (VOCs) by USEPA Method 8260B
- TCL semivolatile organic compounds (SVOCs) by USEPA Method 8270C
- Total cyanide by USEPA Method 9012B

- Target Analyte List (TAL) metals by USEPA Method 6000/7000

Laboratory analytical data in the required NYSDEC format are provided in Appendix E of this RI Report.

Information regarding the soil samples collected and analyzed during the previous investigations and the supplemental RI for the VCA portion of the site, including the sample date, sample depth, and sample coordinates provided in Table 4-1. Soil samples obtained during the supplemental investigations are summarized below.

Soil Sample Location/ Sampling Interval (feet bgs)	Sample Collection Rationale
SB-46/ 25-28	In the interval with NAPL blebs
SB-46/ 28-30	Below the interval with NAPL blebs
SB-47/ 5-7	At the approximate water table
SB-47/ 23	Above the clay
SB-48/ 12	In an interval with tar-like NAPL
SB-48 / 18.5-19	Below the interval with NAPL
SB-49 / 9.5	Above the interval with staining and sheen
SB-49/ 12	In interval of sheen
SB-50/ 9	At the approximate water table
SB-51/ 14.5	At the approximate water table

Analytical methods, sample handling procedures, and laboratory protocols are outlined in the QAPP included as Appendix B of the Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b). Sample analyses followed the NYSDEC ASP-2000 analytical reporting protocols and included collection of quality assurance/quality control (QA/QC) samples, as required by the QAPP. Analytical results for subsurface soils are summarized in Tables 4-2, 4-3 and 4-4.

4.3 Groundwater Investigation

The groundwater investigation consisted of the installation of one well (MW-11) and groundwater sampling of all remaining wells (MW-7 to MW-11).

4.3.1 Monitoring Well Installation

One groundwater monitoring well (MW-11) was installed in July 2010 at the site during the supplemental RI to characterize groundwater quality south of MW-3. The previous investigation and supplemental RI monitoring well locations are shown on Figure 4-1. Table 4-5 summarizes the monitoring well construction details for each well installed at the site. Appendix B of this RI Report includes the monitoring well construction logs.

MW-11 was installed and constructed as follows:

- A hollow-stem auger was used to create a borehole in which the well was installed.
- The interval to be screened was selected based on the inspection of the soil core, as previously described in Section 4.2.1.

- The well was then constructed using 2-inch-inside-diameter, threaded, flush-joint, Schedule 40 polyvinyl chloride (PVC) casing and screen.
- Screen was 10 feet long with 10-slot (0.01-inch) openings.
- The annulus around the screen was backfilled with appropriately sized, clean silica sand to approximately 1 foot above the top of the screen.
- A 2-foot-thick bentonite pellet seal was placed above the sand pack. The bentonite seal was hydrated using potable water before placing grout above the seal.
- The remainder of the annular space was filled with bentonite to near the ground surface. The bentonite was allowed to hydrate for a minimum of 24 hours before well development.
- The well was fitted with a sealed cap (J-plug) and was contained in a flush-mounted vault.
- The concrete pad was sloped slightly in order to direct water away from the well.

Dedicated polyethylene tubing and a 2-inch submersible pump were used to develop MW-11. The submersible pump was lowered into the screened portion of the well on high-density tubing and cycled up and down, forcing water in and out of the well slots and formation. The pump was repeatedly lifted and dropped (surged) across a short section of the well screen, then turned on to remove the suspended material. This process of surging/pumping was repeated until all sections of the well screen had been developed. Development continued until a minimum of three well volumes had been evacuated for a maximum of 2 hours. Groundwater quality field parameters were measured periodically during the well development. These parameters included pH, temperature, conductivity, and turbidity. Well development logs are included in Appendix C of this RI Report. Purge water was contained within 55-gallon drums and temporarily staged at the site for subsequent transportation and disposal as discussed in Section 4.4.5.

4.3.2 Groundwater Sampling and Analysis

On July 29, 2010, a groundwater sample was collected from MW-11. On March 1, 2011, groundwater samples were collected from MW-9 and MW-10. On March 5, 2011, a groundwater sample was collected from MW-08, and on March 7, 2011, a groundwater sample was collected from MW-07. Groundwater samples were submitted under chain-of-custody protocols to Test America for analysis of the following parameters:

- TCL VOCs by USEPA Method 8260B
- TCL SVOCs by USEPA Method 8270C
- TAL metals by USEPA Method 6000/7000
- Total cyanide by USEPA Method 9010C

Prior to sample collection, each monitoring well was gauged to measure and record the static groundwater level and to determine the presence or absence of NAPL. No NAPL was observed in the monitoring wells during the sampling. Measurements were collected using an oil/water interface probe and recorded in the field notebook. Water level measurements are presented in Table 4-9.

Low-flow purge and sampling were conducted using submersible pumps. Groundwater field parameters measured during purging included conductivity, dissolved oxygen (DO), oxidation reduction potential (ORP), pH, temperature, and turbidity. Field parameters were monitored until they were stabilized following the USEPA's Standard Operating Procedure (SOP) #GW0001 for Low Stress/Flow Groundwater Sampling criteria. The field parameter measurements collected prior to sampling are presented on the Groundwater Sampling Logs, also included in Appendix C of this RI Report. Groundwater samples were collected after the field parameters were stabilized and submitted to Test America for analysis. Purge water was contained within 55-gallon drums and temporarily staged at the site for subsequent transportation and disposal as discussed in Section 4.4.5.

The groundwater sampling analytical results are provided in Tables 4-6, 4-7 and 4-8, and ground water field measurements are provided in Table 4-9.

4.4 Support Activities

Support activities included permitting and access, underground utility clearance, air monitoring, data usability assessment, management of IDW, restoration, and field surveying. Each of these activities is documented below.

4.4.1 Permitting and Access

Con Edison obtained access from the Circle Line and the HRPT for the installation of boring SB-47, which was installed in the Circle Line parking lot. In addition, Con Edison obtained access from MTA for the installation of SB-46, which was installed in the Michael J. Quill Depot. For the borings / monitoring wells installed in the sidewalk, permits (i.e., Street Opening, Building Operation) were acquired from the New York City Department of Transportation (NYCDOT). The building permit allowed Arcadis and their subcontractors to occupy / place equipment on sidewalks and fabricate pedestrian walkways. For SB-48, SB-49, and MW-11, Arcadis subcontracted City Pro, a NYCDOT permit specialist, to procure all of the necessary permits to complete the soil boring / monitoring well installations. For SB-50 and SB-51, Con Edison secured the necessary NYCDOT permits to complete the soil borings. Con Edison also secured the NYCDOT permits to complete the groundwater sampling at MW-07 and MW-08.

4.4.2 Utility Clearance

Before commencing intrusive activities, boring and well locations were cleared in accordance with Con Edison's utility clearance procedures, which are contained in the Supplemental Remedial Investigation Work

Plan (ARCADIS BBL 2007b) and New York State Code Rule 753 (Code 753). First, the New York City "One Call" organization was contacted to request utility mark-outs at least 3 working days prior to the start of field work. All mark-outs by participating companies were completed in the specified timeframes required by Code 753 in advance of all intrusive activities. Renewal calls were made in accordance with the timeframes prescribed in Code 753. After the Code 753 mark-outs were completed, New York City Department of Environmental Protection (NYCDEP) drawings and Con Edison utility plates for gas and electric service were reviewed. In addition to the notifications and reviews, proposed boring locations

were cleared by a geophysical survey for detectable utilities using ground-penetrating radar (GPR) and/or non-mechanical means (e.g., hand digging or vacuum extraction) to a depth of at least 5 feet bgs.

4.4.3 Air Monitoring

Community air monitoring was conducted in accordance with the CAMP presented in the site-specific Health and Safety Plan (HASP; ARCADIS BBL 2007b). This activity entailed monitoring for VOC vapors (using a PID) and particulates less than 10 microns in diameter (PM_{10}; using a particulate meter) at dedicated stations – one located upwind and one located downwind of the work zone.

In addition to community air monitoring, air in the worker's breathing zone was monitored in accordance with the HASP (ARCADIS BBL 2007b). For all intrusive work, the air was monitored in real time for VOCs using a PID and for airborne particulates (dust) using a particulate meter. In addition, the workers' breathing zone was monitored in real time for lower explosive limit, oxygen, carbon monoxide, and hydrogen sulfide levels using a multi-gas meter.

4.4.4 Data Usability Assessment

For the soil and groundwater samples that were submitted to the laboratory for analysis, the analytical data were received from the laboratory as electronic data deliverables (EDDs) which were followed by complete data packages. Upon receipt of the EDDs from the laboratory, the data were entered into an electronic database. The electronic database was amended to include survey data and chain-of-custody information. Following validation, the database was updated to reflect any data qualifiers and/or other adjustments that resulted from the validation process. Manually entered data were reviewed for accuracy.

The laboratory data were validated by Arcadis in accordance with the QAPP (Appendix B to ARCADIS BBL 2007b). Where appropriate, the following data indicators were reviewed concurrently with the data: holding times, associated calibration/blanks, matrix spike/matrix spike duplicate (MS/MSD) analysis, laboratory control sample, inductively coupled plasma (ICP) serial dilutions, internal standards, surrogate recoveries, and field duplicates. The analytical data packages and associated QA/QC information were reviewed to determine whether they met the project-specific criteria for data quality and data use in accordance with applicable portions of the NYSDEC's Analytical Services Protocol (NYSDEC 2000) and DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC 2010), the USEPA's National Functional Guidelines for Organic Data Review (USEPA 1999a), and the USEPA Region II document CLP Organics Data Review and Preliminary Review (USEPA 2001a), where applicable.

Arcadis validated all analytical data. The review criteria for the supplemental RI data are from the following USEPA Region II guidance documents:

- SOP Number HW-24, Revision 1, June 1999, Validating Volatile Organic Compounds by SW-846 Method 8260B (USEPA 1999b)
- SOP Number HW-22, Revision 2, June 2001, Validating Semi-Volatile Organic Compounds by SW-846 Method 8270 (USEPA 2001b)
- SOP Number HW-2, Revision 11, January 1992, Evaluation of Metals Data for the CLP Program (USEPA 1992; note this reference applies to validation of cyanide analytical data)

In accordance with the QAPP (Appendix B of ARCADIS BBL 2007b), QA/QC samples were collected periodically throughout the supplemental RI. Analytical results for the blind duplicate and corresponding samples are presented in the data summary tables (Tables 4-2, 4-3, 4-4, 4-6 4-7, and 4-8). All data were determined to be valid and useable, except for 3,3'- dichlorobenzidine and hexachlorocyclopentadiene in the soil samples collected at SB-50 (2011) and SB-49 (2010), respectively. These compounds were not detected in any other soil sample analyzed. Data usability summary reports (DUSRs) for all laboratory sample delivery groups are presented in Appendix D of this RI Report. Laboratory data in the NYSDEC required format are provided in Appendix E of this RI Report.

4.4.5 Management of Investigation-Derived Waste

IDW generated during the RI consisted of the following:

- concrete and asphalt from paved surfaces
- drill cuttings
- decontamination fluids
- development and purge water
- used personal protective equipment (PPE)
- sampling equipment

All IDW was placed in NYSDOT-approved 55-gallon open-topped drums (for solids) or closed-topped drums (for liquids). The drums were labeled as IDW and temporarily stored in a secured areas designated by Con Edison. Due to space constraints, all waste was picked up daily by either Clean Earth of North Jersey or Clean Ventures of Elizabeth, New Jersey.

Representative samples were submitted for the analysis of waste characterization parameters including:

- Toxicity Characteristic Leaching Procedure (TCLP) VOCs by USEPA Method 8260B
- TCLP SVOCs by USEPA Method 8270B
- TCLP metals by USEPA Methods 6010B and 7470A
- PCBs by USEPA Method 8082
- Reactive cyanide by USEPA Method 9012
- Reactive sulfide by USEPA Method 9034
- pH by USEPA Method 9045
- Ignitability by USEPA Method 1030

Once the waste characterization results were received, the IDW was disposed of at a Con Edison-approved disposal facility.

4.4.6 Restoration

Following completion, each soil boring was tremie-grouted to ground surface using a cement-bentonite grout, or completed as a monitoring well as described in Section 4.2. For borings located in the sidewalk, Arcadis subcontracted Nico Asphalt Paving to replace sidewalk flags in accordance with NYCDOT specifications.

4.4.7 Field Surveying

Monitoring well and soil borings locations were surveyed by Munoz Engineering P.C., a New York State-licensed surveyor. The horizontal position and ground surface elevation were surveyed for each well and boring. In addition, the elevation of the top of the well casing at MW-11, designated as the measuring point, was surveyed. Select site features (e.g., building corners, curb lines) were also surveyed to verify locations of such structures on the site plan presented in this report (Figure 1-2).

Horizontal coordinates were surveyed using the New York State Plane Coordinate System, North American Datum of 1983 (NAD83). Vertical coordinates were surveyed in the North American Vertical Datum of 1988 (NAVD88).

5 DESCRIPTION OF HUDSON RIVER INVESTIGATION ACTIVITIES

5.1 General

Based upon the results of the previous site characterization and RIs (D&B 2004 and 2005), NYSDEC requested a supplemental investigation to evaluate the presence and, if present, to delineate the extent of MGP impacts within the Hudson River in a letter dated August 30, 2005 (NYSDEC 2005). In January 2007, Con Edison submitted a Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b) to the NYSDEC, which was revised as final in October 2007 in accordance with NYSDEC approved changes as modified in the NYSDEC letter dated August 29, 2007. In February and March 2008, ARCADIS BBL conducted the Hudson River Investigation activities on behalf of Con Edison.

Several subcontractors were employed to help analyze the field data, and to handle transportation and disposal of wastes generated. ARCADIS BBL performed the sediment sampling and surveying using in-house equipment and personnel. The subcontractors employed are identified in the following table.

Subcontractor	Office Location	Service Provided
Clean Earth of North Jersey	South Kearny, NJ	Waste transport and disposal
Test America Laboratories	Shelton, CT	Analytical services

The investigations for the Hudson River at and adjacent to the site were conducted to achieve the following specific objectives.

- Determine the presence of MGP impacts in the Hudson River
- If MGP impacts are present, delineate the extent of those impacts in the Hudson River sediment and surface water

To achieve these objectives, the following Hudson River investigation activities were conducted:

- Hudson river and outfall reconnaissance
- sediment probing
- sediment coring
- sediment sampling
- surface water sampling
- support activities including
    - notifications/ access
    - utility clearance
    - data usability assessment

- management of IDW
- field surveying

The work conducted as part of the RI activities for the Hudson River is summarized in the following subsections. Unless otherwise specified, the river investigation field activities were conducted in accordance with the NYSDEC-approved Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b). The detailed descriptions of the investigation methods and techniques are provided in the FSP and the QAPP located in Appendices A and B of the Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b).

5.2 Hudson River and Outfall Reconnaissance

On February 27 and March 4, 2008, the low- and high-tide reconnaissance activities were performed, respectively, to confirm the presence of a sewer outfall at the west end of Pier 83 and two overflow outfalls between Piers 81 and 83. Arcadis also evaluated the water surface to document any evidence of impacts during a tidal cycle between Piers 81 and 83, along the bulkhead, beneath the overhanging pier (if feasible), and at outfall locations. The river reconnaissance activities extended just north of Pier 83 and just south of Pier 81, and were limited to the east side of the river adjacent to the former site.

The sewer outfall at the west end of Pier 83 was not observed, and the Circle Line representatives indicated this sewer was not present beneath this pier. The two sewer overflow outfalls were observed along the upland bulkhead between Piers 81 and 83. In addition to these outfalls, three additional outfalls were observed between the piers, and one additional sewer outfall was identified but not observed at the east end of and below Pier 83. The outfalls in the reconnaissance area are shown on Figure 5-1 and described in the following table.

Outfall Identification	Location	Description
CUL-1	Between Piers 81 and 83 along the bulkhead	96-inch by 24-inch rectangular storm water overflow outfall (NR-048 also known as NYC outfall N-41)
CUL-2	Between Piers 81 and 83 along the bulkhead	96-inch by 24-inch rectangular storm water overflow outfall (NR-048 also known as NYC outfall N-41)
CUL-3	Between Piers 81 and 83 along the bulkhead	12-inch diameter
CUL-4	Between Piers 81 and 83 along the bulkhead	12-inch diameter
CUL-5	Between Piers 81 and 83 along the bulkhead	12-inch diameter
NA	Along bulkhead at east end of Pier 83	54-inch diameter storm water outfall (NR-030 also known as NYC outfall N-40)

No sheens, oil blebs, or staining along the piers and bulkheads were observed during the low- or high-tide reconnaissance.

5.3 Sediment Probing

A total of 79 sediment probes were installed to observe the depth to the sediment surface (length of water column), sediment consistency, and sheen generation (if any) upon probing. ARCADIS BBL installed the probes from February 20 through February 28, 2008 within the Hudson River between Piers 81 and 83. These probes were installed in a series of transects located approximately 50 feet apart along the upland bulkhead and along the wooden pilings that are still in place for the pier used by the former MGP site. Between Piers 81 and 83 and extending 50 feet beyond, the probes were installed in 100-foot intervals. The sediment probe locations are shown on Figure 5-1. During the probing activities, water depth, sediment depth, sediment description, and information regarding NAPL/odor/sheen generation were recorded in the field notebook. Table 5-1 provides a summary of the observations recorded. Only a slight sheen was observed at probe PSL-11.

5.4 Sediment Coring

On February 28, February 29, and March 3, a total of seven sediment cores were obtained to evaluate the potential subsurface migration of contamination from land to the Hudson River, at the sewer outfalls, and at areas where sheens are observed during sediment probing activities. The activities were conducted in accordance with the procedures outlined in the Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b). Changes regarding the sediment sampling scope of work were made by Con Edison and NYSDEC on February 26, 2007. These included:

- Decreasing the number of sediment core/sampling locations from ten locations to six locations and
- Increasing the depth of the sediment sampling locations from 5 to 10 feet below the sediment surface to 15 feet below the sediment surface (or until refusal).

The locations of the sediment cores were selected by Con Edison, Arcadis, and NYSDEC prior to conducting the work as documented in the February 26, 2007 electronic mail and as described below:

Sediment Core Identification	Location
SD-01	Near the overflow outfall near the former naphtha tanks
SD-02*	Near sediment probe PSL-11, where a slight sheen in sediment was observed during probing activities
SD-03	South of PSL-11 and west of the former MGP facilities within the former pier area
SD-04	West of the former MGP facilities within the former pier area
SD-05	Randomly selected area between Pier 81 and Pier 83 and beyond the historical limit of the plant
SD-06	Randomly selected area between Pier 81 and Pier 83 and beyond the historical limit of the plant.

Note: *One additional sediment core (SD-02a) was installed to assess sediments beyond the 10-foot depth interval, as an obstruction was met at the 10-foot interval at SD-02. SD-02a is located west of SD-02 as shown on Figure 5-1.

The sediment cores were obtained using the vibratory coring system mobilized aboard a 24-foot aluminum-decked pontoon boat. The sediment cores were retrieved, and the recovered sediments were photographed, visually characterized, and screened with a PID. Observations of the recovered sediments, USCS descriptions, descriptions of NAPLs/odors/sheens, and PID readings are summarized in Table 5-2.

Sediment coring and sampling equipment were cleaned prior to initiating sampling activities, between locations, and at the completion of investigation activities in accordance with the procedures provided in the Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b). Cleaning water and residuals were appropriately containerized for subsequent disposal as set forth in Section 5.7.4.

5.5 Sediment Sampling

Eleven sediment samples (seven surface and four subsurface) and one duplicate (at SD-06) sample were collected from the seven sediment core locations identified above. These sediment samples and depth intervals are summarized below:

Sediment Sample Location	Sediment Depth Interval (feet below sediment surface [bss])	Rationale
SD-01	0.0-0.5	Surface sample in biologically active zone (BAZ)
SD-02	0.0-0.5	Surface sample in BAZ
	6.0-9.5	In interval of odors
SD-02A	0.0-0.5	Surface sample in BAZ
	5.0-6.0	Above interval of odors
	10.0-11.0	In interval of odors
SD-03	0.0-0.5	Surface sample in BAZ
	8.0-12.0	In interval of odors
SD-04	0.0-0.5	Surface sample in BAZ
SD-05	0.0-0.5	Surface sample in BAZ
SD-06	0.0-0.5	Surface sample in BAZ

The sediment samples were collected and submitted for the following analyses:

- TCL VOCs by USEPA Method 8260B.
- TCL SVOCs by USEPA Method 8270C.
- TAL metals by USEPA Method 6000/7000

- Total cyanide by USEPA Method 9010C
- Total petroleum hydrocarbons (TPH) by USEPA Method 8015M
- Total organic carbon (TOC) by USEPA Method 9060
- Grain size by ASTM International (ASTM) Method D-422

The remaining sediment material not collected for analysis was archived for potential future polycyclic aromatic hydrocarbons (PAH) analyses and/or hydrocarbon forensic parameters.

The sediment analytical results are presented in Tables 5-4, 5-5, and 5-6.

5.6 Surface Water Sampling

On March 4, 2008, five surface water samples and one duplicate sample (at SW-01) were collected from the upper water column of Hudson River. The locations of the surface water samples are identified below:

Surface Water Sample Location	Location Description
SW-01	Near the overflow outfall near the former naphtha tanks
SW-02	Between sediment cores SD-01 and SD-02, where a slight sheen in sediment was observed at PSL-11
SW-03	Near sediment core SD-02a located west of the former MGP facilities and within the former pier area
SW-04	West of the former MGP facilities within the former pier area and near sediment core SD-04
SW-05	Between Piers 81 and 85 and near sediment core SD-06

The surface water samples were collected and submitted to the laboratory for the following analyses:

- TCL VOCs by USEPA Method 8260B
- TCL SVOCs by USEPA Method 8270C
- TAL metals by USEPA Method 6000/7000
- Total cyanide by USEPA Method 9010C
- TPH by USEPA Method 8015M

The surface water sampling and analytical results are presented in Tables 5-7, 5-8, and 5-9.

At each location, the surface water quality was assessed at 2-foot intervals of the water column. Measurements were collected for DO, temperature, pH, conductivity, and turbidity. A summary of the field surface water quality results is presented in Table 5-3.

5.7 Support Activities

Investigation support activities included notifications/ access, utility clearance, equipment decontamination, management of IDW, and field surveying.

5.7.1 Notifications/Access

Con Edison obtained access from the Circle Line/ World Yacht and the HRPT for the activities within the Hudson River. Prior to completing the sediment probes and cores, ARCADIS BBL contacted the Coast Guard with a description of the sampling vessel and the number of people on board the sampling vessel. Even though the sampling was between the piers, ARCADIS BBL provided a Notice to Mariners to the Coast Guard, which is required for any work in navigable waters (i.e., beyond or outboard of piers).

5.7.2 Utility Clearance

Before commencing intrusive activities, sediment sampling locations were cleared in accordance with Con Edison's utility clearance procedures, which are contained in the Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b) and New York State Code Rule 753 (Code 753). First, the New York City "One Call" organization was contacted to request upland mark-outs at least 3 working days prior to the start of field work. After the Code 753 mark-outs were completed, NYCDEP drawings and Con Edison utility plates for gas and electric service were reviewed. In addition to the notifications and reviews, a field reconnaissance was conducted for signage related to underwater utility crossings, and the Circle Line personnel were consulted regarding utilities between Piers 81 and 83. No submarine utilities were identified.

5.7.3 Data Usability Assessment

For the sediment and surface water samples that were submitted to the laboratory for analysis, the analytical data were received from the laboratory as EDDs, which were followed by complete data packages. Upon receipt of the EDDs from the laboratory, the data were entered into an electronic database. The electronic database was amended to include survey data and chain-of-custody information. Following the validation, the database was updated to reflect any data qualifiers and/or other adjustments that resulted from the validation process. Manually entered data were reviewed for accuracy.

The laboratory data were validated by Arcadis in accordance with the QAPP (Appendix B of ARCADIS BBL 2007b). Where appropriate, the following data indicators were reviewed in the course of the data review: holding times, associated calibration/blanks, MS/MSD analysis, laboratory control sample, ICP serial dilutions, internal standards, surrogate recoveries, and field duplicates. The analytical data packages and associated QA/QC information were reviewed to determine whether they met the project-specific criteria for data quality and data use in accordance with applicable portion of the NYSDEC's Analytical Services Protocol (NYSDEC 2000) and DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC 2010), the USEPA's National Functional Guidelines for Organic Data Review (USEPA 1999a), and the USEPA Region II document CLP Organics Data Review and Preliminary Review (USEPA 2001a), where applicable. Arcadis validated all analytical data. The review criteria for the supplemental RI data are from the USEPA Region II guidance documents cited in Section 4.4.4.

In accordance with the QAPP (Appendix B of ARCADIS BBL 2007b), QA/QC samples were collected periodically throughout the supplemental RI. Analytical results for the blind duplicate and corresponding samples are presented in the data summary tables (Tables 5-4 to 5-9). All data were determined to be valid and useable. DUSRs for all laboratory sample delivery groups are presented in Appendix D of this RI Report. Laboratory data in the NYSDEC required format are provided in Appendix E of this RI Report.

5.7.4 Management of Investigation-Derived Waste

IDW generated during the supplemental RI activities consisted of the following:

- excess sediment
- decontamination fluids
- used PPE
- sampling equipment

All IDW was placed in NYSDOT-approved 55-gallon open-topped drums (for solids) or closed-topped drums (for liquids). The drums were labeled as IDW and temporarily staged in a box truck parked at the Circle Line. All waste was picked up by Clean Earth of North Jersey. Representative samples were submitted for the analysis of waste characterization parameters including:

- TCLP VOCs by USEPA Method 8260B
- TCLP SVOCs by USEPA Method 8270B
- TCLP metals by USEPA Methods 6010B and 7470A
- PCBs by USEPA Method 8082
- Reactive cyanide by USEPA Method 9012
- Reactive sulfide by USEPA Method 9034
- pH by USEPA Method 9045
- Ignitability by USEPA Method 1030

Once the waste characterization results were received, the IDW was disposed of at a Con Edison-approved disposal facility. The waste characterization analytical results are summarized in Table 5-10.

5.7.5 Field Surveying

Sediment probe and core locations were surveyed by Arcadis under the supervision of a New York State-licensed surveyor. Horizontal and vertical coordinates of each sediment probe and core were measured relative to a fixed control point and are provided in New York State Plane Coordinate NAD 83 and NAVD 88. The sediment core locations were surveyed using a survey-grade global positioning system (GPS) base station and rover GPS units. The survey locations were tied into existing benchmarks identified in close proximity to the site. Protocols for surveying are provided in the Supplemental Remedial Investigation Work Plan (ARCADIS BBL 2007b).

6 RESULTS OF THE REMEDIAL INVESTIGATION

6.1 General

This section discusses the RI land investigation results for the VCA area and the Hudson River investigation including:

- Physical characterization
- Chemical characterization

All soil, groundwater, surface water, and sediment sample locations from previous investigations and for this RI are presented on Figure 6-1. All sediment and surface water sampling locations are associated with this RI. Soil boring and monitoring well sample locations outside of the River Places I and II BCA area that were used for this RI are identified as follows:

- North of River Places I and II: SB-31, SB-25, SB-26, SB-48, SB-50, and SB-51
- West of River Places I and II: MW-7, MW-8, MW-9, MW-10, SB-23, SB-24, SB-30, SB-32, SB-33, SB-34, SB-38, SB-39, SB-40, SB-46, SB-47, and SB-49
- South of River Places I and II: SB-09, MW-11, SB-20, SB-21, SB-22, SB-41 to SB-45

6.2 Land Investigation Results

6.2.1 Physical Characterization

The physical characterization of the VCA portion of the site is divided into a geologic characterization, hydrogeologic characterization, and a summary of field observations of potential contamination.

Geologic Characterization

Based on the observations from the boring and wells, the site stratigraphy is divided into the following geologic units:

- Fill
- Silty Clay
- Lower sand/weathered bedrock
- Bedrock

The following presents additional discussion regarding each of the geologic units observed at the site:

Fill

The fill is present throughout the site and consists of a silty to gravelly sand containing anthropogenic materials such as brick, wood, concrete, metal shavings, ash-like materials, coal fragments, cinders,

asphalt, construction debris, cobbles, and blocks. In some areas of the site, the fill transitions into an upper sandy zone consisting of a generally coarse to medium sand with gravels and silts. The sand likely represents a continuation of the fill without obvious anthropogenic materials and possibly thin remnants of former tidal creek/ wetland drainage channels into the river. As shown on the cross-sections provided on Figures 6-2 through 6-4 and the boring logs in Appendix B, the fill thickness ranges from approximately 13 to 17 feet along West 42nd Street and 13.8 to 29 feet along West 41st Street. Farther west, the fill thickness ranges from 22 to 32 feet along 12th Avenue and 21 to 40 feet along the Hudson River. Overall, the fill thickens to the west toward the river. This is consistent with the history of filling the river and adjacent tidal wetlands in the mid 1800s.

Silty Clay

Below the fill and upper sand lies a silty clay unit. Where the borings extended deep enough to encounter this unit, a silty clay was observed. The silty clay unit was not observed at SB-50 and SB-51 north of West 42nd Street, although clay lenses were observed. Borings SB-45 and SB-49 did not extend deep enough to encounter the silty clay unit. The clay consists of dense organic silty clay, containing peat and wood in some areas. This unit likely represents former river areas and adjacent tidal wetland areas prior to filling. The silty clay unit contains occasional silty sand lenses which are likely associated with former wetland drainage channels and tidal creeks. As shown on the cross-sections provided on Figures 6-2 through 6-4 and the boring logs in Appendix B, the silty clay thickness ranges from approximately 3 to 27 feet along West 42nd Street and 4 to 22.8 feet along West 41st Street. Farther west, the silty clay thickness ranges from 6 to 32.5 feet along 12th Avenue and 20 to 38 feet along the Hudson River. Overall, the silty clay thickens to the west toward the river. Based on the thickness, continuity, and field observations, the silty clay unit likely serves to retard flow. Variations in the clay surface could influence contaminant migration pathways; the top of clay elevation map (Figure 6-5) depicts the top of clay elevation contours.

Lower Sand/Weathered Bedrock

A discontinuous sand unit is present in portions of the site below the silty clay unit and above bedrock. This sand unit generally contains weathered bedrock fragments and likely represents a weathered bedrock zone above more competent unweathered bedrock. The sand is generally coarse to fine grained with silts and gravels. As shown on the cross-sections provided on Figures 6-2 through 6-4 and the boring logs in Appendix B, the sand thickness ranges from approximately 3 to 7 feet along West 42nd Street and 2 to 13 feet along West 41st Street. Farther west, the sand thickness ranges from 0 to 9 feet along 12th Avenue and 0 to 18 feet along the Hudson River.

Bedrock

Underlying all the unconsolidated geologic units discussed above is a crystalline mica schist of the Manhattan Schist Formation. As shown on the cross-sections provided on Figures 6-2 through 6-4 and the boring logs in Appendix B, the depth to bedrock ranges from approximately 19 to 51 feet along West 42nd Street and 31.8 to 49 feet along West 41st Street. Farther west, the depth to bedrock is approximately 54 feet along 12th Avenue and ranges from 66 to 78 feet along the Hudson River. The depth to bedrock increases primarily toward the Hudson River. Because most of the supplemental RI borings were completed using direct push methodology, the bedrock surface interpolation has not

changed from the Site Characterization Report (D&B 2004) (See Appendix A). The bedrock surface generally dips west toward the Hudson River.

Hydrogeologic Characterization

The physical hydrogeologic characterization is a summary of the previous characterization set forth in the Site Characterization Report and the Remedial Investigation Data Report (D&B 2004, 2005) (See Appendix A). During the supplemental RI, only one additional well was installed and, although the existing and new wells were sampled in 2011, these wells were sampled at different times due to access constraints. An approximate groundwater contour map was prepared using groundwater elevation data from monitoring wells MW-07 to MW-10, which were measured between March 1, 2011 and March 7, 2011 (see Figure 6-8). Groundwater elevation data from monitoring well MW-11 was not used because MW-11 was measured only in 2010 due to access constraints.

Groundwater is first encountered in the fill unit at approximately 6 to 7 feet bgs. Localized groundwater flow patterns have been observed due to:

- Variable permeabilities and hydraulic conductivities of the fill materials
- Former tidal channels and creeks that may act as preferential pathways
- Storm sewers and utility conduits that may serve as groundwater "drains"
- Ongoing "dewatering" of basements, subway tunnels, or other structures in the vicinity of the site
- Tidal influences

Based on groundwater level measurements in wells MW-07 to MW-10, tidal influences on groundwater levels were observed in wells MW-09 and MW-10 along the Hudson River but not at wells MW-07 and MW-08 farther east along the east side of 12th Avenue.

Invert elevations of the storm sewer along West 42nd Street range from approximately 0.2 foot above mean sea level (msl) at 11th Avenue to -3 feet msl at 12th Avenue to -3.5/-4 feet msl at the eastern edge of Pier 83. Along the south side of West 42nd Street and Pier 83, two overflow sewers discharge to the Hudson River at an invert elevation of approximately -0.6 feet msl (as reported in the NYC EPA sewer map). Groundwater elevations are generally near the sewer elevations. As such, there is a potential that groundwater could intersect the storm sewer and then migrate preferentially within the sewer (depending on the condition of the sewer) and/or within the backfill of the sewer along West 42nd Street.

Field Observations

The presence of coal-tar NAPLs and purifier waste was evaluated by visual review of subsurface soil samples from 27 borings and five wells completed in support of the RI and related activities. This section reviews the distribution of NAPL, staining, sheens, and other visual/olfactory indicators of potential contamination in soils. Figure 6-6 presents the distribution of NAPL, staining, and sheens as observed in soil at RI boring and monitoring well locations. Laboratory analytical data collected to confirm and supplement these field observations are discussed in Section 6.2.2.

NAPL was observed in five of the 27 soil borings, and sheen and/or staining were observed in 12 of the 27 soil borings. Visual/olfactory indicators of potential contamination in soils are summarized below by areas along West 42nd Street (north of Tax Block 1089, River Place I and II), along West 41st Street

(south of Tax Block 1089, River Place I and II), and to the west of Tax Block 1089 (River Place I and II) including Tax Block 1107.

Potential MGP impacts along and north of Block 1089 and West 42nd Street include:

Boring	Impact Observations/ Depth
SB-31 (MW-08)	Slight hydrocarbon-like odor 17-21, 29-31 feet Hydrogen sulfide-like odor 35-47 feet (strong from 37 to 43 feet)
SB-25	Slight naphthalene and hydrocarbon-like odor and sheen 12-16 feet
SB-26	Naphthalene and/or hydrocarbon-like odors 8-19 feet (strong from 13 -19 feet) Sheen 16-19 feet
SB-48	Tar-like material 10-14 feet
SB-50	No visual impacts/ odors
SB-51	No visual impacts/ odors

As depicted on Figure 6-6 and summarized above, no NAPLs or staining were observed along West 42nd Street except at boring SB-48, north of the former seepage area along the northern sheeting installed during the remediation at River Place II. However, no visible impacts were observed at the two borings directly north of SB-48 on the northern side of West 42nd Street (SB-50 and SB-51). Therefore, the northern extent of NAPL has been delineated. Further, visual/olfactory (beyond slight odors) observations of potential contamination are at and generally deeper than 10 feet.

Potential MGP impacts along and south of Block 1089 and West 41st Street include:

Boring	Impact Observations/ Depth
SB-22	Staining 12.5-28 feet (heavy from 16 -24 feet) Sheen 8-24, 32-46 feet Naphthalene-like odor 8-49 feet (strong from 12-28 feet)
SB-21	Slight hydrocarbon-like odor 4-8, 12-24, 32-38.8 feet Slight sheen 12-16.3, 20-24, 32-38.8 feet Staining 32-38.8 feet
SB-20	Trace NAPL blebs 12-13.8 feet Trace staining @12 feet Slight sheen 12-13.8, 24-28 feet
SB-9	Slight hydrocarbon-like odor 7-21, 29-33.5 feet
MW-11	No visual impacts/ odors
SB-41	No visual impacts/odors
SB-42	Odors 20-26
SB-43	No visual impacts/ odors
SB-44	Slight odor at 15 feet Sulfur-like odor 18-20 feet

Boring	Impact Observations/ Depth
SB-45	Slight odor 8-9 feet

As depicted on Figure 6-6 and summarized above, no NAPLs, staining, or sheens were observed along West 41st Street adjacent to River Place II. Staining and sheens were observed at soil borings SB-20 to SB-22 and SB-30 (discussed below), and trace NAPL blebs were observed in SB-20 along River Place I. No NAPL was observed in the soil boring for MW-11 installed south of SB-20. Therefore, the southern extent of NAPL has been delineated. Further, visual/olfactory (beyond slight odors) observations of potential contamination are at and generally deeper than 8 feet.

Potential MGP impacts along 12th Avenue and just west of Block 1089 and River Place I include:

Boring	Impact Observations/ Depth
SB-24	Naphthalene-like odor 9-11 (slight), 29-30, 30-38 feet (strong) Tar saturated 30-38 feet Staining 32-36 feet Sheen 32-38 feet Mobile NAPL entered borehole
SB-23	Heavy stain/tar 14.5-15, 20-21.5 feet Sheen 14.5-15, 20-21.5, 23-44, 52-53.5 feet Hydrocarbon odor 8-20, 24-44.3, 52-53.5 feet (strong from 14.5 to 20 and 33 to 44 feet) Fuel oil odor 20-23 feet Hydrogen sulfide odor 44-51 feet (strong from 44.3-48 feet)
SB-30 (MW-07)	Stained wood, sheen 10-22 feet Slight staining 22-28 feet Moderate hydrocarbon-like odor 10-12 feet Naphthalene-like odor 12-30 feet (moderate to strong from 12-20 feet)
SB-46	NAPL blebs 25-25.8, 28-28.7 feet Sheen 25.8-26.3 feet
SB-49	Staining, sheens 10-11 feet Slight sheen, odor 11-15 feet

As depicted on Figure 6-6 and summarized above, tar-like NAPLs were observed at soil borings SB-24 and SB-23 but not at SB-31 to the north (discussed above) where no NAPLs, staining, nor sheens were observed. South of SB-23, staining and sheens were observed at soil borings SB-30 and SB-49, and NAPL blebs were observed in SB-46. Therefore, the west- southwestern NAPL extent has been delineated. The western extent of NAPL impacts are discussed below. Further, visual/olfactory (beyond slight odors) observations of potential contamination are at and generally deeper than 10 feet.

Farther to the west, less impacted soils were observed as summarized below:

Boring	Impact Observations/ Depth
SB-47	No visual observations/ odors

Boring	Impact Observations/ Depth
SB-32	Staining 7-17 feet Sheen 7-19 feet Slight petroleum odors 7-13 feet Hydrocarbon odors 15-23, 25-27 feet
SB-33	Slight naphthalene-like odor 21-23 feet
SB-34 (MW-09)	Staining 13-27 feet (slight below 23 feet) Sheen 13-23 feet Naphthalene like odors 7-35 feet (slight above 13 feet and below 21 feet)
SB-38 (MW-10)	Heavy staining 19-23 feet Slight staining 23-31 feet Sheen 19-43 feet (slight below 27 feet) Hydrogen sulfide odor 15-19, 47-61 feet Naphthalene-like odor 15--43 feet (moderate from 19 to 27 feet; slight below 27 feet)
SB-39	Staining 33-51 feet Sheen 33-49 feet Naphthalene-like odor 33-59 feet (moderate to strong) Slight to moderate hydrocarbon-like odors 59-67 feet
SB-40	Slight staining 28-32 feet Slight hydrocarbon-like odor 28-36 feet

These observations are consistent with HRPT geotechnical borings L-4, L-3A, and L-2A installed along the Hudson River (Langan 2001). At HRPT geotechnical boring L-3A, west of soil boring SB-34, “oil sheen and creosote odor” were observed in silts above the clay in the 25 to 27 foot and 32 to 34 foot samples. At HRPT geotechnical boring L-4, located north of SB-47, “oil sheen and petroleum odor” were observed in the 12 to 14 foot sample interval. At HRPT geotechnical boring L-2A, south of SB-40, a “creosote odor” was observed in the 15 to 37 foot interval within the clay unit.

As depicted on Figure 6-6 and summarized above, no NAPLs were observed along the Hudson River in Tax Block 1107. Staining and/or sheens were observed at soil borings SB-32, SB-34, SB-38, and SB-39, and only slight staining was observed at SB-40. Therefore, the western extent of NAPL has been delineated. Further, visual/olfactory (beyond slight odors) observations of potential contamination are at and generally deeper than 7 feet.

6.2.2 Chemical Characterization

The chemical characterization includes an evaluation of the soil and groundwater analytical data relative to NYSDEC regulatory standards, criteria, and guidelines (SCGs) for screening purposes. The analytical data tables display a column for SCGs, including those presented in the NYSDEC 6 New York Code of Rules and Regulations (NYCRR) Part 375 Environmental Remediation Programs subpart 375-6, specifically, the Unrestricted Residential Use, Restricted Commercial Use, and Restricted Residential Soil Cleanup Objectives (herein referred to as the unrestricted and restricted SCOs) and the Class GA

groundwater standards and guidance values provided in the NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 for groundwater (herein referred to as NYSDEC groundwater criteria).

Soil Analytical Results

Soil analytical results from 51 samples from the supplemental RI and from previous investigations are presented in Tables 4-2, 4-3 and 4-4. As shown in these tables, analytical soil results were compared to NYSDEC screening criteria including Unrestricted Residential Use, Restricted Commercial Use, and Restricted Residential SCOs (NYSDEC 2006). The unrestricted SCOs are initially used to screen the data followed by the restricted SCOs. The restricted SCOs are consistent with the restricted residential use of the River Place I and II properties. Thus, the restricted SCOs are used to evaluate the horizontal and vertical extent of site-related constituents. The subsequent sections describe the results for the VOCs, SVOCs, metals, and cyanide in soil. Figure 6-7 shows the distribution of total benzene, toluene, ethylbenzene, and xylenes (total BTEX) and total PAHs for the RI soil locations.

As discussed in this section, the primary MGP-related constituents in the soil were BTEX and PAHs. Other constituents were detected that may be site-related, but these compounds are co-located with the BTEX and PAHs at a lower frequency of detection. For example, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were co-located with relatively higher concentrations of BTEX, and dibenzofuran and 4-methylphenol were co-located with PAHs. Therefore, the delineation of MGP-related constituents will be based on BTEX and PAHs.

Volatile Organic Compounds

As shown in Table 4-2, 51 RI soil samples were analyzed for TCL VOCs. The following VOCs were detected at concentrations higher than the Unrestricted Residential Use SCOs:

- acetone
- 2-butanone
- benzene
- dichloromethane
- ethylbenzene
- n-propylbenzene
- toluene
- 1,3,5-trimethylbenzene
- 1,2,4-trimethylbenzene
- xylenes

Acetone, 2-butanone, n- propylbenzene, and dichloromethane were not detected at concentrations above the Restricted Commercial Use and Restricted Residential Use SCOs.

BTEX compounds, and two trimethybenzenes, were detected at concentrations above their respective restricted SCOs in one or more samples. 1,2,4-Trimethylbenzene and 1,3,5-trimethylbenzene were only

detected at concentrations above their respected restricted SCOs in four and three samples, respectively, from borings SB-23, SB-24, and SB-38 in the same intervals with relatively higher BTEX concentrations.

BTEX compounds were detected in 42 of the 51 RI samples at concentrations above unrestricted SCOs and in 9 of 51 RI samples (8 locations) at concentrations above restricted SCOs. BTEX compounds were detected at concentrations above restricted SCOs generally where NAPLs were observed at SB-23, SB-24, SB-46, and SB-48; and where heavy staining and/or sheens were observed at SB-30, SB-38, and SB-39. In these borings, the vertical extent of BTEX was delineated at SB-23, SB-48, SB-30, SB-38, and SB-39. Given the correlation of BTEX concentrations with the presence of NAPLs and staining, the vertical extent would be expected to be similar. The overall horizontal extent of BTEX in subsurface soils is defined by absence of these compounds or, if present at concentrations below the Restricted Commercial Use and Restricted Residential Use SCOs, at the following locations:

- Along West 42nd Street (North of River Places I and II) – SB-31, SB-25, SB-50 and SB-51
- At and West of 12th Avenue (West of River Places I and II) – SB-47, SB-32, SB-33, SB-34, and SB-49
- Along West 41st Street (South of River Places I and II) – SB-22, SB-21 SB-20, SB-09, and SB-41 to SB-44

Semivolatile Organic Compounds

As shown in Tables 4-2, 4-3 and 4-4, 51 RI soil samples were analyzed for TCL SVOCs. The following SVOCs were detected at concentrations higher than the Unrestricted Residential Use SCOs:

- PAHs:
  - acenaphthene
  - acenaphthylene
  - anthracene
  - benzo(a)anthracene
  - benzo(b)fluoranthene
  - benzo(k)fluoranthene
  - benzo(a)pyrene
  - benzo(g,h,i)perylene
  - chrysene
  - dibenzo(a,h)anthracene
  - fluorene
  - fluoranthene
  - indeno(1,2,3-cd)pyrene
  - naphthalene

  - phenanthrene
  - pyrene
- dibenzofuran
- 2-methylphenol
- 4-methyl phenol
- phenol

2-Methylphenol and phenol were not detected at concentrations above the restricted SCOs.

PAHs, dibenzofuran, and 4-methyl phenol were detected at concentrations above their respective restricted SCOs. 4-Methylphenol was only detected above its respective restricted SCOs in three samples, in borings SB-38 and SB-39, in the same intervals with relatively higher PAH concentrations.

PAH compound concentrations above restricted SCOs were observed at most sampling locations. At least one PAH compound and/or dibenzofuran were detected in 31 of the 51 RI samples (20 locations) at concentrations above unrestricted SCOs and in 31 of 51 samples (20 locations) at concentrations above restricted SCOs. PAHs were not detected at concentrations above unrestricted SCOs in soil samples from SB-09, SB-41, SB-42, SB-44, SB-50, and SB-51. The highest concentrations of PAHs (Total PAH [for purposes of this RI the sum of the 17 TCL PAHs] > 1,000 milligrams per kilogram [mg/kg]) were generally observed where the highest BTEX concentrations (above SCOs) were observed; where NAPLs were observed at SB-23, SB-24, and SB-46; and where heavy staining and/or sheens were observed at SB-30, SB-38, SB-39, and SB-26. In addition, relatively higher PAH concentrations (Total PAHs > 1,000 mg/kg) were also observed at SB-34 and SB-49, where BTEX concentrations were not elevated, and only sheens and staining were observed. In these locations of relatively elevated PAHs, the vertical extent was defined at SB-34, SB-38, SB-30, and SB-49. The vertical extent of PAHs was delineated except at borings SB-26 to the north and SB-23, SB-24, SB-39, SB-40, and SB-46 to the west, where NAPLs and staining were observed. The overall extent of PAHs and dibenzofuran in subsurface soils is defined by absence of these compounds and if present concentrations below the restricted Commercial Use and Restricted Residential Use SCOs at the following locations:

- Along West 42nd Street (North of River Places I and II) – SB-50 and SB-51
- Along West 41st Street (South of River Places I and II) – SB-09, SB-41 SB-43, and SB-44

The horizontal extent of PAHs west of Block 1089 Lot 3 (River Place II) has not been delineated with respect to the restricted SCOs in soil. However, as discussed in Section 6.3.3.2, PAHs were only detected in low concentrations in the sediments, which would not exceed the restricted SCOs.

Metals and Cyanide

As shown in Table 4-4, at least one metal was detected at concentrations above unrestricted SCOs in 28 of the 51 RI samples including arsenic, cadmium, copper, lead, mercury, nickel, selenium, silver, and zinc. Cyanide was not detected at concentrations above SCOs. Only sporadic detections of arsenic (three samples), cadmium (two samples), lead (three samples), and mercury (eight samples) were observed at

concentrations greater than their respective restricted SCOs. Although the aforementioned metals were observed in concentrations exceeding their respective SCOs, these metals are not attributed to the site due to their limited detection, and they were generally detected at concentrations within, or near background ranges for eastern USA or New York State soils (NYSDEC).

Groundwater Analytical Results

Groundwater analytical results for this RI and from previous investigations are presented in Tables 4-6, 4-7, and 4-8. Nine groundwater samples were reviewed for this RI, from sample locations outside of the River Place I and II VCA area. Results used for this evaluation are from groundwater samples collected by Arcadis in 2010 and 2011 and by D&B in 2005. The subsequent sections describe the groundwater results for VOCs, SVOCs, metals and cyanide for this RI. Figure 6-8 shows the distribution of total BTEX and total PAHs in groundwater for the RI locations.

As discussed in this section, the primary MGP-related constituents detected in the groundwater were BTEX and PAHs. Other constituents were detected that may be site-related, but these compounds are co-located with the BTEX and PAHs at a lower frequency of detection. For example, cumene was co-located with relatively higher concentrations of BTEX, and 2,4-dimethyl phenol was co-located with PAHs. Therefore, the delineation of MGP-related constituents will be based on BTEX and PAHs.

Volatile Organic Compounds

As shown in Table 4-6, nine RI groundwater samples were analyzed for TCL VOCs. The following VOCs were detected at concentrations higher than the GA class in the NYSDEC groundwater criteria (GA criteria):

- benzene
- cumene
- ethylbenzene
- tert butylbenzene
- toluene
- n- propylbenzene
- 1,2,4 trimethylbenzene
- 1,3,5 trimethylbenzene
- xylene

Cumene was only detected at concentrations above its GA criteria in two samples (from monitoring wells MW-07 and MW-09 in 2005). Cumene was not analyzed for in the 2011 samples from these two monitoring wells. Tertbutylbenzene and n propylbenzene were only detected in the MW-09 groundwater samples from 2005. The two trimethylbenzenes were detected in the MW-07, MW09, and MW-10 groundwater samples from 2005. These constituents were not analyzed for in 2011.

VOCs were not detected at concentrations above GA criteria at MW-08 and MW-11, which are located to the north of River Place I and south of River Place II, respectively. The highest BTEX concentrations were detected at the three locations closest to the river west of River Place I (MW-07, MW-09, and MW-10).

The overall horizontal extent of BTEX in groundwater is defined by absence of these compounds or, if present, at concentrations below the GA class groundwater criteria. The extent of BTEX is bounded to the south by monitoring well MW-11, to the north by monitoring well MW-08, and to the west by surface water samples in the Hudson River, where no BTEX was observed.

Semivolatile Organic Compounds

As shown in Table 4-7, nine RI groundwater samples were analyzed for TCL SVOCs. The following SVOCs were detected at concentrations higher than GA2 class groundwater criteria:

- PAHs:
  - acenaphthene
  - benzo(a)anthracene
  - benzo(a)pyrene
  - benzo(b)fluoranthene
  - chrysene
  - naphthalene
  - phenanthrene
- 2-methyl phenol
- 4-methyl phenol (p-cresol)
- 2,4-dimethyl phenol
- phenol

2-Methyl phenol was only detected at concentrations above its respective GA criteria in one sample from MW-07 in 2005. Phenol was detected at concentrations above its respective GA criteria in one sample from MW-09 in 2005. 4-Methyl phenol was detected at concentrations above its respective GA criteria in two samples MW-07 and MW-09 in 2005. 2,4-Dimethyl phenol was detected at concentrations above its respective GA criteria in four samples MW-07 and MW-10 in 2005 and MW-09 in 2005 and 2011. PAH compounds were detected in six of the nine RI groundwater samples at concentrations above GA criteria. PAHs were not detected at concentrations above GA criteria in groundwater samples from MW-08 and MW-11. The highest concentrations of PAHs (Total PAH [for purposes of this RI the sum of the 17 TCL PAHs] > 4 micrograms per liter [µg/L]) were generally observed where the highest BTEX concentrations (above GA criteria) were observed (MW-07, MW-09, and MW-10).

The overall horizontal extent of PAHs in groundwater is defined by absence of these compounds or, if present, at concentrations below the GA criteria. The extent of PAHs is bounded to the north by MW-08,

to the south by monitoring well MW-11, and to the west by surface water samples in the Hudson River, where no PAHs were observed.

Metals and Cyanide

As shown in Table 4-8, there were sporadic detections of a few total metals above GA criteria including antimony (1 sample), lead (2 samples), manganese (2 samples), and selenium (1 sample). In addition, iron, magnesium, and sodium were detected above the GA criteria. Antimony was detected above criteria in all of the filtered ground water samples obtained in 2005.

Cyanide was detected above GA criteria in one sample collected at MW-08 in 2005. Due to the limited detection of cyanide and metals; metals and cyanide are not attributed to the site.

6.3 Hudson River Investigation Results

6.3.1 Physical Characterization

The physical characterization of the Hudson River adjacent to the site is divided into a geologic characterization and a summary of field observations of potential contamination.

Geologic Characterization

Based on the observations from the sediment probes and cores, the sediment in the Hudson River consist of silts and clayey silts that are soft and loose near the surface and increase in stiffness at depth. The 79 sediment probes penetrated approximately 6 to 25 feet of sediment described as soft to stiff silt. Hard bottoms were observed at four probe locations, and gravel and rock were observed at five probe locations. More clayey sediments were observed at two probe locations. In the seven sediment cores, clayey silts were observed up to 14.3 feet thick. Looser silts were observed in the top 0.6 to 1 foot at cores SD-03 to SD-06.

The water column length ranged from approximately 6 to 33 feet during the sediment probing and from 6 to 11 feet during the sediment coring. The water column length was more than 20 feet along the western edge of the piers and near the Circle Line docks. Between the piers, the water column was generally between 6 and 15 feet except near the Circle Line docks.

Results of the sediment probing and coring, including water column depths; sediment depths and descriptions; and the presence of NAPL, odor, or sheen, are presented in Tables 5-1 and 5-2. Geotechnical results are presented in Table 6-1.

As shown in Table 6-1, the sediments closest to the shore (SD-01, SD-02 and SD-03) were comprised of approximately 20 percent clay, 70 percent silt, and 10 percent sand, with the exception of approximately 5 percent gravel measured at SD-02. Farther from shore (at SD-04, SD-05, and SD-06), the sediments in the Hudson River were composed of approximately 10 percent clay, 80 percent silt, and 10 percent sand.

Field Observations

For the Hudson River investigation, NAPL, staining, sheen, and other visual/olfactory observations were recorded for sediments during probing and sediment coring. Sediment probing and sediment core

locations are presented on Figure 5-1. No NAPLs, staining, or odors were observed during sediment probing (Table 5-1). A slight sheen was observed only at probing location PSL-11, which is located along the shoreline. No NAPL, staining, or sheens were observed in any of the seven sediment cores. Odors were observed at depth in cores SD-02, SD-02a, and SD-03 (Table 5-2).

HRPT geotechnical boring W-8 was located just west of HRPT geotechnical boring L-4 and in the Hudson River between Piers 81 and 83. No observations of potential contamination were noted at this boring which extended from the water surface to bedrock encountered at a depth of approximately 59 feet.

6.3.2 Chemical Characterization

The chemical characterization includes an evaluation of the sediment and surface water analytical data relative to NYSDEC regulatory SCGs for screening purposes. The analytical data tables display a column for SCGs including those presented in the NYSDEC Technical Guidance for Screening Contaminated Sediments, and the NYSDEC 6 NYCRR Part 703 Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations (referred to as the NYSDEC surface water standards herein). The Technical Guidance for Screening Contaminated Sediments (NYSDEC 1999) uses the Long et al. (1995) effects range-low (ER-L) and effects range-median (ER-M) screening levels for marine and estuarine sediment for organics and lowest effect level (LEL) and severe effect level (SEL) screening levels for metals from Persaud et al. (1993) and Long and Morgan (1990). 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 and Morgan (1990) and Long et al. (1995) arranged the data from these studies in ascending order of concentrations, and calculated the lower 10^{th} percentile of the effects data (the ER-L) and the median, or 50^{th} 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 site-related risks.

For metals, the LEL presented in the Technical Guidance for Screening Contaminated Sediments (NYSDEC 1999) represents the lowest of either the LEL from Persaud et al. (1993) or the Long and Morgan (1990) ER-L. Similarly, the SEL represents the lowest of either the SEL from Persaud et al. (1993) or the Long and Morgan (1990) ER-M. The LEL and SEL from Persaud et al. (1993) are based on long-term effects on sediment-dwelling organisms. Specifically, the LEL indicates a level of contamination that has no effect on the majority of sediment-dwelling organisms, and the SEL is a level that is “likely to affect the health of sediment-dwelling organisms” (Persaud et al. 1993). The LEL and SEL were derived using field-based data on the co-occurrence of sediment concentrations and benthic species. These values represent the 95^{th} percentiles of the tolerance ranges for all benthic species.

Sediment Analytical Results

Sediment analytical results from eleven samples from the RI are presented in Tables 5-4, 5-5, and 5-6. As shown in these tables sediment analytical results were compared to NYSDEC sediment screening values (NYSDEC 1999). The subsequent sections describe the results for the VOCs, SVOCs, metals, cyanide, and ancillary parameters in sediment for this RI. Figure 6-9 shows the distribution of total BTEX and total PAHs for the sediment RI locations.

As set forth in Section 6.3.1, no NAPL, staining, or sheens were observed in any of the seven sediment cores. Accordingly as discussed in this section, minimal MGP-related impacts were observed in sediment. The primary MGP-related constituents in the sediment were PAHs. BTEX compounds were detected in two samples. Other constituents were detected that may be site-related but these compounds were co-located with BTEX and PAHs. For example, carbazole, dibenzofuran, and phenol were also detected in the one sample with detectable BTEX concentrations and relatively higher PAH concentrations. Therefore, the delineation of MGP-related constituents will be based on BTEX and PAHs.

Volatile Organic Compounds

Eleven sediment samples were analyzed for TCL VOCs (Table 5-4). The following VOCs were infrequently detected at low concentrations (<0.1 mg/kg):

- 2-butanone (one sample)
- acetone (five samples)
- benzene (one sample)
- carbon disulfide (three samples)
- ethylbenzene (one sample)
- xylenes (two samples)

BTEX compounds were only detected in one of the eleven sediment samples, SD-02 (6 to 9.5 feet bss), which is located along the shoreline near probe location PSL-11, where a slight sheen was observed during probing. The total BTEX concentration detected in the sediment sample from SD-02 was 0.029 mg/kg. Total xylenes were also detected at a low concentration (0.0056J) at SD-03 (0-0.5 feet bss). Although there are no ER-L and ER-M screening values for BTEX compounds, there are carbon-normalized screening levels related to benthic aquatic life (NYSDEC 1999); the BTEX compound concentrations did not exceed these screening levels. (Note: the sediment screening values are relevant to the BAZ, generally the upper 6 inches of sediment, and not necessarily relevant to deeper sediments. The screening levels are used herein to assess relative levels of contamination.)

There are no ER-L and ER-M screening values or other NYSDEC screening levels for VOCs. Given the low detections, the infrequent observations, and the lack of upland detections at concentrations above SCOs, the other VOCs are not considered site-related.

Semivolatile Organic Compounds

Eleven sediment samples were analyzed for TCL SVOCs (Table 5-5). The following SVOCs were detected in the sediments (generally at low concentrations [<1 mg/kg]):

- bis (2- ethylhexyl) phthalate
- butylbenzyl phthalate
- carbazole
- p-chloroaniline
- 1,4 dichlorobenzene
- di-n-butyl phthalate
- 4 methylphenyl
- dibenzofuran
- phenol
- PAHs:
    - 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
    - 2-methylnaphthalene
    - naphthalene
    - phenanthrene
    - pyrene

When detected, most individual PAH concentrations are higher than their respective individual ER-L but lower than their ER-Ms except at sample SD-2 (6-9.5 feet bss), and dibenzo (a,h) anthracene in 10 of 12 sediment samples. Total PAH concentrations in surface sediments (0-0.5 feet bss) ranged from 5.65 to 11.3 mg/kg in eight surface samples which are slightly higher than the ER-L of 4 mg/kg, well below the ER-M of 44.8 mg/kg, and within the PAH concentrations observed in urban sections of the Hudson River. For example, the Hudson River Foundation documented total PAHs (14 PAHs) levels ranging from 4.1 to 17.4 mg/kg at River Mile 3 (Keane and Bopp 1999) and the United States Geological Survey (USGS) documented total PAHs (16 PAHs) concentrations ranging from ND to 11.8 mg/kg in the Hudson River and ND to 54 mg/kg in the Hudson River Basin (USGS 1998). Subsurface Total PAH concentrations ranged from 6.75 to 8.19 mg/kg in three of four subsurface sediment samples which are slightly higher than the ER-L of 4 mg/kg, well below the ER-M of 44.8 mg/kg, and within Hudson River PAH concentrations. In one of the subsurface sediment samples (SD-02 [6-9.5 feet bss]) the Total PAH concentration was 172.8 mg/kg, which is above the ER-M. SD-02 is located along the shoreline and near probe location PSL-11, where a slight sheen was observed. The extent of MGP-related constituents is limited to SD-02 at depth (i.e., below 6 feet).

There are no ER-L and ER-M screening values or other NYSDEC screening levels for other SVOCs. Phthalates, chlorobenzenes, and chloroanilines are not typically related to MGP sites. Given these constituents were not detected in the upland soils at concentrations above SCOs, phthalates, chlorobenzene, and chloroaniline are not considered site-related. Carbazole, dibenzofuran, and the phenols were only detected in one sample at low concentrations in the one sample with relatively higher PAH concentrations (SD-2 [6 to 9.5 feet bss]) and may be site-related.

Metals and Cyanide

The sediment samples were analyzed for metals and all samples had at least one metal concentration detected that exceeded its respective LEL (Table 5-6). Cyanide was not detected in the sediment samples. Metals detected at concentrations above their respective LELs include: arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, silver, and zinc. Only cadmium and manganese concentrations did not exceed the SELs. Although the aforementioned metals were observed in concentrations exceeding their respective sediment screening levels, these metals are not attributed to the site because they were not detected in the upland soils at concentrations above SCOs, and they were generally detected at concentrations within Hudson River Basin concentrations (USGS 1998).

Ancillary Parameters

TOC ranged from 1.7 to 7.5 percent, and TPH ranged from 45 to 2,600 mg/kg in the sediments. No SCOs are available for these parameters.

6.3.3 Surface Water Analytical Results

Surface water analytical results from five RI samples are presented in Table 5-5. Figure 5-1 shows the surface water sampling locations. No VOCs, SVOCs, metals, or cyanide were detected at concentrations above NYSDEC surface water standards except for iron, magnesium, sodium, and thallium. These metals are not considered site-related.

Surface water field parameter results, including water depth, temperature, pH, specific conductivity, DO, and turbidity for each of the surface water samples are presented in Table 5-3.

6.4 Nature and Extent of Contamination Summary

This section summarizes the nature and extent of site-related impacts in the form of NAPLs and staining.

As set forth in Section 6.2, the primary impacts at the site are associated with MGP tars as NAPLs and MGP residuals as stained soils. Two NAPL areas were identified adjacent to the VCA portion of the site:

- Along 12th Avenue between West 42nd Street and West 40th Street where saturated tars were noted at borings SB-23 and SB-24 and NAPL blebs were noted at SB-46.
- Along West 42nd Street in a localized area at SB-48 near the former seepage area in northern sheet pile wall for the River Place II construction.

Two other areas of staining were also identified:

- South- southeast along West 41st Street at SB-22 and SB-30
- West along the Hudson River at SB-34, SB-38, and SB-39

The localized tar area along West 42nd Street is delineated to the north by SB-50 and SB-51, where no visual impacts were observed and SB-26 and SB-25, where only sheens were observed. Based on observations at SB-48, the tar-like materials were observed just above the silty clay unit; therefore, the vertical extent of impacts in this area is at or near the silty clay unit.

The tars and heavy staining at borings SB-23 and SB-24 appear to have concentrated in a low point in the clay (Figure 6-4) and lesser impacts extend to the south-southwest and to the west. Stained soils and NAPL blebs were observed at borings SB-22, SB-30, and SB-46 to the south-southeast and the stained soils were observed at borings SB-32, SB-34, SB-38, and SB-39 to the west (Figure 6-3). This area is bounded to the north by borings SB-31 and SB-47, where no visual impacts were observed; to the south by borings SB-49 and SB-40, where slight visual impacts were observed; and to the west by cores in the Hudson River sediments, where no visual impacts were observed. Specifically NAPL, staining, or sheens were observed at any of the sediment coring locations within the Hudson River. Based on observations at SB-23, SB-24, SB-22, SB-30, SB-46, SB-34, SB-38, and SB-39, NAPLs and stained soils were observed in the deeper fill on top of and within the clay unit. Although NAPLs and stained soils did not appear to penetrate the entire thickness of the silty clay unit, other visual/olfactory indicators of potential contamination, such as sheens and odors, were observed to the top of bedrock.

Relatively shallow staining at a depth of 7 feet and petroleum and hydrocarbon odors were observed at boring SB-32 within the upper fill well above the silty clay unit. These observations could indicate localized impacts associated with the former naphtha tanks and oil tanks in this area. The staining does not extend to the south based on observations at boring SB-33 or to the north based on observations at boring SB-47.

To further evaluate the potential differences in MGP-related and other PAH origins, an initial hydrocarbon forensic evaluation was conducted using PAH ratios and total PAHs (16 parent priority pollutant list (PPL)

PAHs) as set forth in Appendix F. In general, most soil samples indicated origins related to coal carbonization type tars as noted by fluoranthene to pyrene ratios greater than 1. Where fluoranthene to pyrene ratios were less than 1, other origins (i.e. not coal carbonization) or mixed origins are indicated. Specifically, PAHs in shallow samples above 11 feet bgs at borings SB-47, SB-32, and SB-33 do not appear to be related to coal carbonization tars and may be related to the former naphtha and oil tanks in this area of the site or other non-site related sources in this area. In addition, the samples from 9.5 feet bgs at boring SB-49 does not appear to be related to coal carbonization tars and may be related to the diesel spill at the bus depot. Furthermore, all samples from borings SB-21 and SB-20, and SB-42 (13-14 feet bgs) do not appear to be related to coal carbonization tars and may be associated with site related or non-site-related origins.

6.5 Fish and Wildlife Resources Impact Analysis

This section presents the Fish and Wildlife Resources Impact Analysis (FWRIA) that was conducted as part of the RI. The FWRIA was conducted in accordance with the NYSDEC guidance documents Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (NYSDEC 1994) and DER-10 (NYSDEC 2010). The objectives of the FWRIA were to identify the fish and wildlife resources that exist within the site and in the vicinity of the site, and to evaluate the potential for exposure of these resources to site-related constituents in environmental media. In accordance with the NYSDEC guidance, FWRIAs are conducted in a step-wise manner. Specifically, the FWRIA includes Part 1 (Resource Characterization), which consists of the following five steps:

1. Identification of fish and wildlife resources
2. Description of resources on site and within a 0.5-mile radius of the site
3. Identification of contaminant migration pathways and fish and wildlife exposure pathways
4. Identification of constituents of potential ecological concern (i.e., comparison of environmental data to screening benchmarks)
5. Conclusions regarding the actual or potential adverse impacts to fish and wildlife resources

If no resources or exposure pathways are present, impact to resources are considered minimal and no additional analyses are required. If further evaluation or definition of potential ecological impact is necessary, then the process continues with an FWRIA Part 2 ecological impact assessment.

6.5.1 Ecological Characterization

The site is located in the Borough of Manhattan, New York, New York, a highly developed area. Specifically, the site is located between West 41st Street and West 42nd Street and west of 11th Avenue (Figure 1-2). Topographic maps and aerial photographs were reviewed to identify the general physical and ecological features of the site and surrounding areas. As shown on Figure 6-10, the site itself and surrounding areas within a 0.5-mile radius consist of a mixture of highly developed residential, commercial, and industrial properties. The Hudson River borders the site to the west. Other than the Hudson River, there are no natural ecological communities present within the site or its immediate surrounding areas. Natural resources (e.g., rivers, wetlands) located within a 2-mile radius of the site

were identified as part of the ecological characterization. This ecological information assisted in evaluating wildlife habitat value and human resource value for the site and surrounding areas.

Covertypes

Land use in the vicinity of the site is dominated by a mixture of residential, commercial, and industrial properties. Ecological communities within a 0.5-mile radius of the site were generally classified according to the NYSDEC (2002) document entitled Ecological Communities of New York State, Second Edition. The two covertypes identified within a 0.5-mile radius of the site are residential/commercial/industrial and unconfined river. Individual covertypes are described below.

Residential/Commercial/Industrial Covertype

The site itself and surrounding upland areas are characterized as a mixture of highly developed residential, commercial, and industrial properties (Figure 6-10). The residential/commercial/ industrial covertype generally consists of industrial buildings, commercial businesses, single-family dwellings, apartment buildings, paved and gravel lots, public roads, mowed and landscaped roadsides, and lawns with ornamental trees and/or shrubs (NYSDEC 2002). The site and surrounding areas lack undisturbed, natural areas and even ornamental vegetation is very limited (e.g., landscaped median along 12th Avenue). The site itself and surrounding upland areas are covered by impervious surfaces (e.g., pavement, buildings). Currently, the BCA portion of the site is occupied by high-rise apartment buildings, retail stores, tennis courts, roads, parking lots, and paved walkways.

Unconfined River Covertype

The Hudson River represents the unconfined river covertype, which is located west of the site (Figure 6-10). The unconfined river covertype is described as large, quiet, base level sections of streams with a very low gradient (NYSDEC 2002). The Hudson River runs through New York City in a north-south direction. The section of the Hudson River adjacent to the site is influenced by oceanic tides. The river banks are primarily composed of concrete bulkheads (i.e., no natural shoreline is present).

Surface Waters

The main surface water body in the site vicinity is the Hudson River (to the west). This section of the river is influenced by oceanic tides. The Hudson River is designated as Class I waters, which indicates the waters are suitable for fish propagation and survival and secondary contact recreation and fishing.

Wetlands

According to the NYSDEC Freshwater Wetlands Map for New York County, there are no state wetlands located within a 2-mile radius of the site (Figure 6-11).

The National Wetlands Inventory (NWI) Map for New York County identifies only a few wetlands within a 2-mile radius of the site (Figure 6-12); these include ponds (e.g., within Central Park) and rivers (e.g., Hudson River). The NWI wetland maps are generated by the U.S. Fish and Wildlife Service (USFWS) using stereoscopic analysis of high-altitude aerial photographs, and the majority of the mapped wetlands are not field verified. No wetlands (with the exception of the Hudson River) are located in close proximity to the site.

6.5.2 Fish and Wildlife Resources

Due to the surrounding residential/commercial/industrial land use within New York City and the lack of available natural habitat on site, wildlife usage of the site is expected to be nonexistent or at the most, limited to common species of birds and mammals typical of urban environments (e.g., pigeons). The following subsections describe the ecological communities present at the site and/or surrounding areas and the typical fish and wildlife species that may use these areas.

Residential/Commercial/Industrial Covertype — The site itself and surrounding areas are classified as a mixture of highly developed residential, commercial, and industrial properties. Because there is no natural habitat present within this covertype (with the exception of sparse ornamental vegetation), wildlife use of this covertype is expected to be limited to wildlife species such as pigeons, which are adapted to urban environments.

Unconfined River Covertype – The Hudson River borders the site to the west. The Hudson River is a large river, and the section of the river adjacent to the site is influenced by tides. This section of the river lies within the Lower Hudson River Significant Coastal Fish and Wildlife Habitat (NYSDEC 2010a). Various species of fish are present within the river, including migratory species such as the American shad, striped bass, river herring, and the Atlantic sturgeon (NYSDEC 2010b). The entire shoreline of the river in the vicinity of the site is developed and consists of concrete bulkheads, abutments, and boat docks. Because the river shoreline is highly developed, its use by local terrestrial fauna is precluded by its lack of natural vegetation and structure. Within the river itself, underwater features (e.g., boat docks) may provide marginal structure to aquatic fauna.

6.5.3 Threatened/Endangered Species and Significant Habitat

An Information request for threatened/endangered species information was submitted to the NYSDEC Natural Heritage Program (NHP) on June 29, 2010 to inquire about the potential presence of sensitive species or habitats in the vicinity of the site. According to the NYSDEC response dated July 13, 2010 (included as Attachment 1), the peregrine falcon (*Falco peregrines* – state endangered) and the shortnose sturgeon (*Acipenser brevirostrum* – state endangered) have been recorded as occurring in the vicinity of the site. According to the NYSDEC (2010a), there are three documented nesting locations for the peregrine falcon in the vicinity of the site, although it is not known if these nesting sites occur within site boundaries. Based on the New York State Peregrine Falcons Report for 2009 published by the Endangered Species Unit (NYSDEC 2009b), there are several recorded falcon pairs in the New York City area. The shortnose sturgeon may occur in the portion of the Hudson River adjacent to the site.

The section of the Hudson River adjacent to the site was designated as part of the Lower Hudson River Significant Coastal Fish and Wildlife Habitat by the New York State Department of State in 1992 due to its role in providing important fish habitat.

Information on federally listed threatened/endangered species for New York County was obtained online through the USFWS website (specifically, the USFWS Northeast Field Office). Based on available information for New York County, there are no recorded occurrences of threatened/endangered species in this county (USFWS) (http://www.fws.gov/northeast/nyfo/es/listing.htm).

Observations of Stress

Based on observations of field staff during site visits, there is no evidence of stressed vegetation or negative impacts on wildlife within the site or surrounding areas.

6.5.4 Fish and Wildlife Resources Values

As part of the FWRIA, a qualitative assessment was conducted to determine the general ability of the area to support fish and wildlife. The following subsections provide a qualitative evaluation of the value of the identified covertypes to wildlife and the value of these wildlife resources to humans.

Value of Habitat to Associated Fauna

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

The site itself consists of residential and commercial buildings, as well as paved roads and parking lots. Due to the lack of natural habitat and the location of the site within a large metropolitan area, wildlife use of the site is expected to be very low and restricted to common urban species of birds and small mammals that can use disturbed environments. Generally, urban landscapes do not provide high wildlife value due to the lack of natural habitat for foraging, nesting, and/or cover. Because there is very little natural habitat (i.e., generally restricted to sparse ornamental vegetation), wildlife value of the site and surrounding areas is expected to be low.

Adjacent to the site, the Hudson River is a tidal river with a highly developed shoreline. This section of the river likely supports a diverse fishery and may serve as a potential water source to terrestrial and semi-aquatic fauna, although populations of these types of fauna are most likely restricted in the area due to surrounding land use. The river itself is an important ecological resource in the vicinity of the site and is concluded to have moderate value to wildlife.

Value of Resources to Humans

The site itself and surrounding areas (with the exception of the Hudson River) do not offer any natural resources for recreational use; however, the Hudson River Park does provide recreational use through the paved bike and pedestrian pathway. However, the adjacent Hudson River is used as a recreational resource for fishing and/or boating. The location of the river within city limits most likely limits its potential for wildlife observation. Land uses in the areas surrounding the site are likely to remain consistent in the future, and are not likely to be affected by activities or conditions at the site.

6.5.5 Fish and Wildlife Regulatory Criteria

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

- 6 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
  - 6 NYCRR Part 375 Soil Cleanup Objectives for the protection of ecological resources (NYSDEC 2006)
  - Technical Guidance for Screening Contaminated Sediments (NYSDEC 1999)
  - Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario (Ontario Ministry of Environment and Energy 1993)
  - Division of Water TOGS (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (NYSDEC 1998)

6.5.6 Impact Assessment

The FWRIA includes an impact assessment to determine the impacts, if any, on fish and wildlife resources. This 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 site data to ecological SCGs. A criteria-specific analysis is only conducted for those exposure pathways considered to be complete.

Pathway Analysis

The objective of the pathway analysis is to evaluate potential 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: 1) contaminant source, 2) contaminant release and transport mechanisms, 3) potential point of exposure, 4) viable route of exposure, and 5) receptor population. If any one of these elements is missing, then the pathway is not considered to be complete and exposure cannot occur, irrespective of chemical concentrations in environmental media. Potential media of interest associated with the site include surface soils, subsurface soils, sediment, surface water, and groundwater. Potential exposure pathways associated with these media are discussed below.

Surface Soils

The NYSDEC (2009a) DER-10 guidance indicates surface soils are defined as 0 to 6 inches bgs for an FWRIA. Because the site and surrounding areas are covered by impervious surfaces such as buildings, roads, and parking lots, surface soils do not present a complete exposure pathway to ecological receptors.

Subsurface Soils

Numerous subsurface soil samples were collected from various locations across the site as part of previous and ongoing investigations. Based on the behavior of typical wildlife that may inhabit a highly developed urban landscape (e.g., birds, small mammals), wildlife would not be expected to be exposed to subsurface soils during normal activities such as foraging or nesting. Therefore, exposure to subsurface soils is not considered to be a significant ecological exposure pathway for the site.

Groundwater

The depth to groundwater at the site is generally deeper than 5 feet bgs. Exposure of wildlife to groundwater would only occur if an animal were to burrow down to the water table, which is unlikely given the depth to groundwater at the site and the fact that wildlife use of the site and surrounding areas is likely restricted due to the highly developed urban landscape. Therefore, direct contact exposure to groundwater is not considered to be a significant ecological exposure pathway.

Sediment

Sediments considered to be available to ecological receptors consist of those found in the top 6 inches bss. Surficial sediment samples were collected from the section of the Hudson River adjacent to the site in 2008 (Figure 5-1); these data represent current conditions and are the focus of this FWRIA. Because the Hudson River likely serves as a significant natural resource to local fish and wildlife, sediment within the river represents a potentially complete exposure pathway.

Surface Water

Surface water samples were collected from the section of the Hudson River adjacent to the site in 2008. Because the Hudson River likely serves as a significant natural resource to local fish and wildlife, surface water within the river represents a potentially complete exposure pathway.

Criteria-Specific Analysis

The objective of the criteria-specific analysis is to evaluate potential ecological impacts for those media that represent potentially complete ecological exposure pathways (i.e., Hudson River sediments and surface water). Specifically, the criteria-specific analysis compares available site data to ecological SCGs to identify ecological constituents of potential interest (COPIs).

Sediment

Seven surficial sediment samples (0 – 0.5 feet bss) were collected in 2008 from the Hudson River adjacent to the site (samples SD-01 though SD-06). Sediment samples were collected between Pier 81 and Pier 83 (Figure 5-1). Samples SD-01, SD-02, SD-02A, and SD-03 were collected near the river shoreline; and samples SD-04, SD-05, and SD-06 were collected approximately 350 to 550 feet from the Hudson River bulkhead. These samples were analyzed for TCL VOCs, TCL SVOCs, metals, cyanide, and TOC. Sediment data were compared to marine/estuarine screening criteria from NYSDEC (1999) Technical Guidance for Screening Contaminated Sediments. Specifically, sediment data were compared to saltwater benthic aquatic life chronic and acute toxicity criteria for VOCs, ER-Ls and ER-Ms for SVOCs (PAHs) and LELs and SELs for metals; ER-Ls and ER-Ms are based on marine/estuarine data. Organic

screening criteria for VOCs are based on equilibrium partitioning and require adjustment based on site-specific TOC. Tables 5-4, 5-5, and 5-6 present the comparison of sediment data to screening levels.

Very few VOCs were detected in surface sediment samples, and concentrations were below screening criteria in all samples. Several SVOCs (mainly PAHs) were detected in surface sediment samples and several PAHs exceeded their associated ER-L screening level in all seven surficial sediment samples. Dibenz(a,h)anthracene was the only PAH that exceeded its associated ER-M screening level; exceedances were observed in six of the seven sediment samples (only SD-03 did not exceed the ER-M). Likewise, many of the metals exceeded their LELs criteria, but only mercury and silver exceeded their SELs. Specifically, mercury exceeded its SELs in samples SD-02, SD-02A, SD-04, and SD-06. Silver exceeded its SEL in samples SD-02, SD-02A, and SD-04.

Criteria exceedances for PAHs and metals were typically less than one order of magnitude above the screening levels. Although sediments in the Hudson River exceed select screening levels, this river is highly industrialized with many point and non-point sources of contamination. As such, the exceedance of sediment screening levels at several locations near the site is not expected to pose a significant risk to fish and wildlife.

Surface Water

A total of five surface water samples were collected in 2008 from the Hudson River adjacent to the site. Sample locations SW-01 through SW-05 are shown on Figure 5-1. Surface water samples were co-located with sediment samples. Specifically, samples SW-01 and SW-02 were collected near the river shoreline, and samples SW-03 through SW-05 were collected farther offshore. These samples were analyzed for TCL VOCs, TCL SVOCs, metals, and total cyanide. Surface water data were compared to standards/guidance values from NYSDEC (1998) Technical and Operational Guidance Series (TOGS 1.1.1). Tables 5-7, 5-8, and 5.9 presents the comparison of surface water data to SCGs.

Surface water concentrations were typically very low or non-detect. Iron, magnesium, sodium, and thallium were the only constituents that exceeded their associated criterion. Due to low concentrations detected in surface water, this medium does not present a significant risk to ecological receptors.

6.6 Qualitative Human Health Exposure Assessment and Conceptual Site Model

This section presents a qualitative Human Health Exposure Assessment (HHEA) for the Former West 42nd Street MGP site. The HHEA describes the potential for human exposure to constituents associated with the site. This HHEA was conducted consistent with the NYSDOH guidance, as presented in DER-10 (NYSDEC 2010), and uses information regarding current and foreseeable land/river uses and available data from the site to evaluate the potential for exposure of human receptors. The HHEA characterizes the environmental setting of the site, identifies the constituents of potential interest (COPIs) and complete exposure pathways, and evaluates contaminant fate and transport. Because the requirements for a CSM are similar to those for an HHEA, this section also represents the CSM for the site.

A COPI is any chemical detected in a medium, which could produce adverse health effects under the right conditions of dose and exposure. For exposure to occur, there must be a complete “pathway of

exposure" where a person can come into contact with contaminants of potential concern. For a pathway to be complete, there must be: 1) a source or medium containing the COPI; 2) a location where human contact could take place (i.e., an exposure point); and 3) a feasible means for the COPI to enter into the person's body. The person who could come into contact with the COPI at an exposure point is called a "receptor." The ways in which the COPI can enter the body are called "routes of exposure." Ingestion (by mouth), dermal contact (contact with skin), and inhalation (breathing into the lungs) are the routes of exposure considered in this and other HHEAs. Consistent with NYSDOH and other regulatory agencies, this assessment considers both current and potential future exposures.

6.6.1 Potential Sources

This section describes possible terrestrial and aquatic source areas for MGP-related NAPLs/ stained soils, BTEX, PAHs, and other chemical constituents at the site. This information is then used in the HHEA to help identify primary constituents of interest and potentially complete exposure pathways. Potential sources at the former West 42nd MGP sites include MGP tars in the form of NAPLs, heavily stained soils with tar-related residuals not in NAPL form, and /or soils with tar-related constituents such as BTEX and PAHs. NAPL, stained soils, and constituents may be sources depending on their amount, distribution, and concentration. Other non-site related sources of similar materials and constituents may also be present.

Site Related

The primary impacts at the site are associated with MGP tars as NAPLs and MGP residuals as stained soils. Two NAPL areas were identified adjacent to the VCA portion of the site:

- Along 12th Avenue between West 42nd Street and West 40th Street, where saturated tars were noted at borings SB-23 and SB-24 and NAPL blebs were noted at SB-46
- Along West 42nd Street in a localized area at SB-48 near the former seepage area in the northern sheet pile wall for the River Place II construction

Two other areas of staining were also identified:

- South- southeast along West 41st Street at SB-22 and SB-30
- West along the Hudson River at SB-34, SB-38, and SB-39

The areas of NAPLs and stained soils contain relatively elevated BTEX and PAH concentrations.

Non- MGP Sources

The former West 42nd Street MGP site lies within a historic industrial area and current urban commercial area. Industries in the site area could contribute NAPLs and constituents similar to those observed at MGP sites. Similar tarry NAPL types are associated with wood preservation of lumber, docks, piers, piles, vessels, railroad ties; and/or byproduct generation from gas production for railroad cars, steamships, and factories. Typical practices at lumber yards included prepping surfaces with creosote for lumber storage, and wood treating with oil preservatives (especially for lumber in constant contact with water) among other practices (Hunt and Garratt 1953). Typical practices at rail yards and lines included vegetation

control with oil-based herbicides and hydrocyanic acid gas; the use of hydrocarbon fuels, lubricants, preservatives, and water-proofing materials; and the production of cinders as combustion by-products (American Railway Engineering Association 1929 and 1943). Typical water protection for docks, piers, piles, and vessels included hydrocarbon-based coatings and preservatives (Hunt and Garratt 1953). One of the earliest wood preserving United States patents for the protection of ship planking was granted in 1716 for “oyle or spirit of tarr” (Hunt and Garratt 1953). Creosote and related preservatives were considered the preferred wood preservatives for wooden vessels as of 1918 (Estep 1918). Creosotes and related preservatives were primarily used for the hulls of wooden barges and tugs as well as floating dry docks (Hunt and Garratt 1953). Creosote was considered one of the best wood protection methods, and creosote-treated pilings were used as early as the 1870s (Atwood and Johnson 1925). Furthermore, spills of petroleum hydrocarbons have been documented near the site most notably a diesel fuel spill in the bus depot just south of the site that resulted in a separate phase product near the southwest corner of the depot (MTA 2001). Given the widespread use of creosote and related preservatives for wood protection and the significant dockage, piers, piling, and rail lines around the former West 42nd Street MGP site as well as documented hydrocarbon spills, other sources of tarry and oily NAPLs, BTEX, PAHs, and other constituents were and could be present. As set forth in Section 6.4, there appears to be origins of PAHs other than coal carbonization tars based on an initial forensic evaluation.

In addition to the industrial setting described above, the site also lies within in a highly urbanized area. As such, sewer discharges, urban runoff, vessel traffic, and channel modification can also contribute constituents such as PAHs to the Hudson River through a variety of point and non-point sources. As previously discussed, there is one New York City (NYC) sewer outfall under Pier 83 and two overflow outfalls just south of this outfall in the site area. North of the site, there are 29 NYC sewer outfalls to the Hudson River, and south of the site, there are 15 NYC sewer outfalls to the Hudson River (as noted on the NYC EPA sewer map). Paved roads, pedestrian and bike pathways, and piers and docks are located adjacent to the Hudson River; therefore, runoff from these areas containing vehicle combustion by-products, hydrocarbon fuels, road surface debris, and other materials likely discharges into the river. In addition, there are a variety of municipal and commercial uses of the river such as marine transfer stations, ferries, excursion boats, and ocean liners (HRPT 2001). Similarly, these river vessels likely discharge combustion by-products from hydrocarbon fuels into the Hudson River.

6.6.2 Release and Transport Pathways

NAPL migration and the resultant distribution of NAPL at the site is complex and depends on a variety of forces and conditions such as gravity, hydraulic gradients, lithology and lithologic changes, matrices permeability and associated changes, and organic content of native and anthropogenic materials in the subsurface. Historically, NAPL from the former MGP facilities likely migrated downward through the subsurface due to gravity. Where present, NAPL appears to have migrated laterally along the top of silty clay unit and, over time, penetrated into the silty clay unit.

The localized tar area along West 42nd Street appears to be associated with tars removed in the River Place II excavation or contained within sheeting that was left in place and sealed near the seepage area.

The tars and heavy staining at borings SB-23 and SB-24 appear to have concentrated in a low point in the clay (Figure 6-4) and likely originated from the MGP facilities and operation directly to the east. Historically, tars may have migrated in and along the top of the clay unit, resulting in the stained soils and

NAPL blebs observed at borings SB-22, SB-30, and SB-46 to the south-southeast and the stained soils observed at borings SB-32, SB-34, SB-38, and SB-39 within other low areas along the silty clay (Figure 6-3). The initial forensics support a coal carbonization origin of the deeper PAHs west of 12th Avenue along the river in samples from borings SB-47, SB-33, SB-38 and SB-39. These migration pathways do not appear to be current based on the lack of NAPL presence at wells MW-07, MW-08, MW-09, and MW-10, which bound or lie within the NAPL and stained soil area. Based on observations at SB-23, SB-24, SB-22, SB-30, SB-46, SB-34, SB-38, and SB-39, NAPLs and stained soils were observed in the deeper fill on top of and within the silty clay unit. Although NAPLs and stained soils did not appear to penetrate the entire thickness of the silty clay unit, other visual /olfactory indicators of potential contamination, such as sheens and odors, were observed to the top of bedrock.

At boring SB-32, relatively shallow staining at a depth of 7 feet and petroleum and hydrocarbon odors were observed within the upper fill well above the silty clay unit. These observations could indicate localized impacts associated with the former naphtha tanks and oil tanks in this area. The initial forensics support a different origin of the shallow PAHs along the river at SB-47, SB-32, and SB-33. The staining does not extend to the south based on observations at boring SB-33 or to the north based on observations at boring SB-47.

No MGP-related impacts were observed in the river sediment and surface water west of the site, with the possible exception of a deep area of relatively elevated PAHs from 6.5 to 9 feet bss in sediment core SD-2. Therefore, potential migration pathways connecting the upland to the river, such as dissolved or separate phase migration in the subsurface, discharge via preferential sewer pathways, and historic discharge to or disposal in the river, are not present at the site.

6.6.3 Constituents of Potential Interest and Distribution

As discussed in Sections 6.2 and 6.3, BTEX and PAHs are considered to be the representative COPIs. These report sections also summarize the horizontal and vertical distributions of these COPIs within each medium.

6.6.4 Contaminant Fate and Transport

The following is a general description of environmental fate and transport for identified COPIs, and is taken from toxicological profiles prepared by the Agency for Toxic Substances and Disease Registry (ATSDR).

Benzene, Toluene, Ethylbenzene, and Xylenes

The environmental fate and transport of benzene is primarily attributed to its high volatility (ATSDR 2007a). In soil, benzene partitions to the atmosphere through volatilization, to surface water through runoff, and to groundwater through leaching. Benzene does not generally bioaccumulate in the aquatic food chain, and there is no scientific evidence of biomagnification. Aerobic biodegradation is the primary mechanism for degradation of benzene in soils, surface water, and groundwater.

The majority of toluene released to the environment partitions to air, although rates of volatilization from soils depends on temperature, humidity, and soil type (ATSDR 2000). Transport of toluene from soil to groundwater depends on the degree of adsorption to soil, which is mediated by the presence of organic

matter. Toluene will be readily leached from soils with low organic content. Toluene can be metabolized, which limits its biomagnification in the food chain. Degradation of toluene in surface water, soil, and sediment occurs primarily by microbial action.

Ethylbenzene has a high vapor pressure and will partition into the atmosphere from surface soils and surface water; it will also infiltrate into subsurface soil (ATSDR 2010). This chemical has a relatively high mobility in soils because sorption is not sufficient to prevent migration. Ethylbenzene will leach into groundwater, particularly in soils with low organic carbon content. Significant bioaccumulation does not occur in aquatic food chains. In surface water, ethylbenzene can be transformed via photo oxidation and biodegradation. In soils, aerobic soil microbes are responsible for biodegradation.

Xylenes are highly volatile and readily partition into the atmosphere from surface water (ATSDR 2007b). In soils, xylenes tend to adsorb to organic matter, and will leach into groundwater from subsurface soils with low organic carbon content. Volatilization and photo oxidation are the primary removal mechanisms in surface soil and surface water. Biodegradation is the primary removal mechanism in subsurface soils and groundwater. Xylenes do not bioaccumulate in food chains.

It has been demonstrated that, when mixtures of benzene, toluene, xylenes, and ethylbenzene are present in an anaerobic environment, there is a sequential utilization of the substrate hydrocarbons, with toluene usually being the first to be degraded, followed by the isomers of xylene in varying order. Benzene and ethylbenzene tend to be degraded last, if at all (Edwards and Grbić-Galić 1992).

PAHs

The transport and partitioning of PAHs in the environment depend on several chemical factors, such as water solubility, vapor pressure, Henry's law constant, octanol-water partition coefficient, and organic carbon partition coefficient (ATSDR 1995). Due to their low solubility and high affinity for organic carbon, PAHs in aquatic systems are generally sorbed to bottom sediments or particulate matter suspended in the water column. PAHs generally do not biomagnify because many aquatic organisms are able to readily metabolize (and eliminate) these compounds. Biodegradation is the primary mechanism for removal in sediments. In soils, PAHs can volatilize, undergo abiotic degradation, biodegrade, or bioaccumulate in plants. Some PAHs may leach into groundwater from subsurface soils.

6.6.5 Potential Exposure Points, Receptors, and Route of Exposure

This section evaluates the potential exposure points, receptors, and routes of exposure. The identification of potential receptors that may be exposed to soil, groundwater, air, sediment, and surface water is based on surrounding land use and professional judgment. The magnitude of exposure to COPIs is dependent upon the type of activity, specific areas of the site used in daily activities, and the frequency and length of time spent at each area. As previously described, BTEX and PAHs are the primary site-related COPIs. Potential exposures by medium are discussed below:

Surface Soil

Exposure to surface soil is not expected to be a significant current pathway because the majority of the site is covered by asphalt and concrete (streets and sidewalks) except for the landscaped medians within 12th Avenue and along the Hudson River. Future exposures could occur if the streets and sidewalk are

disturbed, exposing the underlying surface soil. These surface soils would not be expected to contain site-related constituents based on the deeper (generally greater than 7 feet) distribution of NAPLs, stained soils, and related constituents. Therefore, exposure to surface soil is not expected to be a significant future pathway.

Subsurface Soil

Exposure to subsurface soil is not expected to be a significant current pathway because the majority of the site is covered by streets and sidewalks. Future exposures could occur during subsurface excavations associated with utility and construction projects. Construction/ utility workers could be exposed to site-related constituents depending on the depth of the excavation. Because the majority of the site-related impacts are deeper than 7 feet, most utility-related excavations may not encounter the impacts. Worker exposure pathways could include direct contact, incidental ingestion, and inhalation. Potential exposure of workers to impacted soils could be mitigated by the use of standard health and safety practices, such as PPE use, air monitoring, and construction procedures, to mitigate potential releases during excavations (e.g., water sprays, covers). In addition, residents and pedestrians near the excavation could be exposed to subsurface soils containing site–related constituents (depth depending). Resident/pedestrian exposure pathways could include inhalation. Potential exposure of residents/ pedestrians to vapors/ dust from site-impacted soils could be mitigated by the use of standard health and safety practices, such as community air monitoring and construction procedures, to mitigate potential releases during excavations (e.g., water sprays, covers, sprung structures).

Groundwater

Exposure to groundwater is not expected to be a significant current pathway because of the depth to groundwater below paved streets and sidewalks and the use of a public water supply (i.e., groundwater is not used for potable [or non-potable] purposes). Future exposures could occur during subsurface excavations associated with utility and construction projects. Depth to groundwater is at or below 5 feet; therefore, only deeper utility-related excavations could potentially contact impacted groundwater. Construction/ utility workers could be exposed to site-related constituents depending on the depth of the excavation in relation to the groundwater. Worker exposure pathways could include direct contact, incidental ingestion, and inhalation. Potential exposure of workers to impacted groundwater could be mitigated by the use of standard health and safety practices as discussed for subsurface soil above. In addition, residents and pedestrians near the excavation could be exposed to groundwater containing site–related constituents (depth depending). Resident/pedestrian exposure pathways could include inhalation. Potential exposure of residents/ pedestrians to vapors from site-impacted groundwater could be mitigated by the use of standard health and safety practices, such as community air monitoring and construction procedures, as discussed above for subsurface soils.

Air

Based on depth of contamination and investigation results from the buildings at River Place I and II, soil vapor is not expected to migrate to indoor air of buildings located at and adjacent to the VCA portion of the site resulting in an indoor air exposure pathway. As described in the Site Characterization Report (D&B 2004), the RETEC Group, Inc. (RETEC) collected three indoor air samples from the ground floor of the One River Place building and four ambient air samples outside of the building for comparison

purposes. Air monitoring results indicated that the air quality was not impacted by subsurface intrusion of vapors emanating from any MGP-related material. In accordance with the River Place I and II Site Management Plan (SMP), post-remediation air monitoring consisting of three indoor and two outdoor air samples was also conducted in 2010 by GCI Environmental Advisory, Inc (GCI) for Silverstein Properties Inc. GCI concluded that the chemicals detected in the building were the result of general cleaning products and building occupation and not the result of vapor intrusion.

Sediment

Exposure to sediment is not expected to be a significant current pathway because of the lack of site-related impacts at the sediment surface and the isolated and deeper area of PAHs at depth in one sample. Future exposures could occur if the sediments are disturbed during, for example, dredging. However, even if the deeper sediment were exposed, the relatively lower PAH concentrations, and the lack of NAPLs and stained sediments, exposure to subsurface workers via direct contact or incidental ingestions is not expected to be a significant future pathway.

Surface Water

No site-related constituents were detected in the surface water. Therefore, exposure to surface water is not expected to be a significant current or future pathway.

7 SUMMARY AND CONCLUSIONS

7.1 Summary

The results of the RI have addressed the investigation objectives set forth in Section 1.2, as follows:

- Determine the nature and extent of MGP impacts within the soil and groundwater.
- Determine the presence/absence of MGP impacts in the Hudson River.
- If MGP impacts are present, delineate the nature and extent of those impacts in the Hudson River.
- Evaluate potential risks to human health and the environment.
- Develop a CSM.

The following is a summary of how these objectives were met in the RI.

The land investigation was conducted to determine the extent of MGP impacts and included soil borings, well installations, soil sampling, and groundwater sampling. Visual observations delineated the extent of NAPLs and stained soils, and soil sampling and laboratory analyses delineated the extent of the primary site-related PCOIs - BTEX and PAHs as set forth in Section 6.2.1 and 6.2.2, respectively. The distribution of the NAPLs, stained soils, BTEX and PAHs in subsurface soils is primarily east of the bulkhead along the Hudson River and along the margins of the former MGP (i.e. along the south side of West 42nd Street and the north side of West 41st Street) except to the southwest along 12th Avenue. In groundwater, the primary site-related PCOIs were BTEX and PAHs. The extent of BTEX and PAHs in groundwater generally corresponds with the extent of subsurface soil impacts as discussed in Section 6.2.3.

The Hudson River investigation was conducted to determine the extent of MGP impacts, if any, in the Hudson River. The investigation consisted of river reconnaissance, sediment probing, sediment coring, sediment sampling, and surface water sampling. No MGP-related impacts were observed in the river sediment and surface water west of the site with the possible exception of a deep area of PAHs from 6.5 to 9 feet bss in sediment core SD-2 as set forth in Section 6.3.

Potential risks to the environment were evaluated in a FWRIA (Section 6.5). The FWRIA concluded there were no significant potential ecological exposure pathways because of the urban setting (e.g. streets, sidewalks, buildings) precluding ecological habitats and the lack of impacts in the Hudson River.

Potential risks to human health were evaluated in the HHEA (Section 6.6). The HHEA concluded that there were no significant current exposure pathways and there is the potential for future exposure pathways associated with future subsurface construction if deep (greater than 7 feet) impacted soils are disturbed or if impacted groundwater is encountered. These potential exposures would be mitigated by standard construction and health and safety practices. Because the requirements for a CSM are similar to those for an HHEA, the HHEA in Section 6.6 also represents the CSM for the site.

7.2 Conclusions

Based on the results of the RI, it is noted that there is currently minimal potential for incidental public contact with site contaminants. However, exposure to site contaminants in soil and groundwater may

occur as a result of construction activities involving excavation. Plans should be implemented that provide guidelines for the performance of intrusive activities including management of soil and groundwater and worker safety.

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TABLES

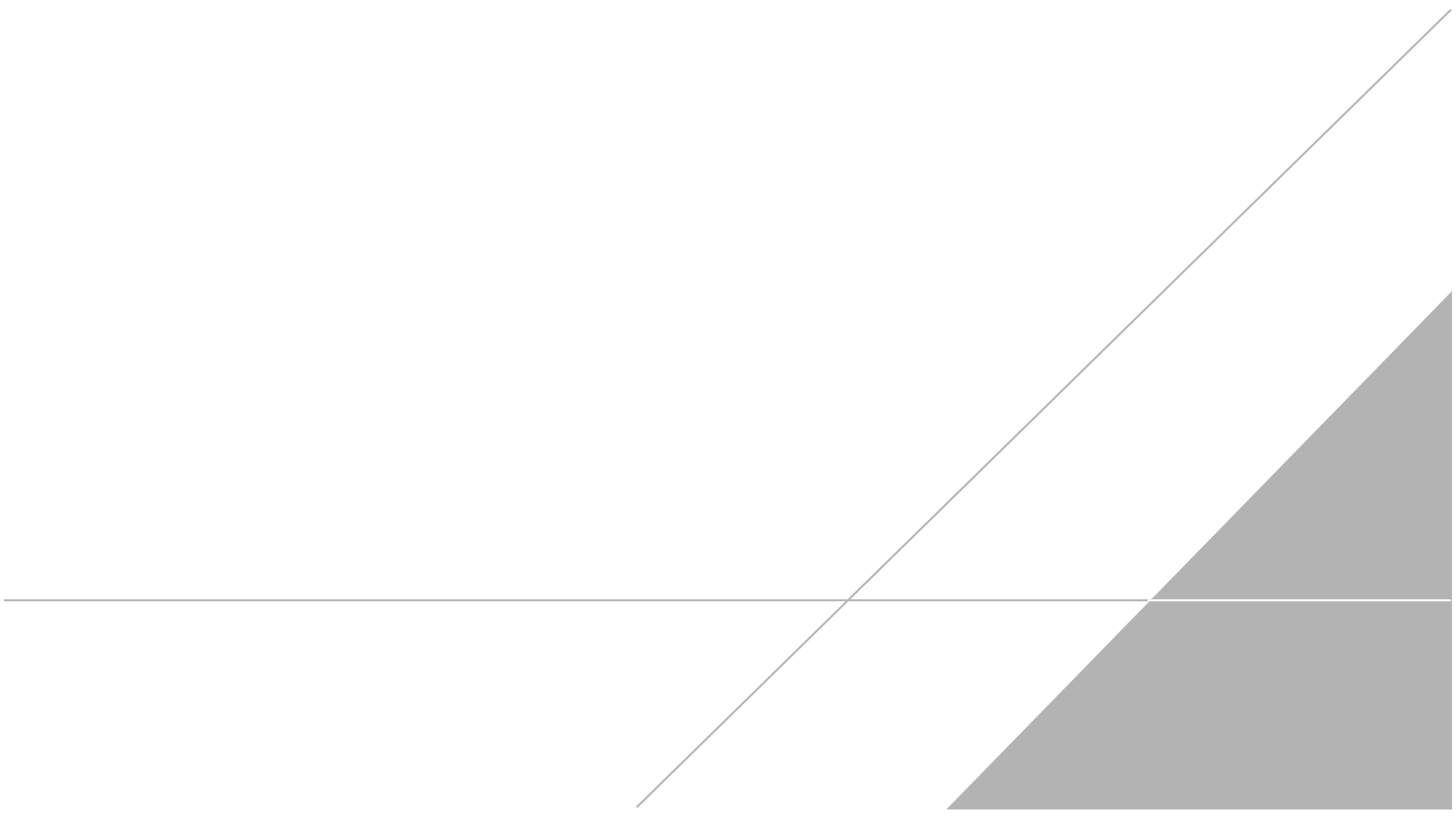


Table 4-1
Sample Summary

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID	Sample ID	Date Collected	Coordinates		Ground Elevation [1] (feet)	Sample Depth (feet)	Sampled by?
			X	Y			
Sediment Samples							
SD-01	SD-01 (0-0.5')	02/27/08	983707.4000	216995.1000	0.10	0-0.5	ARCADIS
SD-02	SD-02 (0-0.5')	02/29/08	983688.7000	216910.9000	-1.90	0-0.5	ARCADIS
SD-02	SD-02 (6-9.5')	02/29/08	983688.7000	216910.9000	-1.90	6-9.5	ARCADIS
SD-02A	SD-02A (0-0.5')	02/29/08	983668.7000	216926.8000	-1.90	0-0.5	ARCADIS
SD-02A	SD-02A (5-6')	02/29/08	983668.7000	216926.8000	-1.90	5-6	ARCADIS
SD-02A	SD-02A (10-11')	02/29/08	983668.7000	216926.8000	-1.90	10-11	ARCADIS
SD-03	SD-03 (0-0.5')	03/03/08	983647.0000	216907.5000	-1.90	0-0.5	ARCADIS
SD-03	SD-03 (8-12')	03/03/08	983647.0000	216907.5000	-1.90	8-12	ARCADIS
SD-04	SD-04 (0-0.5')	02/28/08	983422.9000	217005.6000	-1.50	0-0.5	ARCADIS
SD-05	SD-05 (0-0.5')	02/28/08	983329.6000	217173.9000	-2.20	0-0.5	ARCADIS
SD-06	SD-06 (0-0.5')	02/28/08	983199.2000	217127.2000	-2.20	0-0.5	ARCADIS
SD-06-DUP	SD-DUP-01	02/28/08	983199.2000	217127.2000	-2.20	0-0.5	ARCADIS
Surface-Water Samples							
SW-01	SW-01	03/04/08	983699.6000	217005.3000	0.60	NA	ARCADIS
SW-02	SW-02	03/04/08	983691.2000	216952.5000	0.30	NA	ARCADIS
SW-03	SW-03	03/04/08	983658.5000	216934.1000	0.50	NA	ARCADIS
SW-04	SW-04	03/04/08	983427.6000	217049.0000	-1.10	NA	ARCADIS
SW-05	SW-05	03/04/08	983198.5000	217147.0000	-0.90	NA	ARCADIS
Soil Samples							
SB-09	SB-09 (11-15)	9/5/2003	984368.8149	216376.6343	9.55	11-15	D&B
SB-09	SB-09 (31-33.5)	9/5/2003	984368.8149	216376.6343	9.55	31-33.5	D&B
SB-20	SB-20 (12-16)	10/2/2003	984278.3228	216417.2634	7.88	12-16	D&B
SB-20	SB-20 (16-20)	10/2/2003	984278.3228	216417.2634	7.88	16-20	D&B
SB-21	SB-21 (12-16)	9/30/2003	984203.5283	216464.8179	7.14	12-16	D&B
SB-21	SB-21 (36-38.9)	9/30/2003	984203.5283	216464.8179	7.14	36-38.9	D&B
SB-22	SB-22 (12-16)	9/29/2003	984022.0823	216583.0117	4.67	12-16	D&B
SB-22	SB-22 (36-44)	9/29/2003	984022.0823	216583.0117	4.67	36-44	D&B
SB-23	SB-23 (20-24)	9/30/2003	983871.1082	216700.7438	3.04	20-24	D&B
SB-23	SB-23 (52-54.5)	9/30/2003	983871.1082	216700.7438	3.04	52-54.5	D&B
SB-24	SB-24 (30-32)	10/3/2003	983931.3598	216782.8758	3.04	30-32	D&B
SB-24	SB-24 (34-36)	10/3/2003	983931.3598	216782.8758	3.04	34-36	D&B
SB-24	SB-24 (36-38)	10/2/2003	983931.3598	216782.8758	3.04	36-38	D&B
SB-25	SB-25 (12-16)	10/1/2003	984191.9859	216683.6611	6.18	12-16	D&B
SB-25	SB-25 (24-28)	10/1/2003	984191.9859	216683.6611	6.18	24-28	D&B
SB-26	SB-26 (9-13)	9/29/03	984334.6495	216614.8687	7.09	9-13	D&B
SB-26	SB-26 (16-19)	10/1/03	984334.6495	216614.8687	7.09	16-19	D&B
SB-30	SB-30 (10-14)	2/20/2005	983844.7916	216653.1893	2.03	10-14	D&B
SB-30	SB-30 (34-36)	2/20/2005	983844.7916	216653.1893	2.03	34-36	D&B
SB-31	SB-31 (7-11)	3/6/2005	983999.4593	216818.4760	2.20	7-11	D&B
SB-32	SB-32 (9-11)	3/2/2005	983753.8378	216896.5023	2.23	9-11	D&B
SB-32	SB-32 (35-39)	3/2/2005	983753.8378	216896.5023	2.23	35-39	D&B
SB-33	SB-33 (5-7)	2/27/2005	983733.5232	216855.8732	2.29	5-7	D&B
SB-34	SB-34 (13-17)	2/23/2005	983722.4425	216836.0204	2.23	13-17	D&B
SB-34	SB-34 (37-39)	2/24/2005	983722.4425	216836.0204	2.23	37-39	D&B
SB-38	SB-38 (25-27)	2/22/2005	983697.5110	216792.6211	2.10	25-27	D&B
SB-38	SB-38 (43-45)	2/22/2005	983697.5110	216792.6211	2.10	43-45	D&B

Table 4-1
Sample Summary

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID	Sample ID	Date Collected	Coordinates X	Coordinates Y	Ground Elevation [1] (feet)	Sample Depth (feet)	Sampled by?
Soil Samples (cont'd)							
SB-39	SB-39 (45-47)	3/10/2005	983650.4182	216722.4435	1.62	45-47	D&B
SB-39	SB-39 (65-67)	3/12/2005	983650.4182	216722.4435	1.62	65-67	D&B
SB-40	SB-40 (28-30)	4/5/2005	983630.5653	216670.2720	1.53	28-30	D&B
SB-40	SB-40 (46-48)	4/5/2005	983630.5653	216670.2720	1.53	46-48	D&B
SB-41	SB-41(13-14)	12/06/06	984386.7067	216354.2468	NM	13-14	ARCADIS
SB-41	SB-41(24-25)	12/06/06	984386.7067	216354.2468	NM	24-25	ARCADIS
SB-42	SB-42(13-14)	12/06/06	984404.8872	216344.8037	NM	13-14	ARCADIS
SB-42	SB-42(24-25)	12/06/06	984404.8872	216344.8037	NM	24-25	ARCADIS
SB-42	SB-42(27-28)	12/06/06	984404.8872	216344.8037	NM	27-28	ARCADIS
SB-43	SB-43(16-17)	12/05/06	984431.0870	216329.2169	NM	16-17	ARCADIS
SB-43	SB-43(28-29)	12/05/06	984431.0870	216329.2169	NM	28-29	ARCADIS
SB-44	SB-44(14-15)	12/05/06	984455.6590	216315.3269	NM	14-15	ARCADIS
SB-44	SB-44(19-20)	12/05/06	984455.6590	216315.3269	NM	19-20	ARCADIS
SB-44	SB-44(21-22)	12/05/06	984455.6590	216315.3269	NM	21-22	ARCADIS
SB-44-DUP	DUP120506	12/05/06	984455.6590	216315.3269	NM	21-22	ARCADIS
SB-45	SB-45(3-10)	12/05/06	984425.0988	216332.8379	NM	3-10	ARCADIS
SB-46	SB-46(25-28)	06/12/08	983825.8807	216576.1800	6.94	25-28	ARCADIS
SB-46	SB-46(28-30)	06/12/08	983825.8807	216576.1800	6.94	28-30	ARCADIS
SB-47	SB-47 (5-7)	03/26/08	983775.0346	216945.0555	6.55	5-7	ARCADIS
SB-47	SB-47 (23)	03/26/08	983775.0346	216945.0555	6.55	23	ARCADIS
SB-48	SB-48 (12)	07/24/10	984399.3286	216599.0899	11.79	12	ARCADIS
SB-48	SB-48 (18.5-19)	07/24/10	984399.3286	216599.0899	11.79	18.5-19	ARCADIS
SB-48-DUP	DUP-SB01	07/24/10	984399.3286	216599.0899	11.79	18.5-19	ARCADIS
SB-49	SB-49 (9.5)	07/25/10	983736.3425	216427.3836	5.83	9.5	ARCADIS
SB-49	SB-49 (12)	07/25/10	983736.3425	216427.3836	5.83	12	ARCADIS
SB-50	SB-50 (9)	02/26/11	984383.1921	216693.9377	11.42	9	ARCADIS
SB-51	SB-51 (14.5)	02/27/11	984444.0885	216659.9887	11.73	14.5	ARCADIS
SB-51-DUP	DUP022711	02/27/11	984444.0885	216659.9887	11.73	14.5	ARCADIS
Groundwater Samples							
MW-07	MW-07	3/7/2011	983848.9468	216648.1107	2.03	NA	ARCADIS
MW-08	MW-08	3/5/2011	983996.2274	216821.2461	2.15	NA	ARCADIS
MW-09	MW-09	3/1/2011	983720.1341	216832.7885	2.20	NA	ARCADIS
MW-10	MW-10	3/1/2011	983695.6642	216787.5424	2.08	NA	ARCADIS
MW-11	MW-11	7/29/2010	984317.9365	216339.5511	13.28	NA	ARCADIS

Notes:

1. 2003 and 2005 sample elevations in NGVD 1929; 2006, 2008, 2010 and 2011 sample elevations in NAVD 1988.
2. Elevations provided are the following:
   Sediment - elevation of the top of sediment at the core location
   Surface Water - elevation at which surface water sample was collected
   Soil - elevation of the top of ground at the boring location
   Groundwater - elevation of the top of ground at the well location
3. Elevations refer to NAVD 88 vertical datum as derived from GPS.

NA = Not applicable
NM = Not measured
D&B = Dvirka & Bartilucci Consulting Engineers

Table 4-2
Soil Analytical Results - Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Sample Depth (feet): / Date Collected: / Sample Name:	SCO Restricted – Residential (bold)	SCO Restricted – Commercial (italics)	SCO – Unrestricted Use (shade)	Units	SB-09 11-15 9/5/2003 SB-09	SB-09 31-33.5 9/5/2003 SB-09	SB-20 12-16 10/2/2003 SB-20	SB-20 16-20 10/2/2003 SB-20	SB-21 12-16 9/30/2003 SB-21	SB-21 36-38.9 9/30/2003 SB-21	SB-22 12-16 9/29/2003 SB-22	SB-22 36-44 9/29/2003 SB-22	SB-23 20-24 9/30/2003 SB-23	SB-23 52-54.5 9/30/2003 SB-23	SB-24 30-32 10/3/2003 SB-24	SB-24 34-36 10/3/2003 SB-24	SB-24 36-38 10/2/2003 SB-24	SB-25 12-16 10/1/2003 SB-25
Acetone (2- propanone, dimethyl ketone)	100	500	0.05	mg/kg	0.049	0.025	0.03	0.49	U	0.019	U	0.36	U	0.55	U	U	U	U
Benzene	4.8	44	0.06	mg/kg	0.002 J	0.07	U	U	U	0.004 J	2.4 J	U	***50 J***	U	***320 J***	U	***490 J***	0.61 J
Bromobenzene	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Bromochloromethane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Bromodichloromethane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Bromoform	- -	- -	- -	mg/kg	U	U	U	U	U	0	U	U	U	U	U	U	U	U
Bromomethane/ methyl bromide	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
2- butanone (methyl ethyl ketone)	100	500	0.12	mg/kg	U	U	U	0.64	U	U	U	0.49	U	0.68	U	U	U	U
n- butylbenzene	100	500	12	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
sec- butylbenzene	100	500	11	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
tert- butylbenzene	100	500	5.9	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Carbon disulfide	- -	- -	- -	mg/kg	U	0.002 J	U	U	U	U	U	U	U	U	U	U	U	U
Carbon tetrachloride	2.4	22	0.76	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Chlorobenzene	100	500	1.1	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Chlorodibromomethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Chloroform	49	350	0.37	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Chloromethane (methyl chloride)	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
2- chlorotoluene	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
4- chlorotoluene	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Cumene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2- dibromo- 3- chloropropane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Dibromochloromethane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2- dibromoethane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Dibromomethane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
cis- 1,3- dichloro, 1- propene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2- dichlorobenzene	100	500	1.1	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,3- dichlorobenzene	49	280	2.4	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,4- dichlorobenzene	13	130	1.8	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Dichlorobromomethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1- dichloroethane	26	240	0.27	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2- dichloroethane	3.1	30	0.02	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
cis- 1,2- dichloroethene	100	500	0.25	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
trans- 1,2- dichloroethene	100	500	0.19	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1- dichloroethylene	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Dichloromethane	100	500	0.05	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2- dichloropropane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,3- dichloropropane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U

Table 4-2
Soil Analytical Results - Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Sample Depth (feet): / Date Collected: / Sample Name:	SCO Restricted – Residential (bold)	SCO Restricted – Commercial (italics)	SCO – Unrestricted Use (shade)	Units	SB-09 11-15 9/5/2003 SB-09	SB-09 31-33.5 9/5/2003 SB-09	SB-20 12-16 10/2/2003 SB-20	SB-20 16-20 10/2/2003 SB-20	SB-21 12-16 9/30/2003 SB-21	SB-21 36-38.9 9/30/2003 SB-21	SB-22 12-16 9/29/2003 SB-22	SB-22 36-44 9/29/2003 SB-22	SB-23 20-24 9/30/2003 SB-23	SB-23 52-54.5 9/30/2003 SB-23	SB-24 30-32 10/3/2003 SB-24	SB-24 34-36 10/3/2003 SB-24	SB-24 36-38 10/2/2003 SB-24	SB-25 12-16 10/1/2003 SB-25
2,2- dichloropropane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
cis- 1,3- dichloropropane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1- dichloropropene	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
trans- 1,3- dichloropropene	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	41	390	1	mg/kg	U	0.003 J	U	0.78	0.063	0.007	2.9 J	0.12 J	**81 J**	0.075 J	***540 J***	11 J	***790 J***	1.9 J
Ethylene dibromide	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Freon 12	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
2- hexanone	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Iodomethane (methyl iodide)	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Isopropylbenzene	- -	- -	- -	mg/kg	U	0.002 J	U	0.12 J	U	0.003 J	U	U	U	U	U	U	U	U
4- isopropyltoluene	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
4- methyl- 2- pentanone	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Methyl isobutyl ketone	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	100	500	0.93	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Methylene bromide	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	- -	- -	- -	mg/kg	0.002 J	0.002 J	0.022 B	0.095 J	U	0.002 J	U	0.081 J	U	0.069 J	160 J	U	190 JB	U
2,2- oxyblis (1-chloropropane)	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n- propylbenzene	100	500	3.9	mg/kg	U	U	U	0.083 J	U	U	U	U	U	U	U	U	U	U
Styrene	- -	- -	- -	mg/kg	U	U	U	U	U	0	U	U	U	U	U	U	U	U
Tetrachloroethylene	19	150	1.3	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1,1,2- tetrachloroethane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1,2,2- tetrachloroethane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Toluene	100	500	0.7	mg/kg	U	U	U	U	U	U	U	U	**130**	U	***750***	12 J	***1200***	U
1,2,3- trichlorobenzene	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2,4- trichlorobenzene	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1,1- trichloroethane (methyl chloroform)	100	500	0.68	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1,2- trichloroethane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Trichloroethene (trichloroethylene)	21	200	0.47	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Trichlorofluoromethane (freon 11)	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2,3 - trichloropropane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2,4- trimethylbenzene	52	190	3.6	mg/kg	U	U	U	0.42	U	0.005 J	4.4 J	0.084 J	**68 J**	0.062 J	***530 J***	14 J	***760 J***	1.3 J
1,3,5- trimethylbenzene	52	190	8.4	mg/kg	U	U	U	0.14 J	U	0.002 J	2.1 J	U	29 J	U	***230 J***	5.8 J	***320 J***	U
Vinyl acetate	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Vinyl chloride (chloroethene)	0.9	13	0.02	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Total xylenes	100	500	0.26	mg/kg	U	U	U	0.55	U	0.005 J	6.8	0.087 J	**221**	U	***1490***	33.6	***2180***	3.33
Total BTEX	- -	- -	- -	mg/kg	0.002	0.073	ND	1.330	0.063	0.016	12.100	0.207	482.000	0.075	3100.000	56.600	4660.000	5.840
Total VOCs	- -	- -	- -	mg/kg	0.051	0.102	0.03	3.223	0.063	0.045	18.6	1.141	579	1.367	3860	76.4	5740	7.14

See notes on page 9.

Table 4-2
Soil Analytical Results - Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:	SCO Restricted – Residential (bold)	SCO Restricted – Commercial (italics)	SCO – Unrestricted Use (shade)	Units	SB-25	SB-26	SB-26	SB-30	SB-30	SB-31	SB-32	SB-32	SB-32	SB-33	SB-34	SB-34	SB-38
Sample Depth (feet):					24-28	9-13	16-19	10 - 14	34 - 36	7 - 11	9 - 11	9 - 11	35 - 39	5 - 7	13 - 17	37 - 39	25 - 27
Date Collected:					10/1/2003	9/29/2003	10/1/2003	02/20/05	02/20/05	03/06/05	03/02/05	03/02/05	03/02/05	02/27/05	02/23/05	02/24/05	02/22/05
Sample Name:					SB-25	SB-26	SB-26	SB-30	SB-30	SB-31	SB-32	SB-32 DL	SB-32	SB-33	SB-34	SB-34	SB-38
Acetone (2- propanone, dimethyl ketone)	100	500	0.05	mg/kg	U	U	U	7.6 U	0.068	0.009	0.027	0.006 U	0.015	0.013	0.06	0.023	8 U
Benzene	4.8	44	0.06	mg/kg	U	U	1.5 J	**8.1**	0.039 U	0.006 U	0.003 J	0.003 J	0.008 U	0.008 U	0.012 J	0.003 J	***120***
Bromobenzene	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Bromochloromethane	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Bromodichloromethane	- -	- -	- -	mg/kg	U	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Bromomethane/ methyl bromide	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
2- butanone (methyl ethyl ketone)	100	500	0.12	mg/kg	0.78 J	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
n- butylbenzene	100	500	12	mg/kg	U	U	U	2.2 J	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.12	0.008 U	6.1 J
sec- butylbenzene	100	500	11	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.16	0.008 U	8 U
tert- butylbenzene	100	500	5.9	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Carbon disulfide	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.02 J	0.002 J	0.003 J	0.002 J	0.008 U	0.008 U	0.011 J	0.008 U	8 U
Carbon tetrachloride	2.4	22	0.76	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Chlorobenzene	100	500	1.1	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Chlorodibromomethane	- -	- -	- -	mg/kg	NA	NA	NA	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Chloroethane	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Chloroform	49	350	0.37	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Chloromethane (methyl chloride)	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
2- chlorotoluene	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
4- chlorotoluene	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Cumene	- -	- -	- -	mg/kg	NA	NA	NA	5.7 J	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.2	0.008 U	3.6 J
1,2- dibromo- 3- chloropropane	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Dibromochloromethane	- -	- -	- -	mg/kg	U	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2- dibromoethane	- -	- -	- -	mg/kg	U	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	- -	- -	- -	mg/kg	U	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis- 1,3- dichloro, 1- propene	- -	- -	- -	mg/kg	NA	NA	NA	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
1,2- dichlorobenzene	100	500	1.1	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
1,3- dichlorobenzene	49	280	2.4	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
1,4- dichlorobenzene	13	130	1.8	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Dichlorobromomethane	- -	- -	- -	mg/kg	NA	NA	NA	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Dichlorodifluoromethane	- -	- -	- -	mg/kg	U	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1- dichloroethane	26	240	0.27	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
1,2- dichloroethane	3.1	30	0.02	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
cis- 1,2- dichloroethene	100	500	0.25	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
trans- 1,2- dichloroethene	100	500	0.19	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
1,1- dichloroethylene	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Dichloromethane	100	500	0.05	mg/kg	NA	NA	NA	7.6 U	0.039 U	0.002 JB	0.006 U	0.002 JB	0.001 J	0.003 JB	0.04 U	0.008 U	8 U
1,2- dichloropropane	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
1,3- dichloropropane	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U

Table 4-2
Soil Analytical Results - Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Sample Depth (feet): / Date Collected: / Sample Name:	SCO Restricted – Residential (bold)	SCO Restricted – Commercial (italics)	SCO – Unrestricted Use (shade)	Units	SB-25 24-28 10/1/2003 SB-25	SB-26 9-13 9/29/2003 SB-26	SB-26 16-19 10/1/2003 SB-26	SB-30 10 - 14 02/20/05 SB-30	SB-30 34 - 36 02/20/05 SB-30	SB-31 7 - 11 03/06/05 SB-31	SB-32 9 - 11 03/02/05 SB-32	SB-32 9 - 11 03/02/05 SB-32 DL	SB-32 35 - 39 03/02/05 SB-32	SB-33 5 - 7 02/27/05 SB-33	SB-34 13 - 17 02/23/05 SB-34	SB-34 37 - 39 02/24/05 SB-34	SB-38 25 - 27 02/22/05 SB-38
2,2- dichloropropane	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	NA	0.008 U	NA	NA	NA	NA
cis- 1,3- dichloropropane	- -	- -	- -	mg/kg	U	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1- dichloropropene	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
trans- 1,3- dichloropropene	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Ethylbenzene	41	390	1	mg/kg	1.2 J	14 J	3.8 J	18	0.039 U	0.006 U	0.002 J	0.006 U	0.008 U	0.008 U	0.054	0.003 J	**190**
Ethylene dibromide	- -	- -	- -	mg/kg	NA	NA	NA	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Freon 12	- -	- -	- -	mg/kg	NA	NA	NA	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Hexachlorobutadiene	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
2- hexanone	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Iodomethane (methyl iodide)	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Isopropylbenzene	- -	- -	- -	mg/kg	U	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4- isopropyltoluene	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	NA	0.008 U	NA	NA	NA	NA
4- methyl- 2- pentanone	- -	- -	- -	mg/kg	U	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl isobutyl ketone	- -	- -	- -	mg/kg	NA	NA	NA	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Methyl tert-butyl ether	100	500	0.93	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Methylene bromide	- -	- -	- -	mg/kg	NA	NA	NA	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Methylene chloride	- -	- -	- -	mg/kg	0.58 J	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2- oxyblis (1-chloropropane)	- -	- -	- -	mg/kg	NA	NA	NA	10 U	0.52 U	0.41 U	2.2 U	NA	0.5 U	0.4 U	5.3 U	0.52 U	54 U
n- propylbenzene	100	500	3.9	mg/kg	U	U	U	3.4 J	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.16	0.008 U	8.7
Styrene	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Tetrachloroethylene	19	150	1.3	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
1,1,1,2- tetrachloroethane	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
1,1,2,2- tetrachloroethane	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Toluene	100	500	0.7	mg/kg	U	U	5.4 J	14	0.039 U	0.006 U	0.002 J	0.006 U	0.008 U	0.008 U	0.012 J	0.008 U	**220**
1,2,3- trichlorobenzene	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
1,2,4- trichlorobenzene	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
1,1,1- trichloroethane (methyl chloroform)	100	500	0.68	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
1,1,2- trichloroethane	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Trichloroethene (trichloroethylene)	21	200	0.47	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Trichlorofluoromethane (freon 11)	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
1,2,3 - trichloropropane	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
1,2,4- trimethylbenzene	52	190	3.6	mg/kg	0.88 J	11 J	5.6 J	46	0.031 J	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	**120**
1,3,5- trimethylbenzene	52	190	8.4	mg/kg	U	U	U	21	0.014 J	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	**56**
Vinyl acetate	- -	- -	- -	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Vinyl chloride (chloroethene)	0.9	13	0.02	mg/kg	U	U	U	7.6 U	0.039 U	0.006 U	0.006 U	0.006 U	0.008 U	0.008 U	0.04 U	0.008 U	8 U
Total xylenes	100	500	0.26	mg/kg	2.02 J	37	15.2	75	0.041	0.006 U	0.006 J	0.006 U	0.008 U	0.008 U	0.052	0.009	**350**
Total BTEX	- -	- -	- -	mg/kg	3.220	51.000	25.900	115.100	0.041	ND	0.013	0.003	ND	ND	0.130	0.015	880.000
Total VOCs	- -	- -	- -	mg/kg	4.88	62	31.5	193.4	0.174	0.013	0.043	0.007	0.016	0.016	0.841	0.038	1074.4

See notes on page 9.

Table 4-2
Soil Analytical Results - Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Sample Depth (feet): / Date Collected: / Sample Name:	SCO Restricted – Residential (bold)	SCO Restricted – Commercial (italics)	SCO – Unrestricted Use (shade)	Units	SB-38 43 - 45 02/22/05 SB-38	SB-39 45 - 47 03/10/05 SB-39	SB-39 65 - 67 03/12/05 SB-39	SB-40 28 - 30 04/05/05 SB-40	SB-40 46 - 48 04/05/05 SB-40	SB-41 13 - 14 12/06/06 SB-41	SB-41 24 - 25 12/06/06 SB-41	SB-42 13 - 14 12/06/06 SB-42	SB-42 24 - 25 12/06/06 SB-42	SB-42 27 - 28 12/06/06 SB-42	SB-43 16 - 17 12/05/06 SB-43	SB-43 28 - 29 12/05/06 SB-43	SB-44 14 - 15 12/05/06 SB-44	SB-44 19 - 20 12/05/06 SB-44
Acetone (2- propanone, dimethyl ketone)	100	500	0.05	mg/kg	0.039	18 U	0.055	0.03 B	1.5 U	0.057 P	0.011 JP	0.024 P	0.082 JP	0.047 P	0.096 P	0.012 JP	0.024 JP	0.023 JP
Benzene	4.8	44	0.06	mg/kg	0.01 J	*140*	0.14	0.006 U	1.1 J	0.032	0.0013 U	0.019	0.62	0.0029 J	0.025	0.0088	0.0041 J	0.013
Bromobenzene	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.0011 U	0.0015 U	0.0012 U	0.0076 U	0.0015 U	0.0014 U	0.0012 U	0.0012 U	0.0013 U
Bromomethane/ methyl bromide	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.00095 U	0.0012 U	0.00098 U	0.0063 U	0.0013 U	0.0012 U	0.00096 U	0.00098 U	0.0011 U
2- butanone (methyl ethyl ketone)	100	500	0.12	mg/kg	0.02 U	18 U	0.034 U	0.012	1.5 U	0.013	0.0026 U	0.0054 J	0.014 U	0.0085 J	0.023	0.0032 J	0.0053 J	0.005 J
n- butylbenzene	100	500	12	mg/kg	0.02 U	18 U	0.034 U	0.002 J	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec- butylbenzene	100	500	11	mg/kg	0.02 U	18 U	0.034 U	0.002 J	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert- butylbenzene	100	500	5.9	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	- -	- -	- -	mg/kg	0.014 J	18 U	0.034 UU	0.006 U	1.5 U	0.00071 U	0.00089 U	0.0013 J	0.0053 J	0.0024 J	0.00088 U	0.002 J	0.00073 U	0.0008 U
Carbon tetrachloride	2.4	22	0.76	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.0009 U	0.0011 U	0.00093 U	0.006 U	0.0012 U	0.0011 U	0.00091 U	0.00093 U	0.001 U
Chlorobenzene	100	500	1.1	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.00092 U	0.0012 U	0.00094 U	0.006 U	0.0012 U	0.0011 U	0.00093 U	0.00094 U	0.001 U
Chlorodibromomethane	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.00048 U	0.0006 U	0.00049 U	0.0031 U	0.00063 U	0.00059 U	0.00048 U	0.00049 U	0.00053 U
Chloroethane	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.0022 U	0.0028 U	0.0023 U	0.014 U	0.0029 U	0.0027 U	0.0022 U	0.0023 U	0.0025 U
Chloroform	49	350	0.37	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.00061 U	0.00078 U	0.00063 U	0.0041 U	0.00081 U	0.00076 U	0.00062 U	0.00063 U	0.00069 U
Chloromethane (methyl chloride)	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.001 U	0.0013 U	0.0011 U	0.0069 U	0.0014 U	0.0013 U	0.0011 U	0.0011 U	0.0012 U
2- chlorotoluene	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
4- chlorotoluene	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cumene	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.001 J	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2- dibromo- 3- chloropropane	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2- dibromoethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis- 1,3- dichloro, 1- propene	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.0009 U	0.0011 U	0.00093 U	0.006 U	0.0012 U	0.0011 U	0.00091 U	0.00093 U	0.001 U
1,2- dichlorobenzene	100	500	1.1	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3- dichlorobenzene	49	280	2.4	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4- dichlorobenzene	13	130	1.8	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorobromomethane	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.00097 U	0.0012 U	0.001 U	0.0064 U	0.0013 U	0.0012 U	0.00098 U	0.001 U	0.0011 U
Dichlorodifluoromethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1- dichloroethane	26	240	0.27	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.00094 U	0.0012 U	0.00097 U	0.0062 U	0.0012 U	0.0012 U	0.00095 U	0.00097 U	0.0011 U
1,2- dichloroethane	3.1	30	0.02	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.0011 U	0.0015 U	0.0012 U	0.0076 U	0.0015 U	0.0014 U	0.0012 U	0.0012 U	0.0013 U
cis- 1,2- dichloroethene	100	500	0.25	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.0012 U	0.0015 U	0.0012 U	0.008 U	0.0016 U	0.0015 U	0.0012 U	0.0012 U	0.0014 U
trans- 1,2- dichloroethene	100	500	0.19	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.00067 U	0.00085 U	0.00069 U	0.0044 U	0.00089 U	0.00083 U	0.00068 U	0.00069 U	0.00076 U
1,1- dichloroethylene	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.0013 U	0.0016 U	0.0013 U	0.0083 U	0.0017 U	0.0016 U	0.0013 U	0.0013 U	0.0014 U
Dichloromethane	100	500	0.05	mg/kg	0.02 U	18 U	0.034 U	0.006 U	0.4 J	0.014 JP	0.02 JP	0.024 JP	0.071 JP	0.023 JP	0.016 JP	0.013 JP	0.014 JP	0.015 JP
1,2- dichloropropane	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.0012 U	0.0016 U	0.0013 U	0.0081 U	0.0016 U	0.0015 U	0.0012 U	0.0013 U	0.0014 U
1,3- dichloropropane	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 4-2
Soil Analytical Results - Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: Sample Depth (feet): Date Collected: Sample Name:	SCO Restricted – Residential (bold)	SCO Restricted – Commercial (italics)	SCO – Unrestricted Use (shade)	Units	SB-38 43 - 45 02/22/05 SB-38	SB-39 45 - 47 03/10/05 SB-39	SB-39 65 - 67 03/12/05 SB-39	SB-40 28 - 30 04/05/05 SB-40	SB-40 46 - 48 04/05/05 SB-40	SB-41 13 - 14 12/06/06 SB-41	SB-41 24 - 25 12/06/06 SB-41	SB-42 13 - 14 12/06/06 SB-42	SB-42 24 - 25 12/06/06 SB-42	SB-42 27 - 28 12/06/06 SB-42	SB-43 16 - 17 12/05/06 SB-43	SB-43 28 - 29 12/05/06 SB-43	SB-44 14 - 15 12/05/06 SB-44	SB-44 19 - 20 12/05/06 SB-44
2,2- dichloropropane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis- 1,3- dichloropropane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1- dichloropropene	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans- 1,3- dichloropropene	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.0011 U	0.0013 U	0.0011 U	0.007 U	0.0014 U	0.0013 U	0.0011 U	0.0011 U	0.0012 U
Ethylbenzene	41	390	1	mg/kg	0.005 J	**49**	0.1	0.006 U	0.7 J	0.001 J	0.041	0.00094 U	0.76	0.065	0.0011 U	0.0085	0.00094 U	0.001 U
Ethylene dibromide	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Freon 12	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
2- hexanone	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.0029 U	0.0037 U	0.003 U	0.019 U	0.0039 U	0.0036 U	0.003 U	0.003 U	0.0033 U
Iodomethane (methyl iodide)	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4- isopropyltoluene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4- methyl- 2- pentanone	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl isobutyl ketone	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.0014 U	0.0017 U	0.0014 U	0.009 U	0.0018 U	0.0017 U	0.0014 U	0.0014 U	0.0015 U
Methyl tert-butyl ether	100	500	0.93	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene bromide	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2- oxyblis (1-chloropropane)	- -	- -	- -	mg/kg	0.51 U	2.3 U	0.44 U	0.44 U	0.51 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
n- propylbenzene	100	500	3.9	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.0012 U	0.0016 U	0.0013 U	0.0081 U	0.0016 U	0.0015 U	0.0012 U	0.0013 U	0.0014 U
Tetrachloroethylene	19	150	1.3	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1,2- tetrachloroethane	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2- tetrachloroethane	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.00081 U	0.001 U	0.00084 U	0.0054 U	0.0011 U	0.001 U	0.00082 U	0.00084 U	0.00091 U
Toluene	100	500	0.7	mg/kg	0.006 J	100	0.12	0.006 U	0.31 J	0.0024 J	0.0012 U	0.0015 J	0.019 J	0.0013 U	0.0015 J	0.0026 J	0.001 U	0.0011 U
1,2,3- trichlorobenzene	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4- trichlorobenzene	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1- trichloroethane (methyl chloroform)	100	500	0.68	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.00097 U	0.0012 U	0.001 U	0.0064 U	0.0013 U	0.0012 U	0.00098 U	0.001 U	0.0011 U
1,1,2- trichloroethane	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.0012 U	0.0015 U	0.0012 U	0.008 U	0.0016 U	0.0015 U	0.0012 U	0.0012 U	0.0014 U
Trichloroethene (trichloroethylene)	21	200	0.47	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.00079 U	0.001 U	0.00084 J	0.0084 J	0.001 U	0.001 J	0.0008 U	0.00081 U	0.00089 U
Trichlorofluoromethane (freon 11)	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3 - trichloropropane	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4- trimethylbenzene	52	190	3.6	mg/kg	0.007 J	34	0.16	0.001 J	0.46 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5- trimethylbenzene	52	190	8.4	mg/kg	0.02 U	14 J	0.054	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl acetate	- -	- -	- -	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride (chloroethene)	0.9	13	0.02	mg/kg	0.02 U	18 U	0.034 U	0.006 U	1.5 U	0.001 U	0.0013 U	0.001 U	0.0067 U	0.0013 U	0.0012 U	0.001 U	0.001 U	0.0011 U
Total xylenes	100	500	0.26	mg/kg	0.016 J	**110**	0.33	0.006 U	1.8	0.0023 U	0.088	0.0023 U	0.97	0.093	0.0028 U	0.0068	0.0023 U	0.0026 U
Total BTEX	- -	- -	- -	mg/kg	0.037	399.000	0.690	ND	3.910	0.035	0.129	0.021	2.369	0.161	0.027	0.027	0.004	0.013
Total VOCs	- -	- -	- -	mg/kg	0.097	447	0.959	0.048	4.77	0.1194	0.16	0.07604	2.5357	0.2418	0.1625	0.0569	0.0474	0.056

See notes on page 9.

Table 4-2
Soil Analytical Results - Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:	SCO	SCO	SCO –		SB-44	SB-44-DUP	SB-46	SB-46	SB-47	SB-47	SB-48	SB-48	SB-48-DUP	SB-49	SB-49	SB-50	SB-51	SB-51-DUP
Sample Depth (feet):	Restricted –	Restricted –	Unrestricted		21 - 22	21 - 22	25 - 28	28 - 30	5 - 7	23	12	18.5 - 19	18.5 - 19	9.5	12	9	14.5	14.5
Date Collected:	Residential	Commercial	Use		12/05/06	12/05/06	06/12/08	06/12/08	03/26/08	03/26/08	07/24/10	07/24/10	07/24/10	07/25/10	07/25/10	02/26/11	02/27/11	02/27/11
Sample Name:	(bold)	(italics)	(shade)	Units	SB-44	SB-44-DUP	SB-46	SB-46	SB-47	SB-47	SB-48	SB-48	SB-48-DUP	SB-49	SB-49	SB-50	SB-51	SB-51-DUP
Acetone (2- propanone, dimethyl ketone)	100	500	0.05	mg/kg	0.14 P	0.1 P	19 UJ	20 UJ	0.024 U	0.13 J	140 U	0.024 UPJ	0.023 UPJ	0.093 J	0.14 UPJ	0.0037 J	0.023 J	0.016 J
Benzene	4.8	44	0.06	mg/kg	0.0023 J	0.0021 J	***260***	***130***	0.0059 U	0.038 J	**31 J**	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Bromobenzene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	- -	- -	- -	mg/kg	0.0016 U	0.0015 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Bromomethane/ methyl bromide	- -	- -	- -	mg/kg	0.0013 U	0.0013 U	7.6 UJ	7.9 UJ	0.0059 UJ	0.0076 U	58 UJ	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
2- butanone (methyl ethyl ketone)	100	500	0.12	mg/kg	0.043	0.03	7.6 U	7.9 U	0.012 U	0.051 U	58 U	0.012 U	0.012 U	0.064 U	0.07 U	0.012 U	0.012 U	0.012 U
n- butylbenzene	100	500	12	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec- butylbenzene	100	500	11	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert- butylbenzene	100	500	5.9	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	- -	- -	- -	mg/kg	0.0011 J	0.0015 J	7.6 U	7.9 U	0.0059 U	0.0085 U	58 UJ	0.0026 J	0.0027 J	0.032 U	0.035 U	0.006 U	0.0016 J	0.0011 J
Carbon tetrachloride	2.4	22	0.76	mg/kg	0.0013 U	0.0012 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 UJ	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Chlorobenzene	100	500	1.1	mg/kg	0.0013 U	0.0012 U	7.6 U	7.9 U	0.0059 UJ	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 UJ	0.006 U	0.0059 U	0.0058 U
Chlorodibromomethane	- -	- -	- -	mg/kg	0.00067 U	0.00063 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Chloroethane	- -	- -	- -	mg/kg	0.0031 U	0.0029 U	7.6 UJ	7.9 UJ	0.0059 UJ	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Chloroform	49	350	0.37	mg/kg	0.00086 U	0.00081 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Chloromethane (methyl chloride)	- -	- -	- -	mg/kg	0.0015 U	0.0014 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 UJ	0.0059 U	0.0059 U	0.032 U	0.035 U	***R***	0.0059 U	0.0058 U
2- chlorotoluene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4- chlorotoluene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cumene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2- dibromo- 3- chloropropane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2- dibromoethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis- 1,3- dichloro, 1- propene	- -	- -	- -	mg/kg	0.0013 U	0.0012 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
1,2- dichlorobenzene	100	500	1.1	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3- dichlorobenzene	49	280	2.4	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4- dichlorobenzene	13	130	1.8	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorobromomethane	- -	- -	- -	mg/kg	0.0014 U	0.0013 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Dichlorodifluoromethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1- dichloroethane	26	240	0.27	mg/kg	0.0013 U	0.0012 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
1,2- dichloroethane	3.1	30	0.02	mg/kg	0.0016 U	0.0015 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
cis- 1,2- dichloroethene	100	500	0.25	mg/kg	0.0017 U	0.0016 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
trans- 1,2- dichloroethene	100	500	0.19	mg/kg	0.00095 U	0.00089 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
1,1- dichloroethylene	- -	- -	- -	mg/kg	0.0018 U	0.0017 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Dichloromethane	100	500	0.05	mg/kg	0.019 JP	0.021 JP	7.6 UJ	7.9 UJ	0.0021 J	0.0092 J	58 UP	0.024 UP	0.023 UP	0.13 UP	0.14 UP	0.024 UP	0.024 UP	0.023 UP
1,2- dichloropropane	- -	- -	- -	mg/kg	0.0017 U	0.0016 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
1,3- dichloropropane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 4-2
Soil Analytical Results - Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:	SCO	SCO	SCO –		SB-44	SB-44-DUP	SB-46	SB-46	SB-47	SB-47	SB-48	SB-48	SB-48-DUP	SB-49	SB-49	SB-50	SB-51	SB-51-DUP
Sample Depth (feet):	Restricted –	Restricted –	Unrestricted		21 - 22	21 - 22	25 - 28	28 - 30	5 - 7	23	12	18.5 - 19	18.5 - 19	9.5	12	9	14.5	14.5
Date Collected:	Residential	Commercial	Use		12/05/06	12/05/06	06/12/08	06/12/08	03/26/08	03/26/08	07/24/10	07/24/10	07/24/10	07/25/10	07/25/10	02/26/11	02/27/11	02/27/11
Sample Name:	(bold)	(italics)	(shade)	Units	SB-44	SB-44-DUP	SB-46	SB-46	SB-47	SB-47	SB-48	SB-48	SB-48-DUP	SB-49	SB-49	SB-50	SB-51	SB-51-DUP
2,2- dichloropropane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis- 1,3- dichloropropane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1- dichloropropene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans- 1,3- dichloropropene	- -	- -	- -	mg/kg	0.0015 U	0.0014 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Ethylbenzene	41	390	1	mg/kg	0.0013 U	0.019	**130**	**97**	0.0059 UJ	0.27 D	**110**	0.0059 U	0.0059 U	0.032 U	0.035 UJ	0.006 U	0.0059 U	0.0058 U
Ethylene dibromide	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Freon 12	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2- hexanone	- -	- -	- -	mg/kg	0.0041 U	0.0039 U	7.6 U	7.9 U	0.012 U	0.015 U	58 U	0.012 U	0.012 U	0.064 U	0.07 UJ	0.012 U	0.012 U	0.012 U
Iodomethane (methyl iodide)	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4- isopropyltoluene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4- methyl- 2- pentanone	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl isobutyl ketone	- -	- -	- -	mg/kg	0.0019 U	0.0018 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Methyl tert-butyl ether	100	500	0.93	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene bromide	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2- oxyblis (1-chloropropane)	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n- propylbenzene	100	500	3.9	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	- -	mg/kg	0.0017 U	0.0016 U	110	36	0.0059 UJ	0.0076 U	14 J	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Tetrachloroethylene	19	150	1.3	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1,2- tetrachloroethane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2- tetrachloroethane	- -	- -	- -	mg/kg	0.0011 U	0.0011 U	7.6 U	7.9 U	0.0059 U	0.0011 J	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Toluene	100	500	0.7	mg/kg	0.0014 U	0.0013 U	**350 D**	**200**	0.0059 U	0.011 J	75	0.0059 UP	0.0059 UP	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
1,2,3- trichlorobenzene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4- trichlorobenzene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1- trichloroethane (methyl chloroform)	100	500	0.68	mg/kg	0.0014 U	0.0013 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
1,1,2- trichloroethane	- -	- -	- -	mg/kg	0.0017 U	0.0016 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Trichloroethene (trichloroethylene)	21	200	0.47	mg/kg	0.0011 U	0.001 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Trichlorofluoromethane (freon 11)	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3 - trichloropropane	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4- trimethylbenzene	52	190	3.6	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5- trimethylbenzene	52	190	8.4	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl acetate	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride (chloroethene)	0.9	13	0.02	mg/kg	0.0014 U	0.0013 U	7.6 U	7.9 U	0.0059 U	0.0076 U	58 U	0.0059 U	0.0059 U	0.032 U	0.035 U	0.006 U	0.0059 U	0.0058 U
Total xylenes	100	500	0.26	mg/kg	0.0045 J	0.017	***600***	**330**	0.0059 UJ	0.12 D	**280 J**	0.00086 J	0.0012 J	0.032	0.012 J	0.006 U	0.0059 U	0.0058 U
Total BTEX	- -	- -	- -	mg/kg	0.007	0.038	1340.000	757.000	ND	0.439	496.000	0.001	0.001	0.032	0.012	ND	ND	ND
Total VOCs	- -	- -	- -	mg/kg	0.2099	0.1906	1450	793	0.0021	0.5793	510	0.00346	0.0039	0.125	0.012	0.0037	0.0246	0.0171

See notes on page 9.

Table 4-2
Soil Analytical Results - Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Notes:

Italicized result exceeds SCO for Restricted – Commercial use.
Bolded result exceeds SCO Restricted – Residential use.
Shaded result exceeds SCO Unrestricted use.

1. Qualifiers are as follows:
   - B Analyte was also detected in the associated method blank.
   - D The reported concentration is based on a diluted sample analysis.
   - E Analyte exceeded calibration range.
   - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
   - M Indicates manually integrated compound.
   - N Indicates spike sample recovery is not within the quality control limits.
   - P Indicates an estimated value between the instrument detection limit and practical quantitation limit (PQL).
   - R The reported concentration was rejected.
   - U The analyte was analyzed for, but not detected. The associated value is the analyte quantitation limit.
2. Screening levels were provided in New York State Department of Environmental Conservation 6 New York Codes, Rules and Regulations Subpart 375.6: Remedial Program Soil Cleanup Objectives.
3. Duplicate samples are indicated by location ID ending in DUP.

BTEX = benzene, toluene, ethylbenzene and xylene
mg/kg = milligrams per kilogram
NA = not analyzed for
ND = not detected
% = percent
PAHs = polycyclic aromatic hydrocarbons
SCO = Soil cleanup objective
VOCs = volatile organic compounds
- - = criteria not indicated

Table 4-3
Soil Analytical Results - Semi-Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:	SCO Restricted-Residential	SCO Restricted-Commercial	SCO – Unrestricted Use		SB-09	SB-09	SB-20	SB-20	SB-21	SB-21	SB-22	SB-22	SB-23	SB-23	SB-24	SB-24	SB-24
Sample Depth:					11-15	31-33.5	12-16	16-20	12-16	36-38.9	12-16	36-44	20-24	52-54.5	30-32	34-36	36-38
Date:					37869	37869	37896	37896	37894	37894	37893	37893	37894	37894	37897	37897	37896
Sample Name:	(bold)	(italics)	(shaded)	Units	SB-09	SB-09	SB-20	SB-20	SB-21	SB-21	SB-22	SB-22	SB-23	SB-23	SB-24	SB-24	SB-24
Acenaphthene	100	500	20	mg/kg	0.086 J	U	3.4	1.4	11	1.2	6.9	0.094 J	**220 D**	19	***4400***	1	***7000***
Acenaphthylene	100	500	100	mg/kg	U	U	U	U	4.3	0.44	1.7	U	**250 D**	15	***7900***	1.9	***12000***
Anthracene	100	500	100	mg/kg	0.16 J	U	1.8	0.26 J	9.5	1.4	6.6	0.081 J	**330 D**	24	***7600***	2.2	***11000***
Benzo (a) anthracene	1	5.6	1	mg/kg	0.42	U	**5.4**	0.171 J	***19***	**2.2**	***9.1 D***	0.089 J	***280 D***	***24***	***6900***	**2.1**	***12000***
Benzo (a) pyrene	1	1	1	mg/kg	0.52	U	**5.4**	0.17 J	***18***	***1.7***	***8.2 D***	0.069 J	***240 D***	***19***	***5300***	***1.6***	***8600***
Benzo (b) fluoranthene	1	5.6	1	mg/kg	0.61	U	3.8	0.12 J	15	1.8	8.4 D	0.074 J	270 D	22	6200	1.8	10000
Benzo (g,h,I) perylene	100	500	100	mg/kg	0.36 J	U	2.7	0.093 J	9.8	0.93	4.3	0.046 J	74	8	***2200***	0.5	***3200***
Benzo (k) fluoranthene	3.9	56	0.8	mg/kg	0.22 J	U	1.2	U	**5.3**	0.54	**4.1**	U	***120 D***	**9.3**	***2700***	0.81	***4300***
Benzyl alcohol	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2- chloroethoxy) methane	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
Bis (2- Chloroethyl) ether	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
Bis (2- ethylhexyl) phthalate	- -	- -	- -	mg/kg	2.2	0.3 J	U	U	U	U	U	U	U	0.45 J	U	U	U
4- Bromofluorobenzene	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4- Bromophenyl- phenylether	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
Butylbenzylphthalate	- -	- -	- -	mg/kg	0.044 J	U	U	U	U	U	U	U	U	U	U	U	U
Carbazole	- -	- -	- -	mg/kg	0.091 J	U	U	U	U	0.083 J	2.5	U	140 D	12	3200	0.96	5400
4- Chloro- 3- methylphenol	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
4- Chloroaniline	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
2- Chloronaphthalene	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
2- Chlorophenol	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
4- Chlorophenyl- phenylether	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
Chrysene	3.9	56	1	mg/kg	0.44	U	**5.2**	0.172 J	**18**	2.4	**7.7 D**	0.075 J	***260 D***	**22**	***5700***	1.7	***9200***
Dibenzo (a,h) anthracene	0.33	0.56	0.33	mg/kg	0.071 J	U	**0.49 J**	U	***2.1***	0.2 J	***1.1***	U	***21***	***2.4***	***700 J***	0.16 J	***1000 J***
Dibenzofuran	59	350	7	mg/kg	0.06 J	U	1.4	0.086 J	1.9 J	0.27 J	4.8	0.062 J	**280 D**	20	***7500***	2	***12000***
Dibutyl phthalate	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2- Dichlorobenzene	100	500	1.1	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
1,3- Dichlorobenzene	49	280	2.4	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
1,4- Dichlorobenzene	13	130	1.8	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
3,3'- Dichlorobenzidine	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
2,4- Dichlorophenol	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
Diethyl phthalate	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
2,4- Dimethylphenol	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	39	1.8 J	200 J	U	360 J
Dimethyl phthalate	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
4,6- Dinitro- 2- methylphenol	- -	- -	- -	mg/kg	U	U	U	U	U	U	U	U	U	U	U	U	U

Table 4-3
Soil Analytical Results - Semi-Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:	SCO Restricted-Residential	SCO Restricted-Commercial	SCO – Unrestricted Use		SB-09		SB-09		SB-20		SB-20		SB-21		SB-21		SB-22		SB-22		SB-23		SB-23		SB-24		SB-24		SB-24	
Sample Depth:					11-15		31-33.5		12-16		16-20		12-16		36-38.9		12-16		36-44		20-24		52-54.5		30-32		34-36		36-38	
Date:					37869		37869		37896		37896		37894		37894		37893		37893		37894		37894		37897		37897		37896	
Sample Name:	(bold)	(italics)	(shaded)	Units	SB-09		SB-09		SB-20		SB-20		SB-21		SB-21		SB-22		SB-22		SB-23		SB-23		SB-24		SB-24		SB-24	
2,4- Dinitrophenol	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U
2,4- Dinitrotoluene	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U
2,6- Dinitrotoluene	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U
Dioctyl phthalate	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U
Fluoranthene	100	500	100	mg/kg	0.76			U	6.1		0.3	J	22		3.2		20	D	0.21	J	***600***	***D***	58	D	***13000***		4		***20000***	
Fluorene	100	500	30	mg/kg	0.077	J		U		U	1.1		7.7		1.9		6.2		0.088	J	**360**	**D**	24		***9200***		2.5		***14000***	
Hexachlorobenzene	1.2	6	0.33	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
Hexachlorobutadiene	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
Hexachlorocyclopentadiene	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
Hexachloroethane	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
Indeno (1,2,3- cd) pyrene	0.5	5.6	0.5	mg/kg	0.34	J		U	**1.5**			U	***6.4***		**0.59**		**3.5**			U	***64***		***7.7***		***2100***		**0.51**		***3400***	
Isophorone	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
2- Methylnaphthalene	- -	- -	- -	mg/kg	0.089	J	0.2	J		U	3.2		1.3	J	0.68		5.8		0.085	J	460	D	32		12000		2.5		19000	
2- Methylphenol	100	500	0.33	mg/kg		U		U		U		U		U		U	0.066	J		U	2.3	J	0.31	J		U		U		U
4- Methylphenol	100	500	0.33	mg/kg		U		U		U		U		U		U	0.2	J		U	8.1		1			U		U		U
Naphthalene	100	500	12	mg/kg	0.99		4.4		0.11	JB	6	B	3.1	B	2.3	B	22	D	2.5	B	***1300***	***DB***	**110**	**DB**	***38000***	***DB***	5.9	B	***56000***	***DB***
2- Nitroaniline	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
3- Nitroaniline	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
4- Nitroaniline	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
Nitrobenzene	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
2- Nitrophenol	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
4- Nitrophenol	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA
N- Nitrosodi- n- propylamine	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
N- Nitrosodiphenylamine	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
2,2- Oxybis (1-Chloropropane)	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
Pentachlorophenol	6.7	6.7	0.8	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
Phenanthrene	100	500	100	mg/kg	0.61			U		U	1.4		11		5.2		30	D	0.33	J	***820***	***D***	85	D	***20000***		5.8		***35000***	***D***
Phenol	100	500	0.33	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
Pyrene	100	500	100	mg/kg	0.75			U	18	D	0.59		53	D	6.2		20	D	0.18	J	***520***	***D***	54	D	***13000***		3.9		***21000***	
1,2,4- Trichlorobenzene	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
2,4,5- Trichlorophenol	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
2,4,6- Trichlorophenol	- -	- -	- -	mg/kg		U		U		U		U		U		U		U		U		U		U		U		U	
Total PAHs	- -	- -	- -	mg/kg	6.503		4.6		55.1		14.976		216.5		32.88		165.6		3.921		6189		535.4		156900		38.88		246700	
Total SVOCs	- -	- -	- -	mg/kg	8.898		4.9		56.5		15.062		218.4		33.233		173.166		3.983		6658.4		570.96		167800		41.84		264460	

See notes on page 11.

Table 4-3
Soil Analytical Results - Semi-Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:					SB-25		SB-25		SB-26		SB-26		SB-30		SB-30		SB-30		SB-31		SB-31		SB-32		SB-32		SB-32		SB-33	
Sample Depth:	SCO Restricted- Residential	SCO Restricted- Commercial	SCO – Unrestricted Use		12-16		24-28		9-13		16-19		10 - 14		10 - 14		34 - 36		7 - 11		7 - 11		9 - 11		9 - 11		35 - 39		5 - 7	
Date:					37895		37895		9/29/2003		10/1/2003		02/20/05		02/20/05		02/20/05		03/06/05		03/06/05		03/02/05		03/02/05		03/02/05		02/27/05	
Sample Name:	(bold)	(italics)	(shaded)	Units	SB-25		SB-25		SB-26		SB-26		SB-30		SB-30 DL		SB-30		SB-31		SB-31 DL		SB-32		SB-32 DL		SB-32		-33	
Acenaphthene	100	500	20	mg/kg	28		0.17	J	24		**160**	**DJ**	90		90	D	0.45	J	4.8		3.7	DJ	3.7		3.5	DJ	0.5	U	0.11	J
Acenaphthylene	100	500	100	mg/kg	13			U	19		**430**	**D**	31		27	DJ	0.12	J	0.099	J	4.1	U	1.4	J	0.87	DJ	0.5	U	0.32	J
Anthracene	100	500	100	mg/kg	46		0.38	J	81	D	**380**	**D**	**170**	**D**	**170**	**D**	0.7		9.4	E	11	D	5.7		5	D	0.21	J	0.41	
Benzo (a) anthracene	1	5.6	1	mg/kg	***45***		0.16	J	***100***	***D***	***320***	**D**	***120***		***120***	***D***	0.44	J	***30***	***E***	***24***	***D***	***21***		***18***	***D***	0.43	J	**2**	
Benzo (a) pyrene	1	1	1	mg/kg	***39***		0.13	J	***93***		***260***	***DJ***	***100***		***100***	***D***	0.35	J	***23***	***E***	***20***	***D***	***29***		***27***	***D***	0.45	J	***2.6***	
Benzo (b) fluoranthene	1	5.6	1	mg/kg	***46***		0.15	J	***110***	***D***	***250***	***DJ***	***110***		***98***	***D***	0.38	J	***35***	***E***	***22***	***D***	***29***		***25***	***D***	0.59		**3.2**	
Benzo (g,h,I) perylene	100	500	100	mg/kg	19			U	41	D	48		52		51	D	0.17	J	5.8		9.4	D	13		15	D	0.12	J	0.8	
Benzo (k) fluoranthene	3.9	56	0.8	mg/kg	**18**		0.065	J	**32**		***130***	***DJ***	**42**		**48**	**D**	0.18	J	**14**	**E**	**10**	**D**	**9.9**		**8.8**	**D**	0.25	J	1.4	
Benzyl alcohol	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA
Bis (2- chloroethoxy) methane	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Bis (2- Chloroethyl) ether	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Bis (2- ethylhexyl) phthalate	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.32	J	4.1	U	2.2	U	4.3	U	0.17	J	0.4	U
4- Bromofluorobenzene	- -	- -	- -	mg/kg		NA		NA		NA		NA	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
4- Bromophenyl- phenylether	- -	- -	- -	mg/kg		U		U		U		U		NA		NA		NA		NA		NA		NA		NA		NA		NA
Butylbenzylphthalate	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Carbazole	- -	- -	- -	mg/kg	18		0.13	J	29		180	DJ	39		38	DJ	0.22	J	3.2		2.4	DJ	2.4		4.3	U	0.5	U	0.4	U
4- Chloro- 3- methylphenol	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
4- Chloroaniline	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
2- Chloronaphthalene	- -	- -	- -	mg/kg		U		U		U	2	J	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
2- Chlorophenol	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
4- Chlorophenyl- phenylether	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Chrysene	3.9	56	1	mg/kg	**42**		0.16	J	***92***	***D***	***240***	**DJ**	***120***		***120***	***D***	0.47	J	**24**	**E**	**23**	**D**	**22**		**22**	**D**	0.45	J	2.1	
Dibenzo (a,h) anthracene	0.33	0.56	0.33	mg/kg	***5.1***			U	***9***		***13***		***15***		***16***	***DJ***	0.52	U	***1.8***		***2.6***	***DJ***	***3.6***		***4***	***DJ***	0.5	U	0.22	J
Dibenzofuran	59	350	7	mg/kg	31		0.16	J	32		**350**	**D**	**86**		**85**	**D**	0.34	J	2.6		2.1	DJ	0.8	J	0.78	DJ	0.11	J	0.12	J
Dibutyl phthalate	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.14	J	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.26	J
1,2- Dichlorobenzene	100	500	1.1	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
1,3- Dichlorobenzene	49	280	2.4	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
1,4- Dichlorobenzene	13	130	1.8	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
3,3'- Dichlorobenzidine	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
2,4- Dichlorophenol	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Diethyl phthalate	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
2,4- Dimethylphenol	- -	- -	- -	mg/kg		U		U	0.91	J	29		10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Dimethyl phthalate	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
4,6- Dinitro- 2- methylphenol	- -	- -	- -	mg/kg		U		U		U		U	21	U	84	U	1	U	0.83	U	8.3	U	4.4	U	8.8	U	1	U	0.81	U

Table 4-3
Soil Analytical Results - Semi-Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:					SB-25		SB-25		SB-26		SB-26		SB-30		SB-30		SB-30		SB-31		SB-31		SB-32		SB-32		SB-32		SB-33	
Sample Depth:	SCO Restricted-Residential	SCO Restricted-Commercial	SCO – Unrestricted Use		12-16		24-28		9-13		16-19		10 - 14		10 - 14		34 - 36		7 - 11		7 - 11		9 - 11		9 - 11		35 - 39		5 - 7	
Date:					37895		37895		9/29/2003		10/1/2003		02/20/05		02/20/05		02/20/05		03/06/05		03/06/05		03/02/05		03/02/05		03/02/05		02/27/05	
Sample Name:	(bold)	(italics)	(shaded)	Units	SB-25		SB-25		SB-26		SB-26		SB-30		SB-30 DL		SB-30		SB-31		SB-31 DL		SB-32		SB-32 DL		SB-32		-33	
2,4- Dinitrophenol	- -	- -	- -	mg/kg		U		U		U		U	21	U	84	U	1	U	0.83	U	8.3	U	4.4	U	8.8	U	1	U	0.81	U
2,4- Dinitrotoluene	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
2,6- Dinitrotoluene	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Dioctyl phthalate	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Fluoranthene	100	500	100	mg/kg	92	D	0.46	J	**190**	**D**	***790***	***D***	**290**	**D**	**290**	**D**	1.1		23	E	54	D	25		26	D	0.87		3.2	
Fluorene	100	500	30	mg/kg	36		0.18	J	80	D	**420**	**D**	**110**		**110**	**D**	0.45	J	3.6		2.8	DJ	1.2	J	1	DJ	0.1	J	0.14	J
Hexachlorobenzene	1.2	6	0.33	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Hexachlorobutadiene	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Hexachlorocyclopentadiene	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Hexachloroethane	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Indeno (1,2,3- cd) pyrene	0.5	5.6	0.5	mg/kg	***17***		0.053	J	***31***		***44***		***46***		***46***	***D***	0.16	J	***5.8***		***8.7***	***D***	***11***		***12***	***D***	0.12	J	**0.77**	
Isophorone	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
2- Methylnaphthalene	- -	- -	- -	mg/kg	15		0.19	J	71	D	660	D	87		85	D	0.37	J	0.26	J	4.1	U	0.31	J	4.3	U	0.12	J	0.065	J
2- Methylphenol	100	500	0.33	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
4- Methylphenol	100	500	0.33	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Naphthalene	100	500	12	mg/kg	61	B	1.5	B	**270**	**DB**	***3700***	***D***	**300**	**D**	**300**	**D**	1.2		0.31	J	4.1	U	1	J	0.97	DJ	0.48	J	0.4	U
2- Nitroaniline	- -	- -	- -	mg/kg		U		U		U		U	21	U	84	U	1	U	0.83	U	8.3	U	4.4	U	8.8	U	1	U	0.81	U
3- Nitroaniline	- -	- -	- -	mg/kg		U		U		U		U	21	U	84	U	1	U	0.83	U	8.3	U	4.4	U	8.8	U	1	U	0.81	U
4- Nitroaniline	- -	- -	- -	mg/kg		U		U		U		U	21	U	84	U	1	U	0.83	U	8.3	U	4.4	U	8.8	U	1	U	0.81	U
Nitrobenzene	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
2- Nitrophenol	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
4- Nitrophenol	- -	- -	- -	mg/kg		NA		NA		NA		NA	21	U	84	U	1	U	0.83	U	8.3	U	4.4	U	8.8	U	1	U	0.81	U
N- Nitrosodi- n- propylamine	- -	- -	- -	mg/kg		U		U		U		U	10	U		NA	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
N- Nitrosodiphenylamine	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
2,2- Oxybis (1-Chloropropane)	- -	- -	- -	mg/kg		U		U		U		U		NA		NA		NA		NA		NA		NA		NA		NA		NA
Pentachlorophenol	6.7	6.7	0.8	mg/kg		U		U		U		U	21	U	84	U	1	U	0.83	U	8.3	U	4.4	U	8.8	U	1	U	0.81	U
Phenanthrene	100	500	100	mg/kg	**110**	**D**	0.7	D	**200**	**D**	***1300***	***D***	**450**	**D**	**450**	**D**	1.7		22	E	43	D	10		9.4	D	0.7		1.3	
Phenol	100	500	0.33	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
Pyrene	100	500	100	mg/kg	88	D	0.36	J	**180**	**D**	***580***	***D***	**260**	**D**	**260**	**D**	0.95		33	E	49	D	38	E	42	D	0.81		3.5	
1,2,4- Trichlorobenzene	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
2,4,5- Trichlorophenol	- -	- -	- -	mg/kg		U		U		U		U	10	U	41	U	0.52	U	0.41	U	4.1	U	2.2	U	4.3	U	0.5	U	0.4	U
2,4,6- Trichlorophenol	- -	- -	- -	mg/kg		U		U		U		U	21	U	84	U	1	U	0.83	U	8.3	U	4.4	U	8.8	U	1	U	0.81	U
Total PAHs	- -	- -	- -	mg/kg	720.1		4.658		1623		9725		2393		2381		9.19		235.869		283.2		224.81		220.54		5.7		22.135	
Total SVOCs	- -	- -	- -	mg/kg	769.1		4.948		1684.91		10286		2518		2504		9.89		241.989		287.7		228.01		221.32		5.98		22.515	

See notes on page 11.

Table 4-3
Soil Analytical Results - Semi-Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:	SCO Restricted-	SCO Restricted-	SCO –		SB-34		SB-34		SB-34		SB-38		SB-38		SB-38		SB-39		SB-39		SB-39		SB-39		SB-40		SB-40		SB-40	
Sample Depth:					13 - 17		13 - 17		37 - 39		25 - 27		25 - 27		43 - 45		45 - 47		45 - 47		65 - 67		65 - 67		28 - 30		28 - 30		46 - 48	
Date:	Residential	Commercial	Unrestricted Use		02/23/05		02/23/05		02/24/05		02/22/05		02/22/05		02/22/05		03/10/05		03/10/05		03/12/05		03/12/05		04/05/05		04/05/05		04/05/05	
Sample Name:	(bold)	(italics)	(shaded)	Units	SB-34		SB-34 DL		SB-34		SB-38		SB-38 DL		SB-38		SB-39		SB-39 DL		SB-39		SB-39 DL		SB-40		SB-40 DL		SB-40	
Acenaphthene	100	500	20	mg/kg	44		46	DJ	0.52	U	**490**		**470**	**DJ**	0.76		**190**	**DJ**	**190**	**DJ**	11	D	11	D	1.2		1.7	DJ	3.8	
Acenaphthylene	100	500	100	mg/kg	**120**	**D**	**120**	**D**	0.52	U	***2200***	***DJ***	***2200***	***DJ***	0.36	J	**370**	**D**	**370**	**D**	24	D	24	D	0.21	J	0.33	DJ	14	E
Anthracene	100	500	100	mg/kg	***540***	***D***	***540***	***D***	0.12	J	***2400***	***DJ***	***2400***	***DJ***	1.1		**340**	**D**	**340**	**D**	20	D	20	D	1.5		1.9	D	11	E
Benzo (a) anthracene	1	5.6	1	mg/kg	***680***	***D***	***680***	***D***	0.13	J	***1600***	***DJ***	***1600***	***DJ***	1		***260***	***D***	***260***	***D***	***19***	***D***	***19***	***D***	**2.9**		**2.9**	**D**	***7.2***	
Benzo (a) pyrene	1	1	1	mg/kg	***600***	***D***	***600***	***D***	0.11	J	***1300***	***DJ***	***1300***	***DJ***	0.88		***230***	***DJ***	***230***	***DJ***	***18***	***D***	***18***	***D***	***2.5***		***2.6***	***D***	***13***	***E***
Benzo (b) fluoranthene	1	5.6	1	mg/kg	***610***	***D***	***610***	***D***	0.12	J	***1300***	***DJ***	***1300***	***DJ***	**1.1**		***240***	***D***	***240***	***D***	***18***	***D***	***18***	***D***	**4.5**		**3.7**	**D**	***18***	***E***
Benzo (g,h,I) perylene	100	500	100	mg/kg	**320**	**D**	**320**	**D**	0.52	U	***550***		***690***	***DJ***	0.22	J	**120**	**DJ**	**120**	**DJ**	4.5		8.9	DJ	0.52		1.3	DJ	2.7	
Benzo (k) fluoranthene	3.9	56	0.8	mg/kg	***230***	***D***	***230***	***D***	0.52	U	***560***		***660***	***DJ***	0.43	J	***100***	***DJ***	***100***	***DJ***	**8.7**	**DJ**	**8.7**	**DJ**	1.5		1.4	DJ	**4.9**	
Benzyl alcohol	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA
Bis (2- chloroethoxy) methane	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
Bis (2- Chloroethyl) ether	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
Bis (2- ethylhexyl) phthalate	- -	- -	- -	mg/kg	5.3	U	110	U	0.13	J	54	U	2700	U	0.51	U	2.3	U	230	U	0.19	J	8.9	U	0.44	U	1.8	U	0.51	U
4- Bromofluorobenzene	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
4- Bromophenyl- phenylether	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA
Butylbenzylphthalate	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
Carbazole	- -	- -	- -	mg/kg	7.7		110	U	0.52	U	740		2700	U	0.37	J	130	DJ	130	DJ	9.2	D	9.2	D	0.44	J	0.42	DJ	2.7	
4- Chloro- 3- methylphenol	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
4- Chloroaniline	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
2- Chloronaphthalene	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
2- Chlorophenol	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
4- Chlorophenyl- phenylether	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
Chrysene	3.9	56	1	mg/kg	***650***	***D***	***650***	***D***	0.15	J	***1800***	***DJ***	***1800***	***DJ***	0.89		***240***	***D***	***240***	***D***	**16**	**D**	**16**	**D**	2.2		3.4	D	**6.6**	
Dibenzo (a,h) anthracene	0.33	0.56	0.33	mg/kg	***38***		***73***	***DJ***	0.52	U	***140***		2700	U	0.068	J	***20***		230	U	***1.1***		***2***	***DJ***	0.12	J	1.8	U	***0.74***	
Dibenzofuran	59	350	7	mg/kg	12		110	U	0.52	U	***1500***	***DJ***	***1500***	***DJ***	0.71		**310**	**D**	**310**	**D**	21	D	21	D	0.64		1	DJ	13	E
Dibutyl phthalate	- -	- -	- -	mg/kg	5.3	U	110	U	0.34	J	54	U	2700	U	0.2	J	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
1,2- Dichlorobenzene	100	500	1.1	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
1,3- Dichlorobenzene	49	280	2.4	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
1,4- Dichlorobenzene	13	130	1.8	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
3,3'- Dichlorobenzidine	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
2,4- Dichlorophenol	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
Diethyl phthalate	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
2,4- Dimethylphenol	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	180		2700	U	0.51	U	110	DJ	110	DJ	3.9		2	DJ	0.44	U	1.8	U	0.51	U
Dimethyl phthalate	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
4,6- Dinitro- 2- methylphenol	- -	- -	- -	mg/kg	11	U	220	U	1	U	110	U	5500	U	1	U	4.8	U	480	U	0.9	U	18	U	0.9	U	3.6	U	1	U

Table 4-3
Soil Analytical Results - Semi-Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:					SB-34		SB-34		SB-34		SB-38		SB-38		SB-38		SB-39		SB-39		SB-39		SB-39		SB-40		SB-40		SB-40	
Sample Depth:	SCO Restricted- Residential	SCO Restricted- Commercial	SCO – Unrestricted Use		13 - 17		13 - 17		37 - 39		25 - 27		25 - 27		43 - 45		45 - 47		45 - 47		65 - 67		65 - 67		28 - 30		28 - 30		46 - 48		
Date:					02/23/05		02/23/05		02/24/05		02/22/05		02/22/05		02/22/05		03/10/05		03/10/05		03/12/05		03/12/05		04/05/05		04/05/05		04/05/05		
Sample Name:	(bold)	(italics)	(shaded)	Units	SB-34		SB-34 DL		SB-34		SB-38		SB-38 DL		SB-38		SB-39		SB-39 DL		SB-39		SB-39 DL		SB-40		SB-40 DL		SB-40	
2,4- Dinitrophenol	- -	- -	- -	mg/kg	11	U	220	U	1	U	110	U	5500	U	1	U	4.8	U	480	U	0.9	U	18	U	0.9	U	3.6	U	1	U
2,4- Dinitrotoluene	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
2,6- Dinitrotoluene	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
Dioctyl phthalate	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
Fluoranthene	100	500	100	mg/kg	***1600***	***D***	***1600***	***D***	0.31	J	***4500***	***D***	***4500***	***D***	2.7		***820***	***D***	***820***	***D***	57	D	57	D	10	E	6.6	D	21	E
Fluorene	100	500	30	mg/kg	10		110	U	0.52	U	***1800***	***DJ***	***1800***	***DJ***	0.8		**340**	**D**	**340**	**D**	23	D	23	D	1.1		1.7	DJ	16	E
Hexachlorobenzene	1.2	6	0.33	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
Hexachlorobutadiene	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
Hexachlorocyclopentadiene	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
Hexachloroethane	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
Indeno (1,2,3- cd) pyrene	0.5	5.6	0.5	mg/kg	***270***	***D***	***270***	***D***	0.52	U	***530***		***620***	***DJ***	0.22	J	***100***	***DJ***	***100***	***DJ***	**4.2**		***8***	***DJ***	0.44	J	**1.2**	**DJ**	**2.8**	
Isophorone	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
2- Methylnaphthalene	- -	- -	- -	mg/kg	4.2	J	110	U	0.52	U	2700	D	2700	D	0.86		460	D	460	D	26	D	26	D	0.48		0.79	DJ	10	E
2- Methylphenol	100	500	0.33	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	47	DJ	47	DJ	1.2		1	DJ	0.44	U	1.8	U	0.51	U
4- Methylphenol	100	500	0.33	mg/kg	5.3	U	110	U	0.52	U	**240**		2700	U	0.51	U	**220**	**DJ**	**220**	**DJ**	4.1		3.7	DJ	0.075	J	1.8	U	0.51	U
Naphthalene	100	500	12	mg/kg	25		110	U	0.3	J	***16000***	***D***	***16000***	***D***	4.2		***3200***	***D***	***3200***	***D***	**140**	**DE**	**140**	**DE**	0.68		0.89	DJ	25	E
2- Nitroaniline	- -	- -	- -	mg/kg	11	U	220	U	1	U	110	U	5500	U	1	U	4.8	U	480	U	0.9	U	18	U	0.9	U	3.6	U	1	U
3- Nitroaniline	- -	- -	- -	mg/kg	11	U	220	U	1	U	110	U	5500	U	1	U	4.8	U	480	U	0.9	U	18	U	0.9	U	3.6	U	1	U
4- Nitroaniline	- -	- -	- -	mg/kg	11	U	220	U	1	U	110	U	5500	U	1	U	4.8	U	480	U	0.9	U	18	U	0.9	U	3.6	U	1	U
Nitrobenzene	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
2- Nitrophenol	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
4- Nitrophenol	- -	- -	- -	mg/kg	11	U	220	U	1	U	110	U	5500	U	1	U	4.8	U	480	U	0.9	U	18	U	0.9	U	3.6	U	1	U
N- Nitrosodi- n- propylamine	- -	- -	- -	mg/kg	5.3	U		NA	0.52	U	54	U		NA	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
N- Nitrosodiphenylamine	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
2,2- Oxybis (1-Chloropropane)	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA
Pentachlorophenol	6.7	6.7	0.8	mg/kg	11	U	220	U	1	U	110	U	5500	U	1	U	4.8	U	480	U	0.9	U	18	U	0.9	U	3.6	U	1	U
Phenanthrene	100	500	100	mg/kg	**170**	**D**	**170**	**D**	0.18	J	***7100***	***D***	***7100***	***D***	3.7		***1200***	***D***	***1200***	***D***	82	D	82	D	9.7	E	7.6	D	25	E
Phenol	100	500	0.33	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	100	DJ	100	DJ	2.8		2.7	DJ	0.44	U	1.8	U	0.51	U
Pyrene	100	500	100	mg/kg	***1500***	***D***	***1500***	***D***	0.32	J	***3900***	***D***	***3900***	***D***	2.4		***640***	***D***	***640***	***D***	45	D	45	D	3.7		7.5	D	9.4	E
1,2,4- Trichlorobenzene	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
2,4,5- Trichlorophenol	- -	- -	- -	mg/kg	5.3	U	110	U	0.52	U	54	U	2700	U	0.51	U	2.3	U	230	U	0.44	U	8.9	U	0.44	U	1.8	U	0.51	U
2,4,6- Trichlorophenol	- -	- -	- -	mg/kg	11	U	220	U	1	U	110	U	5500	U	1	U	4.8	U	480	U	0.9	U	18	U	0.9	U	3.6	U	1	U
Total PAHs	- -	- -	- -	mg/kg	7411.2		7409		1.74		48870		49040		21.688		8870		8850		517.5		526.6		43.25		45.51		191.14	
Total SVOCs	- -	- -	- -	mg/kg	7430.9		7409		2.21		51530		50540		22.968		9787		9767		559.89		566.2		44.405		46.93		206.84	

See notes on page 11.

Table 4-3
Soil Analytical Results - Semi-Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:	SCO Restricted- Residential	SCO Restricted- Commercial	SCO – Unrestricted Use		SB-40		SB-41		SB-41		SB-42		SB-42		SB-42		SB-43		SB-43		SB-44		SB-44		SB-44		SB-44-DUP	
Sample Depth:					46 - 48		13 - 14		24 - 25		13 - 14		24 - 25		27 - 28		16 - 17		28 - 29		14 - 15		19 - 20		21 - 22		21 - 22	
Date:					04/05/05		12/06/06		12/06/06		12/06/06		12/06/06		12/06/06		12/05/06		12/05/06		12/05/06		12/05/06		12/05/06		12/05/06	
Sample Name:	(bold)	(italics)	(shaded)	Units	SB-40 DL		SB-41		SB-41		SB-42		SB-42		SB-42		SB-43		SB-43		SB-44		SB-44		SB-44		SB-44-DUP	
Acenaphthene	100	500	20	mg/kg	3.9	DJ	0.35	J	0.08	U	0.46	J	0.082	U	0.59	J	0.16	U	0.063	U	0.062	U	0.14	U	0.18	U	0.083	U
Acenaphthylene	100	500	100	mg/kg	10	DJ	0.093	U	0.059	U	0.56	J	0.061	U	0.12	U	0.12	U	0.047	U	0.046	U	0.11	U	0.13	U	0.062	U
Anthracene	100	500	100	mg/kg	13	DJ	0.12	U	0.08	U	1.1	J	0.082	U	0.16	U	0.16	U	0.063	U	0.062	U	0.14	U	0.18	U	0.083	U
Benzo (a) anthracene	1	5.6	1	mg/kg	***9.6***	***DJ***	0.1	U	0.065	U	***5.8***		0.067	U	0.13	U	0.13	U	0.052	U	0.17	J	0.16	J	0.21	J	0.068	U
Benzo (a) pyrene	1	1	1	mg/kg	***8.2***	***DJ***	0.093	U	0.059	U	***10***		0.061	U	0.12	U	0.12	U	0.047	U	0.12	J	0.11	J	0.13	U	0.062	U
Benzo (b) fluoranthene	1	5.6	1	mg/kg	***11***	***DJ***	0.21	U	0.13	U	***8.4***	***M***	0.14	U	0.27	U	0.26	U	0.11	U	0.1	U	0.24	U	0.3	U	0.14	U
Benzo (g,h,I) perylene	100	500	100	mg/kg	3.5	DJ	0.084	U	0.054	U	18		0.055	U	0.11	U	0.1	U	0.042	U	0.042	U	0.095	U	0.12	U	0.056	U
Benzo (k) fluoranthene	3.9	56	0.8	mg/kg	3.7	DJ	0.084	U	0.054	U	**5.9**	**M**	0.055	U	0.11	U	0.1	U	0.042	U	0.082	J	0.095	U	0.12	U	0.056	U
Benzyl alcohol	- -	- -	- -	mg/kg		NA	0.14	U	0.091	U	0.29	U	0.094	U	0.19	U	0.18	U	0.072	U	0.071	U	0.16	U	0.2	U	0.095	U
Bis (2- chloroethoxy) methane	- -	- -	- -	mg/kg	20	U	0.13	U	0.082	U	0.26	U	0.085	U	0.17	U	0.16	U	0.065	U	0.064	U	0.15	U	0.18	U	0.086	U
Bis (2- Chloroethyl) ether	- -	- -	- -	mg/kg	20	U	0.1	U	0.065	U	0.21	U	0.067	U	0.13	U	0.13	U	0.052	U	0.051	U	0.12	U	0.14	U	0.068	U
Bis (2- ethylhexyl) phthalate	- -	- -	- -	mg/kg	20	U	0.1	UB	0.11	JB	0.2	UB	0.09	JB	0.16	JB	0.18	JB	0.12	JB	0.086	JB	0.13	JB	0.15	JB	0.097	JB
4- Bromofluorobenzene	- -	- -	- -	mg/kg	20	U		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA
4- Bromophenyl- phenylether	- -	- -	- -	mg/kg		NA	0.12	U	0.074	U	0.23	U	0.076	U	0.15	U	0.14	U	0.059	U	0.057	U	0.13	U	0.16	U	0.077	U
Butylbenzylphthalate	- -	- -	- -	mg/kg	20	U	0.098	U	0.062	U	0.2	U	0.064	U	0.13	U	0.12	U	0.049	U	0.048	U	0.11	U	0.14	U	0.065	U
Carbazole	- -	- -	- -	mg/kg	3	DJ	0.11	U	0.071	U	0.41	J	0.073	U	1		0.14	U	0.056	U	0.055	U	0.13	U	0.16	U	0.074	U
4- Chloro- 3- methylphenol	- -	- -	- -	mg/kg	20	U	0.26	U	0.16	U	0.52	U	0.17	U	0.33	U	0.32	U	0.13	U	0.13	U	0.29	U	0.36	U	0.17	U
4- Chloroaniline	- -	- -	- -	mg/kg	20	U	0.24	U	0.15	U	0.49	U	0.16	U	0.32	U	0.3	U	0.12	U	0.12	U	0.28	U	0.34	U	0.16	U
2- Chloronaphthalene	- -	- -	- -	mg/kg	20	U	0.11	U	0.071	U	0.22	U	0.073	U	0.14	U	0.14	U	0.056	U	0.055	U	0.13	U	0.16	U	0.074	U
2- Chlorophenol	- -	- -	- -	mg/kg	20	U	0.2	U	0.12	U	0.39	U	0.13	U	0.25	U	0.24	U	0.099	U	0.097	U	0.22	U	0.28	U	0.13	U
4- Chlorophenyl- phenylether	- -	- -	- -	mg/kg	20	U	0.1	U	0.067	U	0.21	U	0.069	U	0.14	U	0.13	U	0.053	U	0.052	U	0.12	U	0.15	U	0.069	U
Chrysene	3.9	56	1	mg/kg	**11**	**DJ**	0.095	U	0.061	U	**5.8**		0.063	U	0.12	U	0.12	U	0.048	U	0.16	J	0.14	J	0.36	J	0.063	U
Dibenzo (a,h) anthracene	0.33	0.56	0.33	mg/kg	20	U	0.084	U	0.054	U	***4.3***	***M***	0.055	U	0.11	U	0.1	U	0.042	U	0.042	U	0.095	U	0.12	U	0.056	U
Dibenzofuran	59	350	7	mg/kg	8.8	DJ	0.12	U	0.077	U	0.35	J	0.079	U	0.42	J	0.15	U	0.061	U	0.06	U	0.14	U	0.17	U	0.08	U
Dibutyl phthalate	- -	- -	- -	mg/kg	20	U	0.1	U	0.064	U	0.2	U	0.066	U	0.13	U	0.12	U	0.05	U	0.05	U	0.11	U	0.14	U	0.066	U
1,2- Dichlorobenzene	100	500	1.1	mg/kg	20	U	0.13	U	0.081	U	0.26	U	0.084	U	0.16	U	0.16	U	0.064	U	0.063	U	0.14	U	0.18	U	0.084	U
1,3- Dichlorobenzene	49	280	2.4	mg/kg	20	U	0.12	U	0.074	U	0.23	U	0.076	U	0.15	U	0.14	U	0.059	U	0.057	U	0.13	U	0.16	U	0.077	U
1,4- Dichlorobenzene	13	130	1.8	mg/kg	20	U	0.12	U	0.077	U	0.24	U	0.079	U	0.16	U	0.15	U	0.061	U	0.06	U	0.14	U	0.17	U	0.08	U
3,3'- Dichlorobenzidine	- -	- -	- -	mg/kg	20	U	0.2	U	0.13	U	0.41	U	0.13	U	0.26	U	0.25	U	0.1	U	0.1	U	0.23	U	0.29	U	0.13	U
2,4- Dichlorophenol	- -	- -	- -	mg/kg	20	U	0.25	U	0.16	U	0.5	U	0.16	U	0.32	U	0.31	U	0.13	U	0.12	U	0.28	U	0.35	U	0.16	U
Diethyl phthalate	- -	- -	- -	mg/kg	20	U	0.11	U	0.071	U	0.22	U	0.073	U	0.14	U	0.14	U	0.056	U	0.055	U	0.13	U	0.16	U	0.074	U
2,4- Dimethylphenol	- -	- -	- -	mg/kg	20	U	0.39	U	0.25	U	0.79	U	0.26	U	0.51	U	0.49	U	0.2	U	0.19	U	0.44	U	0.55	U	0.26	U
Dimethyl phthalate	- -	- -	- -	mg/kg	20	U	0.12	U	0.074	U	0.23	U	0.076	U	0.15	U	0.14	U	0.059	U	0.057	U	0.13	U	0.16	U	0.077	U
4,6- Dinitro- 2- methylphenol	- -	- -	- -	mg/kg	41	U	0.54	U	0.35	U	1.1	U	0.36	U	0.7	U	0.68	U	0.27	U	0.27	U	0.62	U	0.77	U	0.36	U

Table 4-3
Soil Analytical Results - Semi-Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:					SB-40		SB-41		SB-41		SB-42		SB-42		SB-42		SB-43		SB-43		SB-44		SB-44		SB-44		SB-44-DUP	
Sample Depth:	SCO Restricted-Residential	SCO Restricted-Commercial	SCO – Unrestricted Use		46 - 48		13 - 14		24 - 25		13 - 14		24 - 25		27 - 28		16 - 17		28 - 29		14 - 15		19 - 20		21 - 22		21 - 22	
Date:					04/05/05		12/06/06		12/06/06		12/06/06		12/06/06		12/06/06		12/05/06		12/05/06		12/05/06		12/05/06		12/05/06		12/05/06	
Sample Name:	(bold)	(italics)	(shaded)	Units	SB-40 DL		SB-41		SB-41		SB-42		SB-42		SB-42		SB-43		SB-43		SB-44		SB-44		SB-44		SB-44-DUP	
2,4- Dinitrophenol	- -	- -	- -	mg/kg	41	U	0.26	U	0.17	U	0.53	U	0.17	U	0.34	U	0.33	U	0.13	U	0.13	U	0.3	U	0.37	U	0.17	U
2,4- Dinitrotoluene	- -	- -	- -	mg/kg	20	U	0.14	U	0.087	U	0.27	U	0.089	U	0.18	U	0.17	U	0.069	U	0.068	U	0.15	U	0.19	U	0.09	U
2,6- Dinitrotoluene	- -	- -	- -	mg/kg	20	U	0.14	U	0.088	U	0.28	U	0.091	U	0.18	U	0.17	U	0.07	U	0.069	U	0.16	U	0.2	U	0.092	U
Dioctyl phthalate	- -	- -	- -	mg/kg	20	U	0.08	U	0.051	U	0.16	U	0.052	U	0.1	U	0.099	U	0.04	U	0.039	U	0.09	U	0.11	U	0.053	U
Fluoranthene	100	500	100	mg/kg	26	D	0.14	J	0.061	U	6.5		0.063	U	0.25	J	0.12	U	0.048	U	0.11	J	0.23	J	0.3	J	0.063	U
Fluorene	100	500	30	mg/kg	9.2	DJ	0.11	J	0.062	U	0.31	J	0.064	U	0.62	J	0.12	U	0.049	U	0.048	U	0.11	U	0.14	U	0.065	U
Hexachlorobenzene	1.2	6	0.33	mg/kg	20	U	0.11	U	0.071	U	0.22	U	0.073	U	0.14	U	0.14	U	0.056	U	0.055	U	0.13	U	0.16	U	0.074	U
Hexachlorobutadiene	- -	- -	- -	mg/kg	20	U	0.15	U	0.098	U	0.31	U	0.1	U	0.2	U	0.19	U	0.078	U	0.077	U	0.18	U	0.22	U	0.1	U
Hexachlorocyclopentadiene	- -	- -	- -	mg/kg	20	U	0.56	U	0.36	U	1.1	U	0.37	U	0.73	U	0.7	U	0.28	U	0.28	U	0.64	U	0.8	U	0.37	U
Hexachloroethane	- -	- -	- -	mg/kg	20	U	0.13	U	0.085	U	0.27	U	0.088	U	0.17	U	0.17	U	0.068	U	0.066	U	0.15	U	0.19	U	0.089	U
Indeno (1,2,3- cd) pyrene	0.5	5.6	0.5	mg/kg	**3.7**	**DJ**	0.077	U	0.049	U	***16***		0.051	U	0.1	U	0.096	U	0.039	U	0.038	U	0.088	U	0.11	U	0.051	U
Isophorone	- -	- -	- -	mg/kg	20	U	0.14	U	0.087	U	0.27	U	0.089	U	0.18	U	0.17	U	0.069	U	0.068	U	0.15	U	0.19	U	0.09	U
2- Methylnaphthalene	- -	- -	- -	mg/kg	11	DJ	0.16	J	0.077	U	0.29	J	0.079	U	1.3		0.22	J	0.061	U	0.06	U	0.14	U	0.17	U	0.08	U
2- Methylphenol	100	500	0.33	mg/kg	20	U	0.2	U	0.13	U	0.41	U	0.13	U	0.26	U	0.25	U	0.1	U	0.1	U	0.23	U	0.29	U	0.13	U
4- Methylphenol	100	500	0.33	mg/kg	20	U	0.41	U	0.26	U	0.82	U	0.27	U	0.53	U	0.51	U	0.21	U	0.2	U	0.46	U	0.58	U	0.27	U
Naphthalene	100	500	12	mg/kg	70	D	3.2		0.24	J	1.2	J	6		12		11		0.065	U	2.2		0.15	U	0.18	U	0.68	
2- Nitroaniline	- -	- -	- -	mg/kg	41	U	0.095	U	0.061	U	0.19	U	0.063	U	0.12	U	0.12	U	0.048	U	0.047	U	0.11	U	0.14	U	0.063	U
3- Nitroaniline	- -	- -	- -	mg/kg	41	U	0.16	U	0.1	U	0.32	U	0.1	U	0.2	U	0.2	U	0.079	U	0.078	U	0.18	U	0.22	U	0.1	U
4- Nitroaniline	- -	- -	- -	mg/kg	41	U	0.11	U	0.069	U	0.22	U	0.072	U	0.14	U	0.14	U	0.055	U	0.054	U	0.12	U	0.15	U	0.072	U
Nitrobenzene	- -	- -	- -	mg/kg	20	U	0.091	U	0.058	U	0.18	U	0.06	U	0.12	U	0.11	U	0.046	U	0.045	U	0.1	U	0.13	U	0.06	U
2- Nitrophenol	- -	- -	- -	mg/kg	20	U	0.26	U	0.17	U	0.53	U	0.17	U	0.34	U	0.33	U	0.13	U	0.13	U	0.3	U	0.37	U	0.17	U
4- Nitrophenol	- -	- -	- -	mg/kg	41	U	0.32	U	0.21	U	0.65	U	0.21	U	0.42	U	0.4	U	0.16	U	0.16	U	0.37	U	0.46	U	0.21	U
N- Nitrosodi- n- propylamine	- -	- -	- -	mg/kg	20	U	0.11	U	0.072	U	0.23	U	0.075	U	0.15	U	0.14	U	0.057	U	0.056	U	0.13	U	0.16	U	0.075	U
N- Nitrosodiphenylamine	- -	- -	- -	mg/kg	20	U	0.1	U	0.065	U	0.21	U	0.067	U	0.13	U	0.13	U	0.052	U	0.051	U	0.12	U	0.14	U	0.068	U
2,2- Oxybis (1-Chloropropane)	- -	- -	- -	mg/kg		NA	0.11	U	0.068	U	0.21	U	0.07	U	0.14	U	0.13	U	0.054	U	0.053	U	0.12	U	0.15	U	0.071	U
Pentachlorophenol	6.7	6.7	0.8	mg/kg	41	U	0.65	U	0.42	U	1.3	U	0.43	U	0.85	U	0.82	U	0.33	U	0.32	U	0.74	U	0.93	U	0.43	U
Phenanthrene	100	500	100	mg/kg	41	D	0.17	J	0.056	U	3.9		0.058	U	0.78	J	0.11	U	0.045	U	0.044	U	0.22	J	0.22	J	0.059	U
Phenol	100	500	0.33	mg/kg	20	U	0.22	U	0.14	U	0.44	U	0.14	U	0.29	U	0.27	U	0.11	U	0.11	U	0.25	U	0.31	U	0.15	U
Pyrene	100	500	100	mg/kg	26	D	0.14	J	0.067	U	7.8		0.069	U	0.26	J	0.13	U	0.053	U	0.16	J	0.21	J	0.54	J	0.069	U
1,2,4- Trichlorobenzene	- -	- -	- -	mg/kg	20	U	0.13	U	0.081	U	0.26	U	0.084	U	0.16	U	0.16	U	0.064	U	0.063	U	0.14	U	0.18	U	0.084	U
2,4,5- Trichlorophenol	- -	- -	- -	mg/kg	20	U	0.19	U	0.12	U	0.39	U	0.13	U	0.25	U	0.24	U	0.098	U	0.096	U	0.22	U	0.27	U	0.13	U
2,4,6- Trichlorophenol	- -	- -	- -	mg/kg	41	U	0.27	U	0.18	U	0.55	U	0.18	U	0.36	U	0.34	U	0.14	U	0.14	U	0.31	U	0.39	U	0.18	U
Total PAHs	- -	- -	- -	mg/kg	260.8		4.27		0.24		96.32		6		15.8		11.22		ND		3.002		1.07		1.63		0.68	
Total SVOCs	- -	- -	- -	mg/kg	272.6		4.27		0.35		97.08		6.09		17.38		11.4		0.12		3.088		1.2		1.78		0.777	

See notes on page 11.

Table 4-3
Soil Analytical Results - Semi-Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:					SB-46		SB-46		SB-47		SB-47		SB-48		SB-48		SB-48-DUP		SB-49		SB-49		SB-50		SB-51		SB-51-DUP	
Sample Depth:	SCO Restricted- Residential	SCO Restricted- Commercial	SCO – Unrestricted Use		25 - 28		28 - 30		5 - 7		23		12		18.5 - 19		18.5 - 19		9.5		12		9		14.5		14.5	
Date:					06/12/08		06/12/08		03/26/08		03/26/08		07/24/10		07/24/10		07/24/10		07/25/10		07/25/10		02/26/11		02/27/11		02/27/11	
Sample Name:	(bold)	(italics)	(shaded)	Units	SB-46		SB-46		SB-47		SB-47		SB-48		SB-48		SB-48-DUP		SB-49		SB-49		SB-50		SB-51		SB-51-DUP	
Acenaphthene	100	500	20	mg/kg	49		84		0.66		47	D	35		0.32	U	0.32	U	24		0.73		0.32	U	0.033	J	0.32	U
Acenaphthylene	100	500	100	mg/kg	**250**	**D**	**370**		3.2		2.5		5	J	0.32	U	0.32	U	2.4	J	0.38	U	0.32	U	0.32	U	0.32	U
Anthracene	100	500	100	mg/kg	**130**		**290**		3.7		26	D	40		0.32	U	0.32	U	52		1.2		0.32	U	0.055	J	0.32	U
Benzo (a) anthracene	1	5.6	1	mg/kg	***130***		***220***		***11***	***D***	***20***	***D***	***27***		0.32	U	0.32	U	***66***	***J***	**2.1**		0.32	U	0.039	J	0.32	U
Benzo (a) pyrene	1	1	1	mg/kg	***95***		***160***		***13***	***D***	***16***	***D***	***26***		0.32	U	0.32	U	***62***		***2.1***		0.32	U	0.02	J	0.32	U
Benzo (b) fluoranthene	1	5.6	1	mg/kg	***91***		***150***		***13***	***D***	***17***	***D***	***20***		0.32	U	0.32	U	***59***		**1.9**		0.32	U	0.021	J	0.32	U
Benzo (g,h,I) perylene	100	500	100	mg/kg	62		**110**		12	D	8.8	DJ	16		0.32	U	0.32	U	31		1.3		0.32	U	0.32	U	0.32	U
Benzo (k) fluoranthene	3.9	56	0.8	mg/kg	**40**		***67***		**5.6**	**D**	**6.3**	**DJ**	**9.6**		0.32	U	0.32	U	**25**		0.69		0.32	U	0.32	U	0.32	U
Benzyl alcohol	- -	- -	- -	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
Bis (2- chloroethoxy) methane	- -	- -	- -	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
Bis (2- Chloroethyl) ether	- -	- -	- -	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
Bis (2- ethylhexyl) phthalate	- -	- -	- -	mg/kg	12	U	26	U	0.98		1.4		6.2	U	0.32	U	0.32	U	14	UJ	0.059	J	0.32	UB	0.32	UB	0.32	UB
4- Bromofluorobenzene	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA
4- Bromophenyl- phenylether	- -	- -	- -	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
Butylbenzylphthalate	- -	- -	- -	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	UJ	0.38	U	0.32	U	0.32	U	0.022	J
Carbazole	- -	- -	- -	mg/kg	57		100		0.65		11	D	17		0.32	U	0.32	U	19		0.5	J	0.32	U	0.32	U	0.32	U
4- Chloro- 3- methylphenol	- -	- -	- -	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
4- Chloroaniline	- -	- -	- -	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	UJ	0.32	U	0.32	U
2- Chloronaphthalene	- -	- -	- -	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
2- Chlorophenol	- -	- -	- -	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
4- Chlorophenyl- phenylether	- -	- -	- -	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
Chrysene	3.9	56	1	mg/kg	***91***		***200***		**11**	**D**	**18**	**D**	**28**		0.32	U	0.32	U	***62***	***J***	2		0.32	U	0.047	J	0.32	U
Dibenzo (a,h) anthracene	0.33	0.56	0.33	mg/kg	***18***		***30***		***2.6***	***D***	***1.9***	***DJ***	***3.8***	***J***	0.32	U	0.32	U	***9***	***J***	0.25	J	0.32	U	0.32	U	0.32	U
Dibenzofuran	59	350	7	mg/kg	**150**		**260**		0.5		25	D	22		0.32	U	0.32	U	20		0.44		0.32	U	0.32	U	0.32	U
Dibutyl phthalate	- -	- -	- -	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
1,2- Dichlorobenzene	100	500	1.1	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
1,3- Dichlorobenzene	49	280	2.4	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
1,4- Dichlorobenzene	13	130	1.8	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
3,3'- Dichlorobenzidine	- -	- -	- -	mg/kg	25	U	52	U	0.76	U	1	U	7.6	U	0.39	U	0.39	U	17	UJ	0.46	U		R	0.39	U	0.39	U
2,4- Dichlorophenol	- -	- -	- -	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
Diethyl phthalate	- -	- -	- -	mg/kg	12	U	26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
2,4- Dimethylphenol	- -	- -	- -	mg/kg	15		26	U	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
Dimethyl phthalate	- -	- -	- -	mg/kg	12	U	23	J	0.38	U	0.5	U	6.2	U	0.32	U	0.32	U	14	U	0.38	U	0.32	U	0.32	U	0.32	U
4,6- Dinitro- 2- methylphenol	- -	- -	- -	mg/kg	61	U	130	U	1.9	U	2.4	U	39	U	2	U	2	U	87	U	2.4	UJ	2	UJ	2	U	2	U

Table 4-3
Soil Analytical Results - Semi-Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:	SCO Restricted-Residential	SCO Restricted-Commercial	SCO – Unrestricted Use		SB-46	SB-46	SB-47	SB-47	SB-48	SB-48	SB-48-DUP	SB-49	SB-49	SB-50	SB-51	SB-51-DUP
Sample Depth:					25 - 28	28 - 30	5 - 7	23	12	18.5 - 19	18.5 - 19	9.5	12	9	14.5	14.5
Date:					06/12/08	06/12/08	03/26/08	03/26/08	07/24/10	07/24/10	07/24/10	07/25/10	07/25/10	02/26/11	02/27/11	02/27/11
Sample Name:	(bold)	(italics)	(shaded)	Units	SB-46	SB-46	SB-47	SB-47	SB-48	SB-48	SB-48-DUP	SB-49	SB-49	SB-50	SB-51	SB-51-DUP
2,4- Dinitrophenol	- -	- -	- -	mg/kg	61 U	130 U	1.9 U	2.4 U	39 U	2 U	2 UJ	87 U	2.4 UJ	2 UJ	2 U	2 U
2,4- Dinitrotoluene	- -	- -	- -	mg/kg	12 U	26 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
2,6- Dinitrotoluene	- -	- -	- -	mg/kg	12 U	26 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
Dioctyl phthalate	- -	- -	- -	mg/kg	12 U	26 U	0.049 J	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
Fluoranthene	100	500	100	mg/kg	**380 D**	***580 D***	18 D	58 D	67	0.25 J	0.32 U	**130**	4.8 J	0.32 U	0.093 J	0.32 U
Fluorene	100	500	30	mg/kg	**180**	**300**	0.72	26 D	27	0.32 U	0.32 U	29	0.53	0.32 U	0.022 J	0.32 U
Hexachlorobenzene	1.2	6	0.33	mg/kg	12 U	26 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
Hexachlorobutadiene	- -	- -	- -	mg/kg	12 U	26 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
Hexachlorocyclopentadiene	- -	- -	- -	mg/kg	25 U	26 U	0.76 U	1 U	15 U	0.79 U	0.78 UJ	34 U	R	0.8 UJ	0.79 U	0.78 U
Hexachloroethane	- -	- -	- -	mg/kg	12 U	52 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
Indeno (1,2,3- cd) pyrene	0.5	5.6	0.5	mg/kg	***78***	***130***	***12 D***	***9.1 DJ***	***18***	0.32 U	0.32 U	***38***	**1.3**	0.32 U	0.19 J	0.32 U
Isophorone	- -	- -	- -	mg/kg	12 U	26 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
2- Methylnaphthalene	- -	- -	- -	mg/kg	300 D	450 D	0.33 J	13 D	3.7 J	0.32 U	0.32 U	16	0.24 J	0.32 U	0.016 J	0.32 U
2- Methylphenol	100	500	0.33	mg/kg	12 U	26 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	0.84 J	0.38 U	0.32 U	0.32 U	0.32 U
4- Methylphenol	100	500	0.33	mg/kg	12 U	26 U	0.077 J	0.62	6.2 U	0.32 U	0.32 U	2 J	0.38 U	0.32 U	0.32 U	0.32 U
Naphthalene	100	500	12	mg/kg	***1400 D***	***2300 D***	0.94	56 D	76	0.11 J	0.21 J	30	0.44	0.32 U	0.32 U	0.32 U
2- Nitroaniline	- -	- -	- -	mg/kg	61 U	130 U	1.9 U	2.4 U	15 U	0.79 U	0.78 U	34 U	0.93 U	0.8 U	0.79 U	0.78 U
3- Nitroaniline	- -	- -	- -	mg/kg	61 U	130 U	1.9 U	2.4 U	15 U	0.79 U	0.78 U	34 U	0.93 U	0.8 UJ	0.79 U	0.78 U
4- Nitroaniline	- -	- -	- -	mg/kg	25 U	52 U	0.76 U	1 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
Nitrobenzene	- -	- -	- -	mg/kg	12 U	26 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
2- Nitrophenol	- -	- -	- -	mg/kg	12 U	26 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
4- Nitrophenol	- -	- -	- -	mg/kg	61 U	130 U	1.9 U	2.4 U	39 U	2 U	2 U	87 U	2.4 U	2 U	2 U	2 U
N- Nitrosodi- n- propylamine	- -	- -	- -	mg/kg	12 U	26 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
N- Nitrosodiphenylamine	- -	- -	- -	mg/kg	12 U	26 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
2,2- Oxybis (1-Chloropropane)	- -	- -	- -	mg/kg	12 U	26 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
Pentachlorophenol	6.7	6.7	0.8	mg/kg	61 U	130 U	1.9 U	2.4 U	15 U	0.79 U	0.78 U	34 U	0.93 U	0.8 U	0.79 U	0.78 U
Phenanthrene	100	500	100	mg/kg	***680 D***	***1000 D***	9.1 D	**110 D**	**120**	0.069 J	0.32 U	**190**	4.4 J	0.32 U	0.29 J	0.32 U
Phenol	100	500	0.33	mg/kg	12 U	26 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
Pyrene	100	500	100	mg/kg	**300 D**	**420**	19 D	53 D	63	0.32 U	0.32 U	**170 J**	4.6 J	0.32 U	0.12 J	0.32 U
1,2,4- Trichlorobenzene	- -	- -	- -	mg/kg	12 U	26 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
2,4,5- Trichlorophenol	- -	- -	- -	mg/kg	12 U	130 U	0.38 U	0.5 U	6.2 U	0.32 U	0.32 U	14 U	0.38 U	0.32 U	0.32 U	0.32 U
2,4,6- Trichlorophenol	- -	- -	- -	mg/kg	61 U	26 U	1.9 U	2.4 U	39 U	2 U	2 U	87 U	2.4 U	2 U	2 U	2 U
Total PAHs	- -	- -	- -	mg/kg	4274	6861	135.85	488.6	585.1	0.429	0.21	995.4	28.58	ND	0.946	ND
Total SVOCs	- -	- -	- -	mg/kg	4496	7244	138.106	526.62	624.1	0.429	0.21	1037.24	29.579	0	0.946	0.022

See notes on page 11.

Table 4-3
Soil Analytical Results - Semi-Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Notes:

Italicized result exceeds SCO for Restricted – Commercial use.

Bolded result exceeds SCO Restricted – Residential use.

Shaded result exceeds SCO Unrestricted use.

1. Qualifiers are as follows:
   - B Analyte was also detected in the associated method blank.
   - D The reported concentration is based on a diluted sample analysis.
   - E Analyte exceeded calibration range.
   - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
   - M Indicates manually integrated compound.
   - R The reported concentration was rejected.
   - U The analyte was analyzed for, but not detected. The associated value is the analyte quantitation limit.

2. Screening levels were provided in New York State Department of Environmental Conservation 6 New York Codes, Rules and Regulations Subpart 375.6: Remedial Program Soil Cleanup Objectives.
3. Duplicate samples are indicated by location ID ending in DUP.

mg/kg = milligrams per kilogram
NA = not analyzed for
ND = not detected
PAHs = polycyclic aromatic hydrocarbons
SCO = Soil cleanup objective
SVOCs = Semi-volatile organic compounds
Total PAHs = represents the summation of 17 Target Compound List PAHs.
- - = criteria not indicated

Table 4-4
Soil Analytical Results - Metals and Cyanide

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Sample Depth (feet): / Date Collected: / Sample Name:	SCO Restricted – Residential (bold)	SCO Restricted – Commercial (italics)	SCO Unrestricted Use (shaded)	Units	SB-09 11-15 9/5/2003 SB-09	SB-09 31-33.5 9/5/2003 SB-09	SB-20 12-16 10/2/2003 SB-20	SB-20 16-20 10/2/2003 SB-20	SB-21 12-16 9/30/2003 SB-21	SB-21 36-38.9 9/30/2003 SB-21	SB-22 12-16 9/29/2003 SB-22	SB-22 36-44 9/29/2003 SB-22	SB-23 20-24 9/30/2003 SB-23	SB-23 52-54.5 9/30/2003 SB-23	SB-24 30-32 10/3/2003 SB-24
Aluminum	- -	- -	- -	mg/kg	10800	4990	6980	10800	9830	11100	9260	4430	13700	7660	3850
Antimony	- -	- -	- -	mg/kg	5.1	3	U	U	U	U	0.3 B	U	U	U	U
Arsenic	16	16	13	mg/kg	2	2.6	9.9	8.1	6.8	7	***24.2***	2.9	10.1	2.4	9.2
Barium	400	400	350	mg/kg	153	44.9	232	38.2	168	60.9	160	12.8	60.8	60.3	11.2 B
Beryllium	72	590	7.2	mg/kg	1.1	0.44	0.3 B	0.36	0.27	0.37	0.35	0.084 B	0.47	0.1 B	0.037 B
Cadmium	4.3	9.3	2.5	mg/kg	U	U	0.47	1.1	0.69	0.87	1.8	0.33	1.2	0.59	**5.1**
Calcium	- -	- -	- -	mg/kg	4980	1980	10500	2810	4790	8050	13300	936	11800	1470	4470
Chromium	- -	- -	- -	mg/kg	26.1	14.6	13.7	20.9	15	17.8	15.7	9.7	21.8	18.4	65.8
Cobalt	- -	- -	- -	mg/kg	8.8	3.9	5.4	8.3	6.5	7.5	18	3.4	9	5.9	3.5
Copper	270	270	50	mg/kg	34.9	8.5	26.8	16.6	39.8	20.8	99.1	5.8	33.2	17	59.5
Iron	- -	- -	- -	mg/kg	23400	12600	10400	22600	14300	19300	37400	8320	24900	13900	92900
Lead	400	1,000	63	mg/kg	46.4	6.4	**467**	20.8	109	112	164	3.2	212	12	6
Magnesium	- -	- -	- -	mg/kg	5050	2540	1810	5200	2970	4380	2760	2320	5740	4030	1550
Manganese	2,000	10,000	1,600	mg/kg	243	196	224	555	187	339	417	84.9	426	247	653
Mercury	0.81	2.8	0.18	mg/kg	0.29	0.026 B	0.22	0.045 B	0.27	0.097	0.57	U	**0.94**	0.16	0.077
Nickel	310	310	30	mg/kg	25.6	11	13.2	18.2	13.6	16	24.7	9.1	22.8	13.9	21.2
Potassium	- -	- -	- -	mg/kg	4280	908	1270	1960	1070	2030	1390	988	2460	1930	481
Selenium	180	1,500	3.9	mg/kg	U	U	2.9	4.3	3.3	3.4	6.8	2.2	4.9	3.1	6.2
Silver	180	1,500	2	mg/kg	U	0.96 B	1.4 B	2.2	1.6	1.9	3.3	0.99 B	2.4	1.5 B	3.8
Sodium	- -	- -	- -	mg/kg	194	584	622	609	336	717	425	1370	2860	1420	1070
Thallium	- -	- -	- -	mg/kg	4.2	2.9	1.4	1.2 B	0.46 B	1.1 B	1.8	0.86 B	2	1.4	2.4
Vanadium	- -	- -	- -	mg/kg	33.6	18.5	20.9	26.4	24.1	24.1	26.4	14.5	30.2	22.8	7.3
Zinc	10,000	10,000	109	mg/kg	61.1	30.3	44.8	56.2	61.6	67.8	136	19.1	74.8	33.1	77.8
Total Cyanide	27	27	27	mg/kg	1.2 B	U	6.7	U	6.5	0.78 B	U	U	2	0.63 B	1.2 B
Miscellaneous															
Percent moisture	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Percent solids	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on page 6.

Table 4-4
Soil Analytical Results - Metals and Cyanide

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Sample Depth (feet): / Date Collected: / Sample Name:	SCO Restricted – Residential (bold)	SCO Restricted – Commercial (italics)	SCO Unrestricted Use (shaded)	Units	SB-24 34-36 10/3/2003 SB-24	SB-24 36-38 10/2/2003 SB-24	SB-25 12-16 10/1/2003 SB-25	SB-25 24-28 10/1/2003 SB-25	SB-26 9-13 9/29/2003 SB-26	SB-26 16-19 10/1/2003 SB-26	SB-30 10 - 14 02/20/05 SB-30	SB-30 34 - 36 02/20/05 SB-30	SB-31 7 - 11 03/06/05 SB-31	SB-32 9 - 11 03/02/05 SB-32	SB-32 35 - 39 03/02/05 SB-32
Aluminum	- -	- -	- -	mg/kg	12200	291	9980	15200	8290	13100	4360	10200	9060	6140	13400
Antimony	- -	- -	- -	mg/kg	U	U	U	0.33 B	0.37 B	1.7 B	2.3 N	3.1 N	0.91 BN	3.9 N*	2.2 N*
Arsenic	16	16	13	mg/kg	10.8	5.2	3.5	11.3	4.3	6.7	5.8 N	3.6 N	4.2 N*	***31.6*** ***N****	5.9 N*
Barium	400	400	350	mg/kg	24.7	1.7 B	82.1	34	81.8	103	84.1	20.8	123 *E	72.1 *E	32.3 *E
Beryllium	72	590	7.2	mg/kg	0.43	U	0.098 B	0.55	U	0.095 B	0.49 E	0.74 E	0.39	0.35 B	0.61
Cadmium	4.3	9.3	2.5	mg/kg	1.3	0.068 B	0.78	1.5	1.1	0.91	2.8 E	3 E	2.1 N*	**5.2** **N***	3.8 N*
Calcium	- -	- -	- -	mg/kg	3630	191	4610	6330	9740	2150	6110	6400	12700	2310	7820
Chromium	- -	- -	- -	mg/kg	20.6	0.86 B	14.4	25.2	16.6	24.8	15.5 N	19.2 N	16 *	8.7 *	22.8 *
Cobalt	- -	- -	- -	mg/kg	9.4	0.35 B	7	11	6.2	11.5	5.1 E	7.6 E	7.5	4.3	9
Copper	270	270	50	mg/kg	14	0.94 B	20.5	17.1	34.3	40.2	57.6 N	9.9 N	57.7 *	59.2 *	25.4 *
Iron	- -	- -	- -	mg/kg	27600	987	18300	33200	23200	24200	15200	51200	17200	37900	30600
Lead	400	1,000	63	mg/kg	9.6	2.9	112	12.1	55.6	94.2	215 E	9.2 E	134 NE	37.9 NE	11.6 NE
Magnesium	- -	- -	- -	mg/kg	6740	168	3480	7440	5070	5580	2040	5870	4850 *E	1000 *E	6810 *E
Manganese	2,000	10,000	1,600	mg/kg	675	30	236	571	236	198	84.5 E	669 E	168 E	58.9 E	714 E
Mercury	0.81	2.8	0.18	mg/kg	0.032 B	0.04 B	**0.96**	0.039 B	0.33	0.3	**2.2** *	0.029 B*	0.61	0.5	0.05
Nickel	310	310	30	mg/kg	19.4	0.79 B	14	23.5	13.6	22.7	14.5 E	18.1 E	17.7 *	16.7 *	21.4 *
Potassium	- -	- -	- -	mg/kg	2550	116	2300	2970	4060	4540	1550 E	2350 E	4240 E	673 E	3020 E
Selenium	180	1,500	3.9	mg/kg	4.8	U	4.4	5.4	5.1	5.5	0.093 UN	0.092 UN	0.066 UN	8.1 N*	0.098 UN
Silver	180	1,500	2	mg/kg	2.5	U	1.9	2.6	2.4	0.34 B	5.2 E	6.7 E	6.5 *E	14.6 *E	11.5 *E
Sodium	- -	- -	- -	mg/kg	3980	257	475	2720	304	788	2390 E	3890 E	764	1720	5070
Thallium	- -	- -	- -	mg/kg	1.2 B	0.21 B	1.8	1.7	2.2	4.4	0.11 UN	0.11 UN	0.078 U	0.093 U	0.12 U
Vanadium	- -	- -	- -	mg/kg	26	7	19.2	31.8	19.9	25.4	13.3	23.8	22.1 *	12.6 *	27.6 *
Zinc	10,000	10,000	109	mg/kg	62.1	4.2	46.7	74.1	53.4	69	188 NE	56.6 NE	112	24.2	66.7
Total Cyanide	27	27	27	mg/kg	U	3.8	0.6 B	U	7.3	4.4	2.6 N	0.26 BN	4.1	1.6	0.21 B
Miscellaneous															
Percent moisture	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Percent solids	- -	- -	- -	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on page 6.

Table 4-4
Soil Analytical Results - Metals and Cyanide

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Sample Depth (feet): / Date Collected: / Sample Name:	SCO Restricted – Residential (bold)	SCO Restricted – Commercial (italics)	SCO Unrestricted Use (shaded)	Units	SB-33 5 - 7 02/27/05 SB-33		SB-34 13 - 17 02/23/05 SB-34		SB-34 37 - 39 02/24/05 SB-34		SB-38 25 - 27 02/22/05 SB-38		SB-38 43 - 45 02/22/05 SB-38		SB-39 45 - 47 03/10/05 SB-39		SB-39 65 - 67 03/12/05 SB-39		SB-40 28 - 30 04/05/05 SB-40		SB-40 46 - 48 04/05/05 SB-40		SB-41 13 - 14 12/06/06 SB-41		SB-41 24 - 25 12/06/06 SB-41	
Aluminum	- -	- -	- -	mg/kg	9540		9050		14200		12400		10600		5520		10400		6390	E	11400	E		NA		NA
Antimony	- -	- -	- -	mg/kg	1.8	N	1.4	BN	3.5	N	3.4	N	2.4	N	1.3		0.26	B	0.77	BN	1.1	BN	2	UN	3.4	UN
Arsenic	16	16	13	mg/kg	1.8	N	4.4	N	5.5	N	***19.3***	***N***	4.8	N	12		6.2		4.6	*	7.8	*	4.8	BN	9.7	BN
Barium	400	400	350	mg/kg	106		109		28.6		143		21.8		94.5		37.6		167	*E	23.7	*E		NA		NA
Beryllium	72	590	7.2	mg/kg	0.54	E	1.3	E	1	E	0.82	E	0.75	E	0.31	B	0.48		0.19	B	0.45	B	0.58	U	0.96	U
Cadmium	4.3	9.3	2.5	mg/kg	1.6	E	1.1	E	3.8	E	3.6	E	3.1	E	0.53		0.0065	U	1	*E	0.0082	U*	1	UN	1.7	UN
Calcium	- -	- -	- -	mg/kg	2980		5570		6260		7280		3670		5360		4790		10700	E	4490	E		NA		NA
Chromium	- -	- -	- -	mg/kg	15.2	N	14.4	N	27.1	N	38.7	N	19.1	N	20		19.4		17.9	*E	21.3	*E	5.8		21.1	
Cobalt	- -	- -	- -	mg/kg	4.8	E	5.5	E	10.1	E	8.4	E	7.7	E	4.8		8.1		7.3	E	10.2	E		NA		NA
Copper	270	270	50	mg/kg	22.4	N	78.8	N	14.7	N	86.7	N	10.6	N	83.5		23.2		128	NE	19.4	NE	22	*	12.2	*
Iron	- -	- -	- -	mg/kg	13500		9240		61000		49900		51300		14600		27900		12500	*E	27700	*E		NA		NA
Lead	400	1,000	63	mg/kg	100	E	115	E	12.5	E	353	E	9	E	284		11.5		211	*E	11.2	*E	150	*	12.4	B*
Magnesium	- -	- -	- -	mg/kg	3340		1990		7660		5510		6190		3140		6700		3880	E	7170	E		NA		NA
Manganese	2,000	10,000	1,600	mg/kg	114	E	118	E	802	E	338	E	594	E	201		340		380	E	689	E		NA		NA
Mercury	0.81	2.8	0.18	mg/kg	0.47	*	***4***	*	0.04	B*	***10.6***	*	0.038	B*	***3.7***		0.034	B	***5.8***		0.035	B	0.061	*	0.032	B*
Nickel	310	310	30	mg/kg	15.1	E	11.8	E	24.7	E	21.7	E	18.9	E	13.5		16.2		21.3	E	24.8	E	8.5		20.6	
Potassium	- -	- -	- -	mg/kg	979	E	1600	E	3370	E	2570	E	2720	E	1210		2470		2180		2460			NA		NA
Selenium	180	1,500	3.9	mg/kg	0.072	UN	0.093	UN	0.096	UN	0.092	UN	0.094	UN	3.3		3.5		0.082	U	0.1	U	2.1	UN	3.4	UN
Silver	180	1,500	2	mg/kg	6.3	E	5.9	E	9.1	E	9.7	E	7.2	E	0.021	U	0.023	U	8.3	*E	3.1	*E	0.3	U	0.5	U
Sodium	- -	- -	- -	mg/kg	942	E	2820	E	5400	E	4820	E	4630	E	3250		3460		2140		4770			NA		NA
Thallium	- -	- -	- -	mg/kg	0.085	UN	0.11	UN	0.11	UN	0.11	UN	0.11	UN	2		3.8		1.9		3.9		3.6	U	6	U
Vanadium	- -	- -	- -	mg/kg	17.1		19		34.4		26.1		23.2		15.6		27.7		23	E	25.5	E		NA		NA
Zinc	10,000	10,000	109	mg/kg	89	NE	154	NE	75.6	NE	245	NE	58	NE	267		55.8		373	N*	69.4	N*	65.4		54.1	
Total Cyanide	27	27	27	mg/kg	0.25	BN	0.36	BN	0.3	BN	15.6	N	0.34	BN	0.76	B	0.15	U	0.15	U	0.17	U	0.308	B	0.1	U
Miscellaneous																										
Percent moisture	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA	13.7		31.8	
Percent solids	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA	86.3		68.2	

See notes on page 6.

Table 4-4
Soil Analytical Results - Metals and Cyanide

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Sample Depth (feet): / Date Collected: / Sample Name:	SCO Restricted – Residential (bold)	SCO Restricted – Commercial (italics)	SCO Unrestricted Use (shaded)	Units	SB-42 13 - 14 12/06/06 SB-42		SB-42 24 - 25 12/06/06 SB-42		SB-42 27 - 28 12/06/06 SB-42		SB-43 16 - 17 12/05/06 SB-43		SB-43 28 - 29 12/05/06 SB-43		SB-44 14 - 15 12/05/06 SB-44		SB-44 19 - 20 12/05/06 SB-44		SB-44 21 - 22 12/05/06 SB-44		SB-44-DUP 21 - 22 12/05/06 SB-44-DUP		SB-46 25 - 28 06/12/08 SB-46		SB-46 28 - 30 06/12/08 SB-46	
Aluminum	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA	9840		12700	
Antimony	- -	- -	- -	mg/kg	2.4	UN	2.8	UN	3.5	UN	3.1	UN	2.5	UN	2.2	UN	2.8	UN	2.9	UN	3.5	UN	18.8	U	19.6	U
Arsenic	16	16	13	mg/kg	4.3	BN	11.2	BN	3.7	BN	9.2	BN	2.7	BN	2.1	UN	3.1	BN	9.6	BN	12.8	BN	9.7		12.2	
Barium	400	400	350	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA	41.7		31.2	
Beryllium	72	590	7.2	mg/kg	0.69	U	0.81	U	1	U	0.88	U	0.71	U	0.62	U	0.8	U	1.1	B	1	U	0.73	J	0.89	J
Cadmium	4.3	9.3	2.5	mg/kg	1.2	UN	1.4	UN	1.8	UN	1.6	UN	1.3	UN	1.1	UN	1.4	UN	1.5	UN	1.8	UN	9.4	U	9.8	U
Calcium	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA	21400		3680	
Chromium	- -	- -	- -	mg/kg	20.5		27.9		23.1		20.1		10.4		18.2		13.2		35.5		30.6		22.5		26.3	
Cobalt	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA	8.3		10.7	
Copper	270	270	50	mg/kg	30.2	*	17.2	*	29.4	*	27	*	6.5	*	18.2	*	23	*	36.6	*	21.2	*	30.3		15	
Iron	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA	23300		30800	
Lead	400	1,000	63	mg/kg	72.3	*	14	*	162	*	196	*	5.7	B*	43.1	*	87.6	*	65.5	*	18.4	*	64.8		14.9	
Magnesium	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA	15900		7030	
Manganese	2,000	10,000	1,600	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA	461		697	
Mercury	0.81	2.8	0.18	mg/kg	0.057	*	0.033	B*	0.12	*	0.12	*	0.015	U*	0.17	*	0.068	*	0.16	*	0.15	*	0.25		0.039	J
Nickel	310	310	30	mg/kg	18.2		25.5		16.9		21		23.7		18.4		14.7		34.2		24.8		19.8		24.1	
Potassium	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA	2250	J	2810	J
Selenium	180	1,500	3.9	mg/kg	2.5	UN	2.9	UN	3.6	UN	3.1	UN	2.5	UN	2.2	UN	2.9	UN	2.9	UN	3.6	UN	18.8	U	19.6	U
Silver	180	1,500	2	mg/kg	0.36	U	0.42	U	0.52	U	0.46	U	0.37	U	0.32	U	0.42	U	0.43	U	0.52	U	5.7	U	5.9	U
Sodium	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA	2620	J	4220	J
Thallium	- -	- -	- -	mg/kg	4.3	U	5	U	6.3	U	5.5	U	4.4	U	3.9	U	5	U	5.1	U	6.2	U	13.2	U	13.7	U
Vanadium	- -	- -	- -	mg/kg		NA		NA		NA		NA		NA		NA		NA		NA		NA	27.7		32.9	
Zinc	10,000	10,000	109	mg/kg	70.4		69.7		53.4		76.2		9.5	B	37.4		45.4		98.7		60.6		68.6	J	71.4	J
Total Cyanide	27	27	27	mg/kg	13.3		0.111	U	0.108	U	0.106	U	0.085	U	0.085	U	0.0965	U	0.12	U	0.113	U	0.76	U	0.79	U
Miscellaneous																										
Percent moisture	- -	- -	- -	mg/kg	16.4		34.7		34.7		30.3		14.6		16.3		23.3		38.7		34.5		34.3		36.9	
Percent solids	- -	- -	- -	mg/kg	83.6		65.3		65.3		69.7		85.4		83.7		76.7		61.3		65.5		65.7		63.1	

See notes on page 6.

Table 4-4
Soil Analytical Results - Metals and Cyanide

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Sample Depth (feet): / Date Collected: / Sample Name:	SCO Restricted – Residential (bold)	SCO Restricted – Commercial (italics)	SCO Unrestricted Use (shaded)	Units	SB-47 5 - 7 03/26/08 SB-47	SB-47 23 03/26/08 SB-47	SB-48 12 07/24/10 SB-48	SB-48 18.5 - 19 07/24/10 SB-48	SB-48-DUP 18.5 - 19 07/24/10 SB-48-DUP	SB-49 9.5 07/25/10 SB-49	SB-49 12 07/25/10 SB-49	SB-50 9 02/26/11 SB-50	SB-51 14.5 02/27/11 SB-51	SB-51-DUP 14.5 02/27/11 SB-51-DUP
Aluminum	- -	- -	- -	mg/kg	4580	7920	5340	8330	5690	2110	3300	9880	10700	11300
Antimony	- -	- -	- -	mg/kg	1.8 J	12.8 U	4.7 UJ	4.8 UJ	4.7 UJ	5 UJ	5.7 UJ	4.7 UJ	4.6 UJ	4.8 UJ
Arsenic	16	16	13	mg/kg	7.9	10.5	6 UJ	2.2 J	5.9 UJ	2.9 J	7.2 U	2.9 J	3.5 J	2.6 J
Barium	400	400	350	mg/kg	97	207	53.7	40.3	28.9	35.5	40.6	69.5	185	197
Beryllium	72	590	7.2	mg/kg	1.6 U	1.8 U	0.15 J	0.33 J	0.24 J	0.1 J	0.18 J	0.51 J	0.57 J	0.61 J
Cadmium	4.3	9.3	2.5	mg/kg	5.8 U	6.4 U	1.4 UJ	1.5 UJ	1.4 UJ	1.5 UJ	1.7 UJ	1.4 U	1.4 U	1.5 U
Calcium	- -	- -	- -	mg/kg	31400	18600	7090 J	316 J	392 J	834 J	746 J	1270	689	644
Chromium	- -	- -	- -	mg/kg	14.2	23.2	9.8 J	16 J	11.6 J	13 J	11.3 J	15.9 J	24.9 J	25.7 J
Cobalt	- -	- -	- -	mg/kg	5.7	7.4	4.6 J	4.7 J	3.4 J	2.9 J	2.6 J	7	4.6	5.6
Copper	270	270	50	mg/kg	66.6	111	13.9 J	7.4 J	5.2 J	17.9 J	12.4 J	18.5	12.2	13.1
Iron	- -	- -	- -	mg/kg	16400	23600	9480	10400	7290	14600	7750	15600	14600	12300
Lead	400	1,000	63	mg/kg	**696**	***1150***	11.5 J	6.3 J	3.7 J	83 J	59.5 J	18.4 J	9.2 J	5.8 J
Magnesium	- -	- -	- -	mg/kg	4320	4170	3110	2120	1550	862	1450	3300	2550	2590
Manganese	2,000	10,000	1,600	mg/kg	245	235	98.6	58.1	58.3	65.9	59.6	165	86.5	75.6
Mercury	0.81	2.8	0.18	mg/kg	0.74	***3.5***	0.097	0.03 J	0.034 J	***5.1***	0.32	0.35 J	0.019 J	0.02 J
Nickel	310	310	30	mg/kg	14.1	19	9.7 J	11.7 J	8.2 J	7.9 J	7.2 J	14.5	16.8	18.8
Potassium	- -	- -	- -	mg/kg	825	1810	2440 J	831 J	559 J	425 J	654 J	1810 J	1290 J	1350 J
Selenium	180	1,500	3.9	mg/kg	11.6 U	12.8 U	10.7 UJ	10.9 UJ	10.6 UJ	11.4 UJ	12.9 UJ	10.8 UJ	10.6 UJ	10.9 UJ
Silver	180	1,500	2	mg/kg	3.5 U	3.6 J	0.17 J	0.23 J	0.17 J	0.54 J	0.27 J	0.25 J	0.23 J	0.15 J
Sodium	- -	- -	- -	mg/kg	879	2770	88.9 J	633 J	467 J	69.1 J	207 J	487	459	457
Thallium	- -	- -	- -	mg/kg	8.1 U	9 U	1.2 J	4.4 UJ	4.2 UJ	4.6 UJ	5.1 UJ	1 J	2.1 J	1.5 J
Vanadium	- -	- -	- -	mg/kg	18.6	23	11.3 J	17.9 J	13.3 J	8.6 J	11.3 J	18.9 J	23.2 J	24.4 J
Zinc	10,000	10,000	109	mg/kg	253	512	36.6	19.5	16.9	71.3	37.6	52	23.1	23.5
Total Cyanide	27	27	27	mg/kg	3.8	0.45 J	0.578 U	0.589 U	0.586 U	0.64 U	0.696 UJ	0.596 U	0.591 U	0.585 U
Miscellaneous														
Percent moisture	- -	- -	- -	mg/kg	15.4	34.2	13.5	15.1	14.7	21.8	28.2	16	15.4	14.5
Percent solids	- -	- -	- -	mg/kg	84.6	65.8	86.5	84.9	85.3	78.2	71.8	84	84.6	85.5

See notes on page 6.

Table 4-4
Soil Analytical Results - Metals and Cyanide

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Notes:
Italicized result exceeds SCO for Restricted – Commercial use.
Bolded result exceeds SCO Restricted – Residential use.
Shaded result exceeds SCO Unrestricted use.
Qualifiers are as follows:

B The reported value was obtained from a reading less than the CRDL but greater than or equal to the IDL.
D The reported concentration is based on a diluted sample analysis.
E Estimated due to intereference presence.
J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
N Indicates spike sample recovery is not within the quality control limits.
U The analyte was analyzed for, but not detected. The associated value is the instrument detection limit.
* Indicates analysis is not within the quality control limits.

Screening levels were provided in New York State Department of Environmental Conservation 6 New York Codes, Rules and Regulations Subpart 375.6: Remedial Program Soil Cleanup Objectives.
Duplicate samples are indicated by location ID ending in DUP.

mg/kg = milligrams per kilogram
NA = not analyzed
% = percent
SCO = Soil cleanup objective
- - = criteria not indicated

Table 4-5
Well Construction Details

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Monitoring Well ID	Approximate Ground Elevation (feet[1])	Elevation of Top of Well (feet[1])	Screen Interval Depth		Hydrostratigraphic Unit Screened	Subsurface Materials Observed in Screened Interval
			(feet bgs)	(feet[1])		
MW-07	2.03	1.49	5 - 15	-3.0 - -13.0	Fill Unit	Fill/Sand/gravel
MW-08	2.15	1.57	5 - 15	-2.9 - -12.9	Fill Unit	Fill/Sand/gravel
MW-09	2.20	1.48	5 - 15	-2.8 - -12.8	Fill Unit	Fill/Sand/gravel
MW-10	2.08	1.92	5 - 15	-2.9 - -12.9	Fill Unit	Fill/Sand/gravel
MW-11	13.28	13.00	7 - 17	6.3 - -3.7	Fill Unit	Fill/Sand

Notes:
1. MW-08 to MW-10 elevations in NGVD 1929; MW-11 elevations in NAVD 1988
2. Installation of monitoring wells were performed by the following:
   - ADT on February 20-27, 2005 (Borings MW-07, MW-08, MW-09 and MW-10).
   - NYEG Drilling LLC on July 23, 2010 (Borings MW-11).

bgs = below ground surface

Table 4-6
Groundwater Analytical Results – Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:	NYSDEC		MW-03	MW-03	MW-07	MW-07	MW-08	MW-08	MW-09	MW-09	MW-09	MW-09-DUP	MW-10	MW-10	MW-10	MW-11
Date Collected:			10/08/03	10/08/03	03/19/05	03/07/11	03/19/05	03/05/11	03/18/05	03/18/05	03/01/11	03/01/11	03/18/05	03/18/05	03/01/11	07/29/10
Sample Name:	GA	Units	MW-03	MW-03 DL	MW-07	MW-07	MW-08	MW-08	MW-09	MW-09 DL	MW-09	REP 3-1-11	MW-10	MW-10 DL	MW-10	MW-11
Acetone (2- propanone, dimethyl ketone)	50	µg/L	5 U	10 U	40 U	2.7 UB	5 U	1.3 J	5 U	40 U	2 U	2 U	5 U	15 U	2 U	3 UBJ
Benzene	1	µg/L	**280 E**	**220 D**	**80**	**25 J**	5 U	0.5 U	**78**	**61 D**	**35**	**41**	**69**	**50 D**	**1.4**	0.23 J
Bromobenzene	- -	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
Bromochloromethane	- -	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
Bromoform	50	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
Bromomethane/ methyl bromide	- -	µg/L	5 U	10 U	40 U	1 U	5 U	1 U	5 U	40 U	1 U	1 U	5 U	15 U	1 U	1 U
2- butanone (methyl ethyl ketone)	- -	µg/L	5 U	10 U	40 U	2 U	5 U	2 U	5 U	40 U	2 U	2 U	5 U	15 U	2 U	2 U
n- butylbenzene	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
sec- butylbenzene	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	1 J	40 U	NA	NA	5 U	15 U	NA	NA
tert- butylbenzene	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	**6**	40 U	NA	NA	5 U	15 U	NA	NA
Carbon disulfide	- -	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.24 J
Carbon tetrachloride	5	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
Chlorobenzene	5	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
Chloroethane	5	µg/L	5 U	10 U	40 U	1 U	5 U	1 U	5 U	40 U	1 U	1 U	5 U	15 U	1 U	1 U
Chloroform	7	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
Chloromethane (methyl chloride)	- -	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
2- Chlorotoluene	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
4- Chlorotoluene	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
Cumene	5	µg/L	2 J	10 U	**9 J**	NA	5 U	NA	**29**	**20 DJ**	NA	NA	2 J	15 U	NA	NA
1,2- Dibromo- 3- chloropropane	- -	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
Dibromochloromethane	- -	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
cis- 1,3- Dichloro, 1- propene	- -	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
1,2- Dichlorobenzene	3	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
1,3- Dichlorobenzene	3	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
1,4- Dichlorobenzene	3	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
Dichlorobromomethane	- -	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
1,1- Dichloroethane	5	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
1,2- Dichloroethane	0.6	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
cis- 1,2- Dichloroethene	5	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
trans- 1,2- Dichloroethene	5	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
1,1- Dichloroethylene	- -	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
Dichloromethane	5	µg/L	5 U	10 U	40 U	2 UJ	5 U	2 UB	5 U	40 U	2 UBJ	2 UBJ	5 U	15 U	2 UJ	2 UJ
1,2- Dichloropropane	1	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U

Table 4-6
Groundwater Analytical Results – Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Date Collected: / Sample Name:	NYSDEC GA	Units	MW-03 10/08/03 MW-03	MW-03 10/08/03 MW-03 DL	MW-07 03/19/05 MW-07	MW-07 03/07/11 MW-07	MW-08 03/19/05 MW-08	MW-08 03/05/11 MW-08	MW-09 03/18/05 MW-09	MW-09 03/18/05 MW-09 DL	MW-09 03/01/11 MW-09	MW-09-DUP 03/01/11 REP 3-1-11	MW-10 03/18/05 MW-10	MW-10 03/18/05 MW-10 DL	MW-10 03/01/11 MW-10	MW-11 07/29/10 MW-11
1,3- Dichloropropane	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
1,1- Dichloropropene	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
trans- 1,3- Dichloropropene	0.4	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
Ethylbenzene	5	µg/L	5 U	10 U	**63**	**9.5**	5 U	0.5 U	**130**	**160 D**	**53**	**57**	**25**	**20 D**	0.59	0.5 U
Ethylene dibromide	6.00E-04	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
Freon 12	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
Hexachlorobutadiene	0.5	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	8 DJ	NA	NA
2- Hexanone	- -	µg/L	5 U	10 U	40 U	2 U	5 U	2 U	5 U	40 U	2 U	2 U	5 U	15 U	2 U	2 U
Iodomethane (methyl iodide)	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
Methyl isobutyl ketone	- -	µg/L	5 U	10 U	40 U	0.71 J	5 U	2 U	5 U	40 U	2 UJ	2 UJ	5 U	15 U	2 UJ	2 U
Methyl tert-butyl ether	10	µg/L	2 J	2 DJ	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
Methylene bromide	- -	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
n- propylbenzene	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	**12**	**9 DJ**	NA	NA	5 U	15 U	NA	NA
Styrene	5	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
1,1,1,2- Tetrachloroethane	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
1,1,2,2- Tetrachloroethane	5	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 UJ
Tetrachloroethylene	5	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
Toluene	5	µg/L	5 U	10 U	**28 J**	2.4	5 U	0.5 U	**62**	**42 D**	4.6	**5.2**	**37**	**25 D**	0.5 U	0.5 UB
1,2,3- Trichlorobenzene	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
1,2,4- Trichlorobenzene	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
1,1,1- Trichloroethane (methyl chloroform)	5	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
1,1,2- Trichloroethane	- -	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.5 U
Trichloroethene (trichloroethylene)	5	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 U	0.5 U	5 U	15 U	0.5 U	0.42 J
Trichlorofluoromethane (freon 11)	5	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
1,2,3 - Trichloropropane	0.04	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
1,2,4- Trimethylbenzene	5	µg/L	5 U	10 U	**42**	NA	5 U	NA	**53**	**44 D**	NA	NA	**11**	**10 DJ**	NA	NA
1,3,5- Trimethylbenzene	5	µg/L	5 U	10 U	**11 J**	NA	5 U	NA	**12**	**10 DJ**	NA	NA	**6**	**6 DJ**	NA	NA
Vinyl acetate	- -	µg/L	5 U	10 U	40 U	NA	5 U	NA	5 U	40 U	NA	NA	5 U	15 U	NA	NA
Vinyl chloride (chloroethene)	2	µg/L	5 U	10 U	40 U	0.5 U	5 U	0.5 U	5 U	40 U	0.5 UJ	0.5 UJ	5 U	15 U	0.5 UJ	0.5 U
Total xylenes	5	µg/L	5 U	10 U	**110**	**12**	5 U	1 U	**180**	**140 D**	**27**	**31**	**53**	**41 D**	1 U	1 U
Total BTEX	- -	µg/L	280	NA	148 J	J	ND	ND	77	162	5	6	52	63	1	0.66
Total VOCs			284	222	343	49.61	0	1.3	550	477	119.6	134.2	203	152	1.99	0.89

See notes on page 3.

Table 4-6
Groundwater Analytical Results – Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Notes:
Bold and shaded values exceed NYSDEC GA screening criteria.
1. Qualifiers are as follows:
    B Analyte was also detected in the associated method blank.
    D The reported concentration is based on a diluted sample analysis.
    J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
    N Indicates that spike sample recovery is not within the quality control limits.
    U The analyte was analyzed for, but not detected. The associated value is the analyte quantitation limit
2. Screening levels for class GA groundwater were provided in NYSDEC Technical and Operational Guidance Series 1.1.1 for Groundwater.
3. Sample IDs that end in the letters DL indicate that the original sample extraction was diluted to be able to report a value for one or more constituents being analyzed for.
BTEX = benzene, toluene, ethylbenzene, and xylene
µg/L = micrograms per liter
NA = Not analyzed
NYSDEC = New York State Department of Environmental Conservation
PAH = polycyclic aromatic hydrocarbon
- - = criteria not identified

Table 4-7
Groundwater Analytical Results – Semivolatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:	NYSDEC		MW-07	MW-07	MW-07	MW-08	MW-08	MW-09	MW-09	MW-09	MW-09-DUP	MW-10	MW-10	MW-11
Date Collected:	GA	Units	03/19/05	38430	03/07/11	03/19/05	03/05/11	03/18/05	03/18/05	03/01/11	03/01/11	03/18/05	03/01/11	07/29/10
Sample Name:			MW-07	MW-07 DL	MW-07	MW-08	MW-08	MW-09	MW-09 DL	MW-09	REP 3-1-11	MW-10	MW-10	MW-11
Acenaphthene	20	µg/L	**73**	**78 DJ**	**30**	10 U	4.2 U	**63**	**57 DJ**	**41**	**48**	**23**	**28**	4.2 U
Acenaphthylene	- -	µg/L	4 J	100 U	1.1 J	10 U	4.2 U	41	36 DJ	15	20	2 J	1.8 J	4.2 U
Anthracene	50	µg/L	19	24 DJ	9.2	10 U	4.2 U	32	28 DJ	15	15	8 J	5.7	4.2 U
Benzo (a) anthracene	0.002	µg/L	**8 J**	**13 DJ**	**4.7**	10 U	4.2 U	**13**	200 U	**2.9 J**	**2.4 J**	**10**	**7.5**	4.2 U
Benzo (a) pyrene	0	µg/L	**5 J**	100 U	**3.5 J**	10 U	4.2 U	**10**	200 U	**2.1 J**	**1.6 J**	**8 J**	**7.9**	4.2 U
Benzo (b) fluoranthene	0.002	µg/L	**6 J**	100 U	**3.4 J**	10 U	4.2 U	**10**	200 U	**1.9 J**	**1.5 J**	**9 J**	**7.7**	4.2 U
Benzo (g,h,I) perylene	- -	µg/L	3 J	100 U	5.4 J	10 U	4.2 U	7 J	200 U	6.6 J	6.2 J	6 J	6.4	4.2 UJ
Benzo (k) fluoranthene	0.002	µg/L	**2 J**	100 U	**1.7 J**	10 U	4.2 U	**4 J**	200 U	8.5 U	8.5 U	**4 J**	**3.6 J**	4.2 U
Benzyl alcohol		µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis (2- chloroethoxy) methane	5	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
Bis (2- Chloroethyl) ether	1	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
Bis (2- ethylhexyl) phthalate	5	µg/L	10 U	100 U	3.3 J	10 U	4.2 U	10 U	200 U	8.5 UB	8.5 UB	10 U	4 UB	4.2 U
4- Bromofluorobenzene	- -	µg/L	10 U	100 U	NA	10 U	NA	10 U	200 U	NA	NA	10 U	NA	NA
4- Bromophenyl- phenylether	- -	µg/L	NA	NA	4.2 U	NA	4.2 U	NA	NA	8.5 U	8.5 U	NA	4 U	4.2 U
Butylbenzylphthalate	50	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
Carbazole	- -	µg/L	99	120 D	11	10 U	4.2 U	76	65 DJ	10	13	10 U	1 J	4.2 U
4- Chloro- 3- methylphenol	- -	µg/L	10 U	100 U	5.2 U	10 U	5.2 U	10 U	200 U	11 U	11 U	10 U	5 U	5.3 U
4- Chloroaniline	- -	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
2- Chloronaphthalene	10	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
2- Chlorophenol	- -	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
4- Chlorophenyl- phenylether	- -	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
Chrysene	0.002	µg/L	**8 J**	**11 DJ**	**4.6**	10 U	4.2 U	**18**	200 U	**4.1 J**	**3.2 J**	**6 J**	**6**	4.2 U
Dibenzo (a,h) anthracene	- -	µg/L	10 U	100 U	3.7 J	10 U	4.2 U	1 J	200 U	5.8 J	8.5 U	10 U	3.2 J	4.2 UJ
Dibenzofuran	- -	µg/L	52	60 DJ	18	10 U	4.2 U	37	36 DJ	13	16	16	10	4.2 U
Dibutyl phthalate	50	µg/L	10 U	100 U	0.43 J	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	0.43 J	4.2 U
1,2- Dichlorobenzene	3	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
1,3- Dichlorobenzene	3	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
1,4- Dichlorobenzene	3	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
3,3'- Dichlorobenzidine	5	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
2,4- Dichlorophenol	5	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
Diethyl phthalate	50	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 UB
2,4- Dimethylphenol	1	µg/L	**8 J**	100 U	0.93 J	10 U	4.2 U	**8 J**	200 U	**2 J**	**2.4 J**	**18**	4 U	4.2 U
Dimethyl phthalate	50	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
4,6- Dinitro- 2- methylphenol	- -	µg/L	20 U	200 U	R	20 U	26 U	20 U	400 U	53 U	53 U	20 U	25 U	26 U

Table 4-7
Groundwater Analytical Results – Semivolatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Date Collected: / Sample Name:	NYSDEC GA	Units	MW-07 03/19/05 MW-07	MW-07 38430 MW-07 DL	MW-07 03/07/11 MW-07	MW-08 03/19/05 MW-08	MW-08 03/05/11 MW-08	MW-09 03/18/05 MW-09	MW-09 03/18/05 MW-09 DL	MW-09 03/01/11 MW-09	MW-09-DUP 03/01/11 REP 3-1-11	MW-10 03/18/05 MW-10	MW-10 03/01/11 MW-10	MW-11 07/29/10 MW-11
2,4- Dinitrophenol	*	µg/L	20 U	200 U	R	20 U	26 U	20 U	400 U	53 U	53 U	20 U	25 U	26 UJ
2,4- Dinitrotoluene	5	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
2,6- Dinitrotoluene	5	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
Dioctyl phthalate	50	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
Fluoranthene	50	µg/L	31	38 DJ	13	10 U	4.2 U	45	39 DJ	15	16	31	20	4.2 U
Fluorene	50	µg/L	41	48 DJ	3.9 J	10 U	4.2 U	28	28 DJ	2.5 J	3.3 J	18	1.9 J	4.2 U
Hexachlorobenzene	0.04	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
Hexachlorobutadiene	0.5	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
Hexachlorocyclopentadiene	- -	µg/L	10 U	100 U	4.2 UJ	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
Hexachloroethane	5	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
Indeno (1,2,3- cd) pyrene	0.002	µg/L	**2 J**	100 U	**4.9 J**	10 U	4.2 U	**5 J**	200 U	**6.1 J**	**5.7 J**	**5 J**	**6.6**	4.2 UJ
Isophorone	50	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
2- Methylnaphthalene	- -	µg/L	78	92 DJ	1.9 J	10 U	4.2 U	75	71 DJ	3.7 J	4.9 J	10 U	0.35 J	4.2 U
2- Methylphenol	1	µg/L	**2 J**	100 U	0.35 J	10 U	4.2 U	1 J	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
4- Methylphenol	1	µg/L	**2 J**	100 U	0.42 J	10 U	4.2 U	**7 J**	200 U	8.5 U	8.5 U	10 U	4 U	**1.1 J**
Naphthalene	10	µg/L	**1,100 E**	**1400 D**	**40**	10 U	4.2 U	**1,100 E**	**1,300 D**	**69**	**87**	2 J	6.7	4.2 U
2- Nitroaniline	5	µg/L	20 U	200 U	4.2 U	20 U	4.2 U	20 U	400 U	8.5 U	8.5 U	20 U	4 U	4.2 U
3- Nitroaniline	5	µg/L	20 U	200 U	4.2 U	20 U	4.2 U	20 U	400 U	8.5 U	8.5 U	20 U	4 U	4.2 U
4- Nitroaniline	5	µg/L	20 U	200 U	4.2 U	20 U	4.2 U	20 U	400 U	8.5 U	8.5 U	20 U	4 U	4.2 U
Nitrobenzene	0.4	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
2- Nitrophenol	- -	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
4- Nitrophenol	- -	µg/L	20 U	200 U	10 U	20 U	10 U	20 U	400 U	21 U	21 U	20 U	10 U	11 U
N- Nitrosodi- n- propylamine	- -	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
N- Nitrosodiphenylamine	- -	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
2,2- Oxybis (1-Chloropropane)	- -	µg/L	NA	NA	4.2 U	NA	4.2 U	NA	NA	8.5 U	8.5 U	NA	4 U	4.2 U
Pentachlorophenol	*	µg/L	20 U	200 U	26 U	20 U	26 U	20 U	400 U	53 U	53 U	20 U	25 U	26 U
Phenanthrene	50	µg/L	**110**	**110 D**	20	10 U	4.2 U	**85**	**71 DJ**	19	23	**57**	9.9	0.41 J
Phenol	1	µg/L	1 J	100 U	0.34 J	10 U	4.2 U	**2 J**	200 U	8.5 U	8.5 U	1 J	4 U	4.2 U
Pyrene	50	µg/L	29	32 DJ	16 J	10 U	4.2 U	48	38 DJ	16	15	25	17	4.2 U
1,2,4- Trichlorobenzene	5	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
2,4,5-trichlorophenol	- -	µg/L	20 U	200 U	10 U	20 U	10 U	20 U	400 U	21 U	21 U	20 U	10 U	11 U
2,4,6- Trichlorophenol	- -	µg/L	10 U	100 U	4.2 U	10 U	4.2 U	10 U	200 U	8.5 U	8.5 U	10 U	4 U	4.2 U
Total PAHs	- -	µg/L	1519 J	1846 DJ	167 J	ND	ND	1585 J	1668 J	225.7 J	252.8 J	214 J	140.3 J	0.41 J
Total SVOCs	- -	µg/L	1683	2026	201.77	ND	ND	1716	1769	250.7	284.2	249	151.68	1.51

See notes on page 3.

Table 4-7
Groundwater Analytical Results – Semivolatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Notes:
Bold and shaded values exceed NYSDEC GA screening criteria.
1. Qualifiers are as follows:
   - B Analyte was also detected in the associated method blank.
   - D The reported concentration is based on a diluted sample analysis.
   - E Indicates a value estimated or not reported due to the presence of interferences.
   - J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
   - N Indicates that spike sample recovery is not within the quality control limits.
   - R The reported concentration was rejected.
   - U The analyte was analyzed for, but not detected. The associated value is the analyte quantitation limit
2. Screening levels for class GA groundwater were provided in NYSDEC Technical and Operational Guidance Series 1.1.1 for Groundwater.
3. Sample Ids that end in the letters DL indicate that the original sample extraction was diluted to be able to report a value for one or more constituents being analyzed for.

µg/L = micrograms per liter
NA = Not analyzed
NYSDEC = New York State Department of Environmental Conservation
PAHs = polycyclic aromatic hydrocarbons
SVOCs = Semi-volatile organic compounds
Total PAHs = represents the summation of 17 Target Compound List PAHs.
- - = criteria not identified

Table 4-8
Groundwater Analytical Results – Metals and Cyanide

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Date Collected: / Sample Name:	NYSDEC GA	Units	MW-07 03/19/05 MW-07	MW-07 03/07/11 MW-07	MW-08 03/19/05 MW-08	MW-08 03/05/11 MW-08	MW-09 03/18/05 MW-09	MW-09 03/01/11 MW-09	MW-09-DUP 03/01/11 REP 3-1-11	MW-10 03/18/05 MW-10	MW-10 03/01/11 MW-10	MW-11 07/29/10 MW-11
Metals												
Aluminum	- -	µg/L	NA	769 J	NA	127 J	NA	199 J	205 J	NA	327	101 J
Antimony	3	µg/L	NA	75 U	NA	**10 J**	NA	15 U	15 U	NA	15 U	15 U
Arsenic	25	µg/L	6.8 B	75 U	1.6 U	9.1 J	8.6 B	15 U	15 U	2.6 B	15 U	15 U
Barium	1,000	µg/L	216	801	164 B	190	72 B	94.3	93.6	60.9 B	72.3	422
Beryllium	3	µg/L	NA	25 U	NA	5 U	NA	5 U	5 U	NA	5 U	5 U
Cadmium	5	µg/L	0.1 U	25 U	0.1 U	5 U	0.1 U	5 U	5 U	0.1 U	5 U	5 U
Calcium	- -	µg/L	NA	692,000	NA	375,000	NA	187,000	184,000	NA	185,000	287,000
Chromium	50	µg/L	3.4 B	25 U	0.38 U	1.3 J	2 B	5 U	5 U	1.1 B	5 U	5 U
Cobalt	- -	µg/L	NA	25 UB	NA	5 UB	NA	2.4 J	1.2 J	NA	1.2 J	5 U
Copper	- -	µg/L	NA	21.2 J	NA	14.6	NA	7.9 J	6.3 J	NA	12.2	2.4 J
Iron	300	µg/L	NA	**4,060**	NA	**356**	NA	**956**	**929**	NA	**455**	**11,100**
Lead	25	µg/L	12.7	75 U	**29.9**	13.1 J	**36.1**	15 U	15 U	20.8	9.8 J	15 U
Magnesium	35,000	µg/L	NA	**168,000**	NA	**43,700**	NA	**362,000**	**357,000**	NA	**329,000**	**39,100**
Manganese	300	µg/L	NA	**471**	NA	15.5	NA	65.6	69.6	NA	124	**1,330**
Mercury	0.7	µg/L	NA	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	NA	0.2 U	0.2 U
Nickel	100	µg/L	NA	7.4 J	NA	3.3 J	NA	5 U	1.8 J	NA	4.5 J	5 U
Potassium	- -	µg/L	NA	102,000	NA	30,800	NA	176,000	173,000	NA	159,000	59,400
Selenium	10	µg/L	NA	190 UJ	NA	**28.8 J**	NA	38 U	38 U	NA	38 U	38 U
Silver	50	µg/L	NA	25 U	NA	5 U	NA	5 U	5 U	NA	5 U	5 U
Sodium	20,000	µg/L	NA	**9,660,000**	NA	**612,000**	NA	**3,920,000**	**3,820,000**	NA	**3,520,000**	**842,000**
Thallium	1	µg/L	NA	75 UJ	NA	15 U	NA	15 U	15 U	NA	15 U	15 U
Vanadium	- -	µg/L	NA	23 J	NA	1.9 J	NA	5 U	5 U	NA	15.4	3.9 J
Zinc	2,000	µg/L	NA	125 U	NA	24 J	NA	25 U	25 U	NA	28.5	25 U
Dissolved Metals												
Aluminum	- -	µg/L	1,740	NA	115 B	NA	687	NA	NA	300	NA	NA
Antimony	3	µg/L	**11.6 B**	NA	**4 B**	NA	**16.5 B**	NA	NA	**14.3 B**	NA	NA
Beryllium	3	µg/L	0.15 U	NA	0.15 U	NA	0.15 U	NA	NA	0.15 U	NA	NA
Calcium	- -	µg/L	189,000 E	NA	232,000 E	NA	160,000 E	NA	NA	144,000 E	NA	NA
Cobalt	- -	µg/L	1.2 B	NA	0.97 B	NA	0.61 B	NA	NA	0.33 B	NA	NA
Copper	200	µg/L	6.3 U	NA	12.1 B	NA	6.3 U	NA	NA	6.3 U	NA	NA
Iron	300	µg/L	**3,630**	NA	**791**	NA	**1,500**	NA	NA	**558**	NA	NA
Magnesium	35,000	µg/L	**228,000 E**	NA	32,000 E	NA	367,000 E	NA	NA	**353,000 E**	NA	NA
Manganese	300	µg/L	226 E	NA	214 E	NA	133 E	NA	NA	91.6 E	NA	NA
Mercury	0.7	µg/L	0.066 U	NA	0.076 B	NA	0.19 B	NA	NA	0.064 U	NA	NA
Nickel	100	µg/L	2.7 B	NA	2.7 B	NA	0.92 B	NA	NA	2.8 B	NA	NA
Potassium	- -	µg/L	108,000 E	NA	31,400 E	NA	169,000 E	NA	NA	161,000 E	NA	NA
Selenium	10	µg/L	0.98 U	NA	0.98 U	NA	0.98 U	NA	NA	0.98 U	NA	NA
Silver	50	µg/L	23.8 B	NA	16.2 B	NA	19.9 B	NA	NA	19.1 B	NA	NA
Sodium	20,000	µg/L	**3,760,000 E**	NA	**1,110,000 E**	NA	**6,530,000 E**	NA	NA	**4,220,000 E**	NA	NA
Thallium	1	µg/L	1.2 UN	NA	1.2 UN	NA	1.2 UN	NA	NA	1.2 UN	NA	NA
Vanadium	- -	µg/L	4.2 B	NA	1.6 B	NA	1.5 B	NA	NA	5.7 B	NA	NA
Zinc	2,000	µg/L	87	NA	8.4 B	NA	2.3 U	NA	NA	2.3 U	NA	NA
Total Cyanide												
Cyanide – total	200	µg/L	39.9	63.6	**298**	194	9.1 U	11.3	12.3	9.1 U	10 U	37.6

See notes on page 2.

Table 4-8
Groundwater Analytical Results – Metals and Cyanide

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Notes:
Bold and shaded values exceed NYSDEC GA screening criteria.
1. Qualifiers are as follows:
   - B Indicates an estimated value between the instrument detection limit and practical quantitation limit.
   - D The reported concentration is based on a diluted sample analysis.
   - E Indicates a value estimated or not reported due to the presence of interferences.
   - J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
   - N Indicates that spike sample recovery is not within the quality control limits.
   - U The analyte was analyzed for, but not detected. The associated value is the analyte quantitation limit.
   - * Indicates analysis is not within the quality control limits.
2. Screening levels for class GA groundwater were provided in NYSDEC Technical and Operational Guidance Series 1.1.1 for Groundwater.
3. Sample IDs that end in the letters DL indicate that the original sample extraction was diluted to be able to report a value for one or more constituents being analyzed for.

µg/L = micrograms per liter
NA = Not analyzed
NYSDEC = New York State Department of Environmental Conservation
- - = criteria not identified

Table 4-9
Groundwater Sampling Field Parameters

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Monitoring Well	Date Sampled	Time	Minutes Elapsed	Temp (°C)	pH	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (feet bmp)
MW-07	3/7/2011	10:25	0	12.5	6.6	8.65	-260	0.46	- -	6.11
	3/7/2011	10:30	5	10.6	7.06	9.49	-273	0.47	- -	6.59
	3/7/2011	10:35	10	9.9	7.07	9.79	-287	0.29	- -	- -
	3/7/2011	10:40	15	9.9	7.1	9.99	-292	0.26	30	6.35
	3/7/2011	10:45	20	9.8	7.15	10.16	-302	0.25	- -	- -
	3/7/2011	10:50	25	9.8	7.15	10.24	-306	0.28	88	6.35
	3/7/2011	10:55	30	9.8	7.17	10.28	-312	0.22	- -	- -
	3/7/2011	11:00	35	9.8	7.16	10.34	-314	0.24	50	6.36
	3/7/2011	11:05	40	10	7.15	10.37	-318	0.23	- -	- -
	3/7/2011	11:10	45	10.1	7.18	10.4	-310	0.21	45	6.36
MW-08	3/5/2011	10:15	0	- -	- -	- -	68	- -	200	6.11
	3/5/2011	10:20	5	8.9	7.19	1.45	68	7.02	- -	- -
	3/5/2011	10:25	10	8.8	7.21	1.45	70	6.62	- -	6.19
	3/5/2011	10:30	15	8.9	7.21	1.458	72	5.43	- -	- -
	3/5/2011	10:35	20	9.4	7.22	1.456	74	5.13	- -	6.19
	3/5/2011	10:40	25	9.4	7.22	1.45	76	4.67	- -	- -
	3/5/2011	10:45	30	10	7.23	1.448	78	4.66	- -	6.18
	3/5/2011	10:50	35	10.1	7.23	1.445	79	4.96	- -	- -
	3/5/2011	10:55	40	10.3	7.23	1.443	80	4.34	- -	6.18
	3/5/2011	11:00	45	10.3	7.23	1.441	81	4.13	- -	- -
	3/5/2011	11:05	50	10.5	7.25	1.435	82	4.62	- -	6.22
	3/5/2011	11:10	55	10.5	7.25	1.432	84	4.24	- -	- -
	3/5/2011	11:15	60	10.5	7.25	1.43	84	4.26	8.7	4.18
MW-09	3/1/2011	10:30	0	6.4	7.36	5.05	-108	0.89	- -	6.73
	3/1/2011	10:35	5	7	7.04	5.07	-227	0.38	- -	6.93
	3/1/2011	10:40	10	7.4	7.66	5.17	-258	0.16	- -	- -
	3/1/2011	10:45	15	7.6	7.67	5.19	-268	0.12	- -	6.98
	3/1/2011	10:50	20	8.4	7.69	5.26	-286	0.11	- -	- -
	3/1/2011	10:55	25	8.6	7.7	5.28	-287	0.13	- -	7.02
	3/1/2011	11:00	30	8.4	7.72	5.36	-298	0.19	- -	--
	3/1/2011	11:05	35	8.4	7.74	5.41	-300	0.21	- -	7.08
	3/1/2011	11:10	40	8.5	7.75	5.46	-312	0.23	- -	- -
	3/1/2011	11:15	45	8.5	7.75	5.5	-315	0.23	30	7.1
MW-10	3/1/2011	12:02	0	8.8	7.71	5.3	-243	1.43	- -	6.27
	3/1/2011	12:07	5	8.8	7.57	5.23	-238	1.14	- -	- -
	3/1/2011	12:12	10	8.5	7.56	4.84	-202	2.55	- -	8.25
	3/1/2011	12:17	15	8.9	7.53	4.79	-195	2.41	- -	- -
	3/1/2011	12:22	20	10	7.56	4.9	-208	1.92	120	8.31
	3/1/2011	12:27	25	10.5	7.56	4.93	-202	1.83	- -	- -
	3/1/2011	12:32	30	10.9	7.55	4.93	-197	1.79	31	8.5
	3/1/2011	12:37	35	11.4	7.57	4.96	-192	2.42	- -	- -
	3/1/2011	12:42	40	11.6	7.59	5	-192	2.56	29	8.6
	3/1/2011	12:45	45	11.7	7.6	5.02	-191	2.66	18	- -
MW-11	7/29/2010	10:58	0	25.6	6.78	5.36	-118	1.26	50.8	15.55
	7/29/2010	- -	- -	25.5	6.82	5.33	-124	1.23	7.76	- -
	7/29/2010	- -	- -	24.7	6.85	5.37	-127	0.98	6.81	- -
	7/29/2010	11:23	25	24.9	6.81	5.36	-124	0.55	7.27	15.55

Notes:
bmp = below measuring point
mg/L = milligrams per liter
mS/cm = milliSiemens per centimeter
mV = millivolts
NTU = Nephelometric Turbidity Unit
°C = degrees Celsius
- - = field parameter not recorded during sampling

Table 5-1
Sediment Probing Observations

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York New York

Location	Date	Coordinates		Elevation[1] (feet)	Total Depth of Water Column feet	Sediment Depth feet	Sediment Description	NAPL/Odor/ Sheen
		X	Y					
A-01	2/26/2008	982888.4000	217151.3000	1.70	33.0	8.6	Soft silt/stiff silt	No
A-03	2/26/2008	982977.3000	217098.9000	1.40	32.0	10.1	Soft silt/stiff silt	No
C-01	2/26/2008	982935.3000	217234.8000	1.40	33.0	10.5	Soft silt/stiff silt	No
C-03	2/26/2008	983019.6000	217188.0000	1.20	23.4	14.5	Soft silt	No
C-05	2/21/2008	983115.0000	217163.2000	-2.00	12.0	12.0	Soft silt/stiff silt	No
C-07	2/21/2008	983202.8000	217108.5000	-2.10	9.7	12.0	Soft silt/stiff silt	No
C-09	3/3/2008	983280.2000	217088.2000	-1.60	13.1	12.8	Soft silt/stiff silt	No
C-11	2/21/2008	983356.0000	216984.7000	-2.30	6.4	12.6	Soft silt/stiff silt	No
E-01	2/26/2008	982983.2000	217324.1000	1.50	32.0	10.0	Soft silt	No
E-03	2/26/2008	983070.4000	217267.2000	-1.00	25.0	10.2	Soft silt/stiff silt	No
E-05	2/21/2008	983161.4000	217226.0000	-1.70	10.4	12.6	Soft silt/stiff silt	No
E-07	2/21/2008	983244.7000	217170.4000	0.30	11.8	13.0	Soft silt/stiff silt	No
E-09	2/21/2008	983330.1000	217123.6000	0.40	11.5	15.5	Soft silt/stiff silt	No
E-11	2/21/2008	983420.7000	217071.2000	0.60	10.4	13.5	Soft silt/stiff silt	No
F-12	2/21/2008	983485.7000	217087.3000	1.80	11.0	11.5	Soft silt/stiff silt	No
F-13	2/21/2008	983531.9000	217064.5000	1.60	11.0	11.0	Soft silt/stiff silt	No
F-14	2/21/2008	983577.4000	217038.7000	1.80	10.5	9.7	Soft silt/stiff silt	No
F-15	2/21/2008	983619.6000	217017.5000	1.70	10.4	10.6	Soft silt/stiff silt	No
F-16	2/21/2008	983656.3000	216987.5000	1.30	10.0	12.5	Soft silt/stiff silt	No
G-01	2/26/2008	983037.6000	217411.1000	1.30	33.0	10.0	Soft silt	No
G-03	2/26/2008	983118.1000	217361.8000	-1.10	24.0	12.0	Soft clayey silt/stiff	No
G-05	2/21/2008	983206.3000	217307.5000	-1.80	11.8	12.9	Soft silt/stiff silt	No
G-07	2/21/2008	983296.8000	217260.4000	-1.50	11.6	13.4	Soft silt/stiff silt	No
G-09	2/21/2008	983378.3000	217209.1000	-1.30	10.8	13.2	Soft silt/stiff silt	No
G-11	2/21/2008	983467.3000	217159.2000	1.60	11.4	13.0	Soft silt/stiff silt	No
G-12	2/21/2008	983509.8000	217133.7000	1.90	11.9	12.6	Soft silt/stiff silt	No
G-13	2/21/2008	983555.6000	217109.1000	1.70	11.4	15.1	Soft silt/stiff silt	No
G-14	2/21/2008	983596.1000	217081.1000	1.80	11.5	13.5	Soft silt/stiff silt	No
G-15	2/21/2008	983642.5000	217053.3000	-0.80	7.7	15.3	Soft silt/stiff silt	No
G-16	2/21/2008	983685.9000	217032.2000	-1.10	7.0	14.0	Soft silt/stiff silt	No
H-12	2/21/2008	983536.5000	217178.0000	1.90	14.1	24.0	Soft Silt/stiff silt	No
H-13	2/21/2008	983579.4000	217155.1000	1.90	14.8	15.2	Soft silt/stiff silt	No
H-14	2/21/2008	983626.7000	217128.8000	1.60	15.1	14.9	Soft silt/stiff silt	No
H-15	2/21/2008	983666.1000	217104.0000	1.50	11.1	13.8	Soft silt/stiff silt	No
H-16	2/26/2008	983667.1000	217093.1000	1.40	10.6	21.0	Soft silt/stiff silt	No
J-01	2/26/2008	983089.3000	217497.7000	1.40	33.0	10.0	Soft silt/stiff silt	No
J-03	2/26/2008	983169.6000	217441.1000	-0.90	25.0	9.0	Soft clayey silt/rock	No
J-05	2/21/2008	983287.2000	217371.2000	-2.70	10.6	14.4	Soft silt/stiff silt	No
J-07	2/21/2008	983380.1000	217320.8000	-2.90	14.1	10.9	Soft silt/stiff silt	No
J-09	2/21/2008	983435.4000	217295.2000	-3.00	11.0	12.8	Soft silt/stiff silt	No
J-11	2/21/2008	983519.3000	217241.9000	-3.20	16.3	11.9	Soft silt/stiff silt	No
J-12	2/21/2008	983559.3000	217217.4000	-3.30	12.5	14.0	Soft silt/stiff silt	No
J-13	2/28/2008	983609.3000	217195.4000	-0.90	13.9	13.4	Soft silt/stiff silt	No
J-14	2/28/2008	983653.3000	217170.0000	-0.80	21.8	6.2	Soft silt/hard bottom	No
J-15	2/21/2008	983693.8000	217148.5000	1.90	21.7	20.3	Soft silt/stiff silt	No

See notes page 2.

Table 5-1
Sediment Probing Observations

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York New York

Location	Date	Coordinates		Elevation[1] (feet)	Total Depth of Water Column feet	Sediment Depth feet	Sediment Description	NAPL/Odor/ Sheen
		X	Y					
J-16	2/21/2008	983733.4000	217123.4000	1.80	11.0	11.0	Soft silt/stiff silt	No
L-01	2/26/2008	983140.6000	217583.2000	1.50	31.0	10.0	Soft silt/stiff silt	No
L-03	2/26/2008	983217.6000	217535.8000	1.40	31.8	10.0	Soft silt/stiff silt	No
PSL-01	2/21/2008	983575.0000	217247.2000	-3.60	6.5	10.5	Soft silt/hard bottom	No
PSL-02	2/28/2008	983623.9000	217222.1000	-0.70	17.0	12.2	Soft silt/stiff silt	No
PSL-03	2/28/2008	983663.9000	217194.3000	-0.70	21.5	7.9	Soft silt/stiff silt	No
PSL-04	2/28/2008	983711.8000	217172.1000	-0.50	16.8	8.9	Soft silt/stiff silt	No
PSL-05	2/28/2008	983753.9000	217144.8000	-0.80	8.9	10.2	Soft silt/hard bottom	No
PSL-06	2/28/2008	983793.6000	217120.9000	-0.90	8.6	13.3	Soft silt/hard bottom	No
PSL-07	2/26/2008	983783.9000	217087.6000	1.50	9.0	15.8	Soft silt/stiff silt	No
PSL-08	2/26/2008	983757.2000	217058.5000	0.30	8.3	13.7	Silty clay/trace gravel	No
PSL-09	2/21/2008	983738.1000	216997.7000	-1.30	6.3	2.0	Sand/gravel/stiff bottom	No
PSL-10	2/26/2008	983713.6000	216957.2000	-0.20	8.9	10.8	Silty with trace gravel/rock	No
PSL-11	2/26/2008	983687.5000	216912.6000	-0.10	7.5	11.5	Sand and gravel	slight sheen
PSL-12	2/26/2008	983655.9000	216877.0000	-0.50	7.8	9.2	Soft silt/rock	No
PSL-13	2/25/2008	983640.3000	216794.9000		7.2	10.2	Soft silt/stiff silt	No
PSL-14	2/25/2008	983618.5000	216807.2000		8.9	13.0	Soft silt/stiff silt	No
PSL-15	2/26/2008	983624.8000	216905.7000	-0.30	8.2	17.8	Soft silt/stiff silt	No
PSL-16	2/21/2008	983647.1000	216924.2000	1.30	9.8	10.2	Soft silt/stiff silt	No
PSL-17	2/21/2008	983606.4000	216945.4000	1.30	9.7	12.8	Soft silt/stiff silt	No
PSL-18	2/26/2008	983584.1000	216930.1000	0.00	8.9	14.1	Soft silt/stiff silt	No
PSL-20	2/25/2008	983596.7000	216819.5000		9.0	11.0	Soft silt/stiff silt	No
PSL-21	2/25/2008	983574.9000	216831.7000		9.8	10.1	Soft silt/stiff silt	No
PSL-23	2/21/2008	983588.9000	216976.5000	1.00	9.6	11.9	Soft silt/stiff silt	No
PSL-24	2/21/2008	983548.9000	217005.6000	0.90	9.5	12.5	Soft silt/stiff silt	No
PSL-25	2/21/2008	983499.9000	217029.4000	0.40	10.1	12.4	Soft silt/stiff silt	No
PSL-26	2/26/2008	983527.4000	216927.7000	-0.50	8.7	17.3	Soft silt/stiff silt	No
PSL-27	2/25/2008	983553.1000	216844.0000		8.8	14.2	Soft silt/stiff silt	No
PSL-28	2/25/2008	983531.4000	216856.2000		7.7	13.8	Soft silt/stiff silt	No
PSL-29	2/26/2008	983498.8000	216980.4000	-0.50	8.6	17.7	Soft silt/stiff silt	No
PSL-30	2/25/2008	983509.6000	216868.5000		7.4	12.6	Soft silt/stiff silt	No
PSL-31	2/21/2008	983401.3000	216973.9000	-2.50	6.6	13.1	Soft silt/stiff silt	No
PSL-32	2/26/2008	983429.7000	217025.5000	-0.60	9.2	24.8	Soft silt/stiff silt	No
PSL-33	2/21/2008	983460.6000	217056.9000	0.70	10.4	12.6	Soft silt/stiff silt	No

Notes:
1. Elevation in NAVD 1988.
NAPL = non-aqueous phase liquid

Table 5-2
Sediment Core Observations

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location	Date	PID Reading[1] feet	Total Depth of Water Column feet	Total Core Length feet	Total Amount Recovered feet	Sediment Description	NAPL/Odor/Sheen
SD-01	2/28/2008	0.0	9.0	16.0	12.6	0.0 to 12.3 feet – Dark gray/black clayey silt/trace shells/moderately soft/loose, increasing stiffness with depth	No.
SD-02	2/29/2008	0.0	6.0	10.0	9.5	0.0 to 9.5 feet – Dark gray/black clayey silt/trace shells/moderately soft/loose, increasing stiffness with depth	Yes. Odor detected at 6- to 9.5-foot interval.
SD-02a	2/29/2008	0.0	6.5	16.0	14.3	0.0 to 6.0 feet – Dark gray/black and dark gray brown interbedded clayey silt (0.5 foot interbedding) moderately soft/loose 6.0 to 14.3 feet – Dark gray/black clayey silt/moderate soft/loose/increasing stiffness with depth	Yes. Odor detected at 10.0 -to 14.3-foot interval.
SD-03	3/3/2008	0.0	6.8	16.0	12.2	0.0 to 1.0 foot – Dark gray/black loose silt with trace clay 1.0 to 12.2 feet – Dark gray/black clayey silt/moderate soft/loose/increasing stiffness with depth	Yes. Odor detected at 8- to 12.2-foot interval.
SD-04	2/28/2008	0.0	8.5	16.0	13.0	0.0 to 0.6 foot – Brown loose silt 0.6 to 13.0 feet – Dark gray/black clayey silt/trace shell/moderate soft/loose/increasing stiffness with depth	No.
SD-05	2/28/2008	0.0	11.0	16.0	11.0	0.0 to 0.7 foot – Dark gray/black loose silt/trace clay 0.7 to 11.0 feet – Dark gray/black clayey silt/moderate soft/loose/increasing stiffness with depth	No.
SD-06	2/28/2008	0.0	9.0	16.0	12.5	0.0 to 1.0 foot – Dark gray/black loose silt/trace clay 1.0 to 12.5 feet – Dark gray/black clayey silt/trace shells/moderate soft/loose/increasing stiffness with depth	No.

Notes:
[1] Photoionization detector (PID) readings were collected at 2-foot intervals. The results provided are the sum of all readings.
NAPL = Non-aqueous phase liquid.

Table 5-3
Surface Water Sampling Field Parameters

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Sampling Location	Date Sampled	Depth (feet)	Temp (°C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turbidity (NTU)
SW-01	3/4/2011	0	3.75	7.64	9.71	12.11	11.8
	3/4/2001	2	3.76	7.68	10.15	12.03	11.0
	3/4/2001	4	3.81	7.69	11.9	11.84	12.5
	3/4/2001	6	3.91	7.72	13.18	11.65	10.2
	3/4/2001	8	3.96	7.73	13.82	11.53	13.3
SW-02	3/4/2011	0	3.8	7.74	10.3	11.79	10.5
	3/4/2001	2	3.81	7.73	10.59	11.74	11.1
	3/4/2001	4	3.83	7.74	11.29	11.6	10.5
	3/4/2001	6	3.89	7.75	12.66	11.46	9.6
	3/4/2001	8	3.91	7.75	12.88	11.43	9.6
SW-03	3/4/2011	0	3.84	7.8	10.52	12.2	10.8
	3/4/2001	2	3.82	7.79	9.91	11.93	10.9
	3/4/2001	4	3.8	7.78	10.77	11.87	10.9
	3/4/2001	6	3.8	7.77	11.61	11.78	11.1
	3/4/2001	8	3.85	7.77	12.35	11.63	10.4
SW-04	3/4/2011	0	3.87	7.83	10.19	12.23	10.6
	3/4/2001	2	3.82	7.81	10.13	11.99	10.2
	3/4/2001	4	3.81	7.78	11.61	11.77	9.4
	3/4/2011	6	3.87	7.79	12.12	11.67	9.3
	3/4/2001	8	3.89	7.78	12.6	11.59	9.1
	3/4/2001	10	3.97	7.8	13.4	11.47	12.3
SW-05	3/4/2011	0	3.92	7.83	10.89	12.18	9.6
	3/4/2001	2	3.9	7.83	10.97	11.91	9.6
	3/4/2001	4	3.89	7.81	11.87	11.75	9
	3/4/2001	6	3.89	7.8	12.3	11.67	8.9
	3/4/2001	8	3.95	7.79	13.39	11.51	8.7
	3/5/2001	10	3.93	7.8	13.07	11.5	8.5
	3/6/2001	12	4.04	7.8	14.33	11.37	8.5

Notes:
mg/L = milligrams per liter
mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
°C = degrees Celsius

Table 5-4
Sediment Analytical Results – Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:		Benthic	Benthic	SD-01	SD-02	SD-02	SD-02A	SD-02A	SD-02A	SD-03	SD-03	SD-04	SD-05	SD-06	SD-06-DUP
Sample Depth (feet):		Aquatic Life	Aquatic Life	0 - 0.5	0 - 0.5	6 - 9.5	0 - 0.5	5 - 6	10 - 11	0 - 0.5	8 - 12	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
Date Collected:	Units	Acute Toxicty	Chronic	02/27/08	02/29/08	02/29/08	02/29/08	02/29/08	02/29/08	03/03/08	03/03/08	02/28/08	02/28/08	02/28/08	02/28/08
Acetone (2-propanone, dimethyl ketone)	mg/kg	- -	- -	0.052 UJ	0.048 UJ	0.1 J	0.053 UJ	0.047 UJ	0.078 J	0.038 UJ	0.077 UJ	0.053 UJ	0.091 J	0.13 J	0.092 J
Benzene	mg/kg	0.09	0.026	0.0088 U	0.011 U	0.012	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
4-bromofluorobenzene	mg/kg	- -	- -	0.021	0.024	0.033	0.023	0.023	0.038	0.058	0.032	0.033	0.036	0.032	0.039
Bromoform	mg/kg	- -	- -	0.0088 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0094 U	0.011 U	0.013 UJ	0.012 UJ	0.01 UJ	0.01 UJ
Bromomethane/methyl bromide	mg/kg	- -	- -	0.0088 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0094 U	0.011 U	0.013 UJ	0.012 UJ	0.01 UJ	0.01 UJ
2-butanone (methyl ethyl ketone)	mg/kg	- -	- -	0.018 U	0.023 U	0.028 U	0.021 U	0.022 U	0.021 J	0.019 UJ	0.021 UJ	0.026 U	0.023 U	0.028 U	0.02 U
Carbon disulfide	mg/kg	- -	- -	0.0088 UJ	0.011 UJ	0.0035 J	0.0028 J	0.011 UJ	0.0031 J	0.0094 U	0.011 UJ	0.013 UJ	0.012 U	0.01 U	0.01 U
Carbon tetrachloride	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Chlorobenzene	mg/kg	0.0346	0.0035	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Chlorodibromomethane	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Chloroethane	mg/kg	- -	- -	0.0088 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0094 U	0.011 UJ	0.013 UJ	0.012 UJ	0.01 UJ	0.01 UJ
Chloroform	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Chloromethane (methyl chloride)	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
cis-1,3-dichloro, 1-propene	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Dichlorobromomethane	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
1,1-dichloroethane	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
1,2-Dichloroethane	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
cis-1,2-dichloroethene	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
trans-1,2-dichloroethene	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
1,1-dichloroethylene	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Dichloromethane	mg/kg	- -	- -	0.035 U	0.046 U	0.043 U	0.042 U	0.045 U	0.046 U	0.038 U	0.043 UJ	0.053 U	0.046 U	0.04 U	0.041 U
1,2-dichloropropane	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
trans-1,3-dichloropropene	mg/kg	- -	- -	0.0088 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0094 U	0.011 U	0.013 UJ	0.012 UJ	0.01 UJ	0.01 UJ
Ethyl benzene	mg/kg	0.058	0.0064	0.0088 U	0.011 U	0.0045 J	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Methyl isobutyl ketone	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Styrene	mg/kg	- -	- -	0.0088 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0094 U	0.011 U	0.013 UJ	0.012 UJ	0.01 UJ	0.01 UJ
1,1,2,2-tetrachloroethane	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Tetrachloroethene (perchloroethylene)	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Toluene	mg/kg	0.211	0.045	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
1,1,1-trichloroethane (methyl chloroform)	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
1,1,2-trichloroethane	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Trichloroethene (trichloroethylene)	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Vinyl chloride (chloroethene)	mg/kg	- -	- -	0.0088 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0094 U	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Xylene, total	mg/kg	0.24	0.027	0.0088 U	0.011 U	0.012	0.011 U	0.011 U	0.011 U	0.0056 J	0.011 U	0.013 U	0.012 U	0.01 U	0.01 U
Total BTEX	mg/kg			ND	ND	0.029	ND	ND	ND	0.0056	ND	ND	ND	ND	ND
Total VOCS	mg/kg			ND	ND	0.132	0.003	ND	0.102	0.0056	ND	ND	0.091	0.13	0.09

Notes:
1. Screening levels are Benthic aquatic life criteria from Table 1 of the NYSDEC (1999) guidance (criteria in ug/gOC).
2. Results for duplicate samples are presented in brackets.
3. Qualifiers are as follows:
D = compound quantitated using a secondary dilution
J = estimated value
U = compound was analyzed for but not detected; the associated value is the compound quantitation limit.
mg/kg = milligrams per kilogram
NYSDEC = New York State Department of Environmental Conservation
-- = not applicable.
BTEX= benzene, toluene, ethylbenzene, and xylenes
ND= Not detected

Table 5-5
Sediment Analytical Results – Semivolatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID:		NYSDEC	NYSDEC	SD-01	SD-02	SD-02	SD-02A	SD-02A	SD-02A	SD-03	SD-03	SD-04	SD-05	SD-06	SD-06-DUP
Sample Depth(Feet):		ER-L	ER-M	0 - 0.5	0 - 0.5	6 - 9.5	0 - 0.5	5 - 6	10 - 11	0 - 0.5	8 - 12	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
Date Collected:	Units	(Bold)	(Shade)	02/27/08	02/29/08	02/29/08	02/29/08	02/29/08	02/29/08	03/03/08	03/03/08	02/28/08	02/28/08	02/28/08	02/28/08
Acenaphthene	mg/kg	0.016	0.5	0.58 U	0.72 U	**4.6**	0.69 U	0.73 U	0.72 U	0.62 U	**0.13 J**	**0.34 J**	0.75 U	0.64 U	0.64 U
Acenaphthylene	mg/kg	0.044	0.64	**0.16 J**	**0.23 J**	**3.6**	**0.36 J**	**0.24 J**	**0.21 J**	**0.18 J**	**0.17 J**	**0.32 J**	**0.15 J**	**0.17 J**	**0.14 J**
Anthracene	mg/kg	0.0853	1.1	**0.2 J**	**0.27 J**	**9.8**	**0.41 J**	**0.32 J**	**0.3 J**	**0.2 J**	**0.33 J**	**0.41 J**	**0.23 J**	**0.22 J**	**0.27 J**
Benzo (a) anthracene	mg/kg	0.261	1.6	**0.47 J**	**0.83**	**13 D**	**0.92**	**0.63 J**	**0.53 J**	**0.52 J**	**0.7**	**0.94**	**0.48 J**	**0.47 J**	**0.6 J**
Benzo (a) pyrene	mg/kg	0.43	1.6	**0.51 J**	**0.86**	**11 D**	**0.87**	**0.66 J**	**0.54 J**	**0.53 J**	**0.61 J**	**0.85**	0.43 J	**0.49 J**	**0.58 J**
Benzo (b) fluoranthene	mg/kg	- -	- -	0.59	0.91	11 D	0.95	0.74	0.6 J	0.61 J	0.73	0.97	0.52 J	0.52 J	0.66
Benzo (g,h,i) perylene	mg/kg	- -	- -	0.42 J	0.64 J	5.8	0.51 J	0.43 J	0.35 J	0.46 J	0.64 J	0.55 J	0.35 J	0.38 J	0.38 J
Benzo (k) fluoranthene	mg/kg	- -	- -	0.2 J	0.3 J	4.3	0.31 J	0.26 J	0.2 J	0.27 J	0.29 J	0.31 J	0.15 J	0.2 J	0.18 J
Benzyl alcohol	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Bis-(2-chloroethoxy) methane	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Bis-(2-chloroethyl) ether	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Bis-(2-ethylhexyl) phthalate	mg/kg	- -	- -	0.69	0.87	2.9	1.3	2.6	4	1.2 U	5.4 U	1.1	0.76	0.64 J	0.71
4-bromophenyl phenyl ether	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Butylbenzylphthlate	mg/kg	- -	- -	0.58 U	0.1 J	0.14 J	0.098 J	0.11 J	0.12 J	0.62 U	0.13 J	0.85 U	0.75 U	0.64 U	0.64 U
Carbazole	mg/kg	- -	- -	0.58 U	0.72 U	0.66 J	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
4-chloro-3-methylphenol	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
4-chloroaniline	mg/kg	- -	- -	0.58 U	0.72 U	0.25 J	0.11 J	0.17 J	0.44 J	0.62 U	0.16 J	0.85 U	0.75 U	0.64 U	0.64 U
2-chloronaphthalene	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
2-chlorophenol	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
4-chlorophenyl-phenylether	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Chrysene	mg/kg	0.384	2.8	**0.54 J**	**0.81**	**11 D**	**0.87**	**0.69 J**	**0.55 J**	**0.53 J**	**0.68 J**	**0.98**	**0.47 J**	**0.48 J**	**0.62 J**
Dibenzo (a,h) anthracene	mg/kg	0.0634	0.26	**0.33 J**	**0.44 J**	**1.5**	**0.47 J**	**0.4 J**	**0.38 J**	**0.11 J**	**0.14 J**	**0.49 J**	**0.38 J**	**0.34 J**	**0.36 J**
Dibenzofuran	mg/kg	- -	- -	0.58 U	0.72 U	2.1	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Dibutyl phthalate	mg/kg	- -	- -	0.58 U	0.72 U	0.13 J	0.69 U	0.73 U	0.15 J	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
1,2-dichlorobenzene	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
1,3-dichlorobenzene	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
1,4-dichlorobenzene	mg/kg	- -	- -	0.58 U	0.72 U	0.14 J	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
3,3'-dichlorobenzidine	mg/kg	- -	- -	1.2 U	1.4 U	1.4 U	1.4 U	1.5 U	1.4 U	1.2 U	1.4 U	1.7 U	1.5 U	1.3 U	1.3 U
2,4-dichlorophenol	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Diethylphthlate	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
2,4-dimethylphenol	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Dimethylphthlate	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
4,6-dinitro-2-methylphenol	mg/kg	- -	- -	2.8 U	3.5 U	3.3 U	3.3 U	3.6 U	3.5 U	3 U	3.3 U	4.1 U	3.6 U	3.1 U	3.1 U
2,4-dinitrophenol	mg/kg	- -	- -	2.8 U	3.5 U	3.3 U	3.3 U	3.6 U	3.5 U	3 U	3.3 U	4.1 U	3.6 U	3.1 U	3.1 U
2,4-dinitrotoluene	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
2,6-dinitrotoluene	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
dioctyl phthlate	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Fluoranthene	mg/kg	0.6	5.1	**0.65**	**1**	**28 D**	**1.3**	**0.91**	**0.76**	**0.7**	**1**	**1.9**	**1.1**	**0.66**	**0.84**
Fluorene	mg/kg	0.019	0.54	0.58 U	0.72 U	**3.6**	0.69 U	0.73 U	0.72 U	0.62 U	**0.14 J**	**0.17 J**	0.75 U	0.64 U	0.64 U

Table 5-5
Sediment Analytical Results – Semivolatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Sample Depth(Feet): / Date Collected:	Units	NYSDEC ER-L (Bold)	NYSDEC ER-M (Shade)	SD-01 0 - 0.5 02/27/08	SD-02 0 - 0.5 02/29/08	SD-02 6 - 9.5 02/29/08	SD-02A 0 - 0.5 02/29/08	SD-02A 5 - 6 02/29/08	SD-02A 10 - 11 02/29/08	SD-03 0 - 0.5 03/03/08	SD-03 8 - 12 03/03/08	SD-04 0 - 0.5 02/28/08	SD-05 0 - 0.5 02/28/08	SD-06 0 - 0.5 02/28/08	SD-06-DUP 0 - 0.5 02/28/08
Hexachlorobenzene	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Hexachlorobutadiene	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Hexachloroethane	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Hexaclorocyclopentadiene	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Indeno (1,2,3-cd)pyrene	mg/kg	- -	- -	0.75	1.1	6.7	1	0.86	0.78	0.5 J	0.7	1.1	0.78	0.73	0.77
Isophorone	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
2-methyl phenol	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
2-methylnaphthalene	mg/kg	0.07	0.67	0.58 U	0.72 U	**2**	0.69 U	0.73 U	**0.14 J**	0.62 U	**0.13 J**	0.85 U	0.75 U	0.64 U	0.64 U
4-methylphenol (p-cresol)	mg/kg	- -	- -	0.58 U	0.72 U	0.64 J	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Naphthalene	mg/kg	0.16	2.1	0.09 J	0.14 J	**4.9**	0.69 U	0.16 J	**0.18 J**	0.098 J	**0.2 J**	0.85 U	0.75 U	0.64 U	0.64 U
3-nitroaniline	mg/kg	- -	- -	2.8 U	3.5 U	3.3 U	3.3 U	3.6 U	3.5 U	3 U	3.3 U	4.1 U	3.6 U	3.1 U	3.1 U
3-nitroaniline	mg/kg	- -	- -	2.8 U	3.5 U	3.3 U	3.3 U	3.6 U	3.5 U	3 U	3.3 U	4.1 U	3.6 U	3.1 U	3.1 U
4-nitroaniline	mg/kg	- -	- -	1.2 U	1.4 U	1.4 U	1.4 U	1.5 U	1.4 U	1.2 U	1.4 U	1.7 U	1.5 U	1.3 U	1.3 U
Nitrobenzene	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
3-nitrophenol	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
4-nitrophenol	mg/kg	- -	- -	2.8 U	3.5 U	3.3 U	3.3 U	3.6 U	3.5 U	3 U	3.3 U	4.1 U	3.6 U	3.1 U	3.1 U
N-nitrosodi-n-propylamine	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
N-nitrosodi-phenylamine	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
2,2-oxybis (1-chloropropane)	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Pentachlorophenol	mg/kg	- -	- -	2.8 U	3.5 U	3.3 U	3.3 U	3.6 U	3.5 U	3 U	3.3 U	4.1 U	3.6 U	3.1 U	3.1 U
Phenanthrene	mg/kg	0.24	1.5	**0.32 J**	**0.44 J**	**26 D**	**0.49 J**	**0.4 J**	**0.45 J**	**0.33 J**	**0.5 J**	**0.49 J**	**0.36 J**	**0.26 J**	**0.38 J**
Phenol	mg/kg	- -	- -	0.58 U	0.72 U	0.14 J	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Pyrene	mg/kg	0.665	2.6	**0.75**	**1.3**	**26 D**	**1.2**	**0.92**	**0.78**	**0.87**	**1.1**	**1.5**	**0.9**	**0.73**	**0.8**
1,2,4-trichlorobenzene	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
2,4,5-trichlorophenol	mg/kg	- -	- -	2.8 U	3.5 U	3.3 U	3.3 U	3.6 U	3.5 U	3 U	3.3 U	4.1 U	3.6 U	3.1 U	3.1 U
2,4,6-trichlorophenol	mg/kg	- -	- -	0.58 U	0.72 U	0.69 U	0.69 U	0.73 U	0.72 U	0.62 U	0.68 U	0.85 U	0.75 U	0.64 U	0.64 U
Total PAHs	mg/kg	4.022	44.792	**5.98 J**	**9.27 J**	**172.8**	**9.66 J**	**7.62 J**	**6.75 J**	**5.9 J**	**8.19 J**	**11.3 J**	**6.30 J**	**5.65 J**	**6.58 J**
Total SVOCs	mg/kg			6.67	10.24	179.9	11.17	10.5	11.46	5.9	8.48	12.4	7.06	6.29	7.29

Notes:
1. Screening levels are E-RL (chronic criteria) and ER-M (acute criteria) from Table 4 of the NYSDEC (1999) Technical Guidance for Screening
2. Results for duplicate samples are presented in brackets.
3. Qualifiers are as follows:
D = compound quantitated using a secondary dilution
J = estimated value
U = compound was analyzed for but not detected; the associated value is the compound quantitation limit.
ER-L = effects range-low
ER-M = effects range-median
LEL = lowest effect level
mg/kg = milligrams per kilogram
NYSDEC = New York State Department of Environmental Conservation
-- = not applicable.
PAH = polycyclic aromatic hydrocarbon
Total PAHs = represents the summation of 17 TCL PAHs

Table 5-6
Sediment Analytical Results – Metals and Cyanide

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: Sample Depth (feet): Date Collected:	Units	NYSDEC LEL (Bold)	NYSDEC SEL (Shaded)	SD-01 0 - 0.5 02/27/08	SD-02 0 - 0.5 02/29/08	SD-02 6 - 9.5 02/29/08	SD-02A 0 - 0.5 02/29/08	SD-02A 5 - 6 02/29/08	SD-02A 10 - 11 02/29/08	SD-03 0 - 0.5 03/03/08	SD-03 8 - 12 03/03/08	SD-04 0 - 0.5 02/28/08	SD-05 0 - 0.5 02/28/08	SD-06 0 - 0.5 02/28/08	SD-06-DUP 0 - 0.5 02/28/08
Metals															
Aluminum	mg/kg	- -	- -	9,110	12,800	17,100	15,900	19,100	19,800	9,930	16,300	18,200	17,400	13,100	13,300
Antimony	mg/kg	2	25	16.7 U	21.9 U	21.9 U	24.3 U	20.5 U	23.4 U	17.8 U	20 U	22.8 U	19.9 U	17.5 U	22.2 U
Arsenic	mg/kg	6	33	**6.5 J**	**10.1 J**	**38.5**	**13**	**15.1**	**17.6**	4.4 J	**12**	**14.5**	**12**	**9.4**	**10 J**
Barium	mg/kg	- -	- -	48.5	70.8	369	79.4	98.3	116	49.6	85.2	76	74.7	55.1	56.8
Beryllium	mg/kg	- -	- -	2.3 U	3.1 U	1.1 J	3.4 U	1.1 J	1.1 J	2.5 U	2.8 U	1.1 J	1 J	2.4 U	3.1 U
Cadmium	mg/kg	0.6	9	8.4 U	11 U	**7.4 J**	12.2 U	**2.7 J**	**4.9 J**	8.9 U	10 U	11.4 U	10 U	8.7 U	11.1 U
Calcium	mg/kg	- -	- -	4,420	6,450	7,250	6,490	5,710	6,880	4,850	5,980	5,410	7,230	5,350	5,130
Chromium	mg/kg	26	110	**40.4 J**	**78.5**	**143**	**84.1**	**142**	**221**	**47.1**	**145**	**83.5**	**80.6 J**	**54.2 J**	**50**
Cobalt	mg/kg	- -	- -	8.8 J	14.4	13.6	11.8	13.9	14.2	8.8	14	13.2	14 J	11.1 J	10.7
Copper	mg/kg	16	110	**48.6**	**93.6**	**413**	**118**	**195**	**292**	**57.7**	**177**	**117**	**101**	**65.9**	**61.6**
Iron	mg/kg	2%	4%	19,900	**28,200**	**43,000**	**32,600**	**38,200**	**39,200**	**23,100**	**37,600**	**36,800**	**34,900**	**27,400**	**28,400**
Lead	mg/kg	31	110	**53.4**	**108**	**668**	**118**	**187**	**230**	**61.9**	**166**	**105**	**107**	**65.1**	**64.8**
Magnesium	mg/kg	- -	- -	5,570	8,040	8,700	8,360	9,450	9,520	6,180	8,630	9,130	8,930	7,120	7,120
Manganese	mg/kg	460	1100	352	**551**	450	**616**	**689**	**671**	404	**677**	**975**	**914**	**612**	**671**
Mercury	mg/kg	0.15	1.3	**0.6**	**0.85**	**29.9**	**0.83**	**1.4**	**2**	**0.54**	**1.6**	**0.98**	**0.71**	**0.61**	**3**
Nickel	mg/kg	16	50	**21**	**31**	**53.4**	**32.9**	**40.4**	**46.1**	**25.6**	**39.1**	**34.4**	**34.7**	**27.3**	**26.2**
Potassium	mg/kg	- -	- -	1,680	2,660	3,400	3,070	3,720	4,000	1,830	3,240	3,520	3,570	2,520	2,380
Selenium	mg/kg	- -	- -	16.7 U	21.9 U	4.3 J	24.3 U	20.5 U	23.4 U	17.8 U	20 U	22.8 U	19.9 U	17.5 U	22.2 U
Silver	mg/kg	1	2.2	**1.5 J**	**3.8 J**	**122**	**4.6 J**	**10.2**	**20.2**	**2 J**	**9.1**	**3.8 J**	**3.5 J**	**1.9 J**	**1.8 J**
Sodium	mg/kg	- -	- -	3,920 J	6,340 J	7,670 J	6,730 J	7,980 J	9,490 J	4,570	8,490	9,980 J	8,730 J	6,550 J	5,830 J
Thallium	mg/kg	- -	- -	11.7 U	15.3 U	15.3 U	17 U	14.4 U	16.4 U	5.3 J	6 J	16 U	13.9 U	12.2 U	15.6 U
Vanadium	mg/kg	- -	- -	21.9	38.2	53.6	38.2	48.3	54.2	23.8	45.2	41.7	43.2	30.1	29
Zinc	mg/kg	120	270	**130 J**	**214**	**889**	**226**	**311**	**373**	**148**	**289**	**236**	**219 J**	**166 J**	**159**
Total Cyanide															
Total Cyanide	mg/kg	- -	- -	0.88 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.94 U	1.1 U	1.3 U	1.2 U	1 U	1 U
Total Petroleum Hydrocarbon															
Diesel range organics [c10-c28]	mg/kg	- -	- -	69	210	2,600	230	700	730	180	710	310	150	140 J	45 J
Miscellaneous															
Percent moisture	%	- -	- -	43.4	56.1	53.1	52.8	55.2	56.2	46.8	53.3	61.9	56.7	49.9	51.1
Solids, percent	%	- -	- -	56.6	43.9	46.9	47.2	44.8	43.8	53.2	46.7	38.1	43.3	50.1	48.9
Total organic carbon	mg/kg	- -	- -	16,500	29,300	74,600	32,100	43,700	43,700	17,900	40,300	47,500	31,600	29,200	27,000

Notes:
Constituents detected above LEL are bolded.
Constituents detected above SEL are shaded.

1. Screening levels are Contaminated Sediments or LEL and SEL from Table 2 of the NYSDEC (1999) guidance.
2. Results for duplicate samples are presented in brackets.
3. Qualifiers are as follows:
D = compound quantitated using a secondary dilution
J = estimated value
U = compound was analyzed for but not detected; the associated value is the compound quantitation limit.
LEL = lowest effect level
mg/kg = milligrams per kilogram
NYSDEC = New York State Department of Environmental Conservation
% = percent
-- = not applicable.
SEL = severe effect level

Table 5-7
Surface Water Analytical Results – Volatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Date Collected:	State of New York Surface-Water Guidelines	Units	SW-01 03/04/08	SW-02 03/04/08	SW-03 03/04/08	SW-04 03/04/08	SW-05 03/04/08
1,2-dichloroethane	0.6	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
Acetone (2-propanone, dimethyl ketone)	50 (G)	µg/L	10 UJ [10 UJ]	10 UJ	10 UJ	10 UJ	10 UJ
Benzene	1	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
Bromoform	50 (G)	µg/L	5 UJ [5 UJ]	5 UJ	5 UJ	5 UJ	5 UJ
Bromomethane/methyl bromide	5	µg/L	5 UJ [5 UJ]	5 UJ	5 UJ	5 UJ	5 UJ
2-butanone (methyl ethyl ketone)	50 (G)	µg/L	10 UJ [10 UJ]	10 U	10 U	10 U	10 UJ
Carbon disulfide	- -	µg/L	5 U [5 UJ]	5 U	5 U	5 U	5 UJ
Carbon tetrachloride	5	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
Chlorobenzene	5	µg/L	5 U [5 UJ]	5 U	5 U	5 U	5 UJ
Chlorodibromomethane	5	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
Chloroethane	5 (G)	µg/L	5 UJ [5 U]	5 UJ	5 UJ	5 UJ	5 U
Chloroform	7	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
Chloromethane (methyl chloride)	5	µg/L	5 UJ [5 UJ]	5 U	5 U	5 U	5 UJ
cis-1,3-dichloro, 1-propene	0.4	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
Dichlorobromomethane	- -	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
1,1-dichloroethane	5	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
cis-1,2-dichloroethene	5	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
trans-1,2-dichloroethene	5	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
1,1-dichloroethylene	5	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
Dichloromethane	5	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
1,2-dichloropropane	1	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
trans-1,3-dichloropropene	0.4	µg/L	5 UJ [5 UJ]	5 UJ	5 UJ	5 UJ	5 UJ
Ethyl benzene	5	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
2-hexanone	50 (G)	µg/L	10 UJ [10 UJ]	10 UJ	10 UJ	10 UJ	10 UJ
Methyl isobutyl ketone	- -	µg/L	10 U [10 U]	10 U	10 U	10 U	10 U
Styrene	5	µg/L	5 UJ [5 UJ]	5 UJ	5 UJ	5 UJ	5 UJ
1,1,2,2-tetrachloroethane	5	µg/L	5 UJ [5 UJ]	5 U	5 U	5 U	5 UJ
Tetrachloroethene (perchloroethylene)	5	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
Toluene	5	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
1,1,1-trichloroethane (methyl chloroform)	5	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
1,1,2-trichloroethane	1	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
Trichloroethene (trichloroethylene)	5	µg/L	5 U [5 U]	5 U	5 U	5 U	0.32 J
Vinyl chloride (chloroethene)	2	µg/L	5 UJ [5 U]	5 U	5 U	5 U	5 U
Xylene, total	5	µg/L	5 UJ [5 U]	5 U	5 U	5 U	5 U
Total BTEX	- -	µg/L	ND	ND	ND	ND	ND
Total VOCs	- -	µg/L	ND	ND	ND	ND	0.32

Notes:
Constitutents detected above screening levels are shaded.

1. Qualifiers are as follows:
   J = estimated value
   ND = Indicates analyte was analyzed for, but not detected at or above the reporting limit.
   U = compound was analyzed for but not detected; the associated value is the compound quantitation limit.
   -- = criteria not applicable.
2. Screening levels were provided in NYSDEC 6 NYCRR Part 703 Surface Water and Groundwater Quality Standards.
3. Results for duplicate samples are presented in brackets.

G = guidance value
BTEX = benzene, toluene, ethylbenzene and xylene
µg/L = micrograms per liter
NA = not analyzed
NYSDEC = New York State Department of Environmental Conservation

Table 5-8
Surface Water Analytical Results – Semivolatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Date Collected:	State of New York Surface-Water Guidelines	Units	SW-01 03/04/08	SW-02 03/04/08	SW-03 03/04/08	SW-04 03/04/08	SW-05 03/04/08
Acenaphthene	5.3 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Acenaphthylene	- -	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Anthracene	50 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Benzo (a) anthracene	0.002 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Benzo (a) pyrene	0.002 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Benzo (b) fluoranthene	0.002 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Benzo (g,h,i) perylene	- -	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Benzo (k) fluoranthene	0.002 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Benzyl alcohol	- -	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
4-bromophenyl phenyl ether	- -	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Butylbenzylphthlate	50 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Carbazole	- -	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
4-chloro-3-methylphenol	- -	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
4-Chloroaniline	5	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Bis-(2-chloroethoxy) methane	5	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Bis-(2-chloroethyl) ether	0.03 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
2-chloronaphthalene	10	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
2-chlorophenol	1	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
4-chlorophenyl-phenylether	- -	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Chrysene	0.002 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Dibenzo (a,h) anthracene	- -	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Dibenzofuran	- -	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Dibutyl phthalate	50	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
1,2-dichlorobenzene	3	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
1,3-dichlorobenzene	3	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
1,4-dichlorobenzene	3	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
3,3'-dichlorobenzidine	5	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
2,4-dichlorophenol	1	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Diethylphthlate	- -	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
2,4-dimethylphenol	1	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Dimethylphthlate	50 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
4,6-dinitro-2-methylphenol	1	µg/L	56 U [54 U]	54 U	50 U	50 U	50 U
2,4-dinitrophenol	1	µg/L	56 U [54 U]	54 U	50 U	50 U	50 U
2,4-dinitrotoluene	5	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U

Table 5-8
Surface Water Analytical Results – Semivolatile Organic Compounds

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Date Collected:	State of New York Surface-Water Guidelines	Units	SW-01 03/04/08	SW-02 03/04/08	SW-03 03/04/08	SW-04 03/04/08	SW-05 03/04/08
2,6-dinitrotoluene	5	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Dioctyl phthlate	50 (G)	µg/L	11 UJ [11 UJ]	11 UJ	10 UJ	10 UJ	10 UJ
Bis-(2-ethylhexyl) phthalate	5	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Fluoranthene	50 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Fluorene	50 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Hexachlorobutadiene	0.5	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Hexachloroethane	5	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Hexaclorocyclopentadiene	5	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Indeno (1,2,3-cd)pyrene	0.002 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Isophorone	50 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
2-methyl phenol	1	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
2-methylnaphthalene	4.7 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
4-methylphenol (p-cresol)	1	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Naphthalene	13 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
2-nitroaniline	5	µg/L	56 U [54 U]	54 U	50 U	50 U	50 U
3-nitroaniline	5	µg/L	56 U [54 U]	54 U	50 U	50 U	50 U
4-nitroaniline	5	µg/L	22 U [22 U]	22 U	20 U	20 U	20 U
Nitrobenzene	0.4	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
2-nitrophenol	1	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
4-nitrophenol	1	µg/L	56 U [54 U]	54 U	50 U	50 U	50 U
N-nitroso-di-phenylamine	- -	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
N-nitrosodi-n-propylamine	50 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
2,2-oxybis (1-chloropropane)	5	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Pentachlorophenol	1	µg/L	56 U [54 U]	54 U	50 U	50 U	50 U
Phenanthrene	50 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Phenol	1	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Pyrene	50 (G)	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	5	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
2,4,5-trichlorophenol	1	µg/L	56 U [54 U]	54 U	50 U	50 U	50 U
2,4,6-trichlorophenol	1	µg/L	11 U [11 U]	11 U	10 U	10 U	10 U
Total PAHs	- -	µg/L	ND	ND	ND	ND	ND
Total SVOCs	- -	µg/L	ND	ND	ND	ND	ND

Notes:
Constitutents detected above screening levels are shaded.

1. Qualifiers are as follows:
   J = estimated value
   ND = Indicates analyte was analyzed for, but not detected at or above the reporting limit.
   U = compound was analyzed for but not detected; the associated value is the compound quantitation limit.
   -- = criteria not applicable.
2. Screening levels were provided in NYSDEC 6 NYCRR Part 703 Surface Water and Groundwater Quality Standards.
3. Results for duplicate samples are presented in brackets.

G = guidance value
µg/L = micrograms per liter
NA = not analyzed
NYSDEC = New York State Department of Environmental Conservation
PAH = polycyclic aromatic hydrocarbon
SVOCs = semi-volatile organic compounds
Total PAHs = represents the summation of 17 TCL PAHs

Table 5-9
Surface Water Analytical Results

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Date Collected:	State of New York Surface Water Guidelines	Units	SW-01 03/04/08	SW-02 03/04/08	SW-03 03/04/08	SW-04 03/04/08	SW-05 03/04/08
Metals							
Aluminum	- -	µg/L	300 J [250 J]	270 J	180 J	280 J	150 J
Antimony	3	µg/L	20 U [20 U]	20 U	20 U	20 U	20 U
Arsenic	50	µg/L	20 U [20 U]	20 U	20 U	20 U	20 U
Barium	1,000	µg/L	16 [15]	15	16	16	14
Beryllium	3	µg/L	3 U [3 U]	3 U	3 U	3 U	3 U
Cadmium	5	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
Calcium	- -	µg/L	121,000 [117,000]	127,000	132,000	122,000	124,000
Chromium	50	µg/L	10 U [10 U]	10 U	10 U	10 U	10 U
Cobalt	5	µg/L	10 U [10 U]	10 U	10 U	10 U	10 U
Copper	200	µg/L	10 U [10 U]	10 U	7.3 J	10 U	10 U
Iron	300	µg/L	420 [420]	440	300	420	260
Lead	25	µg/L	10 U [10 U]	10 U	10 U	10 U	10 U
Magnesium	35,000	µg/L	339,000 [323,000]	362,000	374,000	345,000	351,000
Manganese	300	µg/L	27 [27]	28	27	26	24
Mercury	0.7	µg/L	0.2 U [0.2 U]	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	µg/L	10 U [10 U]	10 U	10 U	10 U	10 U
Potassium	- -	µg/L	200,000 [190,000]	217,000	223,000	208,000	208,000
Selenium	10	µg/L	30 U [30 U]	30 U	30 U	30 U	30 U
Silver	50	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
Sodium	20,000	µg/L	394,000 [379,000 J]	371,000 J	377,000 J	371,000 J	374,000 J
Thallium	0.5	µg/L	30 UJ [8.6 J]	30 UJ	30 UJ	8.3 J	30 UJ
Vanadium	14	µg/L	5 U [5 U]	5 U	5 U	5 U	5 U
Zinc	2,000	µg/L	50 U [50 U]	50 U	50 U	50 U	50 U
Total Cyanide							
Total Cyanide	200	µg/L	10 U [10 U]	10 U	10 U	10 U	10 U
Total Petroleum Hydrocarbon							
Diesel range organics [c10-c28]	- -	µg/L	500 U [500 U]	500 U	500 U	500 U	500 U
Total SVOCs	- -	µg/L	ND	ND	ND	ND	ND

Notes:
Constitutents detected above screening levels are shaded.

1. Qualifiers are as follows:
   J = estimated value
   ND = Indicates analyte was analyzed for, but not detected at or above the reporting limit.
   U = compound was analyzed for but not detected; the associated value is the compound quantitation limit.
   -- = criteria not applicable.
2. Screening levels were provided in NYSDEC 6 NYCRR Part 703 Surface Water and Groundwater Quality Standards.
3. Results for duplicate samples are presented in brackets.

G = guidance value
µg/L = micrograms per liter
NA = not analyzed
NYSDEC = New York State Department of Environmental Conservation
SVOCs = Semi-volatile organic compounds

Table 5-10
Waste Characterization Analytical Results

Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Date Collected: / Sample Name:	Hazardous Waste Characteristic Regulatory Level	Units	Waste-01 03/26/08 Waste-01	DRUM-COMP-1 03/03/08 DRUM-COMP-1	WC-Water [1] 07/25/10 WC-Water	WC-Soil 07/25/10 WC-Soil
VOCs						
Benzene	0.5	mg/L	0.0052	0.0050 U	0.0001 U	0.00077 J
2-butanone (methyl ethyl ketone)	200.0	mg/L	0.010 U	0.0085 J	0.0002 U	0.01 U
Carbon tetrachloride	0.5	mg/L	0.0050 U	0.0050 U	0.0001 U	0.005 U
Chlorobenzene	100.0	mg/L	0.0050 U	0.0050 U	0.0001 U	0.005 U
Chloroform	6.0	mg/L	0.0050 U	0.00078 J	0.0001 U	0.005 U
1,2-dichloroethane	0.5	mg/L	0.0050 U	0.0050 U	0.0001 U	0.005 U
1,1-dichloroethylene	0.7	mg/L	0.0050 U	0.0050 U	0.0001 U	0.005 U
Tetrachloroethene (perchloroethylene)	0.7	mg/L	0.0050 U	0.0050 U	0.0001 U	0.005 U
Trichloroethene (trichloroethylene)	0.5	mg/L	0.0014 J	0.00099 J	0.0001 U	0.005 U
Vinyl chloride (chloroethene)	0.2	mg/L	0.0050 U	0.0050 U	0.0001 U	0.005 U
SVOCs						
1,4-dichlorobenzene	7.5	mg/L	0.020 U	0.020 U	0.4 U	0.02 U
2,4-dinitrotoluene	0.13	mg/L	0.020 U	0.020 U	0.4 U	0.02 U
Hexachlorobenzene	0.13	mg/L	0.020 U	0.020 U	0.4 U	0.02 U
Hexachlorobutadiene	0.5	mg/L	0.020 U	0.020 U	0.4 U	0.02 U
Hexachloroethane	3.0	mg/L	0.020 U	0.020 U	0.4 U	0.02 U
2-methylphenol	200	mg/L	0.020 U	0.020 U	0.4 U	0.02 U
4-methylphenol (p-cresol)	200.0	mg/L	0.020 U	0.020 U	0.4 U	0.02 U
Nitrobenzene	2.0	mg/L	0.020 U	0.020 U	0.4 U	0.02 U
Pentachlorophenol	100.0	mg/L	0.10 U	0.10 UJ	2 U	0.1 U
Pyridine	5.0	mg/L	0.040 U	0.040 UJ	0.8 U	0.04 U
2,4,5-trichlorophenol	400.0	mg/L	0.010 U	0.10 U	2 U	0.1 U
2,4,6-trichlorophenol	2.0	mg/L	0.020 U	0.020 U	0.4 U	0.02 U
PCBs						
PCB-1016 (Aroclor)	- -	mg/kg	0.022 U	0.037 U	0.00052 U	0.022 U
PCB-1221 (Aroclor)	- -	mg/kg	0.043 U	0.072 U	0.00052 U	0.022 U
PCB-1232 (Aroclor)	- -	mg/kg	0.022 U	0.037 U	0.00052 U	0.022 U
PCB-1242 (Aroclor)	- -	mg/kg	0.022 U	0.170 J	0.00052 U	0.022 U
PCB-1248 (Aroclor)	- -	mg/kg	0.0037 J P	0.037 U	0.00052 U	0.022 U
PCB-1254 (Aroclor)	- -	mg/kg	0.011 J P	0.037 U	0.00052 U	0.022 U
PCB-1260 (Aroclor)	- -	mg/kg	0.022	0.028 J	0.00052 U	0.0063 J
Metals						
Arsenic	5.0	mg/kg	0.20 U	0.052 J	0.075 U	0.02 J
Barium	100.0	mg/kg	0.29	0.18	0.11	0.49
Cadmium	1.0	mg/kg	0.050 U	0.050 U	0.025 U	0.025 U
Chromium	5.0	mg/kg	0.050 U	0.050 U	0.026	0.025 U
Lead	5.0	mg/kg	0.53	0.15	0.075 U	3.5
Selenium	1.0	mg/kg	0.15 U	0.15 U	0.19 U	0.19 U
Silver	5.0	mg/kg	0.030 U	0.030 U	0.025 U	0.025 U
Mercury	0.2	mg/kg	0.002 U	0.002 U	0.002 U	0.002 U
Miscellaneous						
Ignitability		degrees	Negative	Negative	Negative	Negative
Cyanide, Reactive		mg/kg	0.50 U	0.50 U	0.5 U	0.5 U
Sulfide, Reactive		mg/kg	19.9 U	393	20 U	20 U
pH	pH <2 or >12.5	SU	9.40 HF	7.29	11.2	7.9
Percent Moisture		%	23.8	54.8	NA	22.4
Percent Solids		%	76.2	45.2	NA	77.6

Notes:
1. Results for PCB analysis of WC-Water sample are reported in milligrams per liter (mg/L).
2. Qualifiers are as follows:
   - D The reported concentration is based on a diluted sample analysis.
   - E Indicates a value estimated or not reported due to the presence of interferences.
   - J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
   - P The % RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
   - U The analyte was analyzed for, but not detected. The associated value is the analyte quantitation limit.
3. Screening levels for hazardous waste characteristization were provided in 40 Code of Federal Regulations (CFR) Part 261 Subpart C.

mg/kg = millligram per kilogram
mg/L = milligrams per liter
NA = Parameter not analyzed for.
SVOC = semi-volatile organic compound
VOC = volatile organic compound
ppm = parts per million
SU = standard unit
% = percent

Table 6-1
Sediment Geotechnical Results

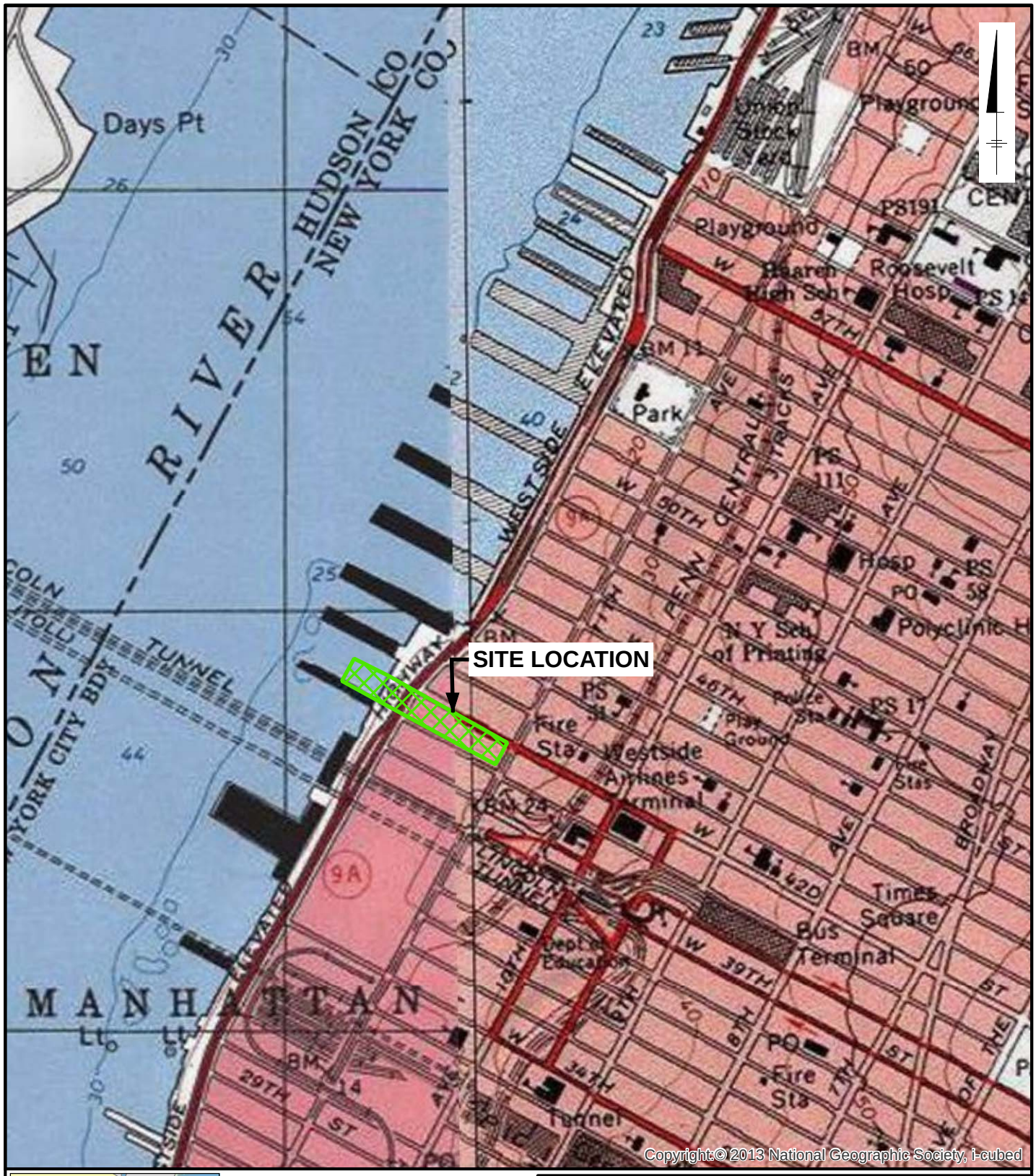
Remedial Investigation Report
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Location ID: / Sample Depth (feet): / Date Collected:	Units	SD-01 0 - 0.5 02/27/08	SD-02 0 - 0.5 02/29/08	SD-02 6 - 9.5 02/29/08	SD-02A 0 - 0.5 02/29/08	SD-02A 5 - 6 02/29/08	SD-02A 10 - 11 02/29/08	SD-03 0 - 0.5 03/03/08	SD-03 8 - 12 03/03/08	SD-04 0 - 0.5 02/28/08	SD-05 0 - 0.5 02/28/08	SD-06 0 - 0.5 02/28/08	SD-06-DUP 0 - 0.5 02/28/08
Geotechnical													
% gravel	%	0	0	0	4.9	0	0	NA	NA	0	0	0	0
Clay	%	14.8	7.3	9.8	10.4	14.1	8.8	NA	NA	22.7	20.9	18.9	19.2
Coarse sand	%	0.1	0	0.4	1.5	0	0.6	NA	NA	0.2	0	0	0.1
Fine sand	%	9.1	7.2	11	6.3	3	3	NA	NA	8.2	8.7	12.7	14.3
Medium sand	%	0.4	0.5	4.9	0.3	0.5	0.4	NA	NA	0.7	0.4	0.8	1.3
Silt	%	75.6	85	73.8	76.6	82.5	87.2	NA	NA	68.2	70	67.6	65.2

Notes:
1. Qualifiers are as follows:
   - D The reported concentration is based on a diluted sample analysis.
   - J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
   - U The analyte was analyzed for, but not detected. The associated value is the analyte quantitation limit.

NA = not analyzed for
% = percent
Bold = Result exceeds NYSDEC ERL criteria (2010).
mg/kg = milligrams per kilogram
mV = millivolt
NA = not analyzed
NYSDEC = New York State Department of Environmental Conservation
PAH = polycyclic aromatic hydrocarbon
Shaded & bold = Result exceeds NYSDEC ERM criteria (2010).
> = The analyte was positively identified; however the concentration was less than the detection limit of the analysis.

FIGURES



NOTE:

1. BASE MAP SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP IMAGES ENTITLED CENTRAL PARK AND WEEHAWKEN PROVIDED BY THE NEW YORK STATE GIS CLEARINGHOUSE.

0 1,000 2,000 Feet

GRAPHIC SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42ND STREET MGP

REMEDIAL INVESTIGATION REPORT

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1-1

CITY:SYR DIV: IM/DV DB: JAYME RAPP
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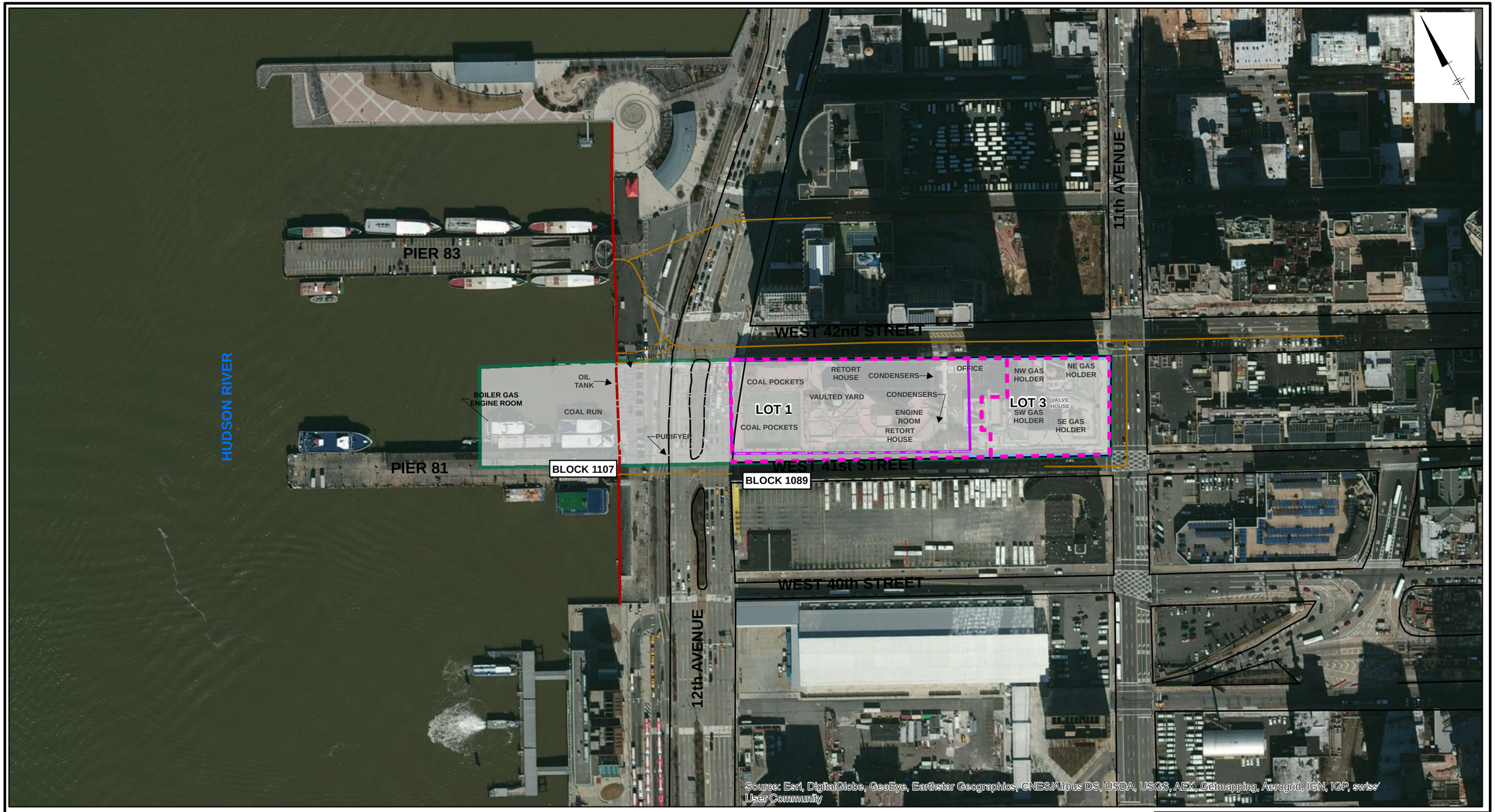

LEGEND:

- HISTORIC STRUCTURE
- BULKHEAD
- COMBINED SEWER OVERFLOWS (CSOs)
- SITE BOUNDARY
- RIVER PLACE I FOOTPRINT
- RIVER PLACE II FOOTPRINT
- APPROXIMATE TAX LOT BOUNDARY

NOTES:

1. 2015 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. HISTORIC STRUCTURES PROVIDED BY DVIRKA AND BARTILUCCI ENGINEERING (D & B). THE LOCATIONS OF ALL STRUCTURES ARE APPROXIMATE.

0 200 400 Feet

GRAPHIC SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42nd STREET MGP

REMEDIAL INVESTIGATION REPORT

SITE PLAN AND HISTORIC MGP STRUCTURES

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1-2

CITY:SYR DIV: IM/DV DB: JAYME RAPP
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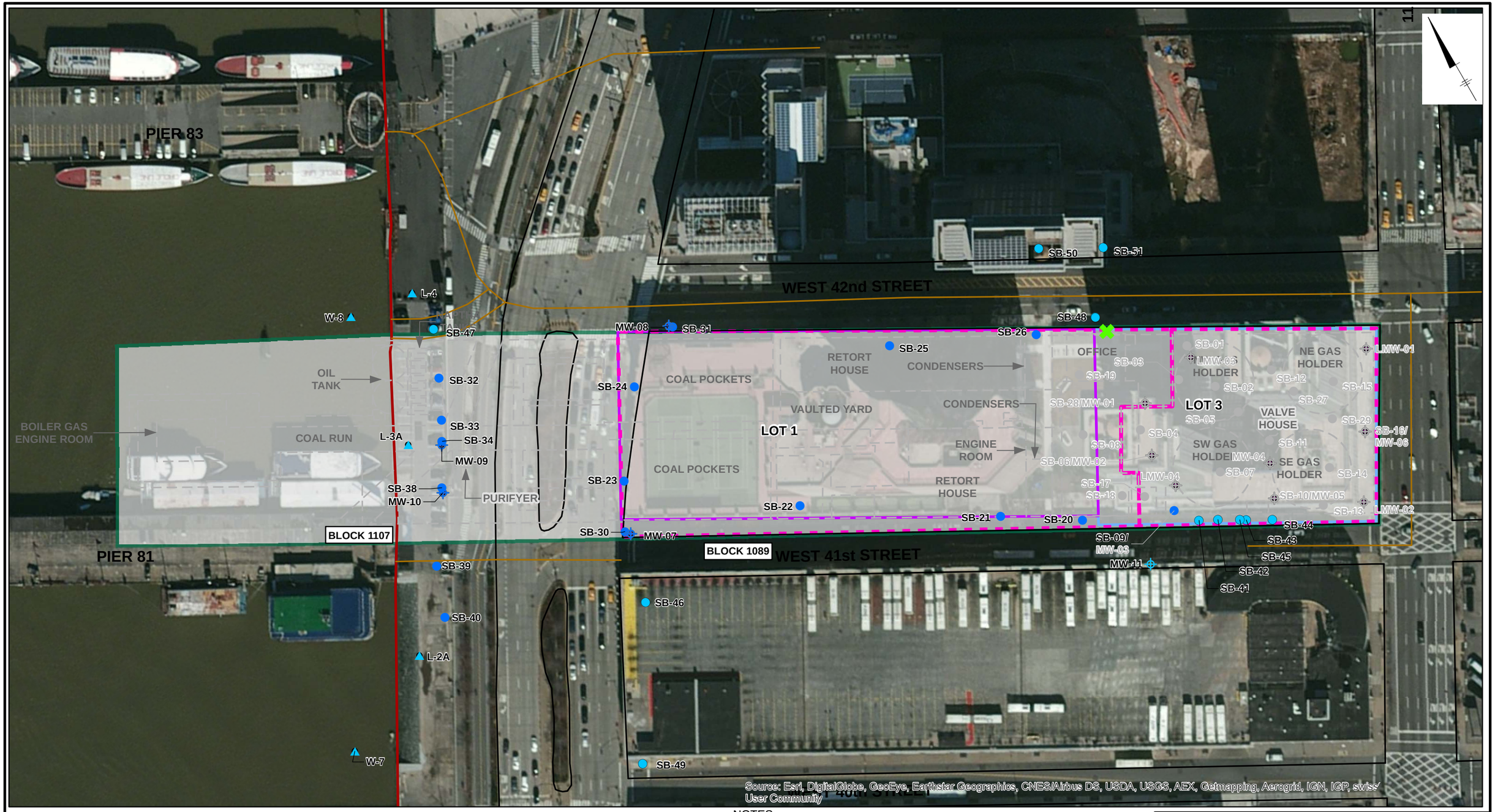

LEGEND:

ARCADIS BORINGS COMPLETED BETWEEN 2006 TO 2011:
- SOIL BORING
- MW-11 - MONITORING WELL LOCATION

D & B (2004, 2005) SAMPLES:
- MW-06 - MONITORING WELL
- SB-32 - SOIL BORING
- W-7, L-2a - HRTP SOIL BORING

APPROXIMATE TAX LOT BOUNDARY

HISTORIC STRUCTURE

BULKHEAD

COMBINED SEWER OVERFLOWS (CSOs)

SITE BOUNDARY

LOCATION OF BEDROCK/ SHEETPILE GAP

RIVER PLACE I FOOTPRINT

RIVER PLACE II FOOTPRINT

0 100 200 Feet

GRAPHIC SCALE

NOTES:

1. THE LOCATIONS AND ELEVATIONS OF SB-46 THROUGH SB-49, AND MW-11 WERE SURVEYED BY MUNOZ ENGINEERING IN JULY 2010. HORIZONTAL COORDINATES ARE IN NYS COORDINATE SYSTEM (EAST) NAD83 AS DERIVED FROM GPS. ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM AS DERIVED FROM GPS.
2. HISTORIC STRUCTURES PROVIDED BY DVIRKA AND BARTILUCCI ENGINEERING (D & B). THE LOCATIONS OF ALL STRUCTURES ARE APPROXIMATE.
3. 2015 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
4. BEDROCK/SHEETPILE GAP WAS SEALED AS OF 1/12/07.

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42nd STREET MGP

REMEDIAL INVESTIGATION REPORT

SOIL BORING AND MONITORING WELL LOCATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4-1

CITY:SYR DIV: IM/DV DB: JAYME RAPP
Con Ed (B0043036)
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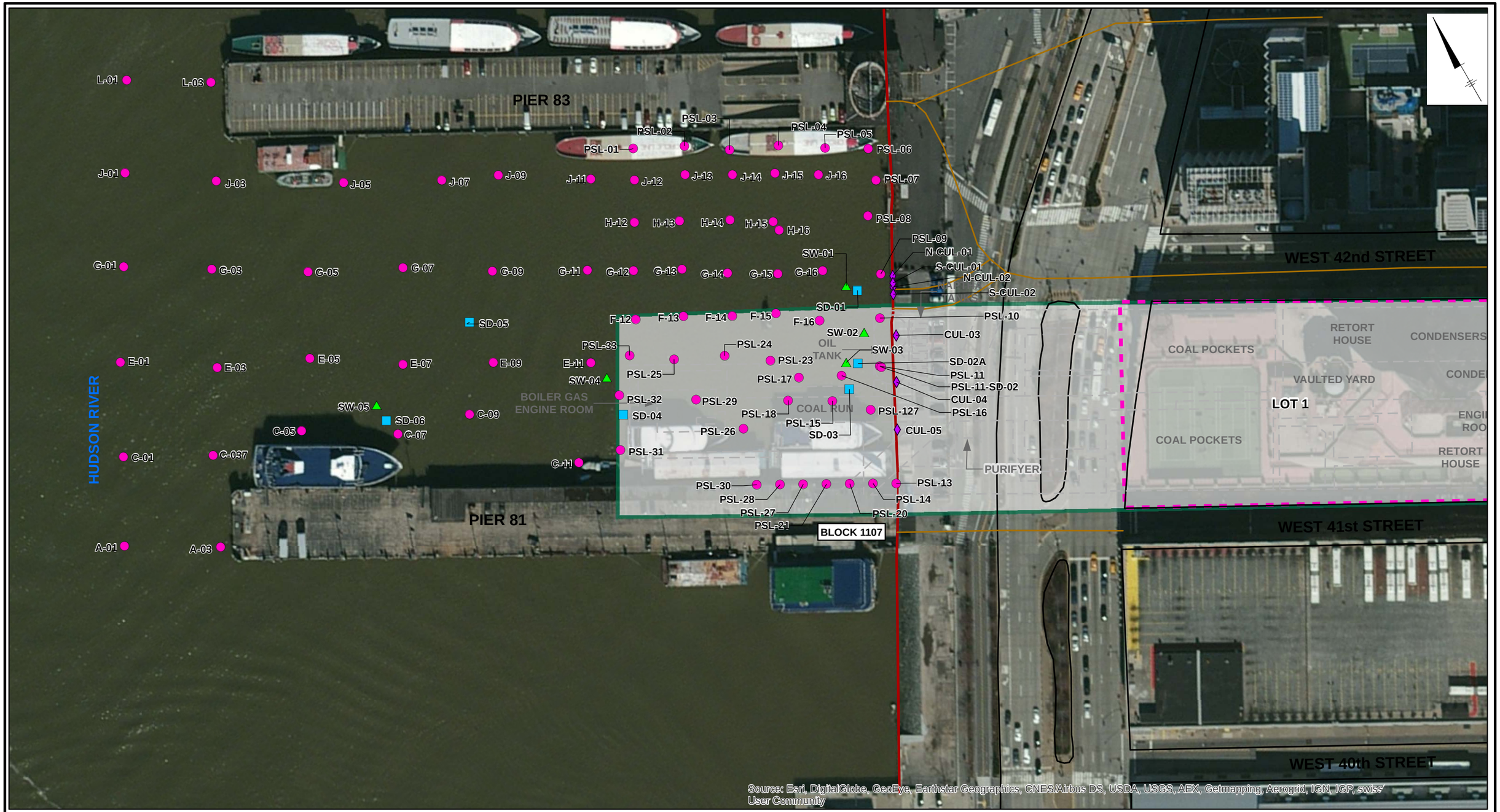


LEGEND:

- CULVERT LOCATION
- SEDIMENT CORE LOCATION
- SURFACE WATER SAMPLE LOCATION
- SEDIMENT PROBING LOCATION:
- HISTORIC STRUCTURE
- BULKHEAD
- COMBINED SEWER OVERFLOWS (CSOs)
- SITE BOUNDARY

0 100 200 Feet

GRAPHIC SCALE

NOTES:

1. HISTORIC STRUCTRES PROVIDED BY DVIRKA AND BARTILUCCI ENGINEERING (D & B). THE LOCATIONS OF ALL STRUCTURES ARE APPROXIMATE.
2. 2015 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
3. SEDIMENT CORE/PROBE AND SURFACE WATER SAMPLING LOCATIONS WERE SURVEYED BY ARCADIS IN MARCH 2008. SAMPLING AND PROBING WAS COMPLETED BY ARCADIS IN 2008.

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42nd STREET MGP

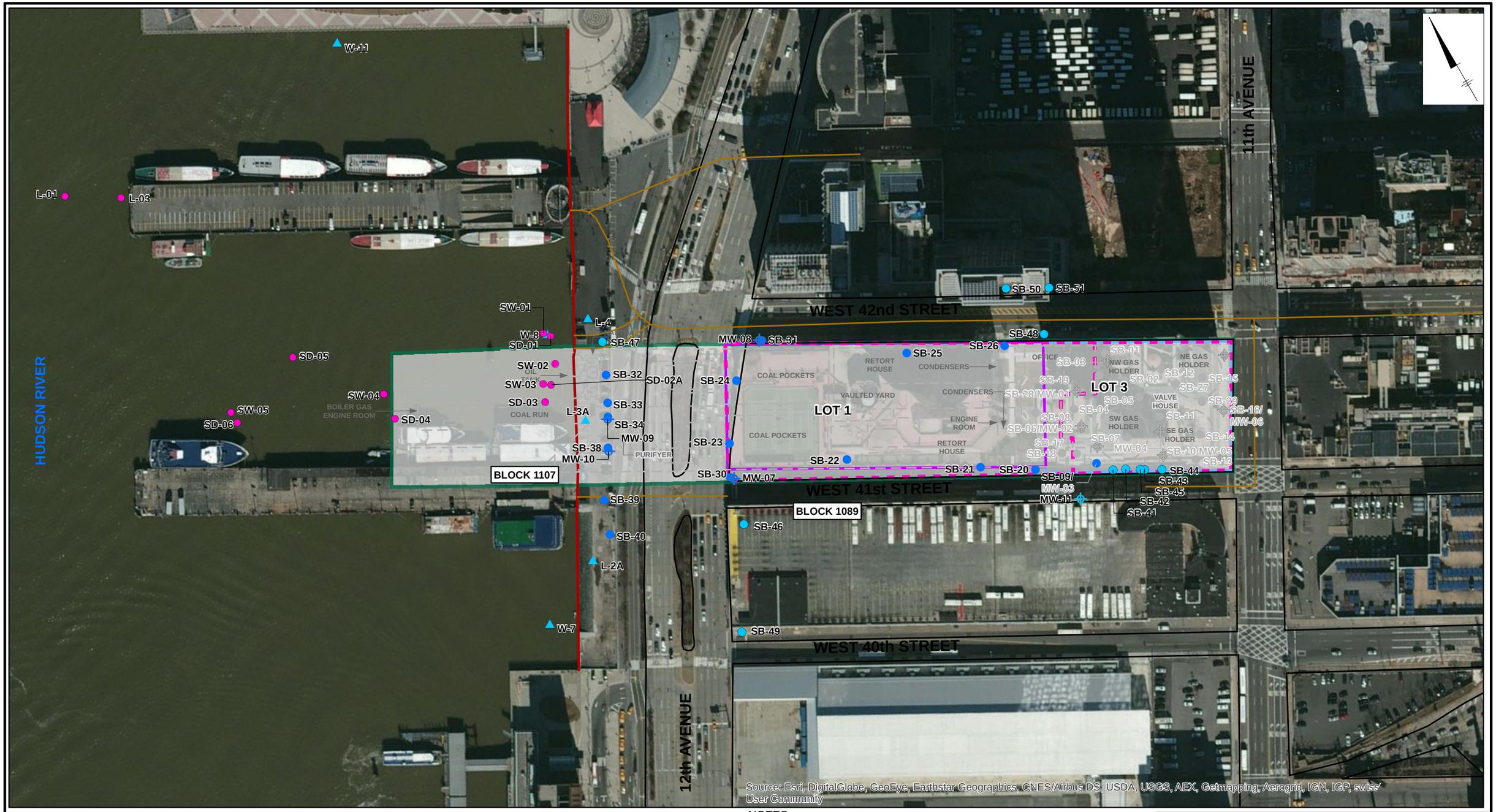
REMEDIAL INVESTIGATION REPORT

SEDIMENT CORE/PROBE AND SURFACE WATER SAMPLING LOCATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 5-1

CITY:SYR DIV: AIT/IM DB: K. SINSABAUGH
Con Ed (B0043012.0001.00007)



LEGEND:

ARCADIS BORINGS COMPLETED BETWEEN 2006 TO 2011:
- SOIL BORING
- MW-11 - MONITORING WELL LOCATION
- SEDIMENT AND SURFACE WATER SAMPLE LOCATIONS

D & B (2004, 2005) SAMPLES:
- MW-06 - MONITORING WELL
- SB-32 - SOIL BORING
- W-7, L-2a - HRTP SOIL BORING

- HISTORIC STRUCTURE
- BULKHEAD
- COMBINED SEWER OVERFLOWS (CSOs)
- SITE BOUNDARY
- RIVER PLACE I FOOTPRINT
- RIVER PLACE II FOOTPRINT

0 150 300 Feet
GRAPHIC SCALE

NOTES:
1. THE LOCATIONS AND ELEVATIONS OF SB-46 THROUGH SB-49, AND MW-11 WERE SURVEYED BY MUNOZ ENGINEERING IN JULY 2010. HORIZONTAL COORDINATES ARE IN NYS COORDINATE SYSTEM (EAST) NAD83 AS DERIVED FROM GPS. ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM AS DERIVED FROM GPS.
2. HISTORIC STRUCTURES PROVIDED BY DVIRKA AND BARTILUCCI ENGINEERING (D & B). THE LOCATIONS OF ALL STRUCTURES ARE APPROXIMATE.
3. 2015 IMAGERY FROM ESRI IMAGE SERVICE.
4. SEDIMENT CORE LOCATIONS WERE SURVEYED BY ARCADIS IN MARCH 2008.

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42nd STREET MGP

REMEDIAL INVESTIGATION REPORT

SAMPLE LOCATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE **6-1**

CITY:SYR DIV: IM/DV DB: JAYME RAPP
Con Ed (B0043036)
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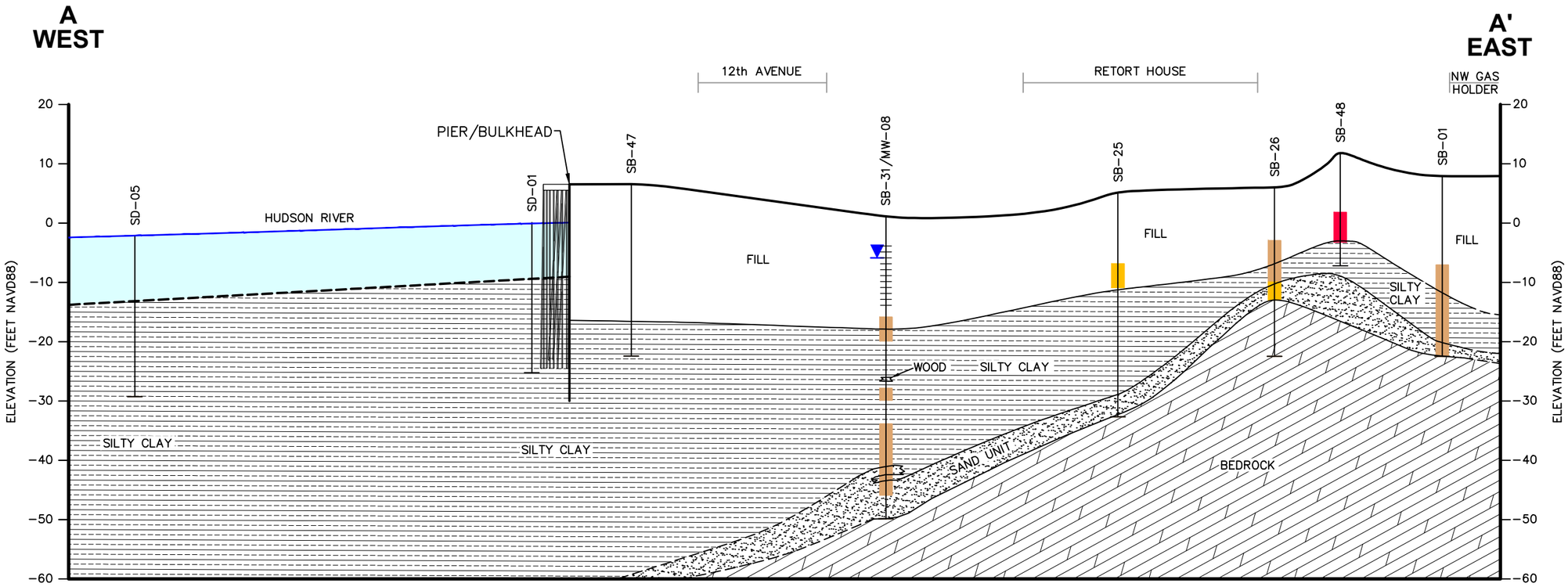
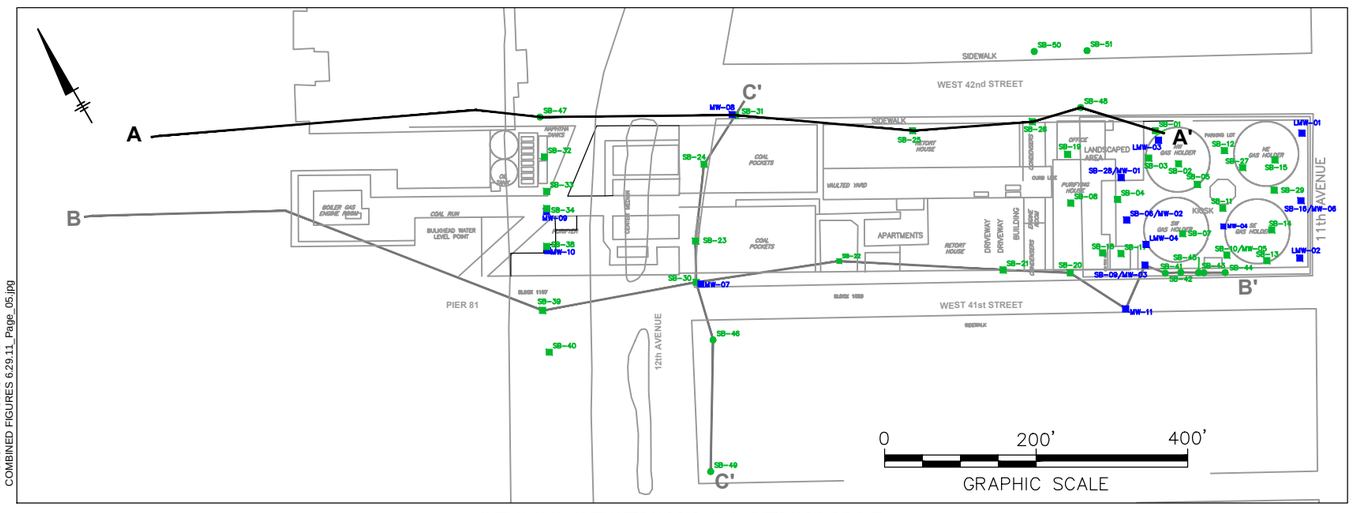




CROSS SECTION LOCATION MAP

SB-38 BORING/WELL ID

LEGEND:

- GROUND SURFACE
- WATER TABLE
- LITHOLOGICAL CONTACT
- SCREENED INTERVAL
- BOTTOM OF BORING/WELL
- ODOR
- STAINING/SHEEN
- NAPL
- FILL
- SILTY CLAY
- SAND UNIT
- BEDROCK (HARTLAND FORMATION)
- SEDIMENT SURFACE ELEVATION

NOTES:

1. ELEVATIONS REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. WATER LEVELS SHOWN REFLECT UPPER MOST AQUIFER.

0 20' 40'
VERTICAL SCALE

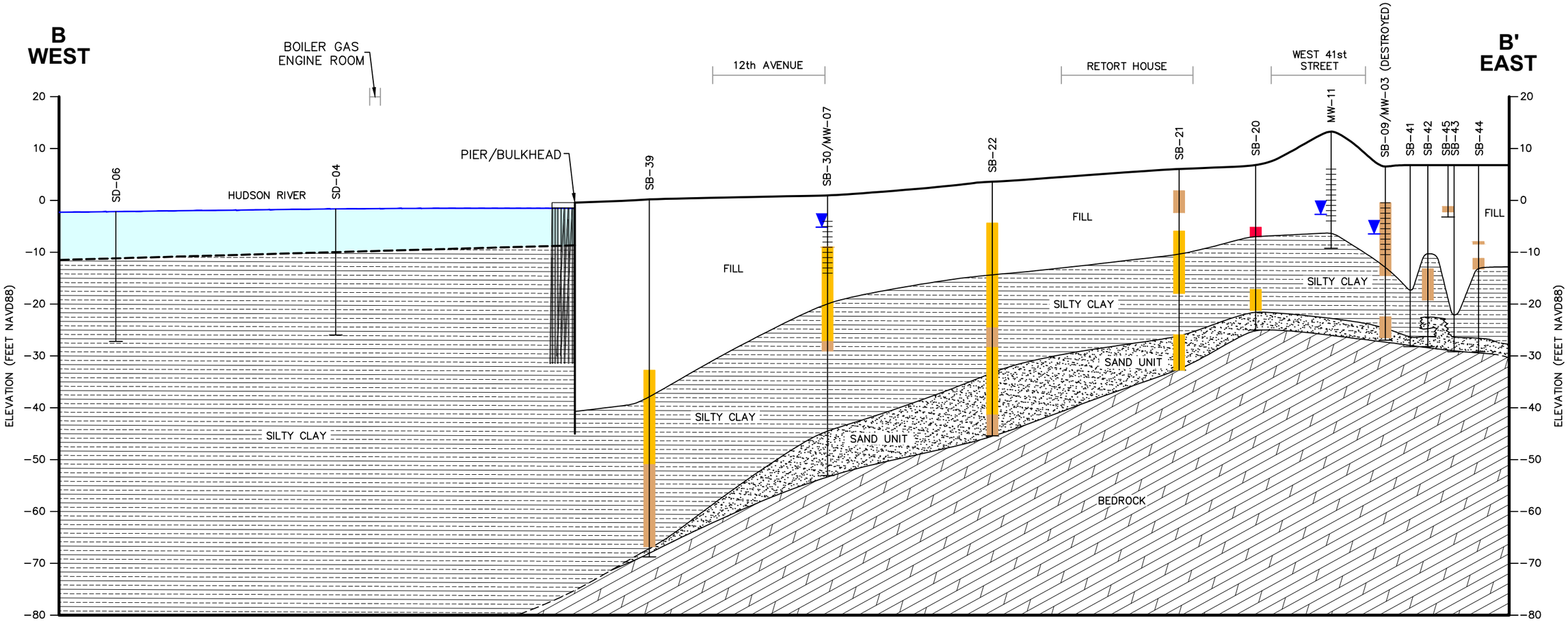
0 120' 240'
HORIZONTAL SCALE

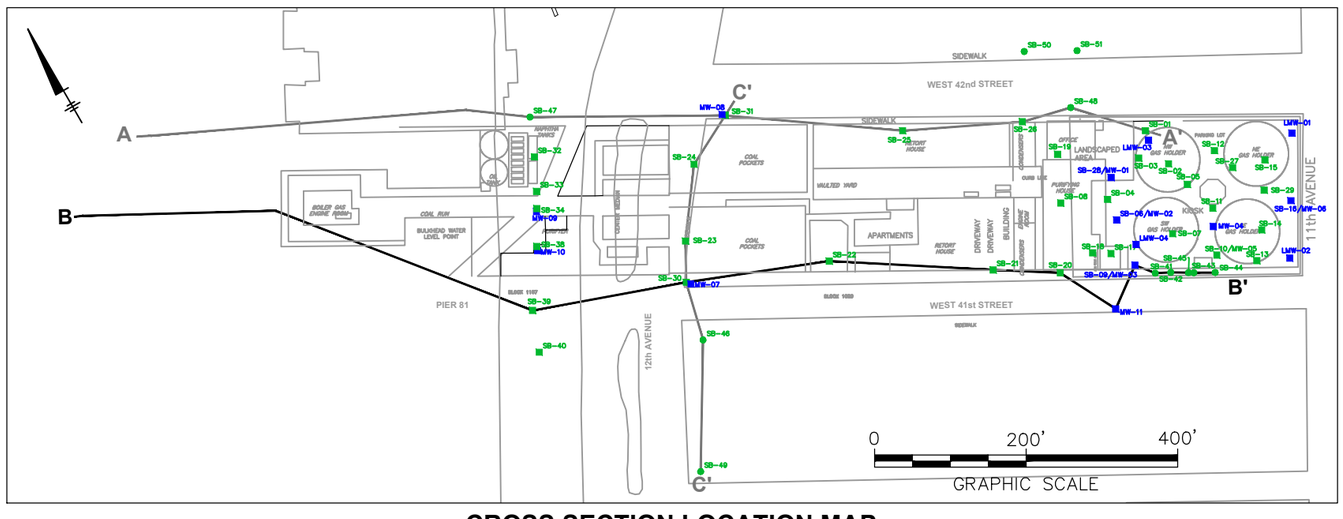
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42ND STREET MPG
REMEDIAL INVESTIGATION REPORT

GEOLOGIC CROSS - SECTION A - A'

ARCADIS Design & Consultancy for natural and built assets

FIGURE
6-2





CROSS SECTION LOCATION MAP

SB-38

LEGEND:

- BORING/WELL ID
- GROUND SURFACE
- WATER TABLE
- LITHOLOGICAL CONTACT
- SCREENED INTERVAL
- BOTTOM OF BORING/WELL
- ODOR
- STAINING/SHEEN
- NAPL
- FILL
- SILTY CLAY
- SAND UNIT
- BEDROCK (HARTLAND FORMATION)
- SEDIMENT SURFACE ELEVATION

NOTES:

1. ELEVATIONS REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. WATER LEVELS SHOWN REFLECT UPPER MOST AQUIFER.

0 20' 40'
VERTICAL SCALE

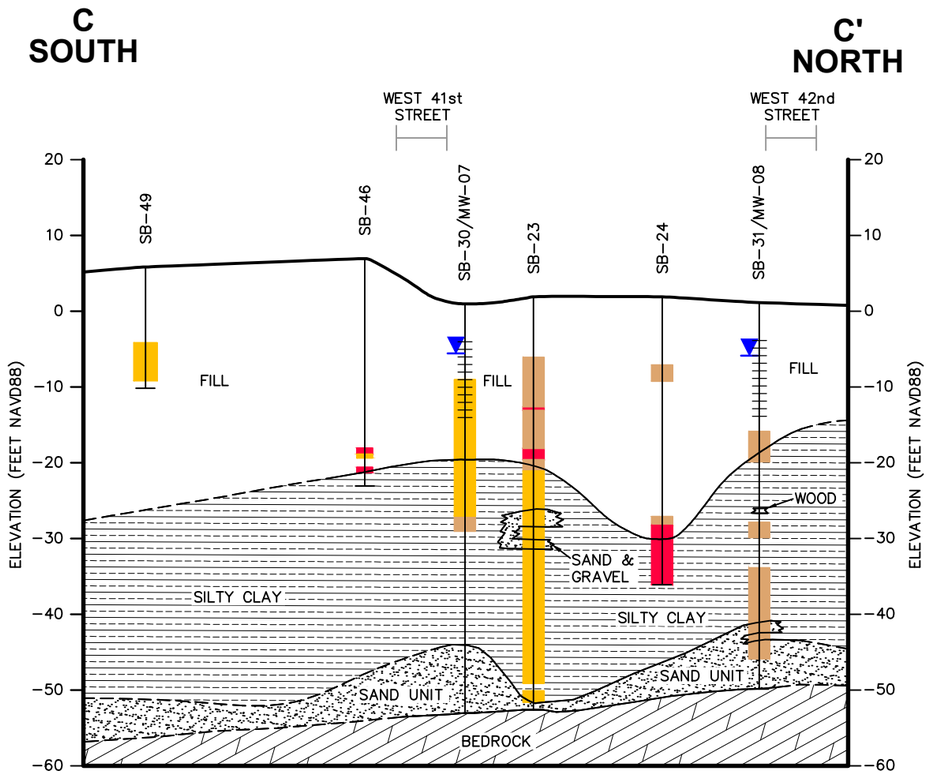
0 120' 240'
HORIZONTAL SCALE

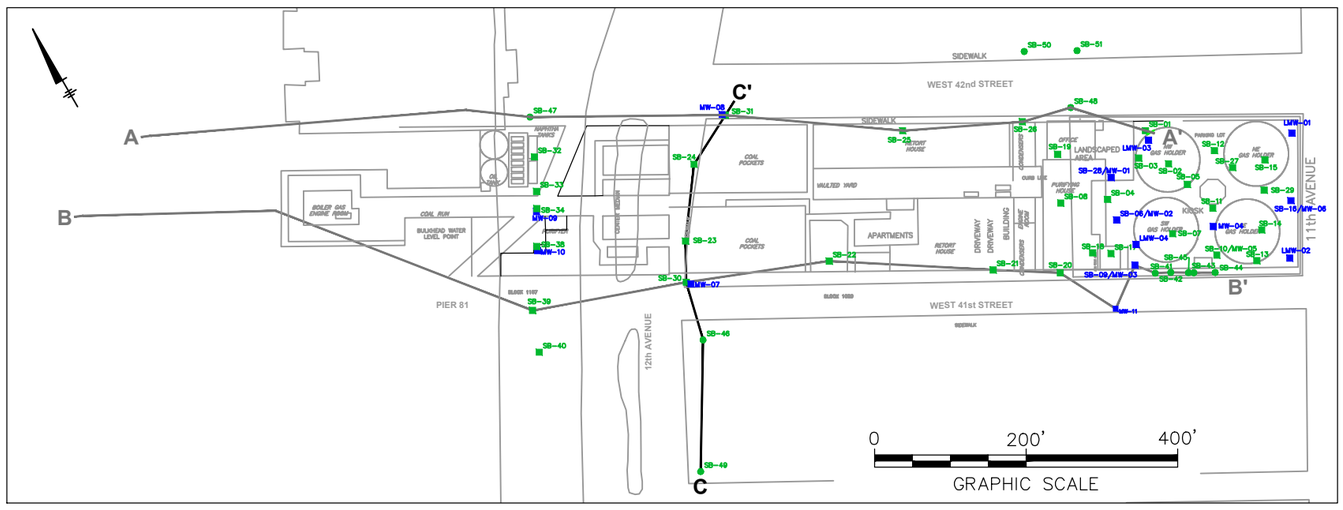
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42ND STREET MPG
REMEDIAL INVESTIGATION REPORT

GEOLOGIC CROSS - SECTION B - B'

ARCADIS Design & Consultancy for natural and built assets

FIGURE
6-3





CROSS SECTION LOCATION MAP

LEGEND:

- SB-38 — BORING/WELL ID
- GROUND SURFACE
- WATER TABLE
- LITHOLOGICAL CONTACT
- SCREENED INTERVAL
- BOTTOM OF BORING/WELL
- ODOR
- STAINING/SHEEN
- NAPL
- FILL
- SILTY CLAY
- SAND UNIT
- BEDROCK (HARTLAND FORMATION)

NOTES:

1. ELEVATIONS REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. WATER LEVELS SHOWN REFLECT UPPER MOST AQUIFER.

0 20' 40'
VERTICAL SCALE

0 120' 240'
HORIZONTAL SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42ND STREET MPG
REMEDIAL INVESTIGATION REPORT

GEOLOGIC CROSS - SECTION C - C'

ARCADIS Design & Consultancy for natural and built assets

FIGURE
6-4

LEGEND:

ARCADIS BORINGS COMPLETED BETWEEN 2006 TO 2011:
- SOIL BORING
- MW-11 - MONITORING WELL LOCATION

D & B (2004, 2005) SAMPLES:
- MW-06 - MONITORING WELL
- SB-32 - SOIL BORING
- W-7, L-2a - HRTP SOIL BORING

- TOP OF CLAY ELEVATION - 4 ft CONTOUR (-1.14) CLAY ELEVATION
- COMBINED SEWER OVERFLOWS (CSOs)
- HISTORIC STRUCTURE
- BULKHEAD
- EDGE OF WATER

- SITE BOUNDARY
- APPROXIMATE TAX LOT BOUNDARY
- RIVER PLACE I FOOTPRINT
- RIVER PLACE II FOOTPRINT

NOTES:
1. HISTORIC STRUCTURES PROVIDED BY DVIRKA AND BARTILUCCI ENGINEERING (D & B). THE LOCATIONS OF ALL STRUCTURES ARE APPROXIMATE.
2. 2015 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
3. VERTICAL DATUM IS BASED ON NATIONAL GEODETIC DATUM OF 1929.

0 100 200 Feet
GRAPHIC SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42nd STREET MGP

REMEDIAL INVESTIGATION REPORT

TOP OF CLAY ELEVATION CONTOURS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 6-5

CITY:SYR DIV: IM/DV DB: JAYME RAPP
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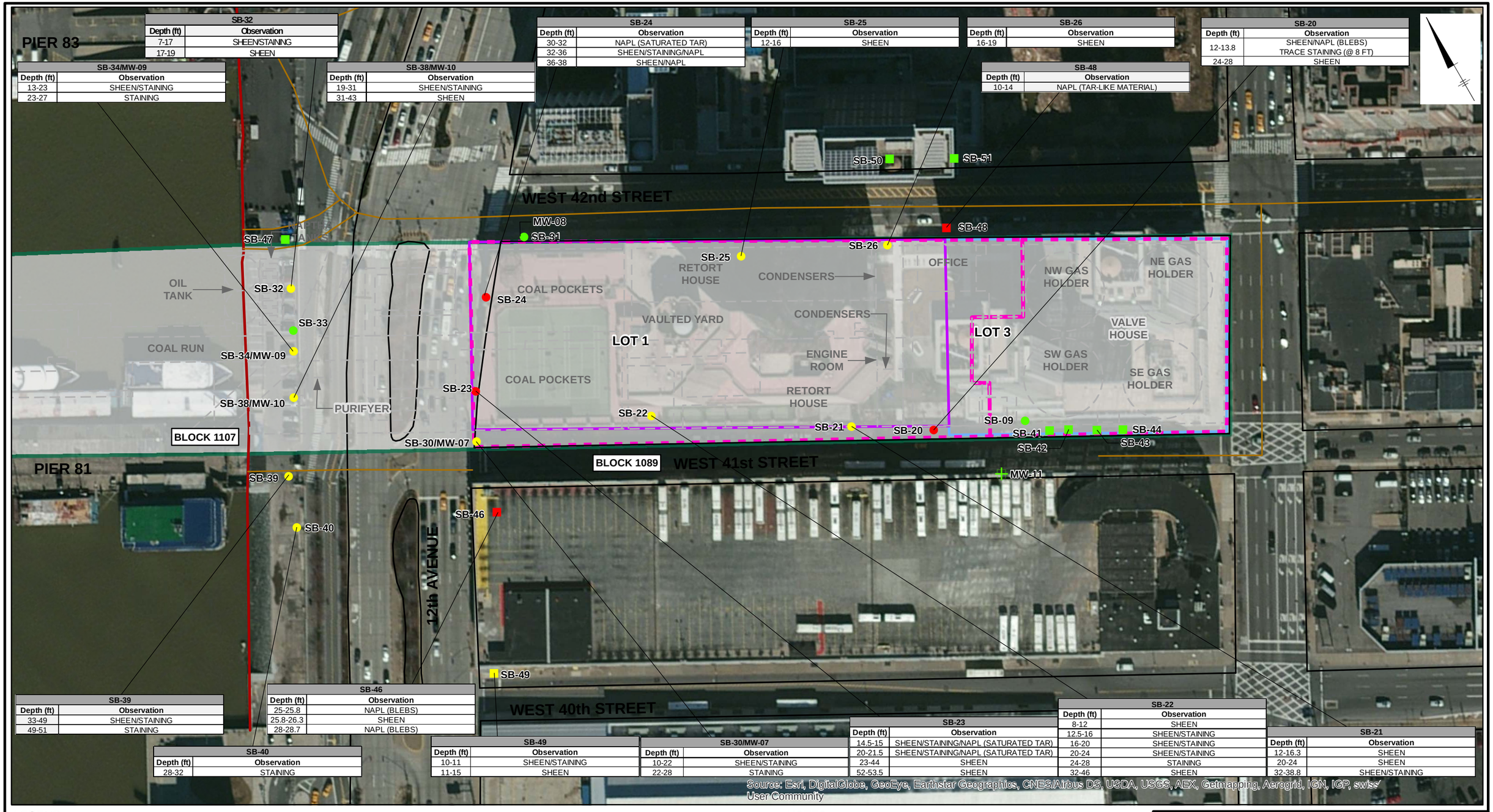

SB-32	
Depth (ft)	Observation
7-17	SHEEN/STAINING
17-19	SHEEN

SB-34/MW-09	
Depth (ft)	Observation
13-23	SHEEN/STAINING
23-27	STAINING

SB-38/MW-10	
Depth (ft)	Observation
19-31	SHEEN/STAINING
31-43	SHEEN

SB-24	
Depth (ft)	Observation
30-32	NAPL (SATURATED TAR)
32-36	SHEEN/STAINING/NAPL
36-38	SHEEN/NAPL

SB-25	
Depth (ft)	Observation
12-16	SHEEN

SB-26	
Depth (ft)	Observation
16-19	SHEEN

SB-48	
Depth (ft)	Observation
10-14	NAPL (TAR-LIKE MATERIAL)

SB-20	
Depth (ft)	Observation
12-13.8	SHEEN/NAPL (BLEBS) TRACE STAINING (@ 8 FT)
24-28	SHEEN

SB-39	
Depth (ft)	Observation
33-49	SHEEN/STAINING
49-51	STAINING

SB-46	
Depth (ft)	Observation
25-25.8	NAPL (BLEBS)
25.8-26.3	SHEEN
28-28.7	NAPL (BLEBS)

SB-40	
Depth (ft)	Observation
28-32	STAINING

SB-49	
Depth (ft)	Observation
10-11	SHEEN/STAINING
11-15	SHEEN

SB-30/MW-07	
Depth (ft)	Observation
10-22	SHEEN/STAINING
22-28	STAINING

SB-23	
Depth (ft)	Observation
14.5-15	SHEEN/STAINING/NAPL (SATURATED TAR)
20-21.5	SHEEN/STAINING/NAPL (SATURATED TAR)
23-44	SHEEN
52-53.5	SHEEN

SB-22	
Depth (ft)	Observation
8-12	SHEEN
12.5-16	SHEEN/STAINING
16-20	SHEEN/STAINING
20-24	SHEEN/STAINING
24-28	STAINING
32-46	SHEEN

SB-21	
Depth (ft)	Observation
12-16.3	SHEEN
20-24	SHEEN
32-38.8	SHEEN/STAINING

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

LEGEND:

ARCADIS BORINGS COMPLETED BETWEEN 2006 TO 2011:
- SOIL BORING - NO SHEEN/STAIN OR NAPL PRESENT
- MW-11 - MONITORING WELL
- SOIL BORING - NAPL PRESENT
- SOIL BORING - SHEEN/STAIN PRESENT

D & B (2004, 2005) SAMPLES:
- MW-06 - MONITORING WELL
- SB-32 - SOIL BORING - NO SHEEN/STAIN OR NAPL PRESENT
- SOIL BORING - NAPL PRESENT
- SOIL BORING - SHEEN/STAIN PRESENT

- HISTORIC STRUCTURE
- BULKHEAD
- COMBINED SEWER OVERFLOWS (CSOs)
- SITE BOUNDARY
- RIVER PLACE I FOOTPRINT
- RIVER PLACE II FOOTPRINT
- APPROXIMATE TAX LOT BOUNDARY

0 100 200 Feet

GRAPHIC SCALE

NOTES:

1. THE LOCATIONS AND ELEVATIONS OF SB-46 THROUGH SB-49, AND MW-11 WERE SURVEYED BY MUNOZ ENGINEERING IN JULY 2010. HORIZONTAL COORDINATES ARE IN NYS COORDINATE SYSTEM (EAST) NAD83 AS DERIVED FROM GPS. ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM AS DERIVED FROM GPS.
2. HISTORIC STRUCTURES PROVIDED BY DVIRKA AND BARTILUCCI ENGINEERING (D & B). THE LOCATIONS OF ALL STRUCTURES ARE APPROXIMATE.
3. 2015 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
4. SEDIMENT LOCATIONS WERE SURVEYED BY ARCADIS IN MARCH 2008.

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42nd STREET MGP

REMEDIAL INVESTIGATION REPORT

OCCURRENCE OF NAPL/STAINING/ SHEEN IN SOILS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 6-6

CITY:SYR DIV: I:\MDV DB: JAYME RAPP
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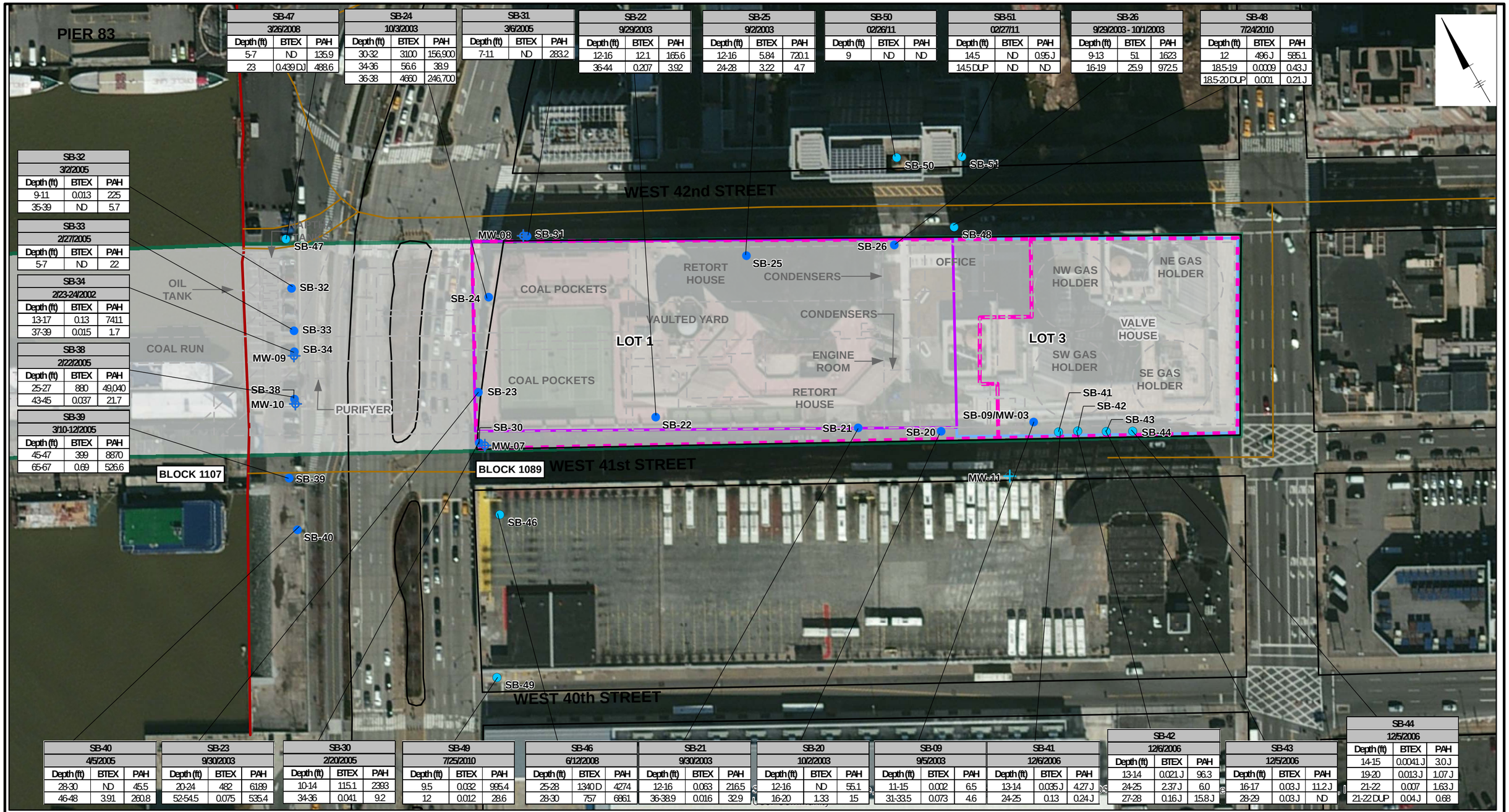

SB-47		
3/26/2008		
Depth (ft)	BTEX	PAH
5-7	ND	135.9
23	0.439 DJ	488.6

SB-24		
10/3/2003		
Depth (ft)	BTEX	PAH
30-32	3100	156,900
34-36	56.6	38.9
36-38	4660	246,700

SB-31		
3/6/2005		
Depth (ft)	BTEX	PAH
7-11	ND	283.2

SB-22		
9/29/2003		
Depth (ft)	BTEX	PAH
12-16	12.1	165.6
36-44	0.207	3.92

SB-25		
9/2/2003		
Depth (ft)	BTEX	PAH
12-16	5.84	720.1
24-28	3.22	4.7

SB-50		
02/26/11		
Depth (ft)	BTEX	PAH
9	ND	ND

SB-51		
02/27/11		
Depth (ft)	BTEX	PAH
14.5	ND	0.95 J
14.5 DUP	ND	ND

SB-26		
9/29/2003 - 10/1/2003		
Depth (ft)	BTEX	PAH
9-13	51	1623
16-19	25.9	972.5

SB-48		
7/24/2010		
Depth (ft)	BTEX	PAH
12	496 J	585.1
18.5-19	0.0009 J	0.43 J
18.5-20 DUP	0.001 J	0.21 J

SB-32		
3/2/2005		
Depth (ft)	BTEX	PAH
9-11	0.013	225
35-39	ND	5.7

SB-33		
2/27/2005		
Depth (ft)	BTEX	PAH
5-7	ND	22

SB-34		
2/23-24/2002		
Depth (ft)	BTEX	PAH
13-17	0.13	7411
37-39	0.015	1.7

SB-38		
2/22/2005		
Depth (ft)	BTEX	PAH
25-27	880	49,040
43-45	0.037	21.7

SB-39		
3/10-12/2005		
Depth (ft)	BTEX	PAH
45-47	399	8870
65-67	0.69	526.6

SB-40		
4/5/2005		
Depth (ft)	BTEX	PAH
28-30	ND	45.5
46-48	3.91	260.8

SB-23		
9/30/2003		
Depth (ft)	BTEX	PAH
20-24	482	6189
52-54.5	0.075	535.4

SB-30		
2/20/2005		
Depth (ft)	BTEX	PAH
10-14	115.1	2393
34-36	0.041	9.2

SB-49		
7/25/2010		
Depth (ft)	BTEX	PAH
9.5	0.032	995.4
12	0.012	28.6

SB-46		
6/12/2008		
Depth (ft)	BTEX	PAH
25-28	1340 D	4274
28-30	757	6861

SB-21		
9/30/2003		
Depth (ft)	BTEX	PAH
12-16	0.063	216.5
36-38.9	0.016	32.9

SB-20		
10/2/2003		
Depth (ft)	BTEX	PAH
12-16	ND	55.1
16-20	1.33	15

SB-09			
9/5/2003			
Depth (ft)	BTEX	PAH	
11-15	0.002	6.5	
31-33.5	0.073	4.6	

SB-41		
12/6/2006		
Depth (ft)	BTEX	PAH
13-14	0.035 J	4.27 J
24-25	0.13	0.24 J

SB-42		
12/6/2006		
Depth (ft)	BTEX	PAH
13-14	0.021 J	96.3
24-25	2.37 J	6.0
27-28	0.16 J	15.8 J

SB-43		
12/5/2006		
Depth (ft)	BTEX	PAH
16-17	0.03 J	11.2 J
28-29	0.03 J	ND

SB-44		
12/5/2006		
Depth (ft)	BTEX	PAH
14-15	0.0041 J	3.0 J
19-20	0.013 J	1.07 J
21-22	0.007	1.63 J
21-22 DUP	0.04 J	0.68

LEGEND:

ARCADIS (2011) SAMPLES:
- SOIL BORING
- MW-11 - MONITORING WELL LOCATION

D & B (2004, 2005) SAMPLES:
- MW-06 - MONITORING WELL
- SB-32 - SOIL BORING

- HISTORIC STRUCTURE
- BULKHEAD
- COMBINED SEWER OVERFLOWS (CSOs)
- SITE BOUNDARY
- RIVER PLACE I FOOTPRINT
- RIVER PLACE II FOOTPRINT
- APPROXIMATE TAX LOT BOUNDARY

0 100 200 Feet
GRAPHIC SCALE

NOTES:
1. THE LOCATIONS AND ELEVATIONS OF SB-46 THROUGH SB-49 WERE SURVEYED BY MUNOZ ENGINEERING IN JULY 2010. HORIZONTAL COORDINATES ARE IN NYS COORDINATE SYSTEM (EAST) NAD83 AS DERIVED FROM GPS. ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM AS DERIVED FROM GPS.
2. HISTORIC STRUCTURES PROVIDED BY DVIRKA AND BARTILUCCI ENGINEERING (D & B). THE LOCATIONS OF ALL STRUCTURES ARE APPROXIMATE.
3. 2015 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
4. SEDIMENT LOCATIONS WERE SURVEYED BY ARCADIS IN FEBRUARY 2008.
5. PAH IS THE SUM OF THE 17 TCL PAHS.
6. BTEX IS THE SUM OF BENZENE, TOLUENE, ETHYLBENZENE AND TOTAL XYLENES.
7. ALL RESULTS ARE PRESENTED IN MILLIGRAMS/KILOGRAM (mg/kg).

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42nd STREET MGP

REMEDIAL INVESTIGATION REPORT

OCCURRENCE OF TOTAL BTEX AND TOTAL PAH IN SOIL

ARCADIS Design & Consultancy for natural and built assets

FIGURE 6-7

CITY:SYR DIV: IM/DV DB: JAYME RAPP
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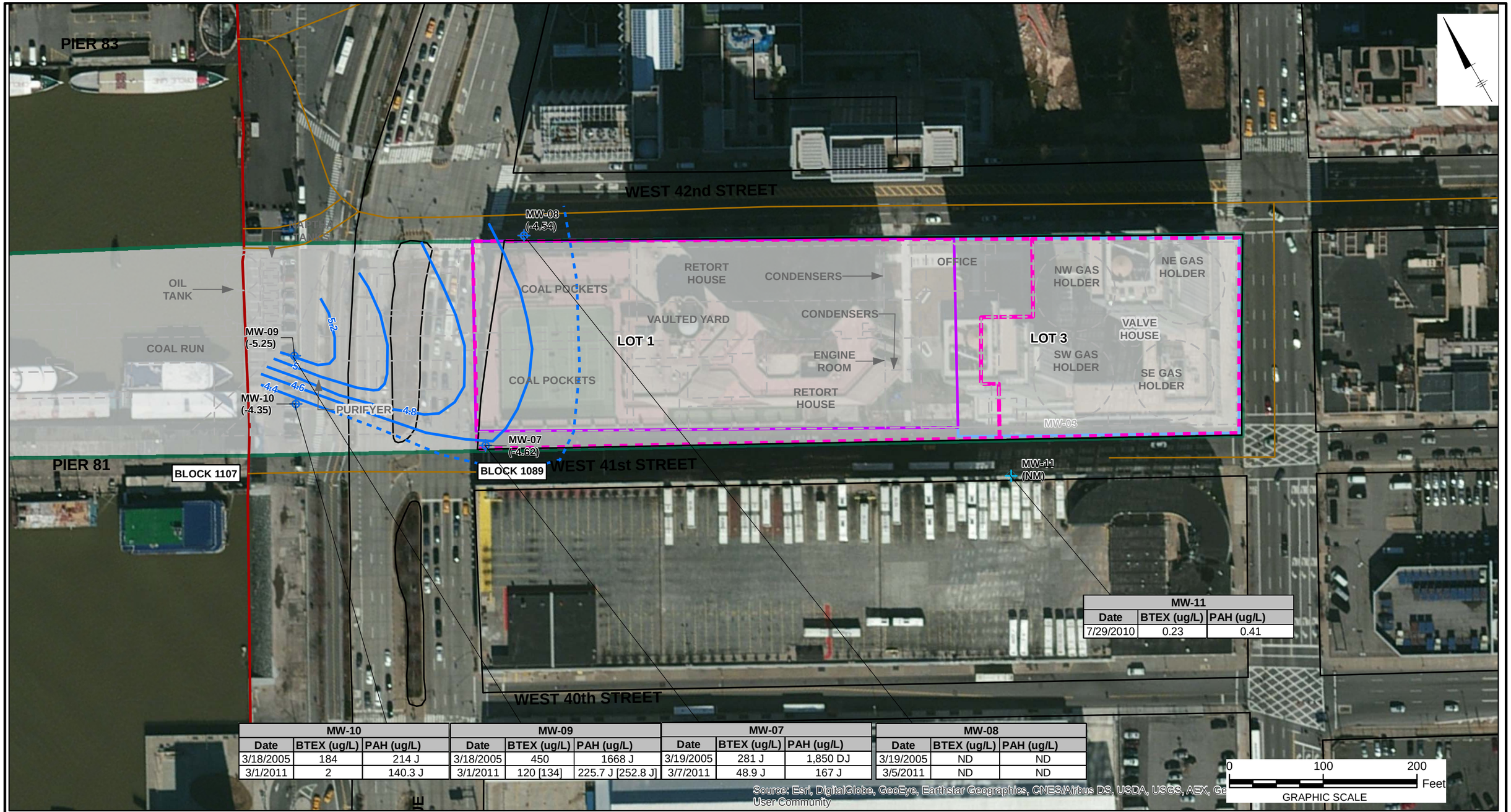

MW-11		
Date	BTEX (ug/L)	PAH (ug/L)
7/29/2010	0.23	0.41

MW-10		
Date	BTEX (ug/L)	PAH (ug/L)
3/18/2005	184	214 J
3/1/2011	2	140.3 J

MW-09		
Date	BTEX (ug/L)	PAH (ug/L)
3/18/2005	450	1668 J
3/1/2011	120 [134]	225.7 J [252.8 J]

MW-07		
Date	BTEX (ug/L)	PAH (ug/L)
3/19/2005	281 J	1,850 DJ
3/7/2011	48.9 J	167 J

MW-08		
Date	BTEX (ug/L)	PAH (ug/L)
3/19/2005	ND	ND
3/5/2011	ND	ND

LEGEND:

- MW-11 - ARCADIS (2011) MONITORING WELL
- MW-06 - D & B (2004, 2005) MONITORING WELL
- HISTORIC STRUCTURE
- BULKHEAD
- COMBINED SEWER OVERFLOWS (CSOs)
- GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED) (5.0) GROUNDWATER ELEVATION
- SITE BOUNDARY
- RIVER PLACE I FOOTPRINT
- RIVER PLACE II FOOTPRINT
- APPROXIMATE TAX LOT BOUNDARY

NOTES:

1. THE LOCATIONS AND ELEVATIONS OF MW-11 WERE SURVEYED BY MUNOZ ENGINEERING IN JULY 2010. HORIZONTAL COORDINATES ARE IN NYS COORDINATE SYSTEM (EAST) NAD83 AS DERIVED FROM GPS. ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM AS DERIVED FROM GPS.
2. HISTORIC STRUCTURES PROVIDED BY DVIRKA AND BARTILUCCI ENGINEERING (D & B). THE LOCATIONS OF ALL STRUCTURES ARE APPROXIMATE.
3. 2015 IMAGERY OBTAINED FROM ESRI SERVICE.
4. PAH IS THE SUM OF THE 17 TCL PAHS.
5. BTEX IS THE SUM OF BENZENE, TOLUENE, ETHYLBENZENE AND TOTAL XYLENES.
6. DUPLICATE SAMPLE RESULTS ARE PRESENTED IN BRACKETS.
7. GROUNDWATER CONTOUR MAP IS APPROXIMATE AND WAS PREPARED USING GROUNDWATER ELEVATION DATA FROM MONITORING WELLS MW-07 TO MW-10, WHICH WERE MEASURED BETWEEN MARCH 1, 2011 AND MARCH 7, 2011. GROUNDWATER ELEVATION DATA FROM MONITORING WELL MW-11 WAS NOT USED BECAUSE MW-11 WAS MEASURED ONLY IN 2010 DUE TO ACCESS CONSTRAINTS.
8. VERTICAL DATUM IS BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929. ELEVATIONS PROVIDED IN FEET.
9. DATA QUALIFIERS:
   J: THE ANALYTE WAS POSITIVELY IDENTIFIED; HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
   D: THE REPORTED CONCENTRATION IS BASED ON A DILUTED SAMPLE ANALYSIS.
10. ND – NOT DETECTED
    NM - NOT MEASURED

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42nd STREET MGP

REMEDIAL INVESTIGATION REPORT

OCCURRENCE OF TOTAL BTEX AND TOTAL PAH IN GROUNDWATER

ARCADIS Design & Consultancy for natural and built assets

FIGURE 6-8

CITY:SYR DIV: IM\DV DB: JAYME RAPP
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SD-06		
Depth (ft)	PAH	BTEX
0-0.5	5.65	ND
0-0.5 DUP	6.58	ND

SD-04		
Depth (ft)	PAH	BTEX
0-0.5	11.3	ND

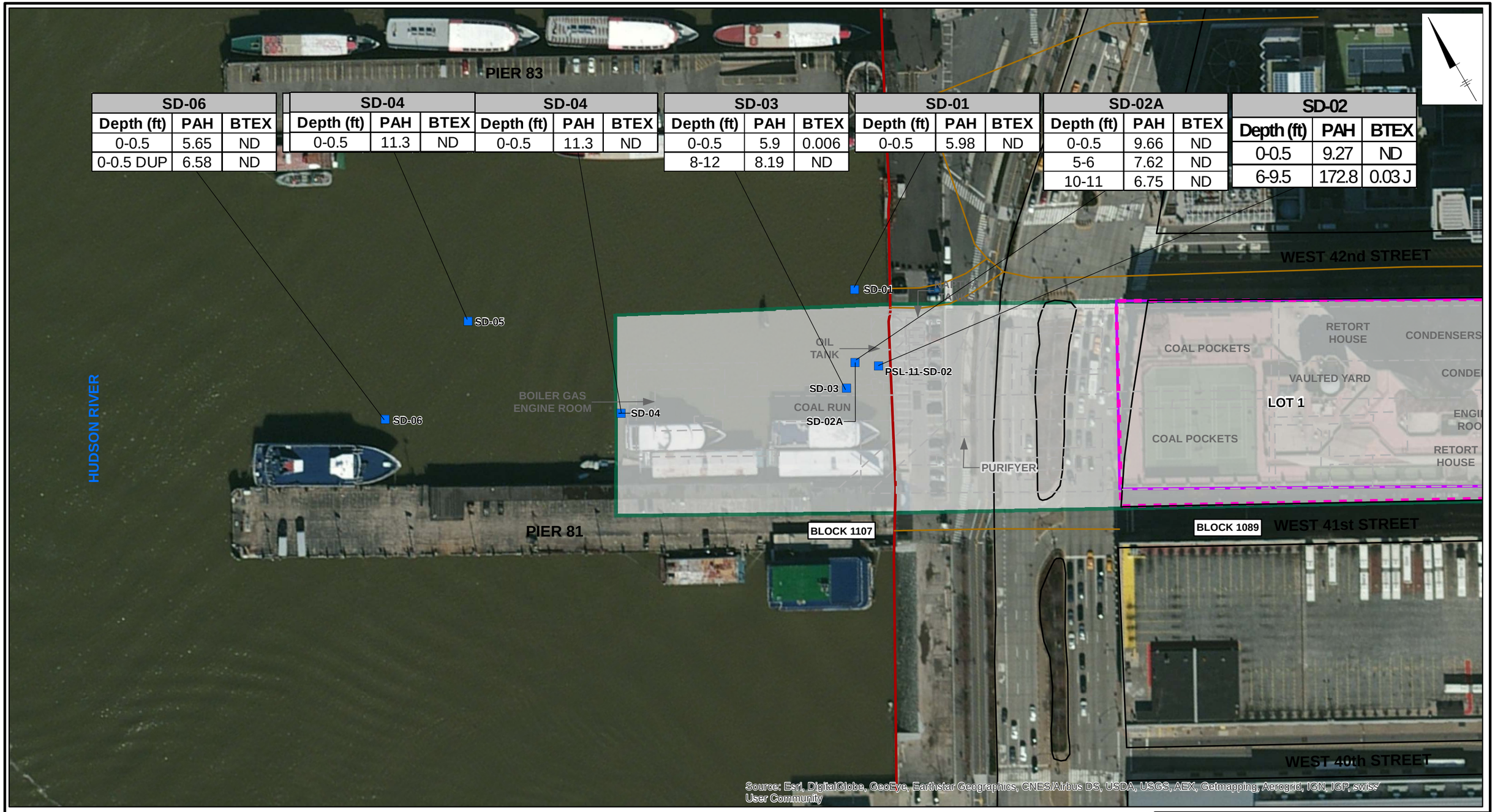
SD-04		
Depth (ft)	PAH	BTEX
0-0.5	11.3	ND

SD-03		
Depth (ft)	PAH	BTEX
0-0.5	5.9	0.006
8-12	8.19	ND

SD-01		
Depth (ft)	PAH	BTEX
0-0.5	5.98	ND

SD-02A		
Depth (ft)	PAH	BTEX
0-0.5	9.66	ND
5-6	7.62	ND
10-11	6.75	ND

SD-02		
Depth (ft)	PAH	BTEX
0-0.5	9.27	ND
6-9.5	172.8	0.03 J



LEGEND:

- SEDIMENT CORE LOCATION
- HISTORIC STRUCTURE
- BULKHEAD
- COMBINED SEWER OVERFLOWS (CSOs)
- SITE BOUNDARY
- RIVER PLACE I FOOTPRINT
- APPROXIMATE TAX LOT BOUNDARY

0 100 200 Feet

GRAPHIC SCALE

NOTES:

1. SEPTEMBER 2009 AERIAL IMAGERY OBTAINED FROM DIGITAL GLOBE.
2. HISTORIC STRUCTURES PROVIDED BY DVIRKA AND BARTILUCCI ENGINEERING (D & B). THE LOCATIONS OF ALL STRUCTURES ARE APPROXIMATE.
3. 2015 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
4. SEDIMENT CORES WERE COLLECTED BY ARCADIS IN FEBRUARY 2008.
5. PAH IS THE SUM OF THE 17 TCL PAHS.
6. BTEX IS THE SUM OF BENZENE, TOLUENE, ETHYLBENZENE AND TOTAL XYLENES.
7. DATA QUALIFIERS:
   J: THE ANALYTE WAS POSITIVELY IDENTIFIED; HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
   D: THE REPORTED CONCENTRATION IS BASED ON A DILUTED SAMPLE ANALYSIS.
8. ND – NOT DETECTED

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42nd STREET MGP

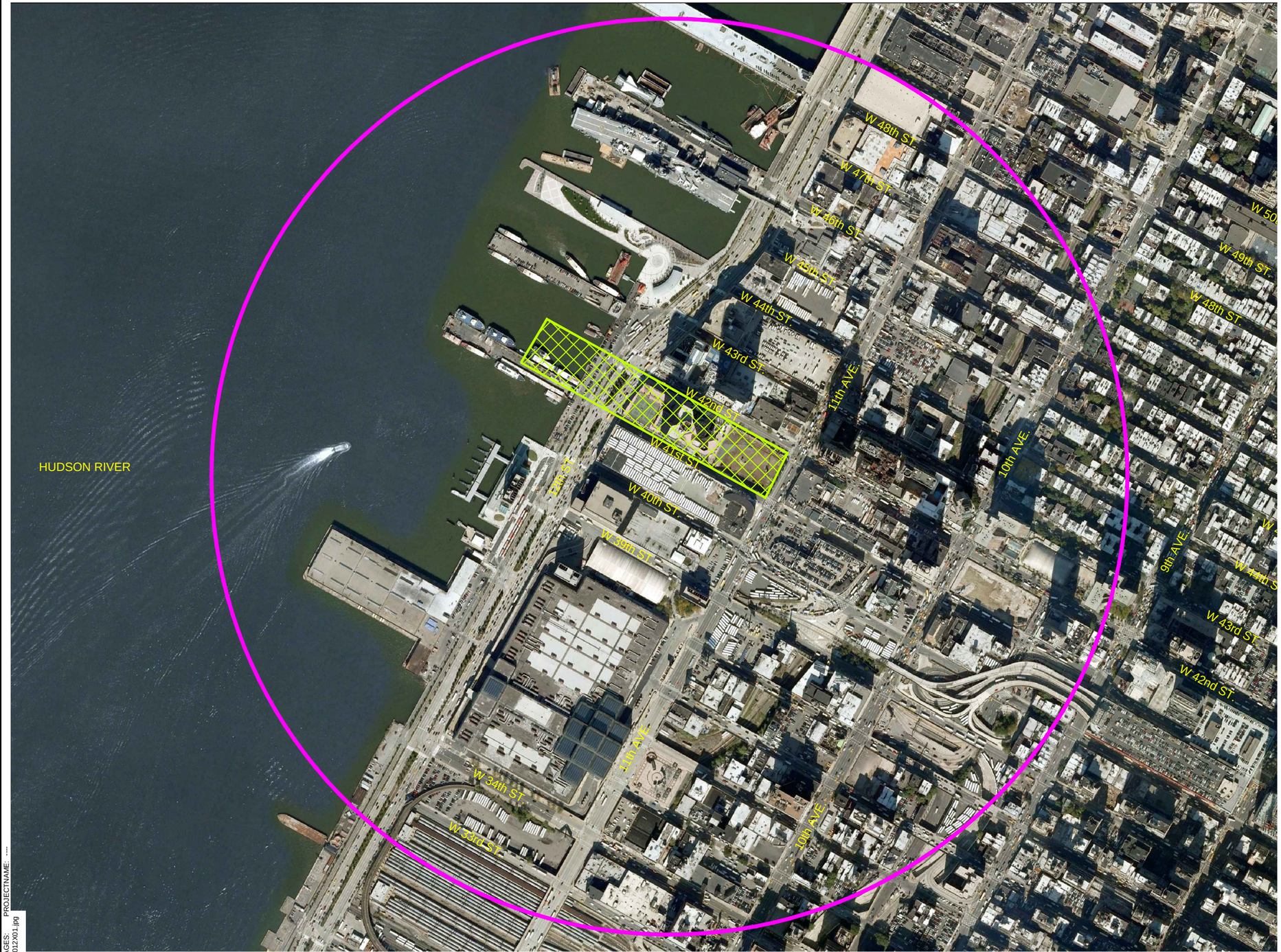
REMEDIAL INVESTIGATION REPORT

OCCURRENCE OF TOTAL BTEX AND TOTAL PAH IN SEDIMENT

ARCADIS Design & Consultancy for natural and built assets

FIGURE 6-9

CITY:SYR_DIV: IM/DV DB: JAYME RAPP
Con Ed (60043036)
Q:\ConEdW42ndStRI_Report_Rev2016\mxd\Occurance_BTEX_PAH_sediment.mxd 6/15/2016 11:46:47 PM



AREA LOCATION

LEGEND:

SITE LOCATION

½ MILE RADIUS

NOTE:

1. AERIAL IMAGE PROVIDED BY GOOGLE EARTH PRO ON JUNE 18, 2010.

0 600' 1200'

GRAPHIC SCALE

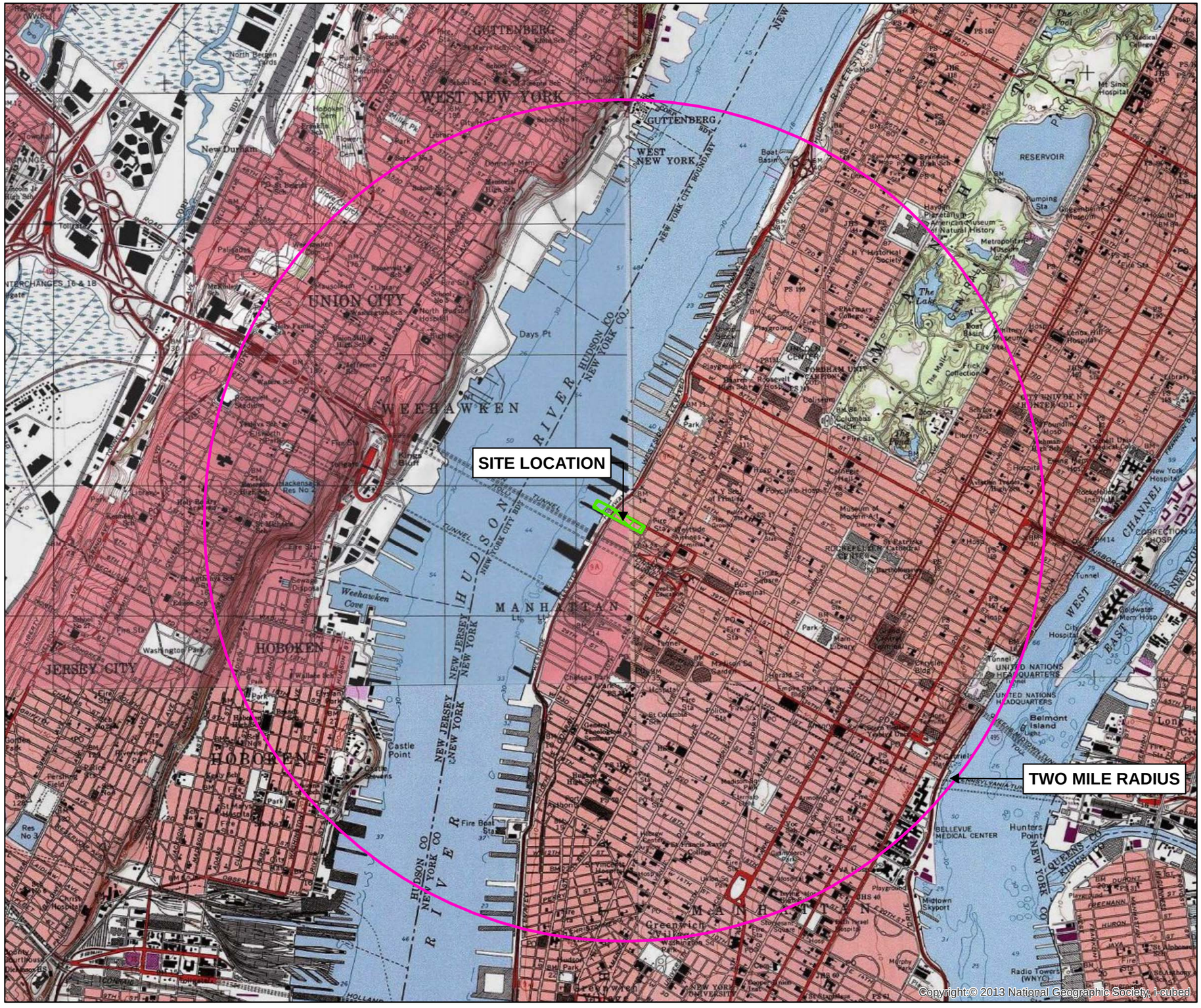
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42nd STREET MGP

REMEDIAL INVESTIGATION REPORT

COVERTYPE MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
6-10



LEGEND:

- SITE LOCATION
- TWO MILE RADIUS

NOTES:

1. THERE ARE NO NEW YORK STATE WETLANDS DATA IN THIS COUNTY (NEW YORK)
2. FRESHWATER WETLANDS DATA DOWNLOADED FROM THE CORNELL UNIVERSITY GEOSPATIAL INFORMATION REPOSITORY (CUGIR) AT: http://cugir.mannlib.cornell.edu
3. BASE MAP SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP IMAGES ENTITLED CENTRAL PARK, BROOKLYN, WEEHAWKEN, AND JERSEY CITY PROVIDED BY THE NEW YORK STATE GIS CLEARINGHOUSE.

0 2,500 5,000 Feet

GRAPHIC SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42nd STREET MGP

REMEDIAL INVESTIGATION REPORT

NEW YORK STATE FRESHWATER WETLANDS MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE 6-11

CITY:SYR DIV: IM/DV DB: JAYME RAPP
Con Ed (B0043036)
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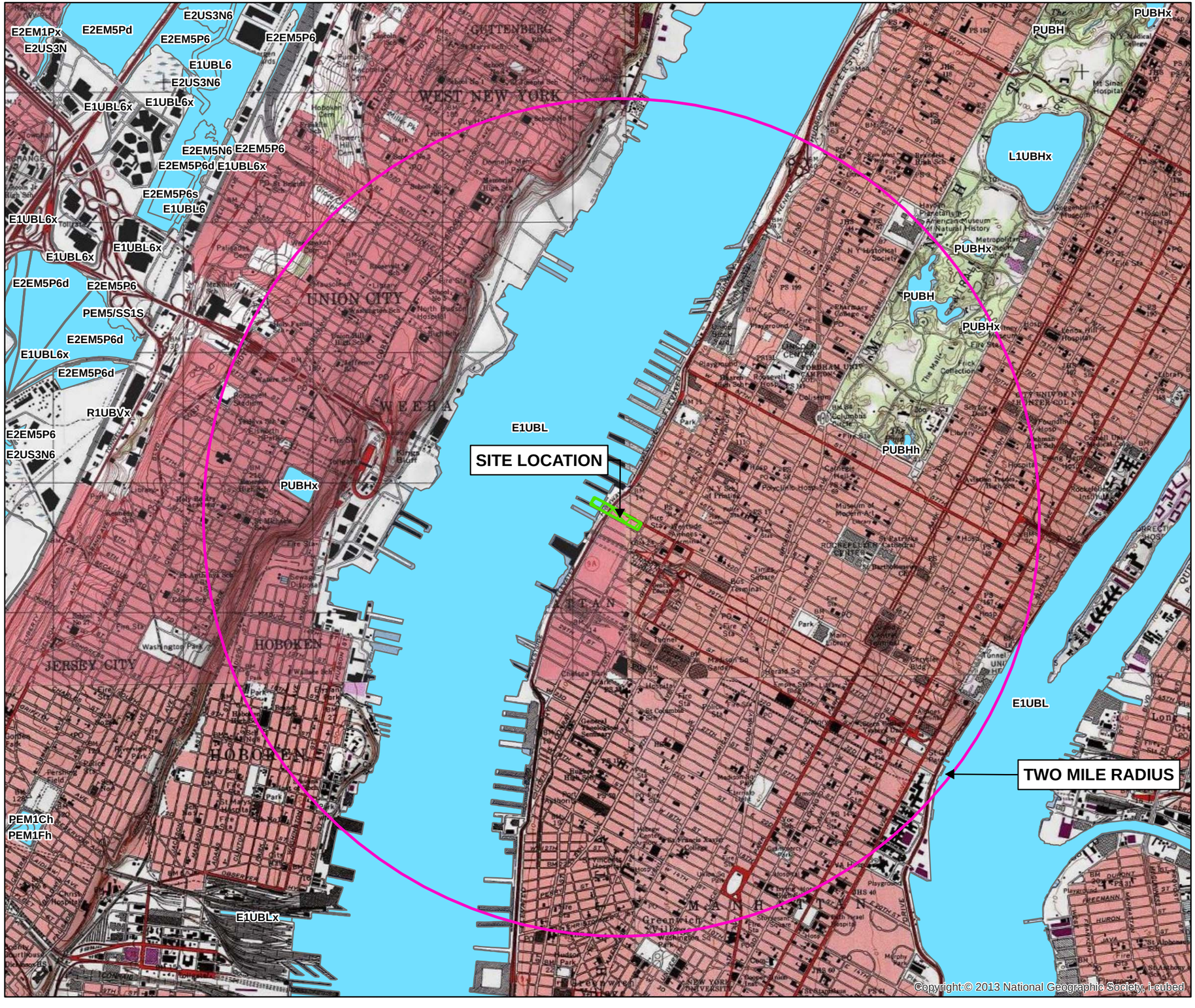

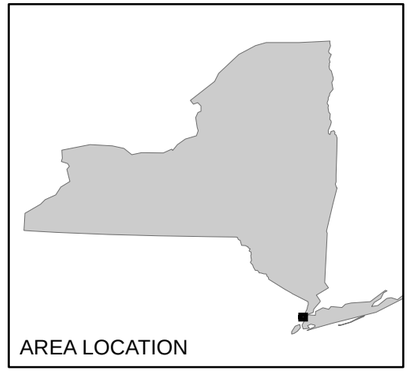

LEGEND:

- SITE LOCATION
- TWO MILE RADIUS
- FRESHWATER WETLAND

NOTES:

1. THE NATIONAL WETLANDS INVENTORY WETLAND DATA LAYER WAS OBTAINED FROM THE U.S. FISH AND WILDLIFE SERVICE AT: http://www.fws.gov/
2. BASE MAP SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP IMAGES ENTITLED CENTRAL PARK, BROOKLYN, WEEHAWKEN, AND JERSEY CITY PROVIDED BY THE NEW YORK STATE GIS CLEARINGHOUSE.

0 2,500 5,000 Feet

GRAPHIC SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER WEST 42nd STREET MGP

REMEDIAL INVESTIGATION REPORT

NATIONAL WETLANDS INVENTORY MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE **6-12**

CITY:SYR DIV: IM/DV DB: JAYME RAPP
Con Ed (B0043036)
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ARCADIS of New York, Inc.

655 Third Avenue

12th Floor

New York, New York 10017

www.arcadis.com

APPENDIX B

Soil Boring/Monitoring Well Construction Logs/Photograph Log

Dvirka and Bartilucci
CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-09

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 09/05/03 - 09/05/03

Total Depth: 35.00'

Elevation: 9.55'

Datum: Mean Sea Level

Logged By: K. Panella

Drilling Method: Hand Auger from 0-5' HSA from 5-35'

Contractor: Jersey Boring

Borehole Dia.: 6.25in

Remarks: Samples selected for analysis at 11-15' and 31-33.5'.
WH:Weight of Hammer
HSA:Hollow Stem Auger

Depth (ft)	Recovery	Sample Interval	PID	Blow Count (Per 6")	Graphic Log	Material Description
		0-5'				0.75' reinforced concrete FILL, topsoil, brick, concrete
5		5-7'	0.0 ppm	8 6 4 4 7 6 5 3		Brown, medium SAND, some mica fragments, loose, dry
		7-9'	8.3 ppm			Dark brown-black, medium SAND, some mica fragments, slight hydrocarbon-like odor, dense, moist
		9-11'	1.3 ppm	4 2 1 1 3 1 2 4		Black, silty fine SAND, slight hydrocarbon-like odor, dense, moist
10		11-13'	3.5 ppm	12 11 4 3		Gray, silty fine SAND, slight hydrocarbon-like odor, dense, moist
		13-15'	2.2 ppm			Black, silty fine SAND from 13-13.5', mica fragments from 13.5-14', slight hydrocarbon-like odor, dense, wet
15		15-17'	1.6 ppm	1 2 18 23		Black, silty fine SAND, slight hydrocarbon-like odor, dense, wet
		17-19'	1.5 ppm	3 14 20 6		Same as above
		19-21'	2.5 ppm	3 2 4 3 WH		Black-gray, CLAY, trace seashells, slight hydrocarbon-like odor, dense, wet
20		21-23'	5.2 ppm	1 1 WH		Black-gray, CLAY, dense, wet
		23-25'	2.5 ppm			Gray, CLAY, trace seashells, trace wood, dense, moist
25		25-27'	0.5 ppm	WH 2 2 2 WH		Same as above
		27-29'	0.6 ppm	WH 1 1 WH		Same as above, some seashells
		29-31'	4.7 ppm	WH		Gray, silty CLAY, slight hydrocarbon-like odor, dense, wet

Location: West 42nd Street	Site Id: SB-09
Purpose: Soil Boring	Total Depth: 35.00'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 6.25in

Depth (ft)	Recovery	Sample Interval	PID	Blow Count (Per 6")	Graphic Log	Material Description
		31-33'	23.4 ppm	2 2 3 3 3 2		Gray, silty fine SAND, slight hydrocarbon-like odor, dense, wet
		33-35'	0.5 ppm			Same as above (bedrock at 33.5')
35						Base of boring - 33.5 ft.
40						
45						
50						
55						
60						
65						

Dvirka and Bartilucci
CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-20

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 10/02/03 - 10/02/03

Total Depth: 31.80'

Elevation: 7.88'

Datum: Mean Sea Level

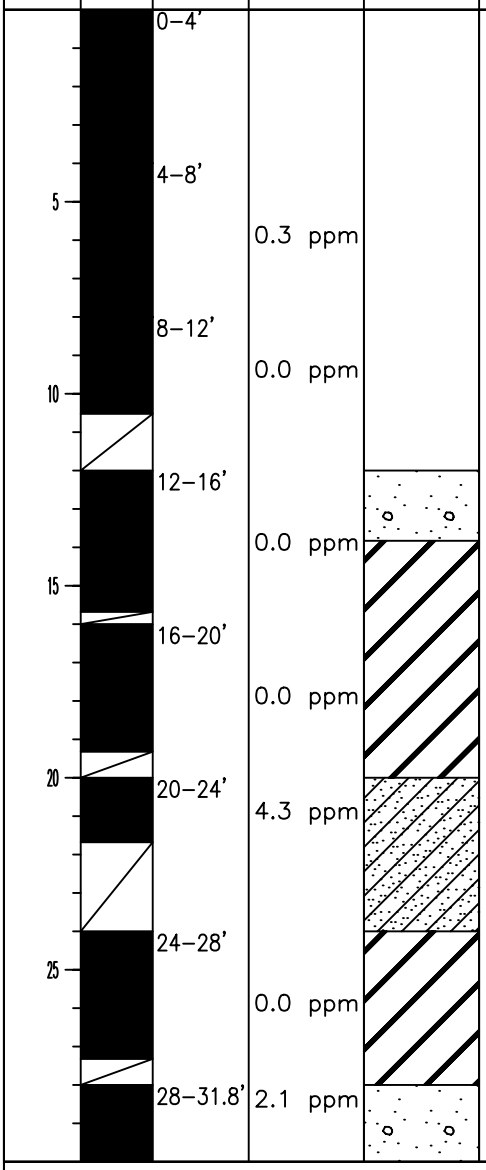
Logged By: C. Scharkopf

Drilling Method: HA from 0-5' GP from 4-31.8'

Contractor: Jersey Boring

Borehole Dia.: 2.00in

Remarks: Samples selected for analysis at 12-16' and 16-20'.
WH:Weight of Hammer
HA:Hand Auger
GP:Geoprobe



Material Description

1' concrete
FILL, topsoil, brick, concrete

Light brown, medium-fine sandy FILL, some bricks and concrete, trace mica schist fragments, dry

Same as above, trace black staining in tip of split spoon

Gray, coarse SAND from 12-13.8', some seashells, trace NAPL blebs, slight sheen, dense, wet, to gray, CLAY, some seashells, trace silt and organic material, wet

Gray-black, CLAY, trace seashells, trace organic material, dense, wet

Gray, fine sandy CLAY, trace seashells, trace organic material, loose, wet

Gray, silty CLAY, trace seashells, slight sheen, wet

Gray, coarse SAND, some gravel, some seashells, wet

Location: West 42nd Street	Site Id: SB-20
Purpose: Soil Boring	Total Depth: 31.80'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 2.00in

Depth (ft)	Recovery	Sample Interval	PID	Graphic Log	Material Description
					Gray, coarse SAND, some gravel, some seashells, wet (bedrock at 31.8')
					Base of boring – 31.8 ft.

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-21

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 09/30/03 - 09/30/03

Total Depth: 38.80'

Elevation: 7.14'

Datum: Mean Sea Level

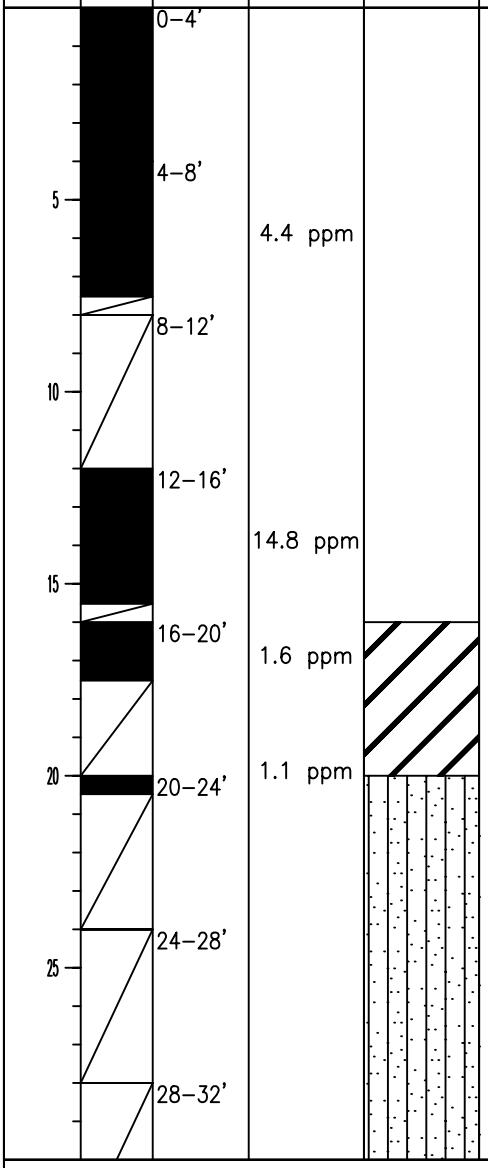
Logged By: C. Scharkopf

Drilling Method: HA from 0-5' GP from 4-38.8'

Contractor: Jersey Boring

Borehole Dia.: 2.00in

Remarks: Samples selected for analysis at 12-16' and 36-38.8'.
WH:Weight of Hammer
HA:Hand Auger
GP:Geoprobe



Material Description

1' concrete
FILL, topsoil, brick, concrete

Brown, FILL, some fine-coarse sand and topsoil, some brick fragments and concrete, some wood chips, very slight hydrocarbon-like odor, dense, moist

No recovery

Brown, silty FILL w/fine-coarse sand, some fine-coarse gravel, some wood chips, some organic material, slight sheen, slight hydrocarbon-like odor, dense, wet

Brown-dark brown, silty CLAY, some organic material, slight sheen from 16-16.3', medium dense, wet

Brown, silty fine-coarse SAND, some organic material, slight sheen, very slight hydrocarbon-like odor, medium dense, wet

No recovery

No recovery

Location: West 42nd Street	Site Id: SB-21
Purpose: Soil Boring	Total Depth: 38.80'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 2.00in

Depth (ft)	Recovery	Sample Interval	PID	Graphic Log	Material Description
35		32-36'	1.1 ppm		Dark gray, silty CLAY w/some fine-coarse sand and gravel, some intermittant brown staining throughout, sheen, very slight hydrocarbon-like odor, dense, wet
		36-38.8'	1.5 ppm		Same as above, seashell fragments, mica schist in tip of split spoon (bedrock at 38.8')
					Base of boring - 38.8 ft.
40					
45					
50					
55					
60					
65					

Dvirka and Bartilucci
CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-22

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 09/29/03 - 09/29/03

Total Depth: 52.00'

Elevation: 4.67'

Datum: Mean Sea Level

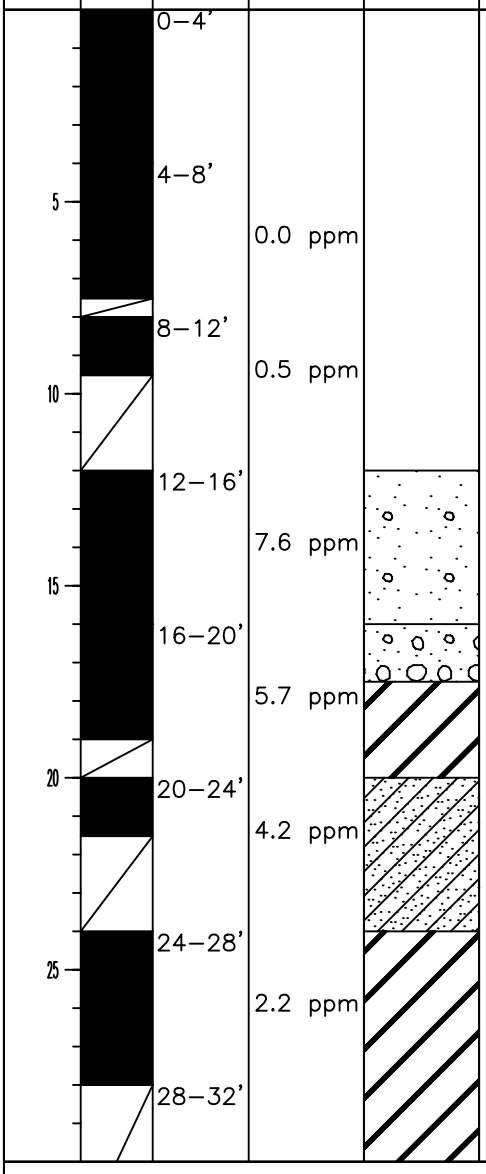
Logged By: A. Caniano

Drilling Method: Hand Auger from 0-4' GP from 4-52'

Contractor: Jersey Boring

Borehole Dia.: 2.00in

Remarks: Samples selected for analysis at 12-16' and 36-44'. Moved from its original proposed location to within the loading dock area in River Place I.
WH:Weight of Hammer
GP:Geoprobe



Material Description

0.75' concrete
FILL, topsoil, brick, concrete

Dark brown, medium-coarse sandy FILL, some gravel, chunks of concrete, red brick fragments and some coal at 4.5', wood fragments at 4.75', loose, moist

Dark brown, fine sandy FILL, some silt, red brick at 8.7', sheen, slight naphthalene-like odor, medium dense, wet

Brown, medium-coarse SAND w/some gravel, black staining from 12.5-16', sheen, strong naphthalene-like odor, loose, wet

Black, coarse SAND and GRAVEL, heavy staining, sheen - strong on gravel, strong naphthalene-like odor, loose, wet

Black, CLAY w/silt, staining, sheen, strong naphthalene-like odor, medium dense, wet

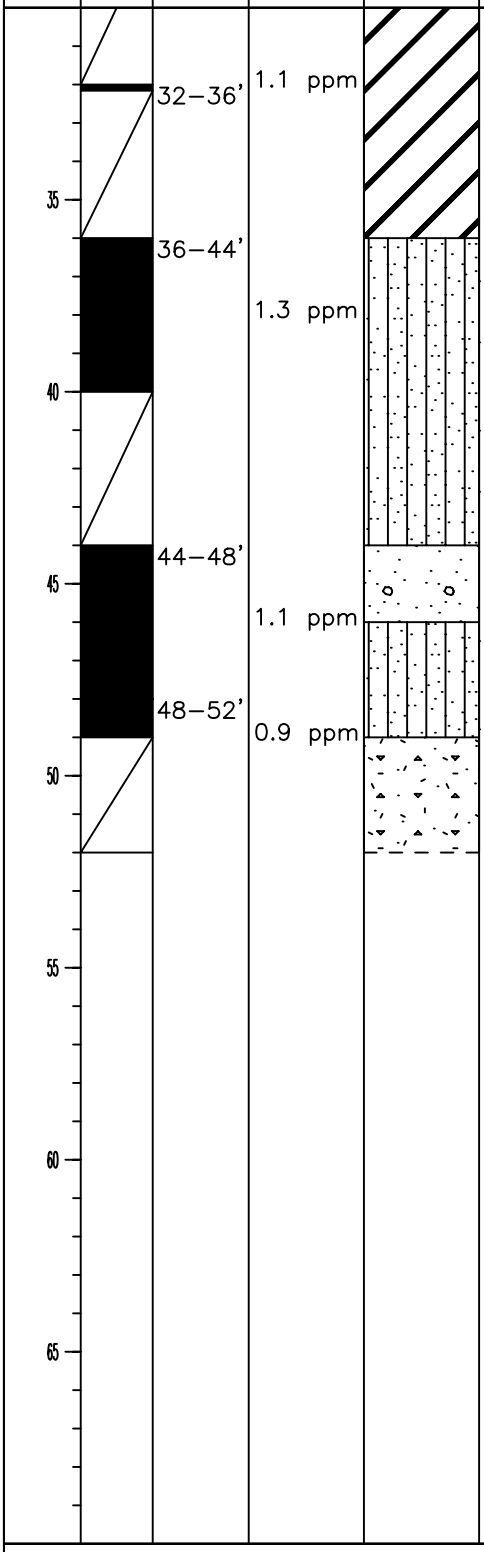
Black, CLAY, some sand, gravel and wood, heavy staining, sheen - strong on gravel, naphthalene-like odor, medium dense, wet

Black, CLAY, staining, strong naphthalene-like odor, medium dense, wet

Gray, CLAY, naphthalene-like odor, medium dense, wet

No recovery

Location: West 42nd Street	Site Id: SB-22
Purpose: Soil Boring	Total Depth: 52.00'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 2.00in



Sample Interval	PID	Material Description
32–36'	1.1 ppm	Gray/black, CLAY w/some silt, some shells, sheen on water, naphthalene–like odor, medium dense, wet
36–44'	1.3 ppm	Gray, medium–fine SAND, some silt and gravel, little clay near bottom, sheen on gravel, naphthalene–like odor – stronger near top, medium dense, wet (driller overpushed to improve recovery)
44–48'		Dark gray, coarse SAND w/gravel, sheen on gravel, naphthalene–like odor, loose, wet
	1.1 ppm	Gray, fine sandy SILT, slight naphthalene–like odor, dense, wet
48–52'	0.9 ppm	Gray, medium–coarse SAND, gravel, some silt, naphthalene–like odor, loose, wet (bedrock at 49')
		Base of boring – 49 ft.

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CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-23

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 09/30/03 - 09/30/03

Total Depth: 54.50'

Elevation: 3.04'

Datum: Mean Sea Level

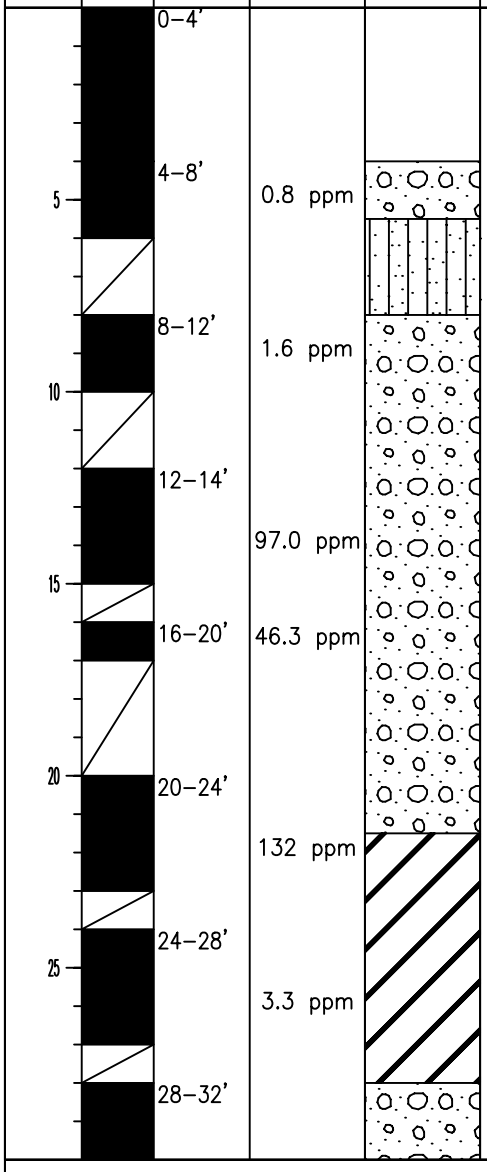
Logged By: C. Scharkopf

Drilling Method: HA from 0-5' GP from 4-54.5'

Contractor: Jersey Boring

Borehole Dia.: 2.00in

Remarks: Samples selected for analysis at 20-24' and 52-54.4'.
HA:Hand Auger
GP:Geoprobe



Material Description

1' concrete
FILL, topsoil, brick, concrete

Brown-dark brown-gray, fine-coarse SAND and GRAVEL, some silty sand and gravel from 5.5-6', loose, moist-wet

Dark brown, medium-coarse silty GRAVEL, some fine-coarse sand, very slight hydrocarbon-like odor, loose, wet

Brown, coarse GRAVEL, to black, coarse GRAVEL from 14.5-15', heavily stained/saturated w/tar, sheen, strong hydrocarbon-like odor, loose, wet

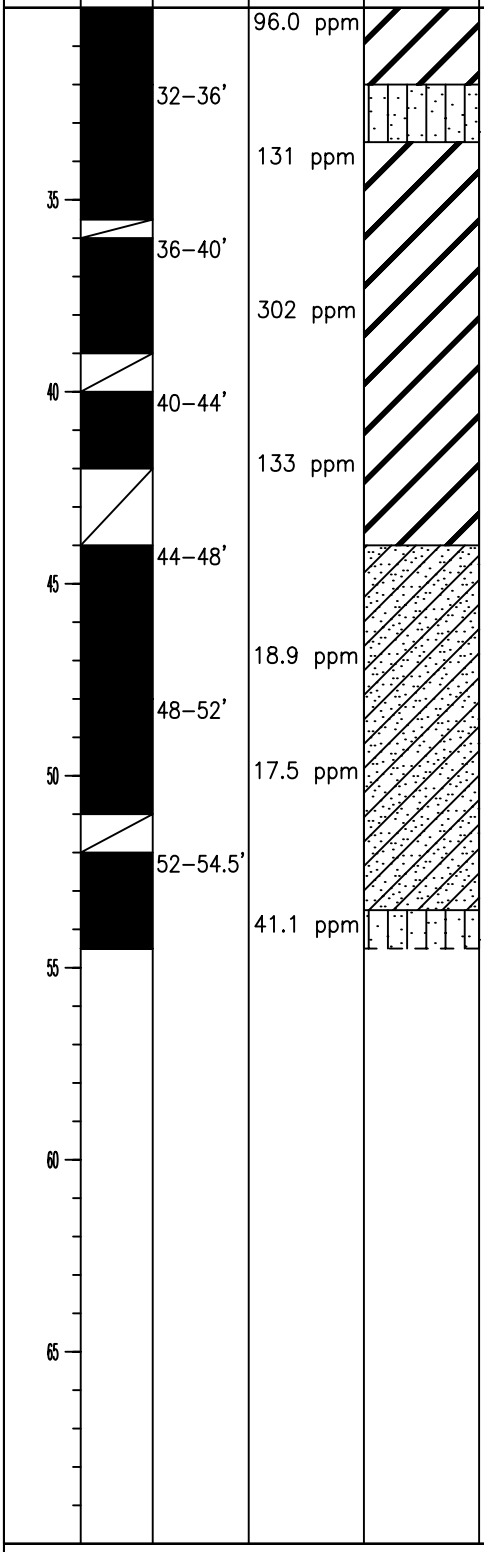
Brown-black, medium-coarse GRAVEL, some coarse sand, strong hydrocarbon-like odor, loose, wet

Black, coarse SAND and GRAVEL, little silt, heavily stained/saturated with tar, sheen, strong fuel oil-like odor, loose, wet, to black, CLAY from 21.5-23', some gravel, fuel oil-like odor, medium dense, wet

Black, CLAY, trace gravel, sheen, slight hydrocarbon-like odor, medium dense, wet

Black, med-coarse SAND and GRAVEL, little silt, sheen, hydrocarbon-like odor, wet

Location: West 42nd Street	Site Id: SB-23
Purpose: Soil Boring	Total Depth: 54.50'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 2.00in



PID	Material Description
96.0 ppm	Black, CLAY, seashells, slight hydrocarbon-like odor, dense, wet
	Black-dark gray, silty fine-coarse SAND, trace fine-medium gravel from 32-33'
131 ppm	Gray, CLAY, sheen, strong hydrocarbon-like odor, medium dense, wet
	Dark gray-gray, silty CLAY, some wood, slight sheen, strong hydrocarbon-like odor, soft-medium dense, wet
302 ppm	
	Dark brown, silty CLAY w/fine-coarse gravel, little fine-coarse sand, sheen, strong hydrocarbon-like odor, soft, wet
133 ppm	
	Dark gray, CLAY w/some fine sand, trace fine-coarse gravel, some seashells, slight hydrocarbon-like odor from 44-44.3', strong organic (H2S-like) odor from 44.3-48', soft-medium dense, moist-wet
18.9 ppm	
	Dark gray, silty CLAY w/some fine-coarse sand, some seashells, slight hydrocarbon-like odor to organic (H2S-like) odor, soft, wet
17.5 ppm	
	Dk gr-br, silty CLAY w/f-c SAND from 52-53.5', silty f-c SAND from 53.5-54.5', trace mica schist, sheen and mod hydrocarbon-like odor from 52-53.5', loose-med dense, wet (bedrock at 54.5')
41.1 ppm	
	Base of boring - 54.5 ft.

Dvirka and Bartilucci
CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-24

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 09/30/03 - 10/03/03

Total Depth: 38.00'

Elevation: 3.04'

Datum: Mean Sea Level

Logged By: C. Scharkopf

Drilling Method: HA 0-5' GP 4-8' HSA 8-11' MR 11-38'

Contractor: Jersey Boring

Borehole Dia.: 4.25in

Remarks: Samples selected for analysis at 30-32', 34-36' and 36-38'. Utilized Mud Rotery from 11-38' due to multiple refusals while drilling 0-11'.
HA:Hand Auger GP:Geoprobe
HSA:Hollow Stem Auger MR:Mud Rotary

Depth (ft)	Recovery	Sample Interval	PID	Blow Count (Per 6")	Graphic Log	Material Description
		0-4'				1' concrete FILL, topsoil, brick, concrete
5		4-8'	0.6 ppm			Brown, coarse sandy FILL w/gravel, coal layer from 4.7-5', gray-brown, silty clay from 5-5.5', white/gray rock fragments from 5.5-6', loose-medium dense, moist
						No recovery (boulder from 8-9')
10		9-11'	1.0 ppm	16 12 12 5		Dark brown, silty FILL, some wood shavings, trace cobble, very slight naphthalene-like odor, medium dense, wet
						No recovery (boulder from 11-12')
		12-14'	0.3 ppm	90 >50		Dark brown, silty FILL, some wood, some metal shavings from 12-12.2', medium dense, wet
15		14-16'	0.3 ppm	9 11 14 12		Dark brown-reddish brown, silty FILL, trace fine-coarse sand, some wood, some brick fragments, medium dense, wet
		16-18'	0.3 ppm	5 6 5 6		Same as above, trace clay and cobble
		18-20'	0.0 ppm	15 >100		Reddish brown, silty CLAY, trace cobble, cobble in tip of spoon, medium dense, wet
20		20-22'	0.0 ppm	5 6 16 18		Reddish brown-gray, silty GRAVEL, cobble, trace clay, trace fine-med sand, medium dense, wet
						No recovery (boulder from 22-24')
		24-26'	0.0 ppm	2 2 5 11		Dark brown, SILT, trace cobble, trace wood, medium dense, wet
25		26-28'	0.0 ppm	4 6 10 4		Brown, silty SAND, some coarse gravel, trace clay and cobble, medium dense, wet
						No recovery (boulder from 27-29')
		29-30'	6.0 ppm	>100		Dark brown, silty f-c GRAVEL, metal shavings, naph.-like odor, wet

Location: West 42nd Street	Site Id: SB-24
Purpose: Soil Boring	Total Depth: 38.00'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 4.25in

Depth (ft)	Recovery	Sample Interval	PID	Blow Count (Per 6")	Graphic Log	Material Description
30		30-32'	68.6 ppm	27 75 >100		Hard material from 29.5-30', to bk, GRAVEL, some cobble, some wood, tar/NAPL saturated throughout, v strong naph.-like odor, wet
		32-34'	136 ppm	45 40 35 >100		Gray, CLAY, some wood, some metal shavings, tar/NAPL saturated-stained throughout, strong naph.-like odor, sheen, m dense, wet
35		34-36'	27.5 ppm	4 5 5 5		Gray, CLAY, some wood, tar/NAPL stained-saturated from 34-34.3', sheen, strong napthalene-like odor, dense, wet
		36-38'	111 ppm	1		Black, CLAY, tar/NAPL, very strong naphthalene-like odor, sheen, wet
						Base of boring - 38 ft.
40						
45						
50						
55						
60						
65						

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-25

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 10/01/03 - 10/01/03

Total Depth: 40.00'

Elevation: 6.18'

Datum: Mean Sea Level

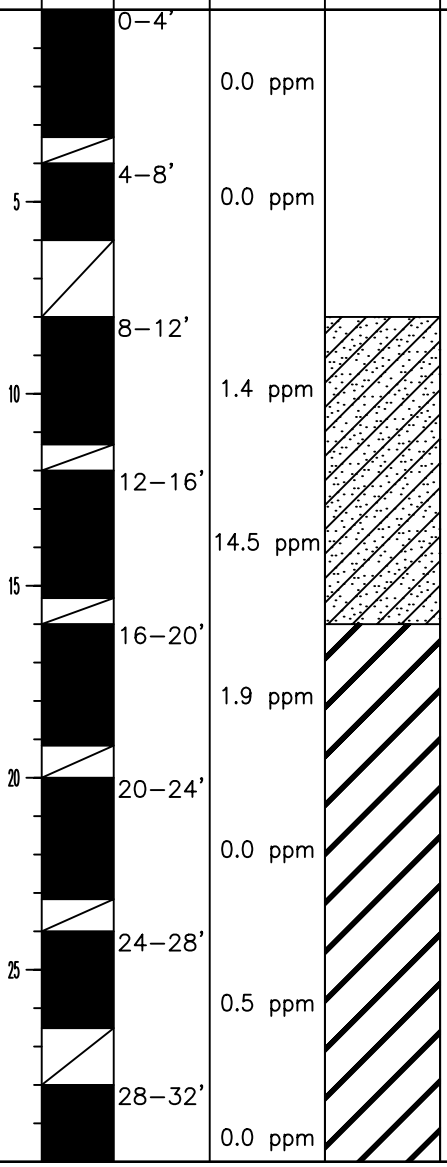
Logged By: K. Panella

Drilling Method: HA from 0-5' GP from 5-38'

Contractor: Jersey Boring

Borehole Dia.: 2.00in

Remarks: Samples selected for analysis at 12-16' and 24-28'.
WH:Weight of Hammer
HA:Hand Auger
GP:Geoprobe



Material Description
Black-brown TOPSOIL and coarse sandy FILL, trace crushed yellow brick, moist
Brown, medium-coarse sandy FILL, some silt, trace crushed yellow brick
Black, coarse SAND, some silty clay, loose, wet
Black, medium-coarse SAND, some silty clay, sheen, slight naphthalene-like and hydrocarbon-like odor
Black, silty CLAY, dense, wet
Gray, CLAY, trace silt, dense, wet
Same as above, trace shells
Same as above

Location: West 42nd Street	Site Id: SB-25
Purpose: Soil Boring	Total Depth: 40.00'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 2.00in

Depth (ft)	Recovery	Sample Interval	PID	Graphic Log	Material Description
					Gray, CLAY, trace silt and shells, dense, wet
					Same as above
		32-36'			
			0.0 ppm		Gray, fine-med SAND, trace mica schist at tip, loose, wet
35					
		36-40'			Light brown, fine SAND, crushed mica schist at tip, dense, wet
			0.0 ppm		(bedrock at 37.8')
					Base of boring - 37.8 ft.
40					
45					
50					
55					
60					
65					

Dvirka and Bartilucci
CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-26

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 09/29/03 - 10/06/03

Total Depth: 28.50'

Elevation: 7.09'

Datum: Mean Sea Level

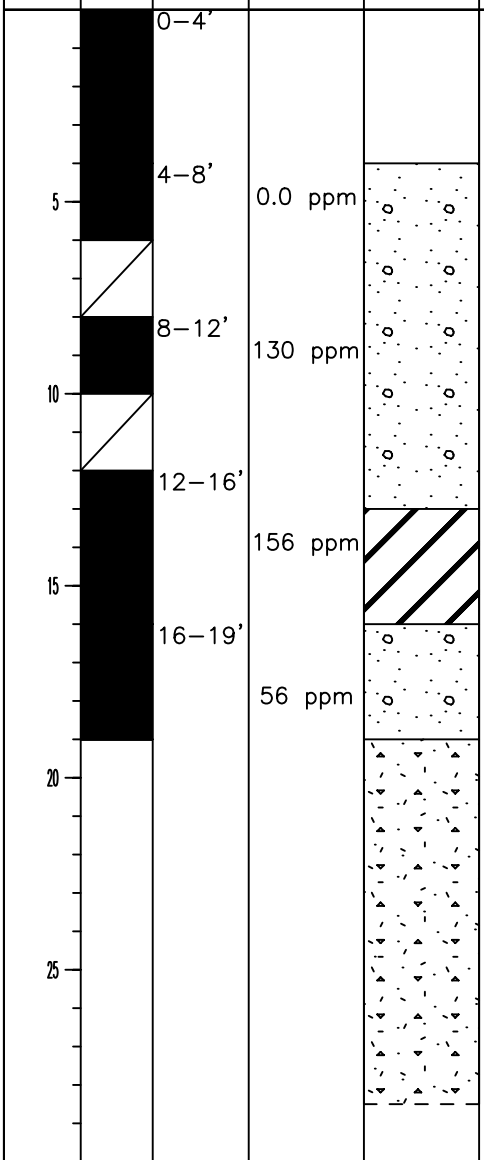
Logged By: K. Panella

Drilling Method: HA from 0-5' GP from 4-19' RC 19-29'

Contractor: Jersey Boring

Borehole Dia.: 2.00in

Remarks: Samples selected for analysis at 9-13', 16-19'. Moved 4' north of original proposed location.
HA:Hand Auger GP:Geoprobe
RC:NX Rock Core



Material Description

Black-brown TOPSOIL and coarse sandy FILL, trace crushed yellow brick, moist

Light brown, medium-coarse SAND, trace mica schist fragments, loose, moist

Same as above

Black, coarse SAND, some rock fragments, sheen, moderate-strong naphthalene and hydrocarbon-like odors, loose, wet

Same as above

Black, silty CLAY, strong naphthalene-like odor, dense, wet

Black, coarse SAND, sheen, strong naphthalene and hydrocarbon-like odors, loose, wet

Brown, fine-medium SAND, loose, wet

(bedrock at 19')

Quartz w/trace mica in rock core

Same as above

Same as above

Base of boring - 28.5 ft.

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-30

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 02/19/05 - 02/20/05

Total Depth: 54.00'

Elevation: 2.03'

Datum: Mean Sea Level

Logged By: AC/KP

Drilling Method: Vacuum from 0-6', HSA from 6-54'

Contractor: ADT

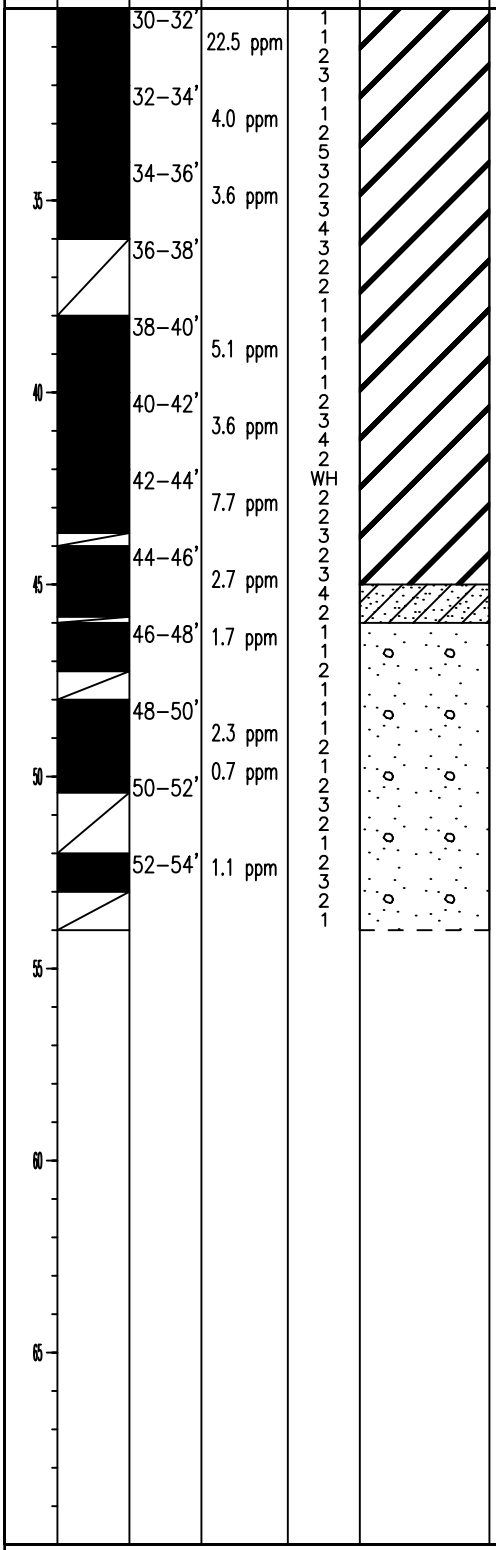
Borehole Dia.: 4.25in

Remarks: Samples selected for analysis at 10-14' and 34-36'.
WH:Weight of Hammer
HSA:Hollow Stem Auger

DRAFT

Depth (ft)	Recovery	Sample Interval	PID	Blow Count (Per 6")	Graphic Log	Material Description
5		0-6'	0.5 ppm 0.6 ppm 0.7 ppm 0.6 ppm 0.7 ppm 0.6 ppm	4 6 3		1' of asphalt/concrete to dk brown, sandy FILL, some gravel, concrete, dry Lt brown-tan, fine-med sandy FILL, some fine gravel, brick, concrete, dry Tan, fine sandy FILL, little fine-medium gravel, few rocks, moist
		6-8'	1.2 ppm	2 6		Tan-black, fine-med sandy FILL, some fine-medium gravel, wood, moist Dk brown-black, medium sandy FILL, some gravel and mica, wood, moist-wet
		8-10'	1.1 ppm	39 4		Gray-black, FILL, wood, some gravel, few rocks, wet
10		10-12'	1414 ppm	3 3		Black, FILL, black stained wood, sheen, moderate hydrocarbon-like odor, wet
		12-14'	65.8 ppm	7 13 4		Black, FILL, black stained wood, organic matter, gravel, sheen, moderate naphthalene-like odor, wet
		14-16'	49 ppm	9 12 11		Black, coarse gravelly FILL, some black stained wood, some black medium-coarse sand, sheen, moderate-strong naphthalene-like odor, wet
15		16-18'	92 ppm	10 3 9		Black, gravelly FILL, black stained wood, organic matter, trace black med-coarse sand, sheen, mod-strong naphthalene-like odor, wet
		18-20'		13 16 13		No recovery, wood in tip of split spoon
20		20-22'	24.1 ppm	16 27 50/4		FILL, wood, organic material, staining, sheen, mod-strong naphthalene-like odor, wet, to gray-black, CLAY, medium dense, wet
		22-24'	26.3 ppm	7 9 12		Gray-black, CLAY, light staining, slight naphthalene-like odor, medium dense, wet
		24-26'	54.6 ppm	10 9 7		Same as above
25		26-28'	7.2 ppm	4 2 3		Gray-black, CLAY, trace sand, trace organic matter, slight staining, slight naphthalene-like odor, loose, wet
		28-30'	31.6 ppm	2 2 2		Gray, CLAY, trace silt, trace shells, trace mica, slight naphthalene-like odor, medium dense, wet
				1 1 2 2 2 2 1 1 1 1 1 2		

Location: West 42nd Street	Site Id: SB-30
Purpose: Soil Boring	Total Depth: 54.00'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 4.25in



Material Description
Gray, CLAY, trace shells, dense, wet
Gray, CLAY, trace shells, very dense, wet
Same as above, some shells
No recovery
Gray, CLAY, trace shells, very dense, wet
Gray, CLAY, trace silty sand, some shells, trace wood, dense, wet
Same as above
Same as above
Dk brown-black, medium SAND, some silty clay, loose, wet
Dk brown-black, medium SAND, trace shells, loose, wet
Same as above
Dark brown-gray, medium-coarse SAND, some fine-medium gravel, few shells, loose, wet
Same as above (bedrock at 54')
Base of boring - 54 ft.

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-31

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 03/05/05 - 03/06/05

Total Depth: 51.00'

Elevation: 2.20'

Datum: Mean Sea Level

Logged By: AC/KP

Drilling Method: Vacuum from 0-5', HSA from 5-51'

Contractor: ADT

Borehole Dia.: 4.25in

Remarks: Sample selected for analysis at 7-11'.
WH:Weight of Hammer
HSA:Hollow Stem Auger

DRAFT

Depth (ft)	Recovery	Sample Interval	PID	Blow Count (Per 6")	Graphic Log	Material Description
		0-5'	0.0 ppm			1.5' of asphalt/concrete to brown, sandy FILL, construction debris, dry
			0.0 ppm			Brown, coarse gravelly FILL, trace sand, trace construction debris, dry
			0.5 ppm			Dark brown, medium-coarse sandy FILL, coarse gravel, loose, dry
			0.5 ppm			
			0.3 ppm			
5		5-7'	0.2 ppm	5		Dark brown-gray, coarse sandy FILL, micaceous, some gravel, loose, moist
				3		
				8		
		7-9'	0.1 ppm	6		Dark brown-black, coarse sandy FILL, some mica, some gravel, loose, wet
				3		
				4		
				3		No recovery
		9-11'		3		
				1		
10				1		
				1/12		
		11-13'	0.2 ppm	1		Gray-black, medium-coarse sandy FILL, some gravel, some mica, some red brick, little wood, loose, wet
				1		
				1		
		13-15'	0.3 ppm	2		Black, medium-coarse sandy FILL, some gravel, organic material, rock in tip of split spoon
				3		
				4		
				50/1		
15		15-17'		1		Black, medium sandy FILL, some gravel, silt, little clay, red brick, concrete in tip of split spoon, loose, wet
			0.4 ppm	2		
				2		
				1		
		17-19'	1.0 ppm	1		Bk, CLAY, some silt, little sand, slight hydrocarbon-like odor, med dense to black, med SAND, some gravel, silt, little clay, loose, wet
				1		
				1		
				1		
		19-21'	0.5 ppm	1/24		Same as above to black, CLAY, loose, wet
20						
		21-23'		1/12		Gray, CLAY, dense, wet
			0.6 ppm	1/12		
		23-25'	0.7 ppm	WH		Same as above, wood in tip of split spoon, some mica, few shells
				WH		
				WH		
				10/6		
25		25-27'	0.5 ppm	10		6" of wood, wet
				12		
				50/1		
		27-29'	0.6 ppm	1		Gray, CLAY, some silt, some shells, medium dense, wet
				WH		
				1		
		29-31'	1.8 ppm	1		Gray, CLAY, trace silt, slight hydrocarbon-like odor, soft, wet
				1		
				2		

Location: West 42nd Street	Site Id: SB-31
Purpose: Soil Boring	Total Depth: 51.00'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 4.25in

Depth (ft)	Recovery	Sample Interval	PID	Blow Count	Graphic Log	Material Description
		31-33'	0.9 ppm	2 1 WH WH WH		Gray, CLAY, little silt, trace shells, soft-medium dense, wet
		33-35'	0.9 ppm	2 1 1 1 1		Same as above
35		35-37'	0.9 ppm	WH WH 1 1		Gray, silty CLAY, some shells, slight organic (H2S-like) odor, soft, wet
		37-39'	2.1 ppm	WH WH WH WH		Gray, silty CLAY, strong organic (H2S-like) odor, dense, wet
		39-41'	1.6 ppm	WH WH WH WH		Same as above, 0.5" zone of peat at 40'
40		41-43'	1.7 ppm	WH WH 1 1 3		Same as above to gray, fine SAND, some silt, trace clay, some shells, organic (H2S-like) odor, loose, wet
		43-45'	0.9 ppm	WH 2 1 3		Gray, silty CLAY, some sand to gray, fine SAND, some silt, little clay slight-moderate organic (H2S-like) odor, wet
45		45-47'	1.0 ppm	1 2 2 2		Gray, medium-coarse SAND, little silt, some gravel, slight organic (H2S-like) odor, loose, wet to brown, fine-medium sandy SILT, trace mica, slight organic (H2S-like) odor, dense, wet
		47-49'	0.8 ppm	3 6 12 13		Brown, fine-medium sandy SILT, dense, wet
		49-51'	0.8 ppm	13 13 21 50/0		Weathered bedrock, white/gray rock pieces w/veins of quartz (bedrock at 51') Base of boring - 51 ft.
50						
55						
60						
65						

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-32

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 02/21/05 - 03/02/05

Total Depth: 67.00'

Remarks: Samples selected for analysis at 9-11' and 35-39'.
HSA:Hollow Stem Auger

Elevation: 2.23'

Datum: Mean Sea Level

Logged By: KP

Drilling Method: Vacuum from 0-5', HSA from 5-67'

Contractor: ADT

Borehole Dia.: 4.25in

DRAFT

Depth (ft)	Recovery	Sample Interval	PID	Blow Count (Per 6")	Graphic Log	Material Description
		0-5'	0.0 ppm			Asphalt/concrete
			0.7 ppm			Brown, medium-coarse sandy FILL, some gravel, trace brick/concrete, dry
			0.6 ppm			Red brown-brown, silty FILL w/fine sand, micaceous, trace gravel, moist
			0.7 ppm			Brown, silty FILL, some sand and clay, trace gravel, red brick, moist
			0.7 ppm			Brown, coarse sandy FILL, trace gravel, loose, wet
5		5-7'	10.7 ppm	8 10		
		7-9'	20.4 ppm	4 3 3 6		Black, coarse gravelly FILL, some sand, black staining, slight sheen, slight petroleum-like odor, wet
		9-11'	124 ppm	5 6 7 8		Same as above
10		11-13'	24.5 ppm	9 11 3 2		Black, coarse gravelly FILL, some wood, black staining, sheen, slight petroleum-like odor, wet
		13-15'		2 25 2 2		No recovery, large cobble in tip of split spoon
15		15-17'	5.5 ppm	2 2 2 1		Black, coarse sandy FILL, some organic material, black staining, slight sheen, hydrocarbon-like odor, loose, wet
		17-19'	7.1 ppm	2 1 1 5		Black, medium sandy FILL, trace gravel, trace shells, slight sheen, hydrocarbon-like odor, dense, wet
		19-21'	4.1 ppm	24 30 7 9		Black, medium-coarse gravelly FILL, trace wood, some organic material, hydrocarbon-like odor, loose, wet
20		21-23'	5.9 ppm	11 12 3 1		Same as above, no wood
		23-25'		2 1 22 35		Black, FILL, wood, dense, wet
25		25-27'		31 20 7 12		Black, coarse gravelly FILL, trace silt, trace black clay, organic material (wood), hydrocarbon-like odor, loose, wet
		27-29'	0.1 ppm	10 6 9 7		Black, GRAVEL, some coarse sand, loose, wet
		29-31'		18 5 3 6		No recovery, black gravel in tip of split spoon

Location: West 42nd Street	Site Id: SB-32
Purpose: Soil Boring	Total Depth: 67.00'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 4.25in

Depth (ft)	Recovery	Sample Interval	PID	Blow Count	Graphic Log	Material Description
				4 7		Gray, CLAY, micaceous, trace silt, loose, wet
		31-33'	0.0 ppm	5 5		
				14 10		Dark gray, CLAY, mica, trace silt, soft/loose, wet
		33-35'	0.0 ppm	6 5		
35		35-37'	0.0 ppm	9 13		Same as above, trace shells
		37-39'	0.7 ppm	7 9		Gray, CLAY, trace silt, trace shells, dense, wet
		39-41'	0.0 ppm	10 6		Same as above
40				3 2		
		41-43'	0.1 ppm	5 7		Gray, CLAY, trace silt, some shells, dense, wet
		43-45'	0.0 ppm	12 14		Same as above
				9 6		
45		45-47'	0.2 ppm	7 7		Same as above, trace organic material
		47-49'	0.0 ppm	14 11		Same as above, loose
				1 3		
		49-51'	4.9 ppm	5 4		Gray, silty CLAY, micaceous, loose, wet
50				5 7		
		51-53'	0.0 ppm	6 9		Same as above
		53-55'	0.0 ppm	3 6		Gray, silty CLAY, some shells
				6 5		
55		55-57'	0.0 ppm	3 5		Same as above, trace fine sand, trace-some shells
		57-59'	0.0 ppm	4 3		Same as above
				5 6		
		59-61'	0.0 ppm	9 8		Gray, silty CLAY, some shells
60				8 6		
		61-63'	0.0 ppm	7 9		Same as above, trace fine sand, trace-some shells
		63-65'	0.0 ppm	10 11		Same as above
				5 5		
65		65-67	0.0 ppm	6 9		Gray, fine-medium SAND, some clay, some silt, trace shells, loose, wet
				7 9		
				10 11		Same as above
				5 7		
				7 11		Same as above, organic material
				7 9		
				10 11		Gray, medium-fine SAND, loose, wet
				17 25		(bedrock at 66')
				50/3		Base of boring - 67 ft.

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-33

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 02/21/05 - 02/28/05

Total Depth: 69.00'

Remarks: Sample selected for analysis at 5-7'.
HSA:Hollow Stem Auger

Elevation: 2.29'

Datum: Mean Sea Level

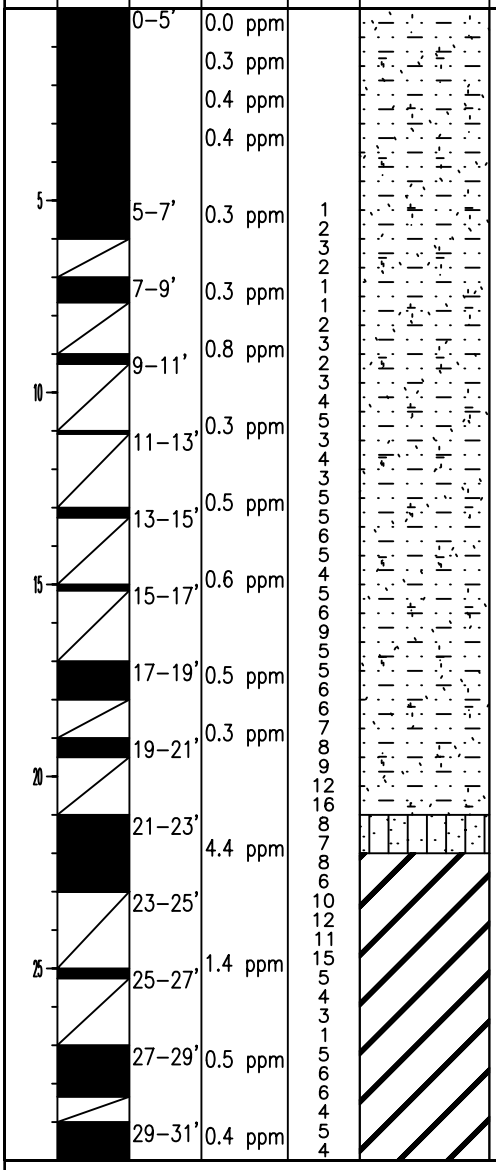
Logged By: AC/KP

Drilling Method: Vacuum from 0-5', HSA from 5-69'

Contractor: ADT

Borehole Dia.: 4.25in

DRAFT



Depth (ft)	Recovery	Sample Interval	PID	Blow Count (Per 6")	Graphic Log	Material Description
		0-5'	0.0 ppm			1.5' of asphalt/concrete to brown, coarse sandy FILL, some gravel, dry
			0.3 ppm			Brown, silty sandy FILL, trace gravel, loose, dry
			0.4 ppm			
			0.4 ppm			
5		5-7'	0.3 ppm	1 2 3		Brown-black, silty fine sandy FILL, trace gravel, trace clay, some mica, loose, wet
		7-9'	0.3 ppm	2 1 1		Brown-black, silty sandy FILL, clay, trace shells, trace mica, loose-medium dense, wet
		9-11'	0.8 ppm	2 3 2		Dark brown, silty fine sandy FILL, loose, wet
10		11-13'	0.3 ppm	3 4 5		Dark brown, gravelly FILL, micaceous rocks, some fine sand and silt, loose, wet
		13-15'	0.5 ppm	3 5 5		Dark brown-black, gravelly FILL, brick, concrete, rock, some coarse sand, loose, wet
15		15-17'	0.6 ppm	6 5 4		Same as above, trace wood
		17-19'	0.5 ppm	5 6 9		Same as above, no wood, asphalt
		19-21'	0.3 ppm	5 6 6		Black, coarse gravelly FILL, trace brick, wood, construction debris, trace coarse sand, loose, wet
20		21-23'	4.4 ppm	7 8 9 12 16 8 7		Black, fine silty SAND, some gravel, loose, wet to black, silty CLAY, trace shells, slight naphthalene-like odor, med dense, wet
		23-25'		8 7 8 6 6 10 12		No recovery, clay in tip of split spoon
25		25-27'	1.4 ppm	11 15 5		Gray, CLAY, trace silt, medium dense, wet
		27-29'	0.5 ppm	4 3 1 5 6		Gray, CLAY, dense, wet
		29-31'	0.4 ppm	6 4 5 4		Same as above, trace silt

Location: West 42nd Street	Site Id: SB-33
Purpose: Soil Boring	Total Depth: 69.00'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 4.25in

Depth (ft)	Recovery	Sample Interval	PID	Blow Count	Graphic Log	Material Description
		31-33'	0.1 ppm	5 3 4 4 5		Gray, CLAY, trace silt, medium dense, wet
		33-35'	0.5 ppm	5 5 3 3 5		Gray, CLAY, trace silt, trace black banding, medium dense, wet
35		35-37'	0.0 ppm	5 5 3 5 13		Black-gray, CLAY, trace silt, trace organics/wood, loose, wet
		37-39'	0.3 ppm	17 3 3 7 7		Same as above
		39-41'	0.2 ppm	5 6 2 8 5		Gray, CLAY, trace wood and shells, dense, wet
40		41-43'	0.0 ppm	5 4 8 4 6		Same as above, some shells
		43-45'	0.0 ppm	5 6 4 5 4		Gray, CLAY, trace wood and shells, dense, wet
45		45-47'	0.6 ppm	10 5 2 5 6		Same as above
		47-49'	0.4 ppm	5 3 7 6 2		Same as above
		49-51'	0.4 ppm	4 9 6 4 4		Same as above
50		51-53'	0.6 ppm	7 8 4 9 7		Same as above
		53-55'	0.8 ppm	12 3 4 7 8		Gray, CLAY, some shells, trace wood, dense, wet
		55-57'	0.6 ppm	2 7 9 12 3		Gray, silty SAND, trace clay, trace peat, trace shells, loose, wet
55		57-59'	0.4 ppm	5 8 7 9 15		Same as above
		59-61'	0.1 ppm	26 50 36 >100 50		Same as above
60		61-63'	0.2 ppm	50/1		Gray, fine SAND, trace silt, trace organics, shells, loose, wet
		63-65'	0.9 ppm			Same as above
		65-67'	1.2 ppm			Same as above
65		67-69'	1.5 ppm			Weathered quartz bedrock, gray coarse sand, some gravel, wet
						(bedrock at 67.5')
						Base of boring - 69 ft.

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-34

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 02/20/05 - 02/24/05

Total Depth: 69.00'

Remarks: Samples selected for analysis at 13-17' and 37-39'.
HSA:Hollow Stem Auger

Elevation: 2.23'

Datum: Mean Sea Level

Logged By: KP

Drilling Method: Vacuum from 0-5', HSA from 5-69'

Contractor: ADT

Borehole Dia.: 4.25in

DRAFT

Depth (ft)	Recovery	Sample Interval	PID	Blow Count (Per 6")	Graphic Log	Material Description
		0-5'	0.0 ppm 0.0 ppm 0.0 ppm 0.0 ppm 0.0 ppm			1.5' of asphalt/concrete to brown, medium-coarse sandy FILL, some gravel, trace concrete/brick, loose, dry Dark brown-black, medium-coarse sandy FILL, some gravel, trace brick/ concrete, loose, dry
5		5-7'	0.6 ppm	2 2 1		Dark brown-black, coarse gravelly FILL, some coarse sand, trace brick/ concrete, loose, dry
		7-9'	0.3 ppm	2 2 3		Same as above to black, fine sandy FILL, trace gravel, slight naphthalene-like odor, loose, wet
		9-11'	0.2 ppm	2 1 2		Black, FILL, coarse gravel and sand, slight naphthalene-like odor, loose, wet
10		11-13'	10.2 ppm	9 17 21 22 14		Black, FILL, construction debris, concrete, brick, some sand and gravel, slight naphthalene-like odor, loose, wet
		13-15'	47 ppm	50/3 11 12		Black, gravelly FILL, trace fine sand, black staining, sheen, naphthalene-like odor, loose, wet
15		15-17'	44.4 ppm	12 11 5 6		Same as above, trace organics, wood
		17-19'	6.9 ppm	4 9 7 12		Same as above
		19-21'	10.3 ppm	13 15 6 7		Black, coarse gravelly FILL, some silty sand, trace wood, organics, black staining, sheen, naphthalene-like odor, loose, wet
20		21-23'	6.5 ppm	11 14 10 7 4		Same as above to black, silty clayey FILL, trace fine sand, trace organics, wood, bk staining, sheen, slight naphthalene-like odor, loose, wet
		23-25'	0.8 ppm	2 7 3 4		Gray-black, CLAY, slight staining, slight naphthalene-like odor, loose, wet
25		25-27'	4.5 ppm	4 3 4 5		Same as above
		27-29'	1.0 ppm	4 2 2 2		Gray, CLAY, trace silt, micaceous, slight naphthalene-like odor, wet
		29-31'	2.3 ppm	4 2 2		Same as above

Location: West 42nd Street	Site Id: SB-34
Purpose: Soil Boring	Total Depth: 69.00'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 4.25in

Depth (ft)	Recovery	Sample Interval	PID	Blow Count	Graphic Log	Material Description
				2		
		31-33'	3.2 ppm	2 3		Gray, CLAY, trace silt, micaceous, slight naphthalene-like odor, wet
				3 2		Same as above
			2.1 ppm	1 3		Same as above
		33-35'		2 2		
				3 5		Gray, CLAY, trace shells, dense, wet
35		35-37'		6 6		
			0.2 ppm	8 13		Gray, CLAY, trace shells, trace silt, trace wood, dense, wet
		37-39'		3 3		
			0.4 ppm	7 9		Same as above
		39-41'		4 7		
40			0.2 ppm	9 12		Same as above
		41-43'		4 3		
			0.2 ppm	2 5		Gray, CLAY, trace shells, trace silt, trace wood, dense, wet
		43-45'		2 3		
			0.3 ppm	2 1		Same as above
45		45-47'		3 3		
			0.2 ppm	5 4		Same as above
		47-49'		2 3		
			0.3 ppm	4 7		Gray, CLAY, trace silt, trace shells/organic material, loose, wet
		49-51'	0.2 ppm	3 3		
50				6 7		Gray, silty fine SAND, some shells, loose, wet
		51-53'	0.2 ppm	3 4		
				7 7		Same as above, trace wood
		53-55'	0.2 ppm	3 5		
				7 2		Gray, fine SAND, some silt, trace shells and wood, loose, wet
55		55-57'	0.4 ppm	3 7		
				6 4		Same as above, some shells
		57-59'	0.3 ppm	9 9		
				8 16		Gray, fine SAND, trace silt, trace shells, loose, wet
		59-61'	0.2 ppm	9 2		Gray, CLAY, loose, wet
60				3 10		Gray, medium-fine SAND, trace shells, loose, wet
		61-63'	1.1 ppm	9 11		
				2 7		Same as above
		63-65'	1.3 ppm	2 4		
				7 7		Same as above, trace clay
65		65-67'		12 14		
			1.3 ppm	15 16		Gray, medium-fine SAND, trace silty clay, trace quartz, loose, wet
		67-69'	1.7 ppm	12 >100		(bedrock at 67.5')
						Base of boring - 69 ft.

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-38

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 02/20/05 - 02/22/05

Total Depth: 70.00'

Remarks: Samples selected for analysis at 25-27' and 43-45'.
HSA:Hollow Stem Auger

Elevation: 2.10'

Datum: Mean Sea Level

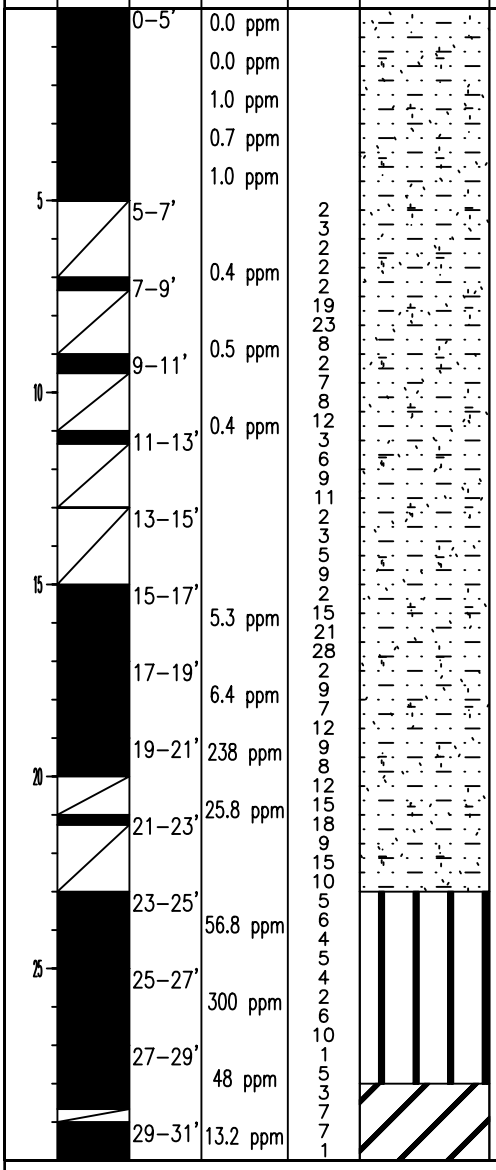
Logged By: AC/KP

Drilling Method: Vacuum from 0-5', HSA from 5-70'

Contractor: ADT

Borehole Dia.: 4.25in

DRAFT



Depth (ft)	Recovery	Sample Interval	PID	Blow Count (Per 6")	Graphic Log	Material Description
		0-5'	0.0 ppm 0.0 ppm 1.0 ppm 0.7 ppm 1.0 ppm	2 3 2 2 2		2' of asphalt/concrete Brown, coarse gravelly FILL, some medium-coarse brown sand, trace concrete/brick, loose, dry Brown, medium-coarse sandy FILL, some coarse gravel, loose, dry
5		5-7'				No recovery
		7-9'	0.4 ppm	19 23 8		Dark brown, medium-coarse sandy FILL, some gravel, micaceous, loose, wet Same as above
		9-11'	0.5 ppm	2 7 8		
10		11-13'	0.4 ppm	12 3 6		Dark brown-black, medium-coarse sandy FILL, some gravel, trace wood, loose, wet
		13-15'		9 11 2		No recovery
		15-17'	5.3 ppm	3 5 9 2 15		Black, coarse sandy FILL, some gravel, some organic material, organic (H2S-like) odor, wet
15		17-19'	6.4 ppm	21 28 2 9 7		Same as above, piece of coal in split spoon
		19-21'	238 ppm	12 9 8		Black, medium-coarse sandy FILL, trace gravel, some wood, heavy black staining, sheen, moderate naphthalene-like odor, wet
20		21-23'	25.8 ppm	12 15 18		Same as above
		23-25'	56.8 ppm	9 15 10 5 6		Black, SILT, trace fine sand, some wood/organic material, black staining, sheen, moderate naphthalene-like odor, wet
25		25-27'	300 ppm	4 5 4 2 6		Same as above
		27-29'	48 ppm	10 1 5 3 7		Same as above to black-gray, CLAY, trace silt, slight black staining, slight sheen, slight naphthalene-like odor, loose, wet
		29-31'	13.2 ppm	7 1		Same as above, gray, trace organic material

Location: West 42nd Street	Site Id: SB-38
Purpose: Soil Boring	Total Depth: 70.00'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 4.25in

Depth (ft)	Recovery	Sample Interval	PID	Blow Count	Graphic Log	Material Description
		31-33'	4.5 ppm	1 5 2 2 9		Gray, CLAY, trace silt, trace organic material, slight sheen, slight naphthalene-like odor, loose, wet
		33-35'	10 ppm	7 2 3 2 5		Same as above
35		35-37'	9.6 ppm	3 2 5 9 3		Same as above, trace shells
		37-39'	1.2 ppm	2 5 7 2 2		Same as above
		39-41'	13.5 ppm	2 2 2 2 3		Same as above
40		41-43'	11.3 ppm	3 6 3 3 4		Same as above
		43-45'	2.3 ppm	4 1 1 5 5		Gray, silty CLAY, trace shells, trace fine sand, loose, wet
		45-47'	2.1 ppm	3 3 4 4 2		Same as above
45		47-49'	5.1 ppm	2 4 4 1 2		Gray, silty CLAY, organic (H2S-like) odor, loose, wet
		49-51'	1.7 ppm	8 5 1 3 4		Same as above
		51-53'	1.9 ppm	4 1 2 2 2		Same as above
50		53-55'	1.3 ppm	2 2 2 2 3		Same as above, trace shells
		55-57'	1.2 ppm	4 4 1 2 2		Same as above, some shells
		57-59'	1.4 ppm	3 4 3 5 9		Gray, silty CLAY, some shells, organic (H2S-like) odor, loose, wet
55		59-61'	3.3 ppm	11 2 2 5 6		Same as above
		61-63'	2.0 ppm	2 3 5 7 2		Black-dark brown, fine silty SAND, some shells, loose, wet
		63-65'	2.2 ppm	4 5 8 2 5		Same as above
60		65-67'	4.4 ppm	7 7 12 11		Same as above
		67-69'	3.9 ppm			Brown, silty med-fine SAND, trace organic material, loose, wet (bedrock at 70')
		69-70'				Base of boring - 70 ft.

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-39

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 03/08/05 – 03/12/05

Total Depth: 69.00'

Remarks: Samples selected for analysis at 45–47' and 65–67'.
HSA:Hollow Stem Auger

Elevation: 1.62'

Datum: Mean Sea Level

Logged By: AC/KP

Drilling Method: Vacuum from 0–5', HSA from 5–69'

Contractor: ADT

Borehole Dia.: 4.25in

DRAFT

Depth (ft)	Recovery	Sample Interval	PID	Blow Count (Per 6")	Graphic Log	Material Description
		0–5'	0.0 ppm			1' of asphalt/concrete to lt brown, medium–coarse sandy FILL, trace gravel, trace concrete, loose, dry
			0.0 ppm			
			0.0 ppm			Dark brown, coarse sandy FILL, gravel, loose, dry
			0.0 ppm			
			0.0 ppm			
5		5–7'	0.0 ppm	24 16 12		Same as above
		7–9'	0.0 ppm	14 13 9		Dark brown–gray, coarse sandy FILL, some gravel, trace wood, loose, moist
		9–11'	0.0 ppm	7 8 9		Dark brown–black, coarse sandy FILL, gravel, concrete, brick, wood, loose, wet
10				12 8 4		Black, coarse sandy FILL, gravel, loose, wet
		11–13'	0.0 ppm	12 10 12		Same as above
		13–15'	0.0 ppm	39 10 12		
				50/1		Same as above, trace wood
15		15–17'	0.0 ppm	10 10 15		Black–gray, fine–medium sandy FILL, dense, wet
		17–19'	0.0 ppm	15 7 7		
				10 21 8		Gray–black, coarse sandy FILL, trace concrete, dense, wet
20		19–21'	0.0 ppm	12 11 15		Gray, coarse–medium sandy FILL, loose, wet
		21–23'	0.0 ppm	7 5 4		
		23–25'	0.0 ppm	6 3 3		Dark gray, medium–fine sandy FILL, some silt, trace wood, loose, wet
25			0.0 ppm	3 3 2		Same as above
		25–27'		3 2 5		
		27–29'	0.0 ppm	2 2 2		Dark gray, medium–fine SAND, some silt, loose, wet
				4 1 3		Same as above
		29–31'	0.0 ppm	7		

Location: West 42nd Street	Site Id: SB-39
Purpose: Soil Boring	Total Depth: 69.00'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 4.25in

Depth (ft)	Recovery	Sample Interval	PID	Blow Count	Graphic Log	Material Description
		31-33'	0.3 ppm	8 6 3 3 4 5		Dark gray, medium-fine SAND, some silt, loose, wet
		33-35'	4.2 ppm	2 2 2 2 3 2		Black, coarse SAND, black staining, sheen, moderate naphthalene-like odor, loose, wet
35		35-37'	59.3 ppm	7 2 2 2		Same as above, trace clay
		37-39'	90.8 ppm	2 2 1 1		Dark gray-black, silty CLAY, some coarse sand, black staining, sheen, strong naphthalene-like odor, dense
		39-41'	72 ppm	1 1 2 2		Black, silty CLAY, black staining, sheen, strong naphthalene-like odor, soft
40		41-43'	113 ppm	2 2 2 2		Same as above, trace organic material
		43-45'	19.5 ppm	4 2 2 2		Black, silty CLAY, trace organic material, black staining, sheen, strong naphthalene-like odor, soft
45		45-47'	131 ppm	2 2 2 2		Same as above
		47-49'	80 ppm	2 2 4 2		Same as above
		49-51'	84.3 ppm	4 2 2 4		Black-gray, CLAY, trace peat, black staining, strong naphthalene-like odor, soft
50		51-53'		4 2 4 6		No recovery
		53-55'	40.3 ppm	3 6 5 9		Gray, CLAY, some sand, some silt, some shells, strong naphthalene-like odor, wet
55		55-57'	73.6 ppm	12 1 1 1		Same as above
		57-59'	36.6 ppm	1 6 9 11		Gray, silty CLAY, some shells, moderate naphthalene-like odor, dense, wet
		59-61'	5.6 ppm	5 11 11 14		Gray, sandy CLAY, some silt, slight-moderate hydrocarbon-like odor, medium dense-dense, wet
60		61-63'	14.3 ppm	12 7 6 9		Gray, silty CLAY, some mica, slight-moderate hydrocarbon-like odor, dense, wet
		63-65'	6.1 ppm	15 3 4 8		Gray, CLAY, little mica, little shells, slight hydrocarbon-like odor, dense, wet
65		65-67'	11.6 ppm	14 4 7 12		Gray, CLAY, little-some sand, slight-moderate hydrocarbon-like odor, dense, wet
		67-69'		22 >100		No recovery (bedrock at 68') Base of boring - 69 ft.

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: SB-40

Location: West 42nd Street

Purpose: Soil Boring

Date(s): 04/04/05 - 04/05/05

Total Depth: 78.00'

Elevation: 1.53'

Datum: Mean Sea Level

Logged By: KP

Drilling Method: Vacuum from 0-5', HSA from 5-78'

Contractor: ADT

Borehole Dia.: 4.25in

Remarks: Samples selected for analysis at 28-30' and 46-48'.
HSA:Hollow Stem Auger

DRAFT

Depth (ft)	Recovery	Sample Interval	PID	Blow Count (Per 6")	Graphic Log	Material Description
		0-5'	0.0 ppm			Dark brown-black, m-c sandy FILL, gravel, concrete, asphalt, dry
			0.2 ppm			Dark brown-dark gray, fine-coarse sandy FILL, some fine-medium gravel, rocks, loose, dry
			0.6 ppm			Brown-dark brown, sandy FILL, some gravel and rocks, loose, dry
			1.1 ppm			Black, fine sandy FILL, some gravel, trace concrete, dry
5		5-7'	0.0 ppm	36 12 13		
				5		Black, silty fine sandy FILL, trace concrete and wood, moist
		7-9'	0.0 ppm	16 8 10		
				6		Black, silty fine sandy FILL, trace concrete and gravel, wet
		9-11'	0.0 ppm	8 9 6		
10				5		Black, fine-medium sandy FILL, trace gravel, trace wood, trace shells, wet
		11-13'	0.0 ppm	2 3 3		
			0.1 ppm	2 7 10		Black, fine sandy FILL, some shells, trace gravel, wet
		13-15'		8		
15		15-17'	0.1 ppm	7 3 3		Same as above
				5		
		17-19'	0.0 ppm	7 8 50/1		FILL, red brick
		19-21'	0.0 ppm	34 50/3		FILL, red brick, wood, concrete
20						
		21-23'	0.0 ppm	37 50/3		FILL, concrete debris, wood
		23-25'		3 5 50/3		No recovery
25		25-27'		3 2 2 2		No recovery
		27-28'	0.0 ppm	15 10		FILL, concrete debris, wood, brick, shells, wet
		28-30'	25.6 ppm	3 4 6 4		Black, silty sandy FILL, some clay, trace shells, some gravel slight staining, slight hydrocarbon-like odor, wet

Location: West 42nd Street	Site Id: SB-40
Purpose: Soil Boring	Total Depth: 78.00'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 4.25in

Depth (ft)	Recovery	Sample Interval	PID	Blow Count	Graphic Log	Material Description
		30-32'	14.0 ppm	6 5 3 4		Same as above
		32-34'	9.9 ppm	41 46 36		Black, medium sandy FILL, trace gravel, trace brick, trace concrete, trace quartz, slight hydrocarbon-like odor, wet
		34-36'	0.8 ppm	31 50/4		Black, medium sandy FILL, trace wood, slight hydrocarbon-like odor, wet
35		36-38'		26 50/3		FILL, brick
		38-40'	0.0 ppm	36 50/2		Black, coarse GRAVEL, wet
40		40-42'	0.0 ppm	10 6 4 2		Gray, silty CLAY, soft, wet
		42-44'	0.0 ppm	8 16 14 7		Same as above
		44-46'	0.0 ppm	4 5 6 8		Gray, CLAY, trace silt, soft, wet
45		46-48'	0.0 ppm	4 5 7 10		Same as above
		48-50'	0.0 ppm	4 7 7 4		Same as above
50		50-52'	0.0 ppm	2 2 2 3		Same as above
		52-54'	0.0 ppm	2 1 2 3		Same as above
		54-56'	0.0 ppm	2 6 3 3		Gray, silty CLAY, some shells, loose, wet
55		56-58'	0.0 ppm	1 1 2 2		Same as above
		58-60'	0.0 ppm	1 1 1 1		Same as above
60		60-62'	0.0 ppm	1 1 1/12		Gray, silty SAND, some clay, some shells, loose, wet
		62-64'	0.0 ppm	1 1 2		Same as above
		64-66'	0.0 ppm	1 2 3 6		Gray, medium-fine SAND, loose, wet
65		66-68'	0.0 ppm	4 1 1 1		Same as above
		68-70'	0.0 ppm	1 1 1 50/2		Same as above

Location: West 42nd Street	Site Id: SB-40
Purpose: Soil Boring	Total Depth: 78.00'
Consulting Firm: Dvirka & Bartilucci	Borehole Dia.: 4.25in

Depth (ft)	Recovery	Sample Interval	PID	Blow Count	Graphic Log	Material Description
		70-72'	0.0 ppm	26 50/1		Gray, medium-fine SAND, loose, wet
			0.0 ppm			Same as above
		72-74'		28 50/1		
			0.0 ppm			Same as above
		74-76'		25 36 50/1		
75						Same as above
		76-78'	0.0 ppm	20 50/2		(bedrock at 78')
						Base of boring - 78 ft.
80						
85						
90						
95						
100						
105						

Date Start/Finish: 12/06/06
Drilling Company: Aquifer Drilling and Testing
Driller's Name: Andrea Babel
Drilling Method: Geoprobe
Sampler Size: 2" Macro Cores

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 35'
Surface Elevation: NA

Descriptions By: Jeremy Cuccuini

Boring ID: SB-41

Client: Consolidated Edison Company of New York, Inc.

Location: West 41st Street between 11th and 12th Avenue New York, New York 10036

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Water Table	Geologic Column	Stratigraphic Description	Boring Construction
0 / 0									
								CONCRETE	
								Black fine to coarse SAND with Brick and Coal particles, Cinders, trace Silt, no odors, dry. (fill)	
	1	0'-5'	30"	ND				Brown fine to coarse SAND, trace Cinders, no odors, moist. (fill)	
5 / -5									
	2	5'-10'	60"	ND	X			Light brown fine to coarse SAND, some Silt, with Wood particles, no odors, moist. (fill)	
								Black fine to medium SAND with SILT and Wood particles, no odors, moist. (fill)	
10 / -10								Black fine to medium SAND with SILT, no odors, moist.	Borehole backfilled with soil cuttings to grade.
								BRICK particles. (fill)	
	3	10'-15'	36"	ND	X			Black fine to coarse SAND with SILT, trace Coal particles, no odors, wet. (fill)	
15 / -15								Dark brown fine SAND and SILT, trace Brick particles, no odors, wet. (fill)	

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Remarks: bgs = below ground surface; NA = Not Available;
ND = Non-Detect;
Soil samples taken from 3' - 10'bgs,
13'-14 ' bgs, and from 24'-25' bgs.

Date Start/Finish: 12/06/06
Drilling Company: Aquifer Drilling and Testing
Driller's Name: Andrea Babel
Drilling Method: Geoprobe
Sampler Size: 2" Macro Cores

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 35'
Surface Elevation: NA

Descriptions By: Jeremy Cuccuini

Boring ID: SB-41

Client: Consolidated Edison Company of New York, Inc.

Location: West 41st Street between 11th and 12th Avenue New York, New York 10036

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Water Table	Geologic Column	Stratigraphic Description	Boring Construction
	4	15'-20'	40"	ND					
20-20									
	5	20'-25'	50"	ND					
					X			Gray CLAY, trace marine fragments, no odors, very moist.	
25-25								Similar soils as above, grading to light brown.	Borehole backfilled with soil cuttings to grade.
	6	25'-30'	60"	ND					
30-30									
	7	30'-35'	60"	ND					
								Light brown fine to coarse SAND, trace fine Gravel (at 34' bgs), no odors, moist.	
35-35								Weathered Gneiss - Rock at 35' bgs. Refusal at 35' bgs.	

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Remarks: bgs = below ground surface; NA = Not Available;
ND = Non-Detect;
Soil samples taken from 3' - 10'bgs,
13'-14 ' bgs, and from 24'-25' bgs.

Date Start/Finish: 12/06/06
Drilling Company: Aquifer Drilling and Testing
Driller's Name: Andrea Babel
Drilling Method: Geoprobe
Sampler Size: 2" Macro Cores

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 35.5'
Surface Elevation: NA

Descriptions By: Jeremy Cuccuini

Boring ID: SB-42

Client: Consolidated Edison Company of New York, Inc.

Location: West 41st Street between 11th and 12th Avenue New York, New York 10036

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Water Table	Geologic Column	Stratigraphic Description	Boring Construction
0	0									
		1	0'-5'	55"	ND				CONCRETE (sidewalk) Dark brown fine to medium SAND, some Silt, trace Cinders, Brick, and Coal particles. No odors, dry. (fill)	
									Light brown fine SAND and SILT, trace Cinders, no odors, moist. (fill)	
5	-5								Similar soils as above with trace Brick particles. (fill)	
		2	5'-10'	32"	ND	X				
10	-10									Borehole backfilled with soil cuttings to grade.
		3	10'-15'	38	ND					
						X			Dark brown fine to coarse SAND with SILT, trace Coal particles, black Ash-like material, no odors, wet at 14' bgs. (fill)	
15	-15									

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Remarks: bgs = below ground surface; NA = Not Available;
ND = Non-Detect;
Soil samples taken from 3' - 10'bgs,
13'-14 ' bgs, 24'-25' bgs, and from 27'-28' bgs.

Date Start/Finish: 12/06/06 **Drilling Company:** Aquifer Drilling and Testing **Driller's Name:** Andrea Babel **Drilling Method:** Geoprobe **Sampler Size:** 2" Macro Cores	**Northing:** NA **Easting:** NA **Casing Elevation:** NA **Borehole Depth:** 35.5' **Surface Elevation:** NA **Descriptions By:** Jeremy Cuccuini	**Boring ID:** SB-42 **Client:** Consolidated Edison Company of New York, Inc. **Location:** West 41st Street between 11th and 12th Avenue New York, New York 10036

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Water Table	Geologic Column	Stratigraphic Description	Boring Construction
	4	15'-20'	50"	ND 3				Dark brown to gray Clayey SILT, trace Organics, odors, very moist.	
20-20				3				Dark brown fine to medium SAND and SILT, odors, wet.	
	5	20'-25'	40"	10 10 25 25	X			Gray CLAY, trace marine fragments, odors, very moist.	
25-25				1				Gray CLAY, trace marine fragments, odors to 26' bgs, very moist.	Borehole backfilled with soil cuttings to grade.
	6	25'-30'	45"	1 ND	X				
30-30								Dark brown fine to coarse SAND, trace Silt, no odors, wet.	
	7	30'-35'	58"	ND				Gray CLAY, trace marine fragments, no odors, moist.	
								Light Brown fine to coarse SAND, trace Silt, fine Gravel, no odors, wet.	
35-35								Weathered Gneiss - Refusal / Bedrock.	

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Remarks: bgs = below ground surface; NA = Not Available;
ND = Non-Detect;
Soil samples taken from 3' - 10'bgs,
13'-14 ' bgs, 24'-25' bgs, and from 27'-28' bgs.

Date Start/Finish: 12/05/06
Drilling Company: Aquifer Drilling and Testing
Driller's Name: Jiri Kamecincek
Drilling Method: Geoprobe
Sampler Size: 2" Macro Cores

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 36'
Surface Elevation: NA

Descriptions By: Jeremy Cuccuini

Boring ID: SB-43

Client: Consolidated Edison Company of New York, Inc.

Location: West 41st Street between 11th and 12th Avenue New York, New York 10036

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Water Table	Geologic Column	Stratigraphic Description	Boring Construction
0	0									
		1	0'-5'	48"	ND				Light brown fine to coarse SAND, some Silt, trace Organics (Grass), no odors, dry. (fill)	
									Dark Brown fine to coarse SAND, some Cinders, trace Brick, no odors, moist. (fill)	
									Brown fine to coarse SAND and SILT, trace Cinders and black Ash-like material, no odors, moist. (fill)	
5	-5								Dark brown fine to coarse SAND, some Silt, trace Coal particles and black Ash-like material, no odors, moist. (fill)	
		2	5'-10'	28"	ND	X				
10	-10									Borehole backfilled with soil cuttings to grade.
		3	10'-15'	36"	ND				CONCRETE (fill)	
									Dark brown fine to medium SAND, some Silt, trace black Ash-like material and Coal particles, very moist. (fill)	
15	-15								Dark brown SILT and fine SAND, trace black Ash-like materials, no odors, wet @ 17' bgs. (fill)	
						X				

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Remarks: bgs = below ground surface; NA = Not Available;
ND = Non-Detect;
Soil samples taken from 3' - 10'bgs,
16'-17 ' bgs, and from 28'-29' bgs.

Date Start/Finish: 12/05/06
Drilling Company: Aquifer Drilling and Testing
Driller's Name: Jiri Kamecincek
Drilling Method: Geoprobe
Sampler Size: 2" Macro Cores

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 36'
Surface Elevation: NA

Descriptions By: Jeremy Cuccuini

Boring ID: SB-43

Client: Consolidated Edison Company of New York, Inc.

Location: West 41st Street between 11th and 12th Avenue New York, New York 10036

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Water Table	Geologic Column	Stratigraphic Description	Boring Construction
	4	15'-20'	40"	ND					
20-20								CONCRETE (fill)	
								Dark brown SILT and fine SAND, trace black Ash-like materials, no odors, wet. (fill)	
	5	20'-25'	48"	ND					
								Dark brown fine to coarse SAND, no odors, wet.	
25-25									Borehole backfilled with soil cuttings to grade.
	6	25'-30'	58"	ND	X				
								Gray CLAY, trace marine shell fragments, no odors, very moist.	
30-30									
	7	30'-35'	36"	ND					
								Dark brown fine to medium SAND and SILT, no odors, wet.	
35-35									
	8	35'-36'		ND				Dark brown fine to medium SAND and SILT, some Gravel (weathered Bedrock), no odors, wet.	
								Competent GNEISS encountered/ Bed-Rock. Bottom Of Boring at 36' bgs.	

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Remarks: bgs = below ground surface; NA = Not Available;
ND = Non-Detect;
Soil samples taken from 3' - 10'bgs,
16'-17 ' bgs, and from 28'-29' bgs.

Date Start/Finish: 12/05/06
Drilling Company: Aquifer Drilling and Testing
Driller's Name: Jiri Kamecincek
Drilling Method: Geoprobe
Sampler Size: 2" Macro Cores

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 36'
Surface Elevation: NA

Descriptions By: Jeremy Cuccuini

Boring ID: SB-44

Client: Consolidated Edison Company of New York, Inc.

Location: West 41st Street between 11th and 12th Avenue New York, New York 10036

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Water Table	Geologic Column	Stratigraphic Description	Boring Construction
0 / 0								CONCRETE	
	1	0'-5'	30"	ND				Brown fine to coarse SAND, some Silt, trace Brick; Coal particles, Cinders, no odors, dry to moist. (fill)	
5 / -5									
	2	5'-10'	36"	ND	X			BRICK (fill)	
10 / -10								Light brown fine to medium SAND and SILT, trace Gravel, gray Ash-like material, and Coal fragments, moist (fill).	Boring backfilled to grade.
	3	10'-15'	40"	ND				Dark brown fine SAND and SILT, trace black Ash-like material, slight odor, wet at 15' bgs. (fill)	
					X	▽			
15 / -15									

BBL® an ARCADIS company

Remarks: bgs = below ground surface; NA = Not Available;
ND = Non-Detect;
Soil samples taken from 3' - 10'bgs,
14'-15 ' bgs, 19'-20' bgs, and from 21'-20' bgs.

Date Start/Finish: 12/05/06
Drilling Company: Aquifer Drilling and Testing
Driller's Name: Jiri Kamecincek
Drilling Method: Geoprobe
Sampler Size: 2" Macro Cores

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 36'
Surface Elevation: NA

Descriptions By: Jeremy Cuccuini

Boring ID: SB-44

Client: Consolidated Edison Company of New York, Inc.

Location: West 41st Street between 11th and 12th Avenue New York, New York 10036

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Water Table	Geologic Column	Stratigraphic Description	Boring Construction
	4	15'-20'	48"	ND				Black organic Clay, no odors, moist.	
					X			Dark brown fine to coarse SAND, some Silt, Brick particles, and black to gray Ash-like material. Sulfur-like odor, wet. (fill)	
20-20								Black organic CLAY, no odors, moist.	
	5	20'-25'	60"	ND	X				
								Light brown fine to coarse SAND, no odors, wet.	
25-25									Boring backfilled to grade.
	6	25'-30'	42"	ND				Gray CLAY, trace fine Sand, no odors, moist.	
30-30									
	7	30'-35'	55"	ND				Dark brown fine to medium SAND and SILT, no odors, wet.	
35-35									
	8	35'-37'	20"	ND				Similar soils as above, with gravel, (fractured weathered Gneiss) Refusal, top of competent Rock (Gneiss)	

BBL® an ARCADIS company

Remarks: bgs = below ground surface; NA = Not Available;
ND = Non-Detect;
Soil samples taken from 3' - 10'bgs,
14'-15 ' bgs, 19'-20' bgs, and from 21'-20' bgs.

Date Start/Finish: 12/05/06
Drilling Company: Aquifer Drilling and Testing
Driller's Name: Jiri Kamecincek
Drilling Method: Geoprobe
Sampler Size: 2" Macro Cores

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 10'
Surface Elevation: NA

Descriptions By: Jeremy Cuccuini

Boring ID: SB-45

Client: Consolidated Edison Company of New York, Inc.

Location: West 41st Street between 11th and 12th Avenue New York, New York 10036

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Water Table	Geologic Column	Stratigraphic Description	Boring Construction
0	0									
		1	0'-5'	48"	ND				Light brown fine to coarse SAND, trace Organics, no odors, dry. (fill)	
									BRICK particles. (fill)	
									Dark brown fine to coarse SAND, some Silt, trace Brick particles, Cinders and Coal particles, no odors, moist. (fill)	
5	-5									Borehole backfilled with soil cuttings to grade.
		2	5'-10'	40"	ND	X			Dark brown fine SAND and SILT, trace black Ash like material, Coal particles, and Brick particles. Slight odor, moist. (fill)	
									Dark brown fine to coarse SAND, some Silt, trace Cinders and black Ash-like material, moist. (fill)	
10	-10								Bottom of boring at 10' bgs.	

Remarks: bgs = below ground surface; NA = Not Available;
ND = Non-Detect;
Soil samples taken from 3' - 10'bgs.

BBL® an ARCADIS company

Project:
Data File:SB-45

Template:Geoprobe2003.ldf
Date: 12/7/06

Date Start/Finish: 6/12/2008
Drilling Company: Aquifer Drilling and Testing, INC.
Driller's Name:
Drilling Method: HSA
Auger Size: 4.25" ID
Rig Type: LC55 Track Mounted
Sampling Method: Split Spoon 2"

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 30' BGS
Surface Elevation: NA

Descriptions By: Rolando Arco

Well/Boring ID: **SB-46**

Client: Consolidated Edison Company of New York, Inc.

Location: Former W. 42nd Street MGP Site (MTA Bus Depot) SE corner 41st and Rt 9A

DEPTH / ELEVATION	Saturated Soils	PID Readings	LNAPL/DNAPL	Analytical Sample	Recovery	Blow Counts	Lithology	Stratigraphic Description
0 – 4		0.0				N/A		0'-0.5' FILL, reinforced concrete. 0.5'-1' FILL, yellow medium to fine SAND , NVI. 1'-2' FILL, dark brown coarse to fine SAND, NVI. 2'-3' FILL, very dark coarse SAND, NVI. 3'-5' FILL, boulder (Potential Rip Rap), NVI.
5 – 6		N/A			<2"	10		FILL, a piece of concrete and cobble fragment (gray, from boulder above), NVI.
8		2.4			16"	1,1,1,1		7'- 7.8' FILL, black well-graded SAND and fine GRAVEL, NVI. 7.8'-8.3' FILL, red to brown SANDSTONE, NVI.
10 -10		0.3			4"	9,8,8,10		Grey to black, very soft SILT, wet, NVI.
12		0.2			5"	41,13,8,5		Grey to black very soft SILT and red to brown angular GRAVEL, wet, NVI.
14		0.3			20"	14,3,3,23		Dark grey to black very soft SILT, wet, very loose, NVI.
15 – 16		0.3			20"	14,3,3,23		Dark grey to black very soft SILT, some Gravel, very loose, wet, NVI.
18		0.4			20"	1,1,1,1		Dark grey to black very soft SILT, some Gravel, wood pieces in the cutting shoe, slightly denser silt in the bottom 2", loose, wet, NVI.

ARCADIS
Infrastructure, environment, facilities

Remarks: BGS = Below Grade Surface, WOR = Weight of Rods, N/A = Not Applicable
*Rebar at 5 feet,
*Some material fell out of the spoon when drillers were unscrewing the shoe for interval 19'-21'.
*PID malfunctioned while measuring 25-28'. Restarted device with no further problems.
*No data at 25-28' due to WOR and softness of the material.
*At 28-30' collected sample from apparently unimpacted core of the clay sample. At 25-28', collected sample from the river mud containing NAPL.

Date Start/Finish: 6/12/2008
Drilling Company: Aquifer Drilling and Testing, INC.
Driller's Name:
Drilling Method: HSA
Auger Size: 4.25" ID
Rig Type: LC55 Track Mounted
Sampling Method: Split Spoon 2"

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 30' BGS
Surface Elevation: NA

Descriptions By: Rolando Arco

Well/Boring ID: **SB-46**

Client: Consolidated Edison Company of New York, Inc.

Location: Former W. 42nd Street MGP Site (MTA Bus Depot) SE corner 41st and Rt 9A

DEPTH / ELEVATION	Saturated Soils	PID Readings	LNAPL/DNAPL	Analytical Sample	Recovery	Blow Counts	Lithology	Stratigraphic Description
20 -20		0.4			8"	1,1,1,1		Dark grey to black very soft SILT, some Gravel, wood pieces in the cutting shoe, slightly denser silt in the bottom 2", loose, wet, NVI
22		0.3			16"	WOR		Dark grey to black very soft SILT, some Gravel, loose, wet, NVI.
24		N/A			0"	WOR		NO RECOVERY. ADVANCED TO 25'BGS.
25 26		26		X	16"	1-1-2-1		25'-25.8' Dark grey to black very soft SILT, NAPL blebs. 25.8'-26.3' Grey Clay, stiff, sheen.
28		150		X	20"	1-1-2-1		28'-28.7' Grey SILT, very soft, wet, NAPL blebs. 28.7'-29.4' Grey CLAY, sheen on the outside, inside of core appears clean, stiff, wet. END OF BORING AT 30'BGS.
30 -30								

ARCADIS
Infrastructure, environment, facilities

Remarks: BGS = Below Grade Surface, WOR = Weight of Rods, N/A = Not Applicable
*Rebar at 5 feet,
*Some material fell out of the spoon when drillers were unscrewing the shoe for interval 19'-21'.
*PID malfunctioned while measuring 25-28'. Restarted device with no further problems.
*No data at 25-28' due to WOR and softness of the material.
*At 28-30' collected sample from apparently unimpacted core of the clay sample. At 25-28', collected sample from the river mud containing NAPL.

Date Start/Finish: 3-26-08
Drilling Company: Summit Drilling, Inc.
Driller's Name: Jeff Seagrams
Drilling Method: HSA
Auger Size: 4.25" ID
Rig Type: Truck Mounted CME
Sampling Method: Split Spoon 3"

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 29'
Surface Elevation: SB-47

Descriptions By: Craig Massaro

Well/Boring ID: **SB-47**

Client: Consolidated Edison Company of New York, Inc.

Location: Former W. 42nd Street MGP Site (MTA Bus Depot) SE corner 41st and Rt 9A

DEPTH / ELEVATION	Saturated Soils	PID Readings	LNAPL/DNAPL	Analytical Sample	Recovery	Blow Counts	Lithology	Stratigraphic Description
0		0.1,0.1,0.2,0.1						0'-0.5' FILL, asphalt. 0.5'-5' FILL, black to brown coarse to fine SAND, some brick, asphalt and misc. rock fragments, moist.
2								
4								
5								
6		0.1		X	6"	4,4,4,3		FILL, black coarse to fine SAND, trace coarse to medium gravel, loose, moist, NVI.
8		0.7			6"	1,2,2,1		Black medium to fine SAND, little Silt, trace medium to fine gravel, wet, medium dense, NVI.
10 -10		0.8			9"	1,4,6,6		Dark grey coarse to fine SAND, little Silt, trace coarse gravel, loose, wet, NVI.
12		1,0.8			16"	4,2,2,3		11'-11.5' Gray coarse to fine SAND, little medium to fine Gravel, trace brick, loose, wet, NVI. 11.5'-12.3' Black medium to fine SAND, little Silt, trace brick, loose, wet, NVI.
14		0.8			10"	1,8,2,2		Dark grey medium to fine SAND, little Silt and Micaceous rock fragments, loose, wet, NVI.
15								
16		0.8,0			13"	2,3,3,2		15'-15.5' Grey coarse to fine SAND, some concrete, brick, and coarse to fine Gravel, firm, wet, NVI. 15.5'-16.5' Black medium to fine SAND, some Silt, trace clay, brick, and timber, soft, wet, NVI.
18		N/A			0"	1,1,1,1		NO RECOVERY, spoon appeared free of any visible impacts.

ARCADIS
Infrastructure, environment, facilities

Remarks: NVI = No Visual Impact, N/A = None Applicable, BGS = Below Grade Surface.

*Air Knifed borehole from 0'-5'BGS.
*Analytical samples collected from 5-7 and 23' bgs.

Client: Consolidated Edison Company of New York, Inc.

Well/Boring ID: SB-47

Borehole Depth: 29'

Site Location:
Former W. 42nd Street MGP Site
(MTA Bus Depot) SE corner 41st and Rt 9A

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows Counts	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
20 -20		N/A				0"	1,3,3,3		NO RECOVERY, spoon appeared free of any visible impacts.	
22		N/A				0"	4,3,2,3		NO RECOVERY. Some soil in cutting shoe. Black fine to very fine SAND, little Silt and Clay, loose, wet, NVI.	
24		3,4,21.3			X	15"	WOR,1,1,2		Black fine to very fine SAND, little brick and angular Gravel, trace organic roots, wet, loose, NVI. Grey CLAY, little Silt, soft, wet, NVI.	
-25 26		32,43				22"	1,1,1,1		Grey CLAY, little Silt, trace organics, soft, wet, NVI.	
28		14,3,62				24"	1,2,2,2		Grey CLAY, little Silt, trace organics (roots) and brick pieces at 28'BGS, soft, wet, NVI. END OF BORING at 29'BGS.	

ARCADIS
Infrastructure, environment, facilities

Remarks: NVI = No Visual Impact, N/A = None Applicable, BGS = Below Grade Surface.

*Air Knifed borehole from 0'-5'BGS.
*Analytical samples collected from 5-7 and 23' bgs.

Date Start/Finish: 7/24/2010
Drilling Company: NYEG Drilling LLC
Driller's Name: John Gibbs
Drilling Method: Direct Push
Sampling Method: 5' Acetate Liner
Rig Type: Geoprobe 7822DT

Northing: 216599.09
Easting: 984399.33
Casing Elevation: NA

Borehole Depth: 19' bgs
Surface Elevation: 11.79' AMSL

Descriptions By: Patricia Prezorski

Well/Boring ID: **SB-48**

Client: Consolidated Edison Company of New York, Inc

Location: West 42nd Street Works
New York, NY
620 West 42nd Street Sidewalk

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0				0.0		CONCRETE.	Borehole backfilled with grout to grade.
					0.0		SAND, very fine to coarse, subrounded, some Gravel, fine to coarse, subrounded to subangular, little Gneiss fragments and concrete fragments (up to 5.5" diameter), trace red brick fragments, glass, moist, dark brown (7.5YR 3/4). NVI, no odor. At 1.16' bgs Irregular stone and brick debris (13"x7" in size) reddish-yellow (7.5YR 7/8).	
		NA	NA	NA	0.0		SAND, very fine to coarse, subrounded, some Gravel, fine to coarse, subrounded to subangular, little Gneiss fragments and concrete fragments (up to 5.5" diameter), trace red brick fragments, glass, moist, dark brown (7.5YR 3/4). NVI, no odor. 2.5-2.75' bgs: Red brick debris (7"x4" in size), Concrete debris, Asphalt debris. Metal pipe (3" long x 1" diameter). Dense brick (5"x9" in size) at 2.5' bgs. Moisture increasing with depth.	
					0.0		At 3.33' bgs flat Metamorphic rock (7.5" by 7.5" in size).	
5	-5				0.0		SAND, very fine to coarse, little Glass debris, Concrete debris, red Brick debris, and weathered Schist rock fragments, poorly sorted, dark brown. Concrete debris (3"x3" in size) at 3.8' bgs. NVI, no odor.	
							CONCRETE and red BRICK debris.	
		1	5-10	3.1	0.0		SAND, fine to coarse, poorly sorted, moist, dark brown. Layered CONCRETE and Red BRICK debris with SAND, fine to medium and SILT, moist, strong brown.	
10	-10						Fractured SCHIST rock and visible TLM, moderate odor, moist.	
					210			
		2	10-15	2.6	537			
					60.0		CLAY, high plasticity, no dilatancy, black, odor.	
15	-15						CLAY, high plasticity, no dilatancy, some shells (conical and clam-like) throughout sample, wood debris in upper section, moist, dark brown (7.5YR 3/2) to very dark gray (7.5YR 3/1).	

ARCADIS
Infrastructure, environment, buildings

Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level, NVI = no visible impacts; TLM = tar-like material. Location hand cleared to 5 ft bgs.

Client: Consolidated Edison Company of New York, Inc

Well/Boring ID: **SB-48**

Borehole Depth: 19' bgs

Site Location:
West 42nd Street Works
New York, NY
620 West 42nd Street Sidewalk

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
	3	15-19	3.5	0.0		CLAY, high plasticity, no dilatancy, some shells (conical and clam-like) throughout sample, wood debris in upper section, moist, dark brown (7.5YR 3/2) to very dark gray (7.5YR 3/1).	Borehole backfilled with grout to grade.
20 -20						Refusal at 19' bgs. End of Boring.	
25 -25							
30 -30							
35 -35							

ARCADIS
Infrastructure, environment, buildings

Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level, NVI = no visible impacts; TLM = tar-like material. Location hand cleared to 5 ft bgs.

Date Start/Finish: 7/25/10
Drilling Company: NYEG Drilling LLC
Driller's Name: John Gibbs
Drilling Method: Direct Push
Sampling Method: 5' Acetate Liner
Rig Type: Geoprobe 7822DT

Northing: 216427.38
Easting: 983736.34
Casing Elevation: NA

Borehole Depth: 16' bgs
Surface Elevation: 5.83' AMSL

Descriptions By: Patricia Prezorski

Well/Boring ID: **SB-49**

Client: Consolidated Edison Company of New York, Inc

Location: West 42nd Street Works
New York, NY
West 40th Street northern sidewalk near intersection of 12th Avenue

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
0 / 5.83				0.0		CONCRETE.	
5 / 0.83	NA	NA	NA	0.0		SAND, very fine to coarse, some Gravel, fine to coarse, subrounded, little red brick material, little concrete debris, trace schist fragments, Styrofoam, and glass fragments, poorly sorted, dry, brown (7.5YR 4/3). No odor. Heavy red pavers (appear old) in sizes of 6.5"x11" and 7"x6" observed at depths of 3.15', 3.6', and 4' bgs.	
10 / -4.17	1	5-10	2.33	0.0		SAND, fine to coarse, little Gravel, fine to coarse, poorly sorted, dry to moist, brown (7.5YR 4/3). No odor.	Borehole backfilled with grout to grade.
				47.0		47.0 ppm PID reading from just above observed water table at 10' bgs.	
						SAND, very fine to medium, poorly sorted, wet, stained black. Moderate odor, iridescent sheen observed.	
15 / -9.17	2	10-15	2.75	11.25 12.5 13.75		SAND, very fine to medium and fractured rock fragments, some wood debris fragments, some sea shells, poorly sorted, wet, dark red (2.5YR 3/6). Odor and slight iridescent sheen observed in Sand.	
	3	15-16	NA	NA		NO RECOVERY. Refusal at 16' bgs. End of Boring.	

Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level, NVI = no visible impacts. Location hand cleared to 5 ft bgs.

ARCADIS
Infrastructure, environment, buildings

DRAFT

Boring Log: SB-50

West 42nd Street
New York, NY

Date Start/Finish: 2/26/11
Borehole Depth (ft bgs): 11.0'
Surface Elevation (ft NGVD29):

Northing (ft):
Easting (ft):
Coordinate System: .

Drilling Company: NYEG Drilling
Driller: John Gibbs and Drek Weis
Logged By: Prezorski

DEPTH (ft) / ELEVATION	Saturated Soils	PID Readings	LNAPL/DNAPL	Analytical Sample	Recovery	Sample Type	Lithology	Stratigraphic Description
0 / 0		0.0			--	Core		7" Concrete plus 5" cement/brick debris in concrete.
		0.0 0.0			--	HC		Brick and concrete debris fragments, some medium to large pebbles (30-40mm in diameter). Note: at 1.1' bgs, 4" diameter cast iron pipe.
		0.0 0.0 0.0			--	HC		Very fine to coarse sand, some pebbles, some red brick and concrete debris fragments, some schist fragments, trace wood debris fragments, poorly sorted, dark brown (7.5YR 3/3), wet. Concrete fragments up to 4" by 7".
		0.0 0.0 0.0 0.0			--	MC		Very fine to coarse sand with marconite flakes, little subangular large pebbles, some clay, medium plasticity, strong brown and gray, poorly sorted, moist. 3.4 - 3.6' bgs. Clay layer.
5		0.0 0.0 0.0 0.0 0.0			3.29	MC		Fine to medium sand with layers of clay, medium plasticity, strong brown and gray, poorly sorted, moist. Very fine to medium sand, moist to wet. Wet at 9.5' bgs.
	▼	0.0						Clay, medium plasticity, strong brown and gray, wet.
10		0.0			1.33	MC		Fine sand and silt, dark brown, well sorted, wet. Fine to medium sand, brown, well sorted, wet. Bedrock encountered at base of 10-11' macro-core.

ARCADIS

Remarks: bgs = below ground surface; -- = not recorded / not applicable; MC = macro-core; HC = hand cleared;

*Geoprobe / direct push drilling method used.
*5' x 2" Macro-Core sampler used to collect samples.

DRAFT

Boring Log: SB-51

West 42nd Street
New York, NY

Date Start/Finish: 2/27/2011
Borehole Depth (ft bgs): 19.8'
Surface Elevation (ft NGVD29):

Northing (ft):
Easting (ft):
Coordinate System: .

Drilling Company: NYEG Drilling
Driller: John Gibbs and Drek Weis
Logged By: Prezorski

DEPTH (ft) / ELEVATION	Saturated Soils	PID Readings	LNAPL/DNAPL	Analytical Sample	Recovery	Sample Type	Lithology	Stratigraphic Description
0 / 0		0.0			--	Core		7" of concrete.
		0.0			--	HC		Brick and concrete debris fragments, some medium to large pebbles, trace wood fragments.
		0.0 0.0			--	HC		SAA, except some large pebbles, some coarse to fine sand, strong brown (7.5YR 4/6), moist.
		0.0 0.0 0.0			--	MC		Very fine to medium sand, some schist rock fragments, little red brick debris, concrete, and wood fragments, brown, moist.
		0.0			--	MC		Schist: schist fragments filled borehole.
		0.0			--	MC		Very fine to fine poorly sorted sand, some schist fragments, little medium sand, strong brown, moist.
5		0.0			2.25	MC		Layers of schist with some very fine to medium sand, strong brown, moist.
		0.0 0.0			--	MC		Very fine to fine well sorted sand, dark gray (7.5YR 4/1), moist.
10		0.0			2.42	MC		Clay, little very fine to fine sand, gray, moist, no dilatancy, medium plasticity.
		0.0 0.0			--	MC		Very fine to fine well sorted sand, little medium sand, dark redish brown, moist.
15	▼	0.0			2.75	MC		SAA, except wet.
		0.0						Bedrock encountered at base of 15 - 19.8' interval.

ARCADIS

Remarks: bgs = below ground surface; -- = not recorded / not applicable; MC = macro-core; HC = hand cleared;

*Geoprobe / direct push drilling method used.
*5' x 2" Macro-Core sampler used to collect samples.

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Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING MW-11 ACTIVITIES

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** West 41st St. Southern sidewalk, Manhattan, New York
PHOTOGRAPH #: 1	
PHOTOGRAPHER: PP	
DATE: 07/23/2010	
DIRECTION: East	
COMMENT: Proposed MW-11 location (contained between barriers along the building) with nearby utility mark outs.	

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** West 41st St. Southern sidewalk, Manhattan, New York
PHOTOGRAPH #: 2	
PHOTOGRAPHER: PP	
DATE: 07/23/2010	
DIRECTION: N/A	
COMMENT: Completed 5 ft hand clear at MW-11, showing flat Gneiss rock (5”x5.5”) at 4.5 feet bgs.	

ARCADIS
Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING MW-11 ACTIVITIES

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** West 41st St. Southern sidewalk, Manhattan, New York
PHOTOGRAPH #: 3	
PHOTOGRAPHER: PP	
DATE: 07/23/2010	
DIRECTION: N/A	
COMMENT: Soils collected from 15 to 20 feet bgs. Visible impacts were not observed in any of the intervals. PID readings were 0.0.	

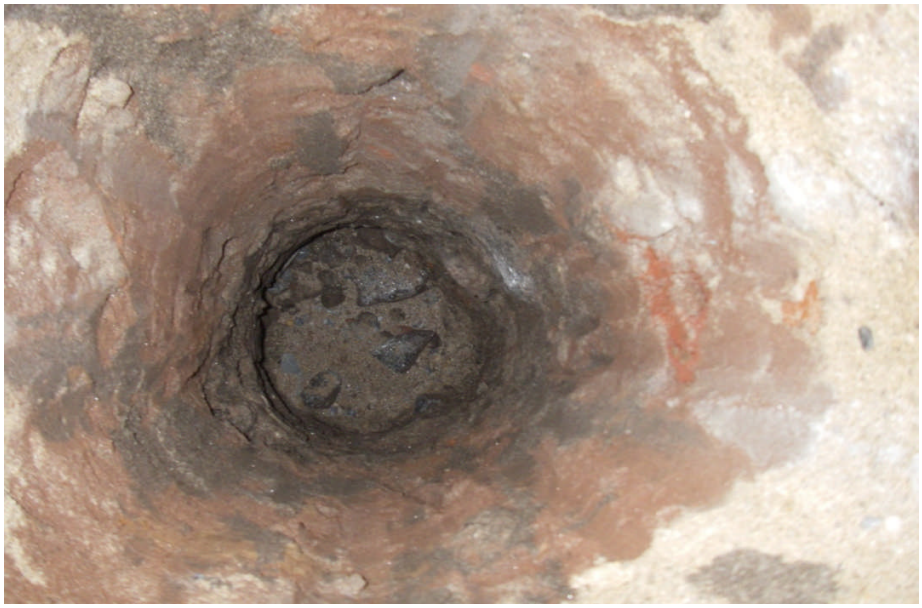
CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** West 41st St. Southern sidewalk, Manhattan, New York
PHOTOGRAPH #: 4	
PHOTOGRAPHER: PP	
DATE: 07/23/2010	
DIRECTION: West	
COMMENT: Completed MW-11 location, facing West.	

ARCADIS
Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING SB-46 ACTIVITIES

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION: (**MTA Bus Depot), SE corner 41st & Rt 9A, Manhattan, New York
PHOTOGRAPH #: 1	
PHOTOGRAPHER: RA	
DATE: 06/12/2008	
DIRECTION: Southeast	
COMMENT: Proposed SB-46 location (indicated by the pink circles) with nearby utility mark outs.	

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION: (**MTA Bus Depot), SE corner 41st & Rt 9A, Manhattan, New York
PHOTOGRAPH #: 2	
PHOTOGRAPHER: RA	
DATE: 06/12/2008	
DIRECTION: N/A	
COMMENT: Completed 5 ft hand clear at SB-46, including boulder encountered at approximately 3 – 5 feet bgs.	

ARCADIS
Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING SB-46 ACTIVITIES

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION: (**MTA Bus Depot), SE corner 41st & Rt 9A, Manhattan, New York
PHOTOGRAPH #: 3	
PHOTOGRAPHER: RA	
DATE: 06/12/2008	
DIRECTION: N/A	
COMMENT: Soils collected from 25 to 28.7 feet bgs had visual impacts such as NAPL blebs and sheen.	

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION: (**MTA Bus Depot), SE corner 41st & Rt 9A, Manhattan, New York
PHOTOGRAPH #: 4	
PHOTOGRAPHER: RA	
DATE: 06/12/2008	
DIRECTION: South	
COMMENT: Completed SB-46 location, facing South.	

ARCADIS
Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING SB-47 ACTIVITIES

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION: (**Pier 83), NE corner W 42nd & Rt 9A, Manhattan, New York
PHOTOGRAPH #: 1	
PHOTOGRAPHER: CM	
DATE: 03/26/2008	
DIRECTION: Northwest	
COMMENT: Proposed SB-47 location (indicated by the orange circle) with nearby utility mark outs.	

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION: (**Pier 83), NE corner W 42nd & Rt 9A, Manhattan, New York
PHOTOGRAPH #: 2	
PHOTOGRAPHER: CM	
DATE: 03/26/2008	
DIRECTION: N/A	
COMMENT: Completed 5 ft hand clear at SB-47, including asphalt, sand, brick, and rock fragments.	

ARCADIS
Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING SB-47 ACTIVITIES

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION: (**Pier 83), NE corner W 42nd & Rt 9A, Manhattan, New York
PHOTOGRAPH #: 3	
PHOTOGRAPHER: CM	
DATE: 03/26/2008	
DIRECTION: N/A	
COMMENT: Soils collected from 7 to 9 feet bgs. No visual impacts were identified throughout boring.	

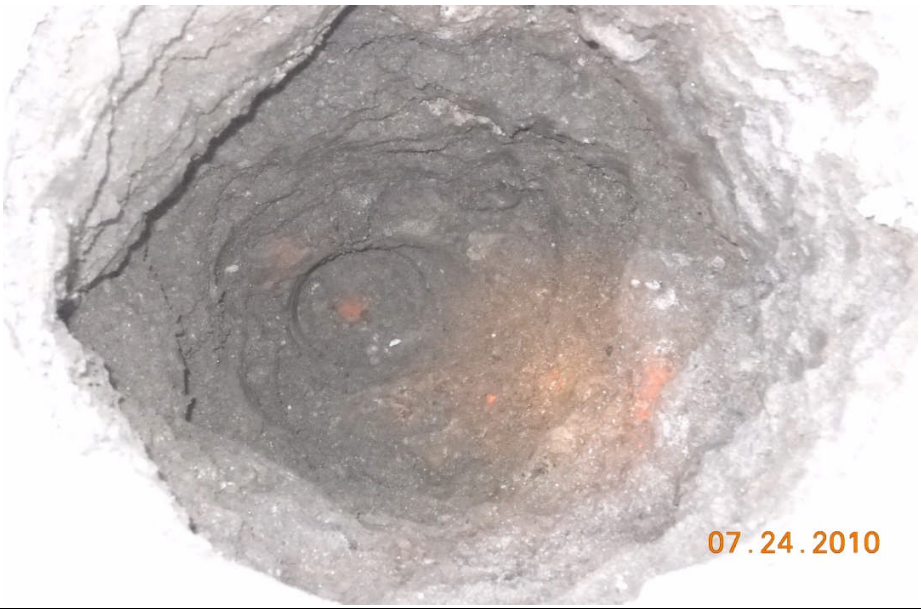
CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION: (**Pier 83), NE corner W 42nd & Rt 9A, Manhattan, New York
PHOTOGRAPH #: 4	
PHOTOGRAPHER: CM	
DATE: 03/26/2008	
DIRECTION: Northeast	
COMMENT: Completed SB-47 location, facing Northeast.	

ARCADIS
Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING SB-48 ACTIVITIES

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** 620 W 42nd St. Sidewalk, Manhattan, New York
PHOTOGRAPH #: 1	
PHOTOGRAPHER: PP	
DATE: 07/24/2010	
DIRECTION: Northwest	
COMMENT: Proposed SB-48 location (midpoint of orange barriers) with nearby utility mark outs.	

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** 620 W 42nd St. Sidewalk, Manhattan, New York
PHOTOGRAPH #: 2	
PHOTOGRAPHER: PP	
DATE: 07/24/2010	
DIRECTION: N/A	
COMMENT: Completed 5 ft hand clear at SB-48.	

ARCADIS
Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING SB-48 ACTIVITIES

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** 620 W 42nd St. Sidewalk, Manhattan, New York
PHOTOGRAPH #: 3	
PHOTOGRAPHER: PP	
DATE: 07/24/2010	
DIRECTION: N/A	
COMMENT: Soils collected from 10 - 15 feet bgs. Note that the collected soils contained visible tar-like material and a moderate odor (PID readings ranged 60 - 537 ppm in this interval).	

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** 620 W 42nd St. Sidewalk, Manhattan, New York
PHOTOGRAPH #: 4	
PHOTOGRAPHER: PP	
DATE: 07/24/2010	
DIRECTION: Northwest	
COMMENT: Completed SB-48 location, facing Northwest.	

ARCADIS
Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING SB-49 ACTIVITIES

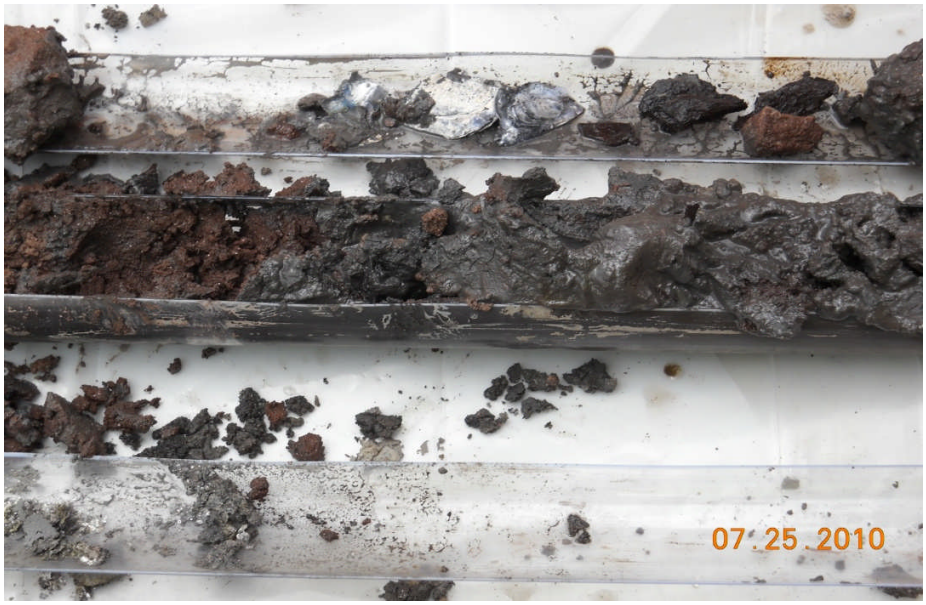
CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** West 40th St. Northern sidewalk, Manhattan, New York
PHOTOGRAPH #: 1	
PHOTOGRAPHER: PP	
DATE: 07/25/2010	
DIRECTION: East	
COMMENT: Proposed SB-49 location with nearby utility mark outs.	

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** West 40th St. Northern sidewalk, Manhattan, New York
PHOTOGRAPH #: 2	
PHOTOGRAPHER: PP	
DATE: 07/25/2010	
DIRECTION: North	
COMMENT: Completed 5 ft hand clear at SB-49, soils removed included heavy red pavers encountered at approximately 3.15 – 4 feet bgs.	

ARCADIS
Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING SB-49 ACTIVITIES

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** West 40th St. Northern sidewalk, Manhattan, New York
PHOTOGRAPH #: 3	
PHOTOGRAPHER: PP	
DATE: 07/25/2010	
DIRECTION: N/A	
COMMENT: Soils collected from 10 to 15 feet bgs. The sample exhibited an iridescent sheen and a moderate odor (PID readings ranged from 11.25 - 47 ppm in this interval).	

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** West 40th St. Northern sidewalk, Manhattan, New York
PHOTOGRAPH #: 4	
PHOTOGRAPHER: PP	
DATE: 07/25/2010	
DIRECTION: West	
COMMENT: Completed SB-49 location, facing West.	

ARCADIS
Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING SB-50 ACTIVITIES

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** 635 West 42nd Street, Manhattan, New York
PHOTOGRAPH #: 1	
PHOTOGRAPHER: THL	
DATE: 02/26/2011	
DIRECTION: East	
COMMENT: Proposed SB-50 location (indicated by cone) with nearby utility mark outs. Note that the date on the picture is incorrect.	

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** 635 West 42nd Street, Manhattan, New York
PHOTOGRAPH #: 2	
PHOTOGRAPHER: PP	
DATE: 02/26/2011	
DIRECTION: Northwest	
COMMENT: Completed 5 ft hand clear at SB-50, including red pipe encountered at approximately 18 inches below ground surface on the Northwestern side of the boring.	

ARCADIS
Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING SB-50 ACTIVITIES

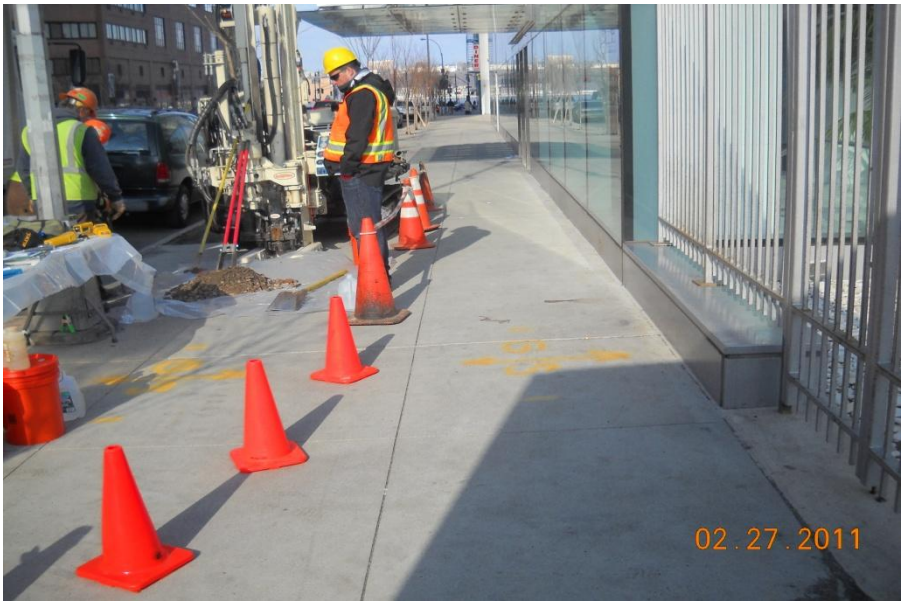
CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** 635 West 42nd Street, Manhattan, New York
PHOTOGRAPH #: 3	
PHOTOGRAPHER: PP	
DATE: 02/26/2011	
DIRECTION: N/A	
COMMENT: Soils collected from 5 to 10 feet bgs (10 feet on the right). Note that a sample was collected at 9 feet. No visual impacts or PID hits were noted at any depth.	

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** 635 West 42nd Street, Manhattan, New York
PHOTOGRAPH #: 4	
PHOTOGRAPHER: THL	
DATE: 02/26/2011	
DIRECTION: North	
COMMENT: Completed SB-50 location, facing North. Note that date on the picture is incorrect.	

ARCADIS
Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING SB-51 ACTIVITIES

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** 635 West 42nd Street, Manhattan, New York
PHOTOGRAPH #: 1	
PHOTOGRAPHER: PP	
DATE: 02/27/2011	
DIRECTION: West	
COMMENT: View of work area at SB-51 during hand clearing activities.	

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** 635 West 42nd Street, Manhattan, New York
PHOTOGRAPH #: 2	
PHOTOGRAPHER: PP	
DATE: 02/27/2011	
DIRECTION: N/A	
COMMENT: View of soils collected from 10-15 ft bgs (15 ft on the left). Note that a soil sample was collected at 14.5 ft bgs.	

ARCADIS
Infrastructure, environment, facilities

WEST 42ND STREET WORKS

SOIL BORING SB-51 ACTIVITIES

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** 635 West 42nd Street, Manhattan, New York
PHOTOGRAPH #: 3	
PHOTOGRAPHER: PP	
DATE: 02/27/2011	
DIRECTION: N/A	
COMMENT: Piece of bedrock encountered at 19.8 feet below ground surface.	

CLIENT: Con Edison	**SITE NAME:** West 42nd Street Works
PROJECT #: B0043012	**SITE LOCATION:** 635 West 42nd Street, Manhattan, New York
PHOTOGRAPH #: 4	
PHOTOGRAPHER: PP	
DATE: 02/27/2011	
DIRECTION: South	
COMMENT: Completed surface restoration at SB-51.	

WELL COMPLETION LOGS

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: MW-07

Date(s): 02/20/05 – 02/20/05

Datum: Mean Sea Level

Elevation: 2.03' | Measuring Point: 1.49'

Completed Depth: 17.00' | Total Depth: 54.00'

Location: West 42nd Street

Purpose: Monitoring Well, Shallow

Logged By: AC/KP

Drilling Method: Hollow Stem Auger

Borehole Dia.: 4.25in

Contractor: ADT

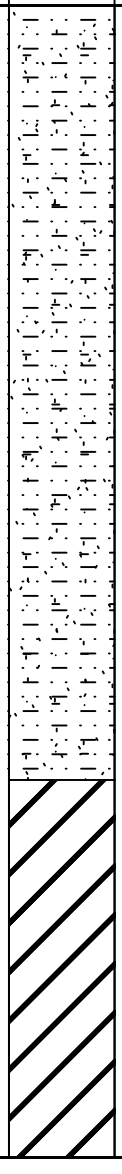
Screens:
type: Slotted size: 0.020in dia: 2.00in fm: 5.00' to: 15.00'

Remarks: Logged from boring SB-30.
Well placed in SB-30 borehole.

DRAFT

Depth (ft)	Recovery	Sample Interval	PID	Material Description
		0–6'	0.5 ppm	1' of asphalt/concrete to dk brown, sandy FILL, some gravel, concrete, dry
			0.6 ppm	Lt brown–tan, fine–med sandy FILL, some fine gravel, brick, concrete, dry
			0.7 ppm	Tan, fine sandy FILL, little fine–medium gravel, few rocks, moist
			0.6 ppm	
			0.7 ppm	
5			0.6 ppm	Tan–black, fine–med sandy FILL, some fine–medium gravel, wood, moist
		6–8'	1.2 ppm	Dk brown–black, medium sandy FILL, some gravel and mica, wood, moist–wet
		8–10'	1.1 ppm	Gray–black, FILL, wood, some gravel, few rocks, wet
10		10–12'	1414 ppm	Black, FILL, black stained wood, sheen, moderate hydrocarbon–like odor, wet
		12–14'	65.8 ppm	Black, FILL, black stained wood, organic matter, gravel, sheen, moderate naphthalene–like odor, wet
		14–16'	49 ppm	Black, coarse gravelly FILL, some black stained wood, some black medium–coarse sand, sheen, moderate–strong naphthalene–like odor, wet
15		16–18'	92 ppm	Black, gravelly FILL, black stained wood, organic matter, trace black med–coarse sand, sheen, mod–strong naphthalene–like odor, wet
		18–20'		No recovery, wood in tip of split spoon
20		20–22'	24.1 ppm	FILL, wood, organic material, staining, sheen, mod–strong naphthalene–like odor, wet, to gray–black, CLAY, medium dense, wet
		22–24'	26.3 ppm	Gray–black, CLAY, light staining, slight naphthalene–like odor, medium dense, wet
		24–26'		Same as above
25			54.6 ppm	
		26–28'	7.2 ppm	Gray–black, CLAY, trace sand, trace organic matter, slight staining, slight naphthalene–like odor, loose, wet
		28–30'		Gray, CLAY, trace silt, trace shells, trace mica, slight naphthalene–like odor, medium dense, wet
			31.6 ppm	

Graphic Log



Screen Zones

Consulting Firm: Dvirka & Bartilucci	Site Id: MW-07
Location: West 42nd Street	Date(s): 02/20/05 - 02/20/05
Purpose: Monitoring Well, Shallow	Total Depth: 54.00'

Depth (ft)	Recovery	Sample Interval	PID	Material Description	Graphic Log	Screen Zones
		30-32'	22.5 ppm	Gray, CLAY, trace shells, dense, wet		
				Gray, CLAY, trace shells, very dense, wet		
		32-34'	4.0 ppm			
				Same as above, some shells		
		34-36'	3.6 ppm			
35				No recovery		
		36-38'				
				Gray, CLAY, trace shells, very dense, wet		
		38-40'	5.1 ppm			
				Gray, CLAY, trace silty sand, some shells, trace wood, dense, wet		
40		40-42'	3.6 ppm			
				Same as above		
		42-44'	7.7 ppm			
				Same as above		
		44-46'	2.7 ppm	Dk brown-black, medium SAND, some silty clay, loose, wet		
45				Dk brown-black, medium SAND, trace shells, loose, wet		
		46-48'	1.7 ppm			
				Same as above		
		48-50'	2.3 ppm			
50			0.7 ppm	Dark brown-gray, medium-coarse SAND, some fine-medium gravel, few shells, loose, wet		
		50-52'				
				Same as above (bedrock at 54')		
		52-54'	1.1 ppm			
				Base of boring - 54 ft.		
55						
60						
65						

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: MW-08

Date(s): 03/06/05 – 03/06/05

Datum: Mean Sea Level

Elevation: 2.15' | Measuring Point: 1.57'

Completed Depth: 17.00' | Total Depth: 51.00'

Location: West 42nd Street

Purpose: Monitoring Well, Shallow

Logged By: AC/KP

Drilling Method: Hollow Stem Auger

Screens:
type: Slotted size: 0.020in dia: 2.00in fm: 5.00' to: 15.00'

Borehole Dia.: 4.25in

Contractor: ADT

Remarks: Logged from boring SB-31.

DRAFT

Depth (ft)	Recovery	Sample Interval	PID	Material Description
		0–5'	0.0 ppm	1.5' of asphalt/concrete to brown, sandy FILL, construction debris, dry
			0.0 ppm	Brown, coarse gravelly FILL, trace sand, trace construction debris, dry
			0.5 ppm	Dark brown, medium–coarse sandy FILL, coarse gravel, loose, dry
			0.5 ppm	
			0.3 ppm	
5		5–7'	0.2 ppm	Dark brown–gray, coarse sandy FILL, micaceous, some gravel, loose, moist
		7–9'	0.1 ppm	Dark brown–black, coarse sandy FILL, some mica, some gravel, loose, wet
		9–11'		No recovery
10		11–13'	0.2 ppm	Gray–black, medium–coarse sandy FILL, some gravel, some mica, some red brick, little wood, loose, wet
		13–15'	0.3 ppm	Black, medium–coarse sandy FILL, some gravel, organic material, rock in tip of split spoon
15		15–17'	0.4 ppm	Black, medium sandy FILL, some gravel, silt, little clay, red brick, concrete in tip of split spoon, loose, wet
		17–19'	1.0 ppm	Bk, CLAY, some silt, little sand, slight hydrocarbon–like odor, med dense to black, med SAND, some gravel, silt, little clay, loose, wet
		19–21'	0.5 ppm	Same as above to black, CLAY, loose, wet
20		21–23'		Gray, CLAY, dense, wet
			0.6 ppm	
		23–25'	0.7 ppm	Same as above, wood in tip of split spoon, some mica, few shells
25		25–27'	0.5 ppm	6" of wood, wet
		27–29'	0.6 ppm	Gray, CLAY, some silt, some shells, medium dense, wet
		29–31'	1.8 ppm	Gray, CLAY, trace silt, slight hydrocarbon–like odor, soft, wet

Graphic Log

Screen Zones

Consulting Firm: Dvirka & Bartilucci	Site Id: MW-08
Location: West 42nd Street	Date(s): 03/06/05 - 03/06/05
Purpose: Monitoring Well, Shallow	Total Depth: 51.00'

Depth (ft)	Recovery	Sample Interval	PID	Material Description	Graphic Log	Screen Zones
		31-33'	0.9 ppm	Gray, CLAY, little silt, trace shells, soft-medium dense, wet		
		33-35'	0.9 ppm	Same as above		
35		35-37'	0.9 ppm	Gray, silty CLAY, some shells, slight organic (H2S-like) odor, soft, wet		
		37-39'	2.1 ppm	Gray, silty CLAY, strong organic (H2S-like) odor, dense, wet		
		39-41'	1.6 ppm	Same as above, 0.5" zone of peat at 40'		
40		41-43'	1.7 ppm	Same as above to gray, fine SAND, some silt, trace clay, some shells, organic (H2S-like) odor, loose, wet		
		43-45'	0.9 ppm	Gray, silty CLAY, some sand to gray, fine SAND, some silt, little clay slight-moderate organic (H2S-like) odor, wet		
45		45-47'	1.0 ppm	Gray, medium-coarse SAND, little silt, some gravel, slight organic (H2S-like) odor, loose, wet to brown, fine-medium sandy SILT, trace mica, slight organic (H2S-like) odor, dense, wet		
		47-49'	0.8 ppm	Brown, fine-medium sandy SILT, dense, wet		
		49-51'	0.8 ppm	Weathered bedrock, white/gray rock pieces w/veins of quartz (bedrock at 51')		
50				Base of boring - 51 ft.		
55						
60						
65						

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: MW-09

Date(s): 02/27/05 – 02/27/05

Datum: Mean Sea Level

Elevation: 2.20' | Measuring Point: 1.48'

Completed Depth: 17.00' | Total Depth: 69.00'

Location: West 42nd Street

Purpose: Monitoring Well, Shallow

Logged By: KP

Drilling Method: Hollow Stem Auger

Borehole Dia.: 4.25in

Contractor: ADT

Screens:
type: Slotted size: 0.020in dia: 2.00in fm: 5.00' to: 15.00'

Remarks: Logged from boring SB-34.

DRAFT

Depth (ft)	Recovery	Sample Interval	PID	Material Description
		0–5'	0.0 ppm	1.5' of asphalt/concrete to brown, medium–coarse sandy FILL, some gravel, trace concrete/brick, loose, dry
			0.0 ppm	
			0.0 ppm	Dark brown–black, medium–coarse sandy FILL, some gravel, trace brick/concrete, loose, dry
			0.0 ppm	
			0.0 ppm	
5		5–7'	0.6 ppm	Dark brown–black, coarse gravelly FILL, some coarse sand, trace brick/concrete, loose, dry
		7–9'	0.3 ppm	Same as above to black, fine sandy FILL, trace gravel, slight naphthalene–like odor, loose, wet
		9–11'	0.2 ppm	Black, FILL, coarse gravel and sand, slight naphthalene–like odor, loose, wet
10		11–13'	10.2 ppm	Black, FILL, construction debris, concrete, brick, some sand and gravel, slight naphthalene–like odor, loose, wet
		13–15'	47 ppm	Black, gravelly FILL, trace fine sand, black staining, sheen, naphthalene–like odor, loose, wet
15		15–17'	44.4 ppm	Same as above, trace organics, wood
		17–19'	6.9 ppm	Same as above
		19–21'	10.3 ppm	Black, coarse gravelly FILL, some silty sand, trace wood, organics, bk staining, sheen, naphthalene–like odor, loose, wet
20		21–23'	6.5 ppm	Same as above to bk, silty clayey FILL, trace f sand, trace organics, wood, bk staining, sheen, sl naphthalene–like odor, loose
		23–25'	0.8 ppm	Gray–black, CLAY, slight staining, slight naphthalene–like odor, loose, wet
25		25–27'	4.5 ppm	Same as above
		27–29'	1.0 ppm	Gray, CLAY, trace silt, micaceous, slight naphthalene–like odor, wet
		29–31'	2.3 ppm	Same as above

Consulting Firm: Dvirka & Bartilucci	Site Id: MW-09
Location: West 42nd Street	Date(s): 02/27/05 – 02/27/05
Purpose: Monitoring Well, Shallow	Total Depth: 69.00'

Depth (ft)	Recovery	Sample Interval	PID	Material Description	Graphic Log	Screen Zones
		31–33'	3.2 ppm	Gray, CLAY, trace silt, micaceous, slight naphthalene–like odor, wet Same as above		
		33–35'	2.1 ppm	Same as above		
35		35–37'	0.2 ppm	Gray, CLAY, trace shells, dense, wet		
		37–39'	0.4 ppm	Gray, CLAY, trace shells, trace silt, trace wood, dense, wet		
		39–41'	0.2 ppm	Same as above		
40		41–43'	0.2 ppm	Same as above		
		43–45'	0.3 ppm	Gray, CLAY, trace shells, trace silt, trace wood, dense, wet		
45		45–47'	0.2 ppm	Same as above		
		47–49'	0.3 ppm	Same as above		
		49–51'	0.2 ppm	Gray, CLAY, trace silt, trace shells/organic material, loose, wet		
50		51–53'	0.2 ppm	Gray, silty fine SAND, some shells, loose, wet		
		53–55'	0.2 ppm	Same as above, trace wood		
55		55–57'	0.4 ppm	Gray, fine SAND, some silt, trace shells and wood, loose, wet		
		57–59'	0.3 ppm	Same as above, some shells		
		59–61'	0.2 ppm	Gray, fine SAND, trace silt, trace shells, loose, wet Gray, CLAY, loose, wet		
60		61–63'	1.1 ppm	Gray, medium–fine SAND, trace shells, loose, wet		
		63–65'	1.3 ppm	Same as above		
65		65–67'	1.3 ppm	Same as above, trace clay		
		67–69'	1.7 ppm	Gray, medium–fine SAND, trace silty clay, trace quartz, loose, wet (bedrock at 67.5') Base of boring – 69 ft.		

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

Site Id: MW-10

Date(s): 02/27/05 – 02/27/05

Datum: Mean Sea Level

Elevation: 2.08' | Measuring Point: 1.92'

Completed Depth: 17.00' | Total Depth: 70.00'

Location: West 42nd Street

Purpose: Monitoring Well, Shallow

Logged By: AC/KP

Drilling Method: Hollow Stem Auger

Borehole Dia.: 4.25in

Contractor: ADT

Screens:
type: Slotted size: 0.020in dia: 2.00in fm: 5.00' to: 15.00'

Remarks: Logged from boring SB-38.

DRAFT

Depth (ft)	Recovery	Sample Interval	PID	Material Description
		0–5'	0.0 ppm	2' of asphalt/concrete
			0.0 ppm	Brown, coarse gravelly FILL, some medium–coarse brown sand, trace concrete/brick, loose, dry
			1.0 ppm	
			0.7 ppm	Brown, med–coarse sandy FILL, some coarse gravel, loose, dry
			1.0 ppm	No recovery
5		5–7'		
		7–9'	0.4 ppm	Dark brown, medium–coarse sandy FILL, some gravel, micaceous, loose, wet
		9–11'	0.5 ppm	Same as above
10		11–13'	0.4 ppm	Dark brown–black, medium–coarse sandy FILL, some gravel, trace wood, loose, wet
		13–15'		No recovery
15		15–17'	5.3 ppm	Black, coarse sandy FILL, some gravel, some organic material, organic (H2S–like) odor, wet
		17–19'	6.4 ppm	Same as above, piece of coal in split spoon
		19–21'	238 ppm	Black, medium–coarse sandy FILL, trace gravel, some wood, heavy black staining, sheen, mod naphthalene–like odor, wet
20		21–23'	25.8 ppm	Same as above
		23–25'	56.8 ppm	Black, SILT, trace fine sand, some wood/organic material, black staining, sheen, moderate naphthalene–like odor, wet
25		25–27'	300 ppm	Same as above
		27–29'	48 ppm	Same as above to bk–gray, CLAY, trace silt, slight bk staining, slight sheen and naphthalene–like odor, loose, wet
		29–31'	13.2 ppm	Same as above, gray, trace organic material

Graphic Log

Screen Zones

Consulting Firm: Dvirka & Bartilucci	Site Id: MW-10
Location: West 42nd Street	Date(s): 02/27/05 - 02/27/05
Purpose: Monitoring Well, Shallow	Total Depth: 70.00'

Depth (ft)	Recovery	Sample Interval	PID	Material Description	Graphic Log	Screen Zones
		31-33'	4.5 ppm	Gray, CLAY, trace silt, trace organic material, slight sheen, slight naphthalene-like odor, loose, wet		
		33-35'	10 ppm	Same as above		
35		35-37'	9.6 ppm	Same as above, trace shells		
		37-39'	1.2 ppm	Same as above		
		39-41'	13.5 ppm	Same as above		
40		41-43'	11.3 ppm	Same as above		
		43-45'	2.3 ppm	Gray, silty CLAY, trace shells, trace fine sand, loose, wet		
		45-47'	2.1 ppm	Same as above		
45		47-49'	5.1 ppm	Gray, silty CLAY, organic (H2S-like) odor, loose, wet		
		49-51'	1.7 ppm	Same as above		
50		51-53'	1.9 ppm	Same as above		
		53-55'	1.3 ppm	Same as above, trace shells		
		55-57'	1.2 ppm	Same as above, some shells		
55		57-59'	1.4 ppm	Gray, silty CLAY, some shells, organic (H2S-like) odor, loose, wet		
		59-61'	3.3 ppm	Same as above		
60		61-63'	2.0 ppm	Black-dark brown, fine silty SAND, some shells, loose, wet		
		63-65'	2.2 ppm	Same as above		
65		65-67'	4.4 ppm	Same as above		
		67-69'	3.9 ppm	Brown, silty med-fine SAND, trace organic material, loose, wet (bedrock at 70')		
		69-70'		Base of boring - 70 ft.		

Date Start/Finish: 7/23/2010
Drilling Company: NYEG Drilling LLC
Driller's Name: John Gibbs
Drilling Method: Direct Push
Sampling Method: 5' Acetate Liner
Rig Type: Geoprobe 7822DT

Northing: 216339.63
Easting: 984318.10
Casing Elevation: 13.00' AMSL

Borehole Depth: 22.5' bgs
Surface Elevation: 13.28' AMSL

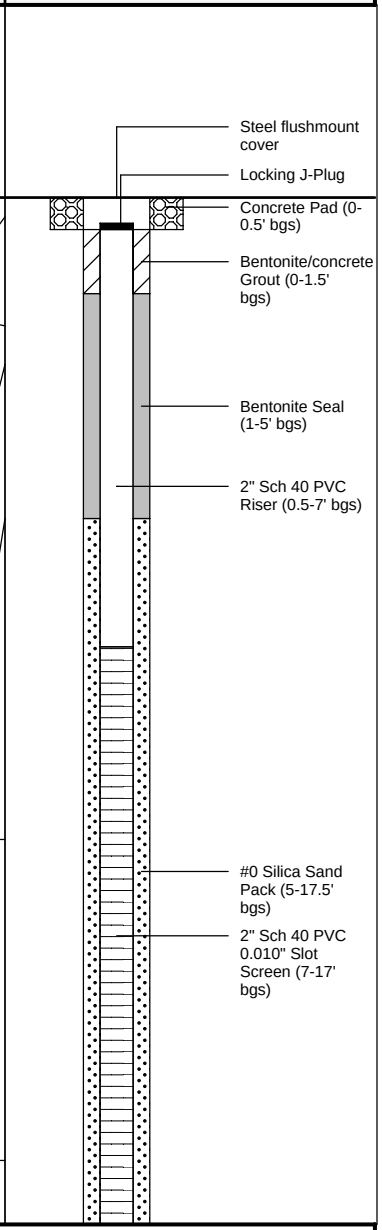
Descriptions By: Patricia Prezorski

Well/Boring ID: **MW-11**

Client: Consolidated Edison Company of New York, Inc

Location: West 42nd Street Works
New York, NY
West 41st Street southern sidewalk between 11th and 12th Avenue

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description
0 / 15						CONCRETE with Rebar.
						SAND, very fine to fine, subrounded, some Quartzite Gravel, fine to coarse, subrounded to subangular, trace Concrete fragments (up to 2" diameter), trace red brick fragments (up to 3" diameter), moist, brown (7.5YR 4/3) to dark brown (7.5YR 3/3).
	NA	NA	NA	0.0		SAND, very fine to medium, subrounded, little Silt, little fine Quartzite and Schist, subrounded, trace anthracite fragments, moist, dark brown (7.5YR 3/3).
						Brick material in sizes of 2.5"x3.5" at 2.25' bgs. Cobble at 2.58' bgs.
10 / 5						SAND, very fine to coarse, subrounded, little Gravel, fine, trace Concrete and red brick fragments, muscovite flakes visible, trace lump of brown Clay, medium plasticity, no dilatancy, moist, brown 7.5YR 4/3.
						Large Cobble at 2.66' bgs. Schist fragments (up to 4"x7" in size) at 3.1' bgs. Wood debris at 3.6' bgs. Concrete fragments (up to 9"x5" in size) from 3.8-3.9' bgs. Wood fragments, Schist fragments, and trace slag material at 4.3' bgs. Flat Gneiss rock (5"x5.5" in size) at 4.5' bgs. Fragments of anthracite Coal, Gneiss fragments and Schist rock fragments covers bottom of borehole (hand dug portion).
5 / 0	1	5-10	2	0.0		Crushed fragments of GRANITIC SCHIST.
10 / -5						GRANITIC SCHIST fragments in tip of shoe.
15 / -10	2	10-15	NA	0.0		
						SAND, very fine to medium, subrounded, some fragments of wood, little anthracite fragments, moist to very moist, brown/dark brown to dark gray (7.5 YR 4/4 - 4/1).



ARCADIS
Infrastructure, environment, buildings

Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level, NVI = no visible impacts. Location hand cleared to 5 ft bgs.

Client: Consolidated Edison Company of New York, Inc

Well/Boring ID: **MW-11**

Borehole Depth: 22.5' bgs

Site Location:
West 42nd Street Works
New York, NY
West 41st Street southern sidewalk between 11th and 12th Avenue

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
-5	3	15-20	4	0.0		SAND, very fine to medium, subrounded, some fragments of wood, little anthracite fragments, moist to very moist, brown/dark brown to dark gray (7.5 YR 4/4 - 4/1).	2" Sch 40 PVC 0.010" Slot Screen (7-17' bgs); #0 Silica Sand Pack (5-17.5' bgs)
20						CLAY, high plasticity, no dilatancy, dark gray.	
	4	20-22.5	2.6	0.0		CLAY, high plasticity, no dilatancy, dark gray.	
-10						End of Boring at 22.5' bgs.	
25							
-15							
30							
-20							
35							

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Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level, NVI = no visible impacts. Location hand cleared to 5 ft bgs.

APPENDIX C

Groundwater Sampling and Well Development Logs

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Infrastructure, environment, facilities

Low-Flow Groundwater Sampling Log

Project: CONED EAST 42ND ST
Project Number: B0043012.0001.00005
Site Location: NYC
Well ID: MW08
Date: 3/5/11
Sampled By: GW DM
Sampling Time:
Recorded By: DM
Weather:
Coded Replicate No.:

Instrument Identification
Water Quality Meter(s):
Serial #:

Casing Material: PVC
Casing Diameter: 2"
Sounded Depth (ft bmp):
Depth to Water (ft bmp): 6.11
Purge Method: low-flow with Redi-flow
Screen Interval (ft bmp): Top 5 Bottom 15
Pump Intake Depth (ft bmp): 10
Purge Time: Start 1015 Finish 1115

Field Parameter Measurements During Purging

Time	Minutes Elasped	Flow Rate (mL/min)	Volume Purged	Temp (°C)	pH (s.u.)	Conductivity (umhos or ~~mS/cm~~) 1)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)
1015		800mL					68		9 Sand	6.11
1020	5			8.9	7.19	1450	68	7.02		
1025	10			8.8	7.21	1450	70	6.62		6.19
1030	15			8.9	7.21	1458	72	5.43		
1035	20			9.4	7.22	1454	74	5.13		6.19
1040	25			9.4	7.22	1450	76	4.47		
1045	30			10.0	7.23	1448	78	4.66		6.18
1050	35			10.1	7.23	1445	79	4.96		
1055	40			10.3	7.23	1443	80	4.34		6.18
1100	45			10.3	7.23	1441	81	4.13		
1105	50			10.5	7.25	1435	82	4.62		6.22
1110	55			10.5	7.25	1432	84	4.24		
1115	60	↓		10.5	7.25	1430	84	4.24	8.7	6.18

DTW 6.19

Collected Sample Condition: Color: Odor: Appearance:

Parameter	Container	No.	Preservative

PID Reading:

Comments: TIDAL EFFECT OUTGOING TIDE, SOME DRAW DOWN.

1) Circle one unit type

ARCADIS
Infrastructure, environment, facilities

Low-Flow Groundwater Sampling Log

Project	Con Ed N 42nd St				
Project Number	B0043012.0001.00005	Site Location	NY, NY	Well ID	MW-07
Date	3/7/11	Sampled By	Gang Williams / Suning Xu		
Sampling Time	1110	Recorded By	Suning Xu		
Weather	Sunny ; 45F	Coded Replicate No.	MS/MSD		

Instrument Identification

Water Quality Meter(s) _____ Serial # _____

Casing Material	PVC	Purge Method	low-flow with Real-flow		
Casing Diameter	2"	Screen Interval (ft bmp)	Top 5	Bottom 15	
Sounded Depth (ft bmp)	13.30	Pump Intake Depth (ft bmp)	10		
Depth to Water (ft bmp)	6.11	Purge Time	Start 1025	Finish 1110	

Field Parameter Measurements During Purging

Time	Minutes Elasped	Flow Rate (mL/min)	Volume Purged	Temp (°C)	pH (s.u.)	Conductivity (umhos or mS/cm)[1]	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)
10:25	0	400		12.5	6.60	8.65	-260	0.46		6.11
10:30	5	↓		10.6	7.06	9.49	-273	0.47		6.59
1035	10			9.9	7.07	9.79	-287	0.29		
1040	15			9.9	7.10	9.99	-292	0.26	50	6.35
1045	20			9.8	7.15	10.16	-302	0.25		
~~1050~~	~~25~~			~~9.8~~	~~7.15~~	~~10.24~~	~~-306~~	0.28	88	6.35
1055	30			9.8	7.17	10.28	-312	0.22		
1100	35			9.8	7.16	10.34	-314	0.24	50	6.36
1105	40			10.0	7.15	10.37	-318	0.23		
1110	45	↓		10.1	7.18	10.40	-320	0.21	45	6.36

Collected Sample Condition Color Slight grey Odor moderate Appearance clear

Parameter	Container	No.	Preservative

PID Reading _____

Comments * manhole cover is missing one bolt; manhole is filled with 1" water and black sediments, to the brim;
* Have to purge first at the begining to clear out, then slow down to low-flow

1) Circle one unit type

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Low-Flow Groundwater Sampling Log

Project: Con Ed W 42nd St, NY NY
Project Number: B0043012.1.5
Site Location: W 42nd St, NY NY
Well ID: MW-10
Date: 3-1-11
Sampled By: Greg Williams / Sunny Xu
Sampling Time: 12.50
Recorded By: Sunny Xu
Weather: Sunny 10°F
Coded Replicate No.:

Instrument Identification
Water Quality Meter(s):
Serial #:

Casing Material:
Purge Method: low-flow with peri-pump
Casing Diameter: 2"
Screen Interval (ft bmp): Top 5 Bottom 15
Sounded Depth (ft bmp): 17
Pump Intake Depth (ft bmp): 11
Depth to Water (ft bmp): 6.27
Purge Time: Start 1202 Finish:

Field Parameter Measurements During Purging

Time	Minutes Elasped	Flow Rate (mL/min)	Volume Purged	Temp (°C)	pH (s.u.)	Conductivity (umhos or mS/cm)[1]	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)
1202	0			8.8	7.71	5.30	-243	1.43		
1207	5			8.8	7.57	5.23	-238	1.14		
1212	10			8.5	7.56	4.84	-202	2.55		8.25
1217	15			8.9	7.53	4.79	-195	2.41		
1222	20			10.0	7.56	4.90	-208	1.92	120	8.31
1227	25			10.5	7.56	4.93	-202	1.83		
1232	30			10.9	7.55	4.93	-197	1.79	31	8.50
1237	35			11.4	7.57	4.96	-192	2.42		
1242	40			11.6	7.59	5.00	-192	2.56	29	8.60
1245	45			11.7	7.60	5.02	-191	2.66	18	

Collected Sample Condition
Color: none
Odor: moderate
Appearance: clear.

Parameter	Container	No.	Preservative

PID Reading:

Comments: ≈ water level drawn down due to pulling tubing 10ft from well

1) Circle one unit type

ARCADIS
Infrastructure, environment, facilities

Low-Flow Groundwater Sampling Log

Project: ConEd W 42nd St
Project Number: B0043012.0001.00005
Site Location:
Well ID: MW-09
Date: 3/1/11
Sampled By: Gary Williams / Sunny Xu
Sampling Time: 1115
Recorded By: Sunny Xu
Weather: Sunny 45°F
Coded Replicate No.: REP 3-1-11

Instrument Identification
Water Quality Meter(s):
Serial #:

Casing Material:
Purge Method: low-flow with Redi-Flo
Casing Diameter: 2"
Screen Interval (ft bmp): Top 5 Bottom 15
Sounded Depth (ft bmp): 17.00
Pump Intake Depth (ft bmp): 11
Depth to Water (ft bmp): 6.73
Purge Time: Start 1030 Finish 1115

Field Parameter Measurements During Purging

Time	Minutes Elasped	Flow Rate (mL/min)	Volume Purged	Temp (°C)	pH (s.u.)	Conductivity (umhos or mS/cm)[1]	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Depth to Water (ft bmp)
1030	0			6.4	7.36	5.05	-105	0.89		
1035	5			7.0	7.64	5.07	-227	0.38		6.93
1040	10			7.4	7.66	5.17	-258	0.16		
1045	15			7.80	7.67	5.19	-268	0.12		6.98
1050	20			8.4	7.69	5.26	-286	0.11		
1055	25			8.6	7.70	5.28	-287	0.13		7.02
1100	30			8.4	7.72	5.36	-298	0.19		
1105	35			8.4	7.74	5.41	-300	0.21		7.08
1110	40			8.5	7.75	5.46	-312	0.23		
1115	45			8.5	7.75	5.50	-315	0.23	30	7.10

Collected Sample Condition
Color: ~~clear~~ none
Odor: moderate
Appearance: clear

Parameter	Container	No.	Preservative

PID Reading:

Comments:
- water is black with strong odor at begin of purging
- half tide : outgoing.

1) Circle one unit type

ARCADIS
Infrastructure, environment, facilities

Water Sampling Log

Project: ConEd West 42nd Street | Project No.:
Site Location: West 41st Street, NY, NY | Date: 7/29/10
Well No.: MW-11 | Replicate No.: NA | Weather:
Sampling Personnel: Prezorski | Sampling Time: Begin 11:26 am | End:

Purge Data		Field Parameters	I	1V	2V	3V
Measuring Point (describe)	TOC	Color	~~Colorless~~ cloudy	Colorless clear	Colorless clear	Colorless clear
Sounded Well Depth (ft bmp)	16.45	Odor	—	none	none	None
Depth to Water (ft bmp)	15.55	Appearance	cloudy	clear	clear	clear
Depth to Packer (ft bmp)	—					
Water Column in Well (ft)	.90		I	1V	2V	3V
Casing Diameter	2" CO.16	pH (s.u.)	6.78	6.82	6.85	6.81
Gallons in Well	.144	Conductivity				
Gallons Purged	x3	(mS/cm) or	536	5.33	5.37	5.36
Prior to Sampling	.432	(µmhos/cm) [1]	—	—	—	—
Pump Intake						
Setting (ft bmp)	Tubing approx 8-12" off bottom	Temperature (°C)	25.6	25.5	24.7	24.9
Packer Pressure (psi)	—					
Pumping Rate (gpm)	133ml = 1000ml	DO (mg/L)	1.26	1.23	.98	.55
Evacuation Method	3 well volume	ORP (mV)	-118	-124	-127	-124
Sampling Method	Peristaltic Pump & Bailer for VOCs	Turbidity (NTU)	50.8	7.76	6.81	7.27
Purge Time	Begin 10:58 am End 11:23	Time	—	—	—	—
		DTW (ft bmp)	—	—	—	—

Remarks: Each well volume = 1000ml to accommodate 4-22 parameter readings
VOC sample take with new bailer.

Parameter	Container	No.	Preservative
See COC			

PID Reading

Well Casing Volumes

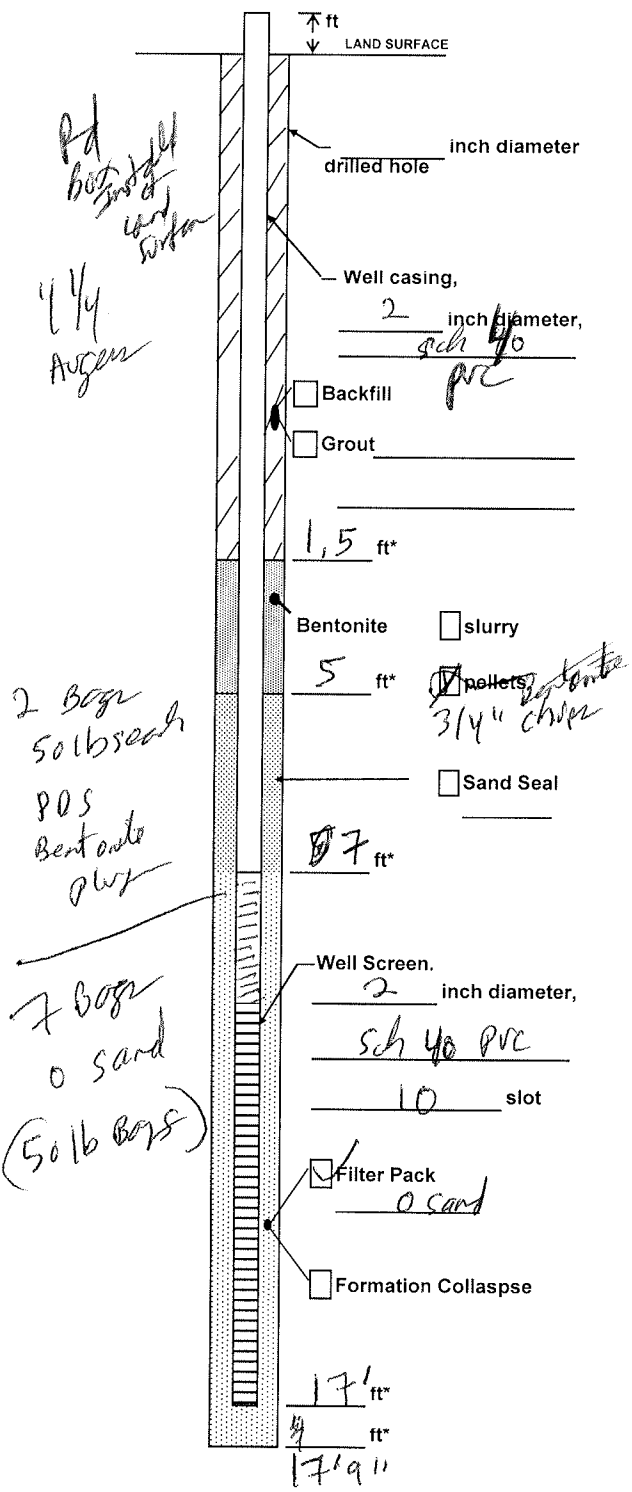
Gal./Ft.				
	$1^{1/4}$" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	$1^{1/2}$" = 0.09	~~2-½~~" = 0.26	3-½" = 0.50	6" = 1.47

1) Circle one unit type

ARCADIS

Well Construction Log

(Unconsolidated)



Project Name and No. Corbett Road/2nd Street

Well MW-11 Town/City

County State NY

Permit No.

Land-Surface Elevation and Datum:

feet ☐ Surveyed ☐ Estimated

Installation Date(s) 7/24/10

Drilling Method Geoprobe - HSA

Drilling Contractor

Drilling Fluid NONE

Development Technique(s) and Date(s)

Fluid Loss During Drilling gallons

Water Removed During Development gallons

Static Depth to Water feet below M.P.**

Pumping Depth to Water feet below M.P.**

Pumping Duration hours

Yield gpm Date

Specific Capacity gpm/ft

Well Purpose Monitorb

Remarks

* Depth Below Land Surface

**Measuring Point is Top of Well Casing Unless Otherwise Noted.

Prepared by Przorski

APPENDIX F

Initial Forensic Evaluation

APPENDIX F
Initial Forensic Evaluation

In this forensic evaluation, the polycyclic aromatic hydrocarbon (PAH) results from the soil samples were assessed using the existing Method 8270 analytical results and forensic diagnostic ratio techniques. Specifically, ratios of fluoranthene to pyrene and benz(a)anthracene to chrysene were evaluated to assess potential differences in PAH compositions. If coal tar has fluoranthene to pyrene ratios (Fl/Py) greater than 1.0, the coal tar is generated by the coal carbonization (CC) process. Coal tars with Fl/Py ratios between 0.67 and 1.0 are generated by the carbureted water gas (CWG) process. Oil gas tars have a Fl/Py ratio around 0.8. Heavy petroleum products, crude oil and coal generally have Fl/Py ratios less than 0.6. PAHs generated from most anthropogenic or natural combustion processes (background PAHs) generally have Fl/Py ratios greater than 1.0 and have relatively low TPPAH concentrations (generally <100 mg/kg).

Table F-1 presents the PAH soil data (a subset of Table 4-3), Total Target Compound List PAHs (TPAH), Total Priority Pollutant List (TPPAHs), and the aforementioned ratios divided into five groups based on their relative locations to each other. (Note a sample location map is provided on Figure 6-1.) Sample groups include:

- Group 1 (light blue) -SB-25, 26, 48, 51 - Along West 42nd Street
- Group 2 (dark blue) - SB-32, 33, 34, 38, 47 - Along the Hudson River shoreline west of 12th Avenue
- Group 3 (orange) - SB-39, 40, 46, 49 - At and south of West 41st Street
- Group 4 (green) - SB-09, 20, 21, 41, 42, 44 - Along West 41st Street
- Group 5 (red) - SB-22, 23, 24, 30, 31 - Along the east side of 12th Avenue

Samples with non-detect PAHs were not included. There was no assessment of possible differences in PAH results due to generation of data from different analytical laboratories or due to the time samples were collected.

TPPAH concentrations varied from non-detect to approximately 230,000 mg/kg (Figure F-1). Relatively higher TPPAH concentration samples (>1000 mg/kg TPPAH) were not grouped in any particular location but were generally observed in deeper sections of soil. Relatively higher TPPAH concentrations (high to low) were located at SB-24 (approximately 230,000 mg/kg), SB-38, SB-26, SB-39, SB-34, SB-46, SB-23, SB-30 and SB-49 (980 mg/kg).

As indicated in the diagnostic ratio plot (Figure F-2), there are some clustering of samples in the plot that may suggest material from different origins. These observations include:

- The green samples (SB-20 and 21) cluster to the left of the plot. The Fl/Py ratio range suggests a non coal tar-related origin (i.e. neither coal carbonization or carbureted water gas (CWG) tars).
- There are some samples with Fl/Py ratios between 0.75 and 1.0 (SB-40, SB-49, SB-33, SB-47, and SB-42) that do not appear to originate from coal carbonization tar.
- The orange group samples appear to have material from two origins.

- To the right of the plot, there is a cluster of relatively high concentration samples at SB-39 and 46 (and SB-26) with Fl/Py ratios >1.20 that appear to be different than the majority of samples clustered between Fl/Py ratios of 1.05 and 1.15.
- Most samples are clustered between Fl/Py ratios of 1.05 and 1.15 indicative of PAHs from a coal carbonization tar origin if coal tar, or from a background combustion origin if PAH concentrations are low. Those locations are SB-25, SB-26, and SB-48 (light blue group), SB-34, SB-38, and SB-47 (dark blue group), and SB-23, SB-30, and SB-31 (red group).
- Samples with very high PAH concentrations (highest concentrations samples) at SB-24 (and SB-22 (red group)) have a slightly different set of diagnostic ratios (Fl/Py ~1.0) than the other red group samples.

The relatively high concentration samples (>1,000 mg/kg TPPAH) generally indicate a coal carbonization tar origin, and there appears to be more than one type of coal carbonization tar. The green group sam`ples appear to have an independent non-coal tar origin. The samples with Fl/Py ratios less than 1.0 (some orange and dark blue group samples) may or may not have a coal tar origin. If coal tar related, the coal tar would likely have a CWG origin.

Table F-1
Initial Forensic Evaluation
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Sample ID:		SB-25	SB-25	SB-26	SB-26	SB-48	SB-48	SB-50	SB-51
Sample Depth:		12-16	24-28	9-13	16-19	12	18.5 - 19	9	14.5
Date:	Units	10/1/03	10/1/03	9/29/03	10/1/03	7/24/10	7/24/10	2/26/11	2/27/11
Naphthalene	mg/kg	61	2	270	3700	76	0.11	0	0
2-Methylnaphthalene	mg/kg	15	0	71	660	3.7	0	0	0.016
Acenaphthylene	mg/kg	13	0	19	430	5	0	0	0
Acenaphthene	mg/kg	28	0	24	160	35	0	0	0.033
Fluorene	mg/kg	36	0	80	420	27	0	0	0.022
Phenanthrene	mg/kg	110	1	200	1300	120	0.069	0	0.29
Anthracene	mg/kg	46	0	81	380	40	0	0	0.055
Fluoranthene	mg/kg	92	0	190	790	67	0.25	0	0.093
Pyrene	mg/kg	88	0	180	580	63	0	0	0.12
Benzo (a) anthracene	mg/kg	45	0	100	320	27	0	0	0.039
Chrysene	mg/kg	42	0	92	240	28	0	0	0.047
Benzo(b)fluoranthene	mg/kg	46	0	110	250	20	0	0	0.021
Benzo(k)fluoranthene	mg/kg	18	0	32	130	9.6	0	0	0
Benzo(a)pyrene	mg/kg	39	0	93	260	26	0	0	0.02
Indeno(1,2,3-cd)pyrene	mg/kg	17	0	31	44	18	0	0	0.19
Dibenzo(a,h)anthracene	mg/kg	5	0	9	13	3.8	0	0	0
Benzo(g,h,i)perylene	mg/kg	19	0	41	48	16	0	0	0
Total PAHs (mg/kg)		720	5	1623	9725	585	0	0	1
Total PP(16)PAHs (mg/kg)		705	4	1,552	9,065	581	0	0	1
Fl/Py		1.05	1.28	1.06	1.36	1.06			0.78
Fl/PyTPPAH >10 mg/kg		1.05		1.06	1.36	1.06			
BAA/C		1.07	1.00	1.09	1.33	0.96			0.83
BAA/BAP		1.15	1.23	1.08	1.23	1.04			1.95

Table F-1
Initial Forensic Evaluation
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Sample ID:		SB-32	SB-32	SB-33	SB-34	SB-34	SB-38	SB-38	SB-47	SB-47
Sample Depth:		9 - 11	35 - 39	5 - 7	13 - 17	37 - 39	25 - 27	43 - 45	5 - 7	23
Date:	Units	3/2/05	3/2/05	2/27/05	2/23/05	2/24/05	2/22/05	2/22/05	3/26/08	3/26/08
Naphthalene	mg/kg	0.97	0.48	0	25	0.3	16,000	4.2	0.94	56
2-Methylnaphthalene	mg/kg	4.3	0.12	0.065	4.2	0	2,700	0.86	0.33	13
Acenaphthylene	mg/kg	0.87	0	0.32	120	0	2,200	0.36	3.2	2.5
Acenaphthene	mg/kg	3.5	0	0.11	44	0	490	0.76	0.66	47
Fluorene	mg/kg	1	0.1	0.14	10	0	1,800	0.8	0.72	26
Phenanthrene	mg/kg	9.4	0.7	1.3	170	0.18	7,100	3.7	9.1	110
Anthracene	mg/kg	5	0.21	0.41	540	0.12	2,400	1.1	3.7	26
Fluoranthene	mg/kg	26	0.87	3.2	1,600	0.31	4,500	2.7	18	58
Pyrene	mg/kg	42	0.81	3.5	1,500	0.32	3,900	2.4	19	53
Benzo (a) anthracene	mg/kg	18	0.43	2	680	0.13	1,600	1	11	20
Chrysene	mg/kg	22	0.45	2.1	650	0.15	1,800	0.89	11	18
Benzo(b)fluoranthene	mg/kg	25	0.59	3.2	610	0.12	1,300	1.1	13	17
Benzo(k)fluoranthene	mg/kg	8.8	0.25	1.4	230	0	560	0.43	5.6	6.3
Benzo(a)pyrene	mg/kg	27	0.45	2.6	600	0.11	1,300	0.88	13	16
Indeno(1,2,3-cd)pyrene	mg/kg	12	0.12	0.77	270	0	530	0.22	12	9.1
Dibenzo(a,h)anthracene	mg/kg	4	0	0.22	38	0	140	0.068	2.6	1.9
Benzo(g,h,i)perylene	mg/kg	15	0.12	0.8	320	0	550	0.22	12	8.8
Total PAHs (mg/kg)		225	6	22	7411	2	48870	22	136	489
Total PP(16)PAHs (mg/kg)		221	6	22	7407	2	46170	21	136	476
Fl/Py		0.62	1.07	0.91	1.07	0.97	1.15	1.13	0.95	1.09
Fl/PyTPPAH >10 mg/kg		0.62		0.91	1.07		1.15	1.13	0.95	1.09
BAA/C		0.82	0.96	0.95	1.05	0.87	0.89	1.12	1.00	1.11
BAA/BAP		0.67	0.96	0.77	1.13	1.18	1.23	1.14	0.85	1.25

Table F-1
Initial Forensic Evaluation
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Sample ID:		SB-39	SB-39	SB-40	SB-40	SB-46	SB-46	SB-49	SB-49
Sample Depth:		45 - 47	65 - 67	28 - 30	46 - 48	25 - 28	28 - 30	9.5	12
Date:	Units	3/10/05	3/12/05	4/5/05	4/5/05	6/12/08	6/12/08	7/25/10	7/25/10
Naphthalene	mg/kg	3,200	140	0.89	70	1400	2300	30	0.44
2-Methylnaphthalene	mg/kg	460	26	0.79	11	300	450	16	0.24
Acenaphthylene	mg/kg	370	24	0.33	10	250	370	2.4	0.38
Acenaphthene	mg/kg	190	11	1.7	3.9	49	84	24	0.73
Fluorene	mg/kg	340	23	1.7	9.2	180	300	29	0.53
Phenanthrene	mg/kg	1,200	82	7.6	41	680	1000	190	4.4
Anthracene	mg/kg	340	20	1.9	13	130	290	52	1.2
Fluoranthene	mg/kg	820	57	6.6	26	380	580	130	4.8
Pyrene	mg/kg	640	45	7.5	26	300	420	170	4.6
Benzo (a) anthracene	mg/kg	260	19	2.9	9.6	130	220	66	2.1
Chrysene	mg/kg	240	16	3.4	11	91	200	62	2
Benzo(b)fluoranthene	mg/kg	240	18	3.7	11	91	150	59	1.9
Benzo(k)fluoranthene	mg/kg	100	8.7	1.4	3.7	40	67	25	0.69
Benzo(a)pyrene	mg/kg	230	18	2.6	8.2	95	160	62	2.1
Indeno(1,2,3-cd)pyrene	mg/kg	100	4.2	1.2	3.7	78	130	38	1.3
Dibenzo(a,h)anthracene	mg/kg	20	1.1	0	0	18	30	9	0.25
Benzo(g,h,i)perylene	mg/kg	120	4.5	1.3	3.5	62	110	31	1.3
Total PAHs (mg/kg)		8870	518	46	261	4274	6861	995	29
Total PP(16)PAHs (mg/kg)		8410	492	45	250	3974	6411	979	29
Fl/Py		1.28	1.27	0.88	1.00	1.27	1.38	0.76	1.04
Fl/PyTPPAH >10 mg/kg		1.28	1.27	0.88	1.00	1.27	1.38	0.76	1.04
BAA/C		1.08	1.19	0.85	0.87	1.43	1.10	1.06	1.05
BAA/BAP		1.13	1.06	1.12	1.17	1.37	1.38	1.06	1.00

Table F-1
Initial Forensic Evaluation
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Sample ID:		SB-09	SB-09	SB-20	SB-20	SB-21	SB-21	SB-41	SB-41	SB-42	SB-42	SB-42	SB-43	SB-43	SB-44	SB-44	SB-44
Sample Depth:		11-15	31-33.5	12-16	16-20	12-16	36-38.9	13 - 14	24 - 25	13 - 14	24 - 25	27 - 28	16 - 17	28 - 29	14 - 15	19 - 20	21 - 22
Date:	Units	9/5/03	9/5/03	10/2/03	10/2/03	9/30/03	9/30/03	12/6/06	12/6/06	12/6/06	12/6/06	12/6/06	12/5/06	12/5/06	12/5/06	12/5/06	12/5/06
Naphthalene	mg/kg	0.99	4	0	6	3	2	3.2	0.24	1.2	6	12	11	0	2.2	0	0
2-Methylnaphthalene	mg/kg	0	0	0	3	1	1	0.16	0	0.29	0	1.3	0.22	0	0	0	0
Acenaphthylene	mg/kg	0	0	0	0	4	0	0	0	0.56	0	0	0	0	0	0	0
Acenaphthene	mg/kg	0	0	3	1	11	1	0.35	0	0.46	0	0.59	0	0	0	0	0
Fluorene	mg/kg	0	0	0	1	8	2	0.11	0	0.31	0	0.62	0	0	0	0	0
Phenanthrene	mg/kg	1	0	0	1	11	5	0.17	0	3.9	0	0.78	0	0	0	0.22	0.22
Anthracene	mg/kg	0	0	2	0	10	1	0	0	1.1	0	0	0	0	0	0	0
Fluoranthene	mg/kg	1	0	6	0	22	3	0.14	0	6.5	0	0.25	0	0	0.11	0.23	0.3
Pyrene	mg/kg	1	0	18	0.59	53	6	0.14	0	7.8	0	0.26	0	0	0.16	0.21	0.54
Benzo (a) anthracene	mg/kg	0	0	5	0	19	2	0	0	5.8	0	0	0	0	0.17	0.16	0.21
Chrysene	mg/kg	0	0	5	0	18	2	0	0	5.8	0	0	0	0	0.16	0.14	0.36
Benzo(b)fluoranthene	mg/kg	1	0	4	0	15	2	0	0	8.4	0	0	0	0	0	0	0
Benzo(k)fluoranthene	mg/kg	0	0	1	0	5	0.54	0	0	5.9	0	0	0	0	0.082	0	0
Benzo(a)pyrene	mg/kg	1	0	5	0	18	2	0	0	10	0	0	0	0	0.12	0.11	0
Indeno(1,2,3-cd)pyrene	mg/kg	0	0	2	0	6	0.59	0	0	16	0	0	0	0	0	0	0
Dibenzo(a,h)anthracene	mg/kg	0	0	0	0	2	0	0	0	4.3	0	0	0	0	0	0	0
Benzo(g,h,i)perylene	mg/kg	0	0	3	0	10	0.93	0	0	18	0	0	0	0	0	0	0
Total PAHs (mg/kg)		7	5	55	15	217	33	4	0	96	6	16	11	0	3	1	2
Total PP(16)PAHs (mg/kg)		6	4	55	12	215	32	4	0	96	6	15	11	0	3	1	2
Fl/Py		1.01		0.34	0.51	0.42	0.52	1.00		0.83		0.96			0.69	1.10	0.56
Fl/PyTPPAH >10 mg/kg				0.34	0.51	0.42	0.52			0.83		0.96					
BAA/C		0.95		1.04	0.99	1.06	0.92			1.00					1.06	1.14	0.58
BAA/BAP		0.81		1.00	1.01	1.06	1.29			0.58					1.42	1.45	

Table F-1
Initial Forensic Evaluation
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Sample ID:		SB-22	SB-22	SB-23	SB-23	SB-24	SB-24	SB-24	SB-30	SB-30	SB-31
Sample Depth:		12-16	36-44	20-24	52-54.5	30-32	34-36	36-38	10 - 14	34 - 36	7 - 11
Date:	Units	9/29/03	9/29/03	9/30/03	9/30/03	10/3/03	10/3/03	10/2/03	2/20/05	2/20/05	3/6/05
Naphthalene	mg/kg	22	3	1300	110	38000	6	56000	300	1.2	0
2-Methylnaphthalene	mg/kg	6	0	460	32	12000	3	19000	87	0.37	0
Acenaphthylene	mg/kg	2	0	250	15	7900	2	12000	31	0.12	0
Acenaphthene	mg/kg	7	0	220	19	4400	1	7000	90	0.45	3.7
Fluorene	mg/kg	6	0	360	24	9200	3	14000	110	0.45	2.8
Phenanthrene	mg/kg	30	0	820	85	20000	6	35000	450	1.7	43
Anthracene	mg/kg	7	0	330	24	7600	2	11000	170	0.7	11
Fluoranthene	mg/kg	20	0	600	58	13000	4	20000	290	1.1	54
Pyrene	mg/kg	20	0	520	54	13000	4	21000	260	0.95	49
Benzo (a) anthracene	mg/kg	9	0	280	24	6900	2	12000	120	0.44	24
Chrysene	mg/kg	8	0	260	22	5700	2	9200	120	0.47	23
Benzo(b)fluoranthene	mg/kg	8	0	270	22	6200	2	10000	110	0.38	22
Benzo(k)fluoranthene	mg/kg	4	0	120	9	2700	1	4300	42	0.18	10
Benzo(a)pyrene	mg/kg	8	0	240	19	5300	2	8600	100	0.35	20
Indeno(1,2,3-cd)pyrene	mg/kg	4	0	64	8	2100	1	3400	46	0.16	8.7
Dibenzo(a,h)anthracene	mg/kg	1	0	21	2	700	0	1000	15	0	2.6
Benzo(g,h,i)perylene	mg/kg	4	0	74	8	2200	1	3200	52	0.17	9.4
Total PAHs (mg/kg)		166	4	6189	535	156900	39	246700	2393	9	283
Total PP(16)PAHs (mg/kg)		160	4	5,729	503	144,900	36	227,700	2306	9	283
Fl/Py		1.00	1.17	1.15	1.07	1.00	1.03	0.95	1.12	1.16	1.10
Fl/PyTPPAH >10 mg/kg		1.00		1.15	1.07	1.00	1.03	0.95	1.12		1.10
BAA/C		1.18	1.19	1.08	1.09	1.21	1.24	1.30	1.00	0.94	1.04
BAA/BAP		1.11	1.29	1.17	1.26	1.30	1.31	1.40	1.20	1.26	1.20

Table F-1
Initial Forensic Evaluation
Consolidated Edison Company of New York, Inc.
West 42nd Street Former MGP Site
New York, New York

Notes:

BAA/BAP: Benzo (a) anthrancene/ Benzo (a) pyrene
BAA/C: Benzo (a) anthrancene/ Chrysene
Fl/Py: Fluoranthene/ Pyrene
Fl/PyTPAH >10 ppm: Fluoranthene/ Pyrene greater than 10 mg/kg.
mg/kg: milligrams per kilogram
PAHs: polycyclic aromatic hydrocarbons
Total PAHs (TPAH): the sum of 17 Target Compound List (TCL) PAHs.
Total PPAHs (TPPAH): the sum of 16 priority pollutant PAHs.

Figure F-1 PAH Diagnostic Ratios--TPPAH v Fl/Py
W 42th St Former MGP Site

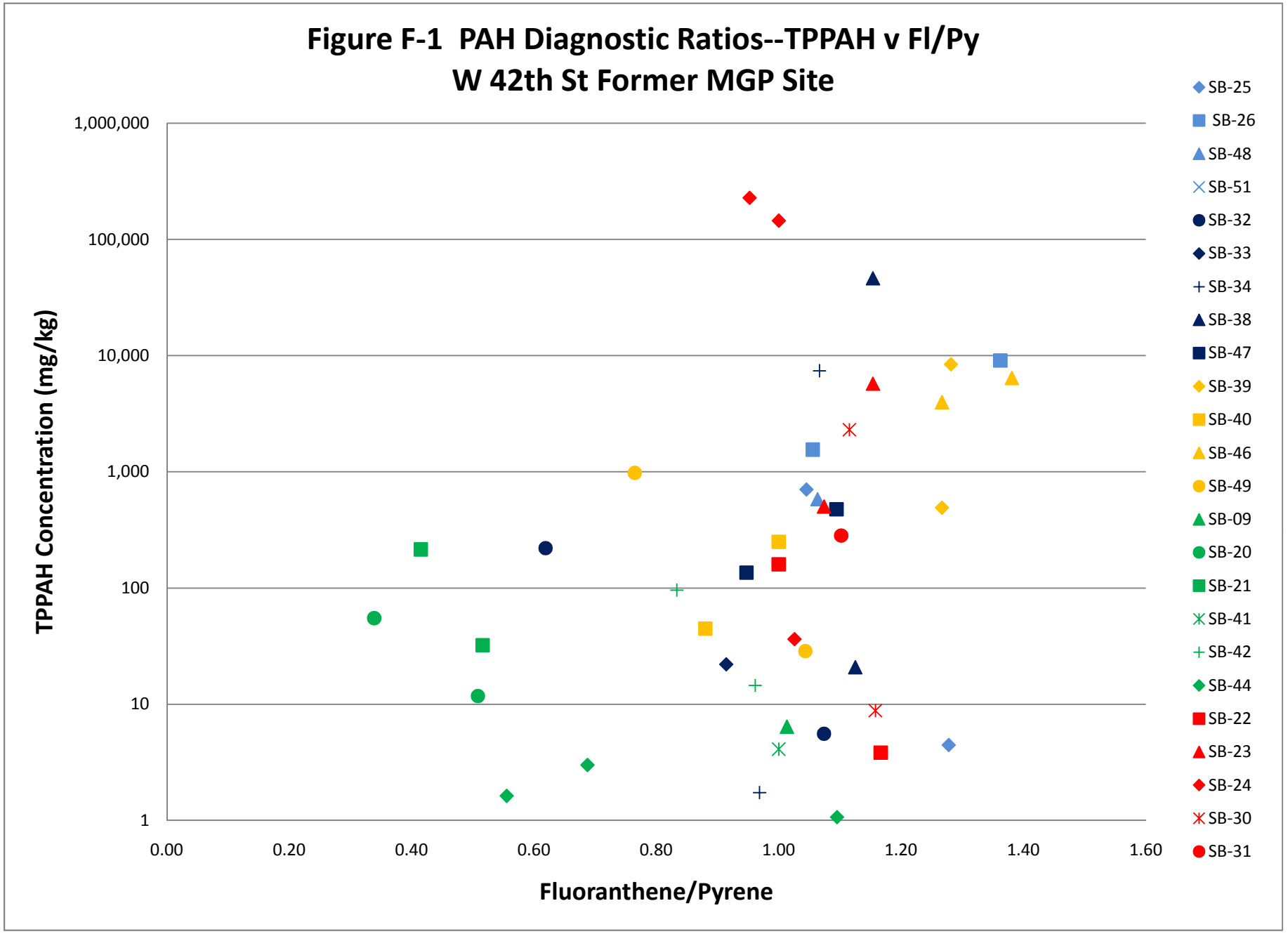


Figure F-2 PAH Diagnostic Ratios--BAA/C v Fl/Py, Samples >10 mg/kg TPPAH
W 42th St Former MGP Site