Prepared for:
Consolidated Edison Co. of New York, Inc.
31-01 20th Avenue, New York, NY 11105

Remedial Investigation Report Operable Unit 2 (OU2)

Former East 21st Street Works – Site # V00536
New York, New York

VCA Index D2-0003-02-08

AECOM, Inc.
September 2010
Document No.: 01869-170

AECOM

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Executive Summary

As required under the terms of Voluntary Cleanup Agreement Index No. D2-0003-02-08 (VCA) by and between the New York State Department of Environmental Conservation (NYSDEC) and Consolidated Edison Co. of New York, Inc. (Con Edison), this report presents the results and findings of the remedial investigation (RI) that was performed on Con Edison's behalf by AECOM, for Operable Unit 2 (OU2) of the East 21st Street Works site (NYSDEC Site #V00536) located in the borough of Manhattan in New York City, New York. Except as otherwise indicated in this report, the RI was conducted in conformance with RETEC's NYSDEC-approved RI Work Plan dated November 3, 2005, ENSR's NYSDEC-approved supplemental RI Work Plan dated November 15, 2007, ENSR's NYSDEC-approved Supplemental RI Work Plan East River (OU2) dated January 2008 and ENSR's NYSDEC-approved East River (OU2) Additional Investigation Work Plan dated October 3, 2008.

This document presents the results of the remedial investigation performed for OU2 of the East 21st Street Works former manufactured gas plant (MGP) site. The East 21st Street Works was located within the footprint of the current Peter Cooper Village residential apartment complex in the Borough of Manhattan in New York City, New York. Operable Unit 1 (OU1) of the East 21st Street Works site is comprised of MGP-related soil and groundwater impacts within the property boundary of Peter Cooper Village, including immediately adjacent sidewalks up to the curb along surrounding streets. OU2 consists of adjacent land areas outside of Peter Cooper Village that contain MGP-related soil and groundwater impacts and MGP-related sediment impacts in the East River adjacent to Stuyvesant Cove Park. The adjacent land areas include the eastern end of East 23rd and East 20th Streets, Avenue C, parking areas beneath the Franklin D. Roosevelt East River Drive (FDR) and Stuyvesant Cove Park. Bedrock beneath the site is defined as Operable Unit 3 (OU3) of the East 21st Street Works site. The results of the remedial investigations pertaining to OU1 and OU3 are presented in separate RI reports.

The goals of the OU2 RI were to:

- Further delineate the extent of soil and groundwater impacts associated with former MGP operations.
- Evaluate soil gas conditions at select RI locations.
- Evaluate the potential for MGP impacts to the East River.
- Further develop the dataset necessary to allow preparation of an Alternatives Analysis Report for OU2 to evaluate and select possible remedial alternatives for site cleanup.

The RI results further refined the extent of MGP-related impacts in soil and groundwater in the land areas adjacent to the site. OU2 surface soil and upper fill sample analytical results were consistent with SCS analytical results and do not indicate MGP-related impacts.

The lower fill/natural soil unit includes fill below 5 feet (ft) below ground surface (bgs) and natural soils underlying the fill unit. Lower fill/natural soil sample observations and analytical results indicate that MGP-related impacts are present on the former MGP site (OU1) and extend to adjacent land areas to the northeast, southeast, and east to the East River (OU2). These impacts include lenses of stains, sheen, oil-like material (OLM), and tar-like material (TLM) that contain concentrations of compounds in excess of individual and/or total Recommended Soil Cleanup Objectives (RSCOs). Visible impacts in Stuyvesant Cove Park were observed as deep as 76 ft bgs (some intermittent sheen and blebs in EBSC101) and extend northward to just south of East 23rd Street and the Gulf Station and southward to EBSC101 near the East 18th Street entrance to the park. These visible impacts extend beneath the East River and also include lenses of staining, sheen, OLM and TLM that appear to migrate along pathways of greater permeability relative to surrounding material. A review of the fingerprint data from deep sediment samples indicates that the relative concentrations of parent to alkylated PAHs are typical of MGP residuals. The visible impacts beneath the river were

concentrated in the -10 to -40 elevation range (relative to the North American Vertical Datum of 1988 [NAVD88]). The 2008 RI river investigations delineated the extent of these deep impacts to the north and south and east. The deep impacts are present in lenses and extend approximately 2000 feet south of the parking garage (situated in the northern portion of the river investigation area) and approximately 450 feet east of the bulkhead at the widest area of impacts to less than 50 feet east of the western shoreline in the southern portion of the river investigation area.

Groundwater in the shallow, intermediate, and deep unconfined aquifer zones beneath the site has been impacted by former MGP operations. Groundwater in the intermediate and deep zones has also been impacted by an unidentified source of chlorinated compounds. The greatest MGP-related groundwater impact concentrations were detected in the vicinity of the former gas holders and the former retort, drip/oil tank area, similar to soil impacts. The horizontal extent of the shallow groundwater impacts has been generally defined by the existing monitoring well network. The general area of intermediate and deep groundwater impacts at the site has also been determined. The lateral extent of groundwater impacts in the intermediate and deep aquifer zones to the northeast, east, and southeast has not been specifically defined based on comparison with groundwater standards. The vertical extent of groundwater impacts has also not been fully defined in some areas of the site. However, unless the evaluation of remedial alternatives or the implementation of remedial actions requires that the groundwater in these areas be more fully delineated, additional field work for delineation is not proposed at this time. If additional groundwater delineation data are necessary for remedial alternative evaluation or remedial action implementation, they would be collected during a pre-design investigation.

Non-aqueous phase liquid (NAPL) was noted in some of the monitoring wells in OU1 and OU2. Due to the presence of NAPL in monitoring wells, Con Edison directed AECOM to develop an Interim Site Management Plan (ISMP) Work Plan for NAPL Monitoring and Recovery at the site. This plan was finalized and submitted to NYSDEC on December 22, 2008. The first round of NAPL monitoring activities was performed in March 2009.

Soil gas sampling performed during the RI indicates that the soil gas concentrations at the perimeter of the site are lower than the highest soil gas concentrations found at the site during previous investigations. The OU2 soil gas analytical results contained detectable levels of compounds but do not suggest that the compounds are specifically related to MGP residuals. Although indoor air sampling has not indicated that subsurface vapors associated with former MGP residuals affect indoor air quality, Con Edison is performing additional sampling to determine that there has been no significant change of indoor air quality. Con Edison submitted an Interim Site Management Plan (ISMP) for Indoor Air Sampling to NYSDEC on February 6, 2009. The first round of indoor air sampling and analysis was performed in February and March 2009.

Surficial sediment samples (0 to 1 ft below top of sediment [btos]) were collected from 98 locations within the East River adjacent to the site and Stuyvesant Cove Park. The sampling area extended over 2,200 feet along the river and more than 500 feet offshore. Visible MGP-related impacts were found in surface sediments in 21 locations, including 5 in which NAPL was observed, 14 in which sheen was observed, and 2 in which staining was observed. The surface sediment results were screened in accordance with the “Technical Guidance for Screening Contaminated Sediments” (NYSDEC, 1999) to identify locations that will likely require additional evaluation. The screening process indicated that total polycyclic aromatic hydrocarbons (PAHs) is an appropriate screening criterion for the site data, and identified 83 locations that should be retained for further evaluation.

Additional investigations were performed to evaluate the background quality of surficial sediments within the East River to use as a baseline of comparison with constituent concentrations at locations adjacent to the site. The background data set consisted of 40 surface sediment samples (0-1 foot btos) collected from the East River at 13 locations selected from depositional environments (shoal), water depths and sediment assemblages that are similar to areas located adjacent to the site. The background data were evaluated on the basis of PAH levels, and total PAH concentrations, were used to simplify the evaluation based on the

previous screening results. The 90th percentile was used to define the site-specific background level. The 90th percentile was calculated using USEPA (2007) ProUCL software, and defines a site-specific background value of 71 mg/kg for total PAHs. NYSDEC has determined that for purposes of this analysis that 70 mg/kg can be used as the site-specific background value for total PAHs and should be used as the baseline for comparison of MGP impacted material adjacent to the site. Comparison of the site total PAH data with the site-specific background value shows that 39 of the locations from the study area in the East River adjacent to Stuyvesant Cove Park exceed the background value. One additional location exceeds the Benthic Chronic Criteria for benzene. These locations were generally collected within, or adjacent to areas with visible MGP impacts except in the northern portion of the investigated area where high total PAH concentrations appear to be related to urban runoff at a stormwater outfall.

Prior investigation of the storm sewers in OU1 documented that MGP OLM/TLM are not present in the sewers and that they are not an on-going source of MGP impacts to the river. An additional investigation of the associated outfalls was conducted during the OU2 investigation to evaluate quality of sediments and the possibility of historic discharges. Surface and shallow sediment samples were collected at the three permitted stormwater discharge points located along Stuyvesant Cove Park and at two stormwater discharge points that do not collect stormwater from the former MGP site. The outfall sediment sample analytical results vary by location and do not suggest a trend associated with the former MGP operations. Sediment variation and distribution and total PAH concentrations in surface sediments near outfall #NCM047suggest that deposition is occurring in the vicinity of EROF01 due to stormwater discharge at outfall #NCM047 and that the high total PAH concentrations may be attributable to runoff at this location.

Three sets of surface water samples were collected at five locations from the water surface, mid-way through the water column, and at the sediment surface to characterize the surface water quality adjacent to the site. Only one surface water sample contained detectable concentrations of compounds. The only analytes detected in this surface water sample were fluoranthene (0.5 ug/L) and pyrene (0.58 ug/L). There are no surface water quality criteria for these compounds. Based on the surface water analytical results, it is evident that the MGP impacts identified in subsurface soil, groundwater, and sediments are not causing surface water quality impacts adjacent to the site.

Based on the combined findings from the SCS and RI, it is apparent that the deep lenses and stringers of MGP impacts originating in the northeast portion of OU1 have migrated east and beneath the East River until reaching the sediment surface and discharging at some locations. The combination of the visible impact and total PAH data distribution and the nature of the river adjacent to Stuyvesant Cove Park further suggest that these impacts are likely reworked by the tides and currents in the East River and redeposited along the shoal area as sheen and stain impacts. The visible stain and sheen in sediments that are shallower and closer to shore may also be related to overland flow and/or material handling along the piers during the MGP operations as well as deposition from more recent urban runoff, marina operations, East River boat traffic, and atmospheric particulate matter. The background sediment evaluation demonstrates the effect of other urban background contributions to surface sediments adjacent to Stuyvesant Cove Park and in other portions of the East River. The MGP-related subsurface soil, groundwater, and sediment impacts have not affected the quality of surface water adjacent to the site.

A qualitative human health exposure assessment was performed to identify the potential exposure pathways associated with impacted media for subsurface utility workers, outdoor maintenance workers, and visitors in the OU2 land areas and for the potential for human exposure to impacted sediment in the East River adjacent to Stuyvesant Cove Park. Subsurface utility workers who perform excavation or repair work in the roadway areas in limited areas of East 23rd Street, Avenue C and the FDR Drive, First Avenue and Stuyvesant Cove Park could possibly be exposed to NAPL, impacted soil, and/or groundwater, therefore, subsurface work should only be performed by properly trained personnel, using methods specified in a Health and Safety Plan (HASP) or only after the area has been cleared of impacted media. The assessment indicates that there do not appear to be complete exposure pathways for exposure to MGP residuals in the East River.

A fish and wildlife resources impact analysis was conducted in accordance with NYSDEC DER-10 for the right of ways/roadways adjacent to the Peter Cooper Village property, Stuyvesant Cove Park, and the East River. The East River is of value to the public for secondary recreation and commercial use. The East River is not classified for primary contact (i.e., swimming) or as a drinking water source. Commercial traffic is high as this waterway connects the New York Harbor, Harlem River, and Long Island Sound. The East River is a highly urbanized river that is impacted from a large number of point and nonpoint sources, with PAHs being ubiquitous in shallow sediments. NAPL and total PAHs, at concentrations exceeding the site-specific background value (70 mg/kg), are present adjacent to the site. These impacts, as well as other non-MGP related impacts may have the potential to result in ecological impacts to the East River (i.e., some constituents exceed NYSDEC screening criteria). However, the OU2 impacted sediment area is relatively limited and likely does not contribute significantly to the river as a whole.

Based on the findings of the RI, additional investigative work is not recommended for surface soil, upper fill soil, lower fill/natural soil, deep sediment, groundwater, soil gas, surface sediment, or surface water for OU2. Additional delineation of subsurface soil, groundwater, and sediment impacts that are MGP-related is not necessary to begin remedial alternative development and evaluation for impacts identified in OU2.

List of Acronyms

µg/kg	microgram per kilogram
µg/L	microgram per liter
µg/g	microgram per gram
µg/m^3	microgram per cubic meter
ADT	Aquifer Drilling and Testing, Inc.
AGS	Advanced Geophysical Services
Alpha	Alpha Woods Hole Laboratories, Mansfield, MA
AECOM	AECOM, Inc. (formerly known as ENSR Corporation)
ASP	Analytical Service Protocols
Air Toxics	Air Toxics Limited, Inc., Folsom, California
ASTM	American Society for Testing and Materials International
AWQSGVs	Ambient Water Quality Standards or Guidance Values
bgs	below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
btos	below top of sediment
CAMP	Community Air Monitoring Program
C&D	Construction Debris
CEC	Community Environmental Corporation
COC	Constituents of Concern
COI	Constituents of Interest
Chemtech	Chemtech Laboratories, Mountainside, New Jersey
cm	centimeter
Con Edison	Consolidated Edison Company of New York, Inc.
CRDL	Contract Required Detection Limit
DEP	New York City Department of Environmental Protection
DGPS	Differential Global Positioning System
DNAPL	Dense Non-aqueous Phase Liquid
DO	Dissolved Oxygen
DOA	Department of the Army
DUSR	Data Usability Summary Report
EDC	New York City Economic Development Corporation
EM	Electromagnetic
ENSR	AECOM, Inc. (formerly known as ENSR Corporation)
ERL	Effects Range Low
FDR	Franklin D. Roosevelt East River Drive
GC	Gas Chromatograph
g/cc	grams per cubic centimeter

List of Acronyms (continued)

GPR	Ground-Penetrating Radar
H&A	Haley & Aldrich, Inc.
HASP	Health and Safety Plan
HDR	Henningson, Durham, and Richardson Architecture & Engineering, P.C.
HSA	Hollow Stem Auger
ICP	Inductively Coupled Plasma
IDW	Investigation-Derived Waste
K	Hydraulic Conductivity
IRIR	Interim Remedial Investigation Report
ISMP	Interim Site Management Plan
Langan	Langan Engineering and Environmental Services, P.C.
LCSs	Laboratory Control Standards
LNAPL	Light Non-aqueous Phase Liquid
MBVD	Manhattan Borough Vertical Datum
MEG	Miller Environmental Group
META	Meta Environmental, Inc., Watertown,MA
MetLife	Metropolitan Life Insurance Company
mg/kg	milligram per kilogram
mg/L	milligram per liter
mg/m^3	milligram per cubic meter
MGP	Manufactured Gas Plant
MNA	Monitored Natural Attenuation
MPE	Multi-Phase Extraction
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Natural Attenuation
NAD83	North American Datum 1983
NAEVA	NAEVA Geophysics, Inc.
NAPL	Non-aqueous Phase Liquid
NAVD88	North American Vertical Datum of 1988
NCP	National Contingency Plan
NOAA	National Oceanic and Atmospheric Administration
NTU	Nephelometric Turbidity Unit
NWMCC	National Water Main Cleaning Company
NYCEDC	New York City Economic Development Council
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation

List of Acronyms (continued)

NYSPDES	New York State Pollution Discharge Elimination System
NYSDOH	New York State Department of Health
OLM	Oil-Like Material
ORP	Oxidation Reduction Potential
OSI	Ocean Surveys, Inc.
OU1	Operable Unit 1
OU2	Operable Unit 2
OU3	Operable Unit 3
PAH	Polycyclic Aromatic Hydrocarbons
PEC	Paragon Environmental Construction, Inc.
PID	Photo-Ionization Detector
PPE	Personal Protective Equipment
ppm	parts per million
PTS	PTS Laboratory, Inc. of Santa Fe Springs, California
PVC	Polyvinyl Chloride
QAPP	Quality Assurance Project Plan
RETEC	The RETEC Group, Inc.
RI	Remedial Investigation
ROW	Right-of-way
RPDs	Relative Percent Differences
RSCOs	Recommended Soil Cleanup Objectives
SCS	Site Characterization Study
SSBVs	Site-Specific Background Values
SVI	Soil Vapor Intrusion
SRIWP	Supplemental Remedial Investigation Work Plan
SVOCs	Semi-Volatile Organic Compounds
STL	Severn Trent Laboratories, Inc. of Pittsburgh, Pennsylvania
TAGM	Technical and Administrative Guidance Memorandum
TAMs	Tippetts-Abbett-McCarthy-Straton Engineers, Architects, and Planners
TEA	Terminal Electron Acceptor
TG&B	Two Guys and a Boat
TLM	Tar-Like Material
TOC	Total organic carbon
TPH	Total Petroleum Hydrocarbon
TSS	Total Suspended Solids
UCL	Upper Confidence Limit
USACE	United States Army Corps of Engineers

List of Acronyms (continued)

USEPA	United States Environmental Protection Agency
USGS	United States Geologic Survey
UST	Underground Storage Tank
VCA	Voluntary Cleanup Agreement
VOCs	Volatile Organic Compounds

1.0 Introduction

As required under the terms of Voluntary Cleanup Agreement Index No. D2-0003-02-08 (VCA) by and between the New York State Department of Environmental Conservation (NYSDEC) and Consolidated Edison Co. of New York, Inc. (Con Edison), this report presents the results and findings of the remedial investigation (RI) that was performed on Con Edison's behalf by AECOM, for the East 21st Street Works site (NYSDEC Site #V00536) located in the Borough of Manhattan in New York City, New York. Except as otherwise indicated in this report, the RI was conducted in conformance with The RETEC Group, Inc.'s (RETEC) NYSDEC-approved RI Work Plan dated November 3, 2005, ENSR's NYSDEC-approved supplemental RI Work Plan dated November 15, 2007, ENSR's NYSDEC-approved Supplemental RI Work Plan East River (OU2) dated January 2008, and ENSR's NYSDEC-approved East River (OU2) Additional Investigation Work Plan dated October 3, 2008. RETEC and ENSR became part of AECOM Environment and will be referred to as AECOM for the remainder of this report, except where references to previously generated documents are made. The RI was also carried out in general accordance with the most recent and applicable guidelines of the NYSDEC, the United States Environmental Protection Agency (USEPA), as well as the National Contingency Plan (NCP).

The RI was designed to be an extension of the Site Characterization Study (SCS) performed on behalf of Con Edison in 2004 by Haley & Aldrich, Inc. (H&A). Data collected during the SCS revealed that additional investigation was necessary due to the presence of manufactured gas plant (MGP) impacts that required further vertical and lateral delineation. RI activities were performed at the site from January to June 2006 in accordance with the NYSDEC-approved RI Work Plan (RETEC 2005). The 2006 RI results were presented in the Draft Remedial Investigation Report for the site (RETEC 2006). Based on NYSDEC August 10, 2007 comments on the December 2006 Draft RI Report, the site was divided into operable units and the Draft RI report was finalized as the Interim Remedial Investigation Report (IRIR) on September 11, 2007 (ENSR 2007a). Based on the NYSDEC August 10, 2007 comments, AECOM, on behalf of Con Edison, developed a supplemental RI Work Plan (ENSR 2007b) to further investigate the impacts associated with the land portion of OU2 and a supplemental RI Work Plan (ENSR 1008a) to investigate river sediments. Based on field observations during the June and July 2008 field activities, the East River (OU2) Additional Investigation Work Plan was developed (ENSR 2008b).

This document presents the results of the remedial investigation activities performed on Operable Unit 2 (OU2) of the East 21st Street Works former MGP site. The East 21st Street Works was located within the footprint of the current Peter Cooper Village residential apartment complex in the Borough of Manhattan in New York City, New York. Operable Unit 1 (OU1) of the East 21st Street Works site is comprised of MGP-related soil and groundwater impacts within the property boundary of Peter Cooper Village, including immediately adjacent sidewalks up to the curb along surrounding streets. OU2 consists of adjacent land areas outside of Peter Cooper Village that contain MGP-related soil and groundwater impacts and the MGP-impacted sediments in the East River to the east of the former MGP site. Bedrock beneath the site is defined as Operable Unit 3 (OU3) of the East 21st Street Works site. The results of the remedial investigations pertaining to OU1 and OU3 are presented in separate RI reports for the East 21st Street Works site.

This RI Report incorporates the findings of other phases of environmental investigation work performed at the site. A Geotechnical Study and Preliminary Environmental Evaluation was completed by Langan Engineering & Environmental Services, P.C. (Langan), in 2001. An evaluation of indoor air and soil gas sampling was performed in the residential apartment buildings at the Peter Cooper Village section of the Site in 2003 and 2004 by RETEC. The SCS was performed by H&A in 2004. In addition, non-MGP-related investigative and remedial work was performed by Miller Environmental Group (MEG) in Stuyvesant Cove Park, east of the former MGP and adjacent to the East River. An Environmental Site Investigation Report (SIR) was drafted in 2008 by Henningson Durham and Richardson Architecture & Engineering P.C. in association with HDR Engineering Inc. (HDR) at the request of Solar One Incorporated (Solar One) for the property located at 2420 FDR Drive, Service Road East, within Stuyvesant Cove Park. MEG and HDR investigative information

from Stuyvesant Cove Park that is pertinent to the East 21st Street Works site is also incorporated into this RI Report.

1.1 Purpose of the Remedial Investigation

The goals of the OU2 RI were to:

- Further delineate the extent of soil and groundwater impacts associated with former MGP operations.
- Evaluate the potential for MGP impacts to the East River. MGP-related impacts were observed during initial river investigations and additional activities were proposed including a background surface sediment quality evaluation in the East River.
- Evaluate soil gas conditions in OU2 along the perimeter of OU1.
- Further develop the dataset necessary to allow preparation of an Alternatives Analysis Report for OU2 to evaluate and select possible remedial alternatives for site cleanup.

1.2 Scope of Work

The scope of work for the OU2 RI was defined by the NYSDEC-approved RI Work Plan (RETEC, 2005), the NYSDEC-approved Supplemental RI Work Plan (ENSR, 2007b), the NYSDEC-approved Supplemental RI Work Plan East River (OU2) (ENSR, 2008a), and the NYSDEC-approved East River (OU2) Additional Investigation Work Plan dated (ENSR 2008b). The RI included the following tasks:

- Underground utility clearance
- Community air monitoring
- Surface soil sampling and analysis at adjacent off-site locations
- Soil boring advancement and subsurface soil sample collection and analysis
- Monitoring well installation and development
- Groundwater level and NAPL thickness measurements
- Groundwater sampling and analysis
- Tidal influence monitoring
- Soil gas sampling and analysis at perimeter locations
- River investigation permit acquisition
- Bathymetric and geophysical surveying in the East River
- Deep sediment sampling and analysis using sonic and vibracore drilling techniques from a spud barge in the East River
- Surface sediment and surface water sampling and analysis in the East River adjacent to Stuyvesant Cove Park
- Background surface sediment sampling and analysis in the East River to establish a background sediment quality baseline for comparison with data collected adjacent to the site
- Surveying of all new sampling points
- Management of investigation-derived waste (IDW)
- Bulkhead Construction Research

All activities were performed in accordance with the methods specified in the RI work plan, and SRI work plans, including the site-specific Quality Assurance Project Plan (QAPP) included in Appendix A of the work plans and the site-specific Health and Safety Plan (HASP) included in Appendix B of the work plans.

1.3 Report Organization

The remainder of this RI report is organized into the sections and appendices listed below.

- Section 2 provides a description of the East 21st Street Works former MGP site and surrounding properties, a summary of information regarding site ownership and operational history, and a summary of previous and adjacent site investigations.
- Section 3 provides a description of field investigation activities and sample analyses performed during the RI.
- Section 4 provides a discussion of the site topography, drainage, geology, and hydrogeology.
- Section 5 provides a discussion of the observations regarding the extent of observed MGP residuals, and a summary of the analytical results for environmental media sampled during the investigation within OU2.
- Section 6 presents a qualitative human health evaluation of the risk associated with the MGP constituents for OU2 of the site.
- Section 7 presents a fish and wildlife resource impact assessment of the East River adjacent to the site.
- Section 8 presents a summary of and conclusions for the OU2 RI.
- Section 9 presents recommendations for future activities regarding OU2 of the site.
- Section 10 presents references cited.

Tables and figures are included in the sections immediately following the text of this report.

Appendices to this report include the following:

- Appendix A – Historic site maps
- Appendix B – Boring and well construction logs
- Appendix C – January to March 2006 Quarterly Monitoring Report Stuyvesant Cove Park
- Appendix D – Department of the Army (DOA) Nationwide General Permit 6 and Spill Response Plan
- Appendix E – Ocean Surveys, Inc. Hydrographic and Geophysical Surveys Report and Navigation Reports
- Appendix F – Well development forms
- Appendix G – Groundwater sampling forms
- Appendix H – Tidal survey data
- Appendix I – Aquifer conductivity data
- Appendix J – Investigation-derived waste manifests
- Appendix K – Bulkhead Research Information
- Appendix L – OU2 RI analytical results summary tables and data usability reports
  - Table 1 – Summary of OU2 RI Surface Soil Analytical Results

  - Table 2 – Summary of OU2 RI Upper Fill and Lower Fill/Natural Soil Analytical Results
  - Table 3 – Summary of a Deep Sediment Analytical Results (subset of 4 samples)
  - Table 4 – Summary of RI Groundwater Analytical Results
  - Table 5 – Summary of OU2 RI Surface Sediment Analytical Results
  - Table 6 – Summary of OU2 RI Background Surface Sediment Analytical Results
  - Table 7 – Summary of OU2 RI Outfall Sediment Analytical Results
- Appendix M – Environmental Site Investigation Report Solar Two Stuyvesant Cove Park (HDR 2008)
- Appendix N – PTS Reports of Geotechnical and Physical Property Analyses
- Appendix O – Background Sediment Statistical Evaluation

2.0 Site Description and History

2.1 Site Location, Description, and Setting

The grounds of the East 21st Street Works former MGP extended from First Avenue to Avenue C between East 20th and 22nd Streets in the Borough of Manhattan, New York City, New York. The former MGP was situated within the section of the Peter Cooper Village residential housing complex bounded by East 20th Street to the south, First Avenue to the west, the former East 22nd Street to the north, and Avenue C to the east. This area is designated as Block 978, Lot 1 on the tax map of the City of New York, New York (Langan, 2004). OU1 of the East 21st Street Works site encompasses the 21 fifteen-story brick apartment buildings, tennis and basketball courts, as well as playground, park, and landscaped areas within the Peter Cooper Village complex including adjacent sidewalks up to the curb along surrounding streets. OU2 of the East 21st Street Works Site is comprised of the land areas adjacent to OU1 that have MGP-related soil and groundwater impacts, and the MGP-impacted sediments in the East River to the east of the former MGP site. Figure 2-1 illustrates the general location of OU2 on a portion of the Brooklyn, New York quadrangle topographic map.

The current and historic site structures are illustrated on Figure 2-2. The Peter Cooper Village complex is fenced along its perimeter with several gateways for access to the complex and surrounding streets. The main entrances to the complex are through the security gates/booths along Peter Cooper Road at First Avenue and Avenue C. Except for a portion of one building in the southwestern corner of the Site (350 First Avenue), all of the buildings encompassed by the former MGP are residential. The Peter Cooper Village property was sold to an affiliate of Tishman Speyer Properties, L.P. and Blackrock Realty Advisors, Inc. by Metropolitan Tower Insurance Company, an affiliate of MetLife.

Current surrounding land uses consist of residential, commercial, and institutional. South of the site, on the south side of East 20th Street, is the Stuyvesant Town apartment complex and small commercial operations including a small market, deli, and fitness center. A restaurant is situated on the northeast corner of the First Avenue and East 20th Street intersection (southwestern corner of the site). First Avenue consists of several northbound traffic lanes with an access road with parking and sidewalks along the east side. Commercial establishments such as Dunkin Donuts, Burger King, a pharmacy, etc., are located along the west side of First Avenue across from the site. North of the site along East 23rd Street, are institutional facilities including the Special Education Services School, the Veterans Memorial Hospital, Chase Bank, and a public bath house that contains indoor and outdoor pools, gymnasium, and restroom facilities.

The section of Avenue C and the elevated FDR Drive between East 20th and East 21st Streets are situated east of the grounds of the former MGP. Parking areas are located beneath the FDR and a waterfront park, Stuyvesant Cove Park is situated further east between the parking areas and the East River. The park property is owned by the City of New York and managed by the New York City Economic Development Corporation (EDC). The Community Environmental Corporation (CEC) leases the property from EDC and manages and operates Stuyvesant Cove Park. The park consists of landscaped areas, bike and walking paths, benches and tables. An Environmental Education Building (Solar One) is situated in the northern portion of Stuyvesant Cove Park.

A gasoline station is situated north of Stuyvesant Cove Park, northeast of the site. Previous releases of petroleum products have been documented from a former service station facility with several underground storage tanks (USTs) at this location. Two multi-phase extraction (MPE) systems were installed within Stuyvesant Cove Park between East 18th Street and East 23rd Street to address this contamination and have been decommissioned.

The East River is situated east of and adjacent to Stuyvesant Cove Park and is approximately 3,280 feet wide at the park as illustrated on Figure 2-1. A gravity bulkhead with granite facing stones separates the park and the river. As illustrated on subsequent figures within this report, there is a shoal area along the west bank of the East River adjacent to Stuyvesant Cove Park that is relatively flat and extends eastward into the river for approximately 400 feet. Water depths at mean low water range from 1 to 14 feet from west to east across this shoal. Tidal fluctuations within the East River, as measured between June 6 and June 9, 2006 during the RI, are approximately 3 feet. NOAA tidal data indicates that the tides can fluctuate up to approximately 5 feet in this area. The currents within the East River near the site range between 0 and 2 knots according to NOAA.

There are pilings and the remnants of four structures, likely former/old piers, between East 20th Street and East 23rd Street along the west bank of the East River. Some of these piers are illustrated on the USGS quadrangle map and NOAA charts of the area as well as on historic Figures 1 and 2 provided in Apendix A. A marina facility is situated just north of East 23rd Street east of Avenue C along the river's west bank.

2.2 Site History

2.2.1 Pre-Manufactured Gas Plant

The following information regarding the pre-MGP site history was excerpted from the *Report of Geotechnical Study and Preliminary Environmental Evaluation, Peter Cooper Village, Manhattan*, *New York* prepared by Langan in April 2001 (Langan, 2001).

The site and Stuyvesant Cove Park were originally part of the East River with the historic shoreline located approximately 1,500 feet to the northwest of the existing waterfront (approximately First Avenue) as can be seen on the historic survey map in Appendix A. The area has undergone extensive filling activities to reclaim the land to the existing elevations. Historic filling along waterfront areas was generally carried out as uncontrolled bulk fills consisting of a wide variety of materials including construction debris, organic soil matter, excavated material from adjacent construction sites, and miscellaneous debris. Therefore, the constituents and in-situ conditions of these materials are highly variable.

2.2.2 Manufactured Gas Plant

Detailed historic information was previously compiled and presented in a report entitled *MGP Research Report, East 21st Street Works* (Langan, 2002). The historical information provided herein was derived from the SCS Report (H&A, 2004) which referenced the MGP Research Report.

The former East 21st Street Works operated circa 1848 to 1945 and was used for gas manufacturing, gas purification, and storage. The location of significant former MGP structures, based on Sanborn maps from 1903 and 1944, are shown on Figure 2-2. Historic site maps are provided in Appendix A. Major gas manufacturing structures included generators, retorts, condensers, scrubbers, purifiers, gas holders, and meter houses.

Coal gas manufacturing operations reportedly started with 19 retorts circa 1848 on the northern half of the Site, which may have occupied the area located east of former Avenue A and bounded by former East 21st Street and former East 22nd Street. By 1849, the first telescopic gas holder in New York City reportedly was put into service on the Site. Between 1853 and 1868, the MGP continued to expand. Between 1923 and 1927, the plant capacity was increased with two additional water gas sets.

Between 1890 and 1929, other land uses adjacent to the former MGP to the northeast between East 22nd Street and East 23rd Street at Avenue C included a coal and stone yard, furniture factory, brass foundry, veterinary hospital, chandelier factory, garage, parking lot, and railroad storage yard (Langan 2001). A garage with two 275 gallon gasoline USTs was situated between East 22nd and East 23rd at Avenue A (Langan, 2001).

Historic maps indicate that piers were situated east of the MGP site along the west side of the East River in the vicinity of Stuyvesant Cove Park.

2.2.3 Post-Manufactured Gas Plant

The grounds of the former East 21st Street Works MGP were sold by Con Edison to Stuyvesant Town Corporation and MetLife in 1944 and 1945, respectively, for development of the Peter Cooper Village Housing Project (Langan, 2002). The Peter Cooper Village residential units were constructed in the late 1940s and are primarily pile supported, although the buildings along First Avenue may be partially supported directly on shallow bedrock (Langan, 2001). An affiliate of Tishman Speyer Properties, L.P. and Blackrock Realty Advisors, Inc. purchased the Peter Cooper Village property in 2006.

The 1950, 1971, 1980, 1988, and 1996 Sanborn maps indicate that Wharf Street, a concrete dock and what appears to be a portion of a pier were situated in the area coincident with or adjacent to Stuyvesant Cove Park.

2.3 Previous Investigations

Previous investigations performed at the site prior to the RI are summarized in the following sections.

2.3.1 Geotechnical Study and Preliminary Environmental Evaluation

A geotechnical engineering study and preliminary environmental evaluation were completed for proposed construction activities for the Peter Cooper Village property. The geotechnical and environmental field investigation included drilling 23 test borings (LB1 through LB23) and five road cores (LC-1 through LC-5). These locations are illustrated in green on Figure 2-3. Copies of the boring logs for these borings are included in Appendix B of this RI Report. Six soil samples were collected from the borings and analyzed for Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), and Priority Pollutant Metals. Several compounds were detected at concentrations exceeding NYSDEC soil criteria. The laboratory analytical results are provided in Appendix B2 of the *Report of Geotechnical Study and Preliminary Environmental Evaluation* (Langan, 2001).

2.3.2 East 21st Street Site Works Comprehensive Report of Evaluation of Indoor Air and Soil Gas Sampling

An evaluation of the potential for subsurface vapor intrusion at the Peter Cooper Village Apartment property was conducted by RETEC on behalf of Con Edison in June 2003. Additional sampling was conducted in August 2003, March 2004, and April 2004. The overall goal of the work was to ascertain whether air quality within the apartment buildings that lie within and adjacent to the boundary of the former MGP was being adversely affected by residual subsurface impacts that might remain from the former MGP operations. Several samples were collected from ambient air, indoor air, and soil gas. Results from this sampling indicate that the indoor air quality, as measured on the sampling day, was not likely to have been adversely impacted by subsurface intrusion of vapors related to the previous MGP operations at the site. Based on the results of these sampling events, intrusion of vapors emanating from any MGP-related material present at the site does not appear to be evident. The sampling activities and results are presented in the report entitled *East 21st Street Works Site Comprehensive Report of Evaluation of Indoor Air and Soil Gas Sampling for Sampling Dates June 2003, August 2003, and March-May 2004* (RETEC, 2004).

2.3.3 Site Characterization Study

A SCS was completed by H&A in November 2004. The SCS field investigation included 15 test pits, 108 soil borings, and 20 monitoring wells (10 couplets). Figure 2-3 illustrates the SCS sampling locations in purple. A total of 743 soil samples and 20 groundwater samples were collected and analyzed to assess the presence or

absence of MGP-related constituents at the site. An evaluation of background soil quality was also performed on the Stuyvesant Town residential apartment complex located south of the site. The investigation found that MGP residuals were present at the site in concentrations exceeding regulatory criteria, and that a remedial investigation was warranted to further delineate impacts and characterize environmental conditions. The findings of the investigation are provided in the report entitled *Site Characterization Report, Former East 21st Street Works Manufactured Gas Plant Site, Peter Cooper Village Housing Development New York, New York* (H&A 2004). Copies of the test pit and boring logs from the SCS are included in Appendix B of this RI report. Surface soil, subsurface soil, and groundwater analytical results from the SCS are presented in conjunction with the RI analytical results in Section 5 of this RI report.

2.3.4 Water Valve Replacement Activities

Unrelated to the RI activities, valves on water mains servicing the Peter Cooper Village Apartment Complex were replaced between November 2006 and June 2007 as part of a maintenance program for the complex. Due to the presence of the former MGP located within the Peter Cooper Village complex, AECOM provided third-party oversight of the water valve replacement activities on behalf of Con Edison. A report was developed and provides a summary of the quality of soil and groundwater encountered in the trenches excavated to access and replace the valves and also provides a summary of the material disposed during the activities. A copy of the Water Valve Replacement report (RETEC 2007) is included as Appendix C of the OU1 RI report (ENSR 2008c). In addition, as requested by NYSDEC in the August 10, 2007 comments on the Draft RI report (RETEC 2006), a figure was developed of the water valve excavation locations overlayed on the environmental investigation locations at the site. This figure is also provided in Appendix C of the OU1 RI Report (ENSR 2008c), before the water valve report.

2.4 Site Investigation and Remedial Action at Stuyvesant Cove Park

The Stuyvesant Cove Park property became the subject of investigation in 1995 due to complaints of fumes in an office near the north end of the site and observation of sheen in the East River. A site investigation was performed and interim remedial measures were implemented by MEG under contract to NYSDEC – Region 2. The investigations focused on the former service station area and tank farm in the northern portion of the site. Two separate MPE systems were installed to address the contamination at the site. A copy of the January 2006 to March 2006 quarterly monitoring report for the site is included as Appendix C of this OU2 RI Report. The quarterly monitoring report includes results of investigative soil and groundwater sampling as well as an evaluation of system performance. The MPE systems were dismantled some time after the 2006 RI activities were performed for the East 21st Street Works. Four of the monitoring wells installed as part of the Stuyvesant Cove Park investigation and remediation were used for groundwater level and quality monitoring during the RI activities. These monitoring wells are illustrated in orange on Figure 2-3 and data are presented in Sections and 4 and 5 of this OU2 RI Report.

2.5 Environmental Site Investigation in Stuyvesant Cove Park

During July 2008, Henningson Durham and Richardson Architecture & Engineering PC in association with HDR Engineering, Inc. (HDR) completed a subsurface geotechnical and environmental investigation at the Solar One property located at 2420 FDR Drive, Service Road East in Stuyvesant Cove Park. A report of findings entitled 'Environmental Site Investigation Report Solar Two Stuyvesant Cove Park' was developed (HDR 2008). Solar one operates a solar powered environmental education classroom, a prototype for a facility that will replace the current building and expand Solar One. The new building will be known as Solar 2. The investigations were performed to provide geotechnical recommendations for the building design as well as to address the environmental conditions at the site. During the investigation, six soil borings were drilled and soil samples were collected for laboratory analysis, groundwater samples were collected from four previously installed monitoring wells for laboratory analysis, and two soil gas samples were collected and analyzed. These sample locations are illustrated in red on Figure 2-3. Copies of the boring logs and well construction diagrams are provided in Appendix B. Soil, groundwater, and soil gas analytical results are presented in conjunction with the RI analytical results in Section 5 of this RI report.

2.6 Geothermal Test Well Oversight in Stuyvesant Cove Park

On behalf of Con Edison, AECOM provided third-party oversight to document HDR field activities and observations during the installation of two borings for geothermal testing in the vicinity of the proposed Solar 2 building in Stuyvesant Cove Park. The activities were performed between February 18 and March 3, 2009. The two geothermal boring locations are illustrated in blue on Figure 2-3. Environmental observations noted during the boring activities are incorporated with RI results in Section 5 of this RI Report.

3.0 Remedial Investigation Field Activities

This section provides a description of the methodologies used during the field investigation of the East 21st Street Works former MGP site. The first round of RI field tasks was initiated in January 2006 and completed in June 2006. These field activities were conducted in accordance with the methods and procedures specified in the NYSDEC-approved RI Work Plan (RETEC, 2005) for the site. Based on field observations, additional investigative activities were proposed along the north side of East 23rd Street and to the north and south in Stuyvesant Cove Park in OU2. These activities were approved by NYSDEC on April 10, 2006 and are detailed in this OU2 RI report. The second round of RI field activities was initiated in February 2008 and completed in September 2008. These activities were performed in accordance with the methods and procedures specified in the NYSDEC-approved Supplemental RI Work Plans (ENSR 2007b and ENSR 2008a). Based on observations of MGP-related impacts in the sediments in the East River adjacent to Stuyvesant Cove Park, additional river investigation activities were performed in accordance with the NYSDEC-approved East 21st Street Works East River OU2 Additional Investigation Work Plan (ENSR 2008b). Representatives of the NYSDEC, Division of Environmental Remediation of Albany, New York, were on site to observe many of the boring and well installation and sampling activities.

The location and number of samples collected along with the corresponding analytical parameters are presented in the following subsections. Descriptions of all field activities are included by field task and/or environmental media. The OU2 sample locations are illustrated in green on Figure 3-1. Specific tasks performed during the OU2 RI included the following:

- River Investigation Permit Acquisition
- Underground Utility clearance
- Community air monitoring
- Surface soil sampling and analysis
- Upper fill sampling and analysis
- Soil boring advancement and lower fill/native soil sampling and analysis
- Monitoring well installation and development
- Groundwater elevation and NAPL thickness measurements
- Groundwater sampling and analysis
- Evaluation of tidal influence on groundwater elevations
- Soil gas sampling and analysis
- Bathymetric and geophysical surveying in the East River
- Deep sediment sampling and analysis using sonic and vibracore drilling techniques from a spud barge in the East River
- Surface sediment and surface water sampling and analysis in the East River adjacent to Stuyvesant Cove Park
- Background surface sediment sampling and analysis in the East River
- Surveying of all new sampling points
- Management of investigation-derived waste (IDW)
- Bulkhead Construction Research

3.1 Permit Acquisition

AECOM prepared and submitted a Joint Application for Permit (United States Army Corps of Engineers [USACE], NYSDEC, and cooperating agencies) to qualify for Department of the Army (DOA) Nationwide General Permit 6 under the USACE General Permit Program to perform the river investigation activities in the East River. A copy of the permit is provided in Appendix D. In addition to acquiring the appropriate permit, a spill response plan was developed for implementation in the event that the river investigation activities generated a spill or sheen. A copy of this plan is also provided in Appendix D.

3.2 Underground Utility Clearance

Prior to the initiation of intrusive fieldwork, the drilling subcontractors, Aquifer Drilling and Testing, Inc. (ADT) for the 2006 drilling efforts, and Paragon Environmental Construction, Inc. (PEC) for the 2008 drilling efforts, contacted Dig Safely New York to arrange for the location and marking of all underground utilities in the vicinity of the proposed test pits, soil gas probes, soil borings, and monitoring well locations, as required by New York Code of Rules and Regulations (NYCRR) Part 753. Where possible, AECOM worked directly with the representatives of each utility company to ensure that all underground lines were properly identified and marked-out.

Utility clearance was performed by NAEVA Geophysics, Inc. (NAEVA) and Advanced Geophysical Services (AGS). NAEVA and AGS used ground-penetrating radar (GPR) and electro-magnetic (EM) survey methods to scan each proposed investigation location. Plates of gas and steam mains, high tension lines, low tension lines, and composite feeders were provided by Con Edison. Sewer as-builts were prepared and provided by the City of New York Department of Public Works, Division of Sewage Disposal, and Bureau of Sewage Disposal Design. Maps providing the location of water mains were provided by the New York City Department of Environmental Protection (DEP).

Prior to excavating soil borings using a drill rig or geoprobe on land, each boring location was hand excavated to a minimum depth of 5 ft bgs with 2 ft by 2 ft dimensions. Excavations were performed to locate any utilities that may have been marked incorrectly, are privately owned, have been abandoned, were not known to exist, or were not detectable by surface investigation methods. Hand-clearing was performed by ADT and PEC through a combination of high vacuum extraction, hand-digging with shovels and posthole diggers, and other non-mechanical means.

3.3 Bathymetric and Geophysical Surveys in the East River

Between April 5 and 10, 2008, an integrated hydrographic/geophysical survey was performed by Ocean Surveys, Inc. (OSI) in a section of the East River along the Manhattan (western) shoreline between East 16th and East 26th Streets. The surveys were performed to identify obstructions and submarine utilities and assess existing riverbed and subsurface conditions in the area where river investigations were proposed. The survey methodologies and results are provided in OSI's report which is included as Appendix E. The survey results were used to avoid obstructions and document sediment sampling locations and elevations during the subsequent sediment sampling activities.

In addition to the integrated hydrographic/geophysical survey completed in the river, utilities were marked out, in accordance with NYCRR Part 753, on both the Manhattan and Brooklyn sides of the East River. Markouts were called in by Boart Longyear during the first round of river work, between June and August, 2008, and by OSI during the second round of river work, completed in October, 2008. A communications cable was identified coming from East 23rd Street and passing beneath the river just south of the NY Skyport Marina. Other utilities were identified and appropriately marked out on either side of the East River, however they did not extend into the river. A site walk, intended to identify any additional utilities that may enter and possibly cross the river, was conducted on June 11, 2008 by AECOM. During this site walk, outfalls were identified along both the Manhattan and Brooklyn sides of the river, however there were no utilities visibly entering the

river. The site walk was completed adjacent to the river between East 26th and East 16th Streets in Manhattan and between Commercial and Quay Streets in Brooklyn.

3.4 Community Air Monitoring

Community air monitoring was performed and documented to provide real-time measurements of total VOCs and particulate (airborne dust) concentrations upwind and downwind of each designated work area during intrusive investigation activities performed on land during the RI. Site personnel monitored any odors produced during these activities. The monitoring was designed to provide protection to the public downwind of the work area from any potential releases of airborne contaminants due to investigation activities and to document air quality during intrusive activities.

Instrumentation used during the Community Air Monitoring Program (CAMP) was located upwind and downwind of the work area on stands located in the breathing zone. The instruments were calibrated daily and recorded on separate field forms. The instrumentation used during the investigation activities included the following: a photo-ionization detector (PID) 10.6 eV to measure volatiles in parts per million (ppm) and a Dustrak meter to detect the particulate concentrations in milligrams per cubic meter (mg/m^3). A Dräeger pump and benzene colorimetric tubes were used to detect the presence of benzene.

The instruments were programmed to log air quality data once per minute during intrusive work activities. Readings and any observations from these instruments were recorded every 15 minutes on a separate CAMP field form by an AECOM personnel. If elevated readings were observed, they were noted and the PID used to screen soil samples was placed next to the CAMP PID for direct comparison of readings. If both PIDs indicated sustained elevated readings for 15 minutes, a Dräeger pump with a colorimetric tube was used to test for the presence of benzene. Data from the PID and Dustrak monitors were downloaded to a field laptop computer on a daily basis. The recorded logs were reviewed for any exceedances and downloaded to a daily file with the work area location as the file name.

During the RI, there were several instances where CAMP action levels (PID readings greater than 1 ppm) were reached or exceeded at downwind locations during subsurface investigation activities. Exceedances were generally due to humidity and ambient background conditions. None of the colorimetric benzene tubes indicated the presence of benzene. Based on the air quality monitoring data, the intrusive activities performed during the RI did not negatively impact the air quality at the site.

A community air monitoring program was not implemented during the river drilling activities as they were performed from a barge offshore. Air quality during drilling activities on the barge was monitored using a PID.

3.5 Surface Soil Sampling and Analysis

Three surface soil samples were collected within OU2 at the locations illustrated on Figure 3-1. Table 3-1 summarizes the OU2 surface soil sample designation, depth, date, collection method, rationale, and laboratory analyses. At each surface soil sample location, a 2 ft by 2 ft area was scraped with a stainless steel trowel and samples were collected from 0.0 to 0.2 feet or at 0.5 feet depending on the surface cover. Soil samples to be analyzed for VOCs were placed directly in a jar supplied by Chemtech Laboratories of Mountainside, New Jersey (Chemtech) and sealed. Soil samples for other analyses were homogenized and then placed in jars supplied by Chemtech and sealed. Sample jars were labeled, placed in a cooler with ice, and sent under chain-of-custody protocol by courier to Chemtech.

3.6 Upper Fill Sampling and Analysis

Five upper fill sample locations were collected from OU2 during the RI and are illustrated on Figure 3-1. Table 3-2 summarizes the sample designation, depth, date, collection method, rationale, and laboratory analyses for the OU2 upper fill samples collected during the RI. Upper fill samples were collected from 0.2 to 5 ft bgs during utility clearance activities. Aliquots of soil were collected at 1-foot intervals with a steel trowel to a depth

of 2 feet. Sample aliquots were placed in plastic bags and screened with a PID. The steel trowel was decontaminated between each use. A hand auger, posthole digger, or shovel was used to collect soil aliquots at 1-foot intervals from a depth of 2 to 5 ft bgs. The sampling instrument was decontaminated between each sample aliquot collection. Samples were screened with a PID for VOCs. I f there was no olfactory or instrument indications of contamination, the sample for VOC analysis was collected by scraping soil from along the side of the utility clearance hole. If there was olfactory or instrument indications of contamination, the soil aliquot exhibiting the highest PID reading was jarred and submitted for VOC analysis. The soils for the remaining analyses were composited and placed in the appropriate sample jars. Sample jars were labeled, placed in a cooler of ice, and sent under chain-of-custody protocol by courier to Chemtech.

Excavated soils that showed evidence of contamination were placed in 55-gallon drums and managed in accordance with Subsection 3.18 of this report. Excavated soils that did not show signs of contamination were placed back in the utility clearance test pit.

3.7 Lower Fill/Natural Soil Sampling and Analysis

During the RI activities, 20 borings were drilled and sampled continuously and 19 monitoring wells were installed within OU2. The borings are summarized in Table 3-3 and illustrated on Figure 3-1. A total of 61 lower fill/natural soil samples were collected from 20 boring locations within OU2 during the RI activities to further characterize and evaluate the extent of impacts detected during the SCS. Three monitoring wells proposed in the work plan were not installed in OU2 during the RI activities due to access constraints and field conditions. Monitoring well pair ACMWD21/ACMWDD21 was proposed in the parking area north of the swimming pool on the north side of East 23rd Street to evaluate the northern extent of groundwater impacts detected in groundwater grab samples collected from 28 to 30, 60 to 64, and 66 to 70 ft bgs in boring AC101. Access to this location was not acquired. Monitoring well 23MWDD22 was proposed northeast of the site adjacent to monitoring well 23MWD22. Several unsuccessful attempts were made to pre-clear drilling locations in this area over several days. Based on discussions with the NYSDEC project manager onsite, it was decided that one well would be installed at this location and screened in the intermediate aquifer zone based on groundwater analytical results from nearby wells.

Three samples were collected for fingerprinting or forensic analysis during the RI field activities. Table 3-4 summarizes the sample designation, date, collection method, rationale, and analyses for the RI fingerprint sampling efforts. Figure 3-1 illustrates the sample locations. One soil sample was collected from 9 to 11 ft bgs in boring EBDT101, located in Stuyvesant Cove Park, to evaluate the source of the reddish-brown oil like material at this interval. This sample was analyzed by Chemtech. Two product samples were collected from monitoring wells EBMW15DD and LR17, also located in Stuyvesant Cove Park, during groundwater sampling activities in May 2006. These samples were analyzed by META Environmental (META) of Watertown, Massachusetts to evaluate the source of the product. The results are discussed in Subsection 5.4.1.3.

The initial RI soil borings were drilled by ADT between January 24, 2006 and May 9, 2006. The supplemental RI soil borings were drilled between May 22, 2008 and September 4, 2008 by PEC. Soil borings were advanced using hollow stem auger (HSA) drilling rigs (truck- and track-mounted variations) or direct-push technology using a geoprobe rig. At certain locations, casing was advanced using drive and wash methods where heaving sands were encountered at depth. Continuous soil samples were generally collected from a depth of 5 feet to the base of each borehole. The upper 5 feet of each boring was logged continuously during utility clearance. The soils were logged for composition and presence of visible and olfactory impacts and were field screened with a PID for the presence of VOCs. Boring logs and monitoring well construction diagrams are provided in Appendix B of this RI report.

Samples were collected using either a 2-inch or 3-inch outside diameter, 2-foot long split-spoon sampler. Soil samples were collected in advance of the augers or drive casing by driving the split-spoon sampler through the sample interval with a 140-pound hammer on an anvil attached to the drive head on the sampler (via automatic hammer). Blow counts were recorded for every 6-inch interval. Split-spoon sampler refusal was

considered 100 blows per 6 inches. Split spoons were decontaminated with Alconox® and water between each sample. The downhole drilling equipment was decontaminated by steam cleaning between each boring.

Soil borings advanced by direct-push geoprobe used a 5-foot long steel sampling tube (macro-core sampler) with an acetate liner. New liners were used for each 5-foot sample interval.

Upon completion, boreholes were completed as monitoring wells or tremie-grouted from the base of the boring. IDW was managed in accordance with Subsection 3.18 of this RI report.

In general, three samples were collected from each boring location; one at the depth interval corresponding to adjacent boring impacts for lateral delineation, one at the depth interval with the greatest observed impacts based on olfactory and visual observations and PID readings, and one below the deepest impacts or at the base of the boring to provide vertical delineation information. In the event that olfactory and visible observations and PID readings did not indicate impacts at a location, a sample was collected at the water table interface and bottom of boring.

Soil for VOC analysis was collected directly from the interval exhibiting the highest PID readings, when detected. Soil collected for the remaining analyses was sampled across the sample interval. Soil samples were placed in jars, labeled, placed in coolers of ice, and sent under chain-of-custody protocol by courier to Chemtech.

3.8 Monitoring Well Installation and Development

Nineteen monitoring wells were installed in OU2 during the RI activities peformed in 2006 and 2008. Two shallow (S-series) monitoring wells (screened from approximately 5 to 15 ft bgs), ten intermediate (D-series) monitoring wells (screened from approximately 25 to 35 ft bgs), and seven deep (DD-series) monitoring wells (screened between approximately 50 and 70 ft bgs) were installed. In addition, eight groundwater grab samples were collected from two separate borings north of the site for additional groundwater delineation data. The OU1 and OU2 monitoring well locations are illustrated on Figure 3-1. Table 3-5 summarizes the OU1 and OU2 RI monitoring well and groundwater grab samples, screened interval, date installed, and location rationale. The groundwater level and analytical results for both OU1 and OU2 wells are presented in Sections 4 and 5 of this OU2 RI report to enable presentation of groundwater elevation contours and groundwater quality results.

Borings for monitoring well installation were advanced with HSA techniques as described in Subsection 3.7 above. At locations where well pairs or triplets were installed, continuous soil sampling using split-spoon samplers was performed only during the advancement of the borehole for the deepest monitoring well at that location. Soil inspection and logging of split-spoon samples was performed in accordance with the method described in Subsection 3.7 above. Borings drilled for the installation of shallower wells at coincident locations were not continuously sampled with split spoons. Boring log and monitoring well construction diagrams are provided in Appendix B.

All monitoring wells installed during the 2006 and 2008 RI activities are constructed of 2-inch diameter schedule 40 polyvinyl chloride (PVC) with 10-foot sections of 0.020-inch slot screens and 2-foot sediment sumps. A sand pack extends from the base of each well screen to at least 1-foot above the top of the screened interval. The sand pack is overlain by a 2-foot bentonite seal and the remaining annular space is filled with grout to within approximately 1-foot of ground surface. Flush-mounted limited access road boxes were used to complete the wells and the surface surrounding the well was restored to pre-drilling conditions.

Monitoring wells were developed a minimum of 24 hours after well installation (following NYSDEC protocol) to remove fine sediments from within the well, well screen, sand pack, and aquifer to promote good hydraulic connection between the well and the formation. Various techniques were used for well development, including surging using a plunger, one and two stage downhole centrifugal pumps, and a peristaltic pump. The plunger

was a handmade design that consisted of PVC pipe with a gasket and valve on one end and tubing on the other end that directed development water into a drum.

For wells with large amounts of sediment in the sump, a two stage centrifugal pump was used for surging, then for purging water for well development. For wells with measurable product that needed to be developed, the product was first removed using a dedicated bailer or dedicated tubing connected to a peristaltic pump to the extent practicable. The product and water purged was containerized. The depth to product was measured to assure all of the product was removed prior to development and then a one or two stage whale pump or a peristaltic pump was used to develop the wells. Monitoring well EBMWD14 was developed by bailing product and groundwater.

All of the wells installed as part of the RI were developed until approximately 10 well volumes of water were removed or until turbidity was low (less than 50 Nephelometric Turbidity Unit [NTU]) and groundwater pH, temperature, and conductivity parameters stabilized. Water quality data monitored during well development are summarized on the well development forms provided in Appendix F. All of the development water was containerized in 55-gallon closed top drums and managed in accordance with Subsection 3.18.

3.9 Groundwater Sampling and Analysis

Three types of groundwater sampling were performed during the RI activities. A summary of the groundwater sampling performed during the RI is provided in Table 3-6. Groundwater samples were collected on April 12, 2006 from three monitoring wells (EBMWDD18, 21MWDD03, and 23MWDD12) and analyzed for VOCs under a quick-turnaround timeframe to help determine additional sampling locations and appropriate well screen intervals. Groundwater grab samples were collected between April 27 and May 9, 2006 from specific depth intervals during the advancement of borings AC101 and 23N101 to provide additional groundwater quality and delineation data. Groundwater samples were collected between May 16 and May 25, 2006 from 45 monitoring wells comprised of the 20 wells installed during the SCS, the 21 wells installed during the 2006 RI activities, and 4 shallow wells (LR02, LR08, LR11, and LR17) installed by MEG in Stuyvesant Cove Park. During the 2008 RI activities, groundwater samples were collected from 35 of the previously sampled monitoring wells and from the six newly installed monitoring wells. Unlike the 2006 groundwater sampling event, groundwater samples were not collected from monitoring wells which contained indications of NAPL during the 2008 RI groundwater sampling event. Monitoring well LR11 could not be located and was not sampled during the 2008 sampling effort.

The groundwater grab samples collected from borings AC101 and 23N101 were collected via stainless steel temporary screen points from the depth intervals summarized in Table 3-6. The screen point was advanced to the desired depth using direct-push technologies, the screen sleeve was retracted 2 to 4 feet, depending on the apparatus, and tubing was placed through the geoprobe rods. A peristaltic pump was attached to the tubing and groundwater was drawn through the tubing into sample jars. In the shallow depth intervals where sufficient recharge was available, the borehole was purged until the water attained visual clarity prior to collecting the sample. In deeper depth intervals, recharge was poor and there was barely sufficient volume to fill the VOC sample vials, so purging could not be performed. Sample jars were labeled, placed in coolers containing ice, and sent under chain-of-custody protocols by courier to Chemtech for VOC analyses.

Groundwater samples were collected from 45 monitoring wells between May 16 and May 25, 2006 as summarized in Table 3-6. Groundwater samples were collected from 41 monitoring wells between August 27, 2008 and September 25, 2008. Monitoring wells were purged and groundwater samples were collected using a peristaltic pump and low-flow sampling methodologies. Prior to purging and sampling the depth to water and presence/thickness of NAPL were measured to the nearest 0.01 of a foot in each monitoring well. Tubing (and for the deep DD-series wells, a foot valve) was placed at the approximate midpoint of the screened interval unless NAPL was observed/detected in the well. If NAPL was observed in the well during the 2006 sampling event, the tubing intake was placed approximately 2 feet above the NAPL. Monitoring wells in which NAPL was noted during the 2006 groundwater sampling efforts include 21MWD03, 21MWDD04, 21MWD07,

23MWD12, 23MWDD12, EBMWD14, EBMWDD15, and LR08. During the purging and sampling of monitoring wells 21MWDD04 and EBMWDD15, the intake was placed above the screened interval to avoid entraining NAPL. Groundwater samples were not collected from wells in which NAPL was noted during the 2008 groundwater sampling event. Monitoring wells in which NAPL was noted in 2008 include 21MWD03, 21MWD04, 21MWDD04, 21MWD07, 21MWD10, 23MWD12, EBMWD14, EBMWDD15, and EBMWD18.

Groundwater purge rates were set below the maximum sustainable flow rate to ensure that the water table remained within 0.3 feet of the initial depth to water reading in the well. During purging activities, groundwater was passed through a Horiba U-22 flow-through cell which contained probes to measure the water temperature, dissolved oxygen (DO), pH, conductivity, and oxidation-reduction potential. Samples of water discharging from the cell were collected at 5-minute intervals and analyzed for turbidity using a LaMotte® 2020 turbidity meter. After passing through the cell, the water was discharged and temporarily contained in 5 gallon buckets. The purged water was later transferred to 55-gallon closed-top drums and managed in accordance with Subsection 3.18.

Groundwater samples were collected in appropriate glassware once the water quality parameters had stabilized. Sample jars were labeled, wrapped in plastic, placed in coolers with ice, and sent by courier to Chemtech under chain-of-custody protocol. In addition, groundwater samples were collected from 17 monitoring wells and analyzed for parameters to evaluate the potential for intrinsic bioremediation/natural attenuation of groundwater impacts in the site area. The wells from which samples were collected for the natural attenuation evaluation in 2006 include 21MWS01, 21MWD01, 21MWS03, 21MWD03, 21MWDD03, 21MWD07, 21MWS11, 21MWD11, 23MWS12, 23MWD12, 23MWDD12, EBMWD13, EBMWDD13, 20MWS16, 20MWD16, 23MWDD20, and LR02. The wells from which samples were collected for the intrinsic bioremediation/natural attenuation evaluation in 2008 included 21MWS01, 21MWD01, 21MWD03, 21MWDD03, 23MWS11, 23MWD11, 23MWS12, 23MWDD12, EBMWD13, EBMWDD13, EBMWD15, 20MWS16, 20MWD16, EBMWD18, 23MWDD20, 20MWD24, 20MWDD24, EBMWD25, and EBMWDD25. Groundwater sampling forms for the April 2006, May 2006, and August through September 2008 groundwater sampling events are compiled and presented in Appendix G.

The groundwater samples collected from monitoring wells EBMWDD18, 21MWDD08, and 23MWDD12 for quick-turnaround VOC analysis in 2006 were collected using the low-flow methodology described above. These samples were shipped to New England Testing Laboratories of North Providence, Rhode Island for VOC analysis.

Purged groundwater was containerized in 55-gallon closed-top drums and managed in accordance with Subsection 3.18.

3.10 Groundwater Elevation and Nonaqueous Phase Liquid Thickness Measurements

Depth to water measurements were collected from the majority of the monitoring wells on May 4, 2006, June 12, 2006, and September 24, 2008. The May 4, 2006 survey was conducted to help select wells to be used during the tidal survey and aquifer conductivity testing. A complete round of depth to water measurements and NAPL presence/thickness measurements was also performed in the 45 monitoring well network on June 12, 2006. A complete round of depth to water measurements and NAPL presence/thickness was performed in the 50 well monitoring network (original 45 wells except for LR11 which could not be located plus the 6 monitoring wells installed in 2008) on September 24, 2008. These depths were measured using electronic water level meters and/or oil-water interface probes. The May 4, 2006, June 12, 2006, and September 24, 2008 depth to water measurements and resulting groundwater elevations were compiled along with other well construction details and are presented in Subsection 4.4. These data were used to develop groundwater contour maps and evaluate groundwater flow directions at the site as presented and discussed in Subsection 4.4.

During the RI, the presence/absence and thickness of NAPL was also measured and recorded for the site monitoring wells. NAPL removal efforts were performed in monitoring wells 21MWD03, 21MWD04, 21MWD07, 21MWD10, 23MWD12, EBMWD14, and EBMWDD15 in 2006. These NAPL observations and removal efforts are summarized in Subsection 5.4.1.3.

3.11 Tidal Survey

A tidal survey was conducted in 14 wells and the East River in order to assess the extent of tidal influence on groundwater at the East 21st Street Works former MGP Site. Prior to beginning the long-term tidal survey, a pilot test was run for approximately two hours on June 6, 2006, to determine the optimum measurement frequency and to ensure proper set up of the equipment for the full scale test.

Water levels and temperatures were measured using an In-Situ miniTROLL® placed within the screened section of the wells over an approximate 52-hour period. The full scale tidal survey began between 20:00 and 22:00 on June 6, 2006 and was completed on June 9, 2006 between 06:40 and 07:40. The following wells were monitored, in addition to the East River: 21MWD02, 21MWDD03, 21MWS05, 21MWD05, 21MWD06, 21MWD08, 23MWS12, 23MWDD12, EBMWD13, EBMWDD13, EBMWD18, 23MWD20, LR02, and LR08.

The miniTROLLs® were connected to a cable and placed within the 14 monitoring wells to a depth where they would remain immersed in water over the course of the test. The wells were covered to keep rain from entering the casing during the test. Excess cable was wrapped around and secured to the well casing to prevent the miniTROLL® from slipping. The curb box was then cleaned and secured to prevent leakage. The test wells were inspected on June 7, 2006 to ensure that the wells were not being influenced by rain.

The miniTROLL® set in the East River provided direct measurement of the tidal fluctuation adjacent to the Site and was set near the Solar One building in Stuyvesant Cove Park. In order to prevent wave damage to the miniTROLL® unit over the course of the survey, a 2-inch slotted PVC standpipe was secured to the fence at the edge of the bulkhead and the miniTROLL® was placed at a depth of 13.5 feet (from the top of the guardrail) inside the standpipe. The cable connected to the miniTROLL® was secured to the well cap used to cover the standpipe to prevent slippage. Excess cable was folded down and threaded back into the standpipe.

Removal of the miniTROLLs® occurred between 06:40 and 07:40 on June 9, 2006. Prior to stopping the test, the miniTROLLs® were connected to a pocket PC, the test data downloaded, and a final reading of temperature and water level was recorded for each well and the river. Data from the miniTROLL® placed in 21MWD06 was downloaded following its return to Pine Environmental due to an elastomer connection problem encountered while trying to download the data.

The results of the tidal survey are presented in Subsection 4.4.1. The tidal survey raw data are provided in Appendix H.

3.12 Soil Gas Sampling and Analysis

Three soil gas samples were collected in OU2. The OU2 soil gas sample locations are illustrated on Figure 3-1. Soil gas samples were collected following utility clearance processes. Two outside ambient air samples were collected from the breathing zone during the soil gas sampling activities. Following apparatus set-up and purging procedures using a helium shroud, soil gas samples were collected over a one-hour period at each location using Summa canisters. The soil gas and outdoor air samples were shipped via overnight courier service under chain-of-custody protocol to Air Toxics Limited, Inc. (Air Toxics) of Folsom, California. The samples were analyzed for VOCs and other parameters by United States Environmental Protection Agency (USEPA) Method TO-15. Table 3-7 provides a summary of the OU2 soil gas and ambient air sample designation, date, depth, collection method, rationale, and analyses for the soil gas samples collected during the RI. The anticipated depth of sample collection in the 2006 RI work plan was modified in the field based on perched water conditions at some locations. The OU2 soil gas results are discussed in Subsection 5.7.

3.13 East River Surface Sediment Sampling and Analysis

East River surface sediment samples were collected by a variety of methods between June and October 2008. Surface sediments were collected from the shoal and adjacent upstream and downstream areas east of the former MGP site along Stuyvesant Cove Park as well as from other shoals within the East River. A summary of the surface sediment sampling activities and methodologies is presented in the subsections below. The surface sediment analytical results are provided in Subsection 5.8.

3.13.1 Surface Sediment Sampling Adjacent to Stuyvesant Cove Park

Surface sediment samples were collected in June, July, and October 2008 via box and gravity core sampling and rotosonic and vibracore drilling.

On June 12, 2008 Two Guys and a Boat (TG&B) was contracted by AECOM to collect box core samples from four locations within and adjacent to the shoal east of Stuyvesant Cove Park to characterize the surface sediment quality. The four sample locations were identified as ERSSREF01, ERSSREF02, ERSSREF04, and ERSSREF05. The ERSSREF01 sample location is illustrated on Figure 3-2 and the remaining three box core sample locations are illustrated on Figure 3-1. The sample location rationale and analytical samples are summarized in Table 3-8. TG&B supplied the vessel and sampling equipment and sampling was overseen by an AECOM geologist. Upon arrival at the predetermined sample location, the vessel was anchored to prevent movement during the sampling event. A box core sampler, approximately 1.5 ft x 1.5 ft x 1 ft, was lowered to the sediment surface and the weight was deployed to close the bottom of the sampler. The sample was then brought to the surface and onto the vessel. The sediment was screened for VOCs with a PID and described for lithology and any potential impacts by the AECOM geologist. Sample logs are available in Appendix B of this report. Analytical samples were collected from each of the four box core sample locations. The sediment was collected in laboratory supplied glassware, packed on ice, and sent under chain of custody protocol via courier to Alpha Woods Hole Laboratories of Mansfield, Massachusetts (Alpha). These surface samples were analyzed for VOCs, SVOCs, total organic carbon (TOC), soot carbon, and saturated total petroleum hydrocarbons (TPH).

Surface sediment samples were also collected adjacent to the site during deeper sediment drilling activities described in Subsection 3.15 and performed in June, July, and October, 2008. Surface sediment samples were collected from the drilling core between 0 and 1 ft btos at 73 of the 76 drilling locations and are identified with the prefix ‘RB’ in Table 3-8 and on Figure 3-1. A physical description of the surface sediment at each location is provided on the boring logs included in Appendix B of this report. The samples were placed in appropriate glassware and shipped to Alpha under chain-of-custody protocol. The majority of these samples were analyzed for VOCs, SVOCs, TOC, and soot carbon as summarized in Table 3-8. One surface sediment sample, RB35, was also fingerprinted which included saturated TPH and alkylated PAH analyses. TOC analyses were performed to normalize the analytical results for comparison with NYSDEC sediment criteria.

Additional surface sediment samples were collected in October 2008 to further refine the extent of surface sediment visible impacts and to provide delineation of preliminary total PAH concentrations detected in surface sediment samples collected during June and July 2008. These samples were collected from the top of vibracores during deeper drilling activities (described in Subsection 3.15) or via gravity cores and are identified with the prefix ‘GS’ in Table 3-8 and on Figure 3-1. Gravity cores were collected by OSI, under contract to AECOM, using a 5-foot gravity core sampler, lined with a thick polycarbonate liner that was disposed of following sampling at each location. Upon arrival at the sampling location, the vessel was anchored to prevent drifting during sampling. The 5-foot gravity core sampler was lined with the polycarbonate liner and lowered overboard. An additional 50 to 150 pounds of weight was added to the sampler depending on the makeup of the river bottom sediment, and the sampler was allowed to drop into the surface sediment. The sampler was then pulled up and the core removed. Surface sediment grab sample locations that could not be sampled with the gravity core were sampled using a vibracore fitted with a 3-foot polycarbonate liner from the spud barge used for deeper drilling activities. After sample retrieval, the liner was cut open to allow access to the sample and the sediment was screened with a PID for VOCs and logged for sediment lithology and any potential

impacts. Sample logs for the gravity core and vibracore surface sediment grab samples are provided in Appendix B of this report. Surface sediment grab samples were collected at 39 locations for visual inspection and VOC screening with a PID. Analytical samples were collected from 24 of the 39 surface sediment grab sample locations. Analytical samples were placed in laboratory supplied glassware, packed on ice, and sent via Federal Express to Alpha under chain-of-custody protocol. These samples were analyzed for VOC, SVOCs, and TOC.

3.13.2 East River Background Surface Sediment Sampling and Analysis

Analytical results and observations of surface sediments collected offshore of Stuyvesant Cove Park in June and July 2008 indicated a defined area that had likely been impacted by MGP-related residuals. Therefore, additional investigations were performed in October 2008 to evaluate the background quality of surficial sediments within the East River to use as a baseline of comparison with constituent concentrations in surface sediments adjacent to the site. Forty surface sediment samples (0-1 ft btos) were collected from the East River at the 13 general background reference locations illustrated on Figure 3-2. These locations ranged from north of Ward Island to south of the Battery and are designated with the prefix 'BG'. The background locations were selected from depositional environments (shoal), water depths and sediment assemblages that are similar to areas located adjacent to the site. Background samples were obtained from relatively easily accessible, low traffic areas and were not biased to visibly impacted areas with surface sheens, or collected within 100 feet of storm water discharge points or within 1000 feet of the site. In general, three samples were collected at each background location. However, at location BG13, only two samples were collected due to heavy boat traffic in the sample area, and at locations BG06 and BG09, four gravity core samples were collected. Table 3-9 provides a summary of the background surface sediment samples. The background surface sediment samples were collected by OSI under AECOM direction via gravity core as described in Subsection 3.13.1. The gravity cores were visually inspected and screened with a PID for the presence of VOCs. Background sediment sample logs are provided in Appendix B of this report. The samples were placed in laboratory supplied glassware, iced, and shipped under chain-of-custody protocol to Alpha for VOC, SVOC, and TOC analysis.

3.14 Stormwater Outfall Sediment Sampling and Analysis

Surface and shallow sediment samples were collected at the three permitted stormwater discharge points located along Stuyvesant Cove Park (EROF01, EROF02, EROF03) as illustrated on Figure 3-1 and at two stormwater discharge points that do not collect stormwater from the former MGP site (EROF04 and ERSSREF03) as shown on Figure 3-2. These samples were collected to characterize the upper three feet of sediment adjacent to the outfalls. A summary of the outfall sediment samples is provided in Table 3-10.

Sediments were cored to a depth of 3 ft btos at all of the outfall locations except EROF04 by TG&B under AECOM oversight using a push core sampler on June 12, 2008. Sample EROF04 was collected by OSI in October 2008 using a push core sampler. Upon arrival to the predetermined sample location, the vessel was anchored to minimize movement during the sampling. A push core sampler was lowered to the sediment surface and pushed to a minimum depth of 3 ft btos. The push core sampler was lined with a disposable polycarbonate liner in which the sediment core was contained. Following retrieval of the push core sampler, the polycarbonate liner was removed from the sampler and capped for transfer to the land-based logging station, as there was not enough room on the vessel for logging at the time of sampling. The liners were cut open at the logging station to allow access to the cores and at that time, the cores were screened with a PID, photographed, and the lithology and any impacts described by an AECOM geologist. Following logging of the core, composite samples were collected from three depth intervals within each core: 0-0.5 ft btos, 1-2 ft btos, and 2-3 ft btos. Analytical samples were containerized in laboratory supplied glassware, packed on ice, and sent under chain-of-custody protocol via courier to Alpha. Samples were analyzed for VOCs, SVOCs, TOC, soot carbon, and saturated TPH. Boring logs for outfall cores are available in Appendix B of this report. Outfall sediment analytical results are presented in Subsection 5.9.

3.15 Deep Sediment Sampling and Analysis

The East River deep sediment sampling and analysis was performed to delineate the extent of subsurface MGP impacts identified adjacent to the East River during the 2006 RI activities. MGP-related impacts were identified at various locations within Stuyvesant Cove Park generally between 20 ft and 59 ft bgs. Additional investigation locations in the river had to extend to a minimum of 50 ft btos (along the retaining wall) to further evaluate the impacts observed adjacent to the retaining wall. Due to the deep investigation depths, cores were advanced using a rotosonic drill rig from a spud barge within the East River. Rotosonic shallow (10 to 15 ft btos) sample recovery was poor at many locations; therefore, supplemental drilling activities were performed using a vibracore from the spud barge. Deep sediment sampling activities were performed in June, July, and October 2008.

As outlined in the SRIWP (ENSR 2008a), the borings were to be advanced along transects generally trending west to east and north to south in the river adjacent to the site. Initially, borings were to be advanced along Transect 1, from west to east, to determine the eastern extent of impacts. It was estimated that approximately 24 borings might be required to delineate the extent of impacts based on an overall 200-foot grid spacing, except along the shoreline where borings were to be spaced at 100 foot intervals. However, river borings were not drilled at proposed grid intersections or in the order anticipated in the work plan due to the presence of four relic piers identified by the geophysical survey and operational logistics such as water depth and current (tidally influenced), river traffic, and barge maneuverability. Overall, 76 borings were drilled in the river adjacent to the site to evaluate sediment quality and delineate impacts.

Beginning on June 16, 2008, AECOM contracted a 30 ft by 90 ft spud barge which was mobilized from Miller's Launch on Staten Island, New York to the sampling area, adjacent to Stuyvesant Cove Park. Prior to mobilization to the sample area, a mini-sonic drill rig and required equipment were welded to the spud barge. Additionally, a 10 ft by 20 ft box container was secured to the barge to act as an office while onboard. All other equipment, including water tanks, 55-gallon drums, generators, etc., were loaded onto the barge at Miller's Launch, and the barge was brought to the sample area to begin work on June 17, 2008. In addition to contracting with Miller's Launch for the spud barge, Miller's Launch supplied a tug boat to maneuver the barge into position, as well as a smaller vessel to transfer people to and from the East 23rd Street Marina, and act as an emergency response vessel in the event of a spill during drilling activities. In addition, this vessel secured the petroleum boom around the barge prior to beginning drilling at any location, in order to contain any sheens generated during drilling or spudding activities.

AECOM contracted with OSI, to provide navigation support during this first phase of drilling. Prior to beginning drilling, OSI had performed a bathymetric survey of the drilling area and these data were used in selecting and navigating to boring locations. Positioning was accomplished employing an OSI-provided differential global positioning system (DGPS) interfaced to a HYPACK navigation and data logging platform. This system allowed for the accurate positioning of as-sampled locations while helping to ensure that the barge's spuds and drill rods avoided obstructions identified on the riverbed during an earlier OSI geophysical survey. The primary equipment employed by the OSI sampling crews and used to precisely locate the survey vessel, barge, and vibratory corer included:. Trimble 4000 GPS interfaced with a Leica MX51R Differential Beacon Receiver; HYPACK navigation and data-logging computer system and external monitors; and TSS Meridian Gyrocompass (barge navigation only).

A total of 54 borings (RB1 through RB54) were completed by Boart Longyear using rotosonic drilling between June 17 and August 1, 2008. These locations are shown on Figure 3-1. Borings were generally completed to anywhere between 35 ft btos and 65 ft btos, with RB48 being completed to a depth of 95 ft btos, which is equivalent to an elevation of -105 ft NAVD88. Borings ranged in depth based on the presence or absence of visible and olfactory MGP-related impacts, as well as the elevation required to delineate the nearest boring containing such impacts. Rationale for analytical samples collected in these borings is available in Table 3-11.

Rotosonic drilling uses an inner casing and an outer casing, which is advanced following advancement of the inner casing. The casings are rotated and vibrated, allowing advancement into deeper sediment. The first 20 feet of each boring were typically drilled in 5-foot runs, with the deeper sediment being drilled in 10-foot runs. This aided somewhat in the shallow sediment recovery, however recovery was generally poor in the upper 10 to 15 feet using rotosonic drilling. Following advancement of the outer casing, to keep the hole open, the inner casing was removed and the core extracted into polyethylene sample bags ranging from 5 to 10 ft long. Bags were cut open and the contents were screened for VOCs with a PID and described for lithology and impacts by an AECOM geologist. In general, a sample was collected for analysis from 0-0.5 or 0-1 ft btos. These samples were analyzed for VOCs, SVOCs, TOC, and soot carbon. Analytical samples were also collected in deeper samples in accordance with the work plan and impacts encountered during drilling. These samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), and PAHs, including 2-methylnaphthalene and dibenzofuran. In addition, a select number of samples (see Table 3-11) were fingerprinted which included TOC, soot carbon, saturated TPH, and alkylated PAH analyses in addition to BTEX and PAHs. All analytical samples were collected into laboratory-supplied glassware, packed on ice, and sent under chain-of-custody protocol via courier to Alpha.

A second round of river borings was completed in the East River in October 2008 to fill in data gaps resulting from poor shallow recovery using rotosonic drilling techniques and to further refine the extent of observed impacts. Under contract to AECOM, Miller's Launch prepared a 30 ft by 90 ft spud barge, fitted with a crane, and OSI secured a vibracore to the barge for sediment core collection. AECOM contracted with OSI to provide navigation and vibracore services during this phase of drilling. Borings RB55 through RB76 were collected via vibracore and were completed to approximately 20 ft btos. The boring locations are illustrated on Figure 3-1 and summarized in Table 3-11.

The spud barge was positioned over the sample location using OSI navigation software and the tug boat. River borings were advanced using a vibracore lined with a 20-foot polycarbonate liner. The vibracore was advanced into the sediment to a maximum depth of 20 ft btos and the liners were cut open to allow access to the samples following removal from the vibracore. Sediment was screened with a PID for VOCs and logged for lithology and any visible and olfactory impacts observed. Following logging, analytical samples were collected at specific intervals for laboratory analysis. Samples were collected in laboratory-supplied glassware, packed on ice, and sent via courier to Alpha under chain-of-custody protocol. The samples were analyzed for BTEX and PAHs, including 2-methylnaphthalene and dibenzofuran by Alpha as summarized in Table 3-11.

In addition to the chemical analyses performed on sediment samples, 29 geotechnical samples were collected from three borings, RB42, RB46, and RB50. The samples for geotechnical analysis are summarized in Table 3-12. The geotechnical analyses included grain size and Atterberg limits. Sediment was collected into laboratory supplied glassware, packed, and shipped under chain-of-custody protocol to PTS Laboratories (PTS) of Santa Fe Springs, California. The results of these analyses are presented in Subsection 5.5. Samples were also collected from locations RB46, RB48, RB54, RB63, RB69, and GS39 for physical property analysis as summarized in Table 3-12. The physical property analyses included fluid properties, OILPRINT, pore fluid saturation, and free product mobility. These analyses were also performed by PTS. The results of these analyses are presented in Subsection 5.5.

All IDW produced during the river sampling activities was containerized and handled as summarized in Subsection 3.18.

3.16 Surface Water Sampling and Analysis

Although, surface water sampling and analysis were not proposed in the work plans, they were performed to evaluate the potential affect of impacted groundwater or sediment discharges on surface water quality. During the October 2008 river sampling activities, three sets of surface water samples were collected from the water surface, mid-way through the water column, and at the sediment surface to characterize the surface water

quality adjacent to the site. Five locations, RB55, RB61, RB75, GS16, and GS35, were selected for surface water sampling. Specific rationale for these samples is available in Table 3-13 and locations are illustrated on Figure 3-1.

Water samples were collected upstream of the barge spuds and prior to drilling and sediment sample collection to prevent entrainment of disturbed sediment in the water samples. Upon arrival at the sample location, the Van Dorn sampler was lowered to within the top foot of water and the weight was released to close the sampler. This secured the sample in the container, which was then pulled up onto the barge and emptied into the laboratory-supplied glassware. This process was repeated a minimum of five times per sample depth to collect enough water for analysis. Following the collection of enough water to fill the sample bottles, the Van Dorn sampler was decontaminated and lowered to the next sample depth. Samples were packed on ice, and sent via courier to Alpha under chain-of-custody protocol. The samples were analyzed for VOCs, SVOCs, and total suspended solids (TSS) as summarized in Table 3-13. Surface water analytical results are discussed in Subsection 5.10.

3.17 Analytical Program

3.17.1 Chemical Analyses

3.17.1.1 2006 Remedial Investigation Activities

The majority of the soil and groundwater samples collected during the 2006 RI activities were analyzed for:

- VOCs by USEPA SW-846 Method 8260B
- SVOCs by USEPA SW-846 Method 8270C
- Metals by USEPA SW-846 6000/7000 Series
- Total cyanide by USEPA SW-846 Method 9012A
- Available cyanide by USEPA MCAWW 1277

These analyses, except for available cyanide, were performed by Chemtech in accordance with NYSDEC Analytical Services Protocol (ASP). Available cyanide analyses were performed by Severn Trent Laboratories, Inc. (STL) of Pittsburgh, Pennsylvania.

A subset of groundwater samples collected from monitoring wells EBMWDD18, 23MWDD12, and 21MWDD03 were analyzed under a quick-turnaround time frame for VOCs only using USEPA SW-846 Method 8260B by New England Testing Laboratories.

The groundwater samples collected for intrinsic bioremediation or monitored natural attenuation (MNA) parameters including nitrate, sulfate, sulfide, total iron and manganese, dissolved iron and manganese, alkalinity, dissolved gasses (nitrogen, oxygen, methane, carbon dioxide) were analyzed by Microseeps, Inc. of Pittsburgh, Pennsylvania.

The soil gas and ambient air samples collected during the RI were analyzed for VOCs plus naphthalene, 2-methylpentane, isopentane, 2,3-dimethylpentane, isooctane, indene, indane, thiophene, and helium using USEPA Method TO-15. These analyses were performed by Air Toxics.

3.17.1.2 2008 Remedial Investigation Activities

Based on the results of the 2006 RI sampling activities and the 2004 SCS, the majority of the soil and groundwater samples collected during the 2008 RI activities were analyzed for:

- VOCs by USEPA SW-846 Method 8260B

- SVOCs by USEPA SW-846 Method 8270C

These analyses were performed by Chemtech in accordance with NYSDEC ASP. The groundwater samples collected for intrinsic bioremediation or MNA parameters were analyzed by Microseeps, Inc.

All of the East River surface sediment samples, including the background samples collected during the 2008 RI activities were analyzed for:

- VOCs by USEPA SW-846 Method 8260B
- SVOCs by USEPA SW-846 Method 8270C
- TOC by USEPA SW-846 Method 9060

A subset of the East River surface sediment samples were also analyzed for:

- Soot Carbon by American Society for Testing and Materials International Methods (ASTM)
- Saturated TPH by USEPA Method 8015
- Alkylated PAHs by USEPA Method 8270 – Modified

The deep sediment samples (greater than 1 ft btos) collected from the East River during the 2008 RI sampling activities were analyzed for:

- BTEX by USEPA SW-846 Method 8260B
- PAHs and 2-methylnaphthalene and dibenzofuran by USEPA SW-846 Method 8270C

A subset of the deep sediment samples collected from the East River during the 2008 RI sampling were analyzed for some or all of the analyses listed below.

- VOCs by USEPA SW-846 Method 8260B
- SVOCs by USEPA SW-846 Method 8270C
- TOC by USEPA SW-846 Method 9060
- Soot Carbon by ASTM Methods
- Saturated TPH by USEPA Method 8015
- Alkylated PAHs by USEPA Method 8270 – Modified

All of the chemical analyses performed on the sediment samples listed above were performed by Alpha.

3.17.2 Physical Property Analyses

A subset of sediment samples were analyzed for physical properties including the following.

- Atterberg Limits – ASTM D4318
- Grain Size with Hydrometer – ASTM D422
- Free Product Mobility – ASTM D425M, Dean Stark
- Pore Fluid Saturation – API RP40/ ASTM D2216
- Hydrocarbon Characterization – OILPRINT™

These analyses were performed by PTS.

3.18 Management of Investigation-Derived Waste

The management of IDW was performed by AECOM field personnel during the RI activities at the site. Waste generated during the RI activities performed on land included soil cuttings, decontamination fluids, groundwater purge and development water, and construction and debris material (C&D), including personal protection equipment (PPE). All of the waste was containerized in either closed-top (liquid) or open-top (soil and C&D) 55-gallon drums. The drums were collected at the end of each day and transported to the equipment storage area underneath FDR Drive. Drums were labeled and composite samples were collected for waste characterization analysis by Chemtech. Samples submitted to the laboratory for analysis were requested for a 5-day turnaround time to expedite disposal. Clean Earth of North Jersey, Inc. provided transport and disposal of the drums.

A field log was developed and maintained to keep track of the number of drums, waste type, and designation. Table 3-14 provides a summary of the date, manifest number, and the total number and type of drums included on the manifest for the waste that was generated and disposed during the 2006 and 2008 RI field activities. The waste generated during the investigation was separated as per waste profiling with the transport/disposal facility (Clean Earth of North Jersey, Inc.). The manifests for the 2006 and 2008 IDW generated on land are located in Appendix J.

All solid (sediment, C&D, and PPE) IDW generated during river sampling activities was managed in accordance with the work plan and containerized in 55-gallon drums onboard the barge. All liquid IDW was containerized in closed-top drums during the June and July 2008 activities and in a 750-gallon tank during the October 2008 activities. When the number of drums onboard the barge reached capacity, Miller's Launch sent a vessel to transfer the drums directly to Clean Waters for disposal. Similarly, when the water tank was full, Miller's Launch sent a vessel with a vacuum tank onboard to clean out the tank and transport the liquid directly to Clean Waters for disposal. A summary of IDW generated during the river sampling activities is included as Table 3-15 of this report. Copies of the waste manifests for the IDW generated during the river sampling activities are provided in Appendix J.

3.19 Survey of Remedial Investigation Sampling Locations and Basemap Development

The 2006 RI sample locations were surveyed by a surveyor licensed in the State of New York. The 2006 RI sample locations were tied into the site map prepared by H&A during the SCS. That map is based on the Borough of Manhattan Vertical Datum which is equivalent to +2.75 United States Geologic Survey (USGS) Vertical Datum of 1929. Elevations were surveyed to the nearest 0.01 foot. The SCS site map was developed from surveys conducted by Leonard J. Strandberg & Associates, Inc., Freeport, New York in 2002 on behalf of Mathews-Nielsen Landscape Architects, New York, New York and Rose Associates (Strandberg, 2002). The 2006 RI locations were tied into the site plan using coordinates provided for previously installed monitoring wells, fixed utility locations (lights), and buildings on the Peter Cooper Village property. Surveyed property features were referenced to the Borough of Manhattan Horizontal Coordinate System.

The 2008 RI land sample locations were surveyed by Geod, Inc. These locations were surveyed in the 1983 North American Datum (NAD 83) Long Island Lambert Zone of the New York State Plane Coordinate System and were referenced to the 1988 North American Vertical Datum (NAVD88). 2006 RI boring logs were revised to reflect these datums. A table was generated for previous investigation boring logs (2004 SCS borings and Langan borings) which presents the Manhattan Borough Datum coordinates and corresponding Long Island Lambert (NAD83) and NAVD88 coordinates. This table is presented before the 2004 SCS boring logs in Appendix B.

OSI performed a multibeam bathymetric survey of the western side of the East River between East 16th and East 26th Streets in April 2008. The bathymetric survey was performed in the NAD 83 Long Island Lambert Zone of the New York State Plane Coordinate System and was referenced to NAVD88. A copy of the OSI

hydrographic and geophysical survey report dated May 30, 2008 is provided in Appendix E. The East River rotosonic drilling location coordinates were provided by OSI during the sampling activities and are included in the OSI report dated November 4, 2008 in Appendix E. The East River background surface sediment sample, surface sediment grab sample, and vibracore coordinates were provided during the sampling activities and are provided in the OSI report dated November 19, 2008 in Appendix E.

3.20 Bulkhead Construction Research

AECOM researched documents to assemble available information regarding the depth, construction materials, installation methods, age, and permeability of the bulkhead along the west bank of the East River at Stuyvesant Cove Park. In October 2008, AECOM contacted and met with representatives of the New York City Economic Development Corporation (NYCEDC) to obtain this information. AECOM reviewed available historical drawings and additional data for the site area and acquired a copy of the Tippetts-Abbett-McCarthy-Straton Engineers (TAMS), Architects and Planners report *Reconstruction of Franklin D. Roosevelt & Harlem River Drives Riverfront Fill and Retaining Structures* dated September 1989 (TAMs report) which includes a description of the bulkhead along Stuyvesant Cove Park. AECOM's research also located a typical cross section drawing of the bulkhead at East 23rd Street and the East River from the New York City Department of Design and Construction Drawing Archive, in Brooklyn, New York which was subsequently provided electronically by Turner Construction. Previous research and freedom of information requests generated limited information on the bulkhead based on an inspection of the structure in 1996. The information obtained from these research efforts is presented in Subsection 4.1.1.

3.21 Subsurface Utility Evaluation

After the 2006 intrusive fieldwork was completed, AECOM compiled all of the available service utility maps to mark the location of underground utilities on the site and surrounding public streets. The purpose of this work was to evaluate utilities as migration pathways for subsurface impacts. Service utilities included are water mains, electrical ducts, gas mains, sewer drain, storm sewer, telephone lines, fiber optic cables, and steam mains. In addition to the utility location program undertaken in anticipation of invasive activities, several site visits by AECOM personnel were performed to evaluate site utilities.

The utility plates used during the investigation were combined with the utility plan developed during the SCS and is presented in Figure 3-3. However, while the utility locations shown were estimated based on the available information, the majority could not be field verified. Given the age/nature of utility systems and the records in this area, additional utilities not shown on the records may exist and some information shown may be inaccurate. It is recommended that a localized utility investigation be performed prior to design of invasive remedial measures. This would likely be performed as part of a pre-design investigation.

The utility map illustrates one line for multiple diameter mains for a service line, for visual reference only. Due to the size and nature of the utility records for this area, detailed utility drawings are not provided in this document; however, a copy of all utility drawings used in this investigation is available upon request from either Con Edison or AECOM.

During the 2008 utility clearance efforts for the river investigation work, a communications cable was identified along East 23rd Street and continues beneath the river. The location of this communications cable is illustrated on Figure 3-3.

The depths of OU2 impacts were compared to the depths of the service utilities. The investigation looked at various depth intervals to see pathways of the impacts. The chosen depth intervals were 0 to 10 feet, 10 to 20 feet, and 20 to 40 feet. The service utilities were divided out in these intervals according to their depths. The majority of the known subsurface utilities are located in the 0 to 10 feet depth range, except for the 108-inch intercepting sewer that is included in the 20 to 40 feet depth range, with a noted depth of 25 to 35 ft bgs, and several of the storm sewer overflow lines in the 10 to 20 feet depth range. Given the depth of the water table and the known MGP impacts, it is unlikely that significant preferential migration is currently occurring through

any of the shallow utilities or utility bedding. The 10 to 20 feet depth storm sewer overflow lines may present a potential migration pathway; however, given the torturous path from the site to the river and the depth of MGP impacts in Stuyvesant Cove Park, it is unlikely. The deeper interceptor sewer does not appear to traverse significant MGP-related impacts and therefore is not a likely preferential pathway.

4.0 Field Investigation Results

This section presents a summary of the field measurements and observations made during the RI and the SCS of the East 21st Street Site Works former MGP site and focuses on OU2. Included is a discussion of the topography and drainage, geology, and hydrogeology of the site.

4.1 Topography and Drainage

4.1.1 Topography

The topography of the site is relatively flat and slopes towards the east as indicated on Figure 4-1. The surface dips from 10 ft NAVD88 near the eastern edge of OU1 to approximately 6.4 ft NAVD88 along the river bulkhead. The 10 ft NAVD88 topographic contour illustrated on Figure 4-1 was generated by contouring the land surface elevations at monitoring wells and select borings and does not reflect details of manmade structures such as road, curbs, buildings, etc. A topographic survey of the site is available in the SCS report and is referenced to the Borough of Manhattan horizontal and vertical datums.

A bulkhead is situated along the western bank of the East River along Stuyvesant Cove Park. Drawing 1 from the TAMs report is provided in Appendix K and illustrates riverfront fill retaining structures along portions of the East and Harlem Rivers. The site area is in Sector II in the top left portion of Drawing 1. The TAMs report indicates that a gravity bulkhead with granite facing stones is present from East 18th Street to East 23rd Street. From East 23rd Street to East 25th Street is a timber relieving platform on timber piles, supporting a concrete bulkhead wall with granite stone facing. The report states that both sections of wall are of unknown construction dates.

The typical cross section drawing of the bulkhead at East 23rd Street shows a concrete gravity bulkhead with stone block facing and is provided in Appendix K. This is consistent with the TAMs report bulkhead description between East 18th Street and East 23rd Street. The cross section drawing shows the bulkhead founded on vertical wood piles on three foot centers and the concrete reinforced within battered wood piles. The section drawings also show a gravel drain behind the wall and a rip rap cobble apron at the toe of the wall. The height from top to toe is shown at approximately 27 feet. It is unknown whether the ground surface in the historic drawing corresponds to the present day ground surface, however given the elevation of the granite facing blocks and mean low water levels both in the historic drawings and present day, the elevations are likely similar.

The sediment surface was characterized during the multibeam bathymetric survey performed by OSI in April 2008. The OSI hydrographic and geophysical obstruction report is provided in Appendix E and includes a contour map with a 0.5 foot contour interval overlain on a plan view colorized depth image of the riverbed. Riverbed elevations ranged from -5 to approximately -60 ft NAVD88 in the area surveyed. The top of the sediment surface is at an elevation of approximately -5 ft NAVD88 along the bulkhead between East 23rd Street and East 20th Street and at an elevation of approximately -10 ft NAVD88 between East 20th Street and East 18th Street. The shoal area adjacent to Stuyvesant Cove Park is relatively flat east of the former MGP site as illustrated by the large expanse between the -5 and -10 ft elevation contours. The shoal area extends approximately 400 feet east of the shore in the northern portion of the area studied and decreases in width to the south to approximately 50 feet. Limited areas of exposed riverbed are present during low tide along the shoreline including a large pile of rocks and pilings adjacent to the riverbank and somewhat north of the East 20th Street entrance to Stuyvesant Cove Park. This area is coincident with a relic pier and stormwater outfall #NCM048. Four elongate ridges extend to the southeast and are associated with large amounts of debris and are likely the remnants of old dock/pier structures, two of which are indicated on the NOAA chart of the area (Chart 12335 – Figure 3-2) and the USGS topographic map of the Brooklyn, New York quadrangle (Figure 2-1).

4.1.2 Drainage

During a rain event, infiltration is absorbed into the green space across the site. Surface runoff not absorbed is directed to storm sewer curb inlets. The drainage system is comprised of an intercept sewer, trunk storm sewer lines, smaller local storm sewer lines, curb inlets, and wet weather overflow outfalls.

The storm sewer system is comprised of curb inlets that drain to the smaller local lines which in turn discharge to the larger trunk lines. The trunk lines and smaller storm lines form a complex web of storm drain lines that ultimately discharge to the intercept sewer under dry weather conditions. The intercept sewer discharges to the Newtown Creek waste water treatment plant, which discharges treated wastewater to the East River.

The intercept sewer is 108 inches in diameter and appears to flow south down First Avenue, east on 20th Street, and then south again on Avenue C. As it passes the site, storm and sanitary sewer lines drain into it.

During wet weather events overflow chambers allow local storm water to flow to the East River at three outfall locations adjacent to the site rather than to the intercept sewer. The ratio of storm water discharge to outfalls and the intercept sewer is unknown; however, it is likely during heavy precipitation events that local storm water discharges to the outfalls adjacent to the site. The outfalls are permitted under the New York State Pollution Discharge Elimination System (NYSPDES) permit #00262004. The outfall identification numbers and locations are located on Figure 3-3. From observations during several precipitation events the system appears effective at controlling runoff.

4.1.2.1 Oil Water Underdrain System Investigation

An evaluation was conducted on May 2, 2008, May 14, 2008, May 15, 2008, and May 28, 2008 to look for evidence of an oil water underdrain system that may have been installed on the Peter Cooper Village property and to evaluate whether OLM or TLM are seeping into the sewers. The evaluation included visual inspection of manholes and drains within the areas where the drains would most likely have been installed overlapping areas of shallowest OLM/TLM impacts. The inspection consisted of two phases; Phase 1 was a visual inspection of the manholes/yard drains from the surface and Phase 2 was a video camera inspection of each of the pipes entering or leaving manholes. The methods and results of this evaluation are provided in Appendix I of the OU1 RI Report (ENSR 2008c).

MGP-related impacts were not observed in any of the sewers or drains evaluated. In general, a storm drainage system typical of an urban environment was encountered during the work. A variety of pipe types, sizes, ages and configurations were encountered. In several areas of the system tar seals were used in the original construction of the system. This was typical construction for gravity flows systems built in the early to mid 20th century. The site drainage and sewer system appears intact and to be functioning well. MGP OLM/TLM impacts were not observed within any of the manholes, yard drains, or sewer pipes investigated indicating that the storm water overflow system is not an ongoing source of MGP OLM/TLM impacts to OU2 and the river.

4.2 Site Geology

Information concerning the site stratigraphy and hydrogeology were obtained from observations made during the installation of RI soil borings and monitoring wells and from the SCS Report (H&A 2004). Eight geologic cross sections (A-A' through H-H') were developed based on boring log data. The geologic cross section locations are illustrated on Figure 4-2 and the cross sections are provided on Figure 4-3 through 4-6. Boring logs and well construction diagrams on which these cross sections are based are provided in Appendix B.

As shown on the boring logs and cross sections, the site geology generally consists of five units from ground surface downward including:

- Fill

- A layer of organic clay, silt, and/or peat
- A silty sand unit with varying amounts of silt and clay
- A unit of dense silt, sand, and gravel
- Bedrock

The site geology was described in detail in the SCS Report (H&A 2004) by depositional environment for areas contained within the boundaries of OU1, including OU3. Additional information regarding geology outside of OU1, now considered OU2, was provided in the Interim RI Report (RETEC, 2007a). As such, much of the geologic information below is excerpted from those reports with additional detail or modifications provided from observations made during 2008 RI field activities.

4.2.1 Fill Unit

The fill material beneath the land portion of the site typically consists of intermixed sand, silt, and gravel with varying amounts of wood, brick, concrete, boulders, ash, cinders, glass, and metal fragments and pieces. Clinker-like material and ash-like material were occasionally observed in the samples.

The depth of fill at the site ranged from approximately 6 feet near First Avenue to 32 feet in Stuyvesant Cove Park. In general, the fill depth is shallow in the western portion of OU2 near First Avenue and deep to the east towards the East River (see Section D-D' on Figure 4-4). Fill in the western portion of the site likely reflects man-made disturbances to pre-existing natural soils from historical building construction along First Avenue.

The soils further east of First Avenue seem to reflect bulk filling activities that progressed into and over former intertidal areas of the East River to create land, as indicated by the frequent presence of an organic soil horizon below the fill material. The depth of the fill increases to the east across the site and generally ranges from 6.5 to 17 ft bgs between First Avenue and former Avenue A, and between 18 and 33 ft bgs between former Avenue A and Avenue C. Except for the fill associated with gas holder #7, the deepest fill zones were encountered in the northeast portion of the former MGP site in the vicinity of the former drip/oil tanks and retorts. This progression of increased fill thickness to the east is evident on cross sections A-A', B-B', D-D', and E-E'. Section C-C' trending west to east, north of the former MGP along the north side of East 23rd Street, shows a relatively consistent fill thickness of 20 to 25 feet.

Due to the nature of the fill material and occasional poor sample recovery in Stuyvesant Cove Park, it is sometimes difficult to differentiate fill and natural materials in this area. Cross Section F-F' illustrates the subsurface from northwest to southeast along the East River in Stuyvesant Cove Park. Fill along the East River in Stuyvesant Cove Park was encountered between 10 and 30 ft bgs and typically consisted of sand, silt, gravel, some clay, crushed rock, cobbles, conglomerate, fiber material, ash, brick, litter, plastic, wood, asphalt, and concrete. A fill layer was not encountered in the East River sediments.

4.2.2 Organic Clay, Silt, and/or Peat

On the land, organic soils consisting of clay, silt, and occasionally peat, were frequently encountered beneath the fill, generally between approximately 11 and 34 ft bgs, and where present, varied in thickness from 0.5 to 20 feet. The organic silt and clay were generally described as soft to very soft, brown to black, and occasionally containing organic peat, plant fibers, or shell fragments, and exuding a hydrogen sulfide odor.

Due to the filling activities in some areas of the site, the organic deposits are missing or appeared substantially disturbed, such that they were considered part of the overlying fill material. Sometimes the organic soil was described as gray to brown silty sand, occasionally containing shell fragments which could be associated with estuarine deposits. The organic soil is illustrated on the various cross sections as organic clay, clay, silt and clay, and peat.

As illustrated in the OU1 RI Report (ENSR 2008c), a relatively thick, fairly continuous section of organic materials (organic clay, sand and clay, silt and sand, and silt and clay) was encountered in the western portion of the site, beneath the former gas holder area, and contrasts with the relatively thin and discontinuous layer(s) of organic material in the eastern portion of the site where thicker fill zones were encountered in the vicinity of the drip/oil tanks and retorts and coal houses. Along First Avenue on the western side of the site, where shallow bedrock was encountered, the organic material is essentially absent except at one boring, 21FA102B, where a thin lens of clay was noted.

Adjacent to the river wall, within the river sediments, an organic silt layer consisting of silt, clay, and occasionally peat, was encountered at the sediment surface in the more western 62 of 119 boring or grab sample locations as illustrated on cross sections A-A', B-B', C-C', D-D', and E-E'. The organic silt and peat layer is generally characterized as being very soft to moderately dense silt, often containing hair-like fibers and exhibiting a metallic sheen and mild to strong organic, petroleum, and/or MGP odors. This layer, generally found at the sediment surface, varies in thickness from approximately 0.5 to 25 feet. Thickness is not consistent across the site and the layer extends further east where the former piers were located. The unit does not generally appear much further east of the northwest-southeast trending cross section G-G' as illustrated by the absence of the organic silt on cross section H-H' (Figure 4-6). The organic clay, silt, and/or peat unit pinches out in the middle of the river study area, between sediment surface elevations of approximately -10 to -25 ft NAVD88, between roughly 540 feet offshore in the northern portion of the study area to 90 feet offshore in the southeastern most portion of the study area. This is likely due to closer proximity to the main channel of the river where stronger currents prevail and less consolidated, fine grained material is less likely to be deposited in significant amounts.

This organic silt layer was not encountered at the surface at RB55, which is located adjacent to outfall # NCM047 (SPDES Permit # NY0026204). The surface sediment at this location consists of dark brown to black, medium to fine grained sand, with some more coarse grained sand, silt, organic material, and shards of glass. This distinct lithology suggests that sediment is being deposited from the outfall at this location. The organic silt and peat layer was present at RB55 between -9.9 and -21.7 ft NAVD88.

4.2.3 Silty Sand and Clay Unit

The silty sand unit encountered beneath the site is typically red brown to gray fine sands, silty fine sands, and sandy silts with occasional clay laminations or thin clay layers. These deposits are interpreted to be glaciolacustrine in origin and were generally encountered between 18 and 43 ft bgs and extend to a depth of approximately 150 feet at boring 21BR08B in the central/western portion of the site and approximately 120 feet bgs at boring 21OT001C in the eastern portion of the former MGP site. These sediments are interbedded and lensed throughout the site, however there is a slight trend of sandier sediments in the west and finer grained, more silty sediments in the east, especially deeper in the sequence.

Within this unit are varying amounts of clay, leading to it being illustrated as a silty sand or sand, silt and clay unit on the cross sections (Figures 4-3 through 4-6). Moving eastward from the former MGP site and Stuyvesant Cove Park, this unit appears to be continuous as it enters the river. In the northern portion of the river study area, this unit is more coarse and characterized by sands with silty sand lenses, underlain by the sand, silt and clay unit, as illustrated on Figure 4-4 in section C-C'. From north to south, this unit becomes finer and is characterized by sand, silt and clay, as illustrated on cross sections A-A', B-B' (Figure 4-3), D-D' (Figure 4-4), and E-E' (Figure 4-5).

This unit is present at the surface of the riverbed, varying in character between being more sandy at the north to more silty at the south, between -25 and -37 ft NAVD88, which is approximately 620 feet offshore in the northern portion of the river study area and between 80 and 90 feet offshore in the southeastern portion of the study area.

4.2.4 Dense Silt, Sand, and Gravel Unit

At the deep boring locations within the boundaries of OU1, more dense silt, sand, and gravel materials were encountered beneath the silty sands and overlying bedrock. These deposits are considered to be glacial fluvial or glacial till in origin and were encountered in SCS borings 21GH027A (-99.76 ft NAVD88), 21BR001 (-108.76 ft NAVD88), and 21OT001C (-110.06 ft NAVD88); and RI borings 21GH101B (-80.73 ft NAVD88), 21GH102B (-33.33 ft NAVD88), 21GH103B (-65.75 ft NAVD88), 21GH104B (-103.46 ft NAVD88), and 21BR08B (-133.76 ft NAVD88). Within the river borings, this dense silt, sand, and gravel unit was encountered at RB36 (-57 ft NAVD88), RB38 (-65 ft NAVD88), RB46 (-53 ft NAVD88), RB48 (-90 ft NAVD88), and RB74 (-55.7 ft NAVD88). This unit is characterized by stiff silty sands and gravel and is not continuous across the site.

4.2.5 Bedrock

The site is located on the southern end of the Manhattan Prong, a northeast-trending, highly eroded sequence of metamorphic rocks within the Taconic Sequence. The Taconic Sequence consists of gneiss (including the Fordham Gneiss), marble (including the Inwood Marble), aluminum-rich schists (including the Manhattan Schist), granofels, and metavolcanic rocks previously deposited on the oceanic crust and subsequently accreted onto North America during the Middle Ordovician Taconic orogeny (Merguerian, 1996). Baskerville's bedrock and engineering geologic map (1994) indicates that the site is situated near an antiformal axis between the eastern and western faults that bound Cameron's Line, a major regional northeast-trending fault zone that exhibits complex structural geology. The trend of the anticline is approximately north-northeast. The western thrust fault dips to the west. The eastern faults that bound Cameron's line are mapped beneath the East River.

Within the boundaries of OU1, eight borings were drilled to the top of bedrock (21GH101B through 21GH104B, 21BR04B, 21BR06B, 21BR03B, and 21BR05B) and eight borings were cored into bedrock (21FA102B through 21FA105B, 21BR01B through 21BR03B, and 21BR05B) during the RI. Several borings advanced during the SCS encountered bedrock along the western portion of the site and three borings were advanced to the top of bedrock (21GH027A, 21BR001, and 21OT001C). Boring logs for these bedrock borings are provided in Appendix B of this report. In addition to these borings completed to and into bedrock on land, four RI borings were completed to bedrock in the river (RB34, RB35, RB36, and RB37), and are located in the southeast portion of the river study area. Boring logs for these boring are also available in Appendix B. Two geothermal test borings (GT-1 and GT-2) were drilled by HDR for the proposed Solar Two building (boring logs for these borings were not available). In addition, several borings were advanced to the top of bedrock by the Giles Drilling Corporation for Starrett Brothers and Eken in the mid-1940s in support of constructing the Peter Cooper Village Complex (New York City Building Department). These historic boring logs were reviewed and the elevation of the top of bedrock data were used in conjunction with the RI, SCS, and HDR boring data to generate the top of bedrock contour map illustrated on Figure 4-7.

As illustrated on Figure 4-7, the top of bedrock dips steeply from an elevation of approximately 10 ft above NAVD88 at the western edge of the site along First Avenue eastward, towards the East River to an elevation of approximately -118 ft NAVD88 near Avenue C. The bedrock surface in the eastern portion of the site is relatively flat and gently rises to the east-northeast from an elevation of approximately -130 to -100 ft NAVD88. Within Stuyvesant Cove Park, at GT-1, bedrock was encountered at approximately -138 ft NAVD88 and therefore dips more steeply in this portion of the site, as shown on Figure 4-7. In the southeastern portion of Peter Cooper Village, it appears that the top of the bedrock surface is also relatively flat and gently rises to the northwest from an elevation of approximately -125 to -100 ft NAVD88. Within the river, weathered bedrock was encountered in four OU2 borings (RB34, RB35, RB36, and RB37) completed in the East River, to the southeast of the former MGP and Stuyvesant Cove Park, and is shown in cross section E-E' on Figure 4-5. This unit was encountered between -75 ft NAVD88 at RB34 and RB36 and -83.3 ft NAVD88 at RB37.

Bedrock is discussed further in the OU3 RI Report (AECOM 2009).

4.3 Regional Hydrogeology

4.3.1 Surface Water

There are no surface water bodies located on the former East 21st Street Works site. The East River is the closest surface water body to the site and is approximately 300 feet east/northeast of the eastern boundary of the former MGP. The East River is classified by the NYSDEC as a Class I saline surface water which is used for ship traffic, but not contact recreational purposes. Class I saline surface waters are also designated for fishing, however, numerous NYSDOH health advisories exist for consumption of fish caught in the East River. The East River is tidally influenced and has measurable effects on adjacent groundwater elevations.

The site area receives city-supplied drinking water which is supplied by upstate reservoirs.

The East River is approximately 3,280 feet wide at Stuyvesant Cove Park. Figure 3-2 illustrates NOAA charts of the East River and the site location. As illustrated on Figure 4-1, there is a shoal area along the west bank of the river adjacent to Stuyvesant Cove Park that extends eastward into the river for approximately 400 feet. Water depths at mean low water range from 1 to 14 feet from west to east across this shoal. Tidal fluctuations within the East River, as measured between June 6 and June 9, 2006 during the RI, are approximately 3 feet indicating that water depths will vary between 4 and 17 feet across the shoal depending on the tide. NOAA tidal data indicate that the tides can fluctuate up to approximately 5 feet in this area. Swells of a few feet are frequently generated by river traffic and reach the bulkhead along the park. The currents within the East River near the site range between 0 and 2 knots and there is very little tidal slack time within the river, according to NOAA predictions. The current in the deeper water east of the shoal area (generally east of riverbed elevation -20 ft NAVD88) was observed to be much greater than the current across the shoal near the bulkhead during river investigations.

There are pilings and the remnants of old piers and other structures between East 20th Street and East 23rd Street along the west bank of the East River. A marina facility is situated just north of East 23rd Street east of Avenue C along the river's west bank.

4.4 Site Hydrogeology

Twenty-seven monitoring wells were installed during the RI and 20 monitoring wells were installed during the SCS to evaluate groundwater conditions at the site. Table 4-1 provides a summary of the monitoring well designations, installation dates, screened intervals, top of casing elevations and groundwater elevation measurements. In addition to the 47 monitoring wells installed as part of the environmental investigation of the former MGP site, four monitoring wells, installed as part of separate investigative and remedial actions within Stuyvesant Cove Park, were monitored during the RI and are included on Table 4-1.

One unconfined, unconsolidated overburden aquifer was encountered beneath the site during the investigations. Although a discontinuous and varying thickness organic clay/silt unit was frequently encountered beneath the site, a confining unit within the unconsolidated sediments above the bedrock is not present with the possible exception of the basal till unit encountered in deep borings above the bedrock surface. This inference is based on the density and lack of notable impacts of this material compared to shallower soils.

As illustrated on Table 4-1 the monitoring wells are screened at three general depth zones within the unconfined overburden aquifer beneath the site. The shallow zone wells (S-series) are generally screened between approximately 5 and 15 ft bgs . The intermediate zone wells (D-series) are generally screened between approximately 25 and 35 ft bgs. The deep zone wells (DD-series) have 10-foot screened intervals generally situated between 50 and 70 ft bgs. No deep, DD-series wells were installed during the SCS. The four Stuyvesant Cove Park monitoring wells (LR02, LR08, LR11, and LR17) are shallow series wells and were used to provide shallow groundwater data in the vicinity of intermediate and deep wells installed during the 2006 RI activities.

Water level data collected on April 19, 2004 during the SCS, May 4 and June 12, 2006, and on September 24, 2008 during the RI were converted to groundwater elevations using surveyed well elevations and are presented on Table 4-1. Groundwater elevation contour maps for the April 19, 2004 measurement event are presented in the SCS report (Figures 7 and 8). Groundwater elevation contour maps for the shallow, intermediate, and deep zones for the May 2006, June 2006, and September 2008 groundwater measurement events are illustrated on Figure 4-8.

As illustrated on this figure, groundwater flow direction in all three overburden aquifer zones is to the east-northeast towards the East River. Occasionally, it appears that tidal affects (discussed in Subsection 4.4.1) on groundwater levels may result in groundwater levels that cause elevation contours to bend sharply and somewhat unrealistically as illustrated on the panels for the June 2006 and September 2008 intermediate zone. The groundwater elevation for monitoring well 21MWS10 in September 2008 was anomalously high and was not used to generate the groundwater elevation contours on the September 2008 shallow zone panel of Figure 4-8.

Horizontal hydraulic gradients for the three aquifer zones were calculated for the May 4, 2006, June 12, 2006, and September 24, 2008 gauging events. For the shallow zone, three flow paths perpendicular to groundwater flow were selected including the path between 21MWS01 and 23MWS12, the path between 21MWS06 and LR08, and the path between 20MWS16 and 21MWS05. Horizontal hydraulic gradients along these paths ranged between 0.0028 ft/ft to 0.0076 ft/ft. The average horizontal gradient for both the May and June 2006 gauging event was 0.006 ft/ft, and for the September 2008 gauging event was 0.004 ft/ft. The data show little variation over time.

For the intermediate aquifer zone, three flow paths were also selected, including one path between wells 21MWD01 and EBMWD13, one between 21MWD02 and EBMWD14, and one path between 20MWD16 and EBMWD15. Horizontal hydraulic gradients along these paths ranged between 0.0008 ft/ft to 0.005 ft/ft. The average horizontal gradient for both the May and June 2006 gauging events was 0.002 ft/ft and for the September 2008 gauging event was 0.003 ft/ft. and are less than the shallow aquifer zone horizontal hydraulic gradients. Similar to the shallow zone, the horizontal hydraulic gradient data in the intermediate zone were relatively consistent over time.

In the deep aquifer zone, one flow path crossing the entire site was selected between well 21MWDD08 and EBMWDD13. The horizontal hydraulic gradient for both the May and June 2006 events were 0.0027 ft/ft and 0.0030 ft/ft, respectively, with an average of 0.0029 ft/ft. The horizontal hydraulic gradient for the September 24, 2008 event was 0.0028 ft/ft.

The vertical hydraulic gradient between the shallow and intermediate zones is generally downward in the western portion of the site and upward near the East River, as is evident from the groundwater elevations provided in Table 4-1 and the vertical gradient summary table presented on Table 4-2. This finding is consistent with a conceptual model showing groundwater discharge to the East River in the absence of tidal influence. The vertical gradient between the intermediate and deep zone wells is small and inconsistent between measurement events. The vertical gradient is greater between the shallow and intermediate zones than it is between the intermediate and the deep zones, and wells in the western portion of the site show a steeper gradient than the wells in the eastern portion of the site.

Specifically, the vertical gradients were downward between all shallow and intermediate well pairs with the exception of the two well pairs (23MWS/D12 and 21MWS/D05) located closest to the East River. Downward vertical gradients were consistent between gauging events and ranged between 0.05 ft/ft to 0.33 ft/ft. Vertical gradients in the shallow to intermediate zone are more than one order of magnitude greater than the average horizontal gradient in the shallow and intermediate zones. Between the intermediate and deep aquifer zones, vertical gradients showed more variability over time and were lower in magnitude, ranging between 0.00 ft/ft to 0.08 ft/ft. Compared to horizontal gradients in both the intermediate and deep zones, the vertical gradients were consistent at the low end and higher by approximately one order of magnitude on the high end of the

range. Combined, the overall findings are consistent with a conceptual model showing intermediate groundwater recharge from shallower zones across the central portion of the site, with a transition of intermediate to shallow recharge near the eastern site boundary with ultimate discharge to the East River. Tidal influence and good hydraulic connection between zones are suspected to be the main reasons why vertical gradients shift between upward and downward in some well pairs, particularly 23MWS/D12 and the intermediate and deep zone well pairs (Table 4-2).

4.4.1 East River Tidal Influence on Groundwater Elevations

A tidal survey was conducted in 14 wells and the East River to assess the extent of tidal influence on unconfined aquifer groundwater elevations at the site. The water level and temperature were measured using an *In-Situ* miniTROLL® placed within the screened section of the wells over roughly a 52-hour period. Data charts illustrating groundwater elevation fluctuations relative to tidal fluctuations are shown on Figure 4-9. Tidal survey data are compiled in Appendix H.

The well points used during the tidal survey are color-coded by depth interval on Figure 4-9; the shallow well points (S-series) are colored green, the intermediate well points (D-series) are colored blue, and the deep well points (DD-series) are colored red. Tidal influence was measured in nine of the 14 wells surveyed. As illustrated on Figure 4-9, groundwater elevations are influenced by tidal fluctuations in the shallow, intermediate, and deep unconfined aquifer zones. The tidal influence was observed furthest away from the river (approximately 950 feet) in the deep wells. The influence of tidal fluctuations on shallow groundwater elevations was not observed further than approximately 50 feet west of the East River. Tidal influence in the shallow aquifer is likely limited by the sea wall construction along Stuyvesant Cove Park. Tide fluctuations were not observed in the intermediate unconfined aquifer zone further than approximately 300 feet west of the East River.

The average time lag for observing a change in groundwater elevation relative to a change in tide was calculated for each well where tidal influences were measured and is summarized in the table below.

Well ID	Distance due West of East River (feet)	Average Time Lag	Average Magnitude of Change (feet)
23MWDD20	470	179 min.	0.337
EBMWDD13	72	37 min.	1.597
23MWDD12	228	79 min.	0.922
23MWDD03	950	252 min.	0.124
21MWD05	222	84 min.	0.841
EBMWD18	42	54 min.	1.076
EBMWD13	60	49 min.	1.422
LR02	48	119 min.	1.102
LR08	36	141 min.	0.451

As expected in the deep and intermediate wells, the average time lag increases and the magnitude of groundwater elevation change decreases with increased distance from the river. The tidal fluctuations in the East River resulted in changes in groundwater elevations in the shallow zone ranging between 0.4 and 1.1 feet and are difficult to relate to distance from the river based on the relatively small area (within 50 feet) of the

shallow zone that was influenced by the tides. The bulkhead along the East River likely interferes with tidal fluctuations measured in the shallow aquifer zone.

4.4.2 Aquifer Hydraulic Conductivity and Seepage Velocity Calculations

Single well slug tests were performed at five monitoring well cluster locations: 21MWS03/DD03, 21MWS08/D08/DD08, 21MWS09/D09, 23MWS12/DD12, and EBMWD13/DD13. The data were evaluated using the Bouwer and Rice Method (1989) to estimate the hydraulic conductivity of the aquifer material. Table 4-3 provides a summary of the wells tested; the type of material within the screened intervals, the test and solution methods, and the estimated range of hydraulic conductivity values. The slug test data, recovery curves, and hydraulic conductivity calculations are provided in Appendix I.

The estimated hydraulic conductivity values for the shallow overburden aquifer zone were relatively consistent and ranged from 16.1 to 25.9 ft per day (ft/day), with a geometric mean value of 21.1 ft/day. These values are consistent with the type of material within the shallow well screened intervals which consisted of fill materials of sand, silt, gravel, and brick that are relatively permeable.

The estimated hydraulic conductivity values in the intermediate and deep zones of the unconfined aquifer varied between locations and can be explained by type of material within the screened interval. The intermediate zone estimated hydraulic conductivities ranged between 0.85 and 41.7 ft/day and reflected permeability differences between clay/silt/sand/peat units versus fine sand/sand and gravel units. The hydraulic conductivities estimated from the testing performed in the deep wells range from 0.26 to 20.92 ft/day and also reflected variation in material within the screened intervals. In general, the hydraulic conductivity values estimated for clay/silt/sand zones within the intermediate and deep zones were consistent. The lowest hydraulic conductivities were estimated for finer grained clayey sediments (23MWDD12) and the highest hydraulic conductivities were estimated for the coarse sand and gravel sediments (EBMWD13).

Water levels were monitored in the adjacent wells making up well clusters during each single well slug test. There were no measured effects on water levels in adjacent wells screened both above and below the test well during the testing events.

Groundwater seepage velocities in each aquifer zone were calculated using measured horizontal hydraulic gradients and estimated hydraulic conductivity values using a modification of Darcy's Law:

$$V = Ki/n$$

where:

V=Groundwater Seepage Velocity (ft/day)

i=Horizontal Hydraulic Gradient (ft/ft)

K=Hydraulic Conductivity (ft/day)

n=Porosity of Aquifer Sediments.

Average horizontal hydraulic gradients (i) for the shallow, intermediate, and deep aquifer zone were 0.005 ft/ft, 0.002 ft/ft, and 0.003 ft/ft, respectively. The mean hydraulic conductivity value (K) for the shallow aquifer was 21.1 ft/day. Given the significant variability in K values noted, the range of K values for the intermediate zone was 0.85 to 41.7 ft/day, and the range of K values for the deep aquifer zone was 0.26 to 20.9 ft/day. An estimated porosity value of 30% was used for each aquifer zone, which is typical for sandy material. Using the above equation, horizontal groundwater seepage velocity within the shallow aquifer zone is calculated to be approximately 0.35 ft/day. Using the range of K values, horizontal groundwater seepage velocities for the

intermediate zone range from 5.7×10^{-2} ft/day to 0.28 ft/day. For the deep aquifer zone, groundwater seepage velocities are calculated to range between approximately 2.6×10^{-2} ft/day to 0.21 ft/day.

5.0 Analytical Results and Subsurface Observations

This section presents and describes the analytical results for the soil, groundwater, soil gas, sediment, and surface water samples collected during the RI and the SCS as well as the visible MGP-related impacts noted during subsurface intrusive activities. Analytical results tables for the surface soil, upper fill soil, lower fill/natural soil, groundwater, soil gas, sediment, and surface water samples collected during the RI and the SCS are presented in the following subsections. The soil gas analytical results from previous investigations are not included in this RI report. The analytical results were compared to applicable NYSDEC guidance values or standards. The discussion is presented by environmental media following the discussion of analytical data quality and validation results.

5.1 Data Quality Evaluation

To meet the data quality objectives for the OU2 RI, NYSDEC ASP were used and Category B deliverable packages were prepared by the laboratory for the analyses. Summary result pages from the full Category B data deliverable packages (Form 1s), including data validation qualifiers for the samples collected as part of the RI, are compiled on a compact disk included in Appendix L. During the 2006 RI field activities, surface soil, subsurface soil, and soil gas samples were collected from January 19 to May 9, 2006 and groundwater samples were collected between May 16 and May 25, 2006. During the 2008 RI field activities, subsurface soil and groundwater samples were collected between March and September 2008 and sediment and surface water samples were collected in June, July, and October 2008.

Comprehensive data packages were submitted by Chemtech and STL-Pittsburgh Laboratories for the soil and groundwater samples for validation by a qualified chemist. Data Usability Summary Reports (DUSRs) were prepared by AECOM for the soil samples and the groundwater samples. The DUSRs for this project are included in Appendix L. Data was validated according to method specifications and the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, EPA540/R-99/008, October 1999 and *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA540-R-04-004, October 2004, as they apply to the analytical methods employed.

Organic data quality was evaluated by reviewing the following parameters: holding times, GC/MS tuning and performance, internal standards, initial and continuing calibrations, surrogate recoveries, matrix spike/matrix spike duplicate (MS/MSD) samples, MS/MSD relative percent differences (RPDs), laboratory control standards (LCSs), laboratory blanks, field duplicates, compound identification, and compound quantitation.

Inorganic data quality was evaluated by reviewing the following parameters: holding times, initial and continuing calibrations, contract required detection limit (CRDL) standard recoveries, MS/MSD samples, LCSs, laboratory duplicates, Inductively Coupled Plasma (ICP) interference check sample results, ICP serial dilution results, laboratory blanks, and field duplicates.

As part of the data validation process, the laboratory report sheets and the analytical result tables were revised to include the data validation qualifiers to indicate the limits of data usability. A glossary of USEPA-defined organic and inorganic data qualifiers and their definitions are provided as notes on the analytical result tables. Overall, the data are considered to be usable and any noted data qualifications will not affect site decisions.

5.2 Surface Soil

The surface of the OU2 land area surrounding the former East 21st Street Works site is covered by roadways, sidewalks, and parking areas with few cobblestones and landscaped areas and Stuyvesant Cove Park to the east. As noted in the SCS and observed in the RI, the surface soil and upper fill soil at the site appear generally distinct from the MGP-impacted lower fill/natural soil. Based on historical site information, the surface soils were imported to the site after the MGP operations ceased, possibly for final grading purposes

during the construction of Peter Cooper Village. As concluded in the SCS and OU1 RI Reports, it is considered likely that the elevated concentrations of SVOCs, PAHs, and metals observed in the background study surface soils and in the site surface soils are attributable to the imported fill quality, anthropogenic sources, and/or naturally occurring sources that are not related to the former MGP operations (H&A, 2004). During the RI, three surface soil samples were collected from OU2 to the south, and east of the site to evaluate soil quality along the perimeter of the site where elevated concentrations of compounds were noted during the SCS. These sample locations are identified in Table 3-1.

Analytical results for VOCs, SVOCs, metals, and total available cyanide in OU2 surface soils are provided in Table 5-1. Table 5-1 includes only analytes that were detected in at least one surface soil sample. A table summarizing the OU2 RI surface soil results of every analyte is provided as Table 1 in Appendix L. The surface soil analytical results were compared to the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) Recommended Soil Cleanup Objectives (RSCOs) and Site-Specific Background Values (SSBVs) developed during the SCS. For details regarding the development of the SSBVs, refer to Subsection 5.4 of the SCS report (H&A, 2004). Figure 5-1 illustrates the OU2 RI surface soil analytical results.

No VOCs were detected at concentrations exceeding RSCOs in the OU2 RI surface soil samples. SVOCs, mostly PAHs, were detected in the OU2 RI surface soil samples, a few at concentrations exceeding RSCOs as summarized in Table 5-1 and illustrated on Figure 5-1..All of the OU2 RI surface soil samples were well below the total SVOC RSCO of 500 mg/kg.

A few metals were detected in OU2 RI surface soils at concentrations exceeding RSCOs or SSBVs. The concentrations of the metals detected in the OU2 RI surface soil samples are consistent with the concentrations of metals detected in the SCS and OU1 RI surface soil samples. Total cyanide was detected in one OU2 RI surface soil sample at a concentration of 7.49 mg/kg which exceeds the SSBV of 0.705. This sample was collected from a landscaped area within Stuyvesant Cove Park.

The concentrations of compounds detected in the OU2 RI surface soil samples are consistent with or lower than the concentrations of compounds detected in the SCS and OU1 RI surface soil samples. The detected surface soil concentrations are considered to be attributable to fill material quality, anthropogenic sources, or naturally occurring sources unrelated to former MGP operations.

5.3 Upper Fill Soil

The upper fill soil is considered to be 0.2 to 5 ft bgs and, as noted in the SCS and observed in the RI, is generally distinct from the deeper, lower, MGP-impacted fills and natural soils. The distinction is based on the general absence of construction-type debris, the limited observation of MGP or other impacts, and the absence of elevated PID readings. Upper fill in the surrounding OU2 areas did not exhibit MGP-type debris or visible impacts. During the RI, five upper fill soil samples were collected from OU2 to further evaluate the quality of this soil horizon as summarized in Table 3-2. Four of the five OU2 upper fill soil samples were collected from Stuyvesant Cove Park and one was collected on the south side of East 20th Street.

Analytical results for VOCs, SVOCs, metals, and total and available cyanide in OU2 upper fill soil are included in Table 5-2. Table 5-2 includes only analytes that were detected in at least one upper fill or lower fill/natural soil sample. A table summarizing the results of every analyte analyzed in the OU2 upper fill soil samples during the RI is provided as Table 2 in Appendix L. The upper fill soil analytical results were compared to the NYSDEC TAGM RSCOs and SSBVs developed during the SCS. Figure 5-2 illustrates the OU2 RI upper fill soil analytical results. In addition, the distribution of total VOCs and total SVOCs exceeding RSCOs are illustrated by depth interval on Figures 5-3 and 5-4, respectively. The upper left panel of each of these figures illustrates the distribution of these compounds in soils between 0.2 and 10 ft bgs. Figures 5-2 through 5-4 also include the results for the analytical sample collected from S-3 from 0 to 5 ft bgs during HDR's environmental investigation for the proposed Solar Two building (HDR 2008). A copy of HDR's Environmental Site Investigation Report is provided in Appendix M.

VOCs were detected in two of the five OU2 RI upper fill samples but did not exceed RSCOs. As shown on Figure 5-3 there was only one OU2 location where VOCs were detected above 10 mg/kg. The sample from this location, EBSC101, was collected from 6 to 8 ft bgs (below the upper fill horizon) and contained 18 mg/kg methylcyclohexane.

SVOC concentrations exceeding individual RSCOs were noted in two of the five OU2 RI upper fill soil samples and were generally limited to a few individual PAHs. Benzo(a)pyrene was the only compound detected above its RSCO in the sample collected from S-3 (HDR 2008). Detected SVOC concentrations did not exceed the total SVOC RSCO of 500 mg/kg. As shown on Figure 5-4, no OU2 sample locations contained SVOCs at concentrations exceeding 500 mg/kg. Upper fill sample EBDT101(0.25 to 5) was collected from Stuyvesant Cove Park and contained relatively higher concentrations of PAHs and a total SVOC concentration of 191.41 mg/kg. These sample results are likely indicative of the impacts that were being treated by the MPE in Stuyvesant Cove Park.

Some metals were detected at concentrations exceeding the RSCOs or SSBVs in the OU2 RI upper fill soil samples as illustrated on Figure 5-2 and Table 5-2. The range of concentrations and types of metals detected in the OU2 upper fill soils were similar to the results from the background soil study area and OU1. Concentrations of barium and zinc were somewhat elevated at sample location 20PF101 on the south side of East 20th Street relative to the other OU2 upper fill samples and the majority of the OU1 upper fill samples. Total cyanide was not detected in the OU2 upper fill samples.

The concentrations of compounds detected in the OU2 RI upper fill soil samples are generally consistent with the concentrations of compounds detected in the OU1 upper fill soil samples. The RI upper fill soil samples were also consistent with the SCS upper fill soil samples in appearance and generally did not exhibit MGP-related materials. The detected upper fill soil concentrations are considered to be attributable to fill material quality, anthropogenic sources, or naturally occurring sources unrelated to former MGP operations.

5.4 Lower Fill/Natural Soil

The lower fill/natural soil unit includes fill below 5 ft bgs and natural soils underlying the fill unit. Visible impacts and analytical results indicate that the lower fill/natural soil unit has been impacted by former MGP operations. The distribution of the visible impacts and the analytical results for the lower fill/natural soil unit is illustrated on several figures and tables within this subsection. Additionally, cross sections A-A' through F-F' (Figures 4-3 through 4-5) illustrate visible impacts and provide a summary of analytical results.

5.4.1 Visible Impacts

Table 5-3 summarizes visible impacts noted in the OU2 borings during the RI drilling activities. Tables 5-5 and 5-6 in the OU1 RI report (ENSR 2008c) summarize visible impacts in the SCS and OU1 RI borings. These impacts were summarized from a review of the boring logs that are provided in Appendix B. These tables were used to generate Figures 5-5 and 5-6 that illustrate the distribution of stained soils and/or soils with sheen and the distribution of soils that are visibly impacted with OLM and/or TLM, respectively. Figures 5-5 and 5-6 also include visible impacts noted in borings S-1 through S-6 that were drilled by HDR in support of the proposed Solar Two building.

5.4.1.1 Stained Soils

As illustrated on Figure 5-5, stained soils and/or soils exhibiting sheen were not observed in lower fill/natural soils in OU2 to the north or south of the western portion of OU1. Lower fill/natural soils with limited staining and/or sheen were noted in OU2 north of OU1 along the eastern portion of the north side of East 23rd Street at AC101 and AC103. Visible impacts at these locations were limited to faint sheen or stain and were generally less than 3 feet thick. Visible impacts were also noted along the eastern end of the south side of East 20th Street at OU2 boring locations 20CH101, 20CH102, and 20SE101. Visible impacts at these locations on the eastern end of East 20th Street were also limited to lenses of sheen or staining that were less than 3 feet thick

as illustrated on cross section D-D' (Figure 4-4). Stain and sheen were also observed in OU2 borings in Stuyvesant Cove Park, east of the former MGP site between East 23rd and East 20th Streets. Stain and sheen in lower fill/natural soil were also observed in EBSC101 near the East 18th Street entrance of Stuyvesant Cove Park as illustrated on cross section F-F' (Figure 4-5). The deepest observed stain/sheen impact noted in the lower fill/natural soil in OU2 (blebs from 74 to 76 ft bgs in EBSC101) is estimated to be approximately 30 ft above the top of bedrock based on the top of bedrock elevation in the river at RB35 (-80 ft NAVD88) and the top of bedrock elevation along the eastern edge of East 20th Street at HB-55 (-123 ft NAVD88).

5.4.1.2 Oil-Like Material/Tar-Like Material Impacted Soils

Figure 5-6 provides a generalization of the OLM and TLM visible impacts observed in the subsurface of the site and surrounding OU2 area by depth interval. Observations of OLM and TLM include lenses of material with OLM and/or TLM, blebs, globules, residual, or saturation. The data used to develop Figure 5-6 does not indicate that the full thickness of each depth zone illustrated was saturated with OLM/TLM. Refer to the boring logs in Appendix B for a detailed description of visible impacts observed at specific locations.

The extent of the visible OLM/TLM impacts in lower fill/natural soils do not extend into OU2 to the north, west, or south of the western portion of OU1. In the western portion of OU1, the majority of observed OLM/TLM impacts are situated within and adjacent to former gas holder structures. All of the former holders were encountered during the SCS test pit and/or boring activities and contained varying compositions of debris and soils impacted with stain, sheen, and OLM/TLM. One area of intermediate depth (20 to 40 ft bgs) OLM/TLM impacts is situated in the vicinity of former gas holder #2.

As illustrated on Figure 5-6, visible OLM/TLM lenses extend eastward of OU1 into OU2. Relatively shallow, 10 to 20 ft bgs OLM/TLM impacts were noted in soils beneath the former retort, drip tank, and oil tank area in the northeastern portion of the former MGP (central-eastern portion of OU1). This area of shallower impacts is surrounded by an area of deeper, 20 to 40 ft bgs OLM/TLM impacts that appears to have migrated downward and horizontally from the shallower impacts in the retort, drip tank/oil tank area. The boring logs for two borings drilled by HDR (S-1 and S-2) in Stuyvesant Cove Park indicate that petroleum was encountered between 10 and 20 ft bgs. Deeper OLM/TLM lenses (greater than 40 ft bgs) were observed in borings in the southeastern portion of the former retort, drip tank/oil tank area and east-southeastward into OU2 in Stuyvesant Cove Park Visible OLM/TLM lenses in OU2 in Stuyvesant Cove Park were observed in split-spoon samples as deep as 76 ft bgs. The OLM/TLM impacts in Stuyvesant Cove Park extend northward to just south of East 23rd Street and the Gulf Station and southward to EBSC101 near the East 18th Street entrance to the park. The impacts observed in EBSC101 were limited to very thin NAPL lenses from 31.9 to 31.91 ft bgs and 56.75 to 57 ft bgs and OLM/TLM blebs from 71.25 to 71.5 and 74 to 76 ft bgs (cross section F-F', Figure 4-5). The impacts observed on the northern fringe at EBDT102 consisted of OLM blebs between 28 and 32 ft bgs and very thin OLM lenses at 44.42 ft bgs and from 47 to 47.12 ft bgs. The deepest observed visible OLM/TLM impact noted in the lower fill/natural soil in OU2 in Stuyvesant Cove Park (NAPL lens between 56.75 and 57 ft bgs in EBSC101) is estimated to be approximately 48 ft above the top of bedrock based on the top of bedrock elevations at RB35 (-80 ft NAVD88) and HB55 (-123 ft NAVD88). The visible OLM/TLM in the upper fill/natural soil in OU2 in Stuyvesant Cove Park extends to the bulkhead along the East River.

A smaller relatively shallow area of OLM/TLM impacts was also noted between 10 and 20 ft bgs along the southern boundary of the site in the vicinity of the former purifiers. These impacts generally did not extend deeper than 20 ft bgs in this area or to the south into OU2.

5.4.1.3 NAPL in Monitoring Wells and Soil Fingerprint Results

A summary of NAPL measurements (both light non aqueous phase liquid [LNAPL] and DNAPL) in various monitoring wells is presented in Table 5-4. NAPL was detected at measurable thicknesses in monitoring wells 21MWD03, 21MWD04, 21MWDD04, 21MWD07, 21MWD10, 23MWD12, EBMWD14, and EBMWDD15. Only two of these wells, EBMWD14 and EBMWDD15 are located in OU2 (Stuyvesant Cove Park). Quantities of NAPL have been removed from all of these wells during RI activities except 21MWDD04 where the greatest

thickness was measured. At this location, NAPL could not be removed by pumping due to high viscosity and increased depth to NAPL. During the 2008 RI groundwater sampling activities, a trace amount of DNAPL was observed in monitoring well EBMWD18 in Stuyvesant Cove Park near the East 20th Street entrance.

The greatest NAPL thicknesses were noted in deep wells 21MWDD04 and EBMWDD15, followed by intermediate wells EBMWD14 and 21MWD03 (Table 5-4). Field observations indicate that the majority of the NAPL is denser than water and likely related to former MGP operations at the site. In certain areas, particularly the Stuyvesant Cove Park area adjacent to the East River, there was evidence of fuel oil based OLM and dielectric fluids. Fingerprint results confirm the field findings. Fingerprint results for monitoring well EBMWDD15 indicated that the most likely source of NAPL was a carbureted water gas tar. At shallow well LR17 located in Stuyvesant Cove Park, fingerprint results indicate that the most likely sources of impacts are either a highly weathered middle weight petroleum distillate such as No. 2 fuel oil or diesel fuel. The fingerprint results for the soil sample collected from 9 to 11 ft bgs in EBDT101 indicated that the source of reddish-brown OLM observed at this location was weathered No. 4 fuel oil.

Due to the presence of NAPL in monitoring wells, Con Edison directed AECOM to develop an Interim Site Management Plan (ISMP) for NAPL Monitoring and Recovery at the site. This plan was finalized and submitted to NYSDEC on December 22, 2008. The first round of NAPL monitoring activities was performed in March 2009.

5.4.2 Correlation of Visible Impacts and Analytical Results

As is typical at former MGP sites, the analytical results for the site correlate well with the observed visible impacts. Figures 5-3 and 5-4 illustrate the distribution of total VOCs and total SVOCs exceeding NYSDEC RSCOs by depth interval across the former site and OU2 land areas. The majority of the total VOC and total SVOC exceedances of RSCOs were detected in the 10 to 20 feet and 20 to 40 feet depth zones, and were concentrated in the northeastern portion of the former MGP in the vicinity of the former retorts, drip tanks, and oil tanks and in the western portion of the former MGP within and adjacent to former gas holders. Total VOC and total SVOC exceedances of NYSDEC RSCOs are evident in the 20 to 40 and greater than 40 ft bgs depth zones in OU2 in Stuyvesant Cove Park.

As shown in Figures 5-3 and 5-4, the horizontal delineation of total VOC and total SVOC exceedances of RSCOs has been generally defined in the lower fill/natural soils along the north, west, and southern limits of OU2. Total VOCs and SVOCs exceeding the RSCO are present along the eastern edge of the land portion of OU2 adjacent to the bulkhead in Stuyvesant Cove Park. The vertical extent of lower fill/natural soil total VOC and total SVOC exceedances of RSCOs has been defined at the site as is evident by the green rings in the lower right panel of Figures 5-3 and 5-4.

5.4.3 Analytical Results

Analytical results for VOCs, SVOCs, metals, and/or total and available cyanide in OU2 lower fill/natural soil samples are included in Table 5-2. Sixty-four lower fill/natural soil samples were collected from OU2 and analyzed during the OU2 RI activities. Table 5-2 includes only analytes that were detected in at least one upper fill or lower fill/natural soil sample. A table summarizing the results of every analyte analyzed in the OU2 lower fill/natural soil samples during the RI is provided as Table 2 in Appendix L. The lower fill/natural soil analytical results were compared to the NYSDEC TAGM RSCOs and SSBVs developed during the SCS.

5.4.3.1 Volatile Organic Compounds and Semi-Volatile Organic Compounds

The purpose of the OU2 RI lower fill/natural soil sampling was to further delineate the extent of MGP-related impacts detected during the SCS. The VOC, SVOC, metal, and cyanide analytical results for the OU2 RI lower fill/natural soil samples are presented in Table 5-2. Because the predominant VOCs detected at the site during the SCS were BTEX compounds, and the predominant SVOCs detected at the site during the SCS were PAHs, Figure 5-7 illustrates the BTEX and PAH analytical results for the OU2 lower fill/natural soil

samples collected during the RI. Figure 5-7 presents total VOC and total SVOC concentrations which include but are not limited to BTEX and PAHs, respectively. Therefore, the total VOC and total SVOC concentrations illustrated on Figure 5-7 may be greater than the sum of the individual BTEX and PAH concentrations reported on Figure 5-7. Lower fill/natural soil analytical results from the 2008 HDR investigation related to the proposed Solar Two building are included on Figure 5-7 and in Appendix M.

As illustrated on Figure 5-7, the horizontal and vertical extent of VOCs and SVOCs generally have been defined along the southwestern, western, and northwestern perimeters of OU1. Total VOC concentrations exceeding the 10 mg/kg total VOC RSCO in OU2 on the south side of East 20th Street can be wholly or partially attributed to the detected concentrations of 2-butanone and acetone except in the 22 to 23 ft bgs sample collected from boring 20CH102 on the eastern end of East 20th Street. Some individual PAHs were detected at concentrations exceeding their respective RSCOs, generally in samples collected between 20 and 30 ft bgs in borings located on the south side of East 20th Street, however, the total SVOC concentration in these samples did exceed 500 mg/kg. The vertical extent of these impacts was defined.

Northeast of OU1 at AC101, total VOCs exceeded the RSCO of 10 mg/kg in the 29 to 30 ft bgs sample. VOCs were not detected at concentrations exceeding RSCOs in any of the samples collected from boring AC103 further northeast, including the sample collected from 28 to 30 ft bgs. Some individual PAHs were detected at concentrations exceeding their respective RSCOs in the 10 to 15 and 29 to 30 ft bgs samples collected from AC103. The total SVOC concentrations in these samples do not exceed 500 mg/kg. The analytical results for the samples collected from AC103 further to the northeast essentially define the northeastern extent of site impacts. The vertical extent of these impacts was defined.

In the OU2 area east of OU1 in Stuyvesant Cove Park, lower fill/natural soil analytical results indicate the presence of VOCs and SVOCs at concentrations exceeding RSCOs. In the northern portion of the park at sample locations EBDT103, EBDT105, EBDT101, EBDT104, and S-1 through S-6, the lower fill/natural soil VOC and SVOC analytical exceedances do not extend deeper than approximately 40 ft bgs. In the more central and southern portions of the park at locations EBDT102, EBDT101, EBOT101, EBOT102, and EBSC101, VOC and SVOC analytical exceedances were detected as deep as 57 ft bgs, with vertical confirmation samples generally containing concentrations of VOCs and SVOCs below RSCOs collected from depths ranging between 60 and 63 ft bgs. One exception is the 76 to 78 ft bgs sample collected from EBSC101 which contained an estimated concentration of 0.079 mg/kg of benzo(a)pyrene which exceeds the RSCO of 0.061 mg/kg.

Relatively shallow soils, between 0 and 20 ft bgs, in the Stuyvesant Cove Park portion of OU2 generally were not collected for laboratory analysis during the RI due to the presence of contaminants undergoing MPE remediation. Three exceptions were the soil sample collected from 9 to 11 ft bgs in boring EBDT102 to characterize observed staining and odors, the soil sample collected from 9 to 11 ft bgs in boring EBDT101 to characterize and identify the source of the reddish-brown OLM observed in the soil, and the soil sample collected from 6 to 8 ft bgs in boring EBSC101. The sample collected from EBDT102 contained total VOCs in excess of the total VOC RSCO of 10 mg/kg. The sample collected from EBDT101 was fingerprinted and determined to be weathered No. 4 fuel oil. The sample collected from EBSC101 exceeded the total VOC RSCO due to a detected concentration of 18 mg/kg methylcyclohexane.

Several relatively shallow soil samples were collected from Stuyvesant Cove Park during the previous petroleum spill investigation and remedial efforts at that site. Appendix C of this RI Report provides a copy of the January to March 2006 Quarterly Monitoring Report for Stuyvesant Cove Park petroleum spill remedial effort. Included in the March 2006 Quarterly Monitoring Report are historic soil and groundwater analytical results. As indicated in Figures 4N, 4S, 5N, and 5S of that report, VOCs and SVOCs were frequently detected in the soils in Stuyvesant Cove Park. The total VOC concentrations in soils between 5 and 11 ft bgs in the northern portion of the park ranged between non-detect and 92 mg/kg. The highest total VOC concentrations were detected immediately north and south of the Solar One building. Figure 5N reports total BTEX concentrations up to 429 mg/kg in a soil sample collected from 7 to 9 ft bgs near the gasoline station. The

highest total SVOC concentrations in soils between 5 and 11 ft bgs in the northern portion of the park ranged between 0.1 and 94.5 mg/kg, and in the southern portion of the park ranged between 0.147 to 60.18 mg/kg.

Concentrations of VOCs and SVOCs in soils between 5 and 10 ft bgs along the eastern border of the former MGP site in OU1 along the west side of Avenue C were as high as 754 mg/kg and 2702 mg/kg, respectively in 21DT004 (5-7). Although VOC and SVOC concentrations are relatively high along the eastern boundary of the former MGP site, a comparison of VOC and SVOC concentrations in soils along the western portion of Stuyvesant Cove Park and the eastern portion of the park indicates that the concentrations on the western side were generally lower than those on the eastern side, suggesting that the MGP impacts are not the source of the VOCs and SVOCs between 5 and 10 ft bgs in Stuyvesant Cove Park.

Other sources of impacts have been identified in the upper 15 feet of soil in Stuyvesant Cove Park. Two former MPE systems within the park recovered diesel or gasoline from a spill attributed to a former service station north of the park. A soil sample collected at location EBDT101 showed weathered No. 4 fuel oil. Two water samples that were fingerprinted for oil show results of tar formed from a carbureted water gas process, and a weathered mid weight oil (No. 1 fuel oil, diesel or gas-oil), respectively. There are feeder lines that carry dielectric fluid and a pipe line that carried No. 6 fuel oil located between FDR and the East River. Sections of the feeder and pipeline have been uncovered for repair of leaks and/or cleaning.

5.4.3.2 Metals and Cyanide

Metal concentrations in SCS and RI lower fill/natural soil samples exceed RSCOs and/or SSBVs. Table 5-2 summarizes the metal analytical results for the OU2 RI lower fill/natural soil samples. A review of the metal results indicates that many metals are present in the lower fill/natural soil, frequently at concentrations exceeding SSBVs. The most common metals are aluminum, calcium, magnesium, potassium, and sodium. The data do not indicate a trend of elevated metal concentrations associated with specific areas at the site or with specific depth zones between sampling locations.

The SCS report focused on elevated concentrations of arsenic and lead as these metals may be associated with former MGP operations as well as other sources. The seven arsenic concentrations detected above the SSBV in the SCS lower fill/natural soil samples ranged from 14 to 41.1 mg/kg. Arsenic was detected in all but six OU2 lower fill/natural soil samples collected during the 2006 RI activities at concentrations below the SSBV of 13.63 mg/kg. The 2008 OU2 soil samples were not analyzed for metals. Lead was detected at concentrations exceeding the lead SSBV of 237.2 mg/kg in 13 of the SCS lower fill/natural soil samples. The lead concentrations in the SCS lower fill/natural soil samples ranged from 283 to 1,620 mg/kg. Lead was detected in all of the OU2 RI lower fill/natural soil samples ranging in concentrations from 0.806 to 267 mg/kg; however, only three of the samples contained concentrations above the SSBV of 237.2 mg/kg.

Lower fill/natural soil sample cyanide analytical results are also summarized in Table 5-2. Figure 5-7 illustrates the distribution of the cyanide analyses for the 2006 OU2 lower fill/natural soil samples. The 2008 RI lower fill/natural soil samples were not analyzed for cyanide. The cyanide concentrations detected in the SCS lower fill/natural soils generally ranged from 0.75 to 2.6 mg/kg which is well within the range of the background samples collected for the site. One SCS sample (21PF006) collected from a depth of 13 to 15 ft bgs in the former purifier area contained cyanide at a concentration of 387 mg/kg. Total cyanide was detected in seven of the OU2 RI lower fill/natural soil samples. The total cyanide concentrations detected in the OU2 RI lower fill/natural soil samples ranged from 1.35 to 4.85 mg/kg.

5.5 Deep Sediment Quality

The East River deep sediment sampling and analysis was performed to delineate the extent of subsurface MGP impacts identified in the lower fill/natural soil adjacent to the East River during the RI activities performed at the site in 2006. As discussed in Subsection 5.4, MGP-related impacts were identified during the 2006 RI activities at various locations within Stuyvesant Cove Park generally between 20 ft and 59 ft bgs and frequently contained BTEX and/or PAHs at concentrations exceeding RSCOs. Overall, 76 borings were drilled in the

river adjacent to the site to evaluate sediment quality and delineate impacts. During drilling activities, field observations at each boring location were compiled to aid in guiding and selecting subsequent drilling locations. Table 5-5 presents a summary of the field observations including boring ID, date drilled, coordinates, top of sediment elevation, depth and elevation of shallowest and deepest observed visible impact and a brief description of the visible impact. Detailed observations are provided on the boring logs for the river borings provided in Appendix B.

One-hundred and sixty-seven deep sediment samples (greater than 1 ft btos) were collected from the 76 boring locations and analyzed for BTEX and/or PAHs, including 2-methylnaphthalene and dibenzofuran. The samples were analyzed for BTEX and PAHs, including 2-methylnaphthalene and dibenzofuran because they were the predominant VOCs and SVOCs detected in the adjacent lower fill/natural soil samples on land. The analytical results for these samples are included in Table 5-6. Since every analyte analyzed in the deep sediment samples was detected in at least one sample, Table 5-6 includes results for all of the analytes. Four deep sediment samples were analyzed for VOCs, SVOCs, TOC, and soot carbon. The analytical results for these samples are presented in Table 5-6a. Table 5-6a includes only analytes that were detected in at least one of the deep sediment samples. Table 3 in Appendix L summarizes the results of every analyte in this subset of samples. The deep sediment analytical results were evaluated in conjunction with visible impacts to evaluate the extent of MGP-related impacts beneath the river. Regulatory criteria for comparison with deep sediment, i.e., below the benthic zone, analytical results are not available.

Figure 5-8 illustrates the distribution of visible impacts observed in sediment in the area of the East River investigated adjacent to Stuyvesant Cove Park. The visible impacts illustrated on Figure 5-8 are color coded by type and represent the worst-case impact observed at each location. The visible impacts shown on Figure 5-8 are not differentiated by depth or elevation. Therefore, Figure 5-8 provides a general overview of the aerial extent of observed visible surface and subsurface sediment impacts. However, the locations where visible impacts were observed in surface sediment are enclosed with black lines to illustrate the distribution of visible impacts in surface sediment. The majority of the visible impacts were observed in the shoal area adjacent to Stuyvesant Cove Park, generally west of the -30 ft NAVD88 elevation contour line. A few visible impacts (OLM/TLM) were also observed south of the shoal area between approximately -30 and -35 ftNAVD88. The visible impacts were observed approximately 2000 ft south of the marina in the northern portion of the area investigated and approximately 450 east of the bulkhead at the widest area of impacts.

Figure 5-9 illustrates the distribution of observed visible impacts in sediments below 1 ft btos by elevation range across the area sampled. The green elevation contour line illustrated in the upper four panels of the drawing illustrates the elevation of the top of the river sediment surface that corresponds to the deepest elevation for each specific panel (i.e., there are no sediments above the listed deepest elevation range eastward of the green contour line in each the upper four panels). Visible impacts on Figure 5-9 are color coded by type; sheen, stain, OLM/TLM, or all of the above. The majority of the visibly impacted deep sediments were encountered between -10 and -40 ft NAVD 88. Ten locations encountered visible impacts between -40 and -50 ft NAVD88 with only 3 to 4 locations showing visible impacts between -50 and greater than -70 ft NAVD88. Similar to visible impacts observed on land, the visible impacts observed in the deep river sediments were encountered in lenses rather than in thick, continuous units across the area. The majority of the visible impacts do not extend eastward of the -30 ft NAVD88 elevation contour. These impacts are also illustrated on the eastern end of cross sections A-A' through E-E' and cross section G-G'. In addition to the impacts observed in the core samples, sheens were generated on the water surface at locations RB2, RB3, RB7, RB8, RB13, and RB15 when the spuds disrupted the sediments while securing the barge and/or during drilling activities. The coordinates of the boring and spud locations where these sheens were observed are provided in the OSI navigation reports in Appendix E. The river investigations delineated the extent of these deep impacts to the north and south and east. The deep impacts are present in lenses and extend approximately 2,000 feet south of the parking garage. In the northern portion of the river investigation area the deep impacts extend approximately 450 feet east of the bulkhead at the widest area of impacts to less than 50 feet east of the western shoreline in the southern portion of the river investigation area. Cross section G-G'

illustrates visible impacts in the sediments from north to south and cross section H-H' shows minimal visible impacts east of cross section G-G' (Figure 4-6).

The vertical extent of visible impacts was generally defined. The visible impacts noted at boring locations RB26 (cross section A-A', Figure 4-3) and RB34 (cross section H-H', Figure 4-6) at depths below -70 ft NAVD88 consisted of thin lenses (less than 0.4 feet thick) of NAPL. Visible impacts were not noted below these elevations to the total depths of these borings which were a minimum of 7.5 feet below the deepest visible impact. The visible impacts below -70 ft NAVD88 in boring RB48 (cross section B-B', figure 4-3) consisted of layers of viscous TLM between -92 and -93.7 ft NAVD88 and -96 to -97 ft NAVD88 and sheen and stain between -92 and -93.7 ft NAVD88 with no impacts from -97 ft NAVD88 to the total depth at -105 ft NAVD88. Sheen was noted in boring RB52 between -79 and -84 ft NAVD88. No visible impacts were noted in RB52 between -84 ft NAVD88 and the base of the boring at -104 ft NAVD88. The deepest TLM impact noted in the river sediments (NAPL lens between -96 and -97 ft NAVD88 in RB48) is estimated to be approximately 26 ft above the top of bedrock based on the bedrock elevation at HB-55 at the eastern end of East 20th Street (-123 NAVD88). Further south in the river at boring location RB34 where the top of bedrock is shallower and at an elevation of -75 ft NAVD88, a thin NAPL lens was noted at an elevation of -72.5 ft NAVD88 (37.5 ft btos) which is 2.5 ft above the top of bedrock.

Similar to the lower fill/natural soils on land, deep sediment visible impacts correlate well with analytical results. Table 5-6 includes the BTEX and PAH results for the deep sediments. Sample IDs in Table 5-6 have been color coded relative to visible and olfactory impacts and defined in the table footnotes. Samples with the highest BTEX and/or PAH concentrations correspond to samples with the greatest visible impacts, generally lenses of OLM/TLM or NAPL. Product separated from the soil matrix in the sample collected from 20 to 22 ft bgs in boring RB46, and the soil and product samples were both analyzed for PAHs. The PAH concentrations in the product are one to two orders of magnitude higher than those detected in the soil matrix. Samples with lower concentrations of compounds generally exhibited more minor staining or sheen and occasionally only odors as illustrated on Table 5-6. The greatest BTEX concentration was detected in the sample collected from 26 to 28 ft bgs in boring RB7. This sample was collected from a TLM saturated layer noted from 25.8 to 26.6 ft bgs. The greatest PAH concentrations generally were detected in product that separated from the 20 to 22 ft bgs sample collected from RB7.

5.5.1 Forensic Results

A select number of deep sediment samples were "fingerprinted" using results for TOC, soot carbon, saturated TPH, and alkylated PAH analyses in addition to BTEX and PAHs. These samples are identified in Table 3-11. The locations of these borings can be found on Figures 3-1 and 5-8. The sediment fingerprint analytical results are provided in Table 5-7. A review of the data from these samples indicates that the relative concentrations of parent to alkylated PAHs in the deep sediment samples are typical of MGP residuals. The single surface sediment sample analyzed (RB-35) also exhibited the characteristics of MGP residuals, a fact that is consistent with the total PAH concentration of the sample (410 mg/kg).

In addition to the fingerprint results listed above, PTS performed OILPRINT analyses on a sample identified as SEDNAPL2 which was composited from sediment collected at borings RB46 and RB48. The OILPRINT analysis indicates that SEDNAPL2 is a coal tar product. PTS also performed OILPRINT analyses on samples collected from RB63, RB69, and GS39. The analyses indicate that all three samples are from coal tar. The GS39 sample also had a 70% heavy fraction which may be indicative of heavy petroleum fractions such as fuel and lube oils. The RB63 sample also contained measurable gasoline-range components. The RB69 and GS39 samples only contained trace amounts of gasoline-range components.

5.5.2 Physical Property and Geotechnical Results

In addition to the chemical analyses performed on sediment samples, 29 geotechnical samples were collected from three borings, RB42, RB46, and RB50. The samples for geotechnical analysis are summarized in Table 3-12. The geotechnical analyses included grain size and Atterberg limits and were performed by PTS. The

results of these analyses are provided in the PTS report dated October 10, 2008 in Appendix N. The grain size analyses indicate that fine sand is the dominant grain size at location RB50 between 15 and 85 ft btos except between 30 and 35 ft btos where medium sand was noted. The material at boring RB42 was a mixture of fine sand and silt with one medium sand horizon. Only two intervals from boring RB46 were analyzed for grain size and both contained fine sand. Atterberg limit tests performed on the intervals specified in Table 3-12 showed that all of the samples were non-plastic except the 15 to 20 ft btos interval in RB50 which had a plasticity index of 11.3.

Samples were also collected from locations RB46, RB48, RB54, RB63, RB69, and GS39 for physical property analysis as summarized in Table 3-12. The physical property analyses included fluid properties, OILPRINT, pore fluid saturation, and free product mobility. These analyses were also performed by PTS. The results of these analyses are presented in the PTS reports dated October 10, 2008 and February 11, 2009 in Appendix N. A NAPL sample was collected from boring RB54 (SEDNAPL1) for fluid property and OILPRINT analyses. Unfortunately, there was not sufficient sample volume for these analyses to be performed. A second NAPL sample was composited from borings RB46 and RB48 (SEDNAPL2) for pore fluid saturation, free product mobility and OILPRINT analyses. Limited sample volume allowed for only NAPL density, specific gravity, and fingerprint analyses to be performed. The specific gravity of SEDNAPL2 ranged from 1.073 to 1.083 and the NAPL density ranged from 1.058 to 1.081 grams per cubic centimeter (g/cc). The results of the free product mobility and pore fluid saturation results for samples collected from RB63, RB69, and GS39 are provided in the PTS report dated February 11, 2009 in Appendix N.

5.6 Groundwater Quality

Table 5-8 includes a summary of all compounds detected in groundwater samples collected during the SCS and the RI, broken down by BTEX, VOCs, PAHs, SVOCs, metals, and cyanide (total and available). Figure 5-10 presents a summary of typical MGP constituents of interest (COI), including BTEX, PAHs, phenols, and cyanide, detected during the SCS sampling in 2004 and the OU2 RI sampling in 2006 and 2008. Due to the pervasive detection of metals, many above NYSDEC Ambient Water Quality Standards or Guidance Values (AWQSGVs) (typically iron, magnesium, manganese, and sodium) metals results are not included for purposes of discussion as they are not inferred to be related to former MGP operations at the site. This finding is based partially upon reviewing metals results from the most highly impacted wells in each aquifer zone, which revealed a suite of detected metals similar to other site wells including those containing non-detectable COI concentrations.

The groundwater discussion presented below includes groundwater quality data from monitoring wells located within the limits of OU1. These data are presented in Table 5-8 and on several figures to provide a more complete evaluation of the groundwater quality. The following subsections provide a summary and discussion of the COI results for each aquifer zone. The presence of free-phase NAPL is also discussed in relation to the analytical findings.

5.6.1 Shallow Zone (5-15 ft bgs)

A total of 21 shallow zone groundwater samples were collected during the 2006 RI sampling activities and 17 shallow zone groundwater samples were collected during the 2008 RI sampling activities. In addition, 11 shallow zone samples were collected in 2004 by H&A during the SCS work in 2004 and four shallow zone samples were collected from wells in Stuyvesant Cove Park by HDR in 2008 in the vicinity of the proposed Solar Two building. In summary, the typical compounds detected in the shallow aquifer at the water table include low to moderate concentrations of BTEX, PAHs, and total cyanide with lesser detections and concentrations of other VOC and SVOC compounds (Table 5-8). Of the detections, the primary COI that were detected above AWQSGVs included BTEX and PAHs, as expected for a former MGP site.

Because benzene is one of the most common compounds associated with MGP residues and is also one of the most soluble VOCs, iso-concentration contours for benzene were prepared for the shallow zone. The 2006 benzene results are presented on Figure 5-11 and the 2008 benzene results are presented on Figure 5-

12. Groundwater elevation contours for the shallow aquifer zone are shown on Figure 4-8 for comparison purposes. As shown on Figures 5-11 and 5-12, benzene was not detected at concentrations exceeding the AWQSGV in groundwater samples collected from OU2 RI monitoring wells. Benzene was detected at concentrations exceeding the AWQSGV in monitoring wells LW-4 and LW-10 in Stuyvesant Cove Park when sampled by HDR in July 2008. Benzene concentrations are highest in the former gas holder area in the western portion of OU1 and in the eastern portion of OU1 near the former oil tanks and drip tanks. These findings are consistent with visual observations and soil results. As shown, the shallow groundwater plume extends past the limits of OU1 to the east and possibly to the north-northeast into OU2 but has been generally delineated by the existing monitoring well network (except for wells LW-4 and LW-10 adjacent to the East River) as shown in Figures 5-11 and 5-12.

Also outlined on Figures 5-11 and 5-12, colored symbols are designed to present a rapid visual summary of whether any VOC, SVOC, or total cyanide result was greater than AWQSGVs. Locations where NAPL was detected are also identified on the figure. LNAPL was noted in LR17 during the 2006 sampling activities. A fingerprint analysis of the sample collected from LR17 indicated that the LNAPL was likely a highly weathered middle weight petroleum distillate such as No. 2 fuel oil or diesel fuel.

Lastly, comparison of 2004 and 2006 data in shallow wells, where available, revealed that equal or decreasing concentrations of VOCs were noted in 60% of the wells (6 of 10) and equal or decreasing concentrations of total PAHs were noted in 100% of the wells (10 of 10 wells) (Table 5-8). Comparison of 2006 and 2008 groundwater quality data in shallow wells indicates that equal or decreasing concentrations of VOCs were noted in 82% of the wells (14 of 17 wells). Benzene concentrations increased one to two orders of magnitude between the 2006 and 2008 sampling events in monitoring wells 21MWS04, 21MWS09, and 23MWS12. Concentrations of SVOCs remained similar in 88% of the wells (15 of 17 wells) between 2006 and 2008. SVOC concentrations increased one order of magnitude between 2006 and 2008 in monitoring wells 21MWS04 and 21MWS08.

5.6.2 Intermediate Zone (25-35 ft bgs)

A total of 20 intermediate zone groundwater samples were collected during the 2006 RI sampling activities and 15 intermediate zone groundwater samples were collected in the 2008 RI sampling activities. In addition, nine intermediate zone samples were collected in 2004 by H&A during the SCS work. The highest concentrations of COI were detected in this zone compared to the water table and deeper aquifer zone. NAPL was also detected in several wells as summarized in Table 5-4. In summary, the typical compounds detected in the intermediate aquifer zone include moderate to high concentrations of BTEX, PAHs, and total cyanide with lesser detections and concentrations of other VOC and SVOC compounds (Table 5-8). Of the detections, the primary COI that were detected above AWQSGVs included BTEX, PAHs, and occasionally phenols and styrene. This finding is generally consistent with the shallow aquifer zone and with typical MGP sites. In addition, several intermediate zone wells contained chlorinated VOCs from a non-MGP source (Table 5-8).

Benzene iso-concentration contours were also prepared for the intermediate zone for the 2006 data (Figure 5-13) and the 2008 data (Figure 5-14). Groundwater contours for the intermediate aquifer zone are shown on Figure 4-8 for comparison purposes. Unlike the 2006 groundwater sampling event, groundwater samples were not collected from monitoring wells which contained indications of NAPL during the 2008 groundwater sampling event. Therefore, 2008 benzene concentrations are not available for developing benzene iso-concentration contours at seven monitoring well locations. The 2008 benzene iso-concentration contours illustrated on Figure 5-14 were generated using the 2006 benzene concentrations at the seven wells that contained NAPL indications in 2008 and are dashed to indicate approximate location. Benzene concentrations are not posted at wells with NAPL indication on Figure 5-14 since the wells were not sampled in 2008.

As shown on Figures 5-13 and 5-14, benzene concentrations are highest in the former gas holder area in the western portion of OU1 and extend to the north- northeast in the direction of groundwater flow into OU2. These findings are consistent with visual observations and soil results.

Also outlined on Figures 5-13 and 5-14 are colored symbols designed to present a rapid visual summary of whether any VOC, SVOC, or total cyanide result was greater than AWQSGVs. Locations where free-phase NAPL was detected are also identified on the figures. The source of the free-phase NAPL can be traced to two primary former MGP source areas, including the former gas holder area in the western portion of OU1 and the former drip tanks/tar separator/oil tank area in the eastern portion of OU1. In addition, chlorinated compounds, unrelated to former MGP operations, appear to be prevalent along the southern portion of OU1 and to the south of OU1 in OU2. As shown, groundwater impacts in the intermediate zone extend into OU2 to the northeast, east, and southeast of OU1 to the East River.

Lastly, comparison of 2004 and 2006 data in intermediate wells, where available, revealed that equal or decreasing concentrations of VOCs were noted in 100% of the wells (8 of 8) and equal or decreasing concentrations of total PAHs were noted in 100% of the wells (8 of 8 wells) (Table 5-8). Comparison of the 2006 and 2008 data in the intermediate wells, where available, indicate that equal or decreasing concentrations of VOCs were noted in 91% of the wells (10 out of 11 where trend data are available). The concentration of benzene increased from not detected in 2006 to 9.9 ug/L in 2008 in monitoring 21MWD11. Comparison of the 2006 and 2008 data revealed equal or decreasing SVOC concentrations in 100% of the wells (11 of 11 wells).

5.6.3 Deep Zone (50-70 ft bgs)

A total of 16 deep zone groundwater samples were collected during the 2006 RI sampling activities and 9 deep zone groundwater samples were collected during the 2008 RI sampling activities. No deep zone samples were collected in 2004 during SCS work. Moderate to high concentrations of COI were detected in the deep aquifer zone. NAPL was detected in some deep zone wells as illustrated in Table 5-4. Similar to the shallower aquifer zones, the typical compounds detected in the deep aquifer zone were BTEX, PAHs, and total cyanide with lesser detections and concentrations of other VOC and SVOC compounds (Table 5-8). Of the detections, the primary COI that were detected above AWQSGVs included BTEX, PAHs, and occasionally phenols, styrene, and isopropylbenzene. This finding is also generally consistent with the shallower aquifer zones and with typical MGP sites. In addition, some deep zone wells contained chlorinated VOCs from a non-MGP source (Table 5-8).

Benzene iso-concentration contours were also prepared for the deep zone (Figures 5-15 and 5-16). Groundwater contours for the deep aquifer zone are shown on Figure 4-8 for comparison purposes. As shown on Figures 5-15 and 5-16, benzene concentrations are highest in the former gas holder area in the western portion of OU1 and the former drip tank area near the eastern OU1 boundary. Visible impacts and soil analytical impacts generally do not extend deeper than 20 to 40 ft bgs in the western portion of OU1. The deep groundwater impacts in the western portion of OU1 are likely due to downward groundwater gradients and shallower soil impacts. The deep groundwater impacts in the eastern portion of OU1 and in OU2 can also be attributed to overlying soil impacts, however, the soil impacts extend as deep as 47 ft bgs near Avenue C and as deep as 76 ft bgs (some intermittent sheen and blebs in EBSC101) in Stuyvesant Cove Park.

Figures 5-15 and 5-16 use colored symbols to designate areas in which VOC, SVOC, or total cyanide results exceeded AWQSGVs. Locations where free-phase NAPL was detected are also identified on the figures . The source of the free-phase NAPL in the deep zone is likely related to the former retorts and drip/oil tanks in the eastern portion of OU1. As shown, groundwater impacts in the deep zone extend into OU2 to the northeast, east, and southeast of OU1 to the East River.

The vertical extent of groundwater impacts was not determined within OU1 at monitoring wells 21MWDD03, 21MWDD04, or 21MWDD08 or in the eastern portion of OU2 adjacent to the East River. Based on the distribution of subsurface soil impacts, the OU1 deep groundwater impacts in the western portion of the site are consistent with the magnitude and distribution of the downward vertical hydraulic gradient data and shallower source areas. The magnitude of the vertical hydraulic gradients between the intermediate and deep aquifer zones are significantly lower than the gradients between the shallow and intermediate zones, and

occasionally are upward. These vertical groundwater gradients may help to reduce the concentrations of compounds with depth. In OU2 to the east of OU1, the deep impacts are less related to vertical gradients and more reflective of closer proximity to deeper soil impacts.

Lastly, comparison of 2006 and 2008 data in the deep wells, where available, revealed that equal or decreasing concentrations of VOCs were noted in 43% of the wells (3 of 7 where trend data area available). VOC concentrations increased in four of the deep wells (21MWDD03, 21MWDD08, EBMWDD14, and 23MWDD20) between 2006 and 2008. SVOC concentrations in the deep zone samples collected from 2006 and 2008 decreased or stayed the same in 86% of the wells (6 of 7 wells) and increased in one well (EBMWDD14).

5.6.4 Natural Attenuation Evaluation

Geochemical indicators of NA were measured and evaluated in groundwater during the May 2006 and August/September 2008 groundwater sampling events. An evaluation of groundwater natural attenuation is provided in the OU1 RI report. In summary, the groundwater monitoring data suggest that naturally occurring biodegradation processes, specifically sulfate reduction and/or methanogenesis, are contributing to some reduction in the concentration of organic constituents within the dissolved phase plume in all aquifer zones at the site. Additional monitoring (both time series and at alternate well locations) will further develop this baseline dataset for long-term evaluation of NA as a potential supplemental groundwater remedy following active remedial measures at the site.

5.7 Soil Gas Analytical Results

An evaluation of the potential for subsurface vapor intrusion at the Peter Cooper Village Apartment property was conducted by RETEC in June 2003. Additional sampling was performed in August 2003, March 2004, and April 2004. The overall goal of the work was to ascertain whether air quality within the apartment buildings that lie within and adjacent to the boundary of the former MGP was being adversely affected by residual subsurface impacts from the former MGP operations. Based on the results of the sampling events, it was concluded that intrusion of vapors emanating from MGP-related material was not evident. In addition, air quality within all of the Peter Cooper Village buildings was investigated in 2007 on behalf of the Owners. These data were provided to NYSDEC and are not presented in this report.

Although vapor intrusion from MGP-related material was not evident in the buildings at the site, additional soil gas samples were collected along the perimeter of the site during the RI to evaluate the extent and assess the potential migration of soil gas impacts. The OU2 soil gas sample locations are illustrated on Figure 3-1 and include three samples along East 20th Street (20SG101, 20SG102, and 20SG103). Table 5-9 illustrates the OU2 RI soil gas sample results.

A tracer gas (helium) was used to determine the integrity of the seal around the soil gas probe during sampling. The samples contained helium at concentrations far below the 20% NYSDOH guidance standard, indicating that excellent sample integrity was achieved.

The soil gas analytical results indicate detectable levels of several VOCs including benzene, toluene, ethylbenzene, xylenes, acetone, and tetrachloroethene. However, the samples did not contain detectable levels of compounds such as indane, indene, thiophene, and naphthalene that are thought to be specifically associated with MGP residuals. The results suggest that the soil gas levels in the OU2 area are not specifically related to MGP residuals.

Although indoor air sampling has not indicated that subsurface vapors associated with former MGP residuals affect indoor air quality, Con Edison is performing additional sampling to determine that there has been no significant change of indoor air quality. Con Edison submitted an ISMP for Indoor Air Sampling (ENSR 2008c) to NYSDEC on February 6, 2009. The first round of indoor air sampling and analysis was performed in February and March 2009.

Two soil gas samples (SG-1 and SG-2) and one ambient air sample were collected in July 2008 by HDR in the vicinity of the proposed Solar Two building. Table 3 in Appendix C of the HDR 2008 report (provided in Appendix M of this report) summarizes the soil gas and air sample results. The results from these samples are similar to the OU2 RI results. Although a number of VOCs, including aromatic hydrocarbons and chlorinated species, are present in the HDR samples, there is no evidence of the presence of more MGP-specific contaminants such as naphthalene.

5.8 Surface Sediment Results

Surficial sediment samples (102 samples at depths of 0-0.5 and 0-1ft btos) were collected from 98 locations within the East River adjacent to the site and Stuyvesant Cove Park. The sampling area extended over 2,200 feet along the river and to more than 500 feet offshore (Figure 5-17). A defined shoal was identified in the sampling area, and sample collection locations ranged from shallow, near-shore stations along the shoal to stations in depths along the edge of the East River channel at a bottom elevation below -40 ft (elevations referenced to NAVD88). The following discussion provides a review of the findings from the investigation to identify locations with potential MGP impacts.

5.8.1 Physical Description of Samples

Summaries of the observed characteristics of the samples are provided in Table 5-10, with complete sampling logs provided in Appendix B. The majority of surficial sediment samples were collected from the shoal area at depths of -10 to -30 ft. Samples from this area were comprised principally of black or dark silt containing peat or other organic matter, with minor fractions of sand or gravel along with wood chips, brick, glass, and other debris. Sand was noted as the major fraction in only 17 of the 98 sample locations, the majority of these were located further offshore in waters with a bottom elevation of -30 to -35 ft. There were two exceptions near-shore adjacent to outfalls (RB12 and RB55). Clay was noted as a major fraction in 10 samples, all located in the deepest waters sampled along the eastern boundary of the study area, with bottom elevations ranging from -35 to -41 ft. The silt is present in the areas closest to the shore where the slower current likely facilitates the deposition of suspended sediment over time. Sand and clay are present in areas further from the shore and in the channel, respectively, where the faster currents provide for an erosional environment.

The majority of the surficial samples had an identifiable odor, with approximately 50% noted as organic or hydrogen sulfide and approximately 15% noted as having a characteristic MGP residual odor. Visible impacts of the surficial sediment were identified in 21 samples, consisting of:

- Staining – 2 samples at general elevations (top of sediment) of -18 to -36 ft
- Sheen – 14 samples at general elevations of -7 to -35 ft
- NAPL – 5 samples at general elevations of -15 to -25 ft

The locations with visible impacts are identified in Figure 5-17. Approximately 80% of the visible impacts occurred in the silty media, with isolated observations of sheen and staining in gravel (2 locations) and sand (2 locations). Observations of MGP odor were consistent with the presence of NAPL or sheen. As illustrated on Figure 5-17, NAPL was observed in surface sediments between approximately 175 ft and 375 ft offshore at elevations between -15 and -25 ft NAVD88. Stain and sheen were observed over a broader area and in some cases closer to shore and at shallower elevations. This distribution of surface visible impacts suggests that the deep, lenses and stringers of MGP impacts originating in the northeast portion of OU1 have migrated east and beneath the East River until reaching the sediment surface and discharge at the OLM/TLM locations and elevations indicated on Figure 5-17. The combination of the visible impact data distribution and the nature of the river adjacent to Stuyvesant Cove Park further suggest that these impacts are likely reworked by the tides and currents in the East River and redeposited along the shoal area as sheen and stain impacts. The visible stain and sheen in sediments that are shallower and closer to shore may also be related to overland flow and/or material handling along the piers during the MGP operations as well as deposition from more recent urban runoff, marina operations, East River boat traffic, and atmospheric particulate matter.

5.8.2 Analytical Results

The surface sediment samples were analyzed for the following constituents: VOCs, SVOCs, TOC, and soot carbon. Table 5-10 summarizes the surface sediment analytical results and includes only analytes that were detected in at least one surface sediment sample. A table summarizing the results of every analyte analyzed is provided as Table 5 in Appendix L.

5.8.2.1 Volatile Organic Compounds

Table 5-11 presents a summary of the analytical results for VOC analyses (BTEX and other VOCs) available for the surface sediment samples. Collectively, one or more BTEX compounds were detected in 37 of the 102 samples, with an average detected BTEX (total) concentration of 56 mg/kg. Detections varied somewhat among the individual BTEX constituents with ethylbenzene detected in 33 of the samples, benzene detected in 22 of the samples, xylenes detected in 23 samples, and toluene detected in 7 samples. The maximum total BTEX concentration was 1,178 mg/kg at location RB14, with the second highest concentration of 500 mg/kg at location GS39. These samples were collected from an area located approximately 300 feet from the shore in an area south of the former MGP site (Figure 5-17). All other detected total BTEX concentrations were less significant and present at levels below 100 mg/kg. Visible impacts defined as staining, sheen, NAPL or MGP odors were noted in 23 of the 103 samples. A review of the results indicate that there is a poor correlation between samples that have detected BTEX and also some form of visible impacts (19 of 37 samples), or 51%. However, the majority of the samples containing some form of visible impact also contained detected BTEX (19 of 23 samples, or 83%). These results indicate that the presence of visible impacts likely indicates the presence of detectable BTEX.

Six other VOCs (acetone, methyl ethyl ketone, chlorobenzene, trichloroethene, tetrachloroethene, 1,1,1-trichloroethane) were detected in the samples. Acetone was detected in 33 of the samples, generally at trace concentrations. The trace acetone concentrations are likely associated with laboratory methods. The remaining compounds (methyl ethyl ketone, chlorobenzene, trichloroethene, tetrachloroethene, 1,1,1-trichloroethane) were detected at trace levels at three or fewer locations.

5.8.2.2 Semivolatile Organic Compounds

The results from the SVOC analyses (PAHs and other SVOCs) are presented in Table 5-12. PAHs were detected at all but two of the 98 locations. For individual PAHs, dibenz(a,h)anthracene was detected in the lowest frequency (45 locations), and benzo(a)anthracene, benzo(a)pyrene, chrysene, and fluoranthene were all detected at 90 or more sampling locations. Total PAH concentrations ranged from 0.15 (GS28) to 4,312 mg/kg (GS39). The average value was approximately 300 mg/kg, with eight locations having concentrations between 300 and 1,000 mg/kg and eleven locations with total PAH concentrations in excess of 1,000 mg/kg. These locations were generally found at a distance of approximately 350 feet from shore between an elevation of -15 and -25 ft. Approximately half of these locations also exhibited the highest concentrations of total BTEX, ranging from 10.85 mg/kg to 1,178 mg/kg. Additionally, there is some correlation between total PAH levels and visible impacts. NAPL was present at locations having total PAH concentrations of 314 mg/kg (GS36) to 4,300 mg/kg (GS39), while sheen was observed in samples with levels of 35 mg/kg (RB68) to 2,300 mg/kg (RB50).

Six additional SVOC were detected in limited frequency and at relatively low concentrations. They included dibenzofuran, bis(2-Ethylhexyl) phthalate, carbazole, 1,4-dichlorobenzene, 3,4-methylphenols and phenol. Of these, dibenzofuran was detected in the highest frequency (18 samples) and in the highest concentration (48 mg/kg at location RB75).

5.8.2.3 Carbon

The results from analysis for the carbon content of the samples are also presented in Table 5-12. For the carbon analyses, each sample was split into three separate analytical runs. Total organic carbon was measureable in 95 of the 98 surficial sediment samples, with detected concentrations ranging from 0.08% to a

maximum of 9.0%. Many of the silty samples contained visible peat or other organic matter. Twenty-six samples had total organic carbon concentrations less than 1%, all in samples characterized as predominantly sand or clay collected in the deeper waters of the study area. Of this set with low organic carbon, seven had concentrations less than 0.2%.

Total soot carbon was measurable in 53 of the 54 samples analyzed, with detected concentrations ranging from 0.05% at location RB31 to a maximum of 4.6% at location RB33 with an average detected concentration of 1.1% for all samples. As a percentage of total organic carbon, soot carbon varied widely from less than 10% to 100%.

5.8.3 Surficial Sediment Screening Evaluation

The surface sediment results were screened in accordance with the "Technical Guidance for Screening Contaminated Sediments" (NYSDEC, 1999) to identify locations that will likely require additional evaluation. The constituent concentration results were compared to the marine sediment Effects Range Low (ERL) criteria (Page 38, Appendix 4, Table 4, NYSDEC 1999) and, for non-polar organic compounds not listed in Table 4 of the guidance, constituent concentration results were compared to the equilibrium partitioning-derived values for saltwater in Table 1 on pages 20 to 24 of the guidance (Benthic Chronic Criteria).

For simplicity, the screening was conducted using the total PAH ERL value (4 mg/kg) rather than the values for the individual PAH constituents. As illustrated in Table 5-13, 83 of the locations exhibited total PAH concentrations that exceeded the ERL. The results for the remaining constituents (VOCs and SVOCs other than PAHs) that were present at detectable levels at one or more sampling locations were compared to the Benthic Chronic Criteria. As required, the constituent concentration data were normalized for organic carbon content by dividing the result by the associated carbon content of the sample. A summary of the normalized results, presented as micrograms per gram of organic carbon ($ug/g_{\text{organic carbon}}$), is provided in Table 5-13. This evaluation indicated that one additional location (RB-10) had a constituent concentration (normalized) that exceeded the criteria. However, the TOC level for this sample (0.01%) is outside the range of values (0.2 to 12%) that the NYSDEC guidance deems appropriate for accurate use in the evaluation. As a result, the normalized constituent value for this location is not appropriate to be used as a basis for screening.

The evaluation of individual constituents did not identify any locations exceeding the screening values that were not identified during the comparison of total PAHs to ERLs. This supports the use of total PAH as an appropriate screening tool for the site data. Overall, 83 locations were retained for further evaluation. These locations are identified on Figure 5-18.

5.8.4 Identification of Potential Manufactured Gas Plant Impacts

Background concentrations of PAHs in surficial sediments within the East River were evaluated. The results were used as a baseline of comparison with constituent concentrations at locations adjacent to the site and to provide a means to refine the identification of locations that may have been impacted by MGP residuals.

The background data set consisted of 40 surface sediment samples (0 - 1 ft btos) collected from the East River at 13 locations selected from depositional environments (shoal), water depths and sediment assemblages that are similar to areas located adjacent to the site. Locations from the deeper, erosional areas of the channel were not sampled as part of the background evaluation. Background samples were obtained from relatively easily accessible, low traffic areas and were not biased to visibly impacted areas with surface sheens, or collected within 100 feet of storm water discharge points. A summary of the data collected as apart of the background sampling is provided in Table 5-14.

The background surface sediment analytical results are summarized in Table 5-15 and Table 6 in Appendix L. PAHs were determined to be the principal constituents of interest in the site data (Subsection 5.8.2.2). Accordingly, the background data were evaluated on the basis of PAH levels. PAHs were present in all samples, with total PAH levels ranging from 1 to 350 mg/kg. A statistical analysis of the data from the

background locations was conducted, with total PAH concentrations used as the basis for defining the site-specific background level to simplify the evaluation. The statistical approach, including evaluation of outliers, used to evaluate the data is detailed in Appendix O of this document. The 90th percentile of the data was used to define the site-specific background level.

The method most appropriate for the calculation of the 90th percentile depends on the number of non-detects and the distribution of the data. USEPA (2007) has developed a software program that tests the data set for the above criteria, calculates a number of Background Threshold Values (BTVs), which includes estimates of 90th percentiles, and provides recommendations for a best fit value. The 90th percentile was calculated using USEPA (2007) ProUCL software, and defines a site-specific background value of 71 mg/kg for total PAHs. NYSDEC has determined that for purposes of this analysis that 70 mg/kg can be used as the site-specific background value for total PAHs and should be used as the baseline for comparison of MGP impacted material adjacent to the site. The results demonstrate the effect of an "urban background" contribution in surface sediments in the East River, potentially related to impacts from other present and historic industrial and municipal discharges, boat traffic, urban runoff and deposition of atmospheric particulate matter.

A summary of the total PAH results for the sample locations identified by the NYSDEC screening process is provided in Table 5-16. As indicated, the results from 40 of the locations from the study area in the East River adjacent to Stuyvesant Cove Park suggest a potential contribution from the MGP site. Total PAH concentrations from 39 of the locations exceed site-specific background levels. One additional location in the study area (RB68) exhibited elevated BTEX levels (81.68 mg/kg) in spite of a total PAH concentration that is within the range of background concentrations. The elevated total PAH concentration in the surface sediment at locations RB 55 and EROF01 are believed to be associated with the adjacent storm water outfall and urban runoff (Section 5.9). The locations with potential surficial MGP impacts, i.e., visible evidence and concentrations greater than the site-specific total PAH background level, are illustrated on Figure 5-18. As indicated on the map, these samples were generally collected within, or adjacent to areas with visible MGP impacts except to the north at RB55 and EROF01.

5.8.5 Additional Surface Sediment Analytical Interpretation

The analytical data from visibly impacted surface sediment locations adjacent to the site were evaluated further in an attempt to provide additional information on potential sources of the impacts. In this evaluation, the concentrations of selected PAH constituents were "paired" and the associated ratios were calculated for each location. The principal underlying the use of paired PAH constituents as "diagnostic source ratios" is that compounds with similar properties (e.g., molecular weight, aqueous solubilities, and octanol–water partition coefficients [KOW]) typically retain the same relative concentrations in residues as in their sources, despite the potential effects of weathering. The approach has been used successfully at the Oneonta, NY MGP site where ratios of fluoranthene/pyrene and benz(a)anthracene/chrysene concentrations supported efforts to characterize potential hydrocarbon sources (Costa, et al. 2004; Costa and Sauer, 2005). An initial evaluation of the data from the East River demonstrates that these constituent ratios are also appropriate for use at the site since they remain relatively consistent over large concentration ranges and under various weathering conditions.

The PAH data from the surface sediment locations with visible impacts were compared with PAH data from deep sediment locations with visible impacts (Section 5.5 and Table 5-6) to determine if the constituent concentrations from both environments had similar, or differing characteristics. The surface sediment samples with visible impacts were determined to have a relatively consistent PAH "signature". Samples from the five surface sediment locations with observed NAPL had fluoranthene/pyrene and benzo(a)anthracene/chrysene ratios of 0.6 and 1.1, respectively. Surface sediment samples from locations with visible impacts (NAPL, sheen and staining) generally exhibit a fluoranthene/pyrene ratio of 0.6 to 1.1 and a benzo(a)anthracene/chrysene ratio of 1.0 to 1.3. As indicated in Figure 5-19, these ratios for visibly impacted surface sediments are also consistent with the ratios of the majority of the subsurface locations that exhibited NAPL, sheen, or stain. The results of the ratio analysis, combined with the distribution of surface sediment

visible impacts further support the concept that these visible impacts result principally from the discharge and reworking/redeposition of MGP residuals that migrated in lenses and as “stringers” from OU1.

The background surface sediment data were also evaluated using the PAH ratios discussed above to determine if the ratio signature from the background sediment samples were similar to, or different from the ratio signature identified in surface sediment samples with visible evidence of MGP residuals. As illustrated in Figure 5-20, the constituent characteristics of the background locations appear to be different from the surface sediment locations believed to be impacted principally by MGP residuals. Further, as illustrated in Figure 5-21, the PAH ratios from the majority of surface sediment samples from the site area without visible MGP impacts appear to be consistent with background locations (i.e., fluoranthene/pyrene ratios of 0.7 to 1.2 and a benzo(a)anthracene/ chrysene ratios of 0.8 to 1.2). These results indicate that the surficial samples collected near the site that are not visibly impacted appear to have a mix of PAH sources consistent with background locations, and generally support the application of a site-specific background value to site concentrations of total PAH to refine the process of identifying locations with potential MGP impacts..

5.9 Outfall Sediment Quality

Prior investigation of the storm sewers in OU1 documented that MGP OLM/TLM are not present in the sewers and that they are not an on-going source of MGP impacts to the river. An additional investigation of the associated outfalls was conducted during the OU2 investigation to evaluate quality of sediments at the outfalls and the possibility of historic discharges.

Surface and shallow sediment samples were collected in the vicinity of the three permitted stormwater discharge points located along Stuyvesant Cove Park (EROF01, EROF02, EROF03) as illustrated on Figure 3-1 and at two stormwater discharge points that do not collect stormwater from the former MGP site (EROF04 and ERSSREF03) as shown on Figure 3-2. These samples were collected as close to the outfall locations as the sample vessel could safely access to characterize the upper three feet of sediment adjacent to the outfalls. The outfall sediment analytical results are summarized in Table 5-17. Table 5-17 includes only analytes that were detected in at least one outfall sediment sample. Table 7 in Appendix L summarizes the results of every analyte analyzed in the outfall sediment samples.

The predominant lithology encountered in all of the outfall samples was silt with some sand throughout. Petroleum like odor and sheen were noted from 2.1 to 2.9 ft btos in the sample collected at EROF04 and from 0 to 1.9 ft btos at EROF03.

The outfall sediment sample analytical results vary by location. BTEX compounds were not detected in the surface sediment samples (0 to 0.5 ft btos) at any of the outfall sample locations. Low, estimated concentrations of BTEX compounds were detected in some deeper intervals at locations EROF01 and EROF02. The greatest BTEX concentration detected in the outfall samples (17.3 mg/kg) was detected in the 2 to 3 ft btos sample collected from EROF02. Total PAHs were detected at the surface at all of the outfall locations and ranged in concentration from approximately 18 mg/kg at EROF03 to 790 mg/kg at EROF01.

The outfall sediment results were also determined to be similar to levels at the reference locations, indicating that there have not been significant historic discharges of MGP redisuals. Background reference sample EROF04 contained 35 mg.kg total PAHs from 0 to 0.5 ft btos and upstream sample ERSSREF01 contained 293 mg/kg total PAHs from 0 to 0.5 ft btos. The highest total PAH concentration detected in the outfall sediment samples was collected from the 2 to 3 ft btos interval at EROF03 and totaled 1747 mg/kg. Total PAH concentrations were observed to be relatively consistent with depth at locations EROF01 and EROF02 but increased with depth at locations EROF03 and EROF02.

Note that Boring RB55 was drilled closer to outfall #NCM047 than location during a separate mobilization and may provide additional information on the nature of the discharge from the outfall. The media closest to the outfall consisted of medium to fine sand with some coarse sand and shards of glass ,while sediments

encountered at EROF01 were very soft dark brown to black silt with organic matter and sand. The analytical results from the locations demonstrate a higher total PAH level in the sandy media (1682 mg/kg) than the silty media associated with the shoal (790 mg/kg). This sediment variation and distribution suggests that deposition is occurring in the vicinity of EROF01 due to stormwater discharge at outfall #NCM047 and that the high total PAH concentrations may be attributable to the runoff at this location.

5.10 Surface Water Quality

During the October 2008 river sampling activities, three sets of surface water samples were collected from the water surface, mid-way through the water column, and at the sediment surface to characterize the surface water quality adjacent to the site. Five locations, RB55, RB61, RB75, GS16, and GS35, were selected for surface water sampling. Table 5-16 summarizes the surface water analytical results. Boring locations where surface water samples were collected are illustrated on Figure 3-1. Surface water samples were analyzed for VOCs, SVOCs, and TSS. Only one surface water sample contained detectable concentrations of compounds. This sample was collected immediately above the sediment surface at boring location RB55. The only analytes detected in this surface water sample were fluoranthene (0.5 µg/L) and pyrene (0.58 µg/L). There are no surface water quality criteria for these compounds, and given their relatively low aqueous solubilities, their presence is likely the results of suspended particulate matter. RB55 is situated adjacent to stormwater outfall #NCM047 where the highest concentration of surface PAHs was detected in outfall sediment data. Based on the surface water analytical results, it is evident that subsurface soil, groundwater, and sediment-related MGP impacts identified during the RI are not causing surface water quality impacts adjacent to the site.

5.11 Site Conceptual Model

MGP-related impacts are present in lower fill/natural soil and groundwater and in East River sediments in OU2. Based on historical research and the results of the SCS and RI programs it is apparent that MGP impacts originating on the former East 21st Street Works Site have migrated horizontally and vertically to the northeast, east and southeast of the major operations area of the former MGP site.

The major operations area was situated in the northeast corner of the former MGP site and consisted of retorts, condensors, drip tanks, oil tanks, and tar separators. Tar materials are frequently associated with these structures. It is unknown if tar material was present or removed from these structures following cessation of the MGP.

Following decommissioning of the gas plant, the property was developed into a residential housing complex. Historic drawings illustrate that the buildings in the eastern portion of the site were supported on 750-850 piles per building driven to bedrock or a minimum of 65 feet. These pilings penetrated subsurface structures where buildings were constructed over former structures. Any mobile material remaining in the structure at that time could have been mobilized by the pile driving and subsequently migrated along potential preferential pathways created by the pile installation.

Tar materials were frequently observed in the lower fill/natural soil in the vicinity of the former structures in the northeast portion of the former MGP site during the SCS and RI. Several subsurface foundations were encountered during the SCS test pit and boring activities, however, intact subsurface structures containing mobile tar materials were not found. The overburden material surrounding and beneath these structures is generally sandy fill underlain in many locations by a discontinuous organic clay, silty peat material which is underlain by silty sands with lenses of varying grain size and permeability. Where lenses of coarser grained sand or lenses of greater permeability exist, tar material released from the structure foundations, subsurface piping, drip tanks, spills or the penetration of the former structures would migrate horizontally and vertically within these lenses. Horizontal and vertical migration through these more permeable lenses to adjacent OU2 land areas and the East River is the likely mechanism for MGP impacts reaching and discharging offshore in the East River.

The majority of the MGP OLM/TLM impacts noted in the subsurface soil beneath the former MGP site in OU1 and adjacent to the river in OU2 are present in the 20 to 40 ft bgs (general elevation range of -10 to -30 ft NAVD88) zone with some thinner and less frequent lenses of impacts observed deeper than 40 ft bgs. The bulkhead between Stuyvesant Cove Park and the East River extends to approximately 27 ft bgs. Based on its depth, the bulkhead may be retaining some of the shallowest MGP OLM/TLM impacts (between 20 and 27 ft bgs), but does not extend deep enough to prevent lateral migration of impacts as indicated by the presence of OLM/TLM in the river sediments. The bulkhead is not constructed to be impermeable to or prevent migration of OLM/TLM impacts to the river. Sediment investigations in the river identified MGP OLM/TLM discharging at the sediment surface approximately 175 to 375 ft offshore at an elevation range of approximately -15 to -25 ft NAVD88. Stain and sheen were observed over a broader area and in some cases closer to shore and at shallower elevations. This distribution of surface visible impacts suggests that the deep, lenses and stringers of MGP impacts originating in the northeast portion of OU1 have migrated east and beneath the East River until reaching the sediment surface and discharging at some locations. Surface sediment analytical results correlate well with visible impacts and indicate that total PAH concentrations that exceed the site specific-background value are generally coincident with or adjacent to locations with visible surface impacts. Total PAH concentrations between the screening value (4 mg/kg) and the site-specific background value (70 mg/kg) are more widespread and generally surround the visible impact areas except along the eastern boundary of the study area where the channel deepens and currents increase. The combination of the visible impact and total PAH data distribution and the nature of the river adjacent to Stuyvesant Cove Park further suggest that these impacts are likely reworked by the tides and currents in the East River and redeposited along the shoal area as sheen and stain impacts. The visible stain and sheen in sediments that are shallower and closer to shore may also be related to overland flow and/or material handling along the piers during the MGP operations as well as deposition from more recent urban runoff, marina operations, East River boat traffic, and atmospheric particulate matter. The background sediment evaluation demonstrates the effect of other urban background contributions to surface sediments adjacent to Stuyvesant Cove Park and in other portions of the East River. Surface water quality data indicate that the subsurface soil, groundwater, and sediment related MGP impacts are not causing surface water quality impacts adjacent to the site.

6.0 Qualitative Human Health Exposure Assessment

This section integrates the data and information gathered during the RI and provides a qualitative assessment of the potential for exposure to MGP-related contaminants that are associated with the environmental conditions encountered at areas adjacent to the site. This assessment was performed by identifying potential sources, migration routes for the constituents of concern (COC) discussed in Section 5, potential receptors, and potential exposure pathways at, and in the vicinity of the site. The assessment follows guidelines specified in the *NYSDEC DER-10 Draft Technical Guidance for Site Investigation and Remediation* (NYSDEC, 2002).

6.1 Site Setting

Descriptions of the areas adjacent to the site are presented in Section 2.1., and include: East 23rd Street Area, Avenue C/FDR Drive Area, First Avenue Area, Stuyvesant Cove Park Area and the East River adjacent to Stuyvesant Cove Park. A discussion of the environmental assessment for each of these areas is provided below.

6.1.1 East 23rd Street Area

The East 23rd Street Area consists of the roadway and the right-of-way (ROW) areas to the north and south of the roadway. The RI included the completion of soil borings and the installation of monitoring wells along the northern portion of the ROW. A discussion of potential pathways and receptors in this adjacent area is included in this assessment.

Further to the north are off-site properties with institutional facilities present including the Special Education Services School, the Veterans Memorial Hospital, Chase Bank, and a public bath house that contains indoor and outdoor pools and a gymnasium. Soil and groundwater sampling performed during the RI in the northern area of the East 23rd Street ROW indicates that the concentrations of MGP-related COC in this area are relatively low and at deeper depths. Because it appears that the properties to the north of the ROW are cross-gradient of the site, and concentrations of potential MGP-related COC measured in samples collected from this area were generally below NYSDEC screening values, potential exposure to receptors at the off-site properties to the north of the site were considered negligible and were not further evaluated.

6.1.2 Avenue C/FDR Drive Area

The Avenue C/FDR Drive Area is comprised of the roadways and ROW to the east of the former MGP site. The RI included the completion of soil borings and the installation of monitoring wells on both sides of this ROW area. A discussion of potential pathways and receptors in this area is included in this assessment.

6.1.3 First Avenue Area

The First Avenue Area consists of the roadway and the ROW areas to the east and west of the roadway. A steam tunnel is present at a depth of 90 ft bgs in the footprint of First Avenue. NAPL has been observed in the tunnel. The RI included the completion of soil borings and rock corings in the eastern portion of the ROW. A discussion of potential pathways and receptors in this area is included in this assessment.

6.1.4 Stuyvesant Cove Park Area

Between Avenue C and the East River, is the Stuyvesant Cove Park. The park consists of landscaped areas, and bike and walking paths. An Environmental Education Building (Solar One) is situated in the northern portion of the park. Petroleum-related and dielectric fluid impacts to soil and groundwater are known to be

present in the northern portion of the park as a result of a release from a gasoline service station and a transmission line leak. RI borings and wells were installed along the shoreline of the East River during the RI. A discussion of potential receptors and risks in this adjacent area is included in this assessment.

6.1.5 East River Adjacent to Stuyvesant Cove Park

The East River is designated as a Class I saline water body with a best use for recreational use (NYSDEC, 2008). Access to river sediment is limited by a bulkhead and fence along the riverbank in Stuyvesant Cove Park and the sediments are largely covered by water at low tide.

The investigation indicated that MGP residuals and constituents of interest are present in both surface (0 - 1 foot) and deeper sediments (> 1 foot) in the area of the East River adjacent to the site. A discussion of potential receptors and risks in this area is included in this assessment.

6.2 Exposure Assessment

Exposure is the process by which humans come into contact with COC in their environment. Humans can be exposed to COC in a variety of environmental media including surface soil, subsurface soil, surface water, sediment, groundwater, and air. Exposure to these media can occur through several routes including ingestion, dermal contact, and inhalation. The exposure assessment identifies pathways by which humans are potentially exposed to COC. The assessment includes the following:

1) Development of a conceptual site model

2) Discussion of potential sources

3) Discussion of potential release mechanisms

4) Identification of potential human receptors and receptor-specific exposure pathways

Although the potential for exposure to MGP residuals for the site includes an evaluation of the potential for exposure to COCs via drinking impacted site groundwater, the City of New York obtains drinking water from sources located in upstate areas. Other than an evaluation of potential incidental ingestion of impacted groundwater during subsurface repair or construction activities, this pathway is not further discussed in this exposure assessment. The NYSDEC groundwater classification for the Site area is GA (aesthetic-fresh waters). The management of groundwater impacted by site-related residuals will be addressed in the Alternatives Analysis Report.

6.2.1 Conceptual Site Model

Figure 6-1 presents the conceptual model for the RI investigation area. Included on the figure is information regarding the known or potential sources of COC, the identified release mechanisms, and the affected source media. The potential migration pathways, the exposure media, and the potential exposure routes are identified. Note that the exposure routes are considered potential unless there is an on-going or documented exposure. Information regarding the potential receptors identified in each area of interest is presented on Table 6-1.

6.2.2 Potential Sources of Residuals

The sources of environmental impact for the site are residual materials associated with the former MGP structures and process areas. Hydrocarbon materials, including NAPL, have been observed in subsurface soil in the footprint of the site, to the east in the park area adjacent to the East River and in river sediment adjacent to Stuyvesant Cove Park. NAPL has generally been observed to be present as “stringers” of material in porous media. Volatile and semi-volatile compounds in these materials have leached to groundwater and the

dissolved groundwater plume extends from the site to the east. In the MGP-impacted areas, the lower molecular weight hydrocarbons could also volatilize and migrate into ambient and/or indoor air.

6.2.3 Potential Release Mechanisms

As shown on Table 6-1, there is several potential release mechanisms by which the constituents identified in the soil, groundwater and sediment may be transported to other media. Each mechanism is considered for the identified media and potential receptor group. Potential release mechanisms for soil include the following:

1) **Fugitive Dust.** Constituents in surface and subsurface soil could be a potential source for fugitive dust via physical disturbance.

2) **Volatilization.** Volatile constituents may potentially be transported from subsurface soil by volatilizing into soil-pore space and eventually emanate into ambient or indoor air.

3) **Leaching**. Constituents in surface or subsurface soil could potentially leach to groundwater.

There are three mechanisms by which constituents in groundwater can be transported to other media. These migration pathways include the following:

1) **Adsorption.** Constituents in groundwater may be sorbed onto subsurface soils and sediment.

2) **Volatilization to Ambient Air.** Volatile constituents in groundwater may potentially desorb into soil gas and be transported into ambient or indoor air.

3) **Extraction.** Constituents in groundwater may migrate to other media by extraction and use of impacted groundwater.

Potential release mechanisms for sediment include the following:

1) **Volatilization.** Volatile constituents may potentially be transported from surface sediment into ambient air.

2) **Leaching**. Constituents in surface or subsurface sediment could potentially leach to pore water and eventually migrate to surface water.

Each of these potential release mechanisms is evaluated for each potential receptor group on Table 6-1.

6.2.4 Potential Human Receptors and Exposure Pathways

This section discusses the identified potential receptors and the potential that the receptor may be exposed to site-related residuals.

6.2.4.1 Adjacent Area Receptors

An exposure pathway analysis for potential receptors in each of the adjacent areas is presented in Table 6-1. The analysis includes an identification of each potential receptor group, a listing of each potential exposure media and pathway, and a rationale for inclusion or exclusion of each potential receptor in the consideration of remedial actions in the Alternatives Analysis Report. Potential receptor groups and potential exposure pathways that may exist for the adjacent areas are discussed below.

East 23rd Street Area

Subsurface utility workers who perform subsurface utility repair or installation work in the eastern portion of the East 23rd Street ROW could potentially be exposed to constituents in soil or groundwater in this area via direct contact pathways (i.e., dermal contact, ingestion, and inhalation of volatiles) if subsurface work is performed in this area. NAPL has not been observed in this area; however, soil and groundwater sampling in the eastern portion of the ROW indicates that COC in concentrations greater than TAGM RSCOs or groundwater guidance and standard values is present in this area. Workers performing subsurface work in this area should be properly trained and should perform this work using procedures specified in a HASP.

Avenue C and FDR Drive Area

Subsurface utility workers who perform subsurface utility repair or installation work in the footprint of the Avenue C and FDR Drive ROW could potentially be exposed to NAPL and constituents in soil or groundwater in this area via direct contact pathways (i.e., dermal contact, ingestion, and inhalation of volatiles) if subsurface work is performed in this area. NAPL-impacted soil was observed at depths between 10 and 20 ft bgs in borings at the eastern boundary of the site. Impacted groundwater is present in this area at a shallow depth (approximately 13 ft bgs) and it is possible it would be encountered during activities such as a utility line excavation or repair of the FDR roadway infrastructure. Workers conducting subsurface work in this area should be properly trained and should complete this work using a HASP.

First Avenue Area

Subsurface Utility Workers who perform subsurface utility repair or installation work in the footprint of the First Avenue ROW could potentially be exposed to constituents via direct contact pathways (i.e., dermal contact, ingestion, and inhalation of volatiles) if subsurface work is performed in this area. NAPL has been observed in the bedrock unit in borings completed in the eastern portion of the ROW. A steam tunnel is present at a depth of approximately 90 ft bgs. Since NAPL has been observed in the tunnel, subsurface utility workers that maintain the tunnel could possibly contact NAPL or other constituents in groundwater in this area. The tunnel has been sealed, however, should repairs be necessary in this area workers conducting the work should be properly trained and should complete this work using procedures specified in a HASP.

Stuyvesant Cove Park

The potential receptor groups identified for the Stuyvesant Cove Park include park visitors, outdoor maintenance workers who maintain the park, and subsurface workers who may perform subsurface work to maintain utilities or to repair features such as the river retaining wall. The potential for exposure for each of these receptor groups is discussed below.

Park Visitors

Park Visitors include recreational users that use the pathways next to the river for activities such as walking, jogging, biking, and dog-walking. The potential exposure pathway for park visitors includes direct contact with surface soil or inhalation of VOCs.

Surface soils in the park have apparently been imported to this location for the construction of the current landscape features. A surface soil sample was collected in the park during the RI which indicated that COC related to the MGP Site was not present at concentrations exceeding NYSDEC values. The site is covered with grass and landscaping materials, therefore, park visitors are unlikely to be exposed to residuals that may be present in subsurface soils. Since the site landscaping is maintained, the concentrations of COC are low, and the potential for contact is minimal, exposure to impacted subsurface soil is considered to be low.

Volatilization of constituents from subsurface soils to ambient air at levels which affect air quality is unlikely due to NA, atmospheric mixing, and dilution. The SVI evaluation sampling conducted at the site indicates that the concentrations of possibly MGP-related COC in indoor air were low or attributable to non-MGP sources, and it

is likely that similar conditions exist in the park area. For these reasons, the potential for exposure to impacted outdoor air in the park area is considered to be low.

Park Outdoor Maintenance Workers

As discussed above, outdoor air and surface soil in the park are not likely to be impacted with MGP-related COC. Therefore, the potential for exposure for an outdoor worker to impacted media is considered to be low.

Park Subsurface Workers

Construction workers in the park who perform subsurface utility repair or installation work, or maintain the river retaining wall could potentially be exposed to NAPL and constituents in soil or groundwater in this area via direct contact pathways (i.e., dermal contact, ingestion, and inhalation of volatiles) if subsurface work is performed in this area. NAPL and visibly impacted subsurface soil was observed between 10 and 60 ft bgs in this area. Workers conducting subsurface work in this area should be properly trained and should complete this work using procedures specified in a HASP.

6.2.4.2 East River Adjacent to Stuyvesant Cove Park

The potential for humans to directly contact sediment in the East River adjacent to the site is limited. While the river is used for pleasure craft boating as well as industrial/commercial boat traffic, it is not used for swimming or other water sports. A vertical bulkhead and fence run alongside the river adjacent to the site, and the sediment adjacent to the site and in the area of impact is largely submerged during low tide, limiting the potential for direct contact. The area is not frequented for swimming nor is it a recognized bathing area: furthermore, any exposure to sediment would be expected to be infrequent. Health advisories have been issued for fish consumption from the East River.

6.3 Conclusions

Subsurface utility workers who perform excavation or repair work in the roadway areas in limited areas of East 23rd Street, Avenue C and the FDR Drive, First Avenue and Stuyvesant Cove Park could possibly be exposed to NAPL, impacted soil, and/or groundwater, therefore, subsurface work should only be performed by properly trained personnel, using methods specified in a HASP or only after the area has been cleared of impacted media.

There do not appear to be complete exposure pathways for exposure to MGP residuals in the East River.

7.0 Fish and Wildlife Resources Impact Analysis

This resources analysis has been conducted in accordance with NYSDEC DER-10 for the following areas: right of ways/roadways adjacent to the Peter Cooper Village property; Stuyvesant Cove Park (located between the Site and the East River) and in the East River (adjacent to the park). The analysis provides discussions of the following:

- Fish and wildlife resources in the area of the site
- Contaminant migration pathways
- Potential site resources
- Constituents of ecological concern

7.1 Fish and Wildlife Resources

The site lacks significant resources for wildlife due to the presence of buildings and pavement that cover the majority of the area. The river also lacks the resources for wildlife due to the presence of piling, a concrete bulkhead, and no observed vegetation beds, but may be a limited resource for marine life. Stuyvesant Cove Park is a 1.9-acre public space which has incorporated native plants and grass species (cultivated in fill brought to the park) into its landscaping. The wildlife species (i.e. terrestrial and avian species) that are present are adapted to urban settings. Figure 2-1 presents a topographic aerial view of the site and surrounding area. A generalized cover map of the area is provided in Figure 7-1. Each map will be discussed in the context of the description of fish and wildlife resources presented in the following sections.

7.2 Contaminant Migration Pathways

Since the land-side areas are occupied and "capped" by pavement or landscaping, the principal migration pathways for MGP residuals are associated with groundwater flow or subsurface preferential movement of nonaqueous phase material through relatively porous media. The latter appears to exist as intermittent lenses and "stringers" of material. Constituents associated with MGP residuals may be accessible to marine life in surface sediments of the East River.

7.3 Potential Site Resources

7.3.1 Cover Types

Terrestrial resources adjacent to the East River are landscaped grasses, trees, and shrubs that cover approximately 40% of the area. The other 60% is covered with an impermeable surface that includes sidewalks, roads, and parking areas and buildings. There are no heritage vegetation species in this area. Stuyvesant Cove Park plants and maintains a number of varieties of vegetation that are mostly local to the area, but none are original. There are no significant coastal fish and wildlife habitats present at the site.

7.3.2 NYSDEC Classification

The East River is classified as a Class I saline surface water by the NYSDEC. The best usages of Class I waters are secondary contact recreation and fishing. These waters shall be suitable for fish, shellfish, and wildlife propagation and survival (NYSDEC, 2008). The river is an estuary that is part of the Hudson-Riparian Estuary. There are no tidal wetlands present in the area of the site adjacent to the East River.

7.3.3 Typical Fish and Wildlife Species

The East River is part of the New York estuary and is a commercial and recreational use waterway that is part of New York Harbor. Typical fish species to be expected include; striped bass, blue crab, American eel, Atlantic needlefish, white perch, Atlantic tomcod, winter flounder, northern pipefish, Atlantic silver sides, shrimp, comb jellies, moon jellies, lion's main jell fish, lady crab, and oysters. Historically, there was a large oyster reef located in the East River in the NYC watershed area. The East River reef became ecologically extinct by the mid 1900's (Valesquez-Manoff, 2008). Potential wildlife species to be expected at the site include birds and mammals typical of urban environments; seagulls, pigeons, red-tailed hawks, grey and black squirrels, and small song-birds.

7.3.4 Observations of Stress

There is no visual vegetation in the water adjacent to the site on the east side of the bulkhead along the river bank.

7.3.5 Recorded Fish Kills

The Hudson-Riparian estuary covers the multiple waterways in the metropolitan NYC area. There are 15 records of fish kills or other instances of wildlife mortality associated with the area. Most mortalities were attributed to low dissolved oxygen and high water temperatures (NFSC, 2002).

7.3.6 Existing Fish or Wildlife Consumption Advisories

2008 to 2009 NYSDOH Health Advisories for the East River are available on the internet at http://www.health.state.ny.us/environmental/outdoors/fish/fishengl.htm. The NYSDOH general advisory is that no more than one half-pound meal of fish should be eaten per week per person from the East River. The advisory further states that American eel, gizzard shad, and hepatopancreas ("the green stuff" also known as mustard, tomalley, liver) of lobster and crab from the East River should not be eaten. No more than one pound of Atlantic needlefish, bluefish, rainbow smelt, striped bass, or white perch from the East River should be eaten per month. No more than six blue crabs from the East River should be eaten per week.

7.3.7 Qualitative Assessment of Ability to Support Fish and Wildlife

The East River is a highly stressed urban waterway. In addition to the natural stress as an estuarine environment, the developed waterfront, multiple point source and non-point source discharges, and commercial boat traffic would likely limit the ability of the waterway to support a diverse and healthy benthic or fish community.

7.3.8 Current and Potential Value as Human Resource

The East River is of value to the public for secondary recreation and commercial use. The East River is not classified for primary contact (i.e., swimming) or as a drinking water source. Recreational use of the waterway is limited to use of jet skis, motorboats, sailing, and fishing. Commercial traffic is high as this waterway connects the New York Harbor, Harlem River, and Long Island Sound. Solar One is an environmental education group located in a small building in the northern portion of Stuyvesant Cove Park. Community Board 6 has discussed the possibility of constructing a dock/pier adjacent to the park in the future. The New School, a local institution, expressed interest in evaluating the shoal adjacent to Stuyvesant Cove Park for creation of manmade oyster beds.

A sediment sampling effort was conducted as part of the 2008 RI. The sample area in river adjacent to Stuyvesant Cove Park extended over 2,200 feet along the river. Sample collection locations ranged from shallow, near-shore stations to stations more than 500 feet offshore in depths along the edge of the river channel at a bottom elevation below -40 ft NAVD88. PAHs were identified as the principal constituents of interest for the sediment evaluation. In addition, NAPL, sheens, and staining in surficial sediments are also of

interest because they are a threat to ambient water quality and they may release sheens to the water surface when disturbed and violate ambient water quality statutes.

In an initial screening effort, the analytical results were compared against NYSDEC sediment criteria (NYSDEC, 1999). As indicated in Section 5.8.3, surficial sediment samples from 15 of the 99 locations did not exceed any of the screening criteria. These locations were associated with deeper waters along the eastern edge of the study area and defined a boundary to the eastern extent of sediment impacts for all but the very southern portion of the study area.

Samples from the remaining locations were evaluated further in the context of site-specific background levels of PAHs. As provided in Section 5.8.4, background samples (13 locations, 40 samples) were collected from areas of the East River with similar depositional environments. Samples from the majority of the background locations also exceeded the NYSDEC screening criteria. A conservative estimate of the background mean concentration (95^{th} UCL) of 70 mg/kg was calculated. PAH concentrations from approximately 55% of the site samples were determined to be less than the site-specific background levels.

7.4 Conclusion

The East River is a highly urbanized river that is impacted from a large number of point and nonpoint sources, with PAHs being ubiquitous in shallow sediments. NAPL and total PAHs, at concentrations exceeding the site-specific background value (70 mg/kg), are present adjacent to the site. These impacts, as well as other non-MGP related impacts may have the potential to result in ecological impacts to the East River (i.e., some constituents exceed NYSDEC screening criteria). However, the OU2 impacted sediment area is relatively limited and likely does not contribute significantly to the river as a whole.

8.0 Summary and Conclusions

OU2 of the East 21st Street Works former MGP site consists of adjacent land areas outside of Peter Cooper Village that contain MGP-related soil and groundwater impacts and the East River sediments adjacent to Stuyvesant Cove Park that contain MGP-related impacts. Data collected during the SCS revealed that additional investigation was necessary due to the presence of MGP impacts that required further vertical and lateral delineation. Based on the NYSDEC August 10, 2007 comments, AECOM on behalf of Con Edison, developed a supplemental RI Work Plan for OU1 and the land portion of OU2, a supplemental RI Work Plan for the East River portion of OU2 and an additional RI work plan for the East River.

The goals of the OU2 RI were to:

- Further delineate the extent of soil and groundwater impacts associated with former MGP operations.
- Evaluate the potential for MGP impacts to the East River. MGP-related impacts were observed during initial river investigations and additional activities were proposed including a background surface sediment quality evaluation in the East River.
- Evaluate soil gas conditions at select RI locations.
- Further develop the dataset necessary to allow preparation of an Alternatives Analysis Report for OU2 to evaluate and select possible remedial alternatives for site cleanup.

The RI results further refined the extent of MGP-related impacts in soil and groundwater in the land areas adjacent to the site. OU2 surface soil and upper fill sample analytical results were consistent with SCS analytical results and do not indicate MGP-related impacts. Lower fill/natural soil sample analytical results indicate that the MGP-related impacts are present on the former MGP site (OU1) and extend to adjacent land areas to the northeast, southeast, and east to the East River (OU2). These impacts include lenses of stains, sheen, OLM, and TLM that contain concentrations of compounds in excess of individual and/or total RSCOs. These subsurface impacts extend to and beneath the East River. 2008 RI river investigations delineated the extent of these deep impacts to the north and south and east. The deep impacts are present in lenses or stringers and extend approximately 2,000 feet south of the parking garage located in the northern portion of the river investigation area and approximately 450 feet east of the bulkhead at the widest area of impacts to less than 50 feet east of the western shoreline in the southern portion of the river investigation area.

Groundwater in the shallow, intermediate, and deep unconfined aquifer zones beneath the site has been impacted by former MGP operations. Groundwater in the intermediate and deep zones has also been impacted by an unidentified source of chlorinated compounds. The greatest MGP-related groundwater impact concentrations were detected in the vicinity of the former gas holders and the former retort, drip/oil tank area, similar to soil impacts. The horizontal extent of the shallow groundwater impacts has been generally defined by the existing monitoring well network. The lateral extent of groundwater impacts in the intermediate and deep aquifer zones to the northeast, east, and southeast has not been specifically defined based on comparison with groundwater standards. The vertical extent of groundwater impacts has also not been fully defined in some areas of the site. However, unless the evaluation of remedial alternatives or the implementation of remedial actions requires that the groundwater in these areas be more fully delineated, additional field work for delineation is not proposed at this time.

NAPL was noted in some of the monitoring wells at the site. Due to the presence of NAPL in monitoring wells, Con Edison directed AECOM to develop an ISMP for NAPL Monitoring and Recovery at the site. This plan was finalized and submitted to NYSDEC on December 22, 2008. The first round of NAPL monitoring activities was performed in March 2009.

Soil gas sampling performed during the RI indicates that the soil gas concentrations at the perimeter of the site are lower than the highest soil gas concentrations found at the site during previous investigations. The results from the previous sampling events indicated that the indoor air quality within the residential buildings on the Peter Cooper Village portion of the site, as measured on each sampling day, was not likely to have been adversely impacted by subsurface intrusion of MGP-related vapors. Although indoor air sampling has not indicated that subsurface vapors associated with former MGP residuals affect indoor air quality, Con Edison is performing additional sampling to determine that there has been no significant change of indoor air quality. Con Edison submitted an ISMP for Indoor Air Sampling (ENSR 2008c) to NYSDEC on February 6, 2009. The first round of indoor air sampling and analysis was performed in February and March 2009.

Surficial sediment samples (0 to 1 ft below top of sediment [btos]) were collected from 98 locations within the East River adjacent to the site and Stuyvesant Cove Park. The sampling area extended over 2,200 feet along the river and more than 500 feet offshore. Visible MGP-related impacts were found in surface sediments in 21 locations, including 5 in which NAPL was observed, 14 in which sheen was observed, and 2 in which staining was observed. The surface sediment results were screened in accordance with the "Technical Guidance for Screening Contaminated Sediments" (NYSDEC, 1999) to identify locations that will likely require additional evaluation. The screening process indicated that total polycyclic aromatic hydrocarbons (PAH) is an appropriate screening criterion for the site data, and identified 83 locations that should be retained for further evaluation.

Additional investigations were performed to evaluate the background quality of surficial sediments within the East River to use as a baseline of comparison with constituent concentrations at locations adjacent to the site. The background data set consisted of 40 surface sediment samples (0-1 foot btos) collected from the East River at 13 locations selected from depositional environments (shoal), water depths and sediment assemblages that are similar to areas located adjacent to the site. The background data were evaluated on the basis of PAH levels, and total PAH concentrations, were used to simplify the evaluation based on the previous screening results. The 90^{th} percentile was used to define the site-specific background level. The 90^{th} percentile was calculated using USEPA (2007) ProUCL software, and defines a site-specific background value of 71mg/kg for total PAHs. NYSDEC has determined that for purposes of this analysis that 70 mg/kg can be used as the site-specific background value for total PAHs and should be used as the baseline for comparison of MGP impacted material adjacent to the site. Comparison of the site total PAH data with the site-specific background value shows that 39 of the locations from the study area in the East River adjacent to Stuyvesant Cove Park exceed the background value. One additional location exceeds the Benthic Chronic Criteria for benzene. These locations were generally collected within or adjacent to areas with visible MGP impacts, except in the northern portion of the investigated area where high total PAH concentrations appear to be related to urban runoff at a stormwater outfall.

Surface and shallow sediment samples were collected at the three permitted stormwater discharge points located along Stuyvesant Cove Park and at two stormwater discharge points that do not collect stormwater from the former MGP site. The outfall sediment sample analytical results vary by location and do not suggest a trend associated with the former MGP operations. Sediment variation and distribution and total PAH concentrations in surface sediments near outfall #NCM047suggest that deposition is occurring in the vicinity of EROF01 due to stormwater discharge at outfall #NCM047 and that the high total PAH concentrations may be attributable to the runoff at this location.

Three sets of surface water samples were collected from five locations in the river investigation area to characterize the surface water quality adjacent to the site. Based on the surface water analytical results, it is evident that the MGP impacts identified in subsurface soil, groundwater and sediments are not causing surface water quality impacts adjacent to the site.

Based on the combined findings from the SCS and RI, it is apparent that the deep, lenses and stringers of MGP impacts originating in the northeast portion of OU1 have migrated east and beneath the East River until reaching the sediment surface and discharging at some locations. The combination of the visible impact and

total PAH data distribution and the nature of the river adjacent to Stuyvesant Cove Park further suggest that these impacts are likely reworked by the tides and currents in the East River and redeposited along the shoal area as sheen and stain impacts. The visible stain and sheen in sediments that are shallower and closer to shore may also be related to overland flow and/or material handling along the piers during the MGP operations as well as deposition from more recent urban runoff, marina operations, East River boat traffic, and atmospheric particulate matter. The background sediment evaluation demonstrates the effect of other urban background contributions to surface sediments adjacent to Stuyvesant Cove Park and in other portions of the East River. The MGP-related subsurface soil, groundwater, and sediment impacts have not affected the quality of surface water adjacent to the site.

A qualitative human health exposure assessment was performed to identify the potential exposure pathways associated with impacted media for subsurface utility workers, outdoor maintenance workers, and visitors in the OU2 land areas and for the potential for human exposure to impacted sediment in the East River adjacent to Stuyvesant Cove Park. Subsurface utility workers who perform excavation or repair work in the roadway areas in limited areas of East 23rd Street, Avenue C and the FDR Drive, First Avenue and Stuyvesant Cove Park could possibly be exposed to NAPL, impacted soil, and/or groundwater, therefore, subsurface work should only be performed by properly trained personnel, using methods specified in a HASP or only after the area has been cleared of impacted media. The assessment indicates that there do not appear to be complete exposure pathways for exposure to MGP residuals in the East River.

A fish and wildlife resources impact analysis was conducted in accordance with NYSDEC DER-10 for the right of ways/roadways adjacent to the Peter Cooper Village Property; Stuyvesant Cove Park, and the East River. The East River is of value to the public for secondary recreation and commercial use. The East River is not classified for primary contact (i.e., swimming) or as a drinking water source. Commercial traffic is high as this waterway connects the Atlantic Ocean, Harlem River, and Long Island Sound. The East River is a highly urbanized river that is impacted from a large number of point and nonpoint sources, with PAHs being ubiquitous in shallow sediments. NAPL and total PAHs, at concentrations exceeding the site-specific background value (70 mg/kg), are present adjacent to the site. These impacts, as well as other non-MGP related impacts may have the potential to result in ecological impacts to the East River (i.e., some constituents exceed NYSDEC screening criteria). However, the OU2 impacted sediment area is relatively limited and likely does not contribute significantly to the river as a whole.

9.0 Recommendations

Based on the combined findings of the SCS and RI, the following activities are recommended for the site:

- The general delineation of impacts in lower fill/natural soil, deep sediments, groundwater, and surface sediments associated with the former MGP within OU2 has been completed to a sufficient degree to begin the evaluation of appropriate remedial technologies and the development and evaluation of remedial alternatives for the impacts identified at the site for inclusion in an Alternatives Analysis Report. It is recommended that the remedial alternative evaluation for OU2 be initiated. If additional delineation, characterization, or physical property data are necessary for remedial alternative evaluation or remedial action implementation, it is recommended that they be collected during a pre-design investigation.

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Tables

Table 3-1
Summary of OU2 RI Surface Soil Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample ID	Depth Interval (ft bgs)	Date Collected	Sample Collection Method	Sample Rationale	Laboratory Analysis
20CH100(0-0.2)	0 - 0.2	2/16/2006	Stainless steel trowel	Delineate soil conditions south of 21CH007.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
20GH100(0-0.2)	0 - 0.2	2/16/2006	Stainless steel trowel	Delineate soil conditions south of 21GH017.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT100(0-0.2)	0 - 0.2	3/31/2006	Stainless steel trowel	Delineate soil conditions east of 21DT006.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)

Notes:
ft bgs = feet below ground surface
VOCs + 10 TICs - TCL volatile organic compounds plus 10 tentatively identified compounds using USEPA Method 8260B
SVOCs +20 TICs - TCL semivolatile organic compounds plus 20 tentatively identified compounds using USEPA Method 8270C
TCL - Target Compound List
Cn - Cyanide, total and available using USEPA Methods 9012 A and MCAWW 1677, respectively.
TAL Metals - Target Analyte List Metals using USEPA Methods 6010 and 7471.

Table 3-2
Summary of OU2 Upper Fill Soil Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample ID	Depth Interval (ft bgs)	Date Collected	Sample Collection Method	Sample Rationale	Laboratory Analysis
20PF101(0.2-5)	0.2-5.0	2/17/2006	Stainless steel trowel/ hand auger/posthole digger	Delineate soil conditions south of 21PF007.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT101(0.2-5)	0.2-5.0	3/28/2006	Stainless steel trowel/ hand auger/posthole digger	Delineate soil conditions east of 21DT004.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT101(4-5)	4.0-5.0	3/28/2006	Stainless steel trowel/ hand auger/posthole digger	Delineate soil conditions east of 21DT004.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT102(0.2-5)	0.2-5	4/7/2006	Stainless steel trowel/ hand auger/posthole digger	Delineate soil conditions north and east of 21DT004.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT103(0.2-0.5)	0.2-0.5	4/3/2006	Stainless steel trowel/ hand auger/posthole digger	Delineate soil conditions north and east of 21DT004 and 21RE005.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)

Notes:

ft bgs = feet below ground surface

VOCs 10 TICs - TCL volatile organic compounds plus 10 tentatively identified compounds using USEPA Method 8260B

SVOCs 20 TICs - TCL semivolatile organic compounds plus 20 tentatively identified compounds using USEPA Method 8270C

TCL - Target Compound List

Cn - Cyanide, total and available using USEPA Methods 9012 A and MCAWW 1677, respectively.

TAL Metals - Target Analyte List Metals using USEPA Methods 6010 and 7471.

Table 3-3
Summary of OU2 RI Lower Fill/Natural Soil Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample ID	Depth Interval (ft bgs)	Date Collected	Sample Collection Method	Sample Rationale	Laboratory Analysis
20CH101(13-15)	13-15	2/27/2006	Split spoon	Evaluate soil conditions south of CH-series borings including PAHs from 13 to 15 in 21CH004.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
20CH101(29-31)	29-31	2/27/2006	Split spoon	Evaluate soil conditions south of CH-series borings and to characterize soil quality immediately below the peat layer.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
20CH101(51-53)	51-53	2/28/2006	Split spoon	Evaluate soil conditions south of the CH-series borings and to document soil quality at the total depth of the boring.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
20CH102(22-23)	22-23	5/22/2008	Split spoon	To characterize staining and MGP odor noted at 22-23.3 ft bgs.	VOCs and SVOCs
20CH102(26-26.9)	26-26.9	5/22/2008	Split spoon	To evaluate vertical extent of shallower impact and to delineate horizontal extent of total SVOC exceedances of the RSCO detected between 20 and 30 ft bgs in borings 21CH00.	VOCs and SVOCs
20GH100(13-15)	13-15	3/1/2006	Split spoon	Delineate soil conditions south of the CH-series borings including VOC and PAH impacts noted at 13 to 15 ft bgs in 21GH017 during previous investigations.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
20GH100(19-21)	19-21	3/1/2006	Split spoon	Evaulate soil conditions south 21GH017 and to characterize quality of peat layer.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
20GH100(35-37)	35-37	3/1/2006	Split spoon	Evaluate soil conditions south of 21GH017 at a deeper depth for vertical delineation.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
20GH101(13-15)	13-15	3/3/2006	Split spoon	Delineate soil conditions south of GH-series borings including PAH impacts noted at this depth interval in 21GH022 during previous investigations.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
20GH101(29-31)	29-31	3/3/2006	Split spoon	Delineate soil conditions south of GH-series borings including PAHs noted in this depth interval in 23GH015 during previous investigations.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
20GH101(37-39)	37-39	3/3/2006	Split spoon	Delineate soil conditions south of GH-series borings at a depth below previously noted impacts and at the total depth of this boring.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
20GH102(39-41)	39-41	3/7/2006	Split spoon	Delineate soil conditions south and west of GH-series borings including PAH impacts noted at this depth interval in 21GH014 during previous investigations.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
*20MWD16(7-9)	7-9	3/7/2006	Split spoon	Evaluate soil conditions south of the PF-series borings including PAH impacts noted at this depth interval in 21PF010 during previous investigations.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
20MWD16(35-37)	35-37	3/7/2006	Split spoon	Evaluate the western extent of trace sheen spots noted at this depth in adjacent boring 20CH101 during the RI investigation.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
20SE101(22-24)	22-24	6/26/2008	Split spoon	To characterize staining and MGP odor noted 22 to 24.3 ft bgs and to evaluate horizontal extent of VOC and/or SVOC exceedance of RSCOs at 21OT005 and 21OT006 from 23 to 27 ft bgs.	VOCs and SVOCs
20SE101(25-29)	25-29	6/26/2008	Split spoon	To characterize staining and MGP odor noted between 24.3 and 28.6 ft bgs and to evaluate horizontal extent of VOC and/or SVOC exceedance of RSCOs at 21OT005 and 21OT006 from 23 to 27 ft bgs.	VOCs and SVOCs
20SE101(30-34)	30-34	6/26/2008	Split spoon	To evaluate vertical extent of shallower impacts.	VOCs and SVOCs
20SE101(66-68)	66-68	6/26/2008	Split spoon	To characterize soil quality near the base of the borehole.	VOCs and SVOCs

Table 3-3
Summary of OU2 RI Lower Fill/Natural Soil Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample ID	Depth Interval (ft bgs)	Date Collected	Sample Collection Method	Sample Rationale	Laboratory Analysis
23N101(17.5-20)	17.5-20	5/3/2006	Macrocore	Delineate the northern extent of impacts noted between 17 and 19 ft bgs in 23GH101.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
23N101(30-35)	30-35	5/4/2006	Macrocore	Delineate the northern extent of impacts noted between 32 and 33 ft bgs in 23GH102.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
23N101(55-60)	55-60	5/4/2006	Macrocore	Delineate the northern extent of impacts noted in the groundwater grab sample collected from 21MWDD03 in April 2006.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
23N102(13-15)	13-15	5/2/2006	Split spoon	Delineate the northern extent of visible impacts noted between 11 and 19 ft bgs in 23RE102.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
23N102(19-23)	19-23	5/2/2006	Split spoon	Delineate the northern extent of visible impacts noted between 19 and 23 ft bgs in 23RE102.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
23N102(31-33)	31-33	5/2/2006	Split spoon	Delineate the northeastern extent of visible impacts noted between 32 and 33 ft bgs in 23GH102.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
AC101(10-15)	10-15	4/27/2006	Macrocore	Delineate the northeastern extent of visible impacts noted between 11-19 ft bgs in 23RE102.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
AC101(29-30)	29-30	4/27/2006	Macrocore	Delineate the northern extent of visible impacts noted between 20 and 32 ft bgs in 21RE101.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
AC101(35-40)	35-40	4/27/2006	Macrocore	Delineate the northern extent of visible impacts noted from 37 to 39 ft bgs in 21RE101.E62	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
AC101(55-60)	55-60	4/28/2006	Macrocore	Evaluate soil quality at a depth interval coincident with and north of impacts noted in the groundwater grab sample collected from 23MWDD12 in April 2006.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
AC101(65-70)	65-70	4/28/2006	Macrocore	Evaluate soil quality at a depth interval deeper than and north of the impacts noted in the groundwater sample collected from 23MWDD12 in April 2006 to evaluate vertical extent of impacts.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
AC101(70-72)	70-72	5/9/2006	Macrocore	Evaluate soil quality at a depth interval deeper than and north of the impacts noted in the groundwater sample collected from 23MWDD12 in April 2006 to evaluate vertical extent of impacts.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
AC103(10-15)	10-15	8/7/2008	Split spoon	To evaluate the horizontal extent of total VOCs and some SVOCs exceeding RSCOs in boring AC101 between 10 and 15 ft bgs.	VOCs and SVOCs
AC103(28-30)	28-30	8/7/2008	Split spoon	To evaluate the horizontal extent of total VOCs and some SVOCs exceeding RSCOs in boring AC101 between 29 and 30 ft bgs.	VOCs and SVOCs
AC103(32-34)	32-34	8/7/2008	Split spoon	To characterize the light gray staining observed from 32.45 to 34 ft bgs.	VOCs and SVOCs
AC103(34-36)	34-36	8/7/2008	Split spoon	To evaluate vertical extent of the shallower staining.	VOCs and SVOCs
EBDT100(26.6-29)	26.6-29	4/4/2006	Split spoon	Evaluate soil conditions east of the DT-series borings and to characterize NAPL noted at this interval.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT100(55-56.42)	55-56.42	4/12/2006	Split spoon	Evaluate soil conditions east of the DT-series borings and to characterize NAPL noted at this interval.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT100(61-63)	61-63	4/12/2006	Split spoon	Evaluate soil conditions east of the DT-series borings and determine vertical extent of overlying impacts.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)

Table 3-3
Summary of OU2 RI Lower Fill/Natural Soil Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample ID	Depth Interval (ft bgs)	Date Collected	Sample Collection Method	Sample Rationale	Laboratory Analysis
EBDT101(9-11)	9-11	3/30/2006	Split spoon	Evaluate soil conditions east of the DT-series borings and to characterize the source of OLM blebs noted at this interval.	Fingerprint
EBDT101(23-27)	23-27	3/31/2006	Split spoon	Evaluate soil conditions east of the DT-series borings and to characterize TLM and OLM noted at this interval.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT101(41-45)	41-45	3/31/2006	Split spoon	Evaluate soil conditions east of the DT-series borings and to determine vertical extent of overlying impacts.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT102(9-11)	9-11	4/7/2006	Split spoon	Evaluate soil conditions north and east of DT and RE-series borings. Characterize staining and odor.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT102(46-48)	46-48	4/10/2006	Split spoon	Evaluate soil conditions north and east of DT and RE-series borings and to characterize OLM noted in this interval.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT102(60-62)	60-62	4/10/2006	Split spoon	Evaluate soil conditions north and east of DT and RE-series borings and to determine vertical extent of overlying impacts.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT103(25-29)	25-29	4/5/2006	Split spoon	Evaluate soil conditions north and east of DT, RE, and AB-series borings and to characterize sheen and stained soils noted in this interval.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT103(39-41)	39-41	4/5/2006	Split spoon	Evaluate soil conditions north and east of DT, RE, and AB-series borings and to determine vertical extent of overlying impacts.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT103(65-69)	65-69	4/7/2006	Split spoon	Evaluate soil conditions north and east of DT, RE, and AB-series borings and to verify vertical extent at total depth of boring.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT104(21-23)	21-23	4/3/2006	Split spoon	Evaluate soil conditions east of DT-series borings.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT104(35-37)	35-37	4/3/2006	Split spoon	Evaluate soil conditions east of DT-series borings and to characterize black NAPL noted in this interval.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT104(43-45)	43-45	4/3/2006	Split spoon	Evaluate soil conditions east of DT-series borings and to determine the vertical extent of overlying impacts.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT105(34-36)	34-36	4/4/2006	Split spoon	Evaluate soil conditions north and east of DT-series borings and to characterize tar like odors in this interval.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBDT105(40-42)	40-42	4/4/2006	Split spoon	Evaluate soil conditions east of DT-series borings and to determine the vertical extent of overlying odor impacts.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBOT101(27-29)	27-31	4/7/2006	Split spoon	Evaluate soil conditions east of OT-series borings and to characterize OLM NAPL saturation in this interval.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBOT101(55-57)	55-57	4/7/2006	Split spoon	Evaluate soil conditions east of OT-series borings and to characterize runny brown NAPL in this interval.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBOT101(61-63)	61-63	4/7/2006	Split spoon	Evaluate soil conditions east of OT-series borings and to determine the vertical extent of overlying impacts.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBOT102(24-28)	24-28	3/28/2006	Split spoon	Evaluate soil conditions east of OT-series borings and to characterize TLM impacts in this interval.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBOT102(45-47)	45-47	3/29/2006	Split spoon	Evaluate soil conditions east of OT-series borings and to characterize TLM and OLM impacts in this interval.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)
EBOT102(49-51)	49-51	3/29/2006	Split spoon	Evaluate soil conditions east of OT-series borings and to determine the vertical extent of overlying impacts.	VOCs + 10 TICs, SVOCs + 20 TICs, TAL Metals, Cn (total and available)

Table 3-3
Summary of OU2 RI Lower Fill/Natural Soil Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample ID	Depth Interval (ft bgs)	Date Collected	Sample Collection Method	Sample Rationale	Laboratory Analysis
EBSC101(6-8)	6-8	9/4/2008	Split spoon	To characterize the strong petroleum like odor noted from 6.5 to 8.2 ft bgs.	VOCs and SVOCs
EBSC101(24-26)	24-26	9/4/2008	Split spoon	To characterize sheen, OLO, MGPO observed in this interval.	VOCs and SVOCs
EBSC101(46-48)	46-48	9/4/2008	Split spoon	To characterize sheen and PLO observed in this interval.	VOCs and SVOCs
EBSC101(76-78)	76-78	9/4/2008	Split spoon	To characterize soil quality at the base of the boring.	VOCs and SVOCs

Notes:
ft bgs = feet below ground surface
TLM - Tar Like Material
OLM - Oil Like Material
NAPL - Non-Aqueous Phase Liquid
MGPO - Manufactured Gas Plant-Like+A8 Odor
PLO -Petroleum-Like Odor
TCL - Target Compound List
VOCs + 10 TICs - TCL volatile organic compounds plus 10 tentatively identified compounds using EPA Method 8260B
SVOCs 20 TICs - TCL semivolatile organic compounds plus 20 tentatively identified compounds using EPA Method 8270C
Cn - Cyanide, total and available using EPA Methods 9012 A and MCAWW 1677, respectively.
TAL Metals - Target Analyte List Metals using EPA Methods 6010 and 7471.
* 20MW16D is the same as 20PF102

Table 3-4
Summary of OU2 RI Forensic Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample ID	Depth Interval (ft bgs)	Date Collected	Sample Collection Method	Sample Rationale	Laboratory Analysis
EBDT101(9-11)	9-11	3/29/2006	Stainless steel trowel/ hand auger/posthole digger	Characterize source of reddish-brown OLM observed in soil.	Fingerprint*
EBMWDD15	59-69	5/24/2006	Low flow	Characterize source of NAPL observed in well.	Fingerprint
LR17	3-13	5/25/2006	grab	Determine type of oil observed in well.	Fingerprint

Notes:
ft bgs - feet below ground surface
Fingerprint analysis performed by META Environmental, Inc.
*- fingerprint analysis performed by CHEMTECH

Table 3-5
RI Monitoring Well Installation and Groundwater Grab Sample Rationale
Former East 21st Street Works, New York, New York

Monitoring Well ID	Screen Depth	Date Installed	Groundwater Sampling Rationale
OU1 Monitoring Well Information			
21MWDD03	50-60	3/9/2006	Evaluate deep overburden groundwater and possible NAPL beneath former source areas along the estimated center-line of deep overburden groundwater plume where no data previously existed.
			Evaluate deep groundwater quality to help guide subsequent boring installation and sampling and monitoring well construction.
21MWDD04	61-71	3/21/2006	Evaluate deep overburden groundwater and possible NAPL beneath former source areas near estimated center-line of intermediate overburden groundwater plume where no deep data previously existed.
21MWDD08	48-58	3/27/2006	Evaluate deep overburden groundwater beneath former source areas along the estimated center-line of deep overburden groundwater plume where no data previously existed.
23MWS11	3-13	2/22/2006	Evaluate northern extent of shallow groundwater impacts to the northeast of monitoring well 21MWS09.
23MWD11	25-35	2/22/2006	Evaluate northern extent of intermediate groundwater impacts to the northeast of monitoring well 21MWD09.
23MWS12	2-12	2/21/2006	Determine shallow groundwater conditions northeast and downgradient of the former MGP and to the northeast of monitoring well 21MWS07.
23MWD12	25-35	2/16/2006	Determine intermediate groundwater conditions northeast and downgradient of the former MGP and to the northeast of monitoring well 21MWD07.
23MWDD12	50-60	2/21/2006	Determine deep groundwater conditions downgradient of the former MGP and to the northeast of 21MWS07 and 21MWD07. Evaluate deep overburden groundwater quality along estimated center-line of intermediate overburden groundwater plume where no data previously existed.
			Evaluate deep groundwater quality to help guide subsequent boring installation and sampling and monitoring well construction.
OU2 Monitoring Well Information			
EBMWD13	25-35	4/6/2006	Determine groundwater conditions downgradient of the former MGP and to the northeast of monitoring wells 21MWS04, 21MWD04, 21MWS07, 21MWD07, 21MWS10, and 21MWD10. Evaluate potential for site impacts on the East River.
EBMWDD13	59-69	4/7/2006	Determine deep overburden groundwater conditions downgradient of the former MGP and along the estimated center-line of the deep overburden groundwater plume where no data previously existed. Evaluate potential for site impacts on the East River.
EBMWD14	25-35	4/3/2006	Determine groundwater conditions downgradient of the former MGP and to the northeast of monitoring wells 21MWS04 and 21MWD04. Evaluate potential for site impacts on the East River.
EBMWDD14	60-70	3/30/2005	Determine groundwater conditions downgradient of the former MGP and to the northeast of monitoring wells 21MWS04, 21MWD04, and 21MWDD04. Evaluate deep overburden groundwater quality east of where NAPL is present at 21MWD04 and 21MWDD04. Evaluate potential for site impacts on the East River.
EBMWD15	25-35	4/4/2006	Determine groundwater conditions downgradient of the former MGP and to the east of monitoring wells 21MWS04, 21MWD04, 21MWS10, and 21MWD10. Evaluate potential for site impacts on the East River.
EBMWDD15	59-69	4/4/2006	Determine groundwater conditions downgradient of the former MGP and to the southeast of monitoring wells 21MWS04 and 21MWD04. Evaluate deep overburden groundwater quality east of where NAPL is present at 21MWD04 and 21MWDD04 where no data previously existed. Evaluate potential for site impacts on the East River.
20MWS16	5-15	3/7/2006	Determine shallow groundwater conditions south of former MGP and monitoring well 21MWS06.
20MWD16	25-35	3/7/2006	Determine intermediate groundwater conditions south of former MGP and monitoring well 21MWD06.
20MWS17	5-15	3/23/2006	Determine shallow groundwater conditions south of former MGP and monitoring well 21MWS08.
20MWD17	25-35	3/23/2006	Determine intermediate groundwater conditions south of former MGP and monitoring well 21MWD08.

Table 3-5
RI Monitoring Well Installation and Groundwater Grab Sample Rationale
Former East 21st Street Works, New York, New York

Monitoring Well ID	Screen Depth	Date Installed	Groundwater Sampling Rationale
OU2 Monitoring Well Information			
EBMWD18	**25-35**	4/6/2006	Determine groundwater conditions downgradient of the former MGP and to the east of monitoring wells 21MWS05 and 21MWD05. Evaluate potential for site impacts on the East River.
EBMWDD18	**50-60**	3/29/2006	Determine deep overburden groundwater conditions downgradient of the former MGP and to the east of monitoring wells 21MWS05 and 21MWD05 where no data previously existed. Evaluate potential for site impacts on the East River. Evaluate deep groundwater quality to help guide subsequent boring installation and sampling and monitoring well construction.
23MWDD20	50-60	5/3/2006	Determine groundwater conditions north-northwest of deeper groundwater impacts in 21MWDD03 and 23MWDD12.
LR17	3-13	5/25/2006	Determine type of oil
AC101(13-15)	NA	4/27/2006	Determine impacts to shallow groundwater north of 23MWS12.
AC101(28-30)	NA	4/27/2006	Determine impacts to intermediate groundwater north of 23MWD12.
AC101(58-60)	NA	4/28/2006	Determine impacts to deep groundwater north of 23MWDD12.
AC101(60-64)	NA	5/9/2006	Determine vertical extent of groundwater impacts north-northeast of the site.
AC101(66-70)	NA	5/5/2006	Determine vertical extent of groundwater impacts north-northeast of the site.
23N101(15-19)	NA	5/3/2006	Determine shallow groundwater impacts north-northeast of 23MW11S and north-northwest of 23GH102.
23N101(32-35)	NA	5/5/2006	Determine intermediate groundwater impacts north-northeast of 23MWD11 and north-northwest of 23GH102.
23N101(56-60)	NA	5/5/2006	Determine vertical extent of groundwater impacts to the north of the western portion of the site.
23MWD22	26-36	8/7/2008	Evaluate extent of groundwater impacts to the northeast
20MWD23	25-35	5/22/2008	Evaluate southern extent of intermediate groundwater impacts
EBMWD24	25-35	5/22/2008	Evaluate southern extent of intermediate groundwater impacts
EBMWDD24	60-70	6/27/2008	Evaluate southern and vertical extent of deep groundwater impacts
EBMWD25	26-36	9/9/2008	Evaluate southern extent of intermediate groundwater impacts
EBMWDD25	63-73	9/5/2008	Evaluate southern and vertical extent of deep groundwater impacts

Notes:
ft bgs - feet below ground surface
S - Shallow water table wells
D - Intermediate overburden wells
DD - Deep overburden wells
NA - Not Applicable

Table 3-6
Summary of RI Groundwater Sampling and Rationale
Former East 21st Street Works, New York, New York

Monitoring Well ID	Screen Depth	Date Installed	Groundwater Sampling Rationale	Groundwater Sampling	
				Method (date)	Laboratory Analysis
OU1 Monitoring Well Information					
21MWS01	5-15	3/19/04	Upgradient shallow groundwater quality	Low flow (5/23/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
				Low flow (08/28/2008)	VOCs, SVOCs, MNA
21MWD01	23-23	3/22/04	Upgradient intermediate groundwater quality	Low flow (5/23/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
				Low flow (08/28/2008)	VOCs, SVOCs, MNA
21MWS02	5-15	3/11/04	Characterize shallow groundwater impacts	Low flow (5/16/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (08/29/2008)	VOCs, SVOCs
21MWD02	25-35	3/11/04	Characterize intermediate groundwater impacts	Low flow (5/16/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (08/29/2008)	VOCs, SVOCs
21MWS03	5-15	3/12/04	Characterize shallow groundwater impacts along presumed plume centerline	Low flow (5/23/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
				Low flow (09/02/2008)	VOCs, SVOCs, MNA
21MWD03	25-35	3/12/04	Characterize intermediate groundwater impacts where NAPL is present along presumed plume centerline	Low flow (5/23/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
21MWDD03	50-60	3/9/06	Evaluate deep groundwater quality to help guide subsequent boring installation and sampling and monitoring well construction.	Grab (4/12/2006)	VOCs
			Evaluate vertical extent of groundwater impacts along presumed plume centerline	Low flow (5/23/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
				Low flow (09/02/2008)	VOCs, SVOCs, MNA
21MWS04	3-13	3/8/04	Characterize shallow groundwater impacts along presumed plume centerline	Low flow (5/25/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (09/02/2008)	VOCs, SVOCs
21MWD04	25-35	3/8/04	Characterize intermediate groundwater impacts where NAPL is present along presumed plume centerline	Low flow (5/25/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
21MWDD04	61-71	3/21/06	Evaluate vertical extent of groundwater impacts along presumed plume centerline	Low flow (5/25/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
21MWS05	3-13	3/12/04	Evaluate downgradient shallow groundwater quality	Low flow (5/17/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (09/04/2008)	VOCs, SVOCs
21MWD05	26-36	3/11/04	Evaluate downgradient intermediate groundwater quality	Low flow (5/17/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (09/04/2008)	VOCs, SVOCs
21MWS06	4-14	3/10/04	Characterize shallow groundwater impacts	Low flow (5/17/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (08/29/2008)	VOCs, SVOCs
21MWD06	25-35	3/10/04	Characterize intermediate groundwater impacts	Low flow (5/17/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (08/29/2008)	VOCs, SVOCs
21MWS07	4-14	3/9/04	Characterize shallow groundwater impacts	Low flow (5/18/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (09/11/2008)	VOCs, SVOCs
21MWD07	25-35	3/9/04	Characterize intermediate groundwater impacts	Low flow (5/23/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)

Table 3-6
Summary of RI Groundwater Sampling and Rationale
Former East 21st Street Works, New York, New York

Monitoring Well ID	Screen Depth	Date Installed	Groundwater Sampling Rationale	Groundwater Sampling	
				Method (date)	Laboratory Analysis
21MWS08	6-16	3/12/04	Characterize shallow groundwater impacts	Low flow (5/24/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (08/28/2008)	VOCs, SVOCs
21MWD08	25-35	3/12/04	Characterize intermediate groundwater impacts	Low flow (5/24/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (08/28/2008)	VOCs, SVOCs
21MWDD08	48-58	3/27/06	Evaluate vertical extent of groundwater impacts along presumed plume centerline	Low flow (5/24/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (09/02/2008)	VOCs, SVOCs
21MWS09	5-15	2/3/04	Characterize shallow groundwater impacts	Low flow (5/17/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (08/29/2008)	VOCs, SVOCs
21MWD09	25-35	2/3/04	Characterize intermediate groundwater impacts	Low flow (5/17/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (08/28/2008)	VOCs, SVOCs
21MWS10	6-16	3/5/04	Characterize shallow groundwater impacts	Low flow (5/18/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (09/02/2008)	VOCs, SVOCs
21MWD10	25-35	3/5/04	Characterize intermediate groundwater impacts	Low flow (5/19/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
23MWS11	3-13	2/22/06	Evaluate northern extent of groundwater impacts to the northeast of well MW-09 pair.	Low flow (5/25/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
				Low flow (09/08/2008)	VOCs, SVOCs, MNA
23MWD11	25-35	2/22/06	Evaluate northern extent of intermediate groundwater impacts	Low flow (5/25/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
				Low flow (09/08/2008)	VOCs, SVOCs, MNA
23MWS12	2-12	2/21/06	Evaluate northeastern extent and characterize shallow groundwater impacts	Low flow (5/22/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
				Low flow (09/08/2008)	VOCs, SVOCs, MNA
23MWD12	25-35	2/16/06	Evaluate northeastern extent and characterize intermediate groundwater impacts	Low flow (5/22/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
23MWDD12	50-60	2/21/06	Evaluate deep groundwater quality to help guide subsequent boring installation and sampling and monitoring well construction.	Grab (4/12/2006)	VOCs
			Evaluate northeastern extent and characterize deep groundwater impacts	Low flow (5/22/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
			Evaluate vertical extent of groundwater impacts along presumed plume centerline	Low flow (09/08/2008)	VOCs, SVOCs, MNA

Table 3-6
Summary of RI Groundwater Sampling and Rationale
Former East 21st Street Works, New York, New York

Monitoring Well ID	Screen Depth	Date Installed	Groundwater Sampling Rationale	Groundwater Sampling	
				Method (date)	Laboratory Analysis
OU2 Monitoring Well Information					
EBMWD13	25-35	4/6/06	Evaluate downgradient intermediate groundwater quality	Low flow (5/22/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
EBMWDD13	59-69	4/7/06	Evaluate vertical extent of groundwater impacts	Low flow (5/22/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
				Low flow (09/03/2008)	VOCs, SVOCs, MNA
EBMWD14	25-35	4/3/06	Evaluate downgradient intermediate groundwater quality	Low flow (5/19/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
EBMWDD14	60-70	3/31/06	Evaluate downgradient vertical extent of impacts	Low flow (5/19/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
			Evaluate vertical extent of groundwater impacts	Low flow (08/27/2008)	VOCs, SVOCs
EBMWD15	25-35	4/4/06	Evaluate downgradient intermediate groundwater quality	Low flow (5/24/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (09/03/2008)	VOCs, SVOCs, MNA
EBMWDD15	59-69	4/4/06	Evaluate downgradient vertical extent of impacts	Low flow (5/24/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
20MWS16	5-15	3/7/06	Evaluate southern extent of shallow groundwater impacts	Low flow (5/24/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
				Low flow (09/09/2008)	VOCs, SVOCs, MNA
20MWD16	25-35	3/7/06	Evaluate southern extent of intermediate groundwater impacts	Low flow (5/24/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
				Low flow (09/09/2008)	VOCs, SVOCs, MNA
20MWS17	5-15	3/23/06	Evaluate southern extent of shallow groundwater impacts	Low flow (5/18/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (09/05/2008)	VOCs, SVOCs
20MWD17	25-35	3/23/06	Evaluate southern extent of intermediate groundwater impacts	Low flow (5/18/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (09/05/2008)	VOCs, SVOCs
EBMWD18	**25-35**	4/6/06	Evaluate downgradient intermediate groundwater quality	Low flow (5/18/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
EBMWDD18	50-60	3/29/06	Evaluate deep groundwater quality to help guide subsequent boring installation and sampling and monitoring well construction.	Grab (4/12/2006)	VOCs
			Evaluate downgradient vertical extent of impacts	Low flow (5/18/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
			Evaluate vertical extent of groundwater impacts	Low flow (09/04/2008)	VOCs, SVOCs, MNA
23MWDD20	50-60	5/3/06	Evaluate northern extent of deep groundwater impacts	Low flow (5/25/2006)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
				Low flow (09/08/2008)	VOCs, SVOCs, MNA
23MWD22	26-36	8/7/08	Characterize shallow groundwater impacts	Low flow (09/26/2008)	VOCs, SVOCs
20MWD23	25-35	5/22/08	Evaluate southern extent and characterize intermediate groundwater impacts	Low flow (09/29/2008)	VOCs, SVOCs
EBMWD24	25-35	6/27/08	Evaluate southern extent and characterize intermediate groundwater impacts	Low flow (09/25/2008)	VOCs, SVOCs, MNA (9/26/08)
EBMWDD24	60-70	6/27/08	Evaluate vertical extent of groundwater impacts	Low flow (09/25/2008)	VOCs, SVOCs, MNA (9/26/08)
EBMWD25	26-36	9/9/08	Evaluate southern extent and characterize intermediate groundwater impacts	Low flow (09/25/2008)	VOCs, SVOCs, MNA (9/26/08)
EBMWDD25	63-73	9/5/08	Evaluate vertical extent of groundwater impacts	Low flow (09/25/2008)	VOCs, SVOCs, MNA (9/26/08)
LR02	4-14	3/16/05	Evaluate downgradient shallow groundwater quality	Low flow (5/22/06)	VOCs, SVOCs, MNA, TAL Metals, Cn (total and available)
				Low flow (09/04/2008)	VOCs, SVOCs

Table 3-6
Summary of RI Groundwater Sampling and Rationale
Former East 21st Street Works, New York, New York

Monitoring Well ID	Screen Depth	Date Installed	Groundwater Sampling Rationale	Groundwater Sampling	
				Method (date)	Laboratory Analysis
LR08	4-14	3/17/05	Evaluate downgradient shallow groundwater quality	Low flow (5/19/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (08/27/2008)	VOCs, SVOCs
LR11	3-13	3/22/05	Evaluate downgradient shallow groundwater quality	Low flow (5/24/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
LR17	3-13	3/22/05	Evaluate downgradient shallow groundwater quality	Low flow (5/19/2006)	VOCs, SVOCs, TAL Metals, Cn (total and available)
				Low flow (09/05/2008)	VOCs, SVOCs
AC101(13-15)	NA	4/27/06	Determine impacts to shallow groundwater north of 23MWS12.	Discrete point grab	VOCs
AC101(28-30)	NA	4/27/06	Determine impacts to intermediate groundwater north of 23MWD12.	Discrete point grab	VOCs
AC101(58-60)	NA	4/28/06	Determine impacts to deep groundwater north of 23MWDD12.	Discrete point grab	VOCs
AC101(60-64)	NA	5/9/06	Determine vertical extent of groundwater impacts north-northeast of the site.	Discrete point grab	VOCs
AC101(66-70)	NA	5/5/06	Determine vertical extent of groundwater impacts north-northeast of the site.	Discrete point grab	VOCs
23N101(15-19)	NA	5/3/00	Determine shallow groundwater impacts north-northeast of 23MW11S and north-northwest of 23GH102.	Discrete point grab	VOCs
23N101(32-35)	NA	5/5/06	Determine intermediate groundwater impacts north-northeast of 23MWD11 and north-northwest of 23GH102.	Discrete point grab	VOCs
23N101(56-60)	NA	5/5/06	Determine vertical extent of groundwater impacts to the north of the western portion of the site.	Discrete point grab	VOCs

Notes:
All groundwater samples to be collected using low-flow sampling protocols
bgs - below ground surface
S - Shallow water table wells
D - Intermediate overburden wells
DD - Deep overburden wells
NA - Not applicable
VOCs - TCL volatile organic compounds using USEPA Method 8260B
SVOCs - TCL semivolatile organic compounds using USEPA Method 8270C
Cn - Cyanide, total and available using USEPA Methods 9012 A and MCAWW 1677, respectively.
TAL Metals - Target Analyte List Metals using USEPA Methods 6010 and 7471.
MNA Parameters Include:
nitrate, sulfate, sulfide, total iron and manganese, dissolved iron and manganese, alkalinity, dissolved gasses (nitogen, oxygen, methane, carbon dioxide)

Table 3-7
Summary of OU2 RI Soil Gas Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample ID	Depth Interval (ft bgs)	Date Collected	Sample Rationale	Laboratory Analysis
20SG101	4 - 5	2/21/2006	Coincident with monitoring well pair 20MWS/D17 to evaluate soil gas quality south of the former MGP site.	VOCs
20SG102	4 - 5	3/1/2006	Coincident with boring 20PF101 to evaluate soil gas quality south of the former MGP site. Due to shallow perched water at location 20PF101, soil gas sample 20SG102 was moved east to location 20PF102.	VOCs
20SG103	5.5-4.5	2/24/2006	Coincident with boring 20CH101 to evaluate soil gas quality south of the former MGP site.	VOCs

Notes:
ft bgs - feet below ground surface

VOCs - volatile organic compounds and naphthalene, 2methylpentane, isopentane, 2,3 dimethylpentane, isooctane, indene, indan, thiophane, and helium using USEPA Method TO-15.

Table 3-8
Summary of OU2 RI Surface Sediment Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample Location	Sample Rationale	Depth Interval	Laboratory Analysis	Laboratory Analyses
ERSSREF01	Evaluate sediment quality in the East River, north of East 23rd Street.	0-0.5	Yes	VOC, SVOC, TOC, Soot, Saturated TPH
ERSSREF02	Evaluate sediment quality in the East River, south of East 20th Street.	0-0.5	Yes	VOC, SVOC, TOC, Soot, Saturated TPH
ERSSREF04	Evaluate surface sediment quality in the East River.	0-0.5	Yes	VOC, SVOC, TOC, Soot, Saturated TPH
ERSSREF05	Evaluate surface sediment quality in the East River.	0-0.5	Yes	VOC, SVOC, TOC, Soot, Saturated TPH
RB2 - RB3	Evaluate surface sediment quality adjacent to the site.	0-1	Yes	VOC, SVOC, TOC, Soot
RB4	Evaluate surface sediment quality adjacent to the site.	0-0.4	Yes	VOC, SVOC, TOC, Soot
RB5 - RB6	Evaluate surface sediment quality adjacent to the site.	0-0.5	Yes	VOC, SVOC, TOC, Soot
RB8 - RB14	Evaluate surface sediment quality in the sample area adjacent to the site.	0-1	Yes	VOC, SVOC, TOC, Soot
RB16 - RB34	Evaluate surface sediment quality in the sample area adjacent to the site.	0-0.5	Yes	VOC, SVOC, TOC, Soot
RB35	Evaluate surface sediment quality in the southern sample area southeast of the site.	0-0.5	Yes	VOC, SVOC, TOC, Soot, Fingerprint
RB36 - RB54	Evaluate surface sediment quality in the sample area adjacent to the site.	0-0.5	Yes	VOC, SVOC, TOC, Soot
RB55 - RB76	Evaluate surface sediment quality in the sample area adjacent to the site.	0-1	Yes	VOC, SVOC, TOC
GS05	Delineate the extent of the visible surface sediment impacts seen in RB11.	0-1	No	NA
GS06	Delineate the extent of the visible surface sediment impacts seen in RB11.	0-1	No	NA
GS07	Delineate the extent of the visible surface sediment impacts seen in RB08.	0-1	Yes	VOC, SVOC, TOC
GS08	Delineate the extent of the visible surface sediment impacts seen in RB08.	0-1	No	NA
GS09	Delineate the extent of the visible surface sediment impacts seen in RB08 and RB13.	0-1	Yes	VOC, SVOC, TOC
GS10	Delineate the extent of the visible surface sediment impacts seen in RB13.	0-1	No	NA
GS11	Delineate the extent of the visible surface sediment impacts seen in RB13 and RB29.	0-1	No	NA
GS12	Delineate the extent of the visible surface sediment impacts seen in RB14 and RB29.	0-1	No	NA
GS13	Characterize the visible impacts observed at this location.	0-1	Yes	VOC, SVOC, TOC
GS14	Characterize the visible impacts observed at this location.	0-1	Yes	VOC, SVOC, TOC
GS15	Delineate the extent of the visible surface sediment impacts seen in GS14.	0-1	No	NA
GS16	Delineate the extent of the visible surface sediment impacts seen in RB08.	0-1	Yes	VOC, SVOC, TOC

Table 3-8
Summary of OU2 RI Surface Sediment Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample Location	Sample Rationale	Depth Interval	Laboratory Analysis	Laboratory Analyses
GS17	Delineate the extent of the visible surface sediment impacts seen in RB50.	0-1	Yes	VOC, SVOC, TOC
GS18	Delineate the extent of the visible surface sediment impacts seen in RB50.	0-1	No	NA
GS19	Delineate the extent of the visible surface sediment impacts seen in RB11 and RB50.	0-1	No	NA
GS20	Delineate the extent of the visible surface sediment impacts seen in RB08.	0-1	No	NA
GS21	Delineate the extent of the visible surface sediment impacts seen in RB08.	0-1	Yes	VOC, SVOC, TOC
GS22	Delineate the extent of the visible surface sediment impacts seen in RB08 and RB13.	0-1	No	NA
GS23	Delineate the extent of the visible surface sediment impacts seen in RB13 and RB14.	0-1	No	NA
GS24	Delineate the extent of surface sediment impacts in the southeastern portion of the sample area.	0-1	Yes	VOC, SVOC, TOC
GS25	Delineate the extent of surface sediment impacts in the southeastern portion of the sample area.	0-1	Yes	VOC, SVOC, TOC
GS26	Delineate the extent of surface sediment impacts in the northeastern portion of the sample area.	0-1	Yes	VOC, SVOC, TOC
GS27	Delineate the extent of surface sediment impacts in the northeastern portion of the sample area and to the east of the marina currently in operation.	0-1	Yes	VOC, SVOC, TOC
GS28	Delineate the extent of surface sediment impacts in the northeastern portion of the sample area.	0-1	Yes	VOC, SVOC, TOC
GS29	Delineate the eastern extent of surface sediment impacts.	0-1	Yes	VOC, SVOC, TOC
GS30	Delineate the eastern extent of surface sediment impacts.	0-1	Yes	VOC, SVOC, TOC
GS31	Delineate the eastern extent of surface sediment impacts.	0-1	Yes	VOC, SVOC, TOC
GS32	Delineate the extent of the visible surface sediment impacts seen in RB13 and RB14.	0-1	No	NA
GS33	Delineate the extent of the visible surface sediment impacts seen in GS13 and RB13.	0-1	No	NA
GS34	Delineate the extent of the visible surface sediment impacts seen in GS16.	0-1	No	NA
GS35	Delineate the extent of the visible surface sediment impacts seen in RB14.	0-1	Yes	VOC, SVOC, TOC
GS36	Delineate the extent of the visible surface sediment impacts seen in RB14 and GS35.	0-1	Yes	VOC, SVOC, TOC
GS37	Delineate the extent of the visible surface sediment impacts seen in RB11.	0-1	Yes	VOC, SVOC, TOC

Table 3-8
Summary of OU2 RI Surface Sediment Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample Location	Sample Rationale	Depth Interval	Laboratory Analysis	Laboratory Analyses
GS38	Delineate the eastern extent of surface sediment impacts.	0-1	Yes	VOC
GS39	Delineate the extent of the visible surface sediment impacts seen in GS35.	0-1	Yes	VOC, SVOC, TOC
GS40	Delineate the extent of the visible surface sediment impacts seen in GS39.	0-1	Yes	VOC, SVOC, TOC
GS41	Delineate the extent of the visible surface sediment impacts seen in RB50 and RB68.	0-1	Yes	VOC, SVOC, TOC
GS42	Delineate the extent of the visible surface sediment impacts seen in RB69, GS14, and GS16.	0-1	Yes	VOC, SVOC, TOC
GS43	Delineate the extent of the visible surface sediment impacts seen in GS35, GS36, and GS39.	0-1	Yes	VOC, SVOC, TOC

Notes
NA - Not analyzed
VOC - Volatile Organic Compounds
SVOC - Semivolatile Organic Compounds
TOC - Total Organic Carbon
Soot - Soot Carbon
Fingerprint analysis includes: TOC, Soot, Saturated Total Petroleum Hydrocarbons (TPH), and Alkylated Polycyclic Aromatic Hydrocarbons (PAHs)

Table 3-9
Summary of OU2 RI Background Surface Sediment Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample Location	Sample Rationale	Depth Interval (ft btos)	Laboratory Analyses
BG01a BG01b BG01c	Determine background surface sediment conditions on the west side of the river to the north of the site in an area with a similar depositional environment.	0-1	VOC, SVOC, TOC
BG02a BG02b BG02c	Determine background surface sediment conditions on the east side of the river to the north of the site in an area with a similar depositional environment.	0-1	VOC, SVOC, TOC
BG03a BG03b BG03c	Determine background surface sediment conditions on the east side of the river to the north of the site in an area with a similar depositional environment.	0-1	VOC, SVOC, TOC
BG04a BG04b BG04c	Determine background surface sediment conditions on the east side of the river to the north of the site in an area with a similar depositional environment.	0-1	VOC, SVOC, TOC
BG05a BG05b BG05c	Determine background surface sediment conditions on the east side of the river to the north of the site in an area with a similar depositional environment.	0-1	VOC, SVOC, TOC
BG06a BG06b BG06c BG06d	Determine background surface sediment conditions on the east side of the river to across from the site in an area with a similar depositional environment.	0-1	VOC, SVOC, TOC
BG07a BG07b BG07c	Determine background surface sediment conditions on the east side of the river to the south of the site in an area with a similar depositional environment.	0-1	VOC, SVOC, TOC
BG08a BG08b BG08c	Determine background surface sediment conditions on the east side of the river to the north of the site in an area with a similar depositional environment.	0-1	VOC, SVOC, TOC
BG09a BG09b BG09c BG09d	Determine background surface sediment conditions on the east side of the river to the south of the site in an area with a similar depositional environment.	0-1	VOC, SVOC, TOC
BG10a BG10b BG10c	Determine background surface sediment conditions on the west side of the river to the south of the site in an area with a similar depositional environment.	0-1	VOC, SVOC, TOC
BG11a BG11b BG11c	Determine background surface sediment conditions on the west side of the river to the south of the site in an area with a similar depositional environment.	0-1	VOC, SVOC, TOC
BG12a BG12b BG12c	Determine background surface sediment conditions on the east side of the river to the south of the site in an area with a similar depositional environment.	0-1	VOC, SVOC, TOC
BG13a BG13b	Determine background surface sediment conditions at the confluence of the Hudson and East Rivers, south of the site with a similar depositional environment.	0-1	VOC, SVOC, TOC

Notes
ft btos - feet below top of sediment
VOC - Volatile Organic Compounds
SVOC - Semivolatile Organic Compounds
TOC - Total Organic Carbon

Table 3-10
Summary of OU2 RI Outfall Sediment Sampling and Rationale
Former 21st Street Works, New York, New York

Sample Location	Sample Rationale	Depth Interval (ft btos)	Laboratory Analyses
EROF01	Evaluate sediment quality adjacent to Outfall # NCM047	0-0.5 1-2 2-3	VOC, SVOC, TOC, Soot, Saturated TPH
EROF02	Evaluate sediment quality adjacent to Outfall # NCM087	0-0.5 1-2 2-3	VOC, SVOC, TOC, Soot, Saturated TPH
EROF03	Evaluate sediment quality in the vicinity of Outfall # NCM048	0-0.5 1-2 2-3	VOC, SVOC, TOC, Soot, Saturated TPH
EROF04	Evaluate sediment quality adjacent to Outfall # WI(M)-022, north of the site for background evaluation purposes	0-0.5 1-2 2-3	VOC, SVOC, TOC
ERSSREF03	Evaluate sediment quality adjacent to Outfall # NCM046, north of the site	0-0.5 0.5-1.2	VOC, SVOC, TOC, Soot, Saturated TPH

Notes
ft btos - feet below the top of sediment
VOC - Volatile Organic Compounds
SVOC - Semivolatile Organic Compounds
TOC - Total Organic Carbon
Saturated TPH - Saturated Total Petroleum Hydrocarbons
Soot - Soot Carbon

Table 3-11
Summary of OU2 RI Deep Sediment Sampling and Rationale
East 21st Street Works, New York, New York

Sample Location	Surface Elevation (ft NAVD88)	Location Rationale	Sample Rationale	Depth Interval (ft btos)	Laboratory Analyses
RB1 (T1/TB)	-6.3	Delineate eastern extent of MGP-related impacts encountered in EBDT100 (EBMWD/DD15) and EBOT101 between -38.96' and -44.96' NAVD88.	Characterize shallowest sediment recovered at this sample location.	5-6	VOC, SVOC, TOC, Soot
			Characterize sheen and staining encountered from -36.3 to -46.3 ft NAVD88.	30-40	BTEX, PAH
RB2	-8.9	Delineate eastern extent of MGP-related impacts encountered between -37 and -39.1 ft NAVD88 in boring EBOT102.	Characterize sheen and TLM lens encountered from -43.9 to 48.9 ft NAVD88.	35-40	BTEX, PAH
			Vertical delineation of MGP-related impacts above this sample interval.	45-46	BTEX, PAH
RB3	-11.5	Delineate the southeastern extent of MGP-related impacts encountered in EBOT102 (EBMWD/DD18) between approximately -14.27 and -40.27 ft NAVD88.	Characterize TLM lens and staining encountered from -27.3 to -27.9 ft NAVD88.	15-17	BTEX, PAH
			Vertical delineation of MGP-related impacts above this sample interval.	22-24	BTEX, PAH
RB4	-7.7	Delineate the southeastern extent of MGP-related impacts encountered in EBOT102 (EBMWD/DD18) between approximately -14.27 and -40.27 ft NAVD88. Delineate southeastern intermittent MGP-related impacts between -	Characterize TLM lens and sheen encountered from -30.8 to -37.7 ft NAVD88.	20-25	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered above this sample interval.	30-32	BTEX, PAH
RB5	-8.3	Delineate the east-southeastern extent of MGP-related impacts encountered in RB4 between -27.7 and -32.7 ft NAVD88.	Characterize impacts in sediment with OLO and hair-like fibers encountered to -28.6 ft NAVD88.	20-25	FINGERPRINT
			Characterize staining encountered from -44.55 to -44.8 ft NAVD88.	36-37	BTEX, PAH
			Vertical delineation of MGP-like impacts encountered in this boring.	40-41	BTEX, PAH
RB6	-14.6	Delineate the east-southeastern extent of MGP-related impacts encountered in RB4 between -27.7 and -32.7 ft NAVD88.	Characterize impacts and OLO within soft silt and organic material layer.	16.5-17.5	FINGERPRINT
			Vertical delineation of sheen encountered in this boring between -29.6 and -32.3 ft NAVD88.	20-25	BTEX, PAH
			No visible impacts. Further evaluate horizontal extent of MGP-related impacts.	35-40	BTEX, PAH
RB7	-26	Delineate the eastern extent of MGP-related impacts encountered in RB2 between -28.9 and -38.9 ft NAVD88 and the intermittent impacts in RB3 between -27.3 and -29.9 ft NAVD88.	Characterize TLM and staining encountered from -36 to -37 ft NAVD88.	10-11	VOC, SVOC, TOC, Soot
			Characterize TLM-saturated layer encountered from -50.8 to -51.6 ft NAVD88.	26-28	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring	40-45	BTEX, PAH
RB8	-24	Delineate the extent of intermittent MGP-related impacts encountered in RB7 between -36 and -51.6 ft NAVD88.	Vertical delineation of TLM, sheen, and stain encountered in this boring.	10-15	BTEX, PAH
			No visible impacts. Verify the horizontal extent of impacts at the site.	25-30	BTEX, PAH
RB9	-35.1	Verify eastern boundary of MGP-related impacts encountered in RB2 to -47.1 ft NAVD88 and RB3 to -29.9 ft NAVD88. Verify the eastern boundary of MGP-related impacts encountered in RB7 to -52.6 and RB8 to -30.1.	No visible impacts. Verify the horizontal extent of impacts at the site.	15-20	BTEX, PAH
			No visible impacts. Verify the horizontal extent of impacts in RB2, RB3, RB7, and RB8.	40-45	BTEX, PAH
RB10	-31.5	Verify eastern boundary of intermittent MGP-related impacts encountered in RB2 between -11.9 and -29.3 ft NAVD88, RB3 between -27.3 and -29.9 ft NAVD88 and RB1 to -46.3 NAVD88.	No visible impacts. Verify the horizontal extent of impacts in RB1.	15-25	BTEX, PAH
			No visible impacts. Verify the horizontal extent of impacts at the site.	30-35	BTEX, PAH
RB11	-24.7	Delineate east-northeastern extent of MGP-related impacts encountered in RB2 between -11.9 and -29.3 ft NAVD88.	Characterize sheen encountered from -29.7 to -30.7 ft NAVD88.	5-6	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring.	10-15	BTEX, PAH
RB12	-6.2	Delineate eastern extent of intermittent MGP-related impacts encountered in EBDT101 between -4.06 and -34.06 ft NAVD88.	Characterize brown NAPL and black TLM lens encountered from -21.2 to -24.2 ft NAVD88.	15-18	BTEX, PAH
			Characterize TLM and NAPL encountered in this sample interval.	40-45	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring.	48-50	BTEX, PAH
RB13	-20.9	Delineate southeastern extent of MGP-related impacts encountered in RB4 between -27.7 and -32.7 ft NAVD88 and the eastern extent of RB6 (from -29.6 to -32.3 ft NAVD88).	Characterize sheen in water and OLO in soft black silt.	3-3.5	FINGERPRINT
			Vertical delineation of MGP-related staining encountered in this boring.	15-20	BTEX, PAH
			No visible impacts. Verify the horizontal extent of impacts at the site.	30-35	BTEX, PAH
RB14	-25.1	Delineate southeastern extent of MGP-related impacts encountered in RB6 at 32.3 ft NAVD88 and the eastern extent of RB5 at -36.3 ft NAVD88.	Characterize brown NAPL and sheen encountered from -40.1 to -41 ft NAVD88.	15-20	BTEX, PAH
			Vertical delineation of NAPL and sheen encountered in this boring.	25-30	BTEX, PAH
RB15	-30.2	Delineate the southeastern extent of intermittent MGP-related impacts encountered in RB14 between -25.1 to -45.1 ft NAVD88 and the eastern extent of RB5 to -36.3 ft NAVD88.	Characterize brown NAPL encountered from -35.2 to 36.2 ft NAVD88.	5-6	BTEX, PAH
			Characterize NAPL to -45.2 ft NAVD88.	15-20	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring and characterize sediment at base of borehole.	40-45	BTEX, PAH
RB16	-32	Delineate the south-southeastern extent of MGP-related impacts encountered in RB5 between -33.3 and -36.3 ft NAVD88.	Characterize staining encountered from -42.18 to -42.19 ft NAVD88.	10-12	BTEX, PAH
			Vertical delineation of MGP-related staining encountered in this boring.	15-16	BTEX, PAH
RB17	-32	Delineate the south-southeastern extend of MGP-related impacts encountered in RB15 between -35.2 and -36.2 ft NAVD88.	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	10-15	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	40-45	BTEX, PAH
RB18	-26	Delineate the southeastern extent of MGP-related impacts encountered in RB5 between -33.3 and -36.3 ft NAVD88.	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	20-23	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	25-30	BTEX, PAH
RB19	-15	Delineate the eastern extent of intermittent of MGP-related impacts encountered in RB12 between -21.2 a-51.2 ft NAVD88.	Characterize very soft silt, peat, and, wood fragments from -27 to -31 ft NAVD88.	12-16	FINGERPRINT
			Characterize staining encountered from -32 to -32.02 ft NAVD88.	16-20	BTEX, PAH
			Vertical delineation of MGP-related staining encountered in this boring.	30-35	BTEX, PAH
RB20	-22.6	Delineate the southeastern extent of intermittent MGP-related impacts encountered in RB1 between -19.3 and -46.3 ft NAVD88.	No visible impacts encountered in this boring. Horizontal delineation of impacts encountered in RB1 to -46.3 ft NAVD88.	20-25	BTEX, PAH
			No visible impacts. Verify the horizontal extent of impacts at the site.	55-60	BTEX, PAH
RB21	-31.5	Delineate the northeastern extent of MGP-related impacts encountered in RB1 between -19.3 and -46.3 ft NAVD88.	No visible impacts encountered in this boring. Horizontal delineation of impacts encountered in RB1 to -46.3 ft NAVD88.	10-15	BTEX, PAH
			No visible impacts in this encountered boring. Verify the horizontal extent of impacts at the site.	30-35	BTEX, PAH
RB22	-32	Delineate the southeastern extent of MGP-related impacts encountered in RB12 at -46.2 and -51.2 ft NAVD88.	No visible impacts encountered in this boring. Horizontal delineation of impacts encountered in RB12 -47.7 ft NAVD88.	15-20	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts and characterize sediment at base of borehole.	40-45	BTEX, PAH
RB23	-6.5	Delineate the northern extent of intermittent MGP-related impacts encountered in RB12 between -21.2 -51.2 ft NAVD88 and the eastern extent of EBDT103 between -1.78 and -21.78 ft NAVD88.	Characterize staining and sheen encountered from -38.05 to 38.9 ft NAVD88.	31-33	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring.	35-40	BTEX, PAH
RB24	-20.5	Delineate the northeastern extent of intermittent MGP-related impacts encountered in RB12 between -21.2 and -51.2 ft NAVD88 and the southeastern extent of RB23 between -37.5 to -38.9 ft NAVD88.	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	20-25	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts and characterize sediment at base of borehole.	40-45	BTEX, PAH
RB25	-10	Delineate the eastern extent of MGP-related impacts encountered in RB23 between -37.5 and -38.9.5 ft NAVD88.	No visible impacts encountered in this boring. Horizontal delineation of impacts in RB23 to 38.9 ft NAVD88.	25-30	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts and characterize sediment at base of borehole.	33-35	BTEX, PAH

Table 3-11
Summary of OU2 RI Deep Sediment Sampling and Rationale
East 21st Street Works, New York, New York

Sample Location	Surface Elevation (ft NAVD88)	Location Rationale	Sample Rationale	Depth Interval (ft btos)	Laboratory Analyses
RB26	-31.5	Delineate the southeastern extent of MGP-related impacts encountered in RB1 between -19.3 and -46.3 ft NAVD88.	No visible impacts encountered in this boring. Horizontal delineation of impacts in RB1 to -41.3 ft NAVD88.	5-10	BTEX, PAH
			Characterize brown NAPL lens encountered from -72.3 to -72.55 ft NAVD88.	40-42	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring.	55-60	BTEX, PAH
RB27	-34.5	Delineate the southeastern extent of intermittent MGP-related impacts encountered in RB26 between -69.6 and -72.25 ft NAVD88.	Horizontal delineation of RB26 to -69.5 ft NAVD88.	35-40	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	55-60	BTEX, PAH
RB28	-35	Delineate the southeastern extent of intermittent MGP-related impacts encountered in RB7 between -36 and -52.6 ft NAVD88.	No visible impacts encountered in this boring. Horizontal delineation of impacts in RB7 to -69.5 ft NAVD88.	10-15	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	40-45	BTEX, PAH
RB29	-35	Delineate the northeastern extent of intermittent MGP related impacts encountered in RB14 between -25.1 and -45.1 ft NAVD88.	No visible impacts encountered in this boring. Horizontal delineation of RB14 to 45 ft NAVD88.	5-10	BTEX, PAH
			No visible impacts. Verify the horizontal extent of impacts and characterize sediment at the base of borehole.	40-45	BTEX, PAH
RB30	-38.2	Refine the eastern boundary of MGP-related impacts.	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	10-15	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	35-40	BTEX, PAH
RB31	-34.9	Delineate the southeastern extent of the MGP-related impacts encountered in RB4 between -14.7 and 37.7 ft NAVD88 and the eastern extent of RB5 between -33.3 and -44.8 ft NAVD88.	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	10-15	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	40-45	BTEX, PAH
RB32	-34.8	Delineate the eastern extent of MGP-related impacts encountered in RB15 between 35.2 and -45.2 ft NAVD88.	No visible impacts encountered in this boring. Horizontal delineation of impacts encountered in RB15 to 44.8 ft NAVD88.	10-15	BTEX, PAH
			No visible impacts. Verify the horizontal extent of impacts at the site.	40-45	BTEX, PAH
RB33	-25	Delineate the southern extent of MGP-related impact encountered in RB16 between -42.18 and -42.19 ft NAVD88.	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	20-25	BTEX, PAH, Fingerprint
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts and characterize sediment at base of borehole.	25-30	BTEX, PAH
RB34	-35	Delineate the southern extent of MGP-related impact encountered in RB16 between -42.18 and -42.19 ft NAVD88.	No visible impacts in this sample interval or above. Verify the horizontal extent of impacts at the site.	10-15	BTEX, PAH
			Characterize brown NAPL lens encountered from -72.15 and -72.5 ft NAVD88.	37-38	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring and characterize sediment at base of borehole.	40-45	BTEX, PAH
RB35	-30	Delineate the southern extent of MGP-related impact encountered in RB34 between -72.15 and -72.5 ft NAVD88.	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	20-22	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	30-35	BTEX, PAH
RB36	-35	Delineate the southern extent of MGP-related impact encountered in RB34 between -72.15 and -72.5 ft NAVD88.	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	20-25	BTEX, PAH
			Horizontal delineation impacts in RB34 to -72.5 ft NAVD88 and characterize the sediment at base of borehole.	40-45	BTEX, PAH
RB37	-34.9	Delineate the southern extent of MGP-related impact encountered in RB34 between -72.15 and -72.5 ft NAVD88.	Characterize OLM blebs encountered from -72.15 to -72.5 ft NAVD88.	20-22	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring and characterize sediment at base of borehole.	45-50	BTEX, PAH
RB38	-35	Delineate the southeastern extent of MGP-related impact encountered in RB34 between -72.15 and -72.5 ft NAVD88 and the eastern extent of intermittent impacts in RB37 from -16.2 to -49.8 ft NAVD88.	No visible impacts encountered in this boring. Horizontal delineation of RB37 to - 55 ft NAVD88.	15-20	BTEX, PAH
			No visible impacts encountered in this boring. Horizontal delineation of RB34 to -72.5 ft NAVD88.	35-40	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts and characterize sediment at base of borehole.	40-45	BTEX, PAH
RB39	-35	Delineate the eastern extent of MGP-related impact encountered in RB16 between -42.18 and -42.19 ft NAVD88.	No visible impacts encountered in this boring. Horizontal delineation of RB16 to -41.19 ft NAVD88.	5-10	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts and characterize sediment at base of borehole.	35-40	BTEX, PAH
RB40	-35.5	Delineate the northeastern extent of the MGP-related impact encountered in RB13 between -20.9and -30.9 ft NAVD88.	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	10-15	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts and characterize sediment at base of borehole.	40-45	BTEX, PAH
RB41	-28.5	Delineate the eastern extent of intermittent MGP-related impacts encountered in RB12 between -21.2 and -51.2 ft NAVD88.	No visible impacts encountered in this boring. Horizontal delineation of RB12 to -48.5 ft NAVD88.	15-20	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts and characterize sediment at base of borehole.	40-45	BTEX, PAH
RB42	-6.75	Delineate eastern extent of intermittent MGP-related impacts encountered in EBDT101 between -4.06 and -34.06 ft NAVD88 and the eastern extent of RB12 between -16.2 and -49.8 ft NAVD88.	Characterize sheen and black TLM encountered from -23.85 to -23.91 ft NAVD88.	17-18	VOC, SVOC, TOC, Soot
			Characterize sheen and black TLM encountered from-38.57 to -38.7 ft NAVD88.	30-32	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring.	45-50	BTEX, PAH
RB43	-7.5	Delineate the southeastern extent of MGP-related impacts encountered in RB23 between -38.05 and -38.9 ft NAVD88.	Characterize metallic sheen encountered from -28.93 to -28.95 ft NAVD88.	21-22	FINGERPRINT
			No visible impacts encountered in this sample interval. Horizontal delineation of RB23 to -37.5 ft NAVD88 and vertical delineation of impacts encountered above this sample interval.	30-35	BTEX, PAH
			No visible impacts encountered in this sample interval. Verify the horizontal extent of impacts and characterize sediment at base of borehole.	55-60	BTEX, PAH
RB44	-7	Delineate southeastern extent of intermittent MGP-related impacts encountered in RB12 between -21.2 and -51.2 ft NAVD88 and the southern extent of RB42 between -16.2 and -49.8 ft NAVD88.	Characterize metallic sheen encountered in the soft black silt and peat from -24.7 to -25 ft NAVD88.	17-20	FINGERPRINT
			Characterize metallic sheen intermittently encountered from -28.1 to -30.6 ft NAVD88.	20-25	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring.	35-40	BTEX, PAH
RB45	-10	Delineate eastern extent of MGP-related impacts encountered in RB1 between -19.3 and -46.3 ft NAVD88. Delineate the southeastern extent of intermittent MGP-related impacts encountered in RB12 between -16.2 and -	Characterize black staining encountered from -46.1 to -46.3 ft NAVD88.	35-37	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring.	40-45	BTEX, PAH
RB46	-16	Delineate the southeastern extent of MGP-related impacts encountered in RB1 between -19.3 and -46.3 ft NAVD88 and the southern extent of RB45 between -46.1 to -46.3 ft NAVD88.	Characterize brown NAPL encountered from -36 to -37.7 ft NAVD88.	20-22	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring and characterize sediment at base of borehole.	55-60	BTEX, PAH
RB47	-20	Delineate southeastern extent of MGP-related impacts encountered in RB19 between -32 and -32.02 ft NAVD88 and the northeastern extent of RB45 between -46.1 and -46.3 ft NAVD88.	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	15-20	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts and characterize sediment at base of borehole.	50-55	BTEX, PAH
RB48	-10	Delineate eastern extent of MGP-related impacts encountered in EBOT0102 between -37 and -39.1 ft NAVD88. Delineate the southern extent of intermittent MGP-related impacts encountered in RB2 between -12 and -47.1 ft NAVD88.	Characterize metallic sheen within peat and silt layer with OLO from -28.55 to -28.58 ft NAVD88.	17-20	FINGERPRINT
			Characterize NAPL and sheen from -40 to -43.1 ft NAVD88.	30-35	BTEX, PAH
			Vertical delineation of MGP-like impacts encountered in this boring and characterize sediment at base of borehole.	90-95	BTEX, PAH
RB49	-20	Delineate the eastern extent of MGP-related impacts encountered in RB45 between -46.1 and -46.3 ft NAVD88.	Characterize metallic sheen from -37 to -37.6 ft NAVD88.	17-20	BTEX, PAH
			Horizontal delineation of RB45 to -46.3 ft NAVD88 and vertical delineation of MGP-related impacts encountered in this boring.	25-30	BTEX, PAH

Table 3-11
Summary of OU2 RI Deep Sediment Sampling and Rationale
East 21st Street Works, New York, New York

Sample Location	Surface Elevation (ft NAVD88)	Location Rationale	Sample Rationale	Depth Interval (ft btos)	Laboratory Analyses
RB50	-16	Delineate the eastern extent of MGP-related impacts encountered in RB2 between -12 and -47.1 ft NAVD88. Delineate eastern extent of intermittent MGP-related impacts encountered in RB48 between -12.7to-93.7 ft	Characterize NAPL lenses encountered from -66 to -68.3 ft NAVD88.	50-53	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring.	55-60	BTEX, PAH
RB51	-22	Delineate the southern extent of intermittent MGP-related impacts encountered in RB7 between -36 and -52.6 ft NAVD88.	Characterize metallic sheen encountered from-42.7 to -43.1 ft NAVD88.	20-22	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring.	30-35	BTEX, PAH
RB52	-14.2	Delineate the southeastern extent of intermittent MGP-related impacts encountered in RB4 between -27.7 and -32.7 ft NAVD88.	Characterize sheen and brown NAPL lenses intermittently encountered from -24.2 to -29.2 ft NAVD88.	10-15	BTEX, PAH
			Vertical delineation of MGP-related sheen and NAPL lenses encountered in this boring.	40-45	BTEX, PAH
			No visible impacts in this sample interval. Verify the horizontal extent of impacts at the site.	70-75	BTEX, PAH
RB53	-25	Delineate the northern extent of MGP-related impacts encountered in RB16 between -42.18 and -42.19 ft NAVD88 and the southern extent of RB11 between -24.7 and -31.3 ft NAVD88.	Characterize sheen, brown NAPL and black staining encountered from -35 to -40 ft NAVD88.	10-15	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring.	20-25	BTEX, PAH
RB54	-17.5	Delineate the southeastern extent of MGP-related impacts encountered in RB6 between -29.6 and -32.3 ft NAVD88 and the northeastern extent of RB5 between -33.3 and -44.8 ft NAVD88.	Characterize metallic sheen encountered from -27.5 to -32.5 ft NAVD88.	10-15	BTEX, PAH
			Characterize brown NAPL encountered along the outside of the core between -32.5 and -37.5 ft NAVD88.	15-20	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring.	85-90	BTEX, PAH
RB55	-21.7	Delineate the northern extent of MGP-related impacts encountered in EBDT103 between -1.78 and -21.78 ft NAVD88.	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	12-14	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	15-17	BTEX, PAH
RB56	-26	Delineate the southeastern extent of MGP-related impacts encountered in RB23 between -37.5 and -39.5 ft NAVD88. Delineate eastern extent of intermittent MGP-related impacts encountered in EBDT102 between -1.78	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	2-5	BTEX, PAH
			No visible impacts encountered in this boring. Horizontal delineation of RB23 to -36 ft NAVD88.	5-10	BTEX, PAH
RB57	-29.7	Delineate the southeastern extent of MGP-related impacts encountered in RB23 between -37.5 and -39.5 ft NAVD88 and the southern extent of RB43 between -28.93 and -28.95 ft NAVD88.	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	18-19	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts and characterize sediment at base of borehole.	19-19.8	BTEX, PAH
RB58	-24.6	Refine the northwestern boundary of visibly impacted surface sediments.	No Sample Analyzed	NS	NS
RB59	-8.5	Refine the northwestern boundary of visibly impacted surface sediments.	No Sample Analyzed	NS	NS
RB60	-12	Refine the northern boundary of visibly impacted surface sediments.	No Sample Analyzed	NS	NS
RB61	-63	Refine the northern boundary of visibly impacted surface sediments.	No Sample Analyzed	NS	NS
RB62	-14.2	Refine the northwestern boundary of visibly impacted surface sediments.	No Sample Analyzed	NS	NS
RB63	-27.2	Delineate the southeastern extent of MGP-related impacts encountered in RB11 between -29.7 and -31.3 ft NAVD88 and the southern extent of RB26 between -69.9 and -72.55 ft NAVD88.	Characterize brown NAPL encountered from -38.2 to -39.5 ft NAVD88.	11-12.4	BTEX, PAH
			Vertical delineation of MGP-related impacts encountered in this boring.	18-20	BTEX, PAH
RB64	-26	Delineate the eastern extent of MGP-related impacts encountered in RB7 between -36 and -41 ft NAVD88 and the southern extent of RB8 between -24 and -30.1 ft NAVD88.	Vertical delineation of MGP-related impacts encountered at -26.9 ft NAVD88.	1-5	BTEX, PAH
			No visible impacts in this sample interval. Horizontal delineation of RB7 to -36 ft NAVD88 and RB8 to -30.1 ft NAVD88.	5-10	BTEX, PAH
RB65	-31.6	Delineate the northeastern extent of MGP-related impacts encountered in RB52 between -24.2 and -84.2 ft NAVD88. Delineate the eastern extent of intermittent MGP-related impacts in RB4 between -14.7 and -33.4 ft NAVD88.	Vertical delineation of impacts encountered from -31.6 to -32.65 ft NAVD88. Horizontal delineation of RB52 to -33.77 ft NAVD88 and RB4 to -33.4 ft NAVD88.	1-5	BTEX, PAH
			No visible impacts encountered in this sample interval. Verify the horizontal extent of impacts at the site.	5-10	BTEX, PAH
RB66	-36.1	Delineate the eastern extent of MGP-related impacts encountered in RB14 between -25.1 and -30.2 ft NAVD88.	No visible impacts encountered in this sample interval. Vertical delineation of impacts encountered from -38.5 to -38.7 ft NAVD88.	8-10	BTEX, PAH
			Characterize TLM encountered at -46.1 ft NAVD88.	10-10.5	BTEX, PAH
			No visible impacts encountered in this sample interval. Verify horizontal extent of impacts and characterize sediment at base of borehole.	15-20	BTEX, PAH
RB67	-20.5	Refine the eastern boundary of visibly impacted surface sediments.	No Sample Analyzed	NS	NS
RB68	-20.2	Refine the western boundary of visibly impacted surface sediments.	No Sample Analyzed	NS	NS
RB69	-19.8	Refine the western boundary of visibly impacted surface sediments.	No Sample Analyzed	NS	NS
RB70	-7.4	Refine the western boundary of visibly impacted surface sediments.	No Sample Analyzed	NS	NS
RB71	-8.5	Refine the western boundary of visibly impacted surface sediments.	No Sample Analyzed	NS	NS
RB72	-17	Refine the southwestern boundary of visibly impacted surface sediments.	No Sample Analyzed	NS	NS
RB73	-21.9	Refine the southwestern boundary of visibly impacted surface sediments.	No Sample Analyzed	NS	NS
RB74	-40.2	Delineate the eastern extent of MGP-related impacts encountered in RB34 between 72.15 and -72.5 ft NAVD88 and the southeastern extent of RB16 between -42.18 and -42.19 ft NAVD88.	No visible impacts encountered in this boring. Horizontal delineation of RB16 from -42.19 to -42.19 ft NAVD88.	2-5	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	5-10	BTEX, PAH
RB75	-28.5	Delineate the southern extent of MGP-related impacts encountered in RB34 between -72.15 and -72.5 ft NAVD88 and the southern extent of RB37 at -54.9 ft NAVD88.	Vertical delineation of impacts encountered from -29 to -32.7 ft NAVD88.	5-7	BTEX, PAH
			No visible impacts encountered in this sample interval. Verify the horizontal extent of impacts at the site.	15-17	BTEX, PAH
RB76	-29.8	Delineate the southern extent of MGP-related impacts encountered in RB34 between -72.15 and -72.5 ft NAVD88 and the southern extent of RB37 at -54.9 ft NAVD88.	No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	5-7	BTEX, PAH
			No visible impacts encountered in this boring. Verify the horizontal extent of impacts at the site.	15-17	BTEX, PAH

Table 3-12
Summary of OU2 RI Geotechnical Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample Location	Sample ID	Sample Rationale	Depth Interval (ft btos)	Matrix	Laboratory Analyses
RB42	RB42 (15-18)	Determine geotechnical properties of deep sediment adjacent to the site at this boring location	15-18	Soil	Grain Size/hydrometer, Atterberg
	RB42 (18-20)		18-20	Soil	Grain Size/hydrometer, Atterberg
	RB42 (25-30)		25-30	Soil	Grain Size, hydrometer
	RB42 (30-32)		30-32	Soil	Grain Size, hydrometer
	RB42 (32-35)		32-35	Soil	Grain Size, hydrometer
	RB42 (35-40)		35-40	Soil	Grain Size, hydrometer
	RB42 (40-45)		40-45	Soil	Grain Size, hydrometer
	RB42 (45-50)		45-50	Soil	Grain Size, hydrometer
	RB42 (50-55)		50-55	Soil	Grain Size, hydrometer
	RB42 (55-60)		55-60	Soil	Grain Size, hydrometer
RB46	RB46 (20-21)	Determine geotechnical	20-21	Soil	Grain Size, hydrometer
	RB46 (22-23)		22-23	Soil	Grain Size, hydrometer
RB50	RB50 (0-5)	Determine geotechnical properties of deep sediment adjacent to the site at this boring location	0-5	Soil	Grain Size/hydrometer, Atterberg
	RB50 (10-15)		10-15	Soil	Grain Size/hydrometer, Atterberg
	RB50 (15-20)		15-20	Soil	Grain Size/hydrometer, Atterberg
	RB50 (20-25)		20-25	Soil	Grain Size, hydrometer
	RB50 (25-30)		25-30	Soil	Grain Size, hydrometer
	RB50 (32-35)		32-35	Soil	Grain Size, hydrometer
	RB50 (35-40)		35-40	Soil	Grain Size, hydrometer
	RB50 (40-45)		40-45	Soil	Grain Size, hydrometer
	RB50 (45-50)		45-50	Soil	Grain Size, hydrometer
	RB50 (50-53)		50-53	Soil	Grain Size, hydrometer
	RB50 (53-55)		53-55	Soil	Grain Size, hydrometer
	RB50 (55-60)		55-60	Soil	Grain Size, hydrometer
	RB50 (60-65)		60-65	Soil	Grain Size, hydrometer
	RB50 (65-70)		65-70	Soil	Grain Size, hydrometer
	RB50 (70-75)		70-75	Soil	Grain Size, hydrometer
	RB50 (75-80)		75-80	Soil	Grain Size, hydrometer
	RB50 (80-85)		80-85	Soil	Grain Size, hydrometer
RB54	SEDNAPL1	Determine properties of NAPL encountered in the deep sediment adjacent to the site	15-20	Liquid	Fluid Properties, OILPRINT
RB46 & RB48	SEDNAPL2	Determine properties of NAPL encountered in the deep sediment adjacent to the site	15-21 & 30-35	Soil	Pore Fluid Saturation, Free Product Mobility, OILPRINT

Table 3-12
Summary of OU2 RI Geotechnical Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample Location	Sample ID	Sample Rationale	Depth Interval (ft btos)	Matrix	Laboratory Analyses
RB63	RB63 (11-12.4)	Determine the properties of NAPL encountered in the deep sediment as well as geotechnical properties of that sediment adjacent to the site	11-12.4	Soil	Pore Fluid Saturation, Free Product Mobility, OILPRINT
GS39	GS39 (0-2.3)	Determine the properties of NAPL encountered in the surface sediment as well as geotechnical properties of that sediment adjacent to the site	0-2.3	Soil	Pore Fluid Saturation, Free Product Mobility, OILPRINT
RB69	RB69 (2.55-2.95)	Determine the properties of NAPL encountered in the shallow sediment as well as geotechnical properties of that sediment adjacent to the site	2.55-2.95	Soil	Pore Fluid Saturation, Free Product Mobility, OILPRINT

Table 3-13
Summary of OU2 RI Surface Water Sampling and Rationale
Former East 21st Street Works, New York, New York

Sample Location	Sample ID	Sample Rationale	Depth Interval (ft)	Laboratory Analyses
RB55	RB55 W1.0	To evaluate surface water quality upstream of the visible surface sediment impacts	1	VOC, PAH, TSS
	RB55 W3.0		3	
	RB55 W5.0		5	
RB61	RB61 W1.0	To evaluate surface water quality upstream of the visible surface sediment impacts	1	VOC, PAH, TSS
	RB61 W10.0		10	
	RB61 W19.0		19	
RB75	RB75 W1.0	To evaluate surface water quality downstream of the visible surface sediment impacts	1	VOC, PAH, TSS
	RB75 W18.0		18	
	RB75 W26.0		26	
GS16	GS16 W1.0	To evaluate surface water quality in the area of visibly impacted surface sediments	1	VOC, PAH, TSS
	GS16 W9.0		9	
	GS16 W17.0		17	
GS35	GS35 W1.0	To evaluate surface water quality in the area of visibly impacted surface sediments	1	VOC, PAH, TSS
	GS35 W10.0		10	
	GS35 W20.0		20	

Notes
ft - feet below water surface
VOC - Volatile Organic Compounds
PAH - Polycyclic Aromatic Hydrocarbons
TSS - Total Suspended Solids

Table 3-14
Summary of Investigation-Derived Waste - Land
Former East 21st Street Works, New York, New York

Date	Manifest No.	No. of Drums	Liquid (007)	C +D (008)	Soil (009)
1/26/2006	115780	4	0	3	1
1/27/2006	115790	4	2	1	1
1/31/2006	115916	2	1	1	0
2/3/2006	115925	3	1	1	1
2/10/2006	116201	8	3	3	2
2/15/2006	116272	6	1	3	2
2/17/2006	116277	9	2	4	3
2/21/2006	116317	12	2	6	4
2/23/2006	116334	11	0	7	4
2/24/2006	116413	10	1	5	4
2/28/2006	116482	9	0	4	5
3/3/2006	116520	17	4	7	6
*3/7/2006	116585	18	4	5	9
3/10/2006	116758	13	1	4	8
3/15/2006	116952	8	2	4	2
3/17/2006	117009	10	2	3	5
3/23/2006	117076	15	9	4	2
3/28/2006	117152	25	15	6	4
3/31/2006	117221	22	10	7	5
4/5/2006	117288	15	3	7	5
4/10/2006	117369	25	11	6	8
4/13/2006	117522	16	7	7	2
4/26/2006	117873	8	6	2	0
5/4/2006	118069	9	0	7	2
5/15/2006	118366	9	3	5	1
5/26/2006	118672	12	4	8	0
6/5/2006	118843	2	1	1	0
5/12/2008	BL139586	74	39	13	22
5/14/2008	BL139679	60	46	4	10
5/28/2008	BL140059	27	13	10	4
7/9/2008	BL141773	45	8	25	12
9/30/2008	BL144607	52	15	25	12
TOTALS		**560**	**216**	**198**	**146**

Notes:

*According to Clean Earth, there was 6 C+D and 8 Soil; according to AECOM's tracking and sampling there were 5 C+D and 9 Soil

C + D - Construction Debris

The numbers in parentheses next to the waste type correspond to the codes used in section 11 and J on the manifests.

Table 3-15
Summary of Investigation-Derived Waste - River
Former East 21st Street Works, New York, New York

Date	Manifest No.	No. of Drums	Liquid (007)	C +D (008)	Soil (009)
7/7/2008	0001129	16	8	2	6
7/7/2008	0001131	4	2	2	0
7/15/2008	0000901	15	9	1	5
8/4/2008	0000903	7	2	4	1
8/4/2008	0000904	12	7	0	5
8/4/2008	0001209	10	4	0	6
8/4/2008	0001210	7	6	1	0
8/4/2008	0001211	10	6	0	4
10/31/2008	0001449	15	0	11	4
TOTALS		**96**	**44**	**21**	**31**

Date	Manifest No.	No. of Steel Tanks	Volume (gal)
11/25/2008	MW0000004	1	500
11/25/2008	MW0000005	1	500
11/25/2008	MW0000006	1	500
11/25/2008	MW0000007	1	500
11/25/2008	MW0000008	1	500
TOTAL		**5**	**2500**

Notes:
C + D - Construction Debris
The numbers in parentheses next to the waste type correspond to the codes used in section 11 and J on the manifests.

Table 4-1
Monitoring Well Construction Details and Groundwater Elevation Summary
Former East 21st Street Works, New York, New York

Well ID	Date Installed	Total Depth (ft bgs)	Screened Interval (ft bgs)	M.P. Elevation (ft NAVD88)	19-Apr-04		4-May-06		12-Jun-06		24-Sep-08	
					DTW (ft bgs)	Groundwater Elevation (ft NAVD88)	DTW (ft bgs)	Groundwater Elevation (ft NAVD88)	DTW (ft bgs)	Groundwater Elevation (ft NAVD88)	DTW (ft bgs)	Groundwater Elevation (ft NAVD88)
Shallow Unconfined Aquifer Zone												
21MWS01	3/19/04	16.0	5-15	13.89	8.36	5.53	8.25	5.64	8.03	5.86	9.39	4.50
21MWS02	3/11/04	17.0	5-15	10.96	6.76	4.20	6.74	4.22	6.55	4.41	7.21	3.75
21MWS03	3/12/04	17.0	5-15	10.81	7.27	3.54	7.31	3.50	6.83	3.98	8.66	2.15
21MWS04	3/8/04	15.1	3-13	7.33	5.69	1.64	5.77	1.56	5.51	1.82	5.44	1.89
21MWS05	3/12/04	13.5	3-13	6.38	6.18	0.20	6.20	0.18	6.01	0.37	6.12	0.26
21MWS06	3/10/04	16.1	4-14	9.34	5.56	3.78	5.45	3.89	5.17	4.17	6.8	2.54
21MWS07	3/9/04	16.0	4-14	10.25	8.13	2.12	8.00	2.25	7.77	2.48	8.17	2.08
21MWS08	3/12/04	16.0	6-16	13.06	9.90	3.16	9.50	3.56	9.22	3.84	8.04	5.02
21MWS09	2/3/04	17.1	5-15	12.78	9.60	3.18	9.30	3.48	9.04	3.74	9.66	3.12
21MWS10	3/5/04	18.1	6-16	9.95	8.13	1.82	8.18	1.77	7.67	2.28	6.18	3.77
23MWS11	2/22/06	15.0	3-13	9.66	NI	NA	5.65	4.01	5.29	4.37	5	4.66
23MWS12	2/21/06	15.0	2-12	5.94	NI	NA	5.30	0.64	5.12	0.82	5.3	0.64
20MWS16	3/7/06	17.0	5-15	8.99	NI	NA	3.95	5.04	3.95	5.04	4.95	4.04
20MWS17	3/23/06	14.6	5-15	11.68	NI	NA	7.24	4.44	6.75	4.93	NM	NA
LR02	3/16/05	13.9	4-14	6.95	NM	NA	NM	NA	6.90	0.05	6.46	0.49
LR08	3/17/05	15.0	4-14	8.56	NM	NA	NM	NA	8.06	0.50	7.85	0.71
LR11	3/22/05	15.0	4-14	5.96	NM	NA	NM	NA	NM	NA	NM	NA
LR17	3/22/05	14.8	4-14	8.23	NM	NA	NM	NA	7.88	0.35	7.96	0.27
Intermediate Unconfined Aquifer Zone												
21MWD01	3/22/04	33.0	23-33	13.77	8.38	5.39	10.45	3.32	10.40	3.37	10.56	3.21
21MWD02	3/11/04	37.0	25-35	10.45	8.94	1.51	8.32	2.13	8.54	1.91	8.42	2.03
21MWD03	3/12/04	37.1	25-35	10.52	9.99	0.53	8.80	1.72	9.10	1.42	9.99	0.53
21MWD04	3/8/04	37.1	25-35	7.38	6.78	0.60	6.42	0.96	6.24	1.14	6.28	1.10
21MWD05	3/11/04	38.0	26-36	6.77	5.78	0.99	5.75	1.02	5.75	1.02	5.86	0.91
21MWD06	3/10/04	37.1	25-35	9.01	7.98	1.03	7.45	1.56	7.71	1.30	7.56	1.45
21MWD07	3/9/04	37.1	25-35	10.26	9.45	0.81	8.85	1.41	8.75	1.51	8.71	1.55
21MWD08	3/12/04	37.0	25-35	12.75	11.19	1.56	10.50	2.25	10.55	2.20	10.54	2.21
21MWD09	2/3/04	37.1	25-35	12.73	12.60	0.13	10.89	1.84	11.17	1.56	11.07	1.66
21MWD10	3/5/04	37.1	25-35	9.98	8.87	1.11	8.84	1.14	8.47	1.51	8.52	1.46
23MWD11	2/22/06	37.0	25-35	9.66	NI	NA	8.45	1.21	8.55	1.11	8.44	1.22
23MWD12	2/16/06	37.0	25-35	6.36	NI	NA	5.14	1.22	5.68	0.68	5.66	0.70
EBMWD13	4/6/06	37.0	25-35	6.62	NI	NA	6.22	0.40	6.65	-0.03	6.55	0.07
EBMWD14	4/3/06	37.0	25-35	6.25	NI	NA	5.56	0.69	5.65	0.60	6.54	-0.29
EBMWD15	4/4/06	37.0	25-35	8.19	NI	NA	7.10	1.09	7.31	0.88	7.58	0.61
20MWD16	3/7/06	37.0	25-35	8.85	NI	NA	7.15	1.70	6.97	1.88	6.89	1.96
20MWD17	3/23/06	37.0	25-35	11.72	NI	NA	9.02	2.70	8.82	2.90	7.4	4.32
EBMWD18	4/6/06	37.0	25-35	7.30	NI	NA	6.44	0.86	6.50	0.8	6.25	1.05
23MWD22	8/7/08	38.0	26-36	6.76	NI	NA	NI	NA	NI	NA	6.55	0.21
20MWD23	5/22/08	37.0	25-35	6.35	NI	NA	NI	NA	NI	NA	5.22	1.13
20MWD24	5/22/08	37.0	25-35	6.30	NI	NA	NI	NA	NI	NA	5.03	1.27
EBMWD25	9/9/08	38.0	26-36	6.13	NI	NA	NI	NA	NI	NA	6.31	-0.18
Deep Unconfined Aquifer Zone												
21MWDD03	3/9/06	62.0	50-60	10.59	NI	NA	8.90	1.69	9.00	1.59	8.82	1.77
21MWDD04	3/21/06	73.1	61-71	7.72	NI	NA	6.80	0.92	6.71	1.01	6.11	1.61
21MWDD08	3/27/06	59.0	48-58	12.91	NI	NA	9.80	3.11	9.72	3.19	9.83	3.08
23MWDD12	2/21/06	62.4	50-60	6.46	NI	NA	5.71	0.75	5.96	0.50	5.48	0.98
EBMWDD13	4/7/06	71.2	59-69	6.21	NI	NA	5.95	0.26	6.18	0.03	6.24	-0.03
EBMWDD14	3/30/06	72.0	60-70	6.45	NI	NA	5.46	0.99	5.64	0.81	7.21	-0.76
EBMWDD15	4/4/06	71.0	59-69	7.79	NI	NA	7.30	0.49	8.56	-0.77	7.72	0.07
EBMWDD18	3/29/06	71.0	59-69	7.58	NI	NA	6.05	1.53	5.95	1.63	6.79	0.79
23MWDD20	5/3/06	63.1	50-60	5.90	NI	NA	4.57	1.33	4.71	1.19	4.66	1.24
20MWDD24	6/27/08	69.0	57-67	6.51	NI	NA	NI	NA	NI	NA	5.08	1.43
EBMWDD25	9/5/08	75.0	63-73	5.84	NI	NA	NI	NA	NI	NA	5.37	0.47

Notes:

ft bgs - feet below ground surface
NI - Not Installed
NM - Not Measured
NA - Not Applicable due to well not installed or not measured
DTW - Depth to Water
datum - North American Vertical Datum of 1988 (NAVD88)

Table 4-2
Summary of Vertical Gradients
Former East 21st Street Works, New York, New York

Well Pair	Distance Between Screens (ft)	Difference in GW Elevations (ft)			Vertical Gradient (ft/ft)			Direction (Up/Down)		
		5/4/2006	6/12/2006	9/24/2008	5/4/2006	6/12/2006	9/24/2008	5/4/2006	6/12/2006	9/24/2008
Shallow to Intermediate										
S1/D1	8.11	2.31	2.48	1.28	0.28	0.31	0.16	Down	Down	Down
S2/D2	10.46	2.04	2.45	1.67	0.20	0.23	0.16	Down	Down	Down
S3/D3	10.24	1.73	2.51	1.57	0.17	0.25	0.15	Down	Down	Down
S4/D4	11.9	0.55	0.63	0.74	0.05	0.05	0.06	Down	Down	Down
S5/D5	12.67	0.78	0.41	0.59	0.06	0.03	0.05	Up	Up	Up
S6/D6	11.27	2.27	2.81	1.03	0.20	0.25	0.09	Down	Down	Down
S7/D7	11.04	0.89	1.02	0.58	0.08	0.09	0.05	Down	Down	Down
S8/D8	9.27	1.27	1.6	2.77	0.14	0.17	0.30	Down	Down	Down
S9/D9	9.87	1.46	2	1.28	0.15	0.20	0.13	Down	Down	Down
S10/D10	8.91	0.57	0.71	2.25	0.06	0.08	0.25	Down	Down	Down
S11/D11	12	2.8	3.26	3.44	0.23	0.27	0.29	Down	Down	Down
S12/D12	12.58	0.58	0.14	0.06	0.05	0.01	0.00	Up	Down	Up
Intermediate to Deep										
D3/DD3	14.97	0.07	0.13	1.20	0.005	0.01	0.08	Down	Up	Up
D4/DD4	25.71	0.09	0.18	0.46	0.004	0.01	0.02	Down	Up	Up
D8/DD8	12.84	0.86	0.99	0.87	0.07	0.08	0.07	Up	Up	Up
D12/DD12	14.9	0.47	0.18	0.28	0.03	0.01	0.02	Down	Down	Up

Note:
Distance between screens is from base of upper screen to top of lower screen, in feet.
ft - feet
ft/ft - feet per foot

Table 4-3
Summary of Slug Testing Results
Former East 21st Street Works, New York, New York

Well	Test #	Generalized Soil Type in Screened Interval	Screened Interval (ft bgs)	Test Method	Solution Method	Estimated Hydraulic Conductivity (feet/day)
Shallow Zone Water Table Wells (S-Series Wells)						
21MWS03	1	Fill - Mixed sand, silt, gravel, brick fragments	5-15	Slug-Rising Head	Bouwer and Rice	16.1
	2		5-15	Slug-Rising Head	Bouwer and Rice	17.8
	Average					*16.9*
21MWS08	1	Fill - Mixed sand, silt, gravel, brick fragments	6-16	Slug-Rising Head	Bouwer and Rice	21.4
	2		6-16	Slug-Rising Head	Bouwer and Rice	21.8
	Average					*21.6*
23MWS12	1	Fill - Mixed m to c sand, silt, clay gravel, asphalt fragments	5-15	Slug-Rising Head	Bouwer and Rice	25.9
	2		5-15	Slug-Rising Head	Bouwer and Rice	25.7
	Average					*25.8*
Intermediate Zone Wells (D-Series Wells)						
21MWD08	1	Native clay and silt, some f sand and peat grading to f-m glaciolaustrine silty sands	25-35	Pneumatic-Rising	Bouwer and Rice	0.85
	2		25-35	Pneumatic-Rising	Bouwer and Rice	0.89
	3		25-35	Pneumatic-Rising	Bouwer and Rice	1.13
	Average					*0.95*
21MWD09	1	Native clay and silt, some f sand and peat grading to f-m estuarine silty sands	25-35	Pneumatic-Rising	Bouwer and Rice	1.33
	2		25-35	Pneumatic-Rising	Bouwer and Rice	1.41
	3		25-35	Pneumatic-Rising	Bouwer and Rice	1.56
	4		25-35	Pneumatic-Rising	Bouwer and Rice	1.47
	Average					*1.44*
EBMWD13	1	Native f sand with silt layers coarsening to f-m, trace coarse sand and gravel	25-35	Slug-Rising Head	Bouwer and Rice	41.7
	2		25-35	Slug-Rising Head	Bouwer and Rice	41.2
	Average					*41.4*
Deep Zone Wells (DD-Series Wells)						
21MWDD03	1B	Native fine sand and silt interbedded with clay lens at base	50-60	Pneumatic-Rising	Bouwer and Rice	1.17
	2		50-60	Pneumatic-Rising	Bouwer and Rice	0.78
	3		50-60	Pneumatic-Rising	Bouwer and Rice	0.78
	Average					*0.91*
21MWDD08	2	Native red brown medium sand	49-59	Pneumatic-Rising	Bouwer and Rice	20.92
	3		49-59	Pneumatic-Rising	Bouwer and Rice	20.88
	Average					*20.90*
23MWDD12	1	Native fine sand grading to clays with some sand	50-60	Pneumatic-Rising	Bouwer and Rice	0.26
	2		50-60	Pneumatic-Rising	Bouwer and Rice	0.36
	Average					*0.31*
Geometric Mean - Shallow Zone (S-series) Water Table Wells						21.1
Range - Intermediate Zone (D-series) Wells[1]						0.85 - 41.7
Range - Deep Zone (DD-series) Wells[1]						0.26 - 20.9

Notes:
Hydraulic conductivity estimates performed using AQTESOLV Pro (2006).
[1] - Range given due to significant variability of native soils in this interval.
ft bgs - feet below ground surface

Table 5-1
Summary of OU2 RI Surface Soil Analytical Results
Former East 21st Street Works, New York, NY

Location ID Depth Interval Sample Date	NYSDEC RSCOs	Site-Specific Background Values	20CH100 0 - 0.2 2/16/2006	20GH100 DUP 0 - 0.2 2/16/2006	20GH100 0 - 0.2 2/16/2006	EBDT100 0 - 0.2 3/31/2006
(VOCs) (mg/Kg)						
Methylene Chloride	0.1	0.0	**0.024 J**	**0.023 J**	**0.015 J**	0.016 U
Total VOCs	10.0	NA	**0.024**	**0.023**	**0.015**	ND
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)						
Anthracene	50	0.488	**0.26 J**	**0.17 J**	**0.14 J**	0.087 U
Benzo(a)anthracene	0.224	2.599	**0.56 J**	**0.68**	**0.54**	**0.095 J**
Benzo(a)pyrene	0.061	1.046	**0.49 J**	**0.63 J**	**0.58**	**0.14 J**
Benzo(b)fluoranthene	1.1	0.728	**0.79 J**	**1.1**	**0.89**	**0.45 J**
Benzo(ghi)perylene	50	0.565	**0.14 J**	**0.2 J**	**0.17 J**	**0.095 R**
Benzo(k)fluoranthene	1.1	0.996	**0.39 J**	**0.47 J**	**0.38 J**	**0.13 R**
Chrysene	0.4	1.267	**0.61**	**0.79**	**0.65**	0.1 U
Fluoranthene	50	3.416	**1.4**	**1.8**	**1.2**	0.086 U
Indeno(1,2,3-cd)pyrene	3.2	0.509	**0.082 J**	**0.13 J**	**0.14 J**	**0.073 R**
Naphthalene	13	0.476	**0.13 J**	0.11 U	0.072 U	0.098 U
Phenanthrene	50	3.949	**0.89**	**0.93**	**0.64**	0.092 U
Pyrene	50	4.525	**1.2**	**1.4**	**1.1**	0.1 U
Total PAHs	NA	NA	**6.942**	**8.3**	**6.43**	**0.685**
Benzo(a)pyrene Equivalents	NA	NA	**0.63771**	**0.82649**	**0.74145**	**0.1945**
(SVOCs) (mg/Kg)						
4,6-Dinitro-2-methylphenol	NA	NA	**0.12 R**	**0.12 R**	0.082 U	0.11 U
Benzaldehyde	NA	NA	0.12 UJ	0.13 UJ	0.087 UJ	**0.12 R**
bis(2-Ethylhexyl) phthalate	50	NA	**1.4 J**	**0.7 J**	**2.0**	**0.39 J**
Carbazole	NA	0.131	0.091 U	**0.11 J**	**0.079 J**	0.088 U
Di-n-butyl phthalate	8.1	0.064	**2.3 J**	**0.12 J**	**0.13 J**	0.088 U
Hexachlorocyclopentadiene	NA	NA	**0.096 R**	**0.1 R**	0.067 U	0.092 UJ
Total SVOCs	500		**10.642**	**9.23**	**8.639**	**1.075**
Metals (mg/Kg)						
Aluminum	SB	7960	**2,950**	**2,920**	**6,400**	**4,340 J**
Arsenic	7.5 or SB	13.63	**2.13**	**2.55**	**7.19**	**7.58**
Barium	300 or SB	124.7	**40.2**	**42.5**	**48.8**	**66.4**
Beryllium	0.16 or SB	0.463	**0.210 J**	**0.263 J**	**0.353 J**	***0.87 U***
Cadmium	1 or SB	0.2	**0.071 J**	**0.198 J**	**0.438 J**	**1.02**
Calcium	SB	11,563	**5,320**	**7,150**	**4,650**	**15,900 J**
Chromium	10 or SB	36.69	**9.560 J**	**69.5 J**	**28.0**	**12.8**
Cobalt	30 or SB	5.698	**2.690 J**	**3.210 J**	**6.5**	8.7 U
Copper	25 or SB	35.84	**33.2**	**39.7**	**71.1**	**34.3**
Iron	2000 or SB	14,369	**5,250**	**5,140**	**12,900**	**7,030**
Lead	SB	237.7	**50.2**	**74.7**	**136**	**36.5 J**
Magnesium	SB	3129	**1,600**	**2,070**	**1,850**	**5,810**
Manganese	SB	358.5	**174**	**185**	**219**	**346**
Mercury	0.1	1.305	**0.068**	**0.062**	**0.204**	**0.062 J+**
Nickel	13 or SB	15.3	**6.800 J**	**8.760 J**	**21.3 J**	**8.69**
Potassium	SB	1197	**481 J**	**522 J**	**851**	**696 J**
Sodium	SB	214.8	**6,300**	**6,300**	**2,220**	**129 J**
Vanadium	150 or SB	30.25	**12.2**	**11.6**	**37.1**	**12.8**
Zinc	20 or SB	81.77	**99.3 J**	**192 J**	**196**	**87.0**
Cyanide (mg/Kg)						
Available Cyanide	NA	NA	**0.50**	**0.64**	**0.74**	**0.10**
Cyanide, Total	NA	NA	0.904 U	0.954 U	0.643 U	**7.49**
Other						
Percent Solids	N/A	N/A	**53.7**	**56.0**	**77.9**	**55.4**

Notes:

SB indicates site background

ND = calculated totals are not detected

NA = Not Available

N/A = Not Applicable

mg/Kg = milligram per kilogram

NYSDEC RSCO = New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) 4046 Recommended Soil Cleanup Objectives (RSCOs) (NYSDEC 1994)

Shaded values exceed NYSDEC RSCOs

Bold indicates compound was detected

Bold and italics = nondetected values above NYSDEC RSCOs

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.

J- = (Inorganics) The result is an estimated quantity, but the result may be biased low.

R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.

D = Diluted run

Table 5-1
Summary of OU2 RI Surface Soil Analytical Results
Former East 21st Street Works, New York, NY

	NYSDEC RSCOs	Site-Specific Background Values	Summary Statistics											
			Samples	Detects	Non-Detects	Exceedances	DL Exceedances	Max Detected Concentration	ID for Max Concentration	Min Detected Concentration	ID for Min Concentration	Average Detected Concentration	Min DL for Non-Detects	Max DL for Non-Detects
(VOCs) (mg/Kg)														
Methylene Chloride	0.1	0.0	4	3	1	0	0	0.024	20CH100(0-0.2)021606	0.015	20GH100(0-0.2)021606	0.020666667	0.016	0.016
Total VOCs	10.0	NA	4	3	1	0	0	0.024	20CH100(0-0.2)021606	0.015	20GH100(0-0.2)021606	0.020666667	-	-
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)														
Anthracene	50	0.488	4	3	1	0	0	0.26	20CH100(0-0.2)021606	0.14	20GH100(0-0.2)021606	0.19	0.087	0.087
Benzo(a)anthracene	0.224	2.599	4	4	0	3	0	0.68	DUPLICATE8-021606	0.095	EBDT100(0-0.2)033106	0.46875	-	-
Benzo(a)pyrene	0.061	1.046	4	4	0	4	0	0.63	DUPLICATE8-021606	0.14	EBDT100(0-0.2)033106	0.46	-	-
Benzo(b)fluoranthene	1.1	0.728	4	4	0	0	0	1.1	DUPLICATE8-021606	0.45	EBDT100(0-0.2)033106	0.8075	-	-
Benzo(ghi)perylene	50	0.565	4	4	0	0	0	0.2	DUPLICATE8-021606	0.095	EBDT100(0-0.2)033106	0.15125	-	-
Benzo(k)fluoranthene	1.1	0.996	4	4	0	0	0	0.47	DUPLICATE8-021606	0.13	EBDT100(0-0.2)033106	0.3425	-	-
Chrysene	0.4	1.267	4	3	1	3	0	0.79	DUPLICATE8-021606	0.61	20CH100(0-0.2)021606	0.683333333	0.1	0.1
Fluoranthene	50	3.416	4	3	1	0	0	1.8	DUPLICATE8-021606	1.2	20GH100(0-0.2)021606	1.466666667	0.086	0.086
Indeno(1,2,3-cd)pyrene	3.2	0.509	4	4	0	0	0	0.14	20GH100(0-0.2)021606	0.073	EBDT100(0-0.2)033106	0.10625	-	-
Naphthalene	13	0.476	4	1	3	0	0	0.13	20CH100(0-0.2)021606	0.13	20CH100(0-0.2)021606	0.13	0.072	0.11
Phenanthrene	50	3.949	4	3	1	0	0	0.93	DUPLICATE8-021606	0.64	20GH100(0-0.2)021606	0.82	0.092	0.092
Pyrene	50	4.525	4	3	1	0	0	1.4	DUPLICATE8-021606	1.1	20GH100(0-0.2)021606	1.233333333	0.1	0.1
Total PAHs	NA	NA	4	4	0	0	0	8.3	DUPLICATE8-021606	0.685	EBDT100(0-0.2)033106	5.58925	-	-
Benzo(a)pyrene Equivalents	NA	NA	4	4	0	0	0	0.82649	DUPLICATE8-021606	0.1945	EBDT100(0-0.2)033106	0.6000375	-	-
(SVOCs) (mg/Kg)														
4,6-Dinitro-2-methylphenol	NA	NA	4	2	2	0	0	0.12	DUPLICATE8-021606	0.12	DUPLICATE8-021606	0.12	0.082	0.11
Benzaldehyde	NA	NA	4	1	3	0	0	0.12	EBDT100(0-0.2)033106	0.12	EBDT100(0-0.2)033106	0.12	0.087	0.13
bis(2-Ethylhexyl) phthalate	50	NA	4	4	0	0	0	2	20GH100(0-0.2)021606	0.39	EBDT100(0-0.2)033106	1.1225	-	-
Carbazole	NA	0.131	4	2	2	0	0	0.11	DUPLICATE8-021606	0.079	20GH100(0-0.2)021606	0.0945	0.088	0.091
Di-n-butyl phthalate	8.1	0.064	4	3	1	0	0	2.3	20CH100(0-0.2)021606	0.12	DUPLICATE8-021606	0.85	0.088	0.088
Hexachlorocyclopentadiene	NA	NA	4	2	2	0	0	0.1	DUPLICATE8-021606	0.096	20CH100(0-0.2)021606	0.098	0.067	0.092
Total SVOCs	500		4	4	0	0	0	10.642	20CH100(0-0.2)021606	1.075	EBDT100(0-0.2)033106	7.3965	-	-
Metals (mg/Kg)														
Aluminum	SB	7960	4	4	0	0	0	6400	20GH100(0-0.2)021606	4	EBDT100(0-0.2)033106	3068.5	-	-
Arsenic	7.5 or SB	13.63	4	4	0	0	0	7.58	EBDT100(0-0.2)033106	2.13	20CH100(0-0.2)021606	4.8625	-	-
Barium	300 or SB	124.7	4	4	0	0	0	66.4	EBDT100(0-0.2)033106	40.2	20CH100(0-0.2)021606	49.475	-	-
Beryllium	0.16 or SB	0.463	4	3	1	0	1	0.353	20GH100(0-0.2)021606	0.21	20CH100(0-0.2)021606	0.275333333	0.87	0.87
Cadmium	1 or SB	0.2	4	4	0	1	0	1.02	EBDT100(0-0.2)033106	0.071	20CH100(0-0.2)021606	0.43175	-	-
Calcium	SB	11,563	4	4	0	1	0	7150	DUPLICATE8-021606	15	EBDT100(0-0.2)033106	4283.75	-	-
Chromium	10 or SB	36.69	4	4	0	1	0	69.5	DUPLICATE8-021606	9.56	20CH100(0-0.2)021606	29.965	-	-
Cobalt	30 or SB	5.698	4	3	1	0	0	6.5	20GH100(0-0.2)021606	2.69	20CH100(0-0.2)021606	4.133333333	8.7	8.7
Copper	25 or SB	35.84	4	4	0	2	0	71.1	20GH100(0-0.2)021606	33.2	20CH100(0-0.2)021606	44.575	-	-
Iron	2000 or SB	14,369	4	4	0	0	0	12900	20GH100(0-0.2)021606	5140	DUPLICATE8-021606	7580	-	-
Lead	SB	237.7	4	4	0	0	0	136	20GH100(0-0.2)021606	36.5	EBDT100(0-0.2)033106	74.35	-	-
Magnesium	SB	3129	4	4	0	1	0	5810	EBDT100(0-0.2)033106	1600	20CH100(0-0.2)021606	2832.5	-	-
Manganese	SB	358.5	4	4	0	0	0	346	EBDT100(0-0.2)033106	174	20CH100(0-0.2)021606	231	-	-
Mercury	0.1	1.305	4	4	0	1	0	0.204	20GH100(0-0.2)021606	0.062	EBDT100(0-0.2)033106	0.099	-	-
Nickel	13 or SB	15.3	4	4	0	1	0	21.3	20GH100(0-0.2)021606	6.8	20CH100(0-0.2)021606	11.3875	-	-
Potassium	SB	1197	4	4	0	0	0	851	20GH100(0-0.2)021606	481	20CH100(0-0.2)021606	637.5	-	-
Sodium	SB	214.8	4	4	0	3	0	6300	DUPLICATE8-021606	129	EBDT100(0-0.2)033106	3737.25	-	-
Vanadium	150 or SB	30.25	4	4	0	0	0	37.1	20GH100(0-0.2)021606	11.6	DUPLICATE8-021606	18.425	-	-
Zinc	20 or SB	81.77	4	4	0	4	0	196	20GH100(0-0.2)021606	87	EBDT100(0-0.2)033106	143.575	-	-
Cyanide (mg/Kg)														
Available Cyanide	NA	NA	4	4	0	0	0	0.74	20GH100(0-0.2)021606	0.1	EBDT100(0-0.2)033106	0.495	-	-
Cyanide, Total	NA	NA	4	1	3	0	0	7.49	EBDT100(0-0.2)033106	7.49	EBDT100(0-0.2)033106	7.49	0.643	0.954
Other														
Percent Solids	N/A	N/A	4	4	0	0	0	77.9	20GH100(0-0.2)021606	53.7	20CH100(0-0.2)021606	60.75	-	-

Table 5-2
Summary of OU2 RI Upper Fill and Lower Fill/Natural Soil Analytical Results
Former East 21st Street Works, New York, New York

Location Depth Interval (feet) Sample Date	NYSDEC RSCOs	20CH101 13-15 2/27/2006	20CH101 29-31 2/27/2006	20CH101 51-53 2/28/2006	20CH102 22-23 5/22/2008	20CH102 26-26.9 5/22/2008	20GH100 19-21 3/1/2006	20GH100 35-37 3/1/2006	20GH100 13-15 3/1/2006	20GH101 13-15 3/3/2006	20GH101 29-31 3/3/2006	20GH101 37-39 3/3/2006	20GH102 39-41 3/7/2006	20GH102 DUP 39-41 3/7/2006	20MWD16 7-9 3/7/2006	20MWD16 35-37 3/7/2006	20PF101 0.2-5 2/17/2006	20SE101 25-29 6/26/2008	20SE101 22-24 6/26/2008
BTEX (mg/kg)																			
Benzene	0.06	0.053 U	**0.530 J**	0.037 U	**0.99**	0.0044 U	***0.340 U***	0.0023 U	0.0023 U	0.0022 U	0.0025 U	0.0022 U	0.0022 U	0.0023 U	0.0023 U	0.0023 U	0.0023 UJ	**0.031 J**	**0.042**
Ethylbenzene	5.5	0.089 U	**2.300**	0.063 U	**9.500 D**	0.0048 U	**2.100 J**	0.0021 U	0.0020 U	0.0020 U	0.0022 U	0.0019 U	0.0020 U	**0.0042 J**	**0.053**	0.0020 U	0.0021 U	**0.023 J**	**0.180**
Toluene	1.5	0.085 U	**1.6**	0.060 U	**4.200 D**	0.0053 U	0.550 U	0.0024 U	0.0023 U	0.0022 U	0.0026 U	0.0022 U	0.0022 U	0.0024 U	**0.014 J**	0.0023 U	0.0024 U	0.0055 U	**0.053**
m,p-Xylene	NA	0.210 U	**3.800**	0.150 U	**21.000 D**	0.011 U	1.400 U	0.0050 U	0.0049 U	0.0048 U	0.0055 U	0.0048 U	0.0048 U	0.0050 U	**0.300**	0.0049 U	0.0051 U	**0.051 J**	**0.430**
o-Xylene	NA	0.080 U	**1.600**	0.057 U	**9.600 D**	0.0046 U	0.520 U	0.0022 U	0.0022 U	0.0021 U	0.0024 U	0.0021 U	0.0021 U	0.0022 U	**0.230**	0.0022 U	0.0023 U	**0.032**	**0.230**
Total Xylene (calculated)	1.2	0 U	**5.4**	0 U	**30.6**	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	**0.530**	0 U	0 U	**0.083**	**0.660**
VOC (mg/Kg)																			
1,1,1-Trichloroethane	0.8	0.089 U	0.062 U	0.063 U	0.0081 U	0.0057 U	0.580 U	0.0024 U	0.0024 U	0.0023 U	0.0027 U	0.0023 U	0.0023 U	0.0024 U	0.0024 U	0.0024 U	0.0025 UJ	0.0060 U	0.0079 U
2-Butanone (Methyl Ethyl Ketone)	0.3	**2.300 J**	**1.600 J**	**1.600 J**	0.043 U	0.030 U	**15.000 J**	0.016 U	0.016 U	0.016 U	0.018 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.017 U	0.032 U	**0.130 J**
Acetone	0.2	***0.730 U***	**3.500 J**	**3.600 J**	**0.26**	0.100 U	**35.000 J**	0.020 U	0.019 U	0.140 U	0.021 U	0.018 U	0.140 U	0.020 U	0.020 U	0.019 U	0.020 U	0.110 U	**0.5**
Carbon Disulfide	2.7	0.086 U	0.059 U	0.060 U	0.0092 U	0.0065 U	0.550 U	0.0021 U	0.0021 U	0.0020 U	0.0023 U	0.0020 U	0.0020 U	0.0021 U	0.0021 U	**0.0078 J**	0.0022 UJ	0.0068 U	0.0089 U
Cyclohexane	NA	0.080 U	0.056 U	0.057 U	0.0087 U	0.0062 U	0.520 U	0.0019 U	0.0018 U	0.0018 U	0.0021 U	0.0018 U	0.0018 U	0.0019 U	0.0019 U	0.0018 U	0.0019 UJ	0.0064 U	0.0084 U
Isopropylbenzene	NA	0.073 U	**0.380 J**	0.051 U	**0.900**	0.0050 U	0.470 U	0.0024 U	0.0024 U	0.0023 U	0.0026 U	0.0023 U	0.0023 U	0.0024 U	**0.046**	0.0024 U	0.0024 U	**0.017 J**	**0.095**
Methylcyclohexane	NA	0.130 U	0.091 U	0.093 U	**0.025 J**	0.0050 U	0.850 U	0.0024 U	0.0024 U	0.0023 U	0.0027 U	0.0023 U	0.0023 U	0.0024 U	0.0024 U	0.0024 U	0.0025 UJ	0.0052 U	0.0069 U
Methylene Chloride	0.1	***0.140 U***	0.095 U	0.096 U	0.021 U	0.015 U	***0.880 U***	0.011 U	0.010 U	0.010 U	0.012 U	0.010 U	0.028 U	0.011 U	0.011 U	0.010 U	0.029 U	0.015 U	0.020 U
Styrene	NA	0.075 U	0.052 U	0.053 U	**0.034 J**	0.0038 U	0.490 U	0.0027 U	0.0026 U	0.0025 U	0.0029 U	0.0025 U	0.0025 U	0.0027 U	0.0027 U	0.0026 U	0.0027 U	0.0039 U	0.0051 U
Total VOC	10	**2.300**	**15.31**	**5.200**	**46.509**	0 U	**52.1**	0 U	0 U	0 U	0 U	0 U	0 U	**0.0042**	**0.643**	**0.0078**	0 U	**0.154**	**1.660**
PAH (mg/kg)																			
2-Methylnaphthalene	36.4	**0.160 J**	**5.300 D**	**0.330 J**	**7.000 D**	0.012 U	**21.000 D**	0.064 U	**0.210 J**	0.063 U	0.070 U	0.061 U	0.064 U	0.063 U	**0.670**	0.064 U	**0.250 J**	0.012 U	**16.000**
Acenaphthene	50	**0.410 J**	**5.700 D**	**0.320 J**	**1.100**	0.0088 U	**14.000 D**	0.068 U	**0.270 J**	0.067 U	0.075 U	0.065 U	0.068 U	0.067 U	0.069 U	0.068 U	**0.170 J**	0.0088 U	**2.900**
Acenaphthylene	41	0.094 U	**1.500**	**0.100 J**	**3.400**	0.0060 U	**2.000**	0.062 U	0.061 U	0.061 U	0.068 U	0.059 U	0.062 U	0.061 U	0.063 U	0.062 U	**0.180 J**	0.0060 U	**4.500**
Anthracene	50	**0.430 J**	**5.100 D**	**0.350 J**	**3.200 D**	0.014 U	**7.000 D**	0.058 U	**0.160 J**	0.057 U	0.064 U	0.055 U	0.057 U	0.057 U	**0.064 J**	0.058 U	**0.360 J**	0.014 U	**16.000**
Benzo(a)anthracene	0.224	**0.63**	**3.900 D**	**0.260 J**	**3**	0.0098 U	**4.400 D**	0.054 U	**0.100 J**	0.053 U	0.059 U	0.051 U	0.053 U	0.053 U	**0.170 J**	**0.064 J**	**1.1**	0.0098 U	**15**
Benzo(a)pyrene	0.061	**0.63**	**2.700 D**	**0.180 J**	**2.2**	0.012 U	**2.700 D**	0.061 U	**0.078 J**	0.061 U	***0.067 U***	0.058 U	0.061 U	0.061 U	**0.260 J**	**0.094 J**	**1.4**	0.012 U	**12**
Benzo(b)fluoranthene	1.1	**0.970 J**	**3.500 J**	**0.300 J**	**2.2**	0.029 U	**2.300 J**	0.042 U	**0.064 J**	0.042 U	0.046 U	0.040 U	0.042 U	0.042 U	**0.280 J**	**0.096 J**	**1.5**	0.029 U	**15**
Benzo(ghi)perylene	50	**0.340 J**	**1.100**	**0.120 J**	**0.780**	0.030 U	**0.660 J**	0.063 U	**0.065 J**	0.063 U	0.070 U	0.060 U	0.063 U	0.063 U	**0.089 J**	**0.072 J**	**0.580**	0.030 U	**2.600 J**
Benzo(k)fluoranthene	1.1	**0.270 J**	**0.890**	0.089 U	**0.840**	0.019 U	**0.720**	0.084 U	0.082 U	0.083 U	0.093 U	0.080 U	0.084 U	0.083 U	**0.120 J**	0.084 U	**0.690**	0.019 U	**2.400 J**
Chrysene	0.4	**0.7**	**3.400 D**	**0.200 J**	**2.4**	0.0076 U	**4.300 D**	0.069 U	**0.089 J**	0.068 U	0.076 U	0.066 U	0.068 U	0.068 U	**0.180 J**	0.069 U	**1.3**	0.0076 U	**14**
Dibenz(a,h)anthracene	0.014	**0.330 J**	**0.300 J**	***0.051 U***	**0.160 J**	***0.030 U***	**0.230 J**	***0.048 U***	***0.047 U***	***0.048 U***	***0.053 U***	***0.046 U***	***0.048 U***	***0.047 U***	***0.049 U***	***0.048 U***	**0.068 J**	***0.030 U***	**0.950 J**
Fluoranthene	50	**0.900**	**8.800 D**	**0.600**	**4.600 D**	0.0099 U	**7.400 D**	0.057 U	**0.180 J**	0.056 U	0.063 U	0.054 U	0.057 U	0.056 U	**0.280 J**	**0.097 J**	**2.000**	**0.060 J**	**23.000 D**
Fluorene	50	**0.310 J**	**5.500 D**	**0.350 J**	**4.000 D**	0.011 U	**7.600 D**	0.065 U	**0.150 J**	0.064 U	0.071 U	0.062 U	0.064 U	0.064 U	0.065 U	0.065 U	**0.250 J**	0.011 U	**15.000**
Indeno(1,2,3-cd)pyrene	3.2	**0.670**	**1.300**	**0.320 J**	**0.660**	0.010 U	**0.360 J**	0.049 U	**0.240 J**	0.048 U	0.054 U	0.046 U	0.048 U	0.048 U	**0.082 J**	**0.067 J**	**0.620**	0.010 U	**2.000 J**
Naphthalene	13	**0.570 J**	**27.000 D**	**1.300**	**16.000 D**	**0.053 J**	**48.000 D**	0.065 U	**0.520**	0.065 U	0.072 U	0.062 U	0.065 U	0.065 U	**0.110 J**	0.066 U	**0.640**	**0.050 J**	**29.000 D**
Phenanthrene	50	**2.000**	**18.000 D**	**1.300**	**11.000 D**	**0.057 J**	**30.000 D**	0.061 U	**0.650**	0.060 U	0.067 U	0.058 U	0.061 U	0.060 U	**0.300 J**	**0.063 J**	**1.700**	**0.120 J**	**45.000 D**
Pyrene	50	**1.000**	**7.700 D**	**0.660**	**4.000 D**	0.0089 U	**17.000 D**	0.068 U	**0.420**	0.067 U	0.075 U	0.065 U	0.067 U	0.067 U	**0.240 J**	**0.089 J**	**1.700**	**0.053 J**	**26.000 D**
Benzo(a)pyrene Equivalents	NA	**1.1904**	**3.8823**	**0.2682**	**2.9568**	0	**3.6475**	0	**0.11849**	0	0	0	0	0	**0.31458**	**0.1167**	**1.7982**	0	**16.188**
SVOC (mg/kg)																			
1,1-Biphenyl	NA	0.095 U	**1.400**	**0.073 J**	NS	NS	**7.300 D**	0.063 U	**0.100 J**	0.062 U	0.069 U	0.060 U	0.063 U	0.062 U	0.064 U	0.063 U	0.063 U	0.012 U	**2.600 J**
2,4-Dimethylphenol	NA	0.092 U	**0.540**	0.064 U	**0.290 J**	0.012 U	0.059 U	0.061 U	0.059 U	0.060 U	0.067 U	0.058 U	0.060 U	0.060 U	0.062 U	0.061 U	0.061 U	0.012 U	0.078 U
2-Methylphenol	0.1	0.096 U	**0.290 J**	0.067 U	0.015 U	0.011 U	0.062 U	0.064 U	0.062 U	0.063 U	0.070 U	0.061 U	0.063 U	0.063 U	0.064 U	0.064 U	0.064 U	0.011 U	0.070 U
3+4-Methylphenols	NA	0.580 U	**0.370 J**	0.400 U	NS	NS	0.370 U	0.380 U	0.370 U	0.380 U	0.420 U	0.360 U	0.380 U	0.380 U	0.390 U	0.380 U	0.380 U	NS	NS
Benzaldehyde	NA	0.120 U	0.082 U	0.083 U	NS	NS	0.077 U	0.079 U	0.077 U	0.078 U	0.087 U	0.075 U	0.078 UJ	0.078 U	0.080 U	0.079 U	0.079 U	0.014 R	**0.860 J**
bis(2-Ethylhexyl) phthalate	50	0.110 U	0.077 U	0.078 U	0.022 U	0.016 U	**0.076 J**	0.073 U	0.072 U	0.073 U	0.081 U	0.070 U	0.073 U	**0.085 J**	0.074 U	0.074 U	**0.091 J**	0.016 U	0.100 U
Carbazole	NA	**0.150 J**	**2.400 D**	**0.130 J**	**1.800**	0.031 U	0.057 U	0.058 U	0.057 U	0.058 U	0.064 U	0.056 U	0.058 U	0.058 U	0.059 U	0.059 U	**0.130 J**	0.031 UJ	**2.000 J**
Dibenzofuran	6.2	**0.160 J**	**4.300 D**	**0.260 J**	**3.500**	0.013 U	**0.300 J**	0.063 U	0.062 U	0.063 U	0.070 U	0.060 U	0.063 U	0.063 U	0.064 U	0.063 U	**0.120 J**	0.013 U	**7.9**
Phenol	0.03	***0.087 U***	***0.061 U***	***0.061 U***	0.016 U	0.011 U	***0.057 U***	***0.058 U***	***0.057 U***	***0.057 U***	***0.064 U***	***0.055 U***	***0.058 U***	***0.057 U***	***0.059 U***	***0.058 U***	***0.058 U***	0.011 U	***0.073 U***
Total SVOCs	500	**10.630**	**110.990**	**7.153**	**72.130**	**0.110**	**177.346**	0 U	**3.296**	0 U	0 U	0 U	0 U	**0.085**	**2.845**	**0.642**	**14.849**	**0.283**	**254.710**

Notes:

ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
NYSDEC RSCO = New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) 4046 Recommended Soil Cleanup Objectives (RSCOs) (NYSDEC 1994)

Shaded values exceed NYSDEC RSCOs

bold and italic non detected compounds exceed NYSDEC RSCOs
sb indicates site background
d indicates default NYSDEC RSCO
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.
J- = (Inorganics) The result is an estimated quantity, but the result may be biased low.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.

Table 5-2
Summary of OU2 RI Upper Fill and Lower Fill/Natural Soil Analytical Results
Former East 21st Street Works, New York, New York

Location Depth Interval (feet) Sample Date	NYSDEC RSCOs	20CH101 13-15 2/27/2006	20CH101 29-31 2/27/2006	20CH101 51-53 2/28/2006	20CH102 22-23 5/22/2008	20CH102 26-26.9 5/22/2008	20GH100 19-21 3/1/2006	20GH100 35-37 3/1/2006	20GH100 13-15 3/1/2006	20GH101 13-15 3/3/2006	20GH101 29-31 3/3/2006	20GH101 37-39 3/3/2006	20GH102 39-41 3/7/2006	20GH102 DUP 39-41 3/7/2006	20MWD16 7-9 3/7/2006	20MWD16 35-37 3/7/2006	20PF101 0.2-5 2/17/2006	20SE101 25-29 6/26/2008	20SE101 22-24 6/26/2008
Metals (mg/kg)																			
Aluminum	7,960 (sb)	**16900**	**2140**	**5720**	NS	NS	**3120**	**4490**	**8790**	**9020**	**2590**	**2120**	**3860**	**3300**	**6250**	**4090**	**5560**	NS	NS
Antimony	NA	**3.5 J**	0.40 U	**0.85 J**	NS	NS	0.37 U	0.38 U	**4.5 J**	0.379 U	0.414 U	0.360 U	0.376 U	0.373 U	7.1 U	0.380 U	0.378 U	NS	NS
Arsenic	13.63 (sb)	**8.9**	**2.0**	**2.0**	NS	NS	**1.9**	**1.9**	**4.3**	**2.640**	**0.529 J**	0.430 U	**0.812 J**	**0.497 J**	**2.250**	**1.140 J**	**4.490**	NS	NS
Barium	300 (d)	**138**	**9.7 J**	**96.3**	NS	NS	**20.9 J**	**32.6**	**53.6**	**61.0**	**13.9 J**	**7.180 J**	**8.900 J**	**7.100 J**	**56.6**	**29.4**	**337**	NS	NS
Beryllium	0.463 (sb)	**0.87 J**	**0.06 J**	**0.35 J**	NS	NS	**0.10 J**	**0.40 J**	**0.38 J**	***0.58 U***	***0.64 U***	***0.55 U***	***0.57 U***	***0.57 U***	***0.59 U***	***0.59 U***	***0.583 U***	NS	NS
Cadmium	1 (d)	0.06 U	0.04 U	0.04 U	NS	NS	0.04 U	0.04 U	0.04 U	**0.110 J**	0.042 U	0.036 U	**0.050 J**	**0.043 J**	**13.9**	**0.089 J**	0.038 U	NS	NS
Calcium	11,563 (sb)	**5060**	**857**	**11100**	NS	NS	**763**	**1910**	**2430**	**2600**	**876**	**881**	**508 J**	**490 J**	**2980**	**953**	**13600**	NS	NS
Chromium	36.69 (sb)	**30.5**	**4.6**	**13.2**	NS	NS	**11.5**	**12.8**	**14.4**	**15.3**	**9.830**	**8.570**	**9.830**	**8.640**	**12.6**	**9.540**	**12.8**	NS	NS
Cobalt	30 (d)	**11.9**	**1.1 J**	**6.2**	NS	NS	**1.5 J**	**5.2 J**	**6.0**	**6.170**	6.4 U	5.5 U	5.7 U	5.7 U	5.9 U	5.9 U	**6.050**	NS	NS
Copper	35.84 (sb)	**50**	**4.7**	**13.3**	NS	NS	**13.7**	**8.6**	**14.2**	**24.6**	**7.240**	**6.320**	**6.470**	**6.340**	**28.6**	**9.380**	**34.2**	NS	NS
Iron	14369 (sb)	**29500**	**3950**	**13300**	NS	NS	**7390**	**9910**	**13800**	**14100**	**4220**	**3330**	**5670**	**5140**	**9700**	**6800**	**10400**	NS	NS
Lead	237.7 (sb)	**156**	**6.1**	**8.5**	NS	NS	**5.5**	**6.1**	**20.9**	**30.3**	**3.950**	**2.500**	**4.180**	**3.970**	**80.6**	**8.600**	**245**	NS	NS
Magnesium	3,129 (sb)	**6420**	**912**	**6250**	NS	NS	**1220**	**2680**	**2680**	**2930**	**1220**	**1060**	**1320**	**1140**	**2150**	**1810**	**2820**	NS	NS
Manganese	358.5 (sb)	**394**	0.03 U	**306**	NS	NS	**32.7**	**77.3**	**240**	**329**	**36.7**	**32.2**	**46.2**	**41.7**	**103**	**84.3**	**176**	NS	NS
Mercury	0.1 (d)	**0.965**	**0.018**	**0.007 J-**	NS	NS	0.007 UJ	0.007 UJ	**0.049**	**0.057**	0.007 U	0.006 U	**0.007 J**	**0.007 J**	**0.115**	**0.012**	**0.433**	NS	NS
Nickel	15.3 (sb)	**26.5**	**4.0 J**	**19.8**	NS	NS	**5.6**	**19.7**	**14.0**	**16.3**	**7.450**	**5.990**	**9.020**	**7.680**	**12.6**	**7.970**	**14.9**	NS	NS
Potassium	1,197 (sb)	**3910**	**575 J**	**2160**	NS	NS	**1020**	**1420**	**1350**	**1470**	**709**	**426 J**	**596**	**616**	**964**	**622**	**1420**	NS	NS
Selenium	2.0 (d)	0.60 U	0.42 U	0.42 U	NS	NS	0.38 U	0.39 U	0.38 U	0.394 U	0.431 U	0.374 U	0.391 U	0.388 U	0.396 U	0.395 U	1.16 U	NS	NS
Silver	0.229 (sb)	**1.3 J**	0.10 U	**0.50 J**	NS	NS	**0.24 J**	**0.37 J**	**0.54 J**	0.091 U	0.100 U	0.087 U	0.091 U	0.090 U	0.092 U	0.091 U	0.091 U	NS	NS
Sodium	214.8 (sb)	**478 J**	35.2 U	**286 J**	NS	NS	**139 J**	**118 J**	**221 J**	**63.5 J**	**334 J**	**50.9 J**	29.6 U	***574 U***	**689**	***579 U***	**463 J**	NS	NS
Thallium	NA	0.93 U*	0.64 U	0.65 U	NS	NS	0.59 U	0.61 U	0.59 U	**1.000 J**	**0.883 J**	0.578 U	0.604 U	0.599 U	**0.891 J**	**0.957 J**	0.608 U	NS	NS
Vanadium	150 (d)	**43.5**	**6.3**	**17.5**	NS	NS	**13.3**	**18.1**	**20.1**	**21.5**	**9.710**	**7.150**	**9.840**	**8.350**	**17.3**	**10.8**	**18.7**	NS	NS
Zinc	81.77 (d)	**86.1**	**13.0**	**28.9**	NS	NS	**10.4**	**21.3**	**24.8**	**31.4**	**14.6**	**11.1**	**13.3**	**13.0**	**331**	**64.9**	**210**	NS	NS
Cyanide (mg/kg)																			
Available Cyanide	NA	**10.2**	**0.11**	0.049 U	NS	NS	**0.38**	0.047 U	**0.038 J**	**0.13**	0.050 U	0.046 U	**0.078**	**0.042 J**	**0.56**	**0.12**	**1.7**	NS	NS
Cyanide, Total	NA	0.882 U	0.611 U	0.617 U	NS	NS	0.566 U	0.584 U	0.569 U	0.577 U	0.638 U	0.554 U	**1.480**	0.574 U	0.592 U	**1.350**	0.583 U	NS	NS

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Location Depth Interval (feet) Sample Date	NYSDEC RSCOs	20SE101 30-34 6/26/2008	20SE101 66-68 6/27/2008	23N101 17.5-20 5/3/2006	23N101 30-35 5/4/2006	23N101 55-60 5/4/2006	23N102 13-15 5/2/2006	23N102 19-23 5/2/2006	23N102 31-33 5/2/2006	23N102 DUP 31-33 5/2/2006	AC101 10-15 4/27/2006	AC101 29-30 4/27/2006	AC101 35-40 4/27/2006	AC101 55-60 4/28/2006	AC101 65-70 4/28/2006	AC101 70-72 5/9/2006	AC103 10-15 8/7/2008	AC103 DUP 10-15 8/7/2008	AC103 28-30 8/7/2008
BTEX (mg/kg)																			
Benzene	0.06	0.0044 U	0.0049 U	0.0030 U	0.0024 U	0.0026 U	0.0028 U	0.0025 U	0.0023 U	0.0023 U	0.0024 UJ	**1.700 D**	**0.0056 J**	0.0025 UJ	0.0024 U	0.0024 U	0.0041 U	0.0042 U	0.0042 U
Ethylbenzene	5.5	0.0049 U	0.0054 U	0.0027 U	0.0021 U	0.0023 U	0.0025 U	0.0022 U	0.0020 U	0.0021 U	0.0021 UJ	**6.100 D**	0.0021 U	0.0022 UJ	0.0022 U	0.0022 U	0.0046 U	0.0047 U	0.0047 U
Toluene	1.5	0.0054 U	0.0060 U	0.0031 U	0.0024 U	0.0026 U	0.0028 U	0.0026 U	0.0023 U	0.0023 U	0.0024 UJ	**3.500 D**	0.0024 U	0.0025 UJ	0.0025 U	0.0025 U	0.0050 U	0.0051 U	0.0051 U
m,p-Xylene	NA	0.011 U	0.013 U	0.0066 U	0.0051 U	0.0055 U	0.0061 U	0.0055 U	0.0049 U	0.0050 U	**0.018 J**	**10.000 D**	0.0050 U	0.0054 UJ	0.0053 U	0.0053 U	**0.067 J**	0.011 UJ	0.011 U
o-Xylene	NA	0.0046 U	0.0052 U	0.0029 U	0.0023 U	0.0025 U	0.0027 U	0.0024 U	0.0022 U	0.0022 U	**0.014 J**	**5.400 D**	0.0022 U	0.0024 UJ	0.0024 U	0.0024 U	**0.046 J**	0.0044 UJ	0.0044 U
Total Xylene (calculated)	1.2	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	**0.032**	**15.4**	0 U	0 U	0 U	0 U	**0.113**	0 U	0 U
VOC (mg/Kg)																			
1,1,1-Trichloroethane	0.8	0.0058 U	0.0065 U	0.0032 U	0.0025 U	0.0027 U	0.0029 U	0.0026 U	0.0024 U	0.0024 U	0.0025 UJ	0.0027 U	0.0024 U	0.0026 UJ	0.0026 U	0.0026 U	0.0054 U	0.0055 U	0.0055 U
2-Butanone (Methyl Ethyl Ketone)	0.3	0.031 U	0.034 U	0.021 U	0.017 U	0.018 U	0.020 U	0.018 U	0.016 U	0.016 U	0.017 UJ	**0.045 J**	0.016 U	0.018 UJ	0.017 U	0.017 U	0.029 U	0.029 U	0.029 U
Acetone	0.2	0.100 U	0.120 U	0.025 U	0.020 U	0.021 U	0.024 U	0.021 U	0.019 U	0.019 U	0.020 UJ	**0.170**	**0.062 J**	0.021 UJ	0.021 U	0.021 U	0.097 U	0.099 U	0.099 U
Carbon Disulfide	2.7	0.0066 U	0.0074 U	**0.021 J**	**0.033 J**	0.0024 UJ	**0.011 J**	**0.0097 J**	0.0021 UJ	0.0021 UJ	**0.016 J**	0.0024 U	0.0021 U	0.0023 UJ	0.0023 U	0.0023 UJ	**0.011 J**	0.0063 U	0.0063 U
Cyclohexane	NA	0.0062 U	0.0069 U	0.0025 U	0.0019 U	0.0021 U	0.0023 U	0.0021 U	0.0018 U	0.0019 U	0.0019 UJ	**0.029 J**	0.0019 U	0.0020 UJ	0.0020 U	0.0020 U	0.0058 U	0.0059 U	0.0059 U
Isopropylbenzene	NA	0.0050 U	0.0056 U	0.0032 U	0.0025 U	0.0027 U	0.0029 U	0.0026 U	0.0024 U	0.0024 U	**0.0035 J**	**0.680 JD**	0.0024 U	0.0026 UJ	0.0025 U	0.0025 U	0.0047 U	0.0048 U	0.0048 U
Methylcyclohexane	NA	0.0051 U	0.0057 U	0.0032 U	0.0025 U	0.0027 U	0.0029 U	0.0027 U	0.0024 U	0.0024 U	0.0025 UJ	**0.044**	0.0024 U	0.0026 UJ	0.0026 U	0.0026 U	0.0047 U	0.0048 U	0.0048 U
Methylene Chloride	0.1	0.015 U	0.017 U	0.014 U	0.011 UJ	0.012 UJ	**0.020 J**	0.012 UJ	0.010 UJ	0.011 UJ	0.011 UJ	0.012 U	0.011 U	0.011 UJ	0.011 U	0.011 U	**0.17**	0.014 U	**0.024 J**
Styrene	NA	0.0038 U	0.0042 U	0.0035 U	0.0027 U	0.0029 U	0.0032 U	0.0029 U	0.0026 U	0.0027 U	0.0027 UJ	**0.110**	0.0027 U	0.0029 UJ	0.0028 U	0.0028 U	0.0035 U	0.0036 U	0.0036 U
Total VOC	10	0 U	0 U	**0.021**	**0.033**	0 U	**0.031**	**0.0097**	0 U	0 U	**0.0515**	**27.778**	**0.0676**	0 U	0 U	0 U	**0.294**	0 U	**0.024**
PAH (mg/kg)																			
2-Methylnaphthalene	36.4	0.011 U	0.013 U	0.086 U	0.065 U	0.069 U	0.078 U	0.070 U	0.063 U	0.062 U	**5.600**	**9.000 JD**	0.064 U	**0.084 J**	0.069 U	0.069 U	0.110 U	0.110 U	0.055 U
Acenaphthene	50	0.0086 U	0.0099 U	0.092 U	0.070 U	0.074 U	**0.220 J**	**0.220 J**	**0.110 J**	0.066 U	**7.000**	**2.000 J**	0.068 U	0.072 U	0.073 U	0.073 U	0.083 U	0.083 U	0.042 U
Acenaphthylene	41	0.0058 U	0.0067 U	0.084 U	0.064 U	0.067 U	0.076 U	0.068 U	0.061 U	0.060 U	0.640 U	**2.400 J**	0.062 U	0.065 U	0.067 U	0.067 U	0.056 U	0.056 U	0.028 U
Anthracene	50	0.013 U	0.015 U	0.078 U	0.059 U	0.063 U	**0.096 J**	**0.160 J**	**0.083 J**	0.056 U	**16.000**	**2.800**	0.058 U	0.061 U	0.062 U	0.062 U	0.130 U	0.130 U	0.065 U
Benzo(a)anthracene	0.224	**0.069 J**	0.011 U	0.072 U	0.055 U	0.058 U	**0.250 J**	**0.310 J**	**0.130 J**	0.052 U	**15**	**2.900 J**	0.053 U	0.056 U	0.057 U	0.058 U	0.092 U	0.092 U	**0.240 J**
Benzo(a)pyrene	0.061	**0.060 J**	0.014 U	***0.082 U***	***0.063 U***	***0.066 U***	**0.250 J**	**0.330 J**	**0.110 J**	0.059 U	**13.000 J**	**2.100 J**	0.061 U	***0.064 U***	***0.066 U***	***0.066 U***	***0.110 U***	***0.110 U***	0.057 U
Benzo(b)fluoranthene	1.1	**0.068 J**	0.033 U	0.057 U	0.043 U	0.046 U	**0.270 J**	**0.340 J**	**0.120 J**	0.041 U	**14.000 J**	**2.200 J**	0.042 U	0.044 U	0.045 U	0.045 U	0.280 U	0.280 U	**0.230 J**
Benzo(ghi)perylene	50	0.029 U	0.033 U	0.085 U	0.065 U	0.069 U	0.078 U	**0.120 J**	0.063 U	0.061 U	**4.800 J**	**0.650 J**	0.063 U	0.066 U	0.068 UJ	0.068 U	0.280 U	0.280 U	0.140 U
Benzo(k)fluoranthene	1.1	0.018 U	0.021 U	0.110 R	0.086 R	0.091 R	0.100 R	**0.130 J**	0.083 R	0.081 R	**6.000 J**	**1.100 J**	0.084 U	0.088 U	0.090 U	0.091 U	0.180 U	0.180 U	0.089 U
Chrysene	0.4	**0.048 J**	0.0085 U	0.092 U	0.070 U	0.075 U	**0.250 J**	**0.330 J**	**0.130 J**	0.066 U	**13**	**2.6**	0.069 U	0.072 U	0.074 U	0.074 U	0.071 U	0.071 U	**0.250 J**
Dibenz(a,h)anthracene	0.014	***0.029 U***	***0.034 U***	***0.065 U***	***0.049 U***	***0.052 U***	***0.059 U***	***0.052 U***	***0.047 U***	***0.046 U***	***0.490 UJ***	**0.110 J**	***0.048 U***	***0.050 U***	***0.051 U***	***0.052 U***	***0.280 U***	***0.280 U***	***0.140 U***
Fluoranthene	50	**0.054 J**	0.011 U	0.077 U	0.058 U	0.062 U	**0.440 J**	**0.500**	**0.330 J**	0.055 U	**31.000**	**4.400 D**	0.057 U	0.060 U	0.061 U	0.061 U	0.093 U	0.093 U	**0.550 J**
Fluorene	50	0.011 U	0.012 U	0.087 U	0.066 U	0.070 U	**0.082 J**	**0.130 J**	0.064 U	0.062 U	**7.000**	**4.900 D**	0.064 U	0.068 U	0.069 U	0.070 U	0.100 U	0.100 U	0.052 U
Indeno(1,2,3-cd)pyrene	3.2	0.010 U	0.012 U	0.065 UJ	0.050 UJ	0.053 UJ	**0.069 J**	**0.110 J**	0.048 UJ	0.047 UJ	**2.300 J**	**0.280 J**	0.048 U	0.051 U	0.052 UJ	0.052 UJ	0.097 U	0.097 U	0.049 U
Naphthalene	13	0.0096 U	0.011 U	0.088 U	0.067 U	0.071 U	**0.230 J**	**0.200 J**	**0.160 J**	0.063 U	**0.690 J**	**22.000 D**	0.065 U	**0.160 J**	0.070 U	0.070 U	0.093 U	0.092 U	0.047 U
Phenanthrene	50	**0.078 J**	0.014 U	0.082 U	0.062 U	0.066 U	**0.310 J**	**0.510**	**0.310 J**	0.059 U	**31.000**	**10.000 D**	0.061 U	0.064 U	0.065 U	0.066 U	0.120 U	0.120 U	**0.630 J**
Pyrene	50	**0.090 J**	0.010 U	0.091 U	0.069 U	0.073 U	**0.390 J**	**0.470**	**0.290 J**	0.065 U	**41.000 D**	**7.000 D**	0.068 U	0.071 U	0.072 U	0.073 U	0.084 U	0.083 U	**0.520 J**
Benzo(a)pyrene Equivalents	NA	**0.07375**	0	0	0	0	**0.30915**	**0.40763**	**0.13513**	0	**16.203**	**2.7616**	0	0	0	0	0	0	**0.04725**
SVOC (mg/kg)																			
1,1-Biphenyl	NA	0.012 U	0.014 U	0.085 U	0.064 U	0.068 U	0.077 U	0.069 U	0.062 U	0.061 U	**1.100 J**	**1.600**	0.063 U	0.066 U	0.068 U	0.068 U	0.110 U	0.110 U	0.057 U
2,4-Dimethylphenol	NA	0.012 U	0.014 U	0.082 U	0.062 U	0.066 U	0.074 U	0.066 U	0.060 U	0.059 U	0.620 U	**1.400**	0.061 U	0.064 U	0.065 U	0.065 U	0.110 U	0.110 U	0.058 U
2-Methylphenol	0.1	0.011 U	0.012 U	0.086 U	0.065 U	0.069 U	0.078 U	0.069 U	0.063 U	0.061 U	***0.650 U***	0.071 U	0.064 U	0.067 U	0.068 U	0.069 U	0.100 U	0.100 U	0.052 U
3+4-Methylphenols	NA	NS	NS	0.510 U	0.390 U	0.410 U	0.470 U	0.420 U	0.380 U	0.370 U	3.900 U	**0.250 J**	0.380 U	0.063 U	0.065 U	0.065 U	NS	NS	NS
Benzaldehyde	NA	0.013 R	0.015 R	0.110 R	0.080 R	0.085 R	0.096 R	0.086 R	0.078 R	0.076 R	0.810 U	0.088 U	0.078 U	0.082 U	0.084 U	0.085 UJ	0.130 R	0.130 R	0.065 R
bis(2-Ethylhexyl) phthalate	50	**0.075 J**	0.018 U	0.099 U	0.075 U	0.080 U	**0.120 J**	0.080 U	0.073 U	0.071 U	0.750 U	0.082 U	0.073 U	0.077 U	0.079 U	0.079 U	0.150 U	0.150 U	0.074 U
Carbazole	NA	0.030 U	0.035 U	0.079 U	0.060 U	0.063 U	0.072 U	0.064 U	0.058 U	0.056 U	0.600 U	**1.900 J**	0.058 U	0.061 U	0.063 U	0.063 U	0.290 U	0.290 U	0.150 U
Dibenzofuran	6.2	0.012 U	0.014 U	0.085 U	0.065 U	0.069 U	0.078 U	0.069 U	0.063 U	0.061 U	**2.700 J**	**2.300**	0.063 U	0.066 U	0.068 U	0.068 U	0.120 U	0.120 U	0.060 U
Phenol	0.03	0.011 U	0.013 U	**0.150 J**	**0.190 J**	**0.150 J**	**0.110 J**	**0.087 J**	**0.150 J**	**0.110 J**	***0.600 U***	***0.065 U***	***0.058 U***	***0.061 U***	***0.062 U***	***0.062 U***	***0.110 U***	***0.110 U***	***0.054 U***
Total SVOCs	500	**0.542**	0 U	**0.150**	**0.190**	**0.150**	**3.087**	**3.947**	**1.923**	**0.110**	**211.190**	**83.890**	0 U	**0.244**	0 U	0 U	0 U	0 U	**2.420**

Notes:

ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
NYSDEC RSCO = New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) 4046 Recommended Soil Cleanup Objectives (RSCOs) (NYSDEC 1994)

Shaded values exceed NYSDEC RSCOs

bold and italic non detected compounds exceed NYSDEC RSCOs
sb indicates site background
d indicates default NYSDEC RSCO
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.
J- = (Inorganics) The result is an estimated quantity, but the result may be biased low.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.

Table 5-2
Summary of OU2 RI Upper Fill and Lower Fill/Natural Soil Analytical Results
Former East 21st Street Works, New York, New York

Location Depth Interval (feet) Sample Date	NYSDEC RSCOs	20SE101 30-34 6/26/2008	20SE101 66-68 6/27/2008	23N101 17.5-20 5/3/2006	23N101 30-35 5/4/2006	23N101 55-60 5/4/2006	23N102 13-15 5/2/2006	23N102 19-23 5/2/2006	23N102 31-33 5/2/2006	23N102 DUP 31-33 5/2/2006	AC101 10-15 4/27/2006	AC101 29-30 4/27/2006	AC101 35-40 4/27/2006	AC101 55-60 4/28/2006	AC101 65-70 4/28/2006	AC101 70-72 5/9/2006	AC103 10-15 8/7/2008	AC103 DUP 10-15 8/7/2008	AC103 28-30 8/7/2008
Metals (mg/kg)																			
Aluminum	7,960 (sb)	NS	NS	**14300**	**5070**	**4000**	**5850**	**2900**	**2570**	**3130**	**3490**	**9910**	**3780**	**12100**	**5880**	**2570**	NS	NS	NS
Antimony	NA	NS	NS	0.517 U	0.381 U	0.410 U	0.471 U	0.407 U	0.372 U	0.370 U	0.39 U	**10.7**	6.97 U	0.395 U	0.406 U	0.41 U	NS	NS	NS
Arsenic	13.63 (sb)	NS	NS	**9.320**	**1.910**	**8.070**	**6.110**	**1.900**	**1.200**	**1.480**	**1.8**	**6.5**	**2.8**	**2.940**	0.486 U	0.49 U	NS	NS	NS
Barium	300 (d)	NS	NS	**31.8**	**89.9**	**30.3**	**116**	**43.2**	**26.0**	**25.8**	**26.6**	**32.0**	**24.4**	**146**	**117**	0.09 U	NS	NS	NS
Beryllium	0.463 (sb)	NS	NS	**0.754 J**	**0.300 J**	**0.226 J**	**0.254 J**	**0.115 J**	**0.160 J**	**0.166 J**	***0.59 U***	***0.64 U***	***0.58 U***	**0.608**	**0.207 J**	0.010 U	NS	NS	NS
Cadmium	1 (d)	NS	NS	0.052 U	0.038 U	0.041 U	0.047 U	0.041 U	0.037 U	0.037 U	0.04 U	0.04 U	0.04 U	**0.136 J**	0.041 U	0.04 U	NS	NS	NS
Calcium	11,563 (sb)	NS	NS	**2740**	**11500**	**1480**	**12600**	**3070**	**1160**	**1110**	**6030**	**2490**	**831**	**13100**	**5060**	**10000**	NS	NS	NS
Chromium	36.69 (sb)	NS	NS	**30.2**	**11.5**	**12.8**	**11.6**	**10.7**	**10.8**	**11.2**	**8.7**	**20.1**	**8.9**	**20.1**	**13.9**	**4.8**	NS	NS	NS
Cobalt	30 (d)	NS	NS	**11.5**	**5.950**	**6.880**	**6.100 J**	**3.330 J**	**2.310 J**	**3.160 J**	5.9 U	**8.2**	5.8 U	**10.6**	**7.820**	**2.6 J**	NS	NS	NS
Copper	35.84 (sb)	NS	NS	**13.9**	**11.5**	**15.6**	**95.8**	**32.9**	**6.690**	**8.150**	**18.1**	**20.1**	**8.7**	**21.9**	**14.5**	**7.8**	NS	NS	NS
Iron	14369 (sb)	NS	NS	**29900**	**11100**	**9720**	**12400**	**7210**	**7390**	**8820**	**7600**	**20800**	**9420**	**19900**	**11500**	**6120**	NS	NS	NS
Lead	237.7 (sb)	NS	NS	**13.4**	**4.670**	**3.840**	**266**	**116**	**4.830**	**7.210**	**47.2**	**68.1**	**4.5**	**8.330**	**2.030**	**2.7**	NS	NS	NS
Magnesium	3,129 (sb)	NS	NS	**7400**	**5870**	**2220**	**2680**	**1720**	**1820**	**2240**	**2660**	**4580**	**1910**	**8990**	**4850**	**5070**	NS	NS	NS
Manganese	358.5 (sb)	NS	NS	**505**	**386**	**184**	**159**	**96.9**	**56.6**	**66.3**	**139**	**596**	**51.1**	**457**	**220**	**181**	NS	NS	NS
Mercury	0.1 (d)	NS	NS	**0.627**	**0.022**	0.007 U	**0.97**	**0.371**	0.007 U	**0.012**	**0.087 J-**	**0.243 J-**	0.007 UJ	**0.015**	0.007 U*	0.007 U	NS	NS	NS
Nickel	15.3 (sb)	NS	NS	**27.2**	**17.2**	**15.8**	**12.8**	**8.680**	**8.040**	**11.8**	**9.0**	**16.9**	**12.1**	**28.3**	**14.9**	**6.2**	NS	NS	NS
Potassium	1,197 (sb)	NS	NS	**3220**	**1750**	**924 J-**	**1960**	**1120**	**603 J-**	**713 J-**	**1220**	**2200**	**1270**	**3960**	**3490**	**1740**	NS	NS	NS
Selenium	2.0 (d)	NS	NS	**1.080 J**	0.397 U	0.426 U	0.489 U	0.423 U	0.387 U	0.384 U	0.40 U	0.44 U	0.39 U	0.411 U	0.423 U	0.42 U	NS	NS	NS
Silver	0.229 (sb)	NS	NS	0.124 U	0.092 U	0.099 U	0.113 U	0.098 U	0.090 U	0.089 U	0.09 U	**0.21 J**	**0.16 J**	0.095 U	0.098 U	0.10 U	NS	NS	NS
Sodium	214.8 (sb)	NS	NS	**1310**	**333 J-**	**680 J-**	**456 J-**	**192 J-**	**187 J-**	**186 J-**	**733 J**	**2320**	***581 U***	**1920**	**661 J+**	**555 J**	NS	NS	NS
Thallium	NA	NS	NS	0.830 U	0.613 U	0.658 U	0.756 U	0.653 U	0.598 U	0.594 U	0.62 U	0.67 U	0.60 U	0.635 U	0.653 U	0.66 U	NS	NS	NS
Vanadium	150 (d)	NS	NS	**40.3**	**16.5**	**16.0**	**19.4**	**10.4**	**9.120**	**11.2**	**16.8**	**24.9**	**11.1**	**27.3**	**19.1**	**7.3**	NS	NS	NS
Zinc	81.77 (d)	NS	NS	**78.4**	**28.8**	**25.8**	**108**	**35.7**	**16.5**	**19.2**	**44.4**	**56.4**	**20.8**	**57.3**	**60.6**	**18.9**	NS	NS	NS
Cyanide (mg/kg)																			
Available Cyanide	NA	NS	NS	**17.1 J**	**1.3**	**0.068**	**0.65**	**0.42**	**0.30 J**	**0.62 J**	**0.29**	**90.9**	**0.87**	**0.091**	**0.040 J**	0.050 U	NS	NS	NS
Cyanide, Total	NA	NS	NS	0.79 U	0.59 U	0.63 U	0.72 U	0.63 U	0.57 U	0.56 U	0.594 U	0.646 U	0.581 U	0.61 U	0.63 U	0.62 U	NS	NS	NS

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Shaded values exceed NYSDEC RSCOs

bold and italic non detected compounds exceed NYSDEC RSCOs
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Table 5-2
Summary of OU2 RI Upper Fill and Lower Fill/Natural Soil Analytical Results
Former East 21st Street Works, New York, New York

Location Depth Interval (feet) Sample Date	NYSDEC RSCOs	AC103 32-34 8/7/2008	AC103 34-36 8/7/2008	EBDT100 26.6-29 4/4/2006	EBDT100 55-56.42 4/12/2006	EBDT100 61-63 4/12/2006	EBDT101 0.25-5 3/28/2006	EBDT101 DUP 0.25-5 3/28/2006	EBDT101 4-5 3/29/2006	EBDT101 41-45 3/31/2006	EBDT101 23-27 3/31/2006	EBDT102 0.2-5 4/7/2006	EBDT102 9-11 4/7/2006	EBDT102 46-48 4/10/2006	EBDT102 60-62 4/10/2006	EBDT103 0.2-0.5 4/3/2006	EBDT103 25-29 4/5/2006	EBDT103 39-41 4/5/2006	EBDT103 65-69 4/6/2006
BTEX (mg/kg)																			
Benzene	0.06	0.0050 U	0.0046 U	**9.3**	**6.600 J**	0.0025 U	0.0021 U	0.0022 UJ	0.0022 U	**0.0066 J**	**8.200 J**	**0.0032 J**	**0.0097 J**	***0.760 U***	0.0025 U	0.0022 UJ	**7**	0.0026 U	**0.0046 J**
Ethylbenzene	5.5	0.0056 U	0.0051 U	**50**	**130**	**0.0039 J**	0.0019 U	0.0019 U	0.0020 U	**0.013 J**	**34.000 J**	**0.015 J**	**4.000 D**	**4.800**	**0.029 J**	**0.019 J**	**15**	0.0023 U	**0.0041 J**
Toluene	1.5	0.0061 U	0.0056 U	**18.000 J**	**53**	**0.0052 J**	0.0022 U	0.0022 UJ	0.0023 U	0.0024 U	0.720 UJ	**0.014 J**	**0.380 J**	**0.093 J**	**0.0082 J**	**0.0068 J**	**17.000 J**	0.0026 U	**0.012 J**
m,p-Xylene	NA	0.013 U	0.012 U	**47.000**	**150.000**	0.0054 U	0.0047 U	0.0047 U	0.0049 U	0.0050 U	**18.000 J**	**0.051 J**	**10.000 D**	**3.500**	**0.034 J**	**0.029 J**	**36.000**	0.0055 U	**0.0097 J**
o-Xylene	NA	0.0053 U	0.0049 U	**19.000**	**71.000**	0.0024 U	0.0021 U	0.0021 U	0.0022 U	0.0022 U	**14.000 J**	**0.028 J**	**2.600 D**	**1.900**	**0.0054 J**	**0.042 J**	**14.000**	0.0025 U	0.0026 U
Total Xylene (calculated)	1.2	0 U	0 U	**66**	**221**	0 U	0 U	0 U	0 U	0 U	**32**	**0.079**	**12.6**	**5.4**	**0.0394**	**0.071**	**50**	0 U	**0.0097**
VOC (mg/Kg)																			
1,1,1-Trichloroethane	0.8	0.0066 U	0.0061 U	**4.100 J**	0.610 U	0.0026 U	0.0023 U	0.0023 UJ	0.0024 U	0.0024 U	0.760 UJ	0.0024 U	0.0024 U	0.760 U	0.0026 U	0.0023 UJ	0.310 U	0.0027 U	0.0028 U
2-Butanone (Methyl Ethyl Ketone)	0.3	0.035 U	0.032 U	***2.200 U***	***4.200 U***	0.018 U	0.015 U	0.015 UJ	0.016 U	0.016 U	***5.300 UJ***	**0.029 J**	0.016 U	***3.800 U***	0.018 U	0.016 UJ	***2.200 U***	0.018 U	0.019 U
Acetone	0.2	0.120 U	0.110 U	***2.600 U***	***4.900 U***	0.021 U	0.018 U	0.018 UJ	0.019 U	0.020 U	***6.200 UJ***	0.019 U	0.019 U	***3.800 U***	0.021 U	0.019 UJ	***2.500 U***	0.022 U	0.022 UJ
Carbon Disulfide	2.7	0.0075 U	0.0069 U	0.300 U	0.580 U	0.0023 U	0.0020 U	0.0020 UJ	0.0021 U	0.0021 U	0.730 UJ	0.0021 U	0.0021 U	0.760 U	0.0023 U	0.0020 UJ	0.300 U	0.0024 U	0.0025 UJ
Cyclohexane	NA	0.0071 U	0.0065 U	0.290 U	0.550 U	0.0020 U	0.0017 U	0.0017 UJ	0.0018 U	0.0019 U	0.680 UJ	0.0018 U	**0.950 J**	0.760 U	0.0021 U	0.0018 UJ	0.280 U	0.0021 U	0.0022 U
Isopropylbenzene	NA	0.0057 U	0.0052 U	**7.600 J**	**5.500 J**	0.0026 U	0.0022 U	0.0022 U	0.0023 U	0.0024 U	**3.200 J**	**0.0062 J**	**0.740 J**	**0.160 J**	0.0026 U	**0.018 J**	**3.700 J**	0.0027 U	0.0028 U
Methylcyclohexane	NA	0.0058 U	0.0053 U	**7.500 J**	**5.300 J**	0.0026 U	0.0023 U	0.0023 UJ	0.0024 U	0.0025 U	1.100 UJ	0.0024 U	**2.200 D**	0.760 U	0.0027 U	0.0023 UJ	0.460 U	0.0027 U	0.0028 U
Methylene Chloride	0.1	0.017 U	0.016 U	***0.490 U***	***0.930 U***	0.011 U	0.0098 U	0.0098 UJ	0.010 UJ	0.011 U	***1.200 UJ***	0.010 U	0.010 U	***0.760 U***	0.012 U	0.010 UJ	***0.470 U***	0.012 U	0.012 U
Styrene	NA	0.0043 U	0.0040 U	0.270 U	**35.000**	0.0029 U	0.0025 U	0.0025 U	0.0026 U	0.0027 U	0.640 UJ	**0.0034 J**	0.0026 U	**1.500**	0.0029 U	0.0026 UJ	**5.400**	0.0029 U	0.0031 U
Total VOC	10	0 U	0 U	**162.5**	**456.4**	**0.0091**	0 U	0 U	0 U	**0.0196**	**77.4**	**0.1498**	**20.8797**	**11.953**	**0.0766**	**0.1148**	**98.1**	0 U	**0.0304**
PAH (mg/kg)																			
2-Methylnaphthalene	36.4	**0.290 J**	**0.083 J**	**41.000 JD**	**820.000 D**	0.071 U	0.600 U	0.610 U	0.063 U	**0.120 J**	**10.000 D**	0.310 U	**4.100**	**140.000 D**	0.070 U	0.300 U	**200.000 D**	0.071 U	0.073 U
Acenaphthene	50	**0.390 J**	**0.310 J**	**40.000 D**	**59.000 D**	0.075 U	**2.300 J**	**1.500 J**	0.067 U	**0.280 J**	**16.000 D**	0.330 U	**2.700**	**12.000**	0.074 U	0.320 U	**45.000 D**	0.075 U	0.078 U
Acenaphthylene	41	0.0067 U	0.0061 U	**6.000**	**400.000 D**	0.069 U	0.590 U	0.590 U	0.061 U	0.063 U	**1.600**	0.300 U	0.300 U	**160.000 D**	0.068 U	0.300 U	**120.000 D**	0.069 U	0.071 U
Anthracene	50	**0.230 J**	**0.210 J**	**22.000**	**140.000 D**	0.064 U	**6.700**	**3.900 J**	0.056 U	**0.230 J**	**14.000 D**	0.280 U	**5.400**	**55.000 D**	0.063 U	0.280 U	**160.000 D**	0.064 U	0.066 U
Benzo(a)anthracene	0.224	**0.300 J**	**0.330 J**	**18**	**98.000 D**	0.059 U	**16**	**10**	**0.120 J**	**0.130 J**	**5.300 D**	***0.260 U***	**4.4**	**55.000 D**	0.058 U	***0.260 U***	**93.000 D**	0.059 U	0.061 U
Benzo(a)pyrene	0.061	**0.210 J**	**0.230 J**	**14**	**67.000 JD**	***0.068 U***	**15.000 J**	**11.000 J**	**0.130 J**	**0.100 J**	**3.600 JD**	***0.300 U***	**3.7**	**44.000 D**	***0.067 U***	***0.290 U***	**69.000 D**	***0.068 U***	***0.070 U***
Benzo(b)fluoranthene	1.1	**0.220 J**	**0.250 J**	**13**	**46.000 JD**	0.046 U	**15.000 J**	**11.000 J**	**0.280 J**	**0.200 J**	**3.600 J**	**0.240 J**	**3.6**	**32.000 D**	0.046 U	0.200 U	**74.000 D**	0.047 U	0.048 U
Benzo(ghi)perylene	50	**0.100 J**	**0.120 J**	**6.900**	**13.000 J**	0.070 U	**20.000 J**	**13.000 J**	0.062 U	0.065 U	**0.880 J**	0.310 U	**1.900**	**9.500 J**	0.069 U	0.300 U	**12.000**	0.070 U	0.072 U
Benzo(k)fluoranthene	1.1	**0.062 J**	**0.078 J**	**3.300 J**	**16.000 JD**	0.093 U	**6.000 J**	**4.200 J**	0.082 U	0.086 U	**1.600 J**	0.410 U	**1.200 J**	**8.400 J**	0.092 U	0.400 U	**23**	0.093 U	0.096 U
Chrysene	0.4	**0.290 J**	**0.290 J**	**13**	**78.000 D**	0.076 U	**14**	**8.8**	0.067 U	0.070 U	**3.8**	0.340 U	**4**	**41.000 D**	0.075 U	0.330 U	**95.000 D**	0.076 U	0.079 U
Dibenz(a,h)anthracene	0.014	***0.034 U***	***0.031 U***	**0.700 J**	**2.100 J**	***0.053 U***	**1.300 J**	**0.780 J**	***0.047 U***	***0.049 U***	**0.081 J**	***0.230 U***	***0.240 U***	**1.200 J**	***0.052 U***	***0.230 U***	**2.400 J**	***0.053 U***	***0.055 U***
Fluoranthene	50	**0.490**	**0.550**	**55.000 D**	**290.000 D**	0.063 U	**20.000 J**	**13.000 J**	**0.220 J**	**0.290 J**	**15.000 D**	**0.580 J**	**10.000**	**140.000 D**	0.062 U	**0.460 J**	**190.000 D**	0.063 U	0.065 U
Fluorene	50	**0.150 J**	**0.130 J**	**23.000**	**280.000 D**	0.071 U	**2.100 J**	**1.200 J**	0.063 U	**0.150 J**	0.083 U	0.310 U	**3.500**	**90.000 D**	0.070 U	0.310 U	**130.000 D**	0.071 U	0.074 U
Indeno(1,2,3-cd)pyrene	3.2	**0.075 J**	**0.100 J**	**7.1**	**7.000 J**	0.054 U	**14**	**9.1**	0.047 U	0.050 U	0.062 U	0.240 U	0.240 U	**7.700 J**	0.053 U	0.230 U	**11**	0.054 U	0.056 U
Naphthalene	13	**0.250 J**	**0.180 J**	**190.000 D**	**2500.000 D**	**0.100 J**	**0.760 J**	0.620 U	0.064 U	**0.320 J**	**40.000 D**	0.320 U	**6.100**	**600.000 D**	**0.170 J**	0.310 U	**660.000 D**	0.072 U	0.075 U
Phenanthrene	50	**0.750**	**0.660**	**100.000 D**	**870.000 D**	0.067 U	**22.000**	**14.000 J**	**0.081 J**	**0.890**	**32.000 D**	**0.720 J**	**18.000 D**	**360.000 D**	**0.067 J**	**0.330 J**	**400.000 D**	0.067 U	0.070 U
Pyrene	50	**0.670**	**0.570**	**49.000 D**	**350.000 D**	0.075 U	**34.000 D**	**22.000 D**	0.066 U	**0.580**	**22.000 D**	**0.460 J**	**9.900**	**160.000 D**	0.074 U	**0.430 J**	**170.000 D**	0.075 U	0.078 U
Benzo(a)pyrene Equivalents	NA	**0.27041**	**0.29907**	**18.556**	**84.438**	0	**20.874**	**14.8408**	**0.170**	**0.133**	**4.5908**	**0.024**	**4.516**	**54.795**	0	0	**89.525**	0	0
SVOC (mg/kg)																			
1,1-Biphenyl	NA	0.014 U	0.012 U	**12.000**	**90.000 D**	0.070 U	0.600 U	0.600 U	0.062 U	0.064 U	**3.300 JD**	0.310 U	**0.730 J**	**55.000 D**	0.069 U	0.300 U	**41.000 D**	0.070 U	0.072 U
2,4-Dimethylphenol	NA	0.014 U	0.012 U	0.650 U	0.310 U	0.067 U	0.570 U	0.580 U	0.059 U	0.062 U	0.078 U	0.300 R	0.300 U	0.320 U	0.066 U	0.290 U	**0.830 J**	0.067 U	0.070 U
2-Methylphenol	0.1	0.012 U	0.011 U	***0.680 U***	***0.330 U***	0.070 U	***0.600 U***	***0.610 U***	0.062 U	0.065 U	0.082 U	***0.310 R***	***0.310 U***	***0.330 U***	0.069 U	***0.300 U***	***0.670 U***	0.070 U	0.073 U
3+4-Methylphenols	NA	NS	NS	0.650 U	2.000 U	0.420 U	0.570 U	0.580 U	0.059 U	0.062 U	0.078 U	0.290 R	0.300 U	2.000 U	0.420 U	0.290 U	0.630 U	0.067 U	0.069 U
Benzaldehyde	NA	0.015 R	0.014 R	0.850 R	4.000 UD	0.087 U	0.740 R	0.750 R	0.077 R	0.080 R	0.100 R	0.380 U	0.390 U	0.410 U	0.086 U	0.370 R	0.820 R	0.087 R	0.090 U
bis(2-Ethylhexyl) phthalate	50	0.018 U	0.016 U	0.790 U	3.800 UD	0.081 U	0.690 U	0.700 U	0.072 U	0.075 U	**0.110 J**	**0.390 J**	0.360 U	0.380 U	0.080 U	0.350 U	0.770 U	0.081 U	0.084 U
Carbazole	NA	0.035 U	**0.048 J**	**5.100 J**	**3.800 J**	0.064 U	**0.850 J**	**0.710 J**	**0.150 J**	**0.180 J**	**0.600**	0.280 U	**1.800 J**	0.310 U	0.064 U	0.280 U	0.610 U	0.065 U	0.067 U
Dibenzofuran	6.2	0.014 U	0.013 U	**11**	**12.000 J**	0.070 U	**1.400 J**	**0.820 J**	0.062 U	0.065 U	**1.300**	0.310 U	**2.700**	**5.500**	0.069 U	0.300 U	**110.000 D**	0.070 U	0.072 U
Phenol	0.03	0.013 U	0.012 U	***0.620 U***	***0.300 U***	***0.064 U***	***0.550 U***	***0.550 U***	***0.057 U***	***0.059 U***	***0.075 U***	***0.280 R***	***0.280 U***	***0.300 U***	***0.063 U***	***0.280 U***	***0.610 U***	***0.064 U***	***0.066 U***
Total SVOCs	500	**4.477**	**4.139**	**630.1**	**6141.9**	**0.100**	**191.410**	**125.010**	**0.981**	**3.470**	**174.771**	**2.390**	**83.730**	**1976.3**	**0.237**	**1.220**	**2606.23**	0 U	0 U

Notes:

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NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
NYSDEC RSCO = New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) 4046 Recommended Soil Cleanup Objectives (RSCOs) (NYSDEC 1994)

Shaded values exceed NYSDEC RSCOs

bold and italic non detected compounds exceed NYSDEC RSCOs
sb indicates site background
d indicates default NYSDEC RSCO
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.
J- = (Inorganics) The result is an estimated quantity, but the result may be biased low.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.

Table 5-2
Summary of OU2 RI Upper Fill and Lower Fill/Natural Soil Analytical Results
Former East 21st Street Works, New York, New York

Location Depth Interval (feet) Sample Date	NYSDEC RSCOs	AC103 32-34 8/7/2008	AC103 34-36 8/7/2008	EBDT100 26.6-29 4/4/2006	EBDT100 55-56.42 4/12/2006	EBDT100 61-63 4/12/2006	EBDT101 0.25-5 3/28/2006	EBDT101 DUP 0.25-5 3/28/2006	EBDT101 4-5 3/29/2006	EBDT101 41-45 3/31/2006	EBDT101 23-27 3/31/2006	EBDT102 0.2-5 4/7/2006	EBDT102 9-11 4/7/2006	EBDT102 46-48 4/10/2006	EBDT102 60-62 4/10/2006	EBDT103 0.2-0.5 4/3/2006	EBDT103 25-29 4/5/2006	EBDT103 39-41 4/5/2006	EBDT103 65-69 4/6/2006
Metals (mg/kg)																			
Aluminum	7,960 (sb)	NS	NS	**4770**	**1940**	**6230**	**8960**	**8880**	**4900 J**	**7160 J**	**7830 J**	**4030**	**6600**	**2930**	**5720**	**4720**	**6470**	**6310**	**9830**
Antimony	NA	NS	NS	0.407 U	0.39 U	**8.7**	**8.770 J-**	0.369 UJ	0.375 UJ	7.2 U	0.488 UJ	0.364 U	6.8 U	0.40 U	0.41 UJ	0.362 U	0.400 U	0.410 U	**12.3**
Arsenic	13.63 (sb)	NS	NS	**2.120**	0.47 U	**2.1**	**2.570**	**2.810**	**2.510**	**4.840**	**7.060**	**3.300**	**1.250**	0.48 UJ	**2.9**	**3.340**	**8.230**	**1.770**	**3.710**
Barium	300 (d)	NS	NS	**38.3**	0.09 UJ	**64.2**	**108 J-**	**86.1 J-**	**128**	**83.9**	**104**	**41.5**	**83.5**	**28.9**	**51.9**	**46.5**	**53.9**	**115**	**101**
Beryllium	0.463 (sb)	NS	NS	**0.266 J**	**0.15 J**	**0.51 J**	***0.56 U***	***0.56 U***	***0.57 U***	**0.698**	***0.75 U***	***0.56 U***	***0.57 U***	**0.21 J**	**0.45 J**	**0.193 J**	**0.375 J**	**0.430 J**	**0.689**
Cadmium	1 (d)	NS	NS	0.041 U	0.04 U	0.04 U	0.56 U	0.56 U	0.57 U	**0.631**	0.75 U	0.037 U	0.038 U	0.04 U	0.04 U	**0.078 J**	**0.113 J**	0.041 U	0.043 U
Calcium	11,563 (sb)	NS	NS	**2250**	**773**	**17300**	**11000**	**12200**	**1720 J**	**12400 J**	**2000 J**	**43500**	**2950**	**7770**	**13000**	**41100**	**3990**	**16100**	**11400**
Chromium	36.69 (sb)	NS	NS	**12.8**	**4.7**	**12.7**	**18.7**	**20.2**	**13.4**	**8.560**	**21.5**	**10.6**	**18.0**	**6.3**	**11.0**	**9.500**	**22.6**	**14.4**	**17.0**
Cobalt	30 (d)	NS	NS	**5.320 J**	**2.0 J**	**7.2**	**6.730**	**6.040**	**20.2**	**11.4**	**7.730**	**2.790 J**	**7.040**	**3.3 J**	**6.5**	**3.870 J**	**6.240**	**7.960**	**9.260**
Copper	35.84 (sb)	NS	NS	**13.6**	**4.1**	**13.3**	**23.5**	**21.9**	**10.3**	**24.0**	**49**	**16.5**	**21.7**	**5.8**	**12.8**	**21.1**	**41.2**	**17.0**	**21.5**
Iron	14369 (sb)	NS	NS	**9810**	**5200**	**15700**	**13200**	**12500**	**8500**	**11900**	**11500**	**5840**	**10700**	**7860**	**14400**	**8280**	**14700**	**13800**	**18800**
Lead	237.7 (sb)	NS	NS	**18.5**	**2.5**	**7.4**	**226 J**	**54.7 J**	**18.1 J**	**267 J**	**76.7 J**	**32.2**	**16.7**	**2.8**	**6.3**	**39.2**	**98.9**	**6.250**	**8.240**
Magnesium	3,129 (sb)	NS	NS	**2460**	**1520**	**7610**	**4370**	**4510**	**1380**	**4040**	**4180**	**10300**	**3240**	**4310**	**6920**	**5450**	**3850**	**7880**	**7970**
Manganese	358.5 (sb)	NS	NS	**175**	**22.2**	**441**	**268**	**241**	**780**	**443**	**185**	**116**	**155**	**283**	**352**	**142**	**216**	**441**	**399**
Mercury	0.1 (d)	NS	NS	**0.046**	0.007 U	**0.017**	**0.272 J-**	**0.246 J-**	**0.083**	**0.008 J+**	**1.7 J**	**0.288**	**0.076**	0.007 U	0.007 U	**0.043**	**1.1 J**	0.007 UJ	**0.033**
Nickel	15.3 (sb)	NS	NS	**12.6**	**11.2**	**19.5**	**18**	**18.3**	**21.4**	**17.7**	**16.8**	**6.360**	**15.7**	**14.0**	**19.4**	**7.840**	**17.1**	**24.9**	**25.8**
Potassium	1,197 (sb)	NS	NS	**1350**	**604**	**2510**	**3010**	**2980 J-**	**365 J**	**614**	**3920**	**871**	**2660**	**1000**	**2200**	**766**	**1660**	**2350**	**2890**
Selenium	2.0 (d)	NS	NS	0.423 U	**1.5**	0.43 U	**0.682 J**	**0.469 J**	0.390 U	0.406 U	0.508 U	0.378 U	0.388 U	0.41 U	0.43 U	0.377 U	0.415 U	0.426 U	0.448 U
Silver	0.229 (sb)	NS	NS	0.098 U	0.09 U	0.10 U	0.089 U	0.089 U	0.090 U	0.094 U	0.118 U	0.088 U	0.090 U	0.10 U	0.10 U	0.087 U	0.096 U	0.099 U	0.104 U
Sodium	214.8 (sb)	NS	NS	**718**	**161 J**	**1840**	**188 J**	**275 J**	**63.5 J**	**145 J**	**2750 J**	**439 J**	**311 J**	**146 J**	**1950**	**420 J**	**617**	**606 J**	**2560**
Thallium	NA	NS	NS	0.654 U	0.63 U	0.66 U	0.594 U	0.593 U	0.602 U	0.628 U	0.785 U	0.584 U	0.600 U	0.64 U	0.66 U	0.582 U	0.642 U	0.659 U	0.692 U
Vanadium	150 (d)	NS	NS	**16.4**	**6.9**	**18.2**	**22.5**	**21.5**	**16.7**	**9.040**	**22.1**	**16.4**	**23.7**	**9.5**	**16.7**	**23.6**	**21.4**	**19.6**	**22.8**
Zinc	81.77 (d)	NS	NS	**29.2**	**10.3**	**22.4**	**55.4**	**52.8 J-**	**22.1**	**83.9**	**87.1**	**35.1**	**88**	**11.8**	**20.1**	**52.8**	**90.1**	**37.2**	**48.5**
Cyanide (mg/kg)																			
Available Cyanide	NA	NS	NS	**1.3**	0.047 U	0.052 U	0.044 U	0.044 U	0.045 U	0.048 U	**33.4 J+**	0.044	**0.092**	0.048 U	0.049 U	0.044 U	**0.36**	**0.043 J**	0.059
Cyanide, Total	NA	NS	NS	0.63 U	0.595 U	0.641 U	0.564 U	0.562 U	**4.85**	**4.23**	**4.37**	0.566 U	0.569 U	0.613 U	0.633 U	0.558 U	0.61 U	0.64 U	0.663 U

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Shaded values exceed NYSDEC RSCOs

bold and italic non detected compounds exceed NYSDEC RSCOs
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Former East 21st Street Works, New York, New York

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BTEX (mg/kg)																
Benzene	0.06	**1.8**	0.0024 U	0.0024 U	**0.1**	**0.0032 J**	**10**	**140**	**0.010 J**	0.040 UJ	**4.200 J**	0.0024 U	0.053 U	0.0041 U	**0.031 J**	0.0041 U
Ethylbenzene	5.5	**3.800**	0.0021 U	0.0022 U	**0.420**	0.0022 U	**110**	**240**	**0.029 J**	**0.300 J**	**120.000 J**	0.0022 U	0.0076 U	0.0046 U	**3.500 D**	0.0045 U
Toluene	1.5	**0.910 J**	0.0024 U	0.0025 U	**0.0064 J**	0.0025 U	**18**	**860.000 D**	**0.032**	0.064 UJ	**13.000 J**	0.0025 U	0.024 U	0.0050 U	**0.140**	0.0050 U
m,p-Xylene	NA	**3.100**	0.0051 U	0.0053 U	**0.130**	0.0054 U	**75.000**	**450.000**	**0.048 J**	**0.570 J**	**110.000 J**	0.0053 U	0.072 U	0.011 U	**1.100**	0.010 U
o-Xylene	NA	**1.200**	0.0023 U	0.0023 U	**0.190**	0.0024 U	**33.000**	**200.000**	**0.017 J**	**0.270 J**	**59.000 J**	0.0023 U	0.024 U	0.0043 U	**0.550**	0.0043 U
Total Xylene (calculated)	1.2	**4.3**	0 U	0 U	**0.320**	0 U	**108**	**650**	**0.065**	**0.840**	**169**	0 U	0 U	0 U	**1.65**	0 U
VOC (mg/Kg)																
1,1,1-Trichloroethane	0.8	0.064 U	0.0025 U	0.0025 U	0.0025 U	0.0026 U	0.360 U	0.580 U	0.0025 U	0.068 UJ	0.310 UJ	0.0025 U	0.059 U	0.0054 U	0.0061 U	0.0054 U
2-Butanone (Methyl Ethyl Ketone)	0.3	***0.440 U***	0.017 U	0.017 U	0.017 U	0.018 U	***2.500 U***	***4.000 U***	0.017 U	***0.470 UJ***	***2.100 UJ***	0.017 U	0.300 U	0.029 U	0.032 U	0.028 U
Acetone	0.2	***0.520 U***	0.020 U	0.020 U	0.020 U	0.021 U	***2.900 U***	***4.700 U***	0.020 UJ	***0.550 UJ***	***2.500 UJ***	0.020 U	***0.330 U***	0.097 U	0.110 U	0.096 U
Carbon Disulfide	2.7	0.061 U	0.0022 U	0.0022 U	**0.056**	0.0023 U	0.340 U	0.550 U	0.0022 UJ	0.065 UJ	0.290 UJ	0.0022 U	0.030 U	0.0062 U	0.0069 U	0.0061 U
Cyclohexane	NA	0.057 U	0.0019 U	0.0020 U	0.0020 U	0.0020 U	**2.600 J**	**13.000**	0.0019 U	0.061 UJ	**1.100 J**	0.0020 U	**3.700**	0.0058 U	**0.094**	0.0057 U
Isopropylbenzene	NA	**0.890 J**	0.0025 U	0.0025 U	**0.140**	0.0026 U	**13.000 J**	**11.000 J**	0.0025 U	0.056 UJ	**4.000 J**	0.0025 U	**1.900**	0.0047 U	**0.180**	0.0046 U
Methylcyclohexane	NA	0.094 U	0.0025 U	0.0026 U	**0.013 J**	0.0026 U	**13.000 J**	**42.000 J**	0.0025 U	0.100 UJ	**5.000 J**	0.0026 U	**18.000**	0.0047 U	**0.520**	0.0047 U
Methylene Chloride	0.1	0.097 U	0.011 U	0.011 U	0.011 U	0.011 U	***0.550 U***	***0.880 U***	0.011 U	0.100 UJ	***0.470 UJ***	0.011 U	0.058 U	0.014 U	0.032 U	0.028 U
Styrene	NA	0.053 U	0.0027 U	0.0028 U	0.0028 U	0.0029 U	0.300 U	**260.000**	**0.026 J**	0.057 UJ	**25.000 J**	0.0028 U	0.029 U	0.0035 U	**0.055**	0.0035 U
Total VOC	10	**11.7**	0 U	0 U	**1.0554**	**0.0032**	**274.6**	**2216**	**0.162**	**1.140**	**341.3**	0 U	**23.6**	0 U	**6.170**	0 U
PAH (mg/kg)																
2-Methylnaphthalene	36.4	**54.000 D**	0.068 U	0.067 U	**0.670 J**	0.069 U	**140.000 D**	**1500.000 D**	0.067 U	**15.000 JD**	**36.000 D**	0.067 U	**0.150 J**	**0.330 J**	**6.600**	**0.200 J**
Acenaphthene	50	**56.000 D**	0.072 U	0.071 U	**26.000**	0.073 U	**140.000 D**	**100**	0.071 U	**12.000**	**1.600**	0.072 U	**0.067 J**	**0.990**	**3.200 J**	**0.170 J**
Acenaphthylene	41	**4.600**	0.066 U	0.065 U	**7.900**	0.067 U	**36.000**	**1100.000 D**	0.065 U	**7.100 J**	**13.000 D**	0.065 U	0.0059 U	**0.390**	**3.100 J**	**0.075 J**
Anthracene	50	**26.000**	**0.070 J**	0.061 U	**25.000**	0.062 U	**84.000 D**	**420.000 D**	0.060 U	**10.000 J**	**4.400 JD**	0.061 U	**0.110 J**	**0.960**	**4.600**	**0.150 J**
Benzo(a)anthracene	0.224	**22**	0.057 U	**0.058 J**	**26**	0.058 U	**42.000 D**	**340.000 D**	0.056 U	**8.1**	**3**	0.056 U	**0.094 J**	**0.74**	**2.700 J**	**0.093 J**
Benzo(a)pyrene	0.061	**16**	***0.065 U***	***0.064 U***	**16**	***0.066 U***	**42.000 D**	**260**	***0.064 U***	**7.100 J**	**1.900 J**	***0.064 U***	**0.090 J**	**0.64**	**2.300 J**	**0.079 J**
Benzo(b)fluoranthene	1.1	**12**	0.045 U	**0.049 J**	**18**	0.045 U	**28**	**190**	0.044 U	**5.200 J**	**1.600 J**	0.044 U	**0.100 J**	**0.550**	**1.900 J**	**0.053 J**
Benzo(ghi)perylene	50	**4.300**	0.067 U	0.066 U	**3.700 J**	0.068 U	**14.000**	**110**	0.066 U	**6.300 J**	**0.410 J**	0.066 U	**0.056 J**	**0.340 J**	**1.200 J**	**0.041 J**
Benzo(k)fluoranthene	1.1	**3.900 J**	0.089 U	0.088 U	**5.9**	0.090 U	**8**	**53**	0.088 U	**2.000 J**	**0.500 J**	0.088 U	0.018 U	**0.180 J**	**0.610 J**	0.017 U
Chrysene	0.4	**17**	0.073 U	0.072 U	**19**	0.074 U	**32**	**250**	0.071 U	**7.300 J**	**3**	0.072 U	**0.091 J**	**0.67**	**2.500 J**	**0.086 J**
Dibenz(a,h)anthracene	0.014	**0.750 J**	***0.051 U***	***0.050 U***	**0.830 J**	***0.052 U***	**1.400 J**	**13.000 J**	***0.050 U***	**0.350 J**	***0.099 UJ***	***0.050 U***	***0.030 U***	**0.047 J**	***0.310 U***	***0.028 U***
Fluoranthene	50	**54.000 D**	0.060 U	**0.120 J**	**58.000 D**	0.061 U	**96.000 D**	**640.000 D**	0.059 U	**10.000 J**	**5.000 JD**	0.060 U	**0.300 J**	**1.600**	**6.600**	**0.220 J**
Fluorene	50	**29.000**	0.069 U	0.068 U	**32.000**	0.069 U	**73.000 D**	**570.000 D**	0.067 U	**9.700**	0.130 U	0.068 U	**0.069 J**	**0.830**	**4.000 J**	**0.140 J**
Indeno(1,2,3-cd)pyrene	3.2	**7.5**	0.052 U	0.051 U	**3.400 J**	0.052 U	**12**	**110**	0.051 U	**3.400 J**	0.100 U	0.051 U	**0.051 J**	**0.240 J**	**0.750 J**	0.0096 U
Naphthalene	13	**180.000 D**	0.069 U	0.069 U	**17**	0.070 U	**620.000 D**	**5200.000 D**	**0.210 J**	**47.000 D**	**66.000 D**	0.069 U	**0.043 J**	**0.480**	**20**	**0.580**
Phenanthrene	50	**130.000 D**	0.065 U	**0.085 J**	**110.000 D**	0.066 U	**310.000 D**	**2100.000 D**	**0.073 J**	**30.000 D**	**28.000 D**	0.064 U	**0.360 J**	**3.200 D**	**16.000**	**0.570**
Pyrene	50	**62.000 D**	0.072 U	**0.170 J**	**47.000 D**	0.073 U	**140.000 D**	**980.000 D**	0.070 U	**20.000 JD**	**10.000 D**	0.071 U	**0.270 J**	**2.100**	**8.700**	**0.320 J**
Benzo(a)pyrene Equivalents	NA	**20.956**	0	**0.0107**	**21.648**	0	**51.712**	**337.780**	0	**9.1473**	**2.368**	0	**0.11459**	**0.84247**	**2.8436**	**0.09369**
SVOC (mg/kg)																
1,1-Biphenyl	NA	**13.000**	0.067 U	0.066 U	**7.700**	0.068 U	**56.000 D**	**380.000 D**	0.066 U	**8.200 J**	**3.300**	0.066 U	0.012 U	**0.110 J**	**2.100 J**	**0.081 J**
2,4-Dimethylphenol	NA	0.650 U	0.065 U	0.064 U	0.630 U	0.065 U	0.740 U	5.900 U	0.063 U	0.350 U	0.130 U	0.064 U	0.012 U	0.011 U	0.130 U	0.011 U
2-Methylphenol	0.1	***0.680 U***	0.068 U	0.067 U	***0.660 U***	0.068 U	***0.770 U***	***6.200 U***	0.066 U	***0.370 U***	***0.130 U***	0.067 U	0.011 U	0.010 U	***0.110 U***	0.010 U
3+4-Methylphenols	NA	0.650 U	0.064 U	0.063 U	0.630 U	0.065 U	0.730 U	5.900 U	0.063 U	**0.600 J**	0.120 U	0.063 U	NS	NS	NS	NS
Benzaldehyde	NA	0.840 R	0.083 R	0.082 R	0.820 R	0.084 R	0.950 U	7.700 U	0.082 U	0.450 R	0.160 R	0.082 R	0.013 R	0.013 R	0.140 R	0.013 R
bis(2-Ethylhexyl) phthalate	50	0.790 U	0.078 U	0.077 U	0.760 U	0.079 U	0.890 U	7.200 U	0.076 U	0.420 U	**0.290 J**	**0.160 J**	0.015 U	**0.190 J**	0.160 U	**0.140 J**
Carbazole	NA	0.630 U	0.062 U	0.061 U	**5.100 J**	0.063 U	0.710 U	5.700 U	0.061 U	0.340 UJ	0.120 UJ	**0.160 J**	0.031 U	0.029 U	0.320 U	0.029 U
Dibenzofuran	6.2	**2.000 J**	0.067 U	0.066 U	**19**	0.068 U	**2.600 J**	**39**	0.066 U	**0.560 J**	**0.480 J**	0.066 U	**0.047 J**	**0.048 J**	0.130 U	0.012 U
Phenol	0.03	***0.620 U***	***0.062 U***	***0.061 U***	***0.600 U***	***0.062 U***	***0.700 U***	***5.600 U***	***0.060 U***	**1.100 J**	***0.120 U***	***0.061 U***	0.011 U	0.011 U	***0.120 U***	0.011 U
Total SVOCs	500	**694.05**	**0.070**	**0.482**	**448.200**	0 U	**1877**	**14355.001**	**0.283**	**211.010**	**178.480**	**0.320**	**1.898**	**14.635**	**86.860**	**2.998**

Notes:

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N/A = Not Applicable
mg/Kg = milligram per kilogram
NYSDEC RSCO = New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) 4046 Recommended Soil Cleanup Objectives (RSCOs) (NYSDEC 1994)

Shaded values exceed NYSDEC RSCOs

bold and italic non detected compounds exceed NYSDEC RSCOs
sb indicates site background
d indicates default NYSDEC RSCO
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.
J- = (Inorganics) The result is an estimated quantity, but the result may be biased low.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.

Table 5-2
Summary of OU2 RI Upper Fill and Lower Fill/Natural Soil Analytical Results
Former East 21st Street Works, New York, New York

Location Depth Interval (feet) Sample Date	NYSDEC RSCOs	EBDT104 35-37 4/3/2006	EBDT104 43-45 4/3/2006	EBDT104 21-23 4/3/2006	EBDT105 34-36 4/4/2006	EBDT105 40-42 4/4/2006	EBOT101 27-29 4/7/2006	EBOT101 55-57 4/7/2006	EBOT101 61-63 4/7/2006	EBOT102 24-28 3/28/2006	EBOT102 45-47 3/29/2006	EBOT102 49-51 3/29/2006	EBSC101 6-8 8/26/2008	EBSC101 46-48 9/4/2008	EBSC101 24-26 9/4/2008	EBSC101 76-78 9/5/2008
Metals (mg/kg)																
Aluminum	7,960 (sb)	**3330**	**3520**	**6690**	**2040**	**3830**	**8070**	**2140**	**5310**	**8110**	**4200 J**	**4000 J**	NS	NS	NS	NS
Antimony	NA	0.400 U	0.406 U	0.396 U	0.394 U	0.408 U	**12.0**	0.365 U	0.397 U	0.445 UJ	0.388 UJ	7.3 U	NS	NS	NS	NS
Arsenic	13.63 (sb)	**0.850 J**	0.486 U	**1.500**	**1.500**	**0.877 J**	**2.770**	**1.400**	**2.010**	**3.190**	**0.980 J**	**0.722 J**	NS	NS	NS	NS
Barium	300 (d)	**33.6**	**40.6**	**27.5**	**14.2 J**	**67.0**	**87.4**	22.7 U	**38.7**	**52.7 J-**	**61.4**	**123**	NS	NS	NS	NS
Beryllium	0.463 (sb)	**0.226 J**	**0.239 J**	**0.286 J**	**0.176 J**	**0.260 J**	***0.70 U***	***0.57 U***	***0.60 U***	***0.68 U***	***0.60 U***	***0.61 U***	NS	NS	NS	NS
Cadmium	1 (d)	0.040 U	0.041 U	**0.152 J**	0.040 U	0.041 U	0.046 U	0.037 U	0.040 U	0.68 U	0.60 U	0.61 U	NS	NS	NS	NS
Calcium	11,563 (sb)	**10300**	**8660**	**8590**	**1160**	**10200**	**16400**	**1190**	**16000**	**14600**	**11100 J**	**8760 J**	NS	NS	NS	NS
Chromium	36.69 (sb)	**8.570**	**10.7**	**9.380**	**9.350**	**10.1**	**24.0**	**5.850**	**12.2**	**15.5**	**9.620**	**9.060**	NS	NS	NS	NS
Cobalt	30 (d)	**4.610 J**	**4.670 J**	**4.860 J**	**2.950 J**	**5.460 J**	**6.700 J**	**2.470 J**	**6.190**	6.8 U	6.0 U	6.1 U	NS	NS	NS	NS
Copper	35.84 (sb)	**9.520**	**10.4**	**13.8**	**8.000**	**12.8**	**21.2**	**5.680**	**17.4**	**24.1**	**10.7**	**9.810**	NS	NS	NS	NS
Iron	14369 (sb)	**8240**	**9150**	**11300**	**8300**	**8980**	**11100**	**4530**	**11300**	**10700**	**7600**	**6970**	NS	NS	NS	NS
Lead	237.7 (sb)	**3.160**	**3.770**	**39.4**	**2.030**	**3.350**	**14.8**	**0.806**	**4.390**	**26.0**	**4.060 J**	**3.360 J**	NS	NS	NS	NS
Magnesium	3,129 (sb)	**5000**	**5000**	**4030**	**1420**	**5300**	**5130**	**1860**	**7020**	**4160**	**5090**	**4860**	NS	NS	NS	NS
Manganese	358.5 (sb)	**284**	**197**	**195**	**51.1**	**274**	**303**	**40.0**	**348**	**281**	**314**	**219**	NS	NS	NS	NS
Mercury	0.1 (d)	0.007 UJ	0.007 UJ	**0.070**	0.007 U	0.012 U	**0.389**	**0.035**	**0.028**	**0.248 J-**	0.007 U	0.007 U	NS	NS	NS	NS
Nickel	15.3 (sb)	**16.9**	**16**	**11.8**	**8.880**	**18.6**	**22**	**11.5**	**17.8**	**15.0**	**15.4**	**14.7**	NS	NS	NS	NS
Potassium	1,197 (sb)	**1200**	**1240**	**885**	600 U	**1620**	**2910**	**641**	**2110**	**2010 J-**	**1510**	**1600**	NS	NS	NS	NS
Selenium	2.0 (d)	0.416 U	0.423 U	0.412 U	0.409 U	0.425 U	0.476 U	0.379 U	0.412 U	**0.569 J**	0.403 U	0.416 U	NS	NS	NS	NS
Silver	0.229 (sb)	0.096 U	0.098 U	0.095 U	0.095 U	0.098 U	0.110 U	0.088 U	0.096 U	0.107 U	0.093 U	0.096 U	NS	NS	NS	NS
Sodium	214.8 (sb)	**391 J**	**242 J**	**1060**	**241 J**	**793**	**905**	**485 J**	**1600**	**1080**	**272 J**	**459 J**	NS	NS	NS	NS
Thallium	NA	0.643 U	0.653 U	0.636 U	0.633 U	0.656 U	0.735 U	0.586 U	0.637 U	0.716 U	0.623 U	0.643 U	NS	NS	NS	NS
Vanadium	150 (d)	**12.4**	**13.5**	**15.1**	**10.6**	**13.8**	**22.7**	**7.130**	**17.5**	**20.4**	**13.9**	**13.1**	NS	NS	NS	NS
Zinc	81.77 (d)	**24.2**	**23.4**	**126**	**18.3**	**26.9**	**34.2**	**12.4**	**29.6**	**40.2 J-**	**22.7**	**20.4**	NS	NS	NS	NS
Cyanide (mg/kg)																
Available Cyanide	NA	**0.037 J**	0.051 U	**0.080**	0.048 U	**0.11**	**0.17**	**0.089**	0.048	0.054 U	0.051 U	0.049 U	NS	NS	NS	NS
Cyanide, Total	NA	0.62 U	0.62 U	0.61 U	0.60 U	0.62 U	0.704 U	0.567 U	0.605 U	0.686 U	**4.55**	**4.56**	NS	NS	NS	NS

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Former East 21st Street Works, New York, New York

	NYSDEC RSCOs	Summary Statistics											
		Samples	Detects	Non-Detects	Exceedances	DL Exceedances	Max Detected Concentration	ID for Max Concentration	Min Detected Concentration	ID for Min Concentration	Average Detected Concentration	Min DL for Non-Detects	Max DL for Non-Detects
BTEX (mg/kg)													
Benzene	0.06	69	22	47	12	2	140	EBOT101(55-57)040706	0.0032	EBDT105(40-42)040406	8.662131818	0.0021	0.76
Ethylbenzene	5.5	69	28	41	9	0	240	EBOT101(55-57)040706	0.0039	EBDT100(61-63)041206	26.29261429	0.0019	0.089
Toluene	1.5	69	22	47	9	0	860	EBOT101(55-57)040706	0.0052	EBDT100(61-63)041206	44.99884545	0.0022	0.72
m,p-Xylene	NA	69	26	43	0	0	450	EBOT101(55-57)040706	0.0097	EBDT103(65-69)040606	36.16298846	0.0047	1.4
o-Xylene	NA	69	25	44	0	0	200	EBOT101(55-57)040706	0.0054	EBDT102(60-62)041006	17.358176	0.0021	0.52
Total Xylene (calculated)	1.2	69	26	43	14	0	650	EBOT101(55-57)040706	0.0097	EBDT103(65-69)040606	52.85354231	-	-
VOC (mg/Kg)													
1,1,1-Trichloroethane	0.8	69	1	68	1	0	4.1	EBDT100(26.6-29)040406	4.1	EBDT100(26.6-29)040406	4.1	0.0023	0.76
2-Butanone (Methyl Ethyl Ketone)	0.3	69	7	62	4	10	15	20GH100(19-21)030106	0.029	EBDT102(0.2-5)040706	2.957714286	0.015	5.3
Acetone	0.2	69	7	62	5	12	35	20GH100(19-21)030106	0.062	AC101(35-40)042706	6.156	0.018	6.2
Carbon Disulfide	2.7	69	8	61	0	0	0.056	EBDT105(34-36)040406	0.0078	20MW16D(35-37)030706	0.0206875	0.002	0.76
Cyclohexane	NA	69	7	62	0	0	13	EBOT101(55-57)040706	0.029	AC101(29-30)042706	3.067571429	0.0017	0.76
Isopropylbenzene	NA	69	22	47	0	0	13	EBOT101(27-29)040706	0.0035	AC101(10-15)042706	2.461622727	0.0022	0.47
Methylcyclohexane	NA	69	11	58	0	0	42	EBOT101(55-57)040706	0.013	EBDT105(34-36)040406	8.509272727	0.0023	1.1
Methylene Chloride	0.1	69	3	66	1	10	0.17	AC103(10-15)080708	0.02	23N102(13-15)050206	0.071333333	0.0098	1.2
Styrene	NA	69	10	59	0	0	260	EBOT101(55-57)040706	0.0034	EBDT102(0.2-5)040706	32.71284	0.0025	0.64
Total VOC	10	69	41	28	15	0	2216	EBOT101(55-57)040706	0.0032	EBDT105(40-42)040406	94.03808293	-	-
PAH (mg/kg)													
2-Methylnaphthalene	36.4	69	31	38	7	0	1500	EBOT101(55-57)040706	0.083	AC103(34-36)080708	97.87570968	0.011	0.61
Acenaphthene	50	69	34	35	4	0	140	EBOT101(27-29)040706	0.067	EBSC101(6-8)082608	16.29197059	0.0086	0.33
Acenaphthylene	41	69	21	48	4	0	1100	EBOT101(55-57)040706	0.075	EBSC101(76-78)090508	89.23071429	0.0058	0.64
Anthracene	50	69	36	33	5	0	420	EBOT101(55-57)040706	0.064	20MW16D(7-9)030706	28.74341667	0.013	0.28
Benzo(a)anthracene	0.224	69	40	29	30	2	340	EBOT101(55-57)040706	0.058	EBDT104(21-23)040306	19.8222	0.0098	0.26
Benzo(a)pyrene	0.061	69	38	31	37	20	260	EBOT101(55-57)040706	0.06	20SE101(30-34)062608	16.10976316	0.012	0.3
Benzo(b)fluoranthene	1.1	69	41	28	22	0	190	EBOT101(55-57)040706	0.049	EBDT104(21-23)040306	12.20195122	0.029	0.28
Benzo(ghi)perylene	50	69	33	36	1	0	110	EBOT101(55-57)040706	0.041	EBSC101(76-78)090508	6.96130303	0.029	0.31
Benzo(k)fluoranthene	1.1	69	28	41	15	0	53	EBOT101(55-57)040706	0.062	AC103(32-34)080708	5.396071429	0.017	0.41
Chrysene	0.4	69	36	33	24	0	250	EBOT101(55-57)040706	0.048	20SE101(30-34)062608	17.58344444	0.0076	0.34
Dibenz(a,h)anthracene	0.014	69	20	49	20	49	13	EBOT101(55-57)040706	0.047	EBSC101(46-48)090408	1.3543	0.028	0.49
Fluoranthene	50	69	43	26	8	0	640	EBOT101(55-57)040706	0.054	20SE101(30-34)062608	39.36327907	0.0099	0.093
Fluorene	50	69	31	38	5	0	570	EBOT101(55-57)040706	0.069	EBSC101(6-8)082608	41.74970968	0.011	0.31
Indeno(1,2,3-cd)pyrene	3.2	69	30	39	11	0	110	EBOT101(55-57)040706	0.051	EBSC101(6-8)082608	6.7498	0.0096	0.24
Naphthalene	13	69	40	29	17	0	5200	EBOT101(55-57)040706	0.043	EBSC101(6-8)082608	257.3969	0.0096	0.62
Phenanthrene	50	69	46	23	8	0	2100	EBOT101(55-57)040706	0.057	20CH102(26-26.9)052208	102.1916087	0.014	0.12
Pyrene	50	69	42	27	6	0	980	EBOT101(55-57)040706	0.053	20SE101(25-29)062608	52.35219048	0.0089	0.091
Benzo(a)pyrene Equivalents	NA	69	41	28	0	0	337.78	EBOT101(55-57)040706	0.0107	EBDT104(21-23)040306	19.29188073	-	-
SVOC (mg/kg)													
1,1-Biphenyl	NA	67	22	45	0	0	380	EBOT101(55-57)040706	0.073	20CH101(51-53)022806	31.21336364	0.012	0.6
2,4-Dimethylphenol	NA	69	4	65	0	0	1.4	AC101(29-30)042706	0.29	20CH102(22-23)052208	0.765	0.011	5.9
2-Methylphenol	0.1	69	1	68	1	17	0.29	20CH101(29-31)022706	0.29	20CH101(29-31)022706	0.29	0.01	6.2
3+4-Methylphenols	NA	54	3	51	0	0	0.6	EBOT102(24-28)032806	0.25	AC101(29-30)042706	0.406666667	0.059	5.9
Benzaldehyde	NA	67	1	66	0	0	0.86	20SE101(22-24)062608	0.86	20SE101(22-24)062608	0.86	0.013	7.7
bis(2-Ethylhexyl) phthalate	50	69	11	58	0	0	0.39	EBDT102(0.2-5)040706	0.075	20SE101(30-34)062608	0.157	0.015	7.2
Carbazole	NA	69	18	51	0	0	5.1	EBDT105(34-36)040406	0.048	AC103(34-36)080708	1.500444444	0.029	5.7
Dibenzofuran	6.2	69	25	44	6	0	110	EBDT103(25-29)040506	0.047	EBSC101(6-8)082608	9.1998	0.012	0.31
Phenol	0.03	69	8	61	8	51	1.1	EBOT102(24-28)032806	0.087	23N102(19-23)050206	0.255875	0.011	5.6
Total SVOCs	500	69	55	14	7	0	14355.001	EBOT101(55-57)040706	0.07	EBDT104(43-45)040306	559.6484364	-	-

Table 5-2
Summary of OU2 RI Upper Fill and Lower Fill/Natural Soil Analytical Results
Former East 21st Street Works, New York, New York

	NYSDEC RSCOs	Summary Statistics											
		Samples	Detects	Non-Detects	Exceedances	DL Exceedances	Max Detected Concentration	ID for Max Concentration	Min Detected Concentration	ID for Min Concentration	Average Detected Concentration	Min DL for Non-Detects	Max DL for Non-Detects
Metals (mg/kg)													
Aluminum	7,960 (sb)	54	54	0	11	0	16900	20CH101(13-15)022706	1940	EBDT100(55-56.42)041206	5592.962963	-	-
Antimony	NA	54	8	46	0	0	12.3	EBDT103(65-69)040606	0.85	20CH101(51-53)022806	7.665	0.36	7.3
Arsenic	13.63 (sb)	54	48	6	0	0	9.32	23N101(17.5-20)050306	0.497	LOC1-DUP-030706	2.952020833	0.43	0.49
Barium	300 (d)	54	51	3	1	0	337	20PF101(0.2-5)021706	7.1	LOC1-DUP-030706	63.96039216	0.09	22.7
Beryllium	0.463 (sb)	54	30	24	6	23	0.87	20CH101(13-15)022706	0.06	20CH101(29-31)022706	0.336933333	0.01	0.75
Cadmium	1 (d)	54	10	44	1	0	13.9	20MW16D(7-9)030706	0.043	LOC1-DUP-030706	1.5302	0.036	0.75
Calcium	11,563 (sb)	54	54	0	13	0	43500	EBDT102(0.2-5)040706	490	LOC1-DUP-030706	7825.777778	-	-
Chromium	36.69 (sb)	54	54	0	0	0	30.5	20CH101(13-15)022706	4.6	20CH101(29-31)022706	12.88333333	-	-
Cobalt	30 (d)	54	43	11	0	0	20.2	EBDT101(4-5)032906	1.1	20CH101(29-31)022706	6.140930233	5.5	6.8
Copper	35.84 (sb)	54	54	0	4	0	95.8	23N102(13-15)050206	4.1	EBDT100(55-56.42)041206	17.85185185	-	-
Iron	14369 (sb)	54	54	0	8	0	29900	23N101(17.5-20)050306	3330	20GH101(37-39)030306	10739.81481	-	-
Lead	237.7 (sb)	54	54	0	3	0	267	EBDT101(41-45)033106	0.806	EBOT101(55-57)040706	39.2152963	-	-
Magnesium	3,129 (sb)	54	54	0	30	0	10300	EBDT102(0.2-5)040706	912	20CH101(29-31)022706	3990.407407	-	-
Manganese	358.5 (sb)	54	53	1	10	0	780	EBDT101(4-5)032906	22.2	EBDT100(55-56.42)041206	229.4773585	0.03	0.03
Mercury	0.1 (d)	54	35	19	14	0	1.7	EBDT101(23-27)033106	0.007	LOC1-DUP-030706	0.248542857	0.006	0.012
Nickel	15.3 (sb)	54	54	0	26	0	28.3	AC101(55-60)042806	4	20CH101(29-31)022706	14.73351852	-	-
Potassium	1,197 (sb)	54	53	1	33	0	3960	AC101(55-60)042806	365	EBDT101(4-5)032906	1639.698113	600	600
Selenium	2.0 (d)	54	5	49	0	0	1.5	EBDT100(55-56.42)041206	0.469	LOC13DUPLICATE-032806	0.86	0.374	1.16
Silver	0.229 (sb)	54	7	47	5	0	1.3	20CH101(13-15)022706	0.16	AC101(35-40)042706	0.474285714	0.087	0.124
Sodium	214.8 (sb)	54	49	5	37	3	2750	EBDT101(23-27)033106	50.9	20GH101(37-39)030306	675.3653061	29.6	581
Thallium	NA	54	4	50	0	0	1	20GH101(13-15)030306	0.883	20GH101(29-31)030306	0.93275	0.578	0.93
Vanadium	150 (d)	54	54	0	0	0	43.5	20CH101(13-15)022706	6.3	20CH101(29-31)022706	16.64333333	-	-
Zinc	81.77 (d)	54	54	0	9	0	331	20MW16D(7-9)030706	10.3	EBDT100(55-56.42)041206	47.58703704	-	-
Cyanide (mg/kg)													
Available Cyanide	NA	54	32	22	0	0	90.9	AC101(29-30)042706	0.037	EBDT104(35-37)040306	5.05275	0.044	0.059
Cyanide, Total	NA	54	7	47	0	0	4.85	EBDT101(4-5)032906	1.35	20MW16D(35-37)030706	3.627142857	0.554	0.882

Table 5-3
Visible and Olfactory Impact and Analytical Soil Sample Summary
Former East 21st Street Works, New York, New York

Boring ID	Total Depth feet bgs	Visible and Olfactory Impact Summary		Analytical Sample	
		Depth Interval	Description	Depth	Rationale
20CH100	N/A	N/A	Surface Soil Sample Only	0.0 - 0.2	Delineate south of 21CH017
20CH101	53	11-37	HCL odor - PID 2.4 - 91.9 ppm, sheen on spoon from 15 - 19 PID 47.8 ppm	13-15	Delineate south of CH-borings; characterize odor and high PID readings
				29-31	Delineate south of CH-borings. Work Plan proposed 21-27 however there was not enough recovery to sample. Collected 29-31 since it was closest to the interval needed and immediately below peat layer.
		33-33.5	trace spots of sheen - PID 38.5 ppm		
		41-45	strong HCL odor - PID 5.3-10.6 ppm		
				51-53	Delineate south of CH-borings and bottom of boring
20CH102	36	16-16.4	Staining	22-23	To characterize staining and MGP odor noted at 22-23.3 ft bgs.
		18-19.2 20-21 22-23.3	Staining Staining Staining	26-26.9	To evaluate vertical extent of shallower impact and to delineate horizontal extent of total SVOC exceedances of the RSCO detected between 20 and 30 ft bgs in borings 21CH00
20GH100	41			0-0.2	Delineate south of 21GH017
				13-15	Delineate south of impacts at 21GH017
				19-21	Peat layer
		27-37	HCL odor	35-37	Vertical delineation
		37-41	Naphthalene odor		
20GH101	39	N/A	No visible or olfactory impacts noted	13-15	Delineate south of 21GH022.
				29-31	Delineate south of 23GH015
				37-39	Delineate south of GH-borings and bottom of boring
20GH102	41	N/A	No visible or olfactory impacts noted	39-41	Delineate south of GH borings
20MWD16				35-37	Delineate west of impacts at 20CH101
20MWD17	37	N/A	No visible or olfactory impacts noted		
20PF101	5	N/A	No visible or olfactory impacts noted	0.2-5	Delineate south of impacts at 21PF007
20PF102	37	N/A	No visible or olfactory impacts noted	7-9	Delineate south of impacts at 21PF010
20SE101	72	18-18.5	Staining	22-24	To characterize staining and MGP odor noted 22 to 24.3 ft bgs and to evaluate horizontal extent of VOX and/or SVOC exceedance of RSCOs at 21OT005 and 21OT006 from 23 to 27 ft bgs.
		20-21.8	Staining throughout	25-29	To characterize staining and MGP odor noted between 24.3 and 28.6 ft bgs and to evaluate horizontal extent of VOC and/or SVOC exceedance of RSCOs at 21OT005 and 21OT006 from 23 to 27 ft bgs.
		22-24.3	Staining throughout	30-34	To evaluate vertical extent of shallower impacts.
		24-27.3	Staining throughout		
		28.6-28.9	Staining throughout		
		26.25-27.25	Staining	66-68	To characterize soil quality near the base of borehole
		28.6-28.9	Staining throughout		
23N101	60	6-10	HCLO		
		21.5-25	sewer-like odor	17.5-20	soil - delineate impacts northeast of 23GH101
				15-19	gw - delineate impacts northeast of 23GH101
				30-35	soil - delineate impacts northwest of 23GH102
				31-35	gw - delineate impacts northwest of 23GH102
				55-60	soil - delineate impacts north of 21MW3DD
				56-60	gw - delineate impacts north of 21MW3DD
23N102	62	13-15	slight TLO	13-15	Delineate impacts north of 23RE102
		23-25.5	very slight TLO	19-23	delineate impacts north of 23RE102
		27-29	slight TLO		
				31-33	delineate impacts northeast of 23GH102
AC101	72.5	10-15	TLO	10-15	soil - delineate impacts northeast of 23RE102
				13-15	gw - delineate impacts northeast of 21RE102
		15-20	sewer-like odor		
		24-35	TLO	29-30	soil - delineate impacts north of 23RE101
				28-30	gw - delineate impacts north of 23RE101/12D
		30-35	faint sheen - PID14.3 ppm		
				35-40	soil - delineate impacts north of 23RE101
		50-53	slight TLO sheen - little recovery		
				55-60	soil - delineate impacts north of 23RE101/12DD
				58-60	gw - delineate impacts north of 23RE101/12DD
				60-64	gw - vertical delineation/characterization
				65-70	soil - vertical delineation /characterization
		70-70.2	slight sheen, staining, TLO	70-72	soil - vertical delineation /characterization

Table 5-3
Visible and Olfactory Impact and Analytical Soil Sample Summary
Former East 21st Street Works, New York, New York

Boring ID	Total Depth feet bgs	Visible and Olfactory Impact Summary		Analytical Sample	
		Depth Interval	Description	Depth	Rationale
AC103	38	8-8.2	Black staining	10-15	To evaluate the horizontal extent of total VOCs and some SVOCs exceeding RSCOx in boring AC101 between 10 and 15 ft bgs.
		32.45-34	Light gray staining	28-30	To evaluate the horizontal extent of total VOCs and some SVOCs exceeding RSCOs in boring AC101 between 29 and 30 ft bgs.
		36-38	Staining	32-34	To characterize the light gray staining observed from 32.45 to 34 ft bgs
				34-36	To evaluate vertical extent of the shallower staining
EBDT100	71		Surface Soil Sample	0-0.2	Delineate east of 21DT006
		6-6.9	HCL and fuel oil odors		
		7-25	HCL Odor		
		9-12	yellow OLM some slight sheen to 15.3		
		26.6-37	lenses of black NAPL, sheen, black staining, sheen and HCL odor	26.6 - 29	Characterize NAPL
		37-43	black staining and OLM blebs, tar like odor		
		47-53	intermittent lenses of staining, sheen, and tar-like odor		
		53-59	NAPL saturated and black stained, OLM, strong Tar-like odor - previous notes said impacts to 56.42 feet - compare with field log! Field log state TLO to 56.42 At 57no sheen or odor	55-56.42	Characterize OLM
				61-63	Vertical extent
EBDT101	72		Upper Fill Soil Sample	0.25-5	Delineate east of 21DT004
		6-7	HCL Odor		
		9-19	Oil like odor, slight sheen. Reddish-brown OLM blebs from 9-11.	9-11	Characterize impact - fingerprint analysis
		23.2-41	TLO, TLM lenses, OLM blebs/sheen, some black staining	23-27/41-45	Characterize impact/Vertical extent
EBDT102	72		Upper Fill Soil Sample	0.2-5	Delineate north and east of 21DT004
		5.5-13	slight HCL odor		
		6.5-13	some staining noted	9-11	Characterize staining and odor impacts
		17-19	trace staining and HCL odor		
		22-25	black staining trace MGP odor from 21.5-22		
		28- 32	black staining and OLM blebs, tar like odor		
		32-44	slight tar-like odor		
		44-52.7	44.42 and 47' 0.1' thick lens of OLM saturated sand, otherwise tar-like odor and slight sheen	46-48	Characterize impacts
				60-62	Vertical extent
EBDT103	71		Upper Fill Soil Sample	0.2-0.5	Delineate north and east of 21DT004 and 21RE005
		9-11	little black staining		
		11-3	trace HCL odor		
		25.2-31	MGP Odor		
		25.6	strong sheen	25-29	Characterize impacts
		27-29	moderate staining		
				39-41	Vertical extent
				65-69	Vertical extent and screened interval
EBDT104	53	9.5-18.5	HCL Odor		
		23.4-27	HCL odor-sheen, heavy sheen brown NAPL at 27	26-27	Characterize brown NAPL impacts
		27-27.4/33.2/33.4	HCL odor - lenses of brown NAPL		
		36.2-37.3	saturated with black NAPL , HCL odor	36-37	Characterize black NAPL impacts
		27-43	HCL odor	43-45	Vertical extent
EBDT105	54	34-36	slight TLO	34-36	Characterize odor impacts. Work Plan called for sample from 7-27 however, this was the first interval with sufficient recovery for a sample
				40-42	Vertical clean

Table 5-3
Visible and Olfactory Impact and Analytical Soil Sample Summary
Former East 21st Street Works, New York, New York

Boring ID	Total Depth feet bgs	Visible and Olfactory Impact Summary		Analytical Sample	
		Depth Interval	Description	Depth	Rationale
EBOT101	65	4-38	HCL odor increasing downward until faint at 34 and no odor at 38		
		11-27.5	intermittent sheens		
		27.5-34	lenses of black OLM NAPL saturation and black/brown staining	27-29	Characterize OLM NAPL saturation
		37-47	intermittent lenses of sheen or staining, 0.02' NAPL lenses at 46.4 and 46.6 and slight HCL odor		
		47-57	dark staining and residual black NAPL - saturated with runny brown NAPL form 53-57	55-57	Characterize runny brown NAPL
				61-63	Vertical extent
EBOT102	71	2-3.5	Dielectric fuel odor		
		7-7.8	weathered CLM and TLO		
		19.3-28	TLO and intermittent lenses of OLM, TLM, blebs	24-28	Characterize impacts
		28-30/33-35	black staining and TLO, slight sheen throughout		
		35-37	TLO, TLM, black staining, slight sheen		
		37-45	black staining and TLO		
		45-45.2	TLO, OLM	45-47/49-51	Characterize impacts/Vertical extent
EBSC101	38	22-30.7	Slight sheen throughout	6-8	To characterize the strong petroleum like odor noted from 6.5 to 8.2 ft bgs
		31.9-31.91	NAPL	24-26	To characterize sheen, OLO, MGPO observed in this interval.
		32-32.9	Black staining and sheen throughout	46-48	To characterize sheen and PLO observed in this interval
		32.9-33.6	Sheen throughout	76-78	To characterize soil quality at the base of the boring.
		34.7-36	Sheen and black staining throughout		
		36-37.65	Trace black staining at top of interval		
		42.6 and 43	Sheen		
		44.4	Spots of sheen		
		46-49.5	Sheen throughout		
		50-51.25	Sheen throughout		
		54-57	NAPL lens		
		60-60.5	Sheen throughout		
		60.75-61.75	Sheen throughout		
		62-62.75	Staining throughout		
		64-66	Sheen throughout		
		71.25-71.5	Blebs throughout		
		72.5-73	Sheen throughout		
		74-76	Blebs throughout		

Notes:

ft bgs - feet below ground surface
N/A - Not Applicable
HCL - Hydrocarbon-like
TLO - Tar-like odor
TLM - Tar-like material
OLM - Oil-like material
PID - photoionization detector reading in parts per million (ppm)
TBC - to be completed
NR - not recorded
gw - groundwater grab sample

Table 5-4
NAPL Measurements in Monitoring Wells
Former East 21st Street Works, New York, New York

Monitoring Well ID	Date Installed	Well Installation Depth (ft)	Measured Total Depth (ft)	Screened Interval (ft)	Date measured and/or removed	Depth to Water (ft)	Depth to NAPL (ft)	NAPL Thickness (ft)	NAPL Volume Removed (gal)	Comments
21MWD03	3/12/2004	37.1	37.10	25-35	4/19/2004	9.99	ND	ND	none	GW sampling event.
			NA		SCS-2004	NA	NA	0.36	NA	Dates not listed in SCS, only NAPL thickness.
			37.00		3/28/2006	9.00	33.18	3.82	none	NAPL confirmed on interface probe.
			37.00		3/31/2006	9.13	33.18	3.82	~1 gallon	~4 gallons of water and NAPL were removed - ~1 gallon was NAPL.
			37.10		4/7/2006	9.08	35.58	1.52	none	Gauging event only.
			37.08		5/23/2006	9.11	33.98	3.10	none	GW Sampling event - TLO on probe following initial DTW reading, TLO in purge water, very slight sheen in purge water, sample tubing placed above NAPL.
			37.00		6/12/2006	9.10	33.75	3.25	none	Gauging event only.
			37.00		9/11/2008	9.05	28.3	8.70	none	Gauging event only.
21MWD04	3/8/2004	37.1	NA	25-35	4/19/2004	6.78	ND	ND	none	H&A SCS gauging event.
			NA		SCS-2004	NA	NA	0.08	NA	Dates not listed in SCS, only NAPL thickness.
			37.00		3/28/2006	6.25	NA	present	~1 gallon	Thickness not determined due to measurement difficulty with probe/weighted string. Bailed ~1 gallon of product and water.
			37.10		4/7/2006	6.45	36.1	1.00	none	Gauging event.
			36.90		5/25/2006	5.50	NA	NA	NA	A few small sheens noted on purge water surface-GW sampling event.
			36.9		6/12/2006	6.24	35.65	1.25	none	Gauging event only.
			36.9		9/10/2008	6.41	34.8	2.10	none	Gauging event only.
21MWDD04	3/21/2006	73	73.06	61-71	4/7/2006	6.84	NA	NA	none	Gauging event.
			73.08		5/25/2006	6.75	ND	ND	none	GW Sampling event - DNAPL first observed after purging began, removed tubing, installed new, water intake a couple of feet above DNAPL surface.
			73.00		5/31/2006	6.00	64	9.08	none	NAPL recovery event. Attempted to pump, no DNAPL removal (too viscous), only water in discharge.
			NA		6/12/2006	6.71	66	7.7	none	Gauging event only (thickness determined using previous total well depth).
			73.00		9/10/2008	6.10	60.8	12.2	none	Gauging event only.
21MWS07	3/9/2004	16	NA	4-14	4/19/2004	8.13	ND	ND	none	GW sampling event.
			15.77		4/7/2006	8.89	ND	ND	none	Gauging event only.
			16.02		5/18/2006	7.88	ND	ND	none	GW sampling event.
			15.82		6/12/2006	7.77	possible trace	possible trace	none	Gauging event only, need to confirm possible trace TLM DNAPL in subsequent event.
			14.00		9/11/2008	8.09	ND	ND	none	ND
21MWD07	3/9/2004	37.1	NA	25-35	4/19/2004	9.45	ND	ND	none	H&A SCS gauging event.
			38.00		3/28/2006	8.70	trace	trace	~.25 gallon	DNAPL on probe, DNAPL and water.
			37.20		4/7/2006	8.99	8.98	trace	none	Gauging event.
			37.20		5/18/2006	8.40	35.9	1.30	none	
			37.20		5/23/2006	9.11	36.1	1.10	none	GW Sampling event, sample tubing installed above the DNAPL.
			37.05		6/12/2006	8.75	ND	present	none	Gauging event - TLM on probe. Thickness not determined due to measurement difficulty with probe/weighted string. Need to confirm thickness in subsequent event.
			37.00		9/11/2008	8.20	36.8	0.2	none	Gauging event.
21MWS10	3/5/2004	18.1	17.81	6-16	4/19/2004	8.13	8.12	0.01	none	OLM/LNAPL noted during SCS.
			17.77		4/7/2006	8.94	ND	ND	none	Gauging event only.
			17.78		5/18/2006	7.99	ND	ND	none	GW sampling event-slight stringy sheen in purge water.
			12.85		6/12/2006	7.67	trace	trace	none	Gauging event - orange LNAPL/OLM on probe.
			16.00		9/2/2008	7.21	ND	ND	none	ND

Table 5-4
NAPL Measurements in Monitoring Wells
Former East 21st Street Works, New York, New York

Monitoring Well ID	Date Installed	Well Installation Depth (ft)	Measured Total Depth (ft)	Screened Interval (ft)	Date measured and/or removed	Depth to Water (ft)	Depth to NAPL (ft)	NAPL Thickness (ft)	NAPL Volume Removed (gal)	Comments
21MWD10	3/5/2004	37.1	36.96	25-35	4/19/2004	8.87	8.86	0.01	none	OLM/LNAPL noted during SCS.
			37.70		3/28/2006	7.82	36.74	0.96	~1/8 gallon	LNAPL/OLM removed.
			36.97		4/7/2006	9.02	trace	trace	trace	Gauging event, trace TLM DNAPL.
			36.97		5/19/2006	8.63	ND	ND	none	GW sampling event.
			37.16		6/12/2006	8.47	trace	trace	none	Gauging event - OLM/TLM material on outside of well wall and tubing.
			36.28		9/11/2008	8.55	35.28	1	none	Gauging event - OLM/TLM material on outside of well wall and tubing.
23MWD12	2/16/2006	35	NM	23-33	3/29/2006	5.32	ND	present	~ 6 gallons	Well development event. ~6 gallons of NAPL and water were removed. TLM on probe and purge water. Thickness not determined due to measurement difficulty with probe/weighted string.
			35.82		4/7/2006	5.82	trace	trace	trace	Gauging event - trace on bottom.
			36.00		5/22/2006	5.49	34.21	1.79	none	GW sampling event - tubing set above NAPL.
			36.24		6/12/2006	5.68	ND	present	none	Gauging event only. Thickness not determined due to measurement difficulty with probe/weighted string. Need to confirm thickness in subsequent event.
			35.70		9/10/2008	6.35	33.1	2.6	none	Gauging event only.
23MWDD12	2/21/2006	62	62.36	50-60	4/7/2006	25.94	ND	ND	none	Well under pressure, water levels still rising at time of gauging event.
			62.40		5/22/2006	6.68	trace	trace	none	GW Sampling event - Trace TLM DNAPL and TLO on probe after initial reading.
			62.10		6/12/2006	5.96	ND	ND	none	Gauging event only.
			60.00		9/8/2008	6.19	ND	ND	none	ND
EBMWD14	4/3/2006	37	37.10	25-35	9/10/2008	6.30	29.6	7.5	none	Gauging event only.
EBMWDD15	4/4/2006	71	69.20	59-69	9/10/2008	7.78	59	10.2	none	Gauging event only.
EBMWD18	4/6/2006	37	35.00	25-35	9/10/2008	6.25	trace	trace	none	Gauging event only.

Notes
NM - Not Measured
NA - Not Available
ND - Not Detected

Table 5-5
Sediment Observation Field Summary for River Borings
Former East 21st Street Works, New York, New York

Boring ID	Date Drilled	Northing	Easting	TOS Elevation (NAVD88 ft)	Depth to Shallowest Impact (ft TOS)	Elevation of Shallowest Impact	Depth to Deepest Impact (ft TOS)	Elevation of Deepest Impact	Total Depth (ft TOS)	Elevation of Bottom	Visible Impact Comments (depths are below TOS)
RB1	6/17/2008	206477	991524	-6.3	13	-19.3	>40	Deeper than -46.3	40	-46.3	Sheen at 13, some stain and sheen to 20', less stain and no sheen 20-30, and heavy black stain and moderate sheen 30-40 (only 2.5 ft recovery in last 10 foot run)
RB2	6/18/2008	206208	991559	-8.9	3	-11.9	40	-48.9	60	-68.9	OLM blebs and sheen at 3, Layer of black TLM and black staining at 3.1-3.3, 2-3 lenses of 1/8" brown tar between 39 and 39.5 ft.
RB3	6/19/2008	206088	991602	-11.5	15.8	-27.3	17.6	-29.1	50	-61.5	TLM, sheen, stain from 15.8 to 16.4. Black stained layer 16.4 to 17.6
RB4	6/19/2008	205943	991639	-7.7	7	-14.7	27.9	-35.6	45	-52.7	Sheen at 7',TLM and slight sheen at 23.15, Black staining at 25 with TLM lens at 25.44-25.7, OLM blebs from 26.8 to 27.9
RB5	6/20/2008	205639	991723	-8.3	25	-33.3	37	-45.3	50	-58.3	MGPO and sheen from 25-28 w/in black muck; black staining and MGPO from 36.25 to 36.5'
RB6	6/20/2008	205798	991795	-14.6	15	-29.6	17.5	-32.1	50	-64.6	Sheen and MGPO from 15 to 17.5 w/in black muck
RB7	6/23/2008	206110	991778	-26	10	-36	35	-61	60	-86	Staining and sheen at 10' - 11'; 21.5' - OLM/TLM - brown and runny to approx. 35'; OLM/TLM saturated b/w 22-23.1', 26-27.6'
RB8	6/23/2008	206083	991967	-24	0	-24	6.5	-30.5	45	-69	Just below gravel in the vf-f sand - TLM staining and runny black TLM
RB9	6/24/2008	206064	992079	-35.1	No Impact	--	No Impact	--	45	-80.1	No visible impact
RB10	6/24/2008	206193	992048	-31.5	No Impact	--	No Impact	--	45	-76.5	No visible impact
RB11	6/25/2008	206272	991967	-24.7	0	-24.7	6	-30.7	60	-84.7	Runny black OLM from 0-1; sheen, odor, and staining 5-6 (no recovery 1-5)
RB12	6/25/2008	206756	991471	-6.2	10	-16.2	45	-51.2	65	-71.2	OLM blebs at 10' through 20'; TLM lens at 15.4 - 15.55', 21'; runny OLM blebs at 27.5 and 27.9', TLM saturated f-sand (40.75-46.5'), strong MGPO
RB13	6/26/2008	205820	991956	-20.9	0	-20.9	8.3	-29.2	60	-80.9	Some sheen w/ OLM blebs in bag water 0-8'; black stained m-sand w/ MGPO/OLO at 8-8.3'
RB14	6/27/2008	205692	991978	-25	0	-25	20	-45	55	-80	Sheen, stain, MGPO/OLO from 0-15; runny brown TLM 15-16' w/ some throughout bag b/c of water
RB15	6/27/2008	205618	992082	-30.2	5	-35.2	10	-40.2	45	-75.2	TLM sat 5-6.6' (brown, runny) w/in m-f sand; spots of sheen w/in silty clay & gray clay from 7.2-8'
RB16	6/30/2008	205370	992064	-32	10.18	-42.18	10.2	-42.2	45	-77	Slight MGPO/OLO and strong H2S-like Odor in silty muck (0-0.3') - no visible impact; slight staining & MGPO (10.18-10.19')
RB17	6/30/2008	205491	992134	-32	No Impact	--	No Impact	--	45	-77	No visible impact
RB18	7/1/2008	205504	991883	-26	No Impact	--	No Impact	--	55	-81	MGPO & OLO in black peaty/silty muck (21.6-22.5') but no visible impact
RB19	7/1/2008	206655	991760	-15	17	-32	17.02	-32.02	60	-75	MGPO & OLO in black peaty/silty muck; gray stain from 17-17.02'
RB20	7/2/2008	206353	991811	-22.6	No Impact	--	No Impact	--	60	-82.6	No impact
RB21	7/2/2008	206415	991989	-31.5	No Impact	--	No Impact	--	55	-86.5	No impact
RB22	7/7/2008	206582	991973	-32	No Impact	--	No Impact	--	45	-77	No impact
RB23	7/8/2008	207023	991581	-6.5	31.55	-38.05	32.4	-38.9	60	-66.5	slight sheen and very slight MGPO 25-30'; black-metallic stain & sheen at 31.55-31.7' and 32.3-32.4' with very slight MGPO
RB24	7/8/2008	206893	991816	-20.5	No Impact	--	No Impact	--	45	-65.5	No impact
RB25	7/9/2008	207034	991756	-10	No Impact	--	No Impact	--	35	-45	No impact
RB26	7/9/2008	206297	991996	-31.8	38.1	-69.9	41	-72.8	65	-96.8	Sheen @ 38.1 to 38.3; runny brown NAPL w/ MGPO @ 40.5 to 40.75' bml
RB27	7/10/2008	206261	992089	-34.5	No Impact	--	No Impact	--	60	-94.5	No impact

Table 5-5
Sediment Observation Field Summary for River Borings
Former East 21st Street Works, New York, New York

Boring ID	Date Drilled	Northing	Easting	TOS Elevation (NAVD88 ft)	Depth to Shallowest Impact (ft TOS)	Elevation of Shallowest Impact	Depth to Deepest Impact (ft TOS)	Elevation of Deepest Impact	Total Depth (ft TOS)	Elevation of Bottom	Visible Impact Comments (depths are below TOS)
RB28	7/10/2008	205977	992020	-35	No Impact	--	No Impact	--	45	-80	No impact
RB29	7/11/2008	205787	992045	-35	0	-35	0.9	-35.9	45	-80	Very slight sheen between 0-0.9', slight MGPO to 10' bml
RB30	7/11/2008	205767	992119	-38.2	No Impact	--	No Impact	--	40	-78.2	No impact
RB31	7/15/2008	205687	992080	-34.9	No Impact	--	No Impact	--	45	-79.9	No impact
RB32	7/15/2008	205615	992129	-34.8	No Impact	--	No Impact	--	45	-79.8	No impact
RB33	7/16/2008	205286	992045	-25	15	-40	20.95	-45.95	55	-80	Very slight metallic sheen in water at 15-16 and 20 to 20.95' with slight MGPO & sharp OLO to 20.95' bml
RB34	7/16/2008	205281	992118	-35	37.15	-72.15	37.5	-72.5	45	-80	Runny brown NAPL, slightly viscous & sticky from 37.15 - 37.5'bml w/ strong MGPO
RB35	7/17/2008	205216	992107	-30	0.75	-30.75	20.5	-50.5	55	-85	Metallic sheen/stain (0.75-1') w/ slight OLO/MGPO; brown viscous NAPL lens (20.35-20.5') w/ strong MGPO
RB36	7/17/2008	205144	992167	-32	No Impact	--	No Impact	--	45	-77	No Impact
RB37	7/18/2008	205201	992155	-34.9	20	-54.9	21.9	-56.8	50	-84.9	Few (4 or 5) brown OLM blebs between 20' & 21.9'; no PID hits
RB38	7/18/2008	205240	992263	-35	No Impact	--	No Impact	--	45	-80	No impact
RB39	7/21/2008	205383	992156	-35	No Impact	--	No Impact	--	40	-75	No impact
RB40	7/21/2008	205881	992052	-35.5	No Impact	--	No Impact	--	45	-80.5	No impact
RB41	7/22/2008	206820	991936	-28.5	No Impact	--	No Impact	--	45	-73.5	No impact
RB42	7/22/2008	206779	991595	-6.75	15	-21.75	31.95	-38.7	60	-66.75	Sheen in muck/silt/peat at 15'; black viscous TLM (17.1 - 17.16'); stain intermittent to 20'; TLM (SAA) between 31.85 & 31.95'
RB43	7/23/2008	206963	991697	-7.5	21.43	-28.93	21.45	-28.95	60	-67.5	Slight metallic sheen and OLO w/in black silty muck & peat; nothing below - no MGPO or vis impact
RB44	7/24/2008	206657	991623	-7	17.7	-24.7	25	-32	60	-67	few metallic sheen spots (17.7-18) w/ OLO, (21.1-21.2 & 23.5-23.6) metallic sheen with few spots in between and MGPO - w/in silty muck; slight black stain 23.6 to 25 with MGPO w/in f-sand layer; slight MGPO to 30'
RB45	7/24/2008	206479	991661	-10	36.1	-46.1	36.3	-46.3	60	-70	Slight black stain from 36.1 to 36.3' bml w/ slight MGPO
RB46	7/25/2008	206382	991698	-16	11.3	-27.3	45.08	-61.08	60	-76	Metallic sheen (11.3-11.5), black stain (12.35-15); runny brown NAPL (18.1-18.14' & saturated 20-21.7'); slight sheen (40-45')
RB47	7/25/2008	206571	991854	-20	No Impact	--	No Impact	--	55	-75	No impact
RB48	7/28/2008	206189	991574	-10	2.7	-12.7	87	-97	95	-105	Metallic sheen (2.7', 6.85-7.04') w/in pt-silt-muck, sheen in gravel (15-15.5'), metallic sheen/tlm/olm (15.8-16', 16.45', 17.05-17.07', 18.55-18.58'), strong olo/h2s-like odor/tr mgpo in vis impacted areas; runny brown NAPL & sheen (30-31.89'), runny brown NAPL (32.3-33.1'); clean to 56.3' -> lens of runny brown NAPL (56.3-56.4'); clean to 77.5' -> layers of slightly viscous brown NAPL, not saturated or runny (77.5-78.7'); stain and sheen from 82-85'; layers of brown NAPL 85-87'; clean to 95' bml
RB49	7/28/2008	206461	991848	-20	17	-37	17.6	-37.6	55	-75	metallic sheen (17-17.6') w/in silt layer
RB50	7/29/2008	206232	991842	-16	0	-16	52.4	-68.4	85	-101	slight metallic sheen 0-20' w/in silt/pt layer; runny brown NAPL (40-52.4') not saturated throughout, just a few lenses
RB51	7/29/2008	206008	991807	-22	20.7	-42.7	21.1	-43.1	45	-67	OLO & slight metallic sheen (20.7-21.1')
RB52	7/30/2008	205873	991816	-14.2	10	-24.2	68	-82.2	90	-104.2	Metallic sheen (10-22.6'), brown NAPL lens (11.6-11.7', 12.51-12.53', 12.8-12.82', 15.7-15.8', 16.58-16.59', 19.35-19.37') (all w/in the silty muck); few spots of sheen (46.7-48') w/in m-f gray-brown sand, slight MGPO; slight sheen & MGPO (65-68')
RB53	7/31/2008	205452	992027	-25	5	-30	16.3	-41.3	60	-85	Metallic sheen (5-15') w/ brown NAPL (10-12.95') w/in silt/pt layer; slight black stain in silty sand (12.95-16.3')

Table 5-5
Sediment Observation Field Summary for River Borings
Former East 21st Street Works, New York, New York

Boring ID	Date Drilled	Northing	Easting	TOS Elevation (NAVD88 ft)	Depth to Shallowest Impact (ft TOS)	Elevation of Shallowest Impact	Depth to Deepest Impact (ft TOS)	Elevation of Deepest Impact	Total Depth (ft TOS)	Elevation of Bottom	Visible Impact Comments (depths are below TOS)
RB54	8/1/2008	205727	991876	-17.5	2.8	-20.3	20	-37.5	90	-107.5	Metallic sheen (2.8-15') w/in silty muck/peat; runny brown NAPL on outside & sheen w/in red-brown silty sand (15-20'); slight MGPO (70-75')
RB55	10/27/2008	207079	991382	-4.5	No Impact	--	No Impact	--	17.2	-21.7	No impact
RB56	10/24/2008	206983	991663	-8	No Impact	--	No Impact	--	18	-26	No impact
RB57	10/24/2008	206932	991761	-9.9	No Impact	--	No Impact	--	19.8	-29.7	No impact; tr. PLO from 4.8-9.8, no visible impact
RB58	10/21/2008	206798	991549	-24.6	2.8	-27.4	18.1	-42.7	18.1	-42.7	Trace sheen at 2.8 within black brown silt, light metallic sheen within peat from 7.5 to 13.1 and black viscous TLM in layers at 12.9, 13.2, 13.7, 14.8 to 15 with very strong MGPO. brown TLM within m-f sand from 15.4 to 15.7 and 16.4 to 16.5 with staining to 18.1
RB59	10/21/2008	206566	991553	-8.5	6.2	-14.7	14.75	-23.25	16.6	-25.1	Single OLM bleb at 6.2, single spot of sheen at 9.8, sheen in sand lense at 13.2 to 13.4, stain in sand from 14 to 14.75 and MGPO from 14 to 16.6 and fainter with depth
RB60	10/21/2008	206543	991749	-12	3.9	-15.9	18.5	-30.5	19	-31	MGPO throughout to 18.5 sheen from 3.9 to 7.1, stain from 7.1 to 12.4, viscous black TLM 16.4 -16.9
RB61	10/24/2008	206359.51	991854.40	-23	No Impact	--	No Impact	--	17.5	-40.5	No impact
RB62	10/21/2008	206262	991741	-14.2	2.4	-16.6	9.5	-23.7	9.5	-23.7	Slight sheen and organic odor from 2.4 to 3.75. MGPO with brown staining from 4.5 to 9.5
RB63	10/24/2008	206253.91	991993.65	-27.2	4.8	-32	12.4	-39.6	20.3	-47.5	Runny brown NAPL, slightly viscous from 4.8-5.15' and on outside of core to 11, saturated from 11-12.4' all within hardpacked m-f sand and sandy silt; clean below
RB64	10/24/2008	206100.00	992008.02	-26	0.9	-26.9	0.9	-26.9	19	-45	Single spot of sheen at 0.9'; clean below.
RB65	10/22/2008	205932	991995	-31.6	0	-31.6	1	-32.6	17.1	-48.7	Two spots of sheen at 0 ft in peat
RB66	10/22/2008	205727	992056	-36.1	0	-36.1	2.6	-38.7	19.9	-56	Black staining 0 to 1.5, 2.1, 2.25 to 2.35. MGPO and brown TLM coated grains at 2.4 to 2.6
RB67	10/22/2008	205979	991845	-20.5	4.7	-25.2	8.7	-29.2	19.7	-40.2	Black staining and strong MGPO/PLO from 4.7 to 8.7. Slight MGPO from 8.7 to 9.7
RB68	10/24/2008	206141.11	991834.00	-20.2	0	-20.2	3.3	-23.5	16.95	-37.15	slight sheen from 0-1.95, black to gray stain to 3.3', clean below with slight MGPO 6.95-10.9'
RB69	10/22/2008	206055	991702	-19.8	0	-19.8	14	-33.8	18.6	-38.4	Slight sheen 0 - 5.4, layer of sand with brown slightly viscous TLM from 2.55 to 2.75. Sheen blebs at 6 and 7 feet, slight brown stain from 11.8 to 12.2 and 12.6 to 14,
RB70	10/22/2008	205753	991707	-7.4	0.6	-8	18.4	-25.8	20	-27.4	Slight sheen with MGPO and organic odor in silty peat 0.6 to 7.8. Lenses of black stain in hard packed sand at 15.2, 15.65, 15.8 to 16.9 and 18.4.
RB71	10/23/2008	205617	991741	-9	No Impact	--	No Impact	--	17	-25.5	No Impacts
RB72	10/23/2008	205498	991905	-17	No Impact	--	No Impact	--	17.4	-34.4	MGPO from 12.4 to 16.4
RB73	10/23/2008	205351	991990	-21.9	9.5	-31.4	12.5	-34.4	18.1	-40	Trace sheen and strong MGPO and PLO within sandy silt and organics 9.5 to 12.5.
RB74	10/23/2008	205284	992163	-40.2	No Impact	--	No Impact	--	20	-60.2	No impact
RB75	10/23/2008	205152	992111	-28.5	0.5	-29	4.2	-32.7	17	-45.5	Sheen w/in black vf sandy silt (0.5-1.9); runny brown OLM w/in m-f sand (2.2-2.6) - down the middle of the core, not running out; sheen on gravel from 3-4.2; clean below 4.2
RB76	10/27/2008	205070.32	992160.31	-29.8	No Impact	--	No Impact	--	19.5	-49.3	No Impact

Notes

TOS - top of sediment
ft TOS - feet below top of sediment
TLM - Tar-Like Material
OLM - Oil-Like Material
MGPO - MGP-type Odor
OLO - Oil-Like Odor

Table 5-6
Summary of OU2 RI Deep River Sediment Analytical Results
East 21st Street Works, New York, New York

Location	T1/TB (RB1)	T1/TB (RB1)	RB2	RB2	RB3	RB3	RB4	RB4	RB5	RB5	RB5	RB6	RB6	RB6	RB7	RB7	RB7	RB8
Depth Interval (feet)	5-6	30-40	35-40	45-46	15-17	22-24	20-25	30-32	20-25	36-37	40-41	16.5-17.5	20-25	35-40	10-11	26-28	40-45	10-15
Sample Date	6/17/2008	6/17/2008	6/18/2008	6/18/2008	6/19/2008	6/19/2008	6/19/2008	6/19/2008	6/20/2008	6/20/2008	6/20/2008	6/20/2008	6/20/2008	6/20/2008	6/23/2008	6/23/2008	6/23/2008	6/23/2008
BTEX (mg/Kg)																		
Benzene	0.0062 UJ	**110.000**	0.120 U	0.0029 U	0.120 U	**0.032**	4.500 UJ	0.0033 U	NS	0.0030 U	0.0032 U	NS	0.0065 U	0.0034 U	**1.500**	**240.000**	**0.026**	**0.0081**
Ethylbenzene	**0.0083 J**	**160.000**	**1.200**	0.0029 U	**0.160**	**0.240**	**78.000 J**	0.0033 U	NS	**0.0032**	0.0032 U	NS	**0.021**	0.0034 U	**18.000**	**650.000**	**0.050**	0.0034 U
m,p-Xylene	0.012 UJ	**350.000**	0.240 U	0.0059 U	0.240 U	**0.045**	**60.000 J**	0.0066 U	NS	0.0061 U	0.0064 U	NS	**0.018**	0.0068 U	**4.900**	**820.000**	**0.037**	0.0068 U
o-Xylene	0.012 UJ	**150.000**	0.240 U	0.0059 U	0.240 U	**0.052**	**31.000 J**	0.0066 U	NS	0.0061 U	0.0064 U	NS	0.013 U	0.0068 U	**2.300**	**340.000**	**0.022**	0.0068 U
Toluene	0.0094 UJ	**240.000**	0.180 U	0.0044 U	0.180 U	**0.011**	**8.000 J**	0.0049 U	NS	0.0046 U	0.0048 U	NS	0.0097 U	0.0051 U	**2.200**	**520.000**	**0.044**	0.0051 U
Total Xylene (calculated)	ND	**500.000**	ND	ND	ND	**0.097**	**91.000**	ND	NS	ND	ND	NS	**0.018**	ND	**7.200**	**1160.000**	**0.059**	ND
PAH (mg/Kg)																		
2-Methylnaphthalene	**0.680 J**	**147.000**	**0.243**	**0.300**	**2.490**	**0.308**	**214.000 J**	**1.560**	**288.000 J**	**0.842**	**0.00232**	**228.000**	**0.0318**	**0.0270**	**69.000**	**4270.000**	**0.184**	**0.402**
Acenaphthene	**0.930 J**	**12.300**	**10.200**	**0.458**	**58.100**	**0.502**	**102.000**	**0.927**	**102.000 J**	**18.700**	**0.0132**	**142.000**	**0.0467**	**0.0124**	**27.000**	**228.000**	**0.0200**	**0.136**
Acenaphthylene	**0.860 J**	**59.500**	**1.980**	**0.610**	**9.060**	**0.135**	**6.540 J**	**0.130**	**8.620 J**	**2.120**	**0.00108**	**15.800**	**0.0136**	**0.00435**	**8.700**	**1140.000**	**0.0658**	**0.0572**
Anthracene	**2.200 J**	**25.200**	**4.730**	**0.794**	**22.000**	**0.0163**	**40.900**	**0.625**	**50.200 J**	**14.700**	**0.00796**	**93.000**	**0.0335**	**0.00712**	**14.000**	**508.000**	**0.0154**	**0.0940**
Benzo(a)anthracene	**3.300 J**	**9.340**	**3.300**	**0.412**	**15.900**	**0.00333 J**	**19.100**	**0.293**	**24.500 J**	**8.320**	**0.00337**	**58.300**	**0.0210**	**0.00392**	**7.100**	**194.000**	**0.00555**	**0.0428**
Benzo(a)pyrene	**2.800 J**	**7.480**	**2.640**	**0.282**	**14.500**	**0.00540**	**15.500**	**0.215**	**20.500 J**	**6.280**	**0.00246**	**47.600**	**0.0141**	**0.00306**	**5.100**	**144.000**	**0.00432**	**0.0338**
Benzo(b)fluoranthene	**2.200 J**	**2.940**	**1.500**	**0.131**	**7.150**	**0.00150 J**	**6.980**	**0.0913**	**10.000 J**	**2.800**	**0.00113**	**21.900**	**0.00669**	**0.00157**	**2.100**	**61.400**	**0.00158**	**0.0140**
Benzo(ghi)perylene	**1.300 J**	**2.460**	**1.470**	**0.100**	**7.600**	**0.00219 J**	**5.320 J**	**0.0691**	**7.220 J**	**2.050**	**0.000921**	**18.900**	**0.00472**	**0.00128 J**	**1.900**	**40.400**	**0.00210**	**0.0114**
Benzo(k)fluoranthene	**2.000 J**	**4.210**	**1.710**	**0.168**	**8.880**	**0.00139 J**	**8.080**	**0.113**	**11.000 J**	**3.600**	**0.00142**	**27.600**	**0.00805**	**0.00179**	**3.300**	**75.600**	**0.00233**	**0.0194**
Chrysene	**3.600 J**	**8.790**	**3.110**	**0.387**	**15.000**	**0.00300 J**	**18.300**	**0.278**	**24.000 J**	**8.070**	**0.00329**	**58.700**	**0.0186**	**0.00367**	**6.600**	**181.000**	**0.00531**	**0.0397**
Dibenz(a,h)anthracene	0.670 UJ	**0.888**	**0.395**	**0.0338**	**1.800**	**0.000473 J**	**1.760**	**0.0225**	**2.510 J**	**0.727**	**0.000285 J**	**6.460**	**0.00142 J**	**0.000345 J**	**0.510**	**15.300**	**0.000599 J**	**0.00355**
Fluoranthene	**6.400 J**	**21.300**	**7.740**	**0.829**	**33.400**	**0.00618**	**34.900**	**0.581**	**45.000 J**	**14.600**	**0.00657**	**104.000**	**0.0510**	**0.00820**	**16.000**	**368.000**	**0.0109**	**0.0812**
Fluorene	**0.830 J**	**27.800**	**5.140**	**0.644**	**24.000**	**0.0787**	**39.000 J**	**0.390**	**49.500 J**	**0.978**	**0.00152**	**73.000**	**0.0209**	**0.00648**	**15.000**	**528.000**	**0.0217**	**0.0796**
Indeno(1,2,3-cd)pyrene	**1.100 J**	**2.450**	**1.280**	**0.0923**	**6.490**	**0.00153 J**	**5.050**	**0.0620**	**7.100 J**	**2.080**	**0.000689**	**18.000**	**0.00457**	**0.00101 J**	**1.700**	**40.900**	**0.00145**	**0.0104**
Naphthalene	**1.100 J**	**210.000**	**0.616**	**0.440**	**5.710**	**2.630**	**331.000 J**	**1.740**	**399.000 J**	**2.620**	**0.00401**	**311.000**	**0.0323**	**0.0429**	**94.000**	**6530.000**	**0.416**	**0.863**
Phenanthrene	**3.200 J**	**89.100**	**18.700**	**2.680**	**101.000**	**0.150**	**127.000 J**	**1.690**	**138.000 J**	**32.900**	**0.0174**	**234.000**	**0.0985**	**0.0218**	**46.000**	**1980.000**	**0.0549**	**0.283**
Pyrene	**7.000 J**	**35.800**	**11.300**	**1.320**	**46.300**	**0.00804**	**54.900**	**0.942**	**68.600 J**	**21.600**	**0.0108**	**143.000**	**0.0659**	**0.0106**	**22.000**	**602.000**	**0.0179**	**0.134**
Total HMW PAH	**23.300**	**74.358**	**26.705**	**2.92610**	**123.620**	**0.02685**	**134.990**	**2.08590**	**175.430**	**55.527**	**0.02437**	**400.460**	**0.14505**	**0.02725**	**50.310**	**1354.600**	**0.04114**	**0.30905**
Total LMW PAH	**16.200**	**592.200**	**49.349**	**6.755**	**255.760**	**3.82618**	**895.340**	**7.643**	**1080.320**	**87.460**	**0.05406**	**1200.800**	**0.32830**	**0.13025**	**289.700**	**15552.001**	**0.78870**	**1.996**
Total PAH	**39.500**	**666.558**	**76.054**	**9.68110**	**379.380**	**3.85303**	**1030.330**	**9.72890**	**1255.750**	**142.987**	**0.07843**	**1601.260**	**0.47335**	**0.15750**	**340.010**	**16906.601**	**0.82984**	**2.30505**
Benzo(a)pyrene Equivalents	**3.4836**	**9.89189**	**3.66321**	**0.3814**	**19.3578**	**0.00651**	**20.4721**	**0.28354**	**27.304**	**8.37107**	**0.00328**	**64.2147**	**0.01885**	**0.00408**	**6.7396**	**189.867**	**0.00582**	**0.0443**
Calculated Weighted PAH	**15.000**	**36.098**	**13.935**	**1.50610**	**69.720**	**0.01662**	**74.770**	**1.07480**	**99.610**	**31.877**	**0.01264**	**238.560**	**0.07443**	**0.01537**	**26.410**	**712.200**	**0.02114**	**0.16365**
SVOC (mg/kg)																		
Dibenzofuran	1.700 UJ	**3.990**	**0.731**	**0.0694**	**1.940**	**0.00938**	**6.000**	**0.0530**	**13.400 J**	**0.716**	**0.000578**	**11.800**	**0.00515**	**0.00131**	**1.500**	**73.900**	**0.00260**	**0.0124**

Notes:

ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
Bold = detected above reporting limit

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
Totals use 0 for nondetected compounds

(P) - a product layer separated from the soil sample and was analyzed and identified with (P).
Indicates OLM, TLM, NAPL present in sample interval.
Indicates sheen, stain, and/or blebs present in sample interval.
Indicates strong odors but no visible impacted noted in sample interval.

Table 5-6
Summary of OU2 RI Deep River Sediment Analytical Results
East 21st Street Works, New York, New York

Location	RB8	RB9	RB9	RB10	RB10	RB11	RB11	RB12	RB12	RB13	RB13	RB13 DUP	RB13	RB14	RB14	RB15	RB15	RB15
Depth Interval (feet)	25-30	15-20	40-45	15-25	30-35	5-6	10-15	40-42	48-50	4-5	15-20	15-20	30-35	15-20	25-30	5-6	15-20	40-45
Sample Date	6/23/2008	6/24/2008	6/24/2008	6/24/2008	6/24/2008	6/25/2008	6/25/2008	6/25/2008	6/25/2008	6/26/2008	6/26/2008	6/26/2008	6/26/2008	6/27/2008	6/27/2008	6/27/2008	6/27/2008	6/27/2008
BTEX (mg/Kg)																		
Benzene	0.0035 U	0.0032 U	0.0032 U	0.0035 U	0.0032 U	**0.028**	0.0035 U	**58.000**	0.0034 U	NS	0.0035 U	0.0030 U	0.0034 U	7.000 U	0.0034 U	15.000 U	**0.013**	0.0035 U
Ethylbenzene	0.0035 U	0.0032 U	0.0032 U	0.0035 U	0.0032 U	**1.800**	0.0035 U	**110.000**	0.0034 U	NS	0.0035 U	0.0030 U	0.0034 U	**23.000**	0.0034 U	**38.000**	**0.027**	0.0035 U
m,p-Xylene	0.0070 U	0.0064 U	0.0063 U	0.0070 U	0.0064 U	**2.600**	0.0069 U	**550.000**	0.0068 U	NS	0.0070 U	0.0061 U	0.0068 U	**14.000**	0.0068 U	**94.000**	**0.066**	0.0069 U
o-Xylene	0.0070 U	0.0064 U	0.0063 U	0.0070 U	0.0064 U	**1.500**	0.0069 U	**240.000**	0.0068 U	NS	0.0070 U	0.0061 U	0.0068 U	14.000 U	0.0068 U	**46.000**	**0.044**	0.0069 U
Toluene	0.0053 U	0.0048 U	0.0047 U	0.0053 U	0.0048 U	**0.190**	0.0052 U	**240.000**	0.0051 U	NS	0.0053 U	0.0046 U	0.0051 U	10.000 U	0.0051 U	23.000 U	**0.015**	0.0052 U
Total Xylene (calculated)	ND	ND	ND	ND	ND	**4.100**	ND	**790.000**	ND	NS	ND	ND	ND	**14.000**	ND	**140.000**	**0.110**	ND
PAH (mg/Kg)																		
2-Methylnaphthalene	**0.0346**	**0.0368**	**0.000313 J**	**0.00466**	**0.00229**	**9.350**	**0.0621**	**3070.000**	**0.169**	**1450.000 J**	**0.0166 J**	**0.00810 J**	**0.00986**	**699.000**	**0.175**	**2900.000**	**1.870**	**0.00518**
Acenaphthene	**0.0124**	**0.0112**	**0.0000504 J**	0.000825 U	0.00039 U	**1.040**	**0.00317**	**142.000**	**0.0191**	**497.000 J**	**0.0120 J**	**0.00631 J**	**0.00296**	**93.900**	**0.0266**	**130.000**	**0.0821**	0.000410 U
Acenaphthylene	**0.00700**	**0.0394**	**0.000150 J**	**0.00246**	**0.00145**	**6.300**	**0.0198**	**1680.000**	**0.102**	**37.600 J**	**0.0116 J**	**0.00678 J**	**0.0143**	**210.000**	**0.0433**	**1200.000**	**0.643**	**0.00232**
Anthracene	**0.00812**	**0.0328**	**0.0000975 J**	**0.000285 J**	**0.000674**	**3.620**	**0.0125**	**505.000**	**0.0500**	**219.000 J**	**0.00584**	**0.00280**	**0.00274**	**108.000**	**0.0301**	**440.000**	**0.269**	**0.00142**
Benzo(a)anthracene	**0.00343**	**0.0616**	**0.0000876 J**	0.000825 U	**0.000535**	**1.630**	**0.00640**	**237.000**	**0.0265**	**80.700 J**	**0.00357 J**	**0.00171 J**	**0.00187**	**52.100**	**0.0121**	**180.000**	**0.131**	**0.00127**
Benzo(a)pyrene	**0.00236**	**0.0642**	**0.000114 J**	0.000825 U	0.000492 U	**1.180**	**0.00496**	**203.000**	**0.0213**	**63.400 J**	**0.00290 J**	**0.00124 J**	**0.00160**	**31.400**	**0.00709**	**120.000**	**0.0780**	**0.000930**
Benzo(b)fluoranthene	**0.00163**	**0.0368**	**0.000172 J**	0.000825 U	0.00039 U	**0.698**	**0.00266**	**79.000**	**0.0106**	**25.600 J**	**0.00145 J**	**0.000712 J**	**0.000782 J**	**14.200**	**0.00333**	**57.000**	**0.0342**	**0.000519**
Benzo(ghi)perylene	**0.00142**	**0.0292**	0.000413 U	0.000825 U	0.00039 U	**0.513**	**0.00233**	**76.800**	**0.00929**	**19.100 J**	**0.00186 J**	**0.000871 J**	**0.00106**	**11.200**	**0.00246**	41.000 U	**0.0267**	**0.000523**
Benzo(k)fluoranthene	**0.00154**	**0.0434**	**0.000129 J**	0.000825 U	**0.000302 J**	**0.852**	**0.00317**	**118.000**	**0.0116**	**33.800 J**	**0.00176**	**0.000894**	**0.000987**	**20.400**	**0.00449**	**59.000**	**0.0508**	**0.000723**
Chrysene	**0.00359**	**0.0609**	**0.000157 J**	0.000825 U	**0.000638**	**1.590**	**0.00627**	**222.000**	**0.0246**	**74.300 J**	**0.00326 J**	**0.00170 J**	**0.00188**	**48.500**	**0.0114**	**160.000**	**0.123**	**0.00163**
Dibenz(a,h)anthracene	**0.000289 J**	**0.00999**	**0.0000434 J**	**0.000101 J**	**0.0000947 J**	**0.186**	**0.000554 J**	**21.300**	**0.00237**	**7.010 J**	**0.000453 J**	**0.000138 J**	**0.000150 J**	**3.500**	**0.000637**	41.000 U	**0.00817**	**0.000145 J**
Fluoranthene	**0.00742**	**0.0708**	0.000413 U	**0.000699 J**	**0.00108**	**4.060**	**0.0138**	**514.000**	**0.0603**	**157.000 J**	**0.00752 J**	**0.00370 J**	**0.00406**	**101.000**	**0.0266**	**410.000**	**0.261**	**0.00267**
Fluorene	**0.00818**	**0.0180**	0.000413 U	0.000825 U	0.000672 U	**3.740**	**0.0115**	**521.000**	**0.0485**	**198.000 J**	**0.00475 J**	**0.00246 J**	**0.00307**	**128.000**	**0.0310**	**510.000**	**0.327**	**0.00128**
Indeno(1,2,3-cd)pyrene	**0.000921 J**	**0.0297**	0.000413 U	**0.000392 J**	0.00039 U	**0.558**	**0.00197**	**68.400**	**0.00718**	**18.700 J**	**0.00127 J**	**0.000440 J**	**0.000614 J**	**11.100**	**0.00176**	41.000 U	**0.0255**	**0.000416**
Naphthalene	**0.0650**	**0.0369**	**0.000465**	**0.0189**	**0.00572**	**4.410**	**0.0832**	**6150.000**	**0.340**	**2110.000 J**	**0.0295 J**	**0.0143 J**	**0.0318**	**946.000**	**0.221**	**4200.000**	**2.310**	**0.00788**
Phenanthrene	**0.0291**	**0.0811**	0.000463 U	**0.00130**	**0.00301**	**12.100**	**0.0395**	**2340.000**	**0.178**	**555.000 J**	**0.0205 J**	**0.0104 J**	**0.0110**	**369.000**	**0.0999**	**1300.000**	**1.030**	**0.00672**
Pyrene	**0.0122**	**0.132**	0.000413 U	**0.000892**	**0.00166**	**5.500**	**0.0182**	**771.000**	**0.0887**	**255.000 J**	**0.0101 J**	**0.00490 J**	**0.00586**	**165.000**	**0.0427**	**600.000**	**0.431**	**0.00440**
Total HMW PAH	**0.02738**	**0.46779**	**0.00070**	**0.00139**	**0.00323**	**12.707**	**0.04651**	**1796.500**	**0.20214**	**577.610**	**0.02662**	**0.01261**	**0.01480**	**357.400**	**0.08597**	**1176.000**	**0.90837**	**0.01056**
Total LMW PAH	**0.17182**	**0.327**	**0.00108**	**0.02830**	**0.01422**	**44.620**	**0.24557**	**14922.001**	**0.96690**	**5223.600**	**0.10831**	**0.05485**	**0.07979**	**2654.900**	**0.65350**	**11090.001**	**6.79210**	**0.02747**
Total PAH	**0.19920**	**0.79479**	**0.00178**	**0.02969**	**0.01745**	**57.327**	**0.29208**	**16718.501**	**1.16904**	**5801.210**	**0.13493**	**0.06746**	**0.09459**	**3012.300**	**0.73947**	**12266.001**	**7.70047**	**0.03803**
Benzo(a)pyrene Equivalents	**0.00326**	**0.08749**	**0.00018**	**0.00014**	**0.00014**	**1.66471**	**0.00666**	**264.142**	**0.02824**	**83.3223**	**0.00401**	**0.00167**	**0.00209**	**42.8925**	**0.0095**	**144.450**	**0.10587**	**0.00131**
Calculated Weighted PAH	**0.01376**	**0.30659**	**0.00070**	**0.00049**	**0.00157**	**6.694**	**0.02598**	**948.700**	**0.10415**	**303.510**	**0.01466**	**0.00683**	**0.00788**	**181.200**	**0.04081**	**576.000**	**0.45067**	**0.00563**
SVOC (mg/kg)																		
Dibenzofuran	**0.00121**	**0.00408**	**0.0000504 J**	**0.000194 J**	**0.000107 J**	**0.778**	**0.00272**	**66.000**	**0.00675**	**23.900 J**	**0.00129**	**0.000789 J**	**0.000600 J**	**13.300**	**0.00315**	410.000 U	**0.0424**	0.000410 U

Notes:

ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
Bold = detected above reporting limit

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
Totals use 0 for nondetected compounds

(P) - a product layer separated from the soil sample and was analyzed and identified with (P).
Indicates OLM, TLM, NAPL present in sample interval.
Indicates sheen, stain, and/or blebs present in sample interval.
Indicates strong odors but no visible impacted noted in sample interval.

Table 5-6
Summary of OU2 RI Deep River Sediment Analytical Results
East 21st Street Works, New York, New York

Location	RB16	RB16	RB17	RB17	RB18	RB18 DUP	RB18	RB19	RB19	RB19	RB20	RB20	RB21	RB21 DUP	RB21	RB22	RB22 DUP	RB22
Depth Interval (feet)	10-12	15-16	10-15	40-45	20-23	20-23	25-30	12-16	16-20	30-35	20-25	55-60	10-15	10-15	30-35	15-20	15-20	40-45
Sample Date	6/30/2008	6/30/2008	6/30/2008	6/30/2008	7/1/2008	7/1/2008	7/1/2008	7/1/2008	7/1/2008	7/1/2008	7/2/2008	7/2/2008	7/2/2008	7/2/2008	7/2/2008	7/7/2008	7/7/2008	7/7/2008
BTEX (mg/Kg)																		
Benzene	0.0031 U	0.0034 U	0.0034 U	0.0034 U	**1.500 J**	**2.700 J**	0.0032 U	NS	**0.120**	0.0033 U	0.0027 U	0.0031 U	0.0033 U	0.0034 U	0.0030 U	0.0034 U	0.0033 U	0.0032 U
Ethylbenzene	**0.0079**	0.0034 U	0.0034 U	0.0034 U	**50.000 J**	**110.000 J**	0.0032 U	NS	**0.082**	0.0033 U	0.0027 U	0.0031 U	0.0033 U	0.0034 U	0.0030 U	0.0034 U	0.0033 U	0.0032 U
m,p-Xylene	0.0062 U	0.0068 U	0.0068 U	0.0068 U	**42.000 J**	**89.000 J**	0.0065 U	NS	**0.028**	0.0067 U	0.0054 U	0.0062 U	0.0066 U	0.0068 U	0.0060 U	0.0068 U	0.0067 U	0.0064 U
o-Xylene	0.0062 U	0.0068 U	0.0068 U	0.0068 U	**20.000 J**	**42.000 J**	0.0065 U	NS	**0.037**	0.0067 U	0.0054 U	0.0062 U	0.0066 U	0.0068 U	0.0060 U	0.0068 U	0.0067 U	0.0064 U
Toluene	0.0047 U	0.0051 U	0.0051 U	0.0051 U	**4.000 J**	**10.000 J**	0.0049 U	NS	0.019 U	0.0050 U	0.0040 U	0.0046 U	0.0049 U	0.0051 U	0.0045 U	0.0051 U	0.0050 U	0.0048 U
Total Xylene (calculated)	ND	ND	ND	ND	**62.000**	**131.000**	ND	NS	**0.065**	ND	ND	ND	ND	ND	ND	ND	ND	ND
PAH (mg/Kg)																		
2-Methylnaphthalene	**0.602**	**0.00120**	**0.000215 J**	**0.00127**	**1130.000**	**847.000**	**0.00906**	**133.000 J**	**0.213**	**0.000520**	**0.00363**	**0.00101**	**0.00176 J**	**0.00765 J**	**0.00345**	**0.00119 J**	**0.0000987 J**	**0.000263 J**
Acenaphthene	**5.830**	**0.00639**	**0.0000522 J**	**0.0000542 J**	**480.000**	**353.000**	**0.00401**	**137.000 J**	**0.808**	**0.000314 J**	**0.0337**	**0.000552**	**0.000952 J**	**0.00331 J**	**0.000644**	**0.000310 J**	0.000441 U	0.000475 U
Acenaphthylene	**0.301**	**0.000736**	**0.000118 J**	**0.000122 J**	**30.900**	**19.700**	**0.000503**	**11.600 J**	**0.158**	**0.000189 J**	**0.0602**	**0.00280**	**0.00351 J**	**0.0133 J**	**0.00288**	**0.000296 J**	0.000441 U	**0.0000584 J**
Anthracene	**2.380**	**0.00313**	**0.0000584 J**	0.000434 U	**238.000**	**163.000**	**0.00114**	**133.000 J**	**0.664**	**0.000285 J**	**0.0570**	**0.0000447 J**	**0.00264 J**	**0.0105 J**	**0.000796**	**0.000325 J**	0.000441 U	0.000475 U
Benzo(a)anthracene	**1.560**	**0.00213**	**0.0000896 J**	**0.000102 J**	**108.000**	**76.400**	**0.000479**	**86.700 J**	**0.783**	**0.000165 J**	**0.0178**	0.000376 U	**0.00972 J**	**0.0462 J**	**0.0000420 J**	0.000447 U	0.000441 U	0.000475 U
Benzo(a)pyrene	**0.956**	**0.00144**	**0.0000695 J**	**0.0000863 J**	**76.600**	**53.200**	**0.000335 J**	**75.400 J**	**0.388**	**0.000187 J**	**0.00623**	0.000376 U	**0.00815 J**	**0.0231 J**	0.000392 U	0.000447 U	0.000441 U	0.000475 U
Benzo(b)fluoranthene	**0.517**	**0.000701**	**0.000123 J**	**0.0000924 J**	**31.000**	**22.400**	**0.000167 J**	**34.200 J**	**0.432**	**0.000140 J**	**0.00366**	0.000376 U	**0.00696 J**	**0.0364 J**	0.000392 U	**0.0000769 J**	0.000441 U	**0.000117 J**
Benzo(ghi)perylene	**0.391**	**0.000615**	**0.000175 J**	**0.0000871 J**	**23.300**	**16.400**	**0.000171 J**	**32.700 J**	**0.306**	**0.000260 J**	**0.000316 J**	0.000376 U	**0.00500 J**	**0.0257 J**	0.000392 U	**0.000198 J**	**0.0000723 J**	**0.000279 J**
Benzo(k)fluoranthene	**0.716**	**0.000885**	**0.0000695 J**	**0.0000620 J**	**42.500**	**29.700**	**0.000180 J**	**40.200 J**	**0.499**	**0.000103 J**	**0.00449**	0.000376 U	**0.00798 J**	**0.0366 J**	0.000392 U	0.000447 U	0.000441 U	0.000475 U
Chrysene	**1.480**	**0.00202**	**0.000168 J**	**0.000139 J**	**98.700**	**71.000**	**0.000459**	**77.300 J**	**0.736**	**0.000259 J**	**0.0165**	0.000376 U	**0.0101 J**	**0.0444 J**	**0.0000639 J**	**0.000153 J**	0.000441 U	**0.000131 J**
Dibenz(a,h)anthracene	**0.134**	**0.000109 J**	0.000411 U	0.000434 U	**6.820**	**4.830**	0.000431 U	**8.460 J**	**0.0828**	0.000441 U	**0.000410**	0.000376 U	**0.00126 J**	**0.00709 J**	0.000392 U	0.000447 U	0.000441 U	0.000475 U
Fluoranthene	**2.980**	**0.00452**	0.000411 U	0.000434 U	**191.000**	**137.000**	**0.000922**	**170.000 J**	**2.270**	0.000517 U	**0.0509**	0.000376 U	**0.0139 J**	**0.0867 J**	0.000428 U	**0.000131 J**	0.000441 U	**0.0000969 J**
Fluorene	**1.730**	**0.00140**	**0.000110 J**	**0.0000720 J**	**198.000**	**143.000**	**0.00144**	**78.300 J**	**0.628**	**0.000273 J**	**0.00512**	**0.000130 J**	**0.000988 J**	**0.00328 J**	**0.000422**	**0.000386 J**	**0.0000613 J**	**0.000135 J**
Indeno(1,2,3-cd)pyrene	**0.408**	**0.000418 J**	**0.0000641 J**	0.000434 U	**22.500**	**15.200**	**0.000121 J**	**30.100 J**	**0.336**	**0.0000701 J**	**0.00180**	0.000376 U	**0.00476 J**	**0.0279 J**	0.000392 U	0.000447 U	0.000441 U	0.000475 U
Naphthalene	**2.840**	**0.00494**	**0.000334 J**	**0.00273**	**1390.000**	**1080.000**	**0.0141**	**198.000 J**	**1.020**	**0.00163**	**0.0204**	**0.00852**	**0.00297 J**	**0.0256 J**	**0.00746**	**0.00559 J**	**0.000179 J**	**0.000716**
Phenanthrene	**7.020**	**0.00662**	0.000411 U	0.000434 U	**655.000**	**467.000**	**0.00408**	**356.000 J**	**3.300**	**0.00108**	**0.117**	0.000376 U	**0.00589 J**	**0.0276 J**	**0.00292**	**0.000586**	0.000441 U	0.000475 U
Pyrene	**4.380**	**0.00691**	0.000411 U	0.000434 U	**303.000**	**215.000**	**0.00160**	**233.000 J**	**1.980**	**0.000638**	**0.0791**	0.000376 U	**0.0276 J**	**0.112 J**	**0.000617**	**0.000173 J**	0.000441 U	**0.000195 J**
Total HMW PAH	**10.542**	**0.01523**	**0.00076**	**0.00057**	**712.420**	**504.130**	**0.00351**	**618.060**	**5.54280**	**0.00182**	**0.13031**	0 U	**0.08153**	**0.35939**	**0.00072**	**0.00060**	**0.00007**	**0.00072**
Total LMW PAH	**23.683**	**0.02894**	**0.00089**	**0.00425**	**4312.900**	**3209.700**	**0.03526**	**1216.900**	**9.061**	**0.00429**	**0.34795**	**0.01306**	**0.03261**	**0.17794**	**0.01857**	**0.00881**	**0.00034**	**0.00127**
Total PAH	**34.225**	**0.04416**	**0.00165**	**0.00482**	**5025.320**	**3713.830**	**0.03877**	**1834.960**	**14.60380**	**0.00611**	**0.47826**	**0.01306**	**0.11414**	**0.53733**	**0.01929**	**0.00941**	**0.00041**	**0.00199**
Benzo(a)pyrene Equivalents	**1.34714**	**0.00188**	**0.0001**	**0.00011**	**100.0937**	**69.798**	**0.00042**	**99.4393**	**0.63163**	**0.00023**	**0.00903**	**0**	**0.01165**	**0.04165**	**0**	**0.00001**	**0**	**0.00001**
Calculated Weighted PAH	**5.771**	**0.00770**	**0.00058**	**0.00048**	**386.120**	**272.730**	**0.00174**	**352.360**	**3.25680**	**0.00092**	**0.05089**	0 U	**0.04893**	**0.22169**	**0.00011**	**0.00023**	0 U	**0.00025**
SVOC (mg/kg)																		
Dibenzofuran	**0.281**	**0.000399 J**	**0.0000884 J**	**0.0000507 J**	**25.000**	**19.000**	**0.000230 J**	**8.450 J**	**0.416**	**0.000157 J**	**0.00437**	0.000376 U	**0.000410 J**	**0.00181 J**	**0.000248 J**	**0.000453**	**0.0000538 J**	**0.0000998 J**

Notes:

ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
Bold = detected above reporting limit

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
Totals use 0 for nondetected compounds

(P) - a product layer separated from the soil sample and was analyzed and identified with (P).
Indicates OLM, TLM, NAPL present in sample interval.
Indicates sheen, stain, and/or blebs present in sample interval.
Indicates strong odors but no visible impacted noted in sample interval.

Table 5-6
Summary of OU2 RI Deep River Sediment Analytical Results
East 21st Street Works, New York, New York

Location	RB23	RB23	RB23 DUP	RB24	RB24	RB25	RB25	RB26	RB26 DUP	RB26	RB26	RB27	RB27	RB28	RB28	RB28 DUP	RB29	RB29
Depth Interval (feet)	31-33	35-40	35-40	20-25	40-45	25-30	33-35	5-10	5-10	40-42	55-60	35-40	55-60	10-15	40-45	40-45	5-10	40-45
Sample Date	7/8/2008	7/8/2008	7/8/2008	7/8/2008	7/8/2008	7/9/2008	7/9/2008	7/9/2008	7/9/2008	7/9/2008	7/9/2008	7/10/2008	7/10/2008	7/10/2008	7/10/2008	7/10/2008	7/11/2008	7/11/2008
BTEX (mg/Kg)																		
Benzene	**0.510**	**0.0078**	**0.0068**	**0.100**	0.0031 U	**0.076**	0.0031 U	0.0035 U	0.0034 U	**190.000**	0.0030 U	0.0031 U	0.0029 U	0.0035 U	0.0032 U	0.0033 U	**1.800**	0.0035 U
Ethylbenzene	0.310 U	0.0031 U	0.0031 U	**0.027**	0.0031 U	**0.0057**	0.0031 U	0.0035 U	0.0034 U	**90.000**	0.0030 U	0.0031 U	0.0029 U	0.0035 U	0.0032 U	0.0033 U	**9.300**	0.0035 U
m,p-Xylene	0.620 U	0.0062 U	0.0062 U	**0.018**	0.0062 U	0.0058 U	0.0062 U	0.0070 U	0.0068 U	**630.000**	0.0060 U	0.0062 U	0.0059 U	0.0069 U	0.0065 U	0.0066 U	**6.200**	0.0069 U
o-Xylene	0.620 U	0.0062 U	0.0062 U	**0.025**	0.0062 U	0.0058 U	0.0062 U	0.0070 U	0.0068 U	**280.000**	0.0060 U	0.0062 U	0.0059 U	0.0069 U	0.0065 U	0.0066 U	**4.400**	0.0069 U
Toluene	0.460 U	0.0046 U	0.0047 U	0.0066 U	0.0046 U	0.0044 U	0.0047 U	0.0053 U	0.0051 U	**170.000**	0.0045 U	0.0047 U	0.0044 U	0.0052 U	0.0049 U	0.0049 U	**1.100**	0.0052 U
Total Xylene (calculated)	ND	ND	ND	**0.043**	ND	ND	ND	ND	ND	**910.000**	ND	ND	ND	ND	ND	ND	**10.600**	ND
PAH (mg/Kg)																		
2-Methylnaphthalene	**1.460**	**0.00741 J**	**0.00384 J**	**4.480**	**0.00258**	**0.00447**	**0.000117 J**	**0.000396 J**	**0.000312 J**	**1600.000**	**0.00429**	**0.000408**	**0.000212 J**	**0.000269 J**	**0.000163 J**	**0.000104 J**	**15.500**	**0.000261 J**
Acenaphthene	**1.240**	**0.00237**	**0.00162**	**9.200**	**0.000171 J**	**0.0584**	**0.000108 J**	**0.0000991 J**	**0.000102 J**	**54.200**	**0.000144 J**	**0.00108**	0.000367 U	**0.000205 J**	0.000417 U	0.000421 U	**48.700**	**0.000240 J**
Acenaphthylene	**1.430**	**0.00376**	**0.00270**	**0.863**	**0.000375 J**	**0.00191**	**0.0000432 J**	**0.000145 J**	**0.0000883 J**	**505.000**	**0.000945**	**0.00500**	**0.0000536 J**	**0.000463 J**	**0.000345 J**	**0.0000505 J**	**10.900**	**0.000297 J**
Anthracene	**2.110**	**0.00228 J**	**0.00100 J**	**7.110**	**0.0000587 J**	**0.00547**	0.000408 U	**0.000107 J**	**0.000113 J**	**182.000**	**0.000457**	**0.0000820 J**	0.000367 U	**0.000317 J**	**0.0000980 J**	0.000421 U	**47.500**	**0.000281 J**
Benzo(a)anthracene	**1.970**	**0.00160 J**	**0.000774 J**	**6.030**	**0.0000646 J**	**0.00241**	0.000408 U	**0.000186 J**	**0.000169 J**	**70.000**	**0.000350 J**	**0.0000734 J**	0.000367 U	**0.000766**	**0.000205 J**	**0.0000421 J**	**52.200**	**0.000284 J**
Benzo(a)pyrene	**1.770**	**0.00169 J**	**0.000681 J**	**8.420**	0.000394 U	**0.00218**	0.000408 U	**0.000234 J**	**0.000149 J**	**47.500**	**0.000368 J**	0.000374 U	0.000367 U	**0.00135**	**0.000398 J**	0.000421 U	**50.000**	**0.000270 J**
Benzo(b)fluoranthene	**1.190**	**0.00102 J**	**0.000513 J**	**3.540**	**0.0000878 J**	**0.000962**	0.000408 U	**0.000260 J**	**0.000186 J**	**17.300**	**0.000136 J**	0.000374 U	0.000367 U	**0.000805**	**0.000192 J**	0.000421 U	**30.900**	**0.000307 J**
Benzo(ghi)perylene	**0.738**	**0.000758**	**0.000405 J**	**5.800**	**0.000205 J**	**0.00120**	0.000408 U	**0.000443 J**	**0.000320 J**	**11.700**	**0.000118 J**	**0.000171 J**	**0.0000760 J**	**0.00110**	**0.000283 J**	**0.0000897 J**	**23.700**	**0.000462 J**
Benzo(k)fluoranthene	**1.370**	**0.00127 J**	**0.000535 J**	**3.890**	0.000394 U	**0.00118**	0.000408 U	**0.000213 J**	0.000448 U	**26.300**	**0.000150 J**	0.000374 U	0.000367 U	**0.000878**	**0.000232 J**	0.000421 U	**35.700**	0.000480 U
Chrysene	**1.470**	**0.00139 J**	**0.000696 J**	**5.830**	**0.0000996 J**	**0.00236**	0.000408 U	**0.000378 J**	**0.000262 J**	**70.900**	**0.000371 J**	**0.000177 J**	0.000367 U	**0.000876**	**0.000245 J**	**0.0000716 J**	**42.200**	**0.000373 J**
Dibenz(a,h)anthracene	**0.286**	**0.000228 J**	0.000421 U	**0.942**	0.000394 U	**0.000254 J**	0.000408 U	0.000470 U	0.000448 U	**3.720 J**	0.000378 U	0.000374 U	0.000367 U	0.000466 U	0.000417 U	0.000421 U	**7.340**	0.000480 U
Fluoranthene	**4.590**	**0.00395 J**	**0.00185 J**	**9.870**	**0.000134 J**	**0.00550**	**0.0000550 J**	**0.000333 J**	0.000448 U	**122.000**	**0.000421**	0.000374 U	0.000367 U	**0.000963**	0.000417 U	0.000421 U	**120.000**	0.000574 U
Fluorene	**1.750**	**0.00340 J**	**0.00171 J**	**4.050**	**0.000167 J**	**0.00964**	**0.0000750 J**	**0.000159 J**	**0.000156 J**	**197.000**	**0.000548**	**0.000324 J**	**0.0000668 J**	**0.000207 J**	0.000417 U	**0.0000509 J**	**49.100**	**0.000313 J**
Indeno(1,2,3-cd)pyrene	**0.943**	**0.000850 J**	0.000421 U	**4.480**	**0.0000780 J**	**0.000932**	0.000408 U	**0.000132 J**	0.000448 U	**11.100**	**0.0000857 J**	0.000374 U	0.000367 U	0.000592 U	0.000417 U	0.000421 U	**27.400**	0.000480 U
Naphthalene	**3.770**	**0.0358**	**0.0271**	**8.090**	**0.0104**	**0.0531**	0.000408 U	**0.00101 J**	**0.000511 J**	**2680.000**	**0.00714**	**0.00227**	**0.000382**	**0.000551**	**0.000319 J**	**0.000203 J**	**101.000**	**0.000794 J**
Phenanthrene	**7.280**	**0.00836 J**	**0.00414 J**	**21.900**	0.000394 U	**0.0205**	0.000408 U	0.000470 U	0.000448 U	**638.000**	**0.00177**	0.000666 U	0.000367 U	0.00106 U	0.000417 U	0.000421 U	**228.000**	0.00129 U
Pyrene	**3.490**	**0.00308 J**	**0.00153 J**	**14.800**	**0.000195 J**	**0.00789**	**0.0000685 J**	**0.000580**	**0.000464**	**231.000**	**0.000744**	0.000374 U	0.000367 U	**0.00183**	0.000417 U	0.000421 U	**102.000**	**0.000551**
Total HMW PAH	**13.227**	**0.01189**	**0.00513**	**53.732**	**0.00073**	**0.01937**	**0.00007**	**0.00243**	**0.00155**	**489.520**	**0.00232**	**0.00042**	**0.00008**	**0.00761**	**0.00156**	**0.00020**	**371.440**	**0.00225**
Total LMW PAH	**23.630**	**0.06733**	**0.04396**	**65.563**	**0.01389**	**0.15899**	**0.00040**	**0.00225**	**0.00128**	**5978.200**	**0.01572**	**0.00916**	**0.00071**	**0.00298**	**0.00093**	**0.00041**	**620.700**	**0.00219**
Total PAH	**36.857**	**0.07922**	**0.04909**	**119.295**	**0.01462**	**0.17836**	**0.00047**	**0.00468**	**0.00283**	**6467.720**	**0.01804**	**0.00959**	**0.00079**	**0.01058**	**0.00248**	**0.00061**	**992.140**	**0.00443**
Benzo(a)pyrene Equivalents	**2.48147**	**0.00228**	**0.00082**	**10.81173**	**0.00003**	**0.00287**	**0**	**0.00029**	**0.00019**	**61.3939**	**0.00043**	**0.00001**	**0**	**0.00152**	**0.00044**	**0**	**68.7892**	**0.00033**
Calculated Weighted PAH	**8.999**	**0.00805**	**0.00320**	**33.132**	**0.00033**	**0.01028**	0 U	**0.00140**	**0.00077**	**246.820**	**0.00146**	**0.00025**	0 U	**0.00468**	**0.00127**	**0.00011**	**245.740**	**0.00123**
SVOC (mg/kg)																		
Dibenzofuran	**1.670**	**0.00386 J**	**0.00156 J**	**0.329**	**0.000103 J**	**0.0103**	0.000408 U	**0.0000958 J**	**0.0000991 J**	**25.700**	**0.000122 J**	0.000374 U	**0.0000455 J**	**0.000105 J**	**0.0000438 J**	**0.0000459 J**	**41.500**	**0.000217 J**

Notes:

ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
Bold = detected above reporting limit

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
Totals use 0 for nondetected compounds

(P) - a product layer separated from the soil sample and was analyzed and identified with (P).
Indicates OLM, TLM, NAPL present in sample interval.
Indicates sheen, stain, and/or blebs present in sample interval.
Indicates strong odors but no visible impacted noted in sample interval.

Table 5-6
Summary of OU2 RI Deep River Sediment Analytical Results
East 21st Street Works, New York, New York

Location	RB29 DUP	RB30	RB30 DUP	RB30	RB31	RB31	RB32 DUP	RB32	RB32	RB33	RB33	RB34	RB34 DUP	RB34	RB34	RB35	RB35	RB36
Depth Interval (feet)	40-45	10-15	10-15	35-40	10-15	40-45	10-15	10-15	40-45	20-25	25-30	10-15	10-15	37-38	40-45	20-22	30-35	20-25
Sample Date	7/11/2008	7/11/2008	7/11/2008	7/11/2008	7/15/2008	7/15/2008	7/15/2008	7/15/2008	7/15/2008	7/16/2008	7/16/2008	7/16/2008	7/16/2008	7/16/2008	7/16/2008	7/17/2008	7/17/2008	7/17/2008
BTEX (mg/Kg)																		
Benzene	0.0037 U	0.0034 U	0.0034 U	0.0030 U	0.0032 U	0.0032 U	**0.0064 J**	0.0031 UJ	0.0033 U	**0.670 J**	0.0034 U	0.0035 U	0.0035 U	32.000 U	0.0029 U	6.200 U	0.0030 U	0.0032 U
Ethylbenzene	0.0037 U	0.0034 U	0.0034 U	0.0030 U	0.0032 U	0.0032 U	0.0032 U	0.0031 U	0.0033 U	**39.000 J**	0.0034 U	0.0035 U	0.0035 U	**39.000**	0.0029 U	6.200 U	0.0030 U	0.0032 U
m,p-Xylene	0.0074 U	0.0068 U	0.0068 U	0.0061 U	0.0063 U	0.0064 U	0.0064 U	0.0062 U	0.0066 U	**32.000 J**	0.0068 U	0.0070 U	0.0070 U	**240.000**	0.0058 U	12.000 U	0.0060 U	0.0063 U
o-Xylene	0.0074 U	0.0068 U	0.0068 U	0.0061 U	0.0063 U	0.0064 U	0.0064 U	0.0062 U	0.0066 U	**16.000 J**	0.0068 U	0.0070 U	0.0070 U	**100.000**	0.0058 U	12.000 U	0.0060 U	0.0063 U
Toluene	0.0055 U	0.0051 U	0.0051 U	0.0046 U	0.0047 U	0.0048 U	0.0048 U	0.0047 U	0.0049 U	**0.510 J**	0.0051 U	0.0053 U	0.0053 U	47.000 U	0.0044 U	9.400 U	0.0045 U	0.0047 U
Total Xylene (calculated)	ND	ND	ND	ND	ND	ND	ND	ND	ND	**48.000**	ND	ND	ND	**340.000**	ND	ND	ND	ND
PAH (mg/Kg)																		
2-Methylnaphthalene	**0.000149 J**	**0.000445**	**0.000190 J**	**0.0000883 J**	**0.0374**	**0.000886 J**	**0.0938 J**	**0.198 J**	**0.000192 J**	**256.000**	**0.00192**	**0.0103 J**	**0.109 J**	**1330.000**	**0.00180**	**348.000**	**0.226**	**0.00640**
Acenaphthene	0.000437 U	**0.000185 J**	0.000421 U	0.000391 U	**0.0498**	0.00233 U	**0.132**	**0.152**	0.000591 U	**132.000**	**0.00106**	**0.0116 J**	**0.0306 J**	**43.000**	**0.000157 J**	**13.400**	**0.0310**	**0.00183**
Acenaphthylene	0.000437 U	**0.000148 J**	**0.0000635 J**	0.000391 U	**0.181**	**0.00116 J**	**0.657 J**	**0.328 J**	**0.000349 J**	**11.100**	**0.000530 J**	**0.00883**	**0.0112**	**404.000**	**0.000799**	**134.000**	**0.0756**	**0.0215**
Anthracene	0.000437 U	**0.000332 J**	**0.0000602 J**	0.000391 U	**0.257**	**0.000366 J**	**0.602**	**0.450**	**0.0000626 J**	**71.200**	**0.000493 J**	**0.0168 J**	**0.0334 J**	**161.000**	**0.000557 J**	**48.900**	**0.0761**	**0.0496**
Benzo(a)anthracene	0.000437 U	**0.000461**	**0.000154 J**	0.000391 U	**0.521**	**0.000280 J**	**1.850 J**	**0.843 J**	**0.000149 J**	**43.500**	**0.000418 J**	**0.0254**	**0.0187**	**72.600**	**0.000496 J**	**20.000**	**0.0396**	**0.0880**
Benzo(a)pyrene	0.000437 U	**0.000664 J**	**0.000118 J**	0.000391 U	**0.628**	**0.000445 J**	**2.250 J**	**0.981 J**	**0.000134 J**	**37.200**	**0.000563 J**	**0.0272**	**0.0168**	**56.300**	**0.000305 J**	**15.600**	**0.0269**	**0.0765**
Benzo(b)fluoranthene	**0.0000594 J**	**0.000404 J**	**0.000146 J**	**0.0000445 J**	**0.342**	0.00233 U	**1.090 J**	**0.543 J**	**0.000116 J**	**19.200**	**0.000396 J**	**0.0119**	**0.00890**	**20.600**	**0.000164 J**	**5.870**	**0.0140**	**0.0487**
Benzo(ghi)perylene	**0.0000931 J**	**0.000457**	**0.000165 J**	**0.000118 J**	**0.292**	**0.000538 J**	**0.986 J**	**0.452 J**	**0.000250 J**	**14.900**	**0.000589 J**	**0.00912**	**0.00574**	**16.300**	**0.000147 J**	**4.620**	**0.00767**	**0.0285**
Benzo(k)fluoranthene	0.000437 U	**0.000423**	**0.000115 J**	0.000391 U	**0.422**	0.00233 U	**1.390 J**	**0.569 J**	0.000591 U	**21.600**	**0.000280 J**	**0.0169**	**0.0109**	**31.500**	**0.000131 J**	**8.650**	**0.0216**	**0.0529**
Chrysene	**0.0000703 J**	**0.000542**	**0.000162 J**	**0.0000875 J**	**0.475**	**0.000466 J**	**1.600 J**	**0.729 J**	**0.000152 J**	**40.900**	**0.000574 J**	**0.0244**	**0.0176**	**65.800**	**0.000529 J**	**18.500**	**0.0366**	**0.0802**
Dibenz(a,h)anthracene	0.000437 U	0.000417 U	0.000421 U	0.000391 U	**0.0940**	0.00233 U	**0.319 J**	**0.125 J**	0.000591 U	**5.350**	**0.000104 J**	**0.00289**	**0.00199**	**6.400**	0.000558 U	**1.850**	**0.00286**	**0.0113**
Fluoranthene	0.000437 U	**0.000638 J**	**0.000162 J**	0.000391 U	**0.814**	**0.000671 J**	**2.180 J**	**1.280 J**	**0.000212 J**	**74.400**	**0.000865**	**0.0381**	**0.0373**	**123.000**	**0.000923**	**36.800**	**0.0877**	**0.126**
Fluorene	**0.0000773 J**	**0.000162 J**	**0.0000942 J**	**0.0000953 J**	**0.0659**	**0.000338 J**	**0.0705**	**0.105**	**0.0000679 J**	**57.100**	**0.000521 J**	**0.00470 J**	**0.0211 J**	**187.000**	**0.000496 J**	**56.300**	**0.0617**	**0.00263**
Indeno(1,2,3-cd)pyrene	0.000437 U	0.000417 U	**0.000123 J**	0.000391 U	**0.307**	**0.000301 J**	**1.040 J**	**0.456 J**	**0.000143 J**	**15.200**	**0.000378 J**	**0.00872**	**0.00586**	**16.900**	**0.000105 J**	**4.870**	**0.00814**	**0.0326**
Naphthalene	**0.000185 J**	**0.00170 J**	**0.000526 J**	**0.000185 J**	**0.102**	**0.00109 J**	**0.254 J**	**0.718 J**	0.000591 U	**352.000**	**0.00360**	**0.0199 J**	**0.215 J**	**1990.000**	**0.00258**	**462.000**	**0.298**	**0.0180**
Phenanthrene	0.000437 U	0.000774 U	0.000421 U	0.000391 U	**0.570**	**0.00186 J**	**0.562**	**0.919**	**0.000308 J**	**226.000**	**0.00181**	**0.0291 J**	**0.0696 J**	**475.000**	**0.00262**	**168.000**	**0.211**	**0.0168**
Pyrene	0.000437 U	**0.00120 J**	**0.000214 J**	0.000391 U	**0.834**	**0.00111 J**	**2.900 J**	**1.510 J**	**0.000248 J**	**120.000**	**0.00123**	**0.0658**	**0.0587**	**200.000**	**0.00149**	**58.700**	**0.114**	**0.188**
Total HMW PAH	**0.00022**	**0.00415**	**0.00120**	**0.00025**	**3.915**	**0.00314**	**13.425**	**6.208**	**0.00119**	**317.850**	**0.00453**	**0.19233**	**0.14519**	**486.400**	**0.00337**	**138.660**	**0.27137**	**0.60670**
Total LMW PAH	**0.00041**	**0.00361**	**0.00110**	**0.00037**	**2.07710**	**0.00637**	**4.55130**	**4.150**	**0.00119**	**1179.800**	**0.01080**	**0.13933**	**0.52720**	**4713.000**	**0.00993**	**1267.400**	**1.06710**	**0.24276**
Total PAH	**0.00063**	**0.00776**	**0.00229**	**0.00062**	**5.99210**	**0.00951**	**17.97630**	**10.358**	**0.00238**	**1497.650**	**0.01533**	**0.33166**	**0.67239**	**5199.400**	**0.01330**	**1406.060**	**1.33847**	**0.84946**
Benzo(a)pyrene Equivalents	**0.00001**	**0.00075**	**0.00016**	**0**	**0.8437**	**0.00051**	**2.9825**	**1.29662**	**0.00016**	**50.5969**	**0.00078**	**0.03488**	**0.02227**	**74.0908**	**0.00039**	**20.629**	**0.03619**	**0.10534**
Calculated Weighted PAH	**0.00013**	**0.00249**	**0.00082**	**0.00013**	**2.789**	**0.00149**	**9.539**	**4.246**	**0.00069**	**182.950**	**0.00271**	**0.11741**	**0.08075**	**270.100**	**0.00173**	**75.340**	**0.14970**	**0.39020**
SVOC (mg/kg)																		
Dibenzofuran	**0.0000804 J**	**0.000188 J**	**0.0000766 J**	**0.0000523 J**	**0.0299**	0.00233 U	**0.0388**	**0.0295**	0.000591 U	**13.000**	**0.000115 J**	**0.00209 J**	**0.00662 J**	**29.100**	**0.0000659 J**	**8.830**	**0.0156**	**0.00184**

Notes:

ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
Bold = detected above reporting limit

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
Totals use 0 for nondetected compounds

(P) - a product layer separated from the soil sample and was analyzed and identified with (P).
Indicates OLM, TLM, NAPL present in sample interval.
Indicates sheen, stain, and/or blebs present in sample interval.
Indicates strong odors but no visible impacted noted in sample interval.

Table 5-6
Summary of OU2 RI Deep River Sediment Analytical Results
East 21st Street Works, New York, New York

Location	RB36	RB37	RB37 DUP	RB37	RB38	RB38	RB38	RB39	RB39	RB40	RB40 DUP	RB40	RB41	RB41	RB42	RB42	RB42	RB43
Depth Interval (feet)	40-45	20-22	20-22	40-45	15-20	35-40	40-45	5-10	35-40	10-15	10-15	40-45	15-20	40-45	17-18	30-32	45-50	21-22
Sample Date	7/17/2008	7/18/2008	7/18/2008	7/18/2008	7/18/2008	7/18/2008	7/18/2008	7/21/2008	7/21/2008	7/21/2008	7/21/2008	7/21/2008	7/22/2008	7/22/2008	7/22/2008	7/22/2008	7/22/2008	7/23/2008
BTEX (mg/Kg)																		
Benzene	0.0029 U	0.011 U	0.012 U	0.0031 U	0.0034 U	0.0032 U	0.0033 U	0.0034 U	0.0028 U	0.0037 U	0.0035 U	0.0033 U	0.0032 U	0.0036 U	100.000 UJ	**0.470**	**0.016**	**0.078 J**
Ethylbenzene	0.0029 U	**0.053 J**	**0.150 J**	0.0031 U	0.0034 U	0.0032 U	0.0033 U	0.0034 U	0.0028 U	0.0037 U	0.0035 U	0.0033 U	0.0032 U	0.0036 U	**120.000 J**	**4.800**	**0.100**	**0.860 J**
m,p-Xylene	0.0059 U	0.023 UJ	**0.032 J**	0.0062 U	0.0068 U	0.0063 U	0.0067 U	0.0068 U	0.0057 U	0.0075 U	0.0069 U	0.0066 U	0.0064 U	0.0071 U	200.000 UJ	**2.700**	**0.320**	**0.900 J**
o-Xylene	0.0059 U	0.023 UJ	**0.047**	0.0062 U	0.0068 U	0.0063 U	0.0067 U	0.0068 U	0.0057 U	0.0075 U	0.0069 U	0.0066 U	0.0064 U	0.0071 U	200.000 UJ	**1.600**	**0.240**	**0.760 J**
Toluene	0.0044 U	0.017 U	**0.018 J**	**0.0064**	0.0051 U	0.0047 U	0.0050 U	0.0051 U	0.0043 U	0.0056 U	0.0052 U	0.0049 U	0.0048 U	0.0054 U	150.000 UJ	**0.730**	**0.045**	**0.076 J**
Total Xylene (calculated)	ND	ND	**0.079**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**4.300**	**0.560**	**1.660**
PAH (mg/Kg)																		
2-Methylnaphthalene	**0.000513 J**	**1.960 J**	**3.280 J**	**0.000198 J**	**0.00298**	**0.000193 J**	**0.000180 J**	0.000492 U	0.000405 U	**0.00535 J**	**0.00131 J**	0.000427 U	**0.0393**	0.000469 U	**690.000 J**	**36.200**	**0.745**	**102.000 J**
Acenaphthene	**0.0000788 J**	**2.140**	**2.250**	**0.000191 J**	**0.00127**	**0.0000767 J**	**0.0000669 J**	**0.000453**	**0.0000559 J**	**0.00532 J**	**0.00150 J**	**0.0000453 J**	**0.170**	**0.000118 J**	**410.000 J**	**94.400**	**0.0518**	**59.300 J**
Acenaphthylene	**0.000340 J**	**7.940**	**6.190**	**0.000762**	**0.00136**	**0.000335 J**	**0.000259 J**	**0.000652**	0.000405 U	**0.0310**	**0.0311**	0.000427 U	**0.361**	**0.000348 J**	**280.000 J**	**19.400**	**0.440**	**6.850 J**
Anthracene	**0.000308 J**	**7.230**	**6.370**	**0.000220 J**	**0.00279**	**0.000141 J**	**0.000213 J**	**0.000834**	0.000405 U	**0.000409 J**	**0.000186 J**	0.000427 U	**0.344**	0.000469 U	**410.000 J**	**50.900**	**0.278**	**44.200 J**
Benzo(a)anthracene	**0.000664**	**11.600**	**9.100**	**0.000237 J**	**0.00444**	**0.000211 J**	**0.000293 J**	**0.00280**	**0.0000535 J**	**0.000340 J**	**0.0000820 J**	0.000427 U	**1.340**	**0.000210 J**	**370.000 J**	**53.800**	**0.153**	**31.800 J**
Benzo(a)pyrene	**0.000404 J**	**8.980**	**6.800**	**0.000192 J**	**0.00247**	**0.000169 J**	**0.000236 J**	**0.00210**	0.000405 U	**0.000187 J**	**0.0000933 J**	0.000427 U	**1.520**	**0.000213 J**	**240.000 J**	**40.600**	**0.115**	**24.200 J**
Benzo(b)fluoranthene	**0.000377 J**	**3.760**	**2.760**	**0.0000846 J**	**0.00172**	**0.000131 J**	**0.000201 J**	**0.00136**	0.000405 U	**0.000207 J**	**0.000145 J**	**0.0000590 J**	**0.828**	**0.000208 J**	**230.000 J**	**31.400**	**0.0485**	**12.800 J**
Benzo(ghi)perylene	**0.000153 J**	**2.620**	**1.980**	**0.000152 J**	**0.00126**	**0.000149 J**	**0.000237 J**	**0.00104**	**0.0000567 J**	**0.000213 J**	**0.000246 J**	**0.000103 J**	**0.956**	**0.000297 J**	**120.000 J**	**17.600**	**0.0446**	**9.670 J**
Benzo(k)fluoranthene	**0.000324 J**	**4.910**	**3.930**	**0.000105 J**	**0.00180**	**0.000139 J**	**0.000221 J**	**0.00168**	0.000405 U	**0.000194 J**	0.000494 U	0.000427 U	**0.864**	**0.000107 J**	**200.000 J**	**32.300**	**0.0636**	**14.100 J**
Chrysene	**0.000624**	**10.600**	**8.740**	**0.000339 J**	**0.00461**	**0.000291 J**	**0.000341 J**	**0.00291**	**0.0000717 J**	**0.000465**	**0.000260 J**	**0.0000778 J**	**1.090**	**0.000414 J**	**230.000 J**	**35.500**	**0.143**	**30.600 J**
Dibenz(a,h)anthracene	0.000559 U	**1.070**	**0.795**	0.000588 U	**0.000290 J**	0.000590 U	0.000572 U	**0.000379 J**	**0.0000462 J**	**0.0000650 J**	**0.0000662 J**	**0.0000487 J**	**0.166**	**0.0000521 J**	**37.000 J**	**5.960**	**0.0112**	**3.070 J**
Fluoranthene	**0.00152**	**20.000**	**15.100**	**0.000431 J**	**0.00893**	**0.000374 J**	**0.000645**	**0.00450**	**0.000154 J**	**0.000970**	0.000494 U	**0.000138 J**	**1.750**	**0.000602**	**1000.000 J**	**150.000**	**0.378**	**55.200 J**
Fluorene	**0.000147 J**	**2.150**	**2.250**	**0.000152 J**	**0.000856**	**0.000121 J**	**0.0000927 J**	**0.000212 J**	**0.0000494 J**	**0.00287 J**	**0.000196 J**	**0.0000453 J**	**0.0461**	**0.000244 J**	**470.000 J**	**75.000**	**0.257**	**28.400 J**
Indeno(1,2,3-cd)pyrene	**0.0000917 J**	**2.790**	**2.090**	**0.0000852 J**	**0.000939**	**0.0000784 J**	**0.000120 J**	**0.000781**	0.000405 U	**0.000115 J**	**0.0000929 J**	**0.0000517 J**	**0.749**	**0.000105 J**	**120.000 J**	**21.900**	**0.0390**	**9.690 J**
Naphthalene	**0.000780**	**4.690 J**	**7.950 J**	0.000588 U	**0.00786**	0.000590 U	0.000572 U	**0.00108**	0.000405 U	**0.171**	**0.218**	0.000427 U	**0.136**	0.000469 U	**3000.000 J**	**152.000**	**1.030**	**87.100 J**
Phenanthrene	**0.000867**	**10.400**	**11.800**	**0.000721**	**0.00481**	**0.000648**	**0.000386 J**	**0.00141**	0.000405 U	**0.000819**	0.000594 U	0.000427 U	**0.376**	**0.000822**	**1300.000 J**	**229.000**	**1.060**	**111.000 J**
Pyrene	**0.00148**	**32.500**	**24.600**	**0.000615**	**0.0186**	**0.000590**	**0.000639**	**0.00686**	**0.000161 J**	**0.00106**	**0.000648**	**0.000188 J**	**4.640**	**0.000851**	**760.000 J**	**112.000**	**0.594**	**74.100 J**
Total HMW PAH	**0.00412**	**78.830**	**60.795**	**0.00181**	**0.03613**	**0.00176**	**0.00229**	**0.01991**	**0.00039**	**0.00285**	**0.00163**	**0.00053**	**12.153**	**0.00246**	**2307.000**	**351.060**	**1.21190**	**210.030**
Total LMW PAH	**0.00455**	**56.510**	**55.190**	**0.00268**	**0.03086**	**0.00189**	**0.00184**	**0.00914**	**0.00026**	**0.21774**	**0.25229**	**0.00023**	**3.22240**	**0.00213**	**7560.000**	**806.900**	**4.23980**	**494.050**
Total PAH	**0.00867**	**135.340**	**115.985**	**0.00448**	**0.06699**	**0.00365**	**0.00413**	**0.02905**	**0.00065**	**0.22058**	**0.25393**	**0.00076**	**15.37540**	**0.00459**	**9867.000**	**1157.960**	**5.45170**	**704.080**
Benzo(a)pyrene Equivalents	**0.00052**	**11.9247**	**9.03804**	**0.00023**	**0.00348**	**0.00021**	**0.0003**	**0.003**	**0.00006**	**0.00032**	**0.00019**	**0.00007**	**1.98743**	**0.00031**	**351.230**	**57.6285**	**0.15103**	**32.8706**
Calculated Weighted PAH	**0.00248**	**43.710**	**34.215**	**0.00104**	**0.01627**	**0.00102**	**0.00141**	**0.01201**	**0.00017**	**0.00157**	**0.00074**	**0.00024**	**6.557**	**0.00131**	**1427.000**	**221.460**	**0.57330**	**126.260**
SVOC (mg/kg)																		
Dibenzofuran	**0.0000582 J**	**0.657**	**0.732**	0.000588 U	**0.000364 J**	0.000590 U	0.000572 U	**0.000138 J**	0.000405 U	**0.00212 J**	**0.000163 J**	**0.0000470 J**	**0.0478**	**0.000157 J**	**320.000 J**	**65.000**	**0.0275**	**3.400 J**

Notes:

ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
Bold = detected above reporting limit

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
Totals use 0 for nondetected compounds

(P) - a product layer separated from the soil sample and was analyzed and identified with (P).
Indicates OLM, TLM, NAPL present in sample interval.
Indicates sheen, stain, and/or blebs present in sample interval.
Indicates strong odors but no visible impacted noted in sample interval.

Table 5-6
Summary of OU2 RI Deep River Sediment Analytical Results
East 21st Street Works, New York, New York

Location	RB43	RB43	RB44	RB44	RB44 DUP	RB44	RB45	RB45	RB46	RB46 DUP	RB46 (P)	RB46 (P) DUP	RB46	RB47	RB47	RB48	RB48	RB48
Depth Interval (feet)	30-35	55-60	17-20	20-25	20-25	35-40	35-37	40-45	20-22	20-22	20-22	20-22	55-60	15-20	50-55	17-20	30-35	90-95
Sample Date	7/23/2008	7/23/2008	7/24/2008	7/24/2008	7/24/2008	7/24/2008	7/24/2008	7/24/2008	7/25/2008	7/25/2008	7/25/2008	7/25/2008	7/25/2008	7/25/2008	7/25/2008	7/28/2008	7/28/2008	7/28/2008
BTEX (mg/Kg)																		
Benzene	0.0030 U	0.0032 U	NS	**0.550 J**	**1.700 J**	**0.021**	**1.500**	0.0032 U	**20.000**	**16.000**	NS	NS	0.0029 U	0.0032 U	0.0032 U	NS	1.200 U	0.0029 U
Ethylbenzene	0.0030 U	0.0032 U	NS	**1.300 J**	**7.300 J**	**0.013**	**0.160**	0.0032 U	**60.000**	**48.000**	NS	NS	0.0029 U	0.0032 U	0.0032 U	NS	**9.500**	0.0029 U
m,p-Xylene	0.0060 U	0.0065 U	NS	**2.000 J**	**15.000 J**	**0.0065**	**0.250**	0.0063 U	**220.000**	**170.000**	NS	NS	0.0058 U	0.0065 U	0.0065 U	NS	**7.700**	0.0058 U
o-Xylene	0.0060 U	0.0065 U	NS	**1.100 J**	**5.900 J**	0.0061 U	**0.160**	0.0063 U	**95.000**	**74.000**	NS	NS	0.0058 U	0.0065 U	0.0065 U	NS	**3.700**	0.0058 U
Toluene	0.0045 U	0.0049 U	NS	**0.480 J**	**3.500 J**	**0.0057**	**0.580**	0.0047 U	**58.000**	**48.000**	NS	NS	0.0044 U	0.0049 U	0.0049 U	NS	1.800 U	0.0044 U
Total Xylene (calculated)	ND	ND	NS	**3.100**	**20.900**	**0.00650**	**0.410**	ND	**315.000**	**244.000**	NS	NS	ND	ND	ND	NS	**11.400**	ND
PAH (mg/Kg)																		
2-Methylnaphthalene	**0.00172**	0.000437 U	**517.000 J**	**303.000 J**	**769.000 J**	**0.0204**	**0.0932**	**0.00193**	**1960.000**	**1280.000**	**40300.002 J**	**37400.002 J**	**0.0370**	**0.00386**	**0.000751**	**1530.000**	**155.000**	**0.0139**
Acenaphthene	**0.00356**	**0.000116 J**	**220.000 J**	**173.000**	**188.000**	**0.0695**	**0.00972**	**0.000432**	**131.000**	**80.100**	**2210.000 J**	**2170.000 J**	**0.00210**	**0.00125**	**0.000178 J**	**555.000**	**64.000**	**0.00417**
Acenaphthylene	**0.00152**	**0.000365 J**	**29.200 J**	**117.000**	**331.000 J**	**0.0195**	**0.0578**	0.000686 U	**1030.000**	**736.000**	**23800.001 J**	**23400.001 J**	**0.0116**	**0.00215**	0.000675 U	**38.800**	**5.570**	**0.0216**
Anthracene	**0.00562**	**0.0000586 J**	**120.000 J**	**215.000**	**353.000**	**0.0284**	**0.0118**	**0.000179 J**	**401.000**	**275.000**	**10700.001 J**	**10300.000 J**	**0.00923**	**0.00143**	**0.000338 J**	**171.000**	**25.100**	**0.0198**
Benzo(a)anthracene	**0.00544**	**0.000101 J**	**84.400 J**	**175.000**	**247.000**	**0.0169**	**0.00131**	**0.000119 J**	**233.000**	**165.000**	**6080.000 J**	**5890.000 J**	**0.00522**	**0.00112**	**0.000295 J**	**90.200**	**9.480**	**0.0115**
Benzo(a)pyrene	**0.00409**	**0.000101 J**	**59.600 J**	**138.000**	**211.000**	**0.0110**	**0.000938**	**0.000101 J**	**195.000**	**178.000**	**5220.000 J**	**5040.000 J**	**0.00435**	**0.000884**	**0.000224 J**	**96.100**	**8.120**	**0.0112**
Benzo(b)fluoranthene	**0.00250**	**0.000116 J**	**30.700 J**	**109.000**	**146.000**	**0.00704**	**0.000525 J**	**0.000114 J**	**114.000**	**81.400**	**2010.000 J**	**1980.000 J**	**0.00188**	**0.000538**	**0.000169 J**	**35.000**	**2.330**	**0.00302**
Benzo(ghi)perylene	**0.00186**	**0.000193 J**	**19.400 J**	**72.900**	**75.600**	**0.00371**	**0.000378 J**	**0.000203 J**	**109.000**	**78.900**	**2110.000 J**	**2040.000 J**	**0.00193**	**0.000716**	**0.000239 J**	**36.400**	**2.380**	**0.00454**
Benzo(k)fluoranthene	**0.00303**	0.000437 U	**32.600 J**	**121.000**	**157.000**	**0.00877**	**0.000552 J**	0.000419 U	**127.000**	**91.600**	**2840.000 J**	**2730.000 J**	**0.00240**	**0.000576**	**0.000193 J**	**45.800**	**4.960**	**0.00604**
Chrysene	**0.00470**	**0.000161 J**	**81.100 J**	**155.000**	**236.000**	**0.0148**	**0.00121**	**0.000193 J**	**228.000**	**181.000**	**5300.000 J**	**5090.000 J**	**0.00510**	**0.00113**	**0.000409**	**89.400**	**9.810**	**0.0112**
Dibenz(a,h)anthracene	**0.000377 J**	0.000437 U	**6.920 J**	**24.600**	**30.400**	**0.00151**	**0.000153 J**	0.000419 U	**28.300**	**19.500**	**460.000 J**	**455.000 J**	**0.000428**	**0.000502**	**0.000114 J**	**13.200**	**0.729**	**0.00122**
Fluoranthene	**0.0117**	**0.000168 J**	**126.000 J**	**449.000**	**610.000**	**0.0721**	**0.0101**	0.000419 U	**547.000**	**398.000**	**11700.001 J**	**11300.001 J**	**0.0140**	**0.00312**	**0.000873**	**110.000**	**20.900**	**0.0246**
Fluorene	**0.00265**	**0.000103 J**	**101.000 J**	**185.000 J**	**379.000 J**	**0.0308**	**0.0167**	**0.000271 J**	**403.000**	**283.000**	**9430.000 J**	**9200.000 J**	**0.00874**	**0.00135**	**0.000363 J**	**188.000**	**25.800**	**0.0135**
Indeno(1,2,3-cd)pyrene	**0.00174**	**0.0000730 J**	**20.800 J**	**82.300**	**91.200**	**0.00433**	**0.000384 J**	**0.0000720 J**	**96.400**	**69.700**	**1760.000 J**	**1730.000 J**	**0.00158**	**0.000622**	**0.000146 J**	**35.000**	**2.130**	**0.00367**
Naphthalene	**0.00518**	0.000437 U	**491.000 J**	**977.000 J**	**2550.000 J**	**0.0656**	**0.451**	**0.00576**	**5030.000**	**3500.000**	**101000.005 J**	**99300.005 J**	**0.0632**	**0.0101**	**0.00115**	**2710.000**	**262.000**	**0.0167**
Phenanthrene	**0.0143**	0.000437 U	**361.000 J**	**714.000**	**1100.000**	**0.0866**	**0.0465**	**0.000933**	**1550.000**	**1090.000**	**33000.002 J**	**32200.002 J**	**0.0366**	**0.00596**	**0.00170**	**556.000**	**91.400**	**0.0738**
Pyrene	**0.0110**	**0.000281 J**	**190.000 J**	**413.000**	**519.000**	**0.0688**	**0.0176**	**0.000599**	**822.000**	**590.000**	**17000.001 J**	**16500.001 J**	**0.0219**	**0.00504**	**0.00135**	**174.000**	**36.900**	**0.0435**
Total HMW PAH	**0.03474**	**0.00103**	**525.520**	**1290.800**	**1713.200**	**0.13686**	**0.02305**	**0.00140**	**1952.700**	**1455.100**	**42780.002**	**41455.002**	**0.04479**	**0.01113**	**0.00314**	**615.100**	**76.839**	**0.09589**
Total LMW PAH	**0.04625**	**0.00081**	**1965.200**	**3133.000**	**6280.000**	**0.39290**	**0.69682**	**0.00951**	**11052.001**	**7642.100**	**232140.011**	**225270.011**	**0.18247**	**0.02922**	**0.00535**	**5858.800**	**649.770**	**0.18807**
Total PAH	**0.08099**	**0.00184**	**2490.720**	**4423.800**	**7993.200**	**0.52976**	**0.71987**	**0.01091**	**13004.701**	**9097.200**	**274920.013**	**266725.013**	**0.22726**	**0.04035**	**0.00849**	**6473.900**	**726.609**	**0.28396**
Benzo(a)pyrene Equivalents	**0.00546**	**0.00013**	**80.5171**	**200.595**	**291.626**	**0.01543**	**0.00132**	**0.00013**	**269.138**	**230.207**	**6698.700**	**6487.390**	**0.00568**	**0.00161**	**0.00039**	**125.8674**	**10.30241**	**0.01431**
Calculated Weighted PAH	**0.02188**	**0.00055**	**316.120**	**804.900**	**1118.600**	**0.06435**	**0.00507**	**0.00060**	**1021.700**	**786.200**	**23670.001**	**22915.001**	**0.02096**	**0.00537**	**0.00155**	**404.700**	**37.559**	**0.04785**
SVOC (mg/kg)																		
Dibenzofuran	**0.00185**	**0.0000494 J**	**15.600 J**	**154.000 J**	**292.000 J**	**0.0241**	**0.00281**	**0.0000737 J**	**59.700**	**35.900**	**1050.000 J**	**1040.000 J**	**0.000978**	**0.000173 J**	**0.0000606 J**	**28.200**	**2.660**	**0.00104**

Notes:

ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
Bold = detected above reporting limit

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
Totals use 0 for nondetected compounds

(P) - a product layer separated from the soil sample and was analyzed and identified with (P).
Indicates OLM, TLM, NAPL present in sample interval.
Indicates sheen, stain, and/or blebs present in sample interval.
Indicates strong odors but no visible impacted noted in sample interval.

Table 5-6
Summary of OU2 RI Deep River Sediment Analytical Results
East 21st Street Works, New York, New York

Location	RB49	RB49	RB50	RB50 DUP	RB50	RB51	RB51	RB52	RB52	RB52 DUP	RB52	RB53	RB53	RB54	RB54	RB54	RB55	RB55 DUP
Depth Interval (feet)	17-20	25-30	50-53	50-53	55-60	20-22	30-35	10-15	45-50	45-50	70-75	10-15	20-25	10-15	15-20	85-90	12-14	15-17
Sample Date	7/28/2008	7/28/2008	7/29/2008	7/29/2008	7/29/2008	7/29/2008	7/29/2008	7/30/2008	7/30/2008	7/30/2008	7/30/2008	7/31/2008	7/31/2008	8/1/2008	8/1/2008	8/1/2008	10/27/2008	10/27/2008
BTEX (mg/Kg)																		
Benzene	**6.900**	0.0032 U	**9.800**	**11.000**	0.0029 U	**5.900 J**	0.0032 U	**120.000 J**	**0.0039 J**	**0.020 J**	0.0034 U	**4.600**	0.0034 U	**2.100 J**	0.330 U	0.0033 U	0.460 U	12.000 UJ
Ethylbenzene	**100.000**	0.0032 U	**18.000**	**23.000**	0.0029 U	**65.000 J**	0.0032 U	**600.000 J**	**0.100 J**	**0.230 J**	**0.0037**	**100.000**	0.0034 U	**130.000 J**	**5.300**	0.0033 U	**2.100**	12.000 UJ
m,p-Xylene	**65.000**	0.0063 U	**59.000**	**76.000**	0.0059 U	**46.000 J**	0.0065 U	**530.000 J**	**0.068 J**	**0.150 J**	0.0068 U	**81.000**	0.0068 U	**120.000 J**	**4.600**	0.0066 U	**2.100**	24.000 UJ
o-Xylene	**46.000**	0.0063 U	**28.000**	**37.000**	0.0059 U	**22.000 J**	0.0065 U	**260.000 J**	**0.042 J**	**0.099 J**	0.0068 U	**40.000**	0.0068 U	**54.000 J**	**2.100**	0.0066 U	**1.400**	24.000 UJ
Toluene	**5.100**	0.0047 U	**12.000**	**14.000**	0.0044 U	1.500 UJ	0.0049 U	**340.000 J**	**0.020 J**	**0.073 J**	0.0051 U	**3.900**	0.0051 U	**20.000 J**	**0.980**	0.0049 U	0.690 U	18.000 UJ
Total Xylene (calculated)	**111.000**	ND	**87.000**	**113.000**	ND	**68.000**	ND	**790.000**	**0.110**	**0.249**	ND	**121.000**	ND	**174.000**	**6.700**	ND	**3.500**	ND
PAH (mg/Kg)																		
2-Methylnaphthalene	**785.000**	**0.0851**	**684.000**	**595.000**	**0.0110**	**204.000 J**	**0.0277**	**2640.000 J**	**1.440**	**1.840**	**0.133**	**745.000**	**0.00554**	**622.000**	**19.400**	**0.00434**	**45.000 J**	**215.000**
Acenaphthene	**277.000**	**0.0442**	**21.700**	**19.300**	**0.00169**	**72.700 J**	**0.0120**	**959.000 J**	**1.080**	**1.400**	**0.0563**	**297.000**	**0.00287**	**314.000**	**6.010**	**0.00218**	**47.300 J**	**162.000**
Acenaphthylene	**285.000**	**0.0446**	**196.000**	**185.000**	**0.0138**	**3.730 J**	**0.00281**	**70.300 J**	**0.0877**	**0.107**	**0.00536**	**18.800**	**0.00114**	**28.400**	**3.880**	**0.00213**	**3.150 J**	**63.000**
Anthracene	**380.000**	**0.0720**	**64.500**	**69.800**	**0.00115**	**20.700 J**	**0.00536**	**306.000 J**	**0.629**	**0.928**	**0.0278**	**114.000**	**0.00157**	**137.000**	**4.080**	**0.00185**	**46.400 J**	**188.000**
Benzo(a)anthracene	**247.000**	**0.0382**	**28.500**	**26.500**	**0.000649**	**9.880 J**	**0.00225**	**157.000 J**	**0.423**	**0.594**	**0.0126**	**55.700**	**0.00100**	**90.400**	**2.340**	**0.00144**	**34.100 J**	**148.000**
Benzo(a)pyrene	**225.000**	**0.0405**	**24.900**	**20.800**	**0.000460**	**8.280 J**	**0.00178**	**157.000 J**	**0.366**	**0.542**	**0.0112**	**50.800**	**0.000711**	**89.500**	**1.900**	**0.00102**	**34.700 J**	**140.000**
Benzo(b)fluoranthene	**136.000**	**0.0205**	**8.490**	**6.400**	**0.000156 J**	**3.500 J**	**0.000908**	**54.300 J**	**0.184**	**0.271**	**0.00423**	**19.600**	**0.000322 J**	**32.700**	**0.743**	**0.000448**	**15.600 J**	**78.000**
Benzo(ghi)perylene	**99.500**	**0.0224**	**8.250**	**6.010**	**0.000199 J**	**3.760 J**	**0.000912**	**57.800 J**	**0.140 J**	**0.239 J**	**0.00433**	**20.200**	**0.000446 J**	**43.800**	**0.853**	**0.000436**	**14.500 J**	**47.400**
Benzo(k)fluoranthene	**156.000**	**0.0260**	**12.300**	**12.000**	**0.000235 J**	**4.850 J**	**0.00113**	**80.000 J**	**0.221 J**	**0.426 J**	**0.00602**	**27.400**	**0.000484**	**45.200**	**1.160**	**0.000569**	**16.600 J**	**81.300**
Chrysene	**211.000**	**0.0348**	**26.500**	**25.900**	**0.000669**	**10.000 J**	**0.00242**	**151.000 J**	**0.413**	**0.591**	**0.0133**	**52.200**	**0.00108**	**86.200**	**2.170**	**0.00143**	**30.600 J**	**128.000**
Dibenz(a,h)anthracene	**35.200**	**0.00714**	**3.220**	**2.210**	**0.0000580 J**	**1.050 J**	**0.000178 J**	**22.700 J**	**0.0482**	**0.0702**	**0.00134**	**7.020**	**0.0000923 J**	**13.500**	**0.260**	0.000408 U	**3.220 J**	**14.600**
Fluoranthene	**582.000**	**0.0623**	**37.500**	**49.100**	**0.00109**	**17.200 J**	**0.00479**	**203.000 J**	**0.758 J**	**1.460 J**	**0.0247**	**81.500**	**0.00177**	**112.000**	**3.990**	**0.00272**	**75.000 J**	**402.000**
Fluorene	**334.000**	**0.0538**	**73.200**	**74.000**	**0.00126**	**23.900 J**	**0.00518**	**312.000 J**	**0.481**	**0.558**	**0.0243**	**110.000**	**0.00122**	**135.000**	**4.130**	**0.00213**	**25.800 J**	**166.000**
Indeno(1,2,3-cd)pyrene	**124.000**	**0.0235**	**8.430**	**5.870**	**0.000161 J**	**3.250 J**	**0.000590**	**60.000 J**	**0.147**	**0.233**	**0.00384**	**20.600**	**0.000258 J**	**41.900**	**0.778**	**0.000373 J**	**12.100 J**	**51.700**
Naphthalene	**2610.000**	**0.123**	**1090.000**	**978.000**	**0.0352**	**378.000 J**	**0.0472**	**4030.000 J**	**1.670**	**2.590**	**0.193**	**1210.000**	**0.00892**	**985.000**	**31.100**	**0.00501**	**123.000 J**	**601.000 J**
Phenanthrene	**1240.000**	**0.220**	**221.000**	**243.000**	**0.00414**	**67.700 J**	**0.0177**	**943.000 J**	**1.980**	**3.110**	**0.0892**	**372.000**	**0.00521**	**424.000**	**15.000**	**0.00772**	**125.000 J**	**603.000**
Pyrene	**494.000**	**0.0535**	**49.300 J**	**90.300 J**	**0.00190**	**27.800 J**	**0.00660**	**339.000 J**	**0.944 J**	**1.700 J**	**0.0366**	**135.000**	**0.00304**	**176.000**	**6.640**	**0.00449**	**99.700 J**	**347.000**
Total HMW PAH	**1727.700**	**0.26654**	**169.890**	**195.990**	**0.00449**	**72.370**	**0.01677**	**1078.800**	**2.88620**	**4.66620**	**0.09346**	**388.520**	**0.00743**	**619.200**	**16.844**	**0.01021**	**261.120**	**1036.000**
Total LMW PAH	**6493.000**	**0.705**	**2387.900**	**2213.200**	**0.06933**	**787.930**	**0.12274**	**9463.300**	**8.12570**	**11.993**	**0.55366**	**2948.300**	**0.02824**	**2757.400**	**87.590**	**0.02808**	**490.650**	**2400.000**
Total PAH	**8220.700**	**0.97154**	**2557.790**	**2409.190**	**0.07382**	**860.300**	**0.13951**	**10542.101**	**11.01190**	**16.65920**	**0.64712**	**3336.820**	**0.03567**	**3376.600**	**104.434**	**0.03829**	**751.770**	**3436.000**
Benzo(a)pyrene Equivalents	**312.671**	**0.05615**	**32.8115**	**27.0329**	**0.00062**	**11.0515**	**0.00235**	**207.781**	**0.49222**	**0.72685**	**0.01467**	**67.7362**	**0.00096**	**120.0382**	**2.55987**	**0.00125**	**44.2966**	**183.311**
Calculated Weighted PAH	**1134.200**	**0.19064**	**112.340**	**99.680**	**0.00239**	**40.810**	**0.00926**	**682.000**	**1.80220**	**2.72720**	**0.05253**	**233.320**	**0.00395**	**399.400**	**9.351**	**0.00528**	**146.920**	**641.600**
SVOC (mg/kg)																		
Dibenzofuran	**268.000**	**0.0285**	**11.400**	**10.100**	**0.000171 J**	**3.170 J**	**0.00132**	**37.600 J**	**0.131**	**0.140**	**0.00436**	**15.100**	**0.000253 J**	**16.600**	**0.459**	**0.000174 J**	**3.330 J**	**118.000**

Notes:

ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
Bold = detected above reporting limit

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
Totals use 0 for nondetected compounds

(P) - a product layer separated from the soil sample and was analyzed and identified with (P).
Indicates OLM, TLM, NAPL present in sample interval.
Indicates sheen, stain, and/or blebs present in sample interval.
Indicates strong odors but no visible impacted noted in sample interval.

Table 5-6
Summary of OU2 RI Deep River Sediment Analytical Results
East 21st Street Works, New York, New York

Location	RB55	RB56	RB56	RB56 DUP	RB57	RB57	RB63	RB63	RB64	RB64	RB65	RB65	RB66	RB66	RB66	RB66 DUP	RB74	RB74
Depth Interval (feet)	15-17	2-5	5-10	5-10	18-19	19-19.8	11-12.4	18-20	1-5	0-10	1-5	0-10	8-10	10-10.5	15-20	15-20	2-5	5-10
Sample Date	10/27/2008	10/24/2008	10/24/2008	10/24/2008	10/24/2008	10/24/2008	10/24/2008	10/24/2008	10/24/2008	10/24/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/23/2008	10/23/2008
BTEX (mg/Kg)																		
Benzene	**4.300 J**	0.620 UJ	0.0057 UJ	0.560 UJ	0.0029 U	0.0032 U	**0.840**	0.0031 U	0.0030 U	0.0030 U	0.0031 U	**0.041**	0.0032 U	0.340 U	0.0032 U	0.0031 U	0.0030 U	0.0031 U
Ethylbenzene	**14.000 J**	0.620 UJ	**0.0099 J**	0.560 UJ	0.0029 U	0.0032 U	**0.089**	0.0031 U	0.0030 U	0.0030 U	0.0031 U	**0.037**	**0.0092**	0.340 U	0.0032 U	0.0031 U	0.0030 U	0.0031 U
m,p-Xylene	**38.000 J**	1.200 UJ	**0.016 J**	1.100 UJ	0.0059 U	0.0063 U	**0.340**	0.0062 U	0.0060 U	0.0061 U	0.0062 U	0.0067 U	0.0064 U	0.680 U	0.0065 U	0.0062 U	0.0060 U	0.0062 U
o-Xylene	**16.000 J**	1.200 UJ	**0.019 J**	1.100 UJ	0.0059 U	0.0063 U	**0.160**	0.0062 U	0.0060 U	0.0061 U	0.0062 U	0.0067 U	**0.0081**	0.680 U	0.0065 U	0.0062 U	0.0060 U	0.0062 U
Toluene	**14.000 J**	0.940 UJ	0.0085 UJ	0.830 UJ	0.0044 U	0.0047 U	**0.250**	0.0046 U	0.0045 U	0.0046 U	0.0046 U	0.0050 U	0.0048 U	0.510 U	0.0049 U	0.0047 U	0.0045 U	0.0047 U
Total Xylene (calculated)	**54.000**	ND	**0.035**	ND	ND	ND	**0.500**	ND	ND	ND	ND	ND	**0.00810**	ND	ND	ND	ND	ND
PAH (mg/Kg)																		
2-Methylnaphthalene	**265.000**	**1.750**	**26.700 J**	**27.400 J**	**0.0107**	**0.00564**	**72800.003**	**0.215**	**0.000491 J**	**0.00176**	**0.258**	**0.00394**	**0.441**	**26.800**	**0.0234 J**	**0.151 J**	**0.139**	**0.00114 J**
Acenaphthene	**156.000**	**1.040**	**16.200 J**	**16.700 J**	**0.0920**	**0.00623**	**2180.000**	**0.00985**	**0.000228 J**	**0.00190**	**0.263**	**0.00293**	**0.0215**	**1.450**	**0.00161 J**	**0.00921 J**	**0.0791**	**0.000743 J**
Acenaphthylene	**102.000**	**1.320**	**4.430 J**	**3.690 J**	**0.0179**	**0.00214**	**25600.001**	**0.101**	**0.00254**	**0.0147**	**1.010**	**0.00144**	**0.154**	**9.050**	**0.0114 J**	**0.0656 J**	**0.362**	**0.00195 J**
Anthracene	**211.000**	**2.450**	**20.400 J**	**17.300 J**	**0.0963**	**0.0110**	**10000.000**	**0.0345**	**0.00943**	**0.000326 J**	**0.0171**	**0.00220**	**0.0636**	**4.410**	**0.00458 J**	**0.0164 J**	**0.257**	**0.000802 J**
Benzo(a)anthracene	**167.000**	**3.940**	**19.400 J**	**16.100 J**	**0.310**	**0.0103**	**4390.000**	**0.0168**	**0.00908**	**0.000154 J**	**0.00425**	**0.00189**	**0.0294**	**2.340**	**0.00406**	**0.00671**	**0.575**	**0.00282**
Benzo(a)pyrene	**151.000**	**4.930**	**20.100 J**	**15.400 J**	**0.303**	**0.0112**	**4040.000**	**0.0162**	**0.00807**	**0.000154 J**	**0.00374**	**0.00182**	**0.0254**	**2.110**	**0.00354 J**	**0.00618 J**	**0.712**	**0.00357**
Benzo(b)fluoranthene	**83.200**	**2.560**	**9.520 J**	**7.300 J**	**0.138**	**0.00489**	**1150.000**	**0.00556**	**0.00513**	0.00122 U	**0.00245**	**0.000986 J**	**0.00764**	**0.645**	**0.00186**	**0.00203 J**	**0.355**	**0.00154**
Benzo(ghi)perylene	**49.500**	**1.970**	**6.880 J**	**5.320 J**	**0.0910**	**0.00419**	**983.000**	**0.00389**	**0.00248**	**0.000148 J**	**0.00194 J**	**0.000858 J**	**0.00648**	**0.524**	**0.00119 J**	**0.00159 J**	**0.242**	**0.00137**
Benzo(k)fluoranthene	**95.300**	**2.830**	**10.100 J**	**8.250 J**	**0.196**	**0.00542**	**2030.000**	**0.00758**	**0.00577**	0.00122 U	**0.00250**	**0.00103 J**	**0.0124**	**1.020**	**0.00204**	**0.00284**	**0.386**	**0.00157**
Chrysene	**139.000**	**4.260**	**18.500 J**	**15.100 J**	**0.269**	**0.00922**	**3780.000**	**0.0142**	**0.00675**	**0.000283 J**	**0.00481**	**0.00215**	**0.0270**	**2.070**	**0.00414**	**0.00624**	**0.488**	**0.00284**
Dibenz(a,h)anthracene	**16.400**	**0.517**	**2.130 J**	**1.640 J**	**0.0353**	**0.000898 J**	**289.000**	**0.00120 J**	**0.000674 J**	0.00122 U	**0.000345 J**	**0.000152 J**	**0.00177**	**0.160**	**0.000305 J**	**0.000443 J**	**0.0746**	**0.000359 J**
Fluoranthene	**451.000**	**6.700**	**30.200 J**	**27.500 J**	**0.330**	**0.0218**	**9080.000**	**0.0312**	**0.0242**	**0.000412 J**	**0.0111**	**0.00352**	**0.0528**	**3.550**	**0.00735 J**	**0.0129 J**	**0.572**	**0.00186**
Fluorene	**198.000**	**1.050**	**11.600 J**	**10.600 J**	**0.0176**	**0.00386**	**11100.001**	**0.0364**	**0.000347 J**	**0.000506 J**	**0.0307**	**0.00185**	**0.0754**	**4.670**	**0.00492 J**	**0.0232 J**	**0.0334**	**0.000459 J**
Indeno(1,2,3-cd)pyrene	**56.000**	**1.770**	**6.730 J**	**5.160 J**	**0.0921**	**0.00358**	**940.000**	**0.00384**	**0.00257**	0.00122 U	**0.00115 J**	**0.000576 J**	**0.00536**	**0.514**	**0.00106 J**	**0.00148 J**	**0.244**	**0.00106 J**
Naphthalene	**1140.000 J**	**1.860**	**20.100 J**	**25.300 J**	**0.157**	**0.0124**	**160000.008**	**0.518**	**0.00328**	**0.0429**	**4.430**	**0.0156**	**0.806**	**35.600**	**0.0414 J**	**0.411 J**	**0.987**	**0.00374**
Phenanthrene	**951.000**	**5.680**	**50.500 J**	**43.500 J**	**0.0310**	**0.0257**	**31500.001**	**0.112**	**0.00172**	**0.000670 J**	**0.116**	**0.00897**	**0.226**	**16.400**	**0.0170 J**	**0.0643 J**	**0.256**	**0.00191 J**
Pyrene	**372.000**	**8.540**	**40.400 J**	**34.900 J**	**0.524**	**0.0295**	**15900.001**	**0.0551**	**0.0248**	**0.00567**	**0.0142**	**0.00544**	**0.0949**	**5.780**	**0.0106 J**	**0.0228 J**	**2.080**	**0.00570**
Total HMW PAH	**1129.400**	**31.317**	**133.760**	**109.170**	**1.95840**	**0.07920**	**33502.002**	**0.12437**	**0.06532**	**0.00641**	**0.03539**	**0.01490**	**0.21035**	**15.163**	**0.02880**	**0.05031**	**5.15660**	**0.02083**
Total LMW PAH	**3474.000**	**21.850**	**180.130**	**171.990**	**0.75250**	**0.08877**	**322260.015**	**1.05795**	**0.04224**	**0.06317**	**6.13590**	**0.04045**	**1.84030**	**101.930**	**0.11166**	**0.75361**	**2.68550**	**0.01260**
Total PAH	**4603.400**	**53.167**	**313.890**	**281.160**	**2.71090**	**0.16797**	**355762.017**	**1.18232**	**0.10756**	**0.06958**	**6.17129**	**0.05535**	**2.05065**	**117.093**	**0.14046**	**0.80392**	**7.84210**	**0.03343**
Benzo(a)pyrene Equivalents	**199.112**	**6.30656**	**25.9145**	**19.9936**	**0.39454**	**0.01404**	**5001.080**	**0.02011**	**0.01049**	**0.00017**	**0.00492**	**0.00233**	**0.03156**	**2.63217**	**0.00458**	**0.00768**	**0.90835**	**0.00449**
Calculated Weighted PAH	**707.900**	**20.807**	**86.480**	**68.950**	**1.34340**	**0.04551**	**16619.001**	**0.06538**	**0.03804**	**0.00059**	**0.01925**	**0.00860**	**0.10897**	**8.859**	**0.01701**	**0.02592**	**2.83460**	**0.01376**
SVOC (mg/kg)																		
Dibenzofuran	**148.000**	**0.404**	**2.430 J**	**2.660 J**	**0.0362**	**0.00177**	**1580.000**	**0.00495**	**0.000271 J**	**0.000247 J**	**0.0322**	**0.000456 J**	**0.00707**	**0.513**	**0.000535 J**	**0.00229 J**	**0.0205**	**0.000158 J**

Notes:

ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
Bold = detected above reporting limit

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
Totals use 0 for nondetected compounds

(P) - a product layer separated from the soil sample and was analyzed and identified with (P).
Indicates OLM, TLM, NAPL present in sample interval.
Indicates sheen, stain, and/or blebs present in sample interval.
Indicates strong odors but no visible impacted noted in sample interval.

Table 5-6
Summary of OU2 RI Deep River Sediment Analytical Results
East 21st Street Works, New York, New York

Location	RB74 DUP	RB75	RB75	RB76	RB76
Depth Interval (feet)	5-10	5-7	15-18	5-7	15-17
Sample Date	10/23/2008	10/23/2008	10/23/2008	10/27/2008	10/27/2008
BTEX (mg/Kg)					
Benzene	0.0031 U	0.0034 U	0.0032 U	0.0030 U	0.0034 U
Ethylbenzene	0.0031 U	0.0034 U	0.0032 U	0.0030 U	0.0034 U
m,p-Xylene	0.0062 U	0.0068 U	0.0063 U	0.0060 U	0.0068 U
o-Xylene	0.0062 U	0.0068 U	0.0063 U	0.0060 U	0.0068 U
Toluene	0.0046 U	0.0051 U	0.0047 U	0.0045 U	0.0051 U
Total Xylene (calculated)	ND	ND	ND	ND	ND
PAH (mg/Kg)					
2-Methylnaphthalene	**0.00251 J**	**1.260**	**0.00724**	**0.00105 J**	**0.00324**
Acenaphthene	**0.00211 J**	**0.850**	**0.0180**	**0.000966 J**	**0.00220**
Acenaphthylene	**0.00513 J**	**0.0738**	**0.0155**	**0.00336**	**0.00268**
Anthracene	**0.00130**	**0.386**	**0.0121**	**0.00308**	**0.00356**
Benzo(a)anthracene	**0.00256**	**0.197**	**0.000416 J**	**0.00213**	**0.00373**
Benzo(a)pyrene	**0.00276**	**0.161**	0.00239 U	**0.00444**	**0.00310**
Benzo(b)fluoranthene	**0.00154**	**0.0596**	0.00239 U	**0.00189**	**0.00199**
Benzo(ghi)perylene	**0.00116 J**	**0.0403**	0.00239 U	**0.000693 J**	**0.00113 J**
Benzo(k)fluoranthene	**0.00151**	**0.0865**	0.00239 U	**0.00203**	**0.00203**
Chrysene	**0.00237**	**0.176**	**0.000328 J**	**0.00131**	**0.00329**
Dibenz(a,h)anthracene	**0.000250 J**	**0.0128**	0.00239 U	**0.000156 J**	**0.000295 J**
Fluoranthene	**0.00364**	**0.401**	**0.0111**	**0.00371**	**0.0101**
Fluorene	**0.000864 J**	**0.411**	**0.0210**	**0.00173**	**0.00350**
Indeno(1,2,3-cd)pyrene	**0.00107 J**	**0.0382**	0.00239 U	**0.000614 J**	**0.00118 J**
Naphthalene	**0.00434**	**2.070**	**0.0696**	**0.00692**	**0.00596**
Phenanthrene	**0.00385 J**	**1.220**	**0.0439**	**0.00668**	**0.0134**
Pyrene	**0.00587**	**0.539**	**0.0627**	**0.0144**	**0.00885**
Total HMW PAH	**0.01909**	**1.31040**	**0.06344**	**0.02766**	**0.02560**
Total LMW PAH	**0.02374**	**6.67180**	**0.19844**	**0.02750**	**0.04464**
Total PAH	**0.04283**	**7.98220**	**0.26188**	**0.05516**	**0.07024**
Benzo(a)pyrene Equivalents	**0.00355**	**0.20433**	**0.00004**	**0.00508**	**0.00411**
Calculated Weighted PAH	**0.01206**	**0.73110**	**0.00074**	**0.01257**	**0.01562**
SVOC (mg/kg)					
Dibenzofuran	**0.000265 J**	**0.113**	**0.0224**	**0.00292**	**0.00234**

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mg/Kg = milligram per kilogram
Bold = detected above reporting limit

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UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
Totals use 0 for nondetected compounds

(P) - a product layer separated from the soil sample and was analyzed and identified with (P).
Indicates OLM, TLM, NAPL present in sample interval.
Indicates sheen, stain, and/or blebs present in sample interval.
Indicates strong odors but no visible impacted noted in sample interval.

Table 5-6
Summary of OU2 RI Deep River Sediment Analytical Results
East 21st Street Works, New York, New York

	Summary Statistics											
	Samples	Detects	Non-Detects	Exceedances	DL Exceedances	Max Detected Concentration	ID for Max Concentration	Min Detected Concentration	ID for Min Concentration	Average Detected Concentration	Min DL for Non-Detects	Max DL for Non-Detects
BTEX (mg/Kg)												
Benzene	159	42	117	0	0	240	RB7(26-28)062708	0.0039	RB-52(45-50)073008	19.35580952	0.0027	100
Ethylbenzene	159	56	103	0	0	650	RB7(26-28)062708	0.0032	RB5(36-37)062008	48.71512321	0.0027	12
m,p-Xylene	159	45	114	0	0	820	RB7(26-28)062708	0.0065	RB44(35-40)072408	97.24654444	0.0054	200
o-Xylene	159	43	116	0	0	340	RB7(26-28)062708	0.0081	RB66(8-10)102208	45.64453721	0.0054	200
Toluene	159	36	123	0	0	520	RB7(26-28)062708	0.0057	RB44(35-40)072408	47.71761389	0.004	150
Total Xylene (calculated)	159	46	113	0	0	1160	RB7(26-28)062708	0.0065	RB44(35-40)072408	137.8002087	-	-
PAH (mg/Kg)												
2-Methylnaphthalene	167	162	5	0	0	72800.003	RB63(11-12.4)102408	0.0000883	RB30(35-40)071108	1134.42808	0.000405	0.000492
Acenaphthene	167	154	13	0	0	2210	RB46(20-22)072508_P	0.0000453	RB40(40-45)072108	89.33270824	0.000367	0.00233
Acenaphthylene	167	160	7	0	0	25600.001	RB63(11-12.4)102408	0.0000432	RB25(33-35)070908	511.9320252	0.000391	0.000686
Anthracene	167	156	11	0	0	10700.001	RB46(20-22)072508_P	0.0000447	RB20(55-60)070208	242.1738947	0.000367	0.000475
Benzo(a)anthracene	167	157	10	0	0	6080	RB46(20-22)072508_P	0.000042	RB21(30-35)070208	129.2433957	0.000367	0.000825
Benzo(a)pyrene	167	150	17	0	0	5220	RB46(20-22)072508_P	0.0000695	RB17(10-15)063008	117.1349212	0.000367	0.00239
Benzo(b)fluoranthene	167	154	13	0	0	2010	RB46(20-22)072508_P	0.0000445	RB30(35-40)071108	44.70615536	0.000367	0.00239
Benzo(ghi)perylene	167	159	8	0	0	2110	RB46(20-22)072508_P	0.0000567	RB39(35-40)072108	40.23094801	0.000376	41
Benzo(k)fluoranthene	167	143	24	0	0	2840	RB46(20-22)072508_P	0.000062	RB17(40-45)063008	67.24120028	0.000367	0.00239
Chrysene	167	162	5	0	0	5300	RB46(20-22)072508_P	0.0000639	RB21(30-35)070208	109.2840037	0.000367	0.000825
Dibenz(a,h)anthracene	167	128	39	0	0	460	RB46(20-22)072508_P	0.0000434	RB9(40-45)062708	12.57049694	0.000367	41
Fluoranthene	167	150	17	0	0	11700.001	RB46(20-22)072508_P	0.000055	RB25(33-35)070908	270.0507976	0.000367	0.000574
Fluorene	167	163	4	0	0	11100.001	RB63(11-12.4)102408	0.0000453	RB40(40-45)072108	223.673226	0.000413	0.000825
Indeno(1,2,3-cd)pyrene	167	143	24	0	0	1760	RB46(20-22)072508_P	0.0000517	RB40(40-45)072108	40.00627505	0.000367	41
Naphthalene	167	158	9	0	0	160000.008	RB63(11-12.4)102408	0.000179	SEDDUP4-070708	2670.395806	0.000405	0.000591
Phenanthrene	167	143	24	0	0	33000.002	RB46(20-22)072508_P	0.000308	RB32(40-45)071508	837.4984036	0.000367	0.00129
Pyrene	167	156	11	0	0	17000.001	RB46(20-22)072508_P	0.0000685	RB25(33-35)070908	382.639013	0.000367	0.000441
Total HMW PAH	167	166	1	0	0	42780.002	RB46(20-22)072508_P	0.00007	RB25(33-35)070908	876.4098207	-	-
Total LMW PAH	167	167	0	0	0	322260.015	RB63(11-12.4)102408	0.00023	RB40(40-45)072108	5604.035965	-	-
Total PAH	167	167	0	0	0	355762.017	RB63(11-12.4)102408	0.00041	SEDDUP4-070708	6475.197828	-	-
Benzo(a)pyrene Equivalents	167	167	0	0	0	6698.7	RB46(20-22)072508_P	-	RB30(35-40)071108	135.2263865	-	-
Calculated Weighted PAH	167	163	4	0	0	23670.001	RB46(20-22)072508_P	0.00011	SEDDUP7-071008	487.089714	-	-
SVOC (mg/kg)												
Dibenzofuran	167	155	12	0	0	1580	RB63(11-12.4)102408	0.0000438	RB28(40-45)071008	36.63145732	0.000374	410

Table 5-6a
Summary of a Subset of OU2 RI Deep Sediment Analytical Results
Former East 21st Street Works, New York, New York

Location	T1/TB (RB1)	RB7	RB15	RB42	Summary Statistics											
Depth Interval (feet)	5-6	10-11	5-6	17-18	Samples	Detects	Non-Detects	Exceedances	DL Exceedances	Max Detected Concentration	ID for Max Concentration	Min Detected Concentration	ID for Min Concentration	Average Detected Concentration	Min DL for Non-Detects	Max DL for Non-Detects
Sample Date	6/17/2008	6/23/2008	6/27/2008	7/22/2008												
BTEX (mg/kg)																
Benzene	0.0062 UJ	**1.500**	15.000 U	100.000 UJ	4	1	3	0	0	1.5	RB7(10-11)062708	1.5	RB7(10-11)062708	1.5	0.0062	100
Ethylbenzene	**0.0083 J**	**18.000**	**38.000**	**120.000 J**	4	4	0	0	0	120	RB42(17-18)072208	0.0083	T1/TB(5-6)061708	44.002075	-	-
Toluene	0.0094 UJ	**2.200**	23.000 U	150.000 UJ	4	1	3	0	0	2.2	RB7(10-11)062708	2.2	RB7(10-11)062708	2.2	0.0094	150
m,p-Xylene	0.012 UJ	**4.900**	**94.000**	200.000 UJ	4	2	2	0	0	94	RB15(5-6)062708	4.9	RB7(10-11)062708	49.45	0.012	200
o-Xylene	0.012 UJ	**2.300**	**46.000**	200.000 UJ	4	2	2	0	0	46	RB15(5-6)062708	2.3	RB7(10-11)062708	24.15	0.012	200
Total Xylene (calculated)	0 U	**7.200**	**140.000**	0 U	4	2	2	0	0	140	RB15(5-6)062708	7.2	RB7(10-11)062708	73.6	-	-
Total BTEX	**0.00830**	**28.900**	**178.000**	**120.000**	4	4	0	0	0	178	RB15(5-6)062708	0.0083	T1/TB(5-6)061708	81.727075	-	-
VOC (mg/kg)																
Acetone	**0.096 J**	0.270 U	150.000 U	1000.000 UJ	4	1	3	0	0	0.096	T1/TB(5-6)061708	0.096	T1/TB(5-6)061708	0.096	0.27	1000
Styrene	0.012 UJ	**0.120**	**74.000**	200.000 UJ	4	2	2	0	0	74	RB15(5-6)062708	0.12	RB7(10-11)062708	37.06	0.012	200
Total VOC	**0.1043**	**29.02**	**252**	**120**	4	4	0	0	0	252	RB15(5-6)062708	0.1043	T1/TB(5-6)061708	100.281075	-	-
PAH (mg/kg)																
2-Methylnaphthalene	**0.680 J**	**69.000**	**2900.000**	**690.000 J**	4	4	0	0	0	2900	RB15(5-6)062708	0.68	T1/TB(5-6)061708	914.92	-	-
Acenaphthene	**0.930 J**	**27.000**	**130.000**	**410.000 J**	4	4	0	0	0	410	RB42(17-18)072208	0.93	T1/TB(5-6)061708	141.9825	-	-
Acenaphthylene	**0.860 J**	**8.700**	**1200.000**	**280.000 J**	4	4	0	0	0	1200	RB15(5-6)062708	0.86	T1/TB(5-6)061708	372.39	-	-
Anthracene	**2.200 J**	**14.000**	**440.000**	**410.000 J**	4	4	0	0	0	440	RB15(5-6)062708	2.2	T1/TB(5-6)061708	216.55	-	-
Benzo(a)anthracene	**3.300 J**	**7.100**	**180.000**	**370.000 J**	4	4	0	0	0	370	RB42(17-18)072208	3.3	T1/TB(5-6)061708	140.1	-	-
Benzo(a)pyrene	**2.800 J**	**5.100**	**120.000**	**240.000 J**	4	4	0	0	0	240	RB42(17-18)072208	2.8	T1/TB(5-6)061708	91.975	-	-
Benzo(b)fluoranthene	**2.200 J**	**2.100**	**57.000**	**230.000 J**	4	4	0	0	0	230	RB42(17-18)072208	2.1	RB7(10-11)062708	72.825	-	-
Benzo(ghi)perylene	**1.300 J**	**1.900**	41.000 U	**120.000 J**	4	3	1	0	0	120	RB42(17-18)072208	1.3	T1/TB(5-6)061708	41.06666667	41	41
Benzo(k)fluoranthene	**2.000 J**	**3.300**	**59.000**	**200.000 J**	4	4	0	0	0	200	RB42(17-18)072208	2	T1/TB(5-6)061708	66.075	-	-
Chrysene	**3.600 J**	**6.600**	**160.000**	**230.000 J**	4	4	0	0	0	230	RB42(17-18)072208	3.6	T1/TB(5-6)061708	100.05	-	-
Dibenz(a,h)anthracene	0.670 UJ	**0.510**	41.000 U	**37.000 J**	4	2	2	0	0	37	RB42(17-18)072208	0.51	RB7(10-11)062708	18.755	0.67	41
Fluoranthene	**6.400 J**	**16.000**	**410.000**	**1000.000 J**	4	4	0	0	0	1000	RB42(17-18)072208	6.4	T1/TB(5-6)061708	358.1	-	-
Fluorene	**0.830 J**	**15.000**	**510.000**	**470.000 J**	4	4	0	0	0	510	RB15(5-6)062708	0.83	T1/TB(5-6)061708	248.9575	-	-
Indeno(1,2,3-cd)pyrene	**1.100 J**	**1.700**	41.000 U	**120.000 J**	4	3	1	0	0	120	RB42(17-18)072208	1.1	T1/TB(5-6)061708	40.93333333	41	41
Naphthalene	**1.100 J**	**94.000**	**4200.000**	**3000.000 J**	4	4	0	0	0	4200	RB15(5-6)062708	1.1	T1/TB(5-6)061708	1823.775	-	-
Phenanthrene	**3.200 J**	**46.000**	**1300.000**	**1300.000 J**	4	4	0	0	0	1300	RB42(17-18)072208	3.2	T1/TB(5-6)061708	662.3	-	-
Pyrene	**7.000 J**	**22.000**	**600.000**	**760.000 J**	4	4	0	0	0	760	RB42(17-18)072208	7	T1/TB(5-6)061708	347.25	-	-
Total HMW PAH	**23.300**	**50.310**	**1176.000**	**2307.000**	4	4	0	0	0	2307	RB42(17-18)072208	23.3	T1/TB(5-6)061708	889.1525	-	-
Total LMW PAH	**16.200**	**289.700**	**11090.001**	**7560.000**	4	4	0	0	0	11090.001	RB15(5-6)062708	16.2	T1/TB(5-6)061708	4738.97525	-	-
Total PAH	**39.500**	**340.010**	**12266.001**	**9867.000**	4	4	0	0	0	12266.001	RB15(5-6)062708	39.5	T1/TB(5-6)061708	5628.12775	-	-
Benzo(a)pyrene Equivalents	**3.4836**	**6.7396**	**144.450**	**351.230**	4	4	0	0	0	351.23	RB42(17-18)072208	3.4836	T1/TB(5-6)061708	126.4758	-	-
SVOC (mg/kg)																
2,4-Dimethylphenol	1.700 UJ	0.450 U	410.000 U	**15.000 J**	4	1	3	0	0	15	RB42(17-18)072208	15	RB42(17-18)072208	15	0.45	410
bis(2-Ethylhexyl) phthalate	**12.000 J**	0.900 U	820.000 U	14.000 UJ	4	1	3	0	0	12	T1/TB(5-6)061708	12	T1/TB(5-6)061708	12	0.9	820
Carbazole	1.700 UJ	0.450 U	410.000 U	**110.000 J**	4	1	3	0	0	110	RB42(17-18)072208	110	RB42(17-18)072208	110	0.45	410
Dibenzofuran	1.700 UJ	**1.500**	410.000 U	**320.000 J**	4	2	2	0	0	320	RB42(17-18)072208	1.5	RB7(10-11)062708	160.75	1.7	410
Total SVOC	**51.500**	**341.510**	**12266.001**	**10312.000**	4	4	0	0	0	12266.001	RB15(5-6)062708	51.5	T1/TB(5-6)061708	5742.75275	-	-
Carbon/Soot (mg/kg)																
Average Soot	**0.24 J**	**0.28**	**0.17**	**1.3**	4	4	0	0	0	1.3	RB42(17-18)072208	0.17	RB15(5-6)062708	0.4975	-	-
Average Total Organic Carbon	**3.2 J**	<0.010 U	**1.8**	**5.2**	4	3	1	0	0	5.2	RB42(17-18)072208	1.8	RB15(5-6)062708	3.4	0.01	0.01
Soot Run 1	**0.23 J**	**0.25**	**0.13**	**1.1**	4	4	0	0	0	1.1	RB42(17-18)072208	0.13	RB15(5-6)062708	0.4275	-	-
Soot Run 2	**0.24 J**	**0.21**	**0.11**	**1.7**	4	4	0	0	0	1.7	RB42(17-18)072208	0.11	RB15(5-6)062708	0.565	-	-
Soot Run 3	**0.26 J**	**0.37**	**0.26**	**1.2**	4	4	0	0	0	1.2	RB42(17-18)072208	0.26	RB15(5-6)062708	0.5225	-	-
Total Organic Carbon	**3.2 J**	<0.010 U	**1.4**	**4.9**	4	3	1	0	0	4.9	RB42(17-18)072208	1.4	RB15(5-6)062708	3.166666667	0.01	0.01
Total Organic Carbon (Run 2)	**3.2 J**	<0.010 U	**1.7**	**5.4**	4	3	1	0	0	5.4	RB42(17-18)072208	1.7	RB15(5-6)062708	3.433333333	0.01	0.01
Total Organic Carbon (Run 3)	**3.2 J**	<0.010 U	**2.3**	**5.4**	4	3	1	0	0	5.4	RB42(17-18)072208	2.3	RB15(5-6)062708	3.633333333	0.01	0.01

Notes:

ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
Bold = detected above reporting limit
Total VOCs include BTEX
Total SVOCs include Total PAH
Subsurface Sediment Totals use 0 for nondetected compounds

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-7
Summary of OU2 RI Sediment Fingerprint Analytical Results
Former East 21st Street Works, New York, New York

Location	RB2	RB2	RB3	RB3	RB4	RB4	RB5	RB5	RB6	RB6	RB6	RB13	RB19	RB33	RB35	RB43	RB44	RB48
Depth Interval (feet)	35-40	45-46	15-17	22-24	20-25	30-32	20-25	36-37	35-40	16.5-17.5	20-25	4-5	12-16	20-25	0-0.5	21-22	17-20	17-20
Lithology	Sand	Sand	Sand, Silt, & Clay	Sand, Silt, & Clay	Silty Sand	Silty Sand	Silty Sand	Silty Sand	Sand, Silt, & Clay	Silt	Silty Sand	Silty Sand	Silt	Sand, Silt, & Clay	Silt	Silt	Silt	Peat
Sample Date	6/18/2008	6/18/2008	6/19/2008	6/19/2008	6/19/2008	6/19/2008	6/20/2008	6/20/2008	6/20/2008	6/20/2008	6/20/2008	6/26/2008	7/1/2008	7/16/2008	7/17/2008	7/23/2008	7/24/2008	7/28/2008
Alkalated PAH																		
(C2-Dibenzothiophenes) / (C2-Chrysenes)	NS	NS	NS	NS	NS	NS	**0.00238**	NS	NS	**0.000932**	NS	**0.00196**	**0.000558**	**0.00119**	**0.00123**	**0.00108**	**0.00192**	**0.00118**
(C2-Dibenzothiophenes) / (C2-Phenanthrenes/Anthracenes)	NS	NS	NS	NS	NS	NS	**0.000489**	NS	NS	**0.000206**	NS	**0.000362**	**0.000165**	**0.000325**	**0.000339**	**0.000283**	**0.000403**	**0.000395**
(C3-Dibenzothiophenes) / (C3-Chrysenes)	NS	NS	NS	NS	NS	NS	**0.00232**	NS	NS	**0.00119**	NS	**0.00204**	**0.000628**	**0.00122**	**0.00109**	**0.00118**	**0.00188**	**0.00101**
(C3-Dibenzothiophenes) / (C3-Phenanthrenes/Anthracenes)	NS	NS	NS	NS	NS	NS	**0.000717**	NS	NS	**0.000320**	NS	**0.000581**	**0.000279**	**0.000505**	**0.000562**	**0.000424**	**0.000649**	**0.000612**
17a(H),21B(H)-hopane - C30H52	NS	NS	NS	NS	NS	NS	**4.630 J**	NS	NS	**0.649**	NS	**4.680 J**	**1.860 J**	**2.350**	**3.360**	**1.430 J**	**3.580 J**	**2.320**
Benzo[e]pyrene	NS	NS	NS	NS	NS	NS	**10.600 J**	NS	NS	**25.800**	NS	**28.300 J**	**38.700 J**	**18.600**	**22.600**	**12.900 J**	**27.600 J**	**42.700**
C1-Chrysenes	NS	NS	NS	NS	NS	NS	**24.500 J**	NS	NS	**62.500**	NS	**68.300 J**	**51.600 J**	**34.600**	**37.400**	**27.600 J**	**65.200 J**	**92.600**
C1-Decali	NS	NS	NS	NS	NS	NS	**4.190 J**	NS	NS	**1.540**	NS	**3.530 J**	**1.150 J**	**2.060**	**2.790**	**1.700 J**	**4.880 J**	**5.290**
C1-Dibenzothiophenes	NS	NS	NS	NS	NS	NS	**36.300 J**	NS	NS	**29.700**	NS	**78.000 J**	**15.500 J**	**24.900**	**27.600**	**16.800 J**	**74.800 J**	**73.300**
C1-Fluoranthenes/Pyrenes	NS	NS	NS	NS	NS	NS	**80.100 J**	NS	NS	**187.000**	NS	**255.000 J**	**143.000 J**	**102.000**	**106.000**	**84.400 J**	**244.000 J**	**171.000**
C1-Fluorenes	NS	NS	NS	NS	NS	NS	**36.100 J**	NS	NS	**61.400**	NS	**105.000 J**	**35.100 J**	**36.500**	**39.400**	**24.800 J**	**87.200 J**	**107.000**
C1-Naphthalenes	NS	NS	NS	NS	NS	NS	**288.000 J**	NS	NS	**233.000**	NS	**1400.000 J**	**134.000 J**	**255.000**	**224.000**	**106.000 J**	**508.000 J**	**1580.000**
C1-Naphthobenzothiophenes	NS	NS	NS	NS	NS	NS	**10.800 J**	NS	NS	**18.800**	NS	**25.600 J**	**10.500 J**	**10.200**	**10.800**	**7.900 J**	**25.000 J**	**23.600**
C1-Phenanthrenes/Anthracenes	NS	NS	NS	NS	NS	NS	**127.000 J**	NS	NS	**251.000**	NS	**432.000 J**	**184.000 J**	**140.000**	**165.000**	**107.000 J**	**241.000 J**	**315.000**
C2-Chrysenes	NS	NS	NS	NS	NS	NS	**10.100 J**	NS	NS	**28.200**	NS	**24.900 J**	**21.300 J**	**14.100**	**14.300**	**12.900 J**	**26.300 J**	**36.900**
C2-Decali	NS	NS	NS	NS	NS	NS	**4.420 J**	NS	NS	**1.930**	NS	**4.420 J**	**1.640 J**	**2.400**	**2.820**	**2.510 J**	**7.000 J**	**8.030**
C2-Dibenzothiophenes	NS	NS	NS	NS	NS	NS	**23.900 J**	NS	NS	**26.300**	NS	**48.800 J**	**11.900 J**	**16.700**	**17.600**	**13.900 J**	**50.400 J**	**43.600**
C2-Fluoranthenes/Pyrenes	NS	NS	NS	NS	NS	NS	**26.300 J**	NS	NS	**73.400**	NS	**69.200 J**	**40.000 J**	**29.600**	**28.500**	**27.500 J**	**66.400 J**	**57.500**
C2-Fluorenes	NS	NS	NS	NS	NS	NS	**19.100 J**	NS	NS	**46.100**	NS	**52.200 J**	**20.100 J**	**19.000**	**18.000**	**16.400 J**	**43.700 J**	**45.200**
C2-Naphthalenes	NS	NS	NS	NS	NS	NS	**163.000 J**	NS	NS	**176.000**	NS	**539.000 J**	**92.100 J**	**144.000**	**183.000**	**87.000 J**	**311.000 J**	**781.000**
C2-Naphthobenzothiophenes	NS	NS	NS	NS	NS	NS	**5.580 J**	NS	NS	**10.600**	NS	**11.800 J**	**5.440 J**	**5.080**	**5.380**	**4.350 J**	**12.600 J**	**12.600**
C2-Phenanthrenes/Anthracenes	NS	NS	NS	NS	NS	NS	**49.000 J**	NS	NS	**128.000**	NS	**135.000 J**	**72.100 J**	**51.600**	**51.900**	**49.200 J**	**125.000 J**	**110.000**
C3-Chrysenes	NS	NS	NS	NS	NS	NS	**4.040 J**	NS	NS	**11.600**	NS	**8.660 J**	**9.930 J**	**5.680**	**6.660**	**5.700 J**	**10.300 J**	**18.200**
C3-Decali	NS	NS	NS	NS	NS	NS	**2.210 J**	NS	NS	**1.160**	NS	**2.260 J**	**1.400 J**	**1.130**	**1.420**	**1.720 J**	**4.500 J**	**4.950**
C3-Dibenzothiophenes	NS	NS	NS	NS	NS	NS	**9.370 J**	NS	NS	**13.900**	NS	**17.700 J**	**6.240 J**	**6.920**	**7.270**	**6.750 J**	**19.400 J**	**18.300**
C3-Fluoranthenes/Pyrenes	NS	NS	NS	NS	NS	NS	**8.120 J**	NS	NS	**25.300**	NS	**17.000 J**	**14.200 J**	**8.530**	**8.220**	**9.060 J**	**19.100 J**	**18.400**
C3-Fluorenes	NS	NS	NS	NS	NS	NS	**8.280 J**	NS	NS	**20.000**	NS	**16.900 J**	**11.900 J**	**6.740**	**7.170**	**8.240 J**	**19.100 J**	**18.200**
C3-Naphthalenes	NS	NS	NS	NS	NS	NS	**55.900 J**	NS	NS	**78.800**	NS	**141.000 J**	**38.900 J**	**49.200**	**55.600**	**36.900 J**	**126.000 J**	**175.000**
C3-Naphthobenzothiophenes	NS	NS	NS	NS	NS	NS	**2.380 J**	NS	NS	**4.490**	NS	**5.160 J**	**3.150 J**	**2.280**	**2.610**	**2.240 J**	**6.020 J**	**6.090**
C3-Phenanthrenes/Anthracenes	NS	NS	NS	NS	NS	NS	**13.100 J**	NS	NS	**43.400**	NS	**30.400 J**	**22.300 J**	**13.700**	**12.900**	**15.900 J**	**29.900 J**	**29.800**
C4-Chrysenes	NS	NS	NS	NS	NS	NS	**1.270 J**	NS	NS	**3.300**	NS	**2.550 J**	**3.750 J**	**1.800**	0.464 U	**2.090 J**	**3.550 J**	0.372 U
C4-Decali	NS	NS	NS	NS	NS	NS	**1.960 J**	NS	NS	**1.370**	NS	**2.340 J**	**2.070 J**	**0.936**	**1.240**	**2.260 J**	**4.370 J**	**4.940**
C4-Dibenzothiophenes	NS	NS	NS	NS	NS	NS	**2.750 J**	NS	NS	**4.530**	NS	**4.780 J**	**2.480 J**	**2.210**	**2.550**	**2.430 J**	**5.770 J**	**6.490**
C4-Fluoranthenes/Pyrenes	NS	NS	NS	NS	NS	NS	**2.580 J**	NS	NS	**8.040**	NS	**5.520 J**	**5.720 J**	**3.230**	**3.470**	**3.690 J**	**7.170 J**	**6.330**
C4-Naphthalenes	NS	NS	NS	NS	NS	NS	**12.400 J**	NS	NS	**25.000**	NS	**26.000 J**	**13.700 J**	**10.900**	**10.900**	**12.200 J**	**28.800 J**	**33.800**
C4-Phenanthrenes/Anthracenes	NS	NS	NS	NS	NS	NS	**3.210 J**	NS	NS	**10.400**	NS	**6.190 J**	**7.710 J**	**3.290**	**3.350**	**6.240 J**	**7.240 J**	**7.200**
Decalin	NS	NS	NS	NS	NS	NS	**1.680 J**	NS	NS	**0.539**	NS	**1.310 J**	**0.492 J**	**0.818**	**1.060**	**0.518 J**	**1.520**	**1.630**
DIBENZOTHIOPHENE A	NS	NS	NS	NS	NS	NS	**30.500 J**	NS	NS	**21.500**	NS	**74.900 J**	**16.600 J**	**22.000**	**27.500**	**11.200 J**	**64.300 J**	**67.200**
Naphthalene, 1,6,7-trimethyl-	NS	NS	NS	NS	NS	NS	**7.520 J**	NS	NS	**12.200**	NS	**21.600 J**	**5.620 J**	**5.410**	**9.380**	**5.180 J**	**14.400 J**	**21.600**
Naphthalene, 1-methyl-	NS	NS	NS	NS	NS	NS	**195.000 J**	NS	NS	**162.000**	NS	**680.000 J**	**87.500 J**	**169.000**	**204.000**	**70.600 J**	**316.000 J**	**984.000**
Naphthalene, 2,6-dimethyl-	NS	NS	NS	NS	NS	NS	**73.400 J**	NS	NS	**74.600**	NS	**248.000 J**	**40.600 J**	**66.400**	**85.200**	**36.700 J**	**140.000 J**	**334.000**
Naphthobenzothiophene	NS	NS	NS	NS	NS	NS	**6.350 J**	NS	NS	**11.200**	NS	**16.000 J**	**8.480 J**	**6.940**	**7.710**	**4.810 J**	**15.900 J**	**12.800**
Phenanthrene, 1-methyl-	NS	NS	NS	NS	NS	NS	**31.200 J**	NS	NS	**57.900**	NS	**97.200 J**	**40.800 J**	**31.300**	**37.100**	**25.400 J**	**58.000 J**	**70.400**

Notes:
ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
Bold = detected above reporting limit

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-7
Summary of OU2 RI Sediment Fingerprint Analytical Results
Former East 21st Street Works, New York, New York

Location	RB2	RB2	RB3	RB3	RB4	RB4	RB5	RB5	RB6	RB6	RB6	RB13	RB19	RB33	RB35	RB43	RB44	RB48
Depth Interval (feet)	35-40	45-46	15-17	22-24	20-25	30-32	20-25	36-37	35-40	16.5-17.5	20-25	4-5	12-16	20-25	0-0.5	21-22	17-20	17-20
Lithology	Sand	Sand	Sand, Silt, & Clay	Sand, Silt, & Clay	Silty Sand	Silty Sand	Silty Sand	Silty Sand	Sand, Silt, & Clay	Silt	Silty Sand	Silty Sand	Silt	Sand, Silt, & Clay	Silt	Silt	Silt	Peat
Sample Date	6/18/2008	6/18/2008	6/19/2008	6/19/2008	6/19/2008	6/19/2008	6/20/2008	6/20/2008	6/20/2008	6/20/2008	6/20/2008	6/26/2008	7/1/2008	7/16/2008	7/17/2008	7/23/2008	7/24/2008	7/28/2008
SVOC																		
1,1-Biphenyl	NS	NS	NS	NS	NS	NS	**25.100 J**	NS	NS	**31.600**	NS	NS	**29.600 J**	**24.500**	**26.700**	**10.300 J**	**56.400 J**	**128.000**
Carbazole	NS	NS	NS	NS	NS	NS	**1.540 J**	NS	NS	**3.290**	NS	NS	**1.530 J**	**4.270**	**4.270**	**0.601 J**	**2.690 J**	**2.580**
Dibenzofuran	**0.731**	**0.0694**	**1.940**	**0.00938**	**6.000**	**0.0530**	**13.400 J**	**0.716**	**0.00131**	**11.800**	**0.00515**	NS	**8.450 J**	**13.000**	**15.300**	**3.400 J**	**15.600 J**	**28.200**
Perylene	NS	NS	NS	NS	NS	NS	**3.290 J**	NS	NS	**7.860**	NS	**8.710 J**	**11.400 J**	**6.430**	**7.220**	**3.910 J**	**8.420 J**	**13.200**
SHC_Carbon																		
2,6,10 Trimethyldodecane (1380)	**0.292 J**	**0.00474 J**	**0.267 J**	**0.0106 J**	**1.33 J**	**0.00549 J**	**0.791 J**	**0.0411 J**	**0.00565 J**	**0.536 J**	**0.00792 J**	4.40 UJ	7.62 UJ	**6.80**	**6.16**	**5.38 J**	**12.4 J**	**7.16**
2,6,10 Trimethyltridecane (1470)	**7.90**	**0.115 J**	**4.67**	**0.0506 J**	**77.8 J**	**0.0652 J**	**35.5**	**5.07**	0.128 U	**43.7**	0.233 U	4.40 UJ	7.62 UJ	**16.6**	**15.8**	**11.2 J**	**29.8 J**	**41.2**
Decane	**0.305 J**	0.116 U	**0.357 J**	**0.0258 J**	**10.8 J**	**0.0341 J**	**17.6**	**0.0785 J**	0.128 U	**10.1**	0.233 U	**33.1 J**	7.62 UJ	**6.14**	**1.87 J**	**2.14 J**	**13.2 J**	**25.4**
Docosane	**0.844**	0.116 U	**0.704**	**0.0172 J**	**23.1 J**	**0.0210 J**	**15.7**	**0.751 J**	**0.00398 J**	**25.4**	**0.00466 J**	4.40 UJ	7.62 UJ	**7.00**	**4.83**	**4.95 J**	**12.6 J**	**17.6**
Dodecane	**0.427 J**	0.116 U	**1.41**	0.253 U	**36.0 J**	**0.0601 J**	**26.4**	**0.387 J**	0.128 U	**13.5**	0.233 U	**69.5 J**	**9.45 J**	**12.4**	**7.37**	**10.0 J**	**26.7 J**	**23.7**
Eicosane	**0.395 J**	**0.0217 J**	**0.254 J**	**0.00152 J**	**20.4 J**	**0.0534 J**	**14.6**	**0.834 J**	**0.00205 J**	**22.3**	**0.00443 J**	4.40 UJ	7.62 UJ	**7.97**	**5.79**	**6.27 J**	**15.5 J**	**20.6**
Heneicosane	**0.649 J**	**0.0210 J**	**0.494**	**0.00430 J**	**19.4 J**	**0.0332 J**	**14.3**	**0.611 J**	**0.0100 J**	**20.0**	**0.0478 J**	4.40 UJ	**10.8 J**	**4.65**	**3.16 J**	**3.52 J**	**10.3 J**	**9.45**
Hentriacontane	**0.110 J**	0.116 U	**0.0806 J**	0.253 U	**13.3 J**	0.134 U	**12.6**	0.913 U	0.128 U	**6.83**	0.233 U	4.40 UJ	**5.49 J**	**3.41 J**	**2.68 J**	**3.18 J**	**7.27 J**	**8.21**
Heptacosane	**0.757 J**	0.116 U	**0.895**	0.253 U	**18.9 J**	**0.0313 J**	**17.0**	**0.754 J**	0.128 U	**13.0**	0.233 U	4.40 UJ	**3.94 J**	**3.91 J**	**2.72 J**	**3.36 J**	**9.82 J**	**11.6**
Heptadecane	**0.544 J**	**0.00925 J**	**0.618**	**0.00405 J**	**27.3 J**	**0.0135 J**	**15.8**	**0.692 J**	**0.00231 J**	**24.0**	**0.00256 J**	4.40 UJ	**18.0 J**	**4.42 J**	**2.42 J**	**3.94 J**	**12.9 J**	**15.1**
Hexacosane	0.820 U	0.116 U	0.477 U	0.253 U	**12.1 J**	0.134 U	**14.9**	0.913 U	0.128 U	**9.55**	0.233 U	4.40 UJ	**4.63 J**	**7.15**	**5.10**	**4.22 J**	**12.1 J**	**18.2**
Hexadecane	**21.2**	**0.323**	**27.3**	**0.0686 J**	**48.2 J**	**0.0886 J**	**76.9**	**1.29**	**0.0133 J**	**112**	**0.0405 J**	**63.0 J**	**92.3 J**	4.49 U	4.64 U	**33.6 J**	**147 J**	**294**
n-Dotriacontane (C32)	**0.416 J**	0.116 U	**0.437 J**	0.253 U	**8.44 J**	0.134 U	**6.50**	**0.246 J**	0.128 U	**5.68**	0.233 U	4.40 UJ	7.62 UJ	**3.20 J**	**3.36 J**	**1.42 J**	**3.99 J**	**5.17**
n-Heptatriacontane (C37)	**0.400 J**	0.116 U	**0.440 J**	0.253 U	**3.01 J**	0.134 U	**1.59 J**	0.913 U	0.128 U	**2.88**	0.233 U	4.40 UJ	7.62 UJ	4.49 U	**0.612 J**	**0.787 J**	**1.55 J**	3.72 U
n-Hexatriacontane (C36)	**0.262 J**	0.116 U	**0.218 J**	0.253 U	**3.54 J**	0.134 U	**1.85**	0.913 U	0.128 U	**2.00**	0.233 U	4.40 UJ	7.62 UJ	**3.93 J**	**2.45 J**	**2.21 J**	**3.90 J**	**2.40 J**
n-Nonacosane (C29)	**0.204 J**	0.116 U	**0.152 J**	0.253 U	**18.4 J**	0.134 U	**19.6**	**0.404 J**	0.128 U	**10.0**	0.233 U	**43.4 J**	**44.6 J**	**25.3**	**23.1**	**15.9 J**	**34.2 J**	**42.8**
n-Nonatriacontane (C39)	0.820 U	0.116 U	**0.233 J**	0.253 U	**2.64 J**	0.134 U	**1.23 J**	0.913 U	0.128 U	**1.96**	0.233 U	4.40 UJ	7.62 UJ	4.49 U	**0.936 J**	3.61 UJ	4.30 UJ	3.72 U
n-Octatriacontane (C38)	**0.232 J**	0.116 U	**0.344 J**	0.253 U	**3.01 J**	0.134 U	**1.47 J**	0.913 U	0.128 U	**2.04**	0.233 U	4.40 UJ	7.62 UJ	4.49 U	**1.44 J**	3.61 UJ	4.30 UJ	3.72 U
Nonadecane	**0.971**	**0.0432 J**	**0.596**	**0.00152 J**	**36.0 J**	**0.0179 J**	**23.1**	**1.32**	**0.00205 J**	**27.0**	**0.00373 J**	**8.98 J**	**19.9 J**	**4.43 J**	**2.01 J**	**3.79 J**	**9.49 J**	**9.48**
Nonane	**0.782 J**	**0.0238 J**	**0.813**	**0.0387 J**	**4.92 J**	0.134 U	**5.46**	**0.141 J**	0.128 U	**6.22**	0.233 U	4.40 UJ	**0.442 J**	4.49 U	**0.686 J**	3.61 UJ	4.30 UJ	**2.88 J**
Norpristane (1650)	**0.618 J**	**0.0350 J**	**0.498**	0.253 U	**17.6 J**	0.134 U	**11.1**	**1.19**	0.128 U	**3.76**	0.233 U	4.40 UJ	7.62 UJ	**27.0**	**1.96 J**	**5.43 J**	**8.71 J**	**33.9**
n-Pentacosane (C25)	**0.782 J**	**0.251**	**0.597**	0.253 U	**95.9 J**	**0.105 J**	**56.4**	**0.739 J**	0.128 U	**90.0**	0.233 U	**109 J**	**23.4 J**	**51.4**	**49.6**	**32.1 J**	**80.1 J**	**101**
n-Pentatriacontane (C35)	0.820 U	0.116 U	**0.229 J**	0.253 U	**2.89 J**	0.134 U	**2.21**	**0.320 J**	0.128 U	**1.97**	0.233 U	**8.53 J**	7.62 UJ	4.49 U	**4.34 J**	**1.88 J**	**5.38 J**	3.72 U
n-Tetracontane (C40)	0.820 U	0.116 U	0.477 U	0.253 U	**0.974 J**	0.134 U	**0.465 J**	0.913 U	0.128 U	**0.471 J**	0.233 U	4.40 UJ	7.62 UJ	4.49 U	**0.997 J**	3.61 UJ	4.30 UJ	3.72 U
n-Triacontane (C30)	**1.22**	0.116 U	**1.28**	0.253 U	**21.4 J**	0.134 U	**14.9**	**1.13**	0.128 U	**14.2**	0.233 U	**17.6 J**	7.62 UJ	**5.53**	**3.44 J**	**2.88 J**	**9.10 J**	**13.0**
n-Tritriacontane (C33)	**1.22**	0.116 U	0.477 U	0.253 U	**14.2 J**	0.134 U	**8.63**	**0.837 J**	0.128 U	**9.71**	0.233 U	4.40 UJ	7.62 UJ	**13.1**	**13.1**	**5.68 J**	**19.4 J**	**13.1**
Octacosane	0.820 U	0.116 U	0.477 U	0.253 U	**7.29 J**	0.134 U	**12.7**	**0.372 J**	0.128 U	**5.89**	**0.130 J**	4.40 UJ	**5.32 J**	**3.43 J**	**2.89 J**	**1.42 J**	**7.96 J**	**12.5**
Octadecane	**0.144 J**	**0.0119 J**	**0.0958 J**	**0.00126 J**	**18.0 J**	**0.00910 J**	**11.6**	**0.204 J**	**0.00141 J**	**19.1**	**0.00303 J**	**746 J**	**373 J**	**260**	**257**	**120 J**	**406 J**	**634**
Pentadecane	**43.5**	0.116 U	**58.6**	**0.406**	**533 J**	**0.375**	**156**	**20.3**	0.128 U	**209**	0.233 U	4.40 UJ	**27.6 J**	**153**	**162**	**61.4 J**	**258 J**	**354**
Pentadecane, 2,6,10,14-tetramethyl	0.820 U	0.116 U	0.477 U	0.253 U	**17.9 J**	**0.0229 J**	**7.59**	0.913 U	0.128 U	**8.70**	0.233 U	4.40 UJ	**16.0 J**	**11.0**	**10.6**	**10.0 J**	**19.8 J**	**24.7**
Phytane	**0.668 J**	0.116 U	0.477 U	0.253 U	**28.0 J**	0.134 U	**10.3**	**1.32**	0.128 U	**6.00**	**0.0557 J**	**240 J**	**113 J**	**87.1**	**85.5**	**43.8 J**	**142 J**	**195**
Tetracosane	**0.526 J**	0.116 U	**0.409 J**	**0.00177 J**	**17.0 J**	**0.0598 J**	**16.5**	**0.755 J**	**0.00244 J**	**17.6**	**0.00396 J**	4.40 UJ	**8.40 J**	**5.90**	**4.25 J**	**2.98 J**	**12.0 J**	**23.3**
Tetradecane	**1.14**	**0.00613 J**	**1.50**	**0.0311 J**	**37.4 J**	**0.0116 J**	**35.0**	**0.154 J**	0.128 U	**18.8**	**0.00816 J**	4.40 UJ	**12.1 J**	**11.6**	**7.29**	**7.18 J**	**25.4 J**	**34.8**
Tetratriacontane	**0.454 J**	0.116 U	0.477 U	0.253 U	**4.39 J**	0.134 U	**4.97**	**0.250 J**	0.128 U	**1.39 J**	0.233 U	4.40 UJ	7.62 UJ	4.49 U	**4.21 J**	**1.67 J**	**6.67 J**	**3.94**
Total Petroleum Hydrocarbo (C9-C44)	**1490**	**66.4**	**1610**	**18.4**	**25900**	**48.2**	**13800**	**1630**	**9.34**	**16000**	**38.1**	**26800**	**13400**	**10700**	**10700**	**8330**	**19300**	**27100**
Total Saturated Hydrocarbo	**92.7**	**1.42**	**111**	**0.749**	**1800**	**1.58**	**764**	**46.1**	**0.231**	**847**	**0.361**	**1430**	**799**	**793**	**730**	**444**	**1460**	**2080**
Tricosane	**4.04**	**0.122**	**4.03**	0.253 U	**54.5 J**	**0.0377 J**	**26.8**	**4.29**	**0.0116 J**	**44.1**	0.233 U	**62.4 J**	7.62 UJ	**21.0**	**19.4**	**14.2 J**	**39.7 J**	**16.4**
Tridecane	**2.02**	**0.312**	**3.17**	0.253 U	**15.6 J**	**0.366**	**37.4**	**1.59**	0.128 U	**26.1**	0.233 U	**25.1 J**	**10.3 J**	**12.6**	**6.17**	**9.66 J**	**28.4 J**	**24.3**
Undecane	**0.0312 J**	0.116 U	**0.265 J**	0.253 U	**36.2 J**	**0.00415 J**	**30.7**	**0.0611 J**	0.128 U	**14.8**	0.233 U	4.40 UJ	7.62 UJ	**12.8**	**4.74**	**7.80 J**	**26.2 J**	**37.6**
Carbon/Soot																		
Average Soot	NS	NS	NS	NS	NS	NS	**1.2 J**	NS	NS	**1.8**	NS	**2.6**	**2.0 J**	**1.7**	**3.4**	**1.9 J**	**1.8 J**	**2.1**
Average Total Organic Carbon	NS	NS	NS	NS	NS	NS	**5.5 J**	NS	NS	**4.4**	NS	**8.1**	**5.4 J**	**5.4**	**5.4**	**4.5 J**	**5.0 J**	**11**
Soot Run 1	NS	NS	NS	NS	NS	NS	**1.2 J**	NS	NS	**1.7**	NS	**2.5**	**1.7 J**	**1.6**	**3.6**	**1.6 J**	**1.6 J**	**1.9**
Soot Run 2	NS	NS	NS	NS	NS	NS	**1.3 J**	NS	NS	**1.9**	NS	**2.3**	**2.1 J**	**1.8**	**2.9**	**2.2 J**	**2.0 J**	**2.0**
Soot Run 3	NS	NS	NS	NS	NS	NS	**1.3 J**	NS	NS	**1.7**	NS	**3.0**	**2.1 J**	**1.6**	**3.8**	**1.9 J**	**1.9 J**	**2.4**
Total Organic Carbon	NS	NS	NS	NS	NS	NS	**5.6 J**	NS	NS	**4.2**	NS	**8.4**	**5.4 J**	**5.2**	**5.6**	**4.6 J**	**4.2 J**	**8.6**
Total Organic Carbon (Run 2)	NS	NS	NS	NS	NS	NS	**5.4 J**	NS	NS	**4.6**	NS	**8.7**	**5.8 J**	**6.0**	**5.9**	**4.0 J**	**5.2 J**	**12**
Total Organic Carbon (Run 3)	NS	NS	NS	NS	NS	NS	**5.5 J**	NS	NS	**4.5**	NS	**7.1**	**5.0 J**	**5.0**	**4.9**	**4.9 J**	**5.4 J**	**12**

Notes:

ND = calculated totals are not detected
NA = Not Available
N/A = Not Applicable
mg/Kg = milligram per kilogram
Bold = detected above reporting limit

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-7
Summary of OU2 RI Sediment Fingerprint Analytical Results
Former East 21st Street Works, New York, New York

	Summary Statistics											
	Samples	Detects	Non-Detects	Exceedances	DL Exceedances	Max Detected Concentration	ID for Max Concentration	Min Detected Concentration	ID for Min Concentration	Average Detected Concentration	Min DL for Non-Detects	Max DL for Non-Detects
Alkalated PAH												
(C2-Dibenzothiophenes) / (C2-Chrysenes)	9	9	0	0	0	0.00238	RB5(20-25)062008	0.000558	RB19(12-16)070108	0.001381111	-	-
(C2-Dibenzothiophenes) / (C2-Phenanthrenes/Anthracenes)	9	9	0	0	0	0.000489	RB5(20-25)062008	0.000165	RB19(12-16)070108	0.000329667	-	-
(C3-Dibenzothiophenes) / (C3-Chrysenes)	9	9	0	0	0	0.00232	RB5(20-25)062008	0.000628	RB19(12-16)070108	0.001395333	-	-
(C3-Dibenzothiophenes) / (C3-Phenanthrenes/Anthracenes)	9	9	0	0	0	0.000717	RB5(20-25)062008	0.000279	RB19(12-16)070108	0.000516556	-	-
17a(H),21B(H)-hopane - C30H52	9	9	0	0	0	4.68	RB13(4-5)062708	0.649	RB6(16.5-17.5)062008	2.762111111	-	-
Benzo[e]pyrene	9	9	0	0	0	42.7	RB-48(17-20)072808	10.6	RB5(20-25)062008	25.31111111	-	-
C1-Chrysenes	9	9	0	0	0	92.6	RB-48(17-20)072808	24.5	RB5(20-25)062008	51.58888889	-	-
C1-Decali	9	9	0	0	0	5.29	RB-48(17-20)072808	1.15	RB19(12-16)070108	3.014444444	-	-
C1-Dibenzothiophenes	9	9	0	0	0	78	RB13(4-5)062708	15.5	RB19(12-16)070108	41.87777778	-	-
C1-Fluoranthenes/Pyrenes	9	9	0	0	0	255	RB13(4-5)062708	80.1	RB5(20-25)062008	152.5	-	-
C1-Fluorenes	9	9	0	0	0	107	RB-48(17-20)072808	24.8	RB43(21-22)072308	59.16666667	-	-
C1-Naphthalenes	9	9	0	0	0	1580	RB-48(17-20)072808	106	RB43(21-22)072308	525.3333333	-	-
C1-Naphthobenzothiophenes	9	9	0	0	0	25.6	RB13(4-5)062708	7.9	RB43(21-22)072308	15.91111111	-	-
C1-Phenanthrenes/Anthracenes	9	9	0	0	0	432	RB13(4-5)062708	107	RB43(21-22)072308	218	-	-
C2-Chrysenes	9	9	0	0	0	36.9	RB-48(17-20)072808	10.1	RB5(20-25)062008	21	-	-
C2-Decali	9	9	0	0	0	8.03	RB-48(17-20)072808	1.64	RB19(12-16)070108	3.907777778	-	-
C2-Dibenzothiophenes	9	9	0	0	0	50.4	RB44(17-20)072408	11.9	RB19(12-16)070108	28.12222222	-	-
C2-Fluoranthenes/Pyrenes	9	9	0	0	0	73.4	RB6(16.5-17.5)062008	26.3	RB5(20-25)062008	46.48888889	-	-
C2-Fluorenes	9	9	0	0	0	52.2	RB13(4-5)062708	16.4	RB43(21-22)072308	31.08888889	-	-
C2-Naphthalenes	9	9	0	0	0	781	RB-48(17-20)072808	87	RB43(21-22)072308	275.1222222	-	-
C2-Naphthobenzothiophenes	9	9	0	0	0	12.6	RB-48(17-20)072808	4.35	RB43(21-22)072308	8.158888889	-	-
C2-Phenanthrenes/Anthracenes	9	9	0	0	0	135	RB13(4-5)062708	49	RB5(20-25)062008	85.75555556	-	-
C3-Chrysenes	9	9	0	0	0	18.2	RB-48(17-20)072808	4.04	RB5(20-25)062008	8.974444444	-	-
C3-Decali	9	9	0	0	0	4.95	RB-48(17-20)072808	1.13	RB33(20-25)071608	2.305555556	-	-
C3-Dibenzothiophenes	9	9	0	0	0	19.4	RB44(17-20)072408	6.24	RB19(12-16)070108	11.76111111	-	-
C3-Fluoranthenes/Pyrenes	9	9	0	0	0	25.3	RB6(16.5-17.5)062008	8.12	RB5(20-25)062008	14.21444444	-	-
C3-Fluorenes	9	9	0	0	0	20	RB6(16.5-17.5)062008	6.74	RB33(20-25)071608	12.94777778	-	-
C3-Naphthalenes	9	9	0	0	0	175	RB-48(17-20)072808	36.9	RB43(21-22)072308	84.14444444	-	-
C3-Naphthobenzothiophenes	9	9	0	0	0	6.09	RB-48(17-20)072808	2.24	RB43(21-22)072308	3.824444444	-	-
C3-Phenanthrenes/Anthracenes	9	9	0	0	0	43.4	RB6(16.5-17.5)062008	12.9	39646.33125	23.48888889	-	-
C4-Chrysenes	9	7	2	0	0	3.75	RB19(12-16)070108	1.27	RB5(20-25)062008	2.615714286	0.372	0.464
C4-Decali	9	9	0	0	0	4.94	RB-48(17-20)072808	0.936	RB33(20-25)071608	2.387333333	-	-
C4-Dibenzothiophenes	9	9	0	0	0	6.49	RB-48(17-20)072808	2.21	RB33(20-25)071608	3.776666667	-	-
C4-Fluoranthenes/Pyrenes	9	9	0	0	0	8.04	RB6(16.5-17.5)062008	2.58	RB5(20-25)062008	5.083333333	-	-
C4-Naphthalenes	9	9	0	0	0	33.8	RB-48(17-20)072808	10.9	39646.33125	19.3	-	-
C4-Phenanthrenes/Anthracenes	9	9	0	0	0	10.4	RB6(16.5-17.5)062008	3.21	RB5(20-25)062008	6.092222222	-	-
Decalin	9	9	0	0	0	1.68	RB5(20-25)062008	0.492	RB19(12-16)070108	1.063	-	-
DIBENZOTHIOPHENE A	9	9	0	0	0	74.9	RB13(4-5)062708	11.2	RB43(21-22)072308	37.3	-	-
Naphthalene, 1,6,7-trimethyl-	9	9	0	0	0	21.6	RB-48(17-20)072808	5.18	RB43(21-22)072308	11.43444444	-	-
Naphthalene, 1-methyl-	9	9	0	0	0	984	RB-48(17-20)072808	70.6	RB43(21-22)072308	318.6777778	-	-
Naphthalene, 2,6-dimethyl-	9	9	0	0	0	334	RB-48(17-20)072808	36.7	RB43(21-22)072308	122.1	-	-
Naphthobenzothiophene	9	9	0	0	0	16	RB13(4-5)062708	4.81	RB43(21-22)072308	10.02111111	-	-
Phenanthrene, 1-methyl-	9	9	0	0	0	97.2	RB13(4-5)062708	25.4	RB43(21-22)072308	49.92222222	-	-
SVOC												
1,1-Biphenyl	8	8	0	0	0	128	RB-48(17-20)072808	10.3	RB43(21-22)072308	41.525	-	-
Carbazole	8	8	0	0	0	4.27	39646.33125	0.601	RB43(21-22)072308	2.596375	-	-
Dibenzofuran	17	17	0	0	0	28.2	RB-48(17-20)072808	0.00131	RB6(35-40)062008	6.980896471	-	-
Perylene	9	9	0	0	0	13.2	RB-48(17-20)072808	3.29	RB5(20-25)062008	7.826666667	-	-

Table 5-7
Summary of OU2 RI Sediment Fingerprint Analytical Results
Former East 21st Street Works, New York, New York

	Summary Statistics											
	Samples	Detects	Non-Detects	Exceedances	DL Exceedances	Max Detected Concentration	ID for Max Concentration	Min Detected Concentration	ID for Min Concentration	Average Detected Concentration	Min DL for Non-Detects	Max DL for Non-Detects
SHC_Carbon												
2,6,10 Trimethyldodecane (1380)	18	16	2	0	0	12.4	RB44(17-20)072408	0.00474	RB2(45-46)061808	2.57446875	4.4	7.62
2,6,10 Trimethyltridecane (1470)	18	14	4	0	0	77.8	RB4(20-25)061908	0.0506	RB3(22-24)061908	20.67648571	0.128	7.62
Decane	18	14	4	0	0	33.1	RB13(4-5)062708	0.0258	RB3(22-24)061908	8.6536	0.116	7.62
Docosane	18	15	3	0	0	25.4	RB6(16.5-17.5)062008	0.00398	RB6(35-40)062008	7.568389333	0.116	7.62
Dodecane	18	14	4	0	0	69.5	RB13(4-5)062708	0.0601	RB4(30-32)061908	16.95029286	0.116	0.253
Eicosane	18	16	2	0	0	22.3	RB6(16.5-17.5)062008	0.00152	RB3(22-24)061908	7.18725625	4.4	7.62
Heneicosane	18	17	1	0	0	20	RB6(16.5-17.5)062008	0.0043	RB3(22-24)061908	5.732370588	4.4	4.4
Hentriacontane	18	11	7	0	0	13.3	RB4(20-25)061908	0.0806	RB3(15-17)061908	5.741872727	0.116	4.4
Heptacosane	18	13	5	0	0	18.9	RB4(20-25)061908	0.0313	RB4(30-32)061908	6.668253846	0.116	4.4
Heptadecane	18	17	1	0	0	27.3	RB4(20-25)061908	0.00231	RB6(35-40)062008	7.397980588	4.4	4.4
Hexacosane	18	9	9	0	0	18.2	RB-48(17-20)072808	4.22	RB43(21-22)072308	9.772222222	0.116	4.4
Hexadecane	18	16	2	0	0	294	RB-48(17-20)072808	0.0133	RB6(35-40)062008	57.33275	4.49	4.64
n-Dotriacontane (C32)	18	11	7	0	0	8.44	RB4(20-25)061908	0.246	RB5(36-37)062008	3.532636364	0.116	7.62
n-Heptatriacontane (C37)	18	8	10	0	0	3.01	RB4(20-25)061908	0.4	RB2(35-40)061808	1.408625	0.116	7.62
n-Hexatriacontane (C36)	18	10	8	0	0	3.93	RB33(20-25)071608	0.218	RB3(15-17)061908	2.276	0.116	7.62
n-Nonacosane (C29)	18	13	5	0	0	44.6	RB19(12-16)070108	0.152	RB3(15-17)061908	21.38923077	0.116	0.253
n-Nonatriacontane (C39)	18	5	13	0	0	2.64	RB4(20-25)061908	0.233	RB3(15-17)061908	1.3998	0.116	7.62
n-Octatriacontane (C38)	18	6	12	0	0	3.01	RB4(20-25)061908	0.232	RB2(35-40)061808	1.422666667	0.116	7.62
Nonadecane	18	18	0	0	0	36	RB4(20-25)061908	0.00152	RB3(22-24)061908	8.174188889	-	-
Nonane	18	11	7	0	0	6.22	RB6(16.5-17.5)062008	0.0238	RB2(45-46)061808	2.036954545	0.128	4.49
Norpristane (1650)	18	12	6	0	0	33.9	RB-48(17-20)072808	0.035	RB2(45-46)061808	9.31675	0.128	7.62
n-Pentacosane (C25)	18	15	3	0	0	109	RB13(4-5)062708	0.105	RB4(30-32)061908	46.0916	0.128	0.253
n-Pentatriacontane (C35)	18	9	9	0	0	8.53	RB13(4-5)062708	0.229	RB3(15-17)061908	3.083222222	0.116	7.62
n-Tetracontane (C40)	18	4	14	0	0	0.997	39646.33125	0.465	RB5(20-25)062008	0.72675	0.116	7.62
n-Triacontane (C30)	18	12	6	0	0	21.4	RB4(20-25)061908	1.13	RB5(36-37)062008	8.806666667	0.116	7.62
n-Tritriacontane (C33)	18	10	8	0	0	19.4	RB44(17-20)072408	0.837	RB5(36-37)062008	9.8977	0.116	7.62
Octacosane	18	11	7	0	0	12.7	RB5(20-25)062008	0.13	RB6(20-25)062008	5.445636364	0.116	4.4
Octadecane	18	18	0	0	0	746	RB13(4-5)062708	0.00126	RB3(22-24)061908	158.0650278	-	-
Pentadecane	18	14	4	0	0	533	RB4(20-25)061908	0.375	RB4(30-32)061908	145.5129286	0.116	4.4
Pentadecane, 2,6,10,14-tetramethyl	18	10	8	0	0	24.7	RB-48(17-20)072808	0.0229	RB4(30-32)061908	12.63129	0.116	4.4
Phytane	18	13	5	0	0	240	RB13(4-5)062708	0.0557	RB6(20-25)062008	73.28797692	0.116	0.477
Tetracosane	18	16	2	0	0	23.3	RB-48(17-20)072808	0.00177	RB3(22-24)061908	6.855498125	0.116	4.4
Tetradecane	18	16	2	0	0	37.4	RB4(20-25)061908	0.00613	RB2(45-46)061808	12.02631188	0.128	4.4
Tetratriacontane	18	9	9	0	0	6.67	RB44(17-20)072408	0.25	RB5(36-37)062008	3.104888889	0.116	7.62
Total Petroleum Hydrocarbo (C9-C44)	18	18	0	0	0	27100	RB-48(17-20)072808	9.34	RB6(35-40)062008	9830.024444	-	-
Total Saturated Hydrocarbo	18	18	0	0	0	2080	RB-48(17-20)072808	0.231	RB6(35-40)062008	633.3967222	-	-
Tricosane	18	15	3	0	0	62.4	RB13(4-5)062708	0.0116	RB6(35-40)062008	20.73542	0.233	7.62
Tridecane	18	15	3	0	0	37.4	RB5(20-25)062008	0.312	RB2(45-46)061808	13.5392	0.128	0.253
Undecane	18	12	6	0	0	37.6	RB-48(17-20)072808	0.00415	RB4(30-32)061908	14.2667875	0.116	7.62
Carbon/Soot												
Average Soot	9	9	0	0	0	3.4	39646.33125	1.2	RB5(20-25)062008	2.055555556	-	-
Average Total Organic Carbon	9	9	0	0	0	11	RB-48(17-20)072808	4.4	RB6(16.5-17.5)062008	6.077777778	-	-
Soot Run 1	9	9	0	0	0	3.6	39646.33125	1.2	RB5(20-25)062008	1.933333333	-	-
Soot Run 2	9	9	0	0	0	2.9	39646.33125	1.3	RB5(20-25)062008	2.055555556	-	-
Soot Run 3	9	9	0	0	0	3.8	39646.33125	1.3	RB5(20-25)062008	2.188888889	-	-
Total Organic Carbon	9	9	0	0	0	8.6	RB-48(17-20)072808	4.2	RB44(17-20)072408	5.755555556	-	-
Total Organic Carbon (Run 2)	9	9	0	0	0	12	RB-48(17-20)072808	4	RB43(21-22)072308	6.4	-	-
Total Organic Carbon (Run 3)	9	9	0	0	0	12	RB-48(17-20)072808	4.5	RB6(16.5-17.5)062008	6.033333333	-	-

Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-1 Monitoring Wells											
		21MWS01			21MWD01			21MWS02			21MWD02		
Sample Date	AWQSGVs	4/20/2004	5/23/2006	8/28/2008	4/20/2004	5/23/2006	8/28/2008	4/19/2004	5/16/2006	8/29/2008	4/19/2004	5/16/2006	8/29/2008
BTEX (ug/L)													
Benzene	1	0.3 U	**1.8 J**	0.35 U	**1.5**	0.39 U	0.35 U	**0.7**	0.39 U	0.35 U	**24**	**2.4 J**	**7.4**
Ethylbenzene	5	**0.6**	0.45 U	0.05 U	0.4 U	0.45 U	0.05 U	0.4 U	0.45 U	0.05 U	0.4 U	0.45 U	0.05 U
m,p-Xylene	NA	NS	1.2 U	0.47 U	NS	1.2 U	0.47 U	NS	1.2 U	0.47 U	NS	1.2 U	0.47 U
o-Xylene	NA	NS	0.46 U	0.16 U	NS	0.46 U	0.16 U	NS	0.46 U	0.16 U	NS	0.46 U	0.16 U
Toluene	5	0.2 U	0.36 U	0.16 U	0.2 U	0.36 U	0.16 U	0.2 U	0.36 U	0.16 U	0.2 U	0.36 U	0.16 U
Total Xylene (calculated)	5	**4.1**	0	0	0.2 U	0	0	0.2 U	0	0	**0.4**	0	0
(VOCs) (ug/L)													
1,1,2-Trichloroethane	1	0.3 U	0.41 U	0.32 U	0.3 U	0.41 U	0.32 U	0.3 U	0.41 U	0.32 U	0.3 U	0.41 U	0.32 U
1,1-Dichloroethene	5	0.4 U	0.42 U	0.67 U	0.4 U	0.42 U	0.67 U	0.4 U	0.42 UJ	0.67 U	**0.5**	0.42 UJ	0.67 U
1,2-Dibromoethane (EDB)	0.6	NS	0.32 UJ	0.26 U	NS	0.32 UJ	0.26 U	NS	0.32 U	0.26 U	NS	0.32 U	0.26 U
1,2-Dichloroethane	0.6	0.3 U	0.34 U	0.41 U	0.3 U	0.34 U	0.41 U	0.3 U	0.34 U	0.41 U	0.3 U	0.34 U	0.41 U
1,2-Dichloropropane	1	0.2 U	0.40 U	0.46 U	0.2 U	0.40 U	0.46 U	0.2 U	0.40 U	0.46 U	0.2 U	0.40 U	0.46 U
2-Butanone (Methyl Ethyl Ketone)	50	2.5 U	1.1 U	1.9 U	2.5 U	1.1 U	1.9 U	2.5 U	1.1 UJ	1.9 U	2.5 U	1.1 UJ	1.9 U
2-Hexanone	50	1.0 U	1.7 U	1.8 U	1.0 U	1.7 U	1.8 U	1.0 U	1.7 U	1.8 U	1.0 U	1.7 U	1.8 U
Acetone	50	1.0 U	2.3 U	2.2 U	1.0 U	2.3 U	2.2 U	1.0 U	**2.3 R**	2.2 U	1.0 U	**2.3 R**	2.2 U
Bromodichloromethane	50	0.4 U	0.33 U	0.23 U	0.4 U	0.33 U	0.23 U	0.4 U	0.33 U	0.23 U	0.4 U	0.33 U	0.23 U
Bromomethane	5	0.4 U	0.41 U	1.4 U	0.4 U	0.41 U	1.4 U	0.4 U	0.41 U	1.4 U	0.4 U	0.41 U	1.4 U
Carbon Disulfide	60	0.2 U	0.40 UJ	0.20 U	0.2 U	0.40 UJ	0.20 U	0.2 U	0.40 UJ	0.20 U	0.2 U	0.40 UJ	0.20 U
Chlorobenzene	5	0.2 U	0.47 U	0.28 U	**0.7**	0.47 U	0.28 U	0.2 U	0.47 U	0.28 U	0.2 U	0.47 U	0.28 U
Chloroform	7	0.2 U	0.33 U	0.45 U	0.2 U	0.33 U	0.45 U	0.2 U	0.33 U	0.45 U	0.2 U	0.33 U	0.45 U
Chloromethane	5	0.5 U	0.34 UJ	0.37 U	0.5 U	0.34 UJ	0.37 U	0.5 U	0.34 UJ	0.37 U	0.5 U	0.34 UJ	0.37 U
cis-1,2-Dichloroethene	5	0.2 U	0.29 U	0.72 U	**1.7**	0.29 U	0.72 U	0.2 U	0.29 U	0.72 U	**5.0**	**16**	**25**
cis-1,3-Dichloropropene	0.4	0.2 U	0.36 UJ	0.29 U	0.2 U	0.36 UJ	0.29 U	0.2 U	0.36 U	0.29 U	0.2 U	0.36 U	0.29 U
Cyclohexane	NA	NS	0.36 UJ	0.57 U	NS	0.36 UJ	0.57 U	NS	0.36 U	0.57 U	NS	0.36 U	0.57 U
Isopropylbenzene	5	NS	0.44 U	0.37 U	NS	0.44 U	0.37 U	NS	0.44 U	0.37 U	NS	0.44 U	0.37 U
Methyl Acetate	NA	NS	0.20 U	0.45 U	NS	0.20 U	0.45 U	NS	0.20 UJ	0.45 U	NS	0.20 UJ	0.45 U
Methyl tert-butyl ether	10	NS	0.28 U	0.23 U	NS	0.28 U	0.23 U	NS	0.28 U	0.23 U	NS	0.28 U	0.23 U
Methylcyclohexane	NA	NS	0.34 UJ	0.47 U	NS	**1.4 J**	0.47 U	NS	0.34 U	0.47 U	NS	0.34 U	0.47 U
Naphthalene	10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Styrene	5	0.3 U	0.41 U	0.19 U	0.3 U	0.41 U	0.19 U	0.3 U	0.41 U	0.19 U	0.3 U	0.41 U	0.19 U
Tetrachloroethene	5	0.3 U	0.48 U	0.97 U	0.3 U	0.48 U	0.97 U	0.3 U	0.48 UJ	0.97 U	**0.6**	0.48 UJ	0.97 U
trans-1,2-Dichloroethene	5	0.2 U	0.40 U	0.44 U	0.2 U	0.40 U	0.44 U	0.2 U	0.40 UJ	0.44 U	**0.3**	0.40 UJ	0.44 U
trans-1,3-Dichloropropene	0.4	0.2 U	0.32 UJ	0.31 U	0.2 U	0.32 UJ	0.31 U	0.2 U	0.32 U	0.31 U	0.2 U	0.32 U	0.31 U
Trichloroethene	5	0.2 U	0.46 U	0.34 U	0.2 U	0.46 U	0.34 U	0.2 U	0.46 U	0.34 U	**2.0**	0.46 U	0.34 U
Vinyl Chloride	2	0.5 U	0.33 U	0.30 U	0.5 U	0.33 U	0.30 U	0.5 U	0.33 UJ	0.30 U	0.5 U	0.33 UJ	0.30 U
Total VOCs	NA	**4.7**	**1.8**	0	**3.9**	**1.4**	0	**0.7**	0	0	**32.8**	**18.4**	**32.4**
(PAHs) (ug/l)													
Acenaphthene	20	**1.4**	1.4 U	0.330 U	**3.7**	1.4 U	0.330 U	**7.7**	**2.6 J**	**4.3 J**	**51**	**45**	**84**
Acenaphthylene	NA	0.070 U	1.3 U	0.360 U	**1.2**	1.3 U	0.360 U	0.070 U	1.3 U	0.360 U	0.071 U	1.3 U	1.8 U
Anthracene	50	**0.1**	1.4 U	1.4 U	0.080 U	1.4 U	1.4 U	**0.5**	1.4 U	1.4 U	0.081 U	1.4 U	7.2 U
Benzo(a)anthracene	0.002	***0.2 U***	***1.1 U***	***1.3 U***	***0.2 U***	***1.1 U***	***1.3 U***	***0.2 U***	***1.1 U***	***1.3 U***	***0.2 U***	***1.1 U***	***6.6 U***
Benzo(a)pyrene	NA	0.080 U	1.2 U	0.220 U	0.080 U	1.2 U	0.220 U	0.080 U	1.2 U	0.220 U	0.081 U	1.2 U	1.1 U
Benzo(b)fluoranthene	0.002	***0.2 U***	***0.770 U***	***0.440 U***	***0.2 U***	***0.760 U***	***0.440 U***	***0.2 U***	***0.760 U***	***0.440 U***	***0.2 U***	***0.760 U***	***2.2 U***
Benzo(ghi)perylene	NA	0.060 U	1.1 U	0.400 U	0.060 U	1.1 U	0.400 U	0.060 U	1.1 U	0.400 U	0.061 U	1.1 U	2.0 U
Benzo(k)fluoranthene	0.002	***0.2 U***	***1.9 U***	***0.310 U***	***0.2 U***	***1.9 U***	***0.310 U***	***0.2 U***	***1.9 U***	***0.310 U***	***0.2 U***	***1.9 U***	***1.5 U***
Chrysene	0.002	***0.070 U***	***1.7 U***	***0.270 U***	***0.070 U***	***1.7 U***	***0.270 U***	***0.070 U***	***1.7 U***	***0.270 U***	***0.071 U***	***1.7 U***	***1.3 U***
Dibenz(a,h)anthracene	NA	0.040 U	0.890 U	0.550 U	0.040 U	0.880 U	0.550 U	0.040 U	0.880 U	0.550 U	0.040 U	0.880 U	2.8 U
Fluoranthene	50	0.050 U	1.2 U	0.200 U	0.050 U	1.2 U	0.200 U	**1.5**	1.2 U	0.200 U	**0.7**	1.2 U	1.0 U
Fluorene	50	**0.7**	1.4 U	0.290 U	**0.1 J**	1.4 U	0.290 U	0.1 UJ	1.4 U	0.290 U	**9.7 J**	**7.4 J**	**11 J**
Indeno(1,2,3-cd)pyrene	0.002	***0.080 U***	***0.850 U***	***0.670 U***	***0.080 U***	***0.840 U***	***0.670 U***	***0.080 U***	***0.840 U***	***0.670 U***	***0.081 U***	***0.840 U***	***3.4 U***
Naphthalene	10	**1.8**	1.4 U	0.290 U	0.040 U	1.4 U	0.290 U	**1.1**	1.4 U	0.290 U	**1.5**	1.4 U	1.4 U
Phenanthrene	50	**0.6**	1.5 U	1.4 U	**0.4**	1.4 U	1.4 U	**1.3**	1.4 U	1.4 U	0.1 U	1.4 U	6.9 U
Pyrene	50	0.070 U	1.5 U	1.4 U	**0.1**	1.5 U	1.4 U	**2.0**	1.5 U	1.4 U	**0.4**	1.5 U	7.2 U
BAP Equivalents	NA	0	0	0	0	0	0	0	0	0	0	0	0
Total PAH	NA	**4.6**	0	0	**5.5**	0	0	**14.1**	**2.6**	**4.3**	**63.3**	**52.4**	**95**

Notes:

NYSDEC Groundwater Standards - New York State Department of Environmental Conservation Ambient Water Quality Standards or Guidance Values (AWQSGVs) listed in Technical and Operations Guidance Series (TOGs) 1.1.1 (NYSDEC 1998)

Bold = Detected analytes

Bold and Italics= Not detect exceeds NYSDEC AWQSGVs

Yellow highlighted values exceed NYSDEC AWQSGVs

NA = Not Applicable

NS= Not Sampled

ug/L = micrograms per Liter

mg/L = milligrams per Liter

1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)

U = Non-detected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.

J- = (Inorganics) The result is an estimated quantity, but the result may be biased low.

R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.

D = Diluted run

DL = Detection Limit

Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-1 Monitoring Wells											
		21MWS01			21MWD01			21MWS02			21MWD02		
Sample Date	AWQSGVs	4/20/2004	5/23/2006	8/28/2008	4/20/2004	5/23/2006	8/28/2008	4/19/2004	5/16/2006	8/29/2008	4/19/2004	5/16/2006	8/29/2008
(SVOCs) (ug/L)													
1,1-Biphenyl	5	NS	1.4 U	0.330 U	NS	1.4 U	0.330 U	NS	1.4 U	0.330 U	NS	1.4 U	1.6 U
2,4-Dimethylphenol	50	0.8 U	1.2 U	0.780 U	0.8 U	1.2 U	0.780 U	0.8 U	1.2 U	0.780 U	0.8 U	1.2 U	3.9 U
2-Methylnaphthalene	NA	**2.5**	1.1 U	0.380 U	0.5 U	1.1 U	0.380 U	0.5 U	1.1 U	0.380 U	0.5 U	1.1 U	1.9 U
2-Methylphenol	NA	0.8 U	1.5 U	0.370 U	0.8 U	1.5 U	0.370 U	0.8 U	1.5 U	0.370 U	0.8 U	1.5 U	1.8 U
3+4-Methylphenols	NA	NS	1.3 U	0.400 U	NS	1.3 U	0.400 U	NS	1.3 U	0.400 U	NS	1.3 U	2.0 U
4-Methylphenol	NA	0.5 U	NS	NS	0.5 U	NS	NS	0.5 U	NS	NS	0.5 U	NS	NS
bis(2-Ethylhexyl) phthalate	5	**0.6**	1.6 U	1.3 U	0.6 U	1.6 U	1.3 U	0.6 U	**1.7 J**	1.3 U	0.8 U	1.6 U	6.6 U
Butyl benzyl phthalate	50	0.4 U	1.5 U	0.430 U	0.4 U	1.5 U	0.430 U	0.4 U	1.5 U	0.430 U	0.4 U	1.5 U	2.1 U
Caprolactam	NA	NS	**1.3 R**	1.5 R	NS	**1.3 R**	1.5 R	NS	**1.3 R**	1.5 R	NS	**1.3 R**	7.6 R
Carbazole	NA	**0.2**	1.3 U	0.240 U	0.080 U	1.3 U	0.240 U	0.080 U	1.3 U	0.240 U	0.081 U	1.3 U	1.2 U
Dibenzofuran	NA	0.3 U	1.3 U	0.320 U	0.3 U	1.3 U	0.320 U	0.3 U	1.3 U	0.320 U	0.3 U	1.3 U	1.6 U
Diethyl phthalate	50	0.2 U	1.4 U	0.330 UJ	0.2 U	1.4 U	0.330 UJ	0.2 U	1.4 U	0.330 UJ	0.3 U	1.4 U	1.6 UJ
Phenol	1	0.5 U	***1.3 R***	0.560 R	0.5 U	***1.3 R***	0.560 R	0.5 U	***1.3 U***	0.560 R	0.5 U	***1.3 U***	2.8 R
Total SVOCs	NA	**7.9**	0	0	**5.5**	0	0	**14.1**	**4.3**	**4.3**	**63.3**	**52.4**	**95**
Metals (ug/L)													
Aluminum	NA	**1440**	**47.4 J**	NS	**1020**	**164 J**	NS	**435**	200 U	NS	**6110**	**439**	NS
Antimony	3	***5.8 U***	***60 U***	NS	***5.8 U***	***60 U***	NS	***5.8 U***	***3.170 U***	NS	***3.9 U***	**118**	NS
Arsenic	25	**4.7**	3.3 U	NS	**22.0**	**38.7**	NS	3.2 U	3.320 U	NS	**6.2**	3.320 U	NS
Barium	1000	**262**	**45.5 J**	NS	**221**	**264 J**	NS	**154**	**304 J**	NS	**414**	**488 J**	NS
Beryllium	3	0.30 U	***5 U***	NS	0.30 U	***5 U***	NS	0.30 U	***5 U***	NS	**0.40**	***5 U***	NS
Cadmium	5	0.40 U	0.33 U	NS	0.40 U	0.33 U	NS	0.40 U	5 U	NS	0.40 U	5 U	NS
Calcium	NA	**306000**	**255000**	NS	**81800**	**80600**	NS	**133000**	**187000 J**	NS	**23400**	**37500 J**	NS
Chromium	50	**5.0**	**174 J-**	NS	**4.2**	**115 J-**	NS	1.6 U	10 U	NS	**18.2**	10 U	NS
Cobalt	NA	1.7 U	50 U	NS	1.7 U	50 U	NS	1.7 U	50 U	NS	**18.2**	50 U	NS
Copper	200	**5.2**	**5.5 J**	NS	**5.2**	3.6 U	NS	3.7 U	3.640 U	NS	**28.1**	**9.470 J**	NS
Iron	300	**10400**	**800 J-**	NS	**15700**	**22300 J-**	NS	**3640**	**3030**	NS	**57700**	**55500**	NS
Lead	25	2.3 U	2.8 U	NS	**3.5**	5 U	NS	**21.1**	**4.560 J**	NS	**17.0**	**4.160 J**	NS
Magnesium	35000	**76900**	**51600**	NS	**41500**	**35100**	NS	**26800**	**32200 J**	NS	**11000**	**13500 J**	NS
Manganese	300	**1650**	**185**	NS	**1090**	**729**	NS	**347**	**323 J**	NS	**406**	**444 J**	NS
Mercury	0.7	0.10 U	0.2 U	NS	0.10 U	0.0300 U	NS	0.10 U	0.0300 UJ	NS	0.10 U	0.0300 UJ	NS
Nickel	100	**5.4**	**65.5 J-**	NS	**3.6**	**44.9 J-**	NS	1.6 U	40 U	NS	**19.1**	40 U	NS
Potassium	NA	**52900**	**22400 J**	NS	**30000**	**47100 J**	NS	**10500**	**27400 J+**	NS	**26800**	**47100 J+**	NS
Selenium	10	8.4 U	**21.1**	NS	4.2 U	3.0 U	NS	4.2 U	3.040 U	NS	7.8 U	3.040 U	NS
Silver	50	2.8 U	1.6 U	NS	1.4 U	1.6 U	NS	1.4 U	1.640 U	NS	0.70 U	1.640 U	NS
Sodium	20000	**294000**	**84200**	NS	**311000**	**368000**	NS	**88700**	**177000 J**	NS	**162000**	**263000 J**	NS
Thallium	0.5	***4.7 U***	***3.1 U***	NS	***4.7 U***	***3.1 U***	NS	***4.7 U***	**19.7**	NS	***4.4 U***	***10 U***	NS
Vanadium	NA	**5.6**	50 U	NS	**4.1**	50 U	NS	1.8 U	50 U	NS	**22.9**	50 U	NS
Zinc	2000	**21.6**	**25.7 J**	NS	**12.9**	**24.7 J**	NS	**13.0**	**21.1 J**	NS	**51.2**	**27.7 J**	NS
Cyanide (ug/L)													
Available Cyanide	NA	NS	1.5 U	NS	NS	**3.1**	NS	NS	1.5 UJ	NS	NS	1.5 UJ	NS
Cyanide, Total	200	**27**	**124**	NS	10 U	10 U	NS	**28**	**16**	NS	**120**	**50**	NS

Notes:

NYSDEC Groundwater Standards - New York State Department of Environmental Conservation Ambient Water Quality Standards or Guidance Values (AWQSGVs) listed in Technical and Operations Guidance Series (TOGs) 1.1.1 (NYSDEC 1998)

Bold = Detected analytes

***Bold and Italics*=** Not detect exceeds NYSDEC AWQSGVs

Yellow highlighted values exceed NYSDEC AWQSGVs

NA = Not Applicable

NS= Not Sampled

ug/L = micrograms per Liter

mg/L = milligrams per Liter

1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)

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Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-1 Monitoring Wells															
		21MWS03				21MWD03	21MWDD03			21MWS04			21MWD04	21MWDD04	21MWS05		
Sample Date	AWQSGVs	4/22/2004	5/23/2006	5/23/2006 DUP	9/2/2008	5/23/2006	4/12/2006	5/23/2006	9/2/2008	4/22/2004	5/25/2006	9/2/2008	5/25/2006	5/25/2006	4/21/2004	5/17/2006	9/4/2008
BTEX (ug/L)																	
Benzene	1	**3.5**	**2.9 J**	**5.6**	**4.5**	**46000 D**	**3900 D**	**4100 D**	**17000**	**540**	**330 D**	**11000**	**360 D**	**5500 JD**	**0.4**	0.39 U	0.35 U
Ethylbenzene	5	**8.5**	0.45 UJ	0.45 U	0.03 U	**3900 D**	1.00 U	**24**	**8.6 J**	**380**	**110**	**1100**	**92 D**	**1600 JD**	0.4 U	0.45 U	0.05 U
m,p-Xylene	NA	NS	1.2 UJ	1.2 U	0.27 U	**2700 D**	**32**	**19**	0.47 UJ	NS	**28**	**70 J**	**57 JD**	**1100 JD**	NS	1.2 U	0.47 U
o-Xylene	NA	NS	0.46 UJ	0.46 U	0.09 U	**1200 D**	**14**	**6.8**	0.16 UJ	NS	**23**	**63 J**	**200**	**530 JD**	NS	0.46 U	0.16 U
Toluene	5	**1.0**	0.36 UJ	0.36 U	0.09 U	**22000 D**	**45**	**29**	0.16 UJ	**8.7**	**3.2 J**	**21 J**	**150 D**	**94 J**	0.2 U	0.36 U	0.16 U
Total Xylene (calculated)	5	**5.2**	0	0	0	**3900**	**46**	**25.8**	0	**120**	**51**	**133**	**257**	**1630**	0.2 U	0	0
(VOCs) (ug/L)																	
1,1,2-Trichloroethane	1	0.3 U	0.41 U	0.41 U	0.19 U	0.41 U	1.00 U	0.41 U	0.32 UJ	***3.4 U***	0.41 U	0.32 UJ	0.41 U	0.41 U	0.3 U	0.41 U	0.32 U
1,1-Dichloroethene	5	0.4 U	0.42 U	0.42 U	0.39 U	0.42 U	1.00 U	0.42 U	0.67 UJ	4.3 U	0.42 U	0.67 UJ	0.42 U	0.42 U	0.4 U	0.42 UJ	0.67 U
1,2-Dibromoethane (EDB)	0.6	NS	0.32 UJ	0.32 UJ	0.15 U	0.32 UJ	***1.00 U***	0.32 UJ	0.26 UJ	NS	**0.32 R**	0.26 UJ	**0.32 R**	**0.32 R**	NS	0.32 U	0.26 U
1,2-Dichloroethane	0.6	0.3 U	0.34 U	0.34 U	0.24 U	0.34 U	***1.00 U***	0.34 U	0.41 UJ	***2.6 U***	0.34 U	0.41 UJ	0.34 U	**60 J**	0.3 U	0.34 U	0.41 U
1,2-Dichloropropane	1	0.2 U	0.40 U	0.40 U	0.27 U	0.40 U	1.00 U	0.40 U	0.46 UJ	***2.3 U***	0.40 U	0.46 UJ	0.40 U	0.40 U	0.2 U	0.40 U	0.46 U
2-Butanone (Methyl Ethyl Ketone)	50	2.5 U	1.1 U	1.1 U	1.1 U	1.1 U	5.00 U	1.1 U	1.9 UJ	25 U	1.1 U	1.9 UJ	1.1 U	1.1 U	2.5 U	1.1 UJ	1.9 U
2-Hexanone	50	1.0 U	1.7 U	1.7 U	1.0 UJ	1.7 U	5.00 U	1.7 U	1.8 UJ	9.7 U	1.7 U	1.8 UJ	1.7 U	1.7 U	1.0 U	1.7 U	1.8 U
Acetone	50	1.0 U	2.3 U	2.3 U	1.3 U	2.3 U	5.00 U	2.3 U	2.2 UJ	9.7 U	2.3 U	**19 J**	2.3 U	2.3 U	1.0 U	**2.3 R**	2.2 U
Bromodichloromethane	50	0.4 U	0.33 U	0.33 U	0.13 U	0.33 U	1.00 U	0.33 U	0.23 UJ	3.6 U	0.33 U	0.23 UJ	**4.6 J**	0.33 U	0.4 U	0.33 U	0.23 U
Bromomethane	5	0.4 U	0.41 U	0.41 U	0.80 U	0.41 U	1.00 U	0.41 U	1.4 UJ	4.4 U	0.41 U	1.4 UJ	0.41 U	0.41 U	0.4 U	0.41 U	1.4 U
Carbon Disulfide	60	0.2 U	0.40 U	0.40 UJ	0.12 U	0.40 U	1.00 U	0.40 U	0.20 UJ	2.4 UJ	0.40 U	0.20 UJ	0.40 U	0.40 U	0.2 U	0.40 UJ	0.20 U
Chlorobenzene	5	0.2 U	0.47 U	0.47 U	0.16 U	0.47 U	1.00 U	0.47 U	0.28 UJ	1.8 U	0.47 U	0.28 UJ	0.47 U	0.47 U	0.2 U	0.47 U	0.28 U
Chloroform	7	0.2 U	0.33 U	0.33 U	0.26 U	0.33 U	1.00 U	0.33 U	0.45 UJ	1.9 U	0.33 U	0.45 UJ	0.33 U	0.33 U	0.2 U	0.33 U	0.45 U
Chloromethane	5	0.5 U	0.34 UJ	0.34 UJ	0.22 U	**7.2 J**	1.00 U	0.34 UJ	0.37 UJ	4.6 U	0.34 U	0.37 UJ	0.34 U	0.34 U	0.5 U	0.34 UJ	0.37 U
cis-1,2-Dichloroethene	5	0.2 U	0.29 U	0.29 U	0.42 U	0.29 U	1.00 U	0.29 U	0.72 UJ	2.4 U	0.29 U	0.72 UJ	0.29 U	0.29 U	0.2 U	0.29 U	0.72 U
cis-1,3-Dichloropropene	0.4	0.2 U	0.36 UJ	0.36 UJ	0.17 U	**310 J**	***1.00 U***	0.36 U	0.29 UJ	***2.4 U***	0.36 UJ	0.29 UJ	0.36 UJ	0.36 UJ	0.2 U	0.36 U	0.29 U
Cyclohexane	NA	NS	0.36 U	0.36 UJ	0.33 U	**3.2 J**	NS	0.36 U	0.57 UJ	NS	0.36 U	**78**	0.36 U	0.36 U	NS	0.36 U	0.57 U
Isopropylbenzene	5	NS	0.44 UJ	0.44 U	0.22 U	**71**	1.00 U	0.44 U	0.37 UJ	NS	**39**	**38 J**	**84**	**58 J**	NS	**1.8 J**	0.37 U
Methyl Acetate	NA	NS	0.20 U	0.20 U	0.26 U	0.20 U	NS	0.20 U	0.45 UJ	NS	0.20 U	0.45 UJ	0.20 U	0.20 U	NS	0.20 UJ	0.45 U
Methyl tert-butyl ether	10	NS	0.28 U	0.28 U	0.13 U	0.28 U	2.00 U	0.28 U	0.23 UJ	NS	0.28 U	0.23 UJ	0.28 U	0.28 U	NS	0.28 U	0.23 U
Methylcyclohexane	NA	NS	0.34 UJ	0.34 UJ	0.27 U	**5.9**	NS	0.34 U	0.47 UJ	NS	0.34 U	**34 J**	0.34 U	**35 J**	NS	0.34 U	0.47 U
Naphthalene	10	NS	NS	NS	NS	NS	**35**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Styrene	5	0.3 U	0.41 UJ	0.41 U	0.11 U	**170**	1.00 U	0.41 U	0.19 UJ	2.8 U	0.41 U	0.19 UJ	**8.1**	**20 J**	0.3 U	0.41 U	0.19 U
Tetrachloroethene	5	0.3 U	0.48 U	0.48 U	0.57 U	0.48 U	1.00 U	0.48 U	0.97 UJ	3.1 U	0.48 U	0.97 UJ	0.48 U	0.48 U	0.3 U	0.48 U	0.97 U
trans-1,2-Dichloroethene	5	0.2 UJ	0.40 U	0.40 U	0.26 U	0.40 U	1.00 U	0.40 U	0.44 UJ	2.5 U	0.40 U	0.44 UJ	0.40 U	0.40 U	0.2 U	0.40 UJ	0.44 U
trans-1,3-Dichloropropene	0.4	0.2 U	0.32 UJ	0.32 UJ	0.18 U	0.32 U	***1.00 U***	0.32 U	0.31 UJ	***2.1 U***	0.32 UJ	0.31 UJ	**6.1 J**	0.32 UJ	0.2 U	0.32 U	0.31 U
Trichloroethene	5	0.2 U	0.46 U	0.46 U	0.20 U	0.46 U	1.00 U	0.46 U	0.34 UJ	1.8 U	0.46 U	0.34 UJ	0.46 U	0.46 U	0.2 U	0.46 UJ	0.34 U
Vinyl Chloride	2	0.5 U	0.33 U	0.33 U	0.17 U	0.33 U	1.00 U	0.33 U	0.30 UJ	***5.3 U***	0.33 U	0.30 UJ	0.33 U	0.33 U	0.5 U	0.33 UJ	0.30 U
Total VOCs	NA	**18.2**	**2.9**	**5.6**	**4.5**	**76367.3**	**4026**	**4178.8**	**17008.6**	**1048.7**	**533.2**	**12423**	**961.8**	**8997**	**0.4**	**1.8**	0
(PAHs) (ug/l)																	
Acenaphthene	20	**49**	**16**	**18**	**33 J**	**31**	NS	**4.5 J**	1.6 U	**76**	**49**	**46 J**	**210 D**	**110 D**	**0.1**	1.4 U	0.330 U
Acenaphthylene	NA	0.070 U	1.3 U	1.3 U	1.8 U	**110**	NS	**13**	1.8 U	0.7 U	1.3 U	1.8 U	**26**	**4.1 J**	0.071 U	1.3 U	0.360 U
Anthracene	50	**3.2**	1.4 U	1.4 U	7.3 U	**5.6 J**	NS	**2.4 J**	7.3 U	**9.7**	**7.1 J**	7.3 U	**17**	**7.9 J**	0.081 U	1.4 U	1.4 U
Benzo(a)anthracene	0.002	***0.2 U***	***1.1 U***	***1.1 U***	***6.7 U***	***1.1 U***	NS	***1.1 U***	***6.7 U***	***1.6 U***	***1.1 U***	***6.7 U***	***1.1 U***	***1.1 U***	***0.2 U***	***1.1 U***	***1.3 U***
Benzo(a)pyrene	NA	0.080 U	1.2 U	1.2 U	1.1 U	1.2 U	NS	1.2 U	1.1 U	0.8 U	1.2 U	1.1 U	1.2 U	1.2 U	0.081 U	1.2 U	0.220 U
Benzo(b)fluoranthene	0.002	***0.2 U***	***0.760 U***	***0.760 U***	***2.2 U***	***0.760 U***	NS	***0.760 U***	***2.2 U***	***1.7 U***	***0.760 U***	***2.2 U***	***0.760 U***	***0.760 U***	***0.2 U***	***0.760 U***	***0.440 U***
Benzo(ghi)perylene	NA	0.060 U	1.1 U	1.1 U	2.0 U	1.1 U	NS	1.1 U	2.0 U	0.6 U	1.1 U	2.0 U	1.1 U	1.1 U	0.061 U	1.1 U	0.400 U
Benzo(k)fluoranthene	0.002	***0.2 U***	***1.9 U***	***1.9 U***	***1.5 U***	***1.9 U***	NS	***1.9 U***	***1.5 U***	***1.7 U***	***1.9 U***	***1.5 U***	***1.9 U***	***1.9 U***	***0.2 U***	***1.9 U***	***0.310 U***
Chrysene	0.002	***0.070 U***	***1.7 U***	***1.7 U***	***1.3 U***	***1.7 U***	NS	***1.7 U***	***1.3 U***	***0.7 U***	***1.7 U***	***1.3 U***	***1.7 U***	***1.7 U***	***0.071 U***	***1.7 U***	***0.270 U***
Dibenz(a,h)anthracene	NA	0.040 U	0.880 U	0.870 U	2.8 U	0.880 U	NS	0.870 U	2.8 U	0.4 U	0.870 U	2.8 U	0.870 U	0.870 U	0.040 U	0.880 U	0.550 U
Fluoranthene	50	**2.5 J**	**1.6 J**	**1.5 J**	1.0 U	**4.6 J**	NS	**3.0 J**	1.0 U	**6.2 J**	**3.9 J**	1.0 U	**9.5 J**	**4.7 J**	0.050 U	1.2 U	0.200 U
Fluorene	50	**8.8**	1.4 U	1.4 U	1.4 U	**32**	NS	**10 J**	1.4 U	**27**	**22**	**18 J**	**69**	**39**	0.1 U	1.4 U	0.290 U
Indeno(1,2,3-cd)pyrene	0.002	***0.080 U***	***0.840 UJ***	***0.840 U***	***3.4 U***	***0.840 UJ***	NS	***0.840 UJ***	***3.4 U***	***0.8 U***	***0.840 U***	***3.4 U***	***0.840 U***	***0.840 U***	***0.081 U***	***0.840 U***	***0.670 U***
Naphthalene	10	**5.2**	**2.9 J**	**4.9 J**	1.4 U	**6000 D**	NS	**140 D**	**5.4 J**	**1700**	**610 D**	**1200**	**2200 D**	**4300 D**	**0.2**	1.4 U	0.290 U
Phenanthrene	50	**11 J**	1.4 U	1.4 U	7.0 U	**37**	NS	**22**	7.0 U	**37 J**	**29**	**21 J**	**110 D**	**48**	**0.2**	1.4 U	1.4 U
Pyrene	50	**4.2**	**2.3 J**	**2.3 J**	7.3 U	**6.8 J**	NS	**4.2 J**	7.3 U	**9.2**	**5.2 J**	7.3 U	**13**	**6.5 J**	0.071 U	1.5 U	1.4 U
BAP Equivalents	NA	0	0	0	0	0	NS	0	0	0	0	0	0	0	0	0	0
Total PAH	NA	**83.9**	**22.8**	**26.7**	**33**	**6227**	NS	**199.1**	**5.4**	**1865.1**	**726.2**	**1285**	**2654.5**	**4520.2**	**0.5**	0	0

Notes:

NYSDEC Groundwater Standards - New York State Department of Environmental Conservation Ambient Water Quality Standards or Guidance Values (AWQSGVs) listed in Technical and Operations Guidance Series (TOGs) 1.1.1 (NYSDEC 1998)

Bold = Detected analytes

Bold and Italics= Not detect exceeds NYSDEC AWQSGVs

Yellow highlighted values exceed NYSDEC AWQSGVs

NA = Not Applicable

NS= Not Sampled

ug/L = micrograms per Liter

mg/L = milligrams per Liter

1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)

U = Non-detected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.

J- = (Inorganics) The result is an estimated quantity, but the result may be biased low.

R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.

D = Diluted run

DL = Detection Limit

Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-1 Monitoring Wells																
		21MWS03				21MWD03	21MWDD03			21MWS04			21MWD04	21MWDD04	21MWS05			
Sample Date	AWQSGVs	4/22/2004	5/23/2006	5/23/2006 DUP	9/2/2008	5/23/2006	4/12/2006	5/23/2006	9/2/2008	4/22/2004	5/25/2006	9/2/2008	5/25/2006	5/25/2006	4/21/2004	5/17/2006	9/4/2008	
(SVOCs) (ug/L)																		
1,1-Biphenyl	5	NS	1.4 U	1.4 U	1.6 U	1.4 U	NS	**11**	1.6 U	NS	**5.6 J**	**6.1 J**	**61 D**	**50**	NS	1.4 U	0.330 U	
2,4-Dimethylphenol	50	0.8 U	1.2 U	1.2 U	3.9 U	**90 D**	NS	1.2 U	3.9 U	8.9 U	1.2 U	**390**	**62 D**	1.2 UJ	0.8 U	1.2 U	0.780 U	
2-Methylnaphthalene	NA	**14**	**1.6 J**	**1.8 J**	1.9 U	**530 D**	NS	**31**	1.9 U	**230**	**120 D**	**60**	**340 D**	**380 D**	0.5 U	1.1 U	0.380 U	
2-Methylphenol	NA	0.8 U	1.5 U	1.5 U	1.9 U	1.5 U	NS	1.5 U	1.9 U	8.9 U	1.5 U	**25 J**	**1.9 J**	1.5 U	0.8 U	1.5 U	0.370 U	
3+4-Methylphenols	NA	NS	1.3 U	NS	2.0 U	**43**	NS	**2.1 J**	2.0 U	NS	1.3 U	**44 J**	**19 J**	**7.9 J**	NS	1.3 U	0.400 U	
4-Methylphenol	NA	0.5 U	NS	NS	NS	NS	NS	NS	NS	4.2 U	NS	NS	NS	NS	0.5 U	NS	NS	
bis(2-Ethylhexyl) phthalate	5	0.6 U	1.6 U	1.5 U	6.7 U	1.6 U	NS	1.5 U	6.7 U	***6.0 U***	1.5 U	6.7 U	1.5 U	1.5 U	0.6 U	1.6 U	1.3 U	
Butyl benzyl phthalate	50	0.4 U	1.5 U	1.4 U	2.2 U	1.5 U	NS	1.4 U	2.2 U	4.2 U	1.4 U	2.2 U	1.4 U	1.4 U	0.4 U	1.5 U	0.430 U	
Caprolactam	NA	NS	**1.3 R**	**1.3 R**	7.6 R	**1.3 R**	NS	**1.3 R**	7.6 R	NS	1.3 U	7.6 R	1.3 UJ	1.3 UJ	NS	**1.3 R**	1.5 U	
Carbazole	NA	**0.9**	1.3 U	1.3 U	1.2 U	**91 J**	NS	1.3 U	1.2 U	**17**	**14**	**14 J**	**97 D**	**18**	0.081 U	1.3 U	0.240 U	
Dibenzofuran	NA	**2.0**	1.3 U	1.3 U	1.6 U	**8.3 J**	NS	1.3 U	1.6 U	**11**	**6.9 J**	**5.6 J**	**32**	**5.4 J**	0.3 U	1.3 U	0.320 U	
Diethyl phthalate	50	0.2 U	1.4 U	1.3 U	1.6 U	1.4 U	NS	1.3 U	1.6 U	**3.7**	1.3 U	1.6 U	1.3 U	1.3 U	0.3 U	1.4 U	0.330 U	
Phenol	1	0.5 U	***1.3 R***	***1.3 R***	2.8 R	***1.3 R***	NS	**3.7 J**	2.8 R	**21**	**9.5 J**	**8.1 J**	**3.0 J**	**18**	0.5 U	***1.3 U***	0.560 UJ	
Total SVOCs	NA	**100.8**	**24.4**	**28.5**	**33**	**6989.3**	NS	**246.9**	**5.4**	**2147.8**	**882.2**	**1837.8**	**3270.4**	**4999.5**	**0.5**	0	0	
Metals (ug/L)																		
Aluminum	NA	**629**	**60.9 J**	**33.7 J**	NS	**105 J**	NS	**394**	NS	**3370**	**504**	NS	**15.5 J**	**622**	**391**	200 U	NS	
Antimony	3	***5.8 U***	***60 U***	***60 U***	NS	***60 U***	NS	***60 U***	NS	***5.8 U***	***3.170 U***	NS	***60 U***	***3.170 U***	**5.8**	***3.170 U***	NS	
Arsenic	25	**4.1**	3.3 U	3.3 U	NS	**3.9 J**	NS	3.3 U	NS	**5.6**	3.320 U	NS	3.320 U	**8.730 J**	3.2 U	3.320 U	NS	
Barium	1000	**324**	**245 J**	**265 J**	NS	**135 J**	NS	**69.2 J**	NS	**92.7**	200 U	NS	**435 J-**	200 U	**333**	**268 J**	NS	
Beryllium	3	0.30 U	***5 U***	***5 U***	NS	***5 U***	NS	***5 U***	NS	0.30 U	0.090 U	NS	0.090 U	0.090 U	0.30 U	***5 U***	NS	
Cadmium	5	0.40 U	0.33 U	0.33 U	NS	0.33 U	NS	0.33 U	NS	0.40 U	0.327 UJ	NS	0.327 UJ	0.327 UJ	0.40 U	5 U	NS	
Calcium	NA	**181000**	**124000**	**133000**	NS	**53500**	NS	**18600**	NS	**100000**	**77100 J**	NS	**211000 J**	**197000 J**	**264000**	**215000 J**	NS	
Chromium	50	**2.1**	**338 J-**	**244 J-**	NS	**116 J-**	NS	**310 J-**	NS	**6.8**	0.343 U	NS	**0.500 J**	**10.1**	**1.8**	10 U	NS	
Cobalt	NA	1.7 U	50 U	50 U	NS	50 U	NS	50 U	NS	**3.7**	0.370 UJ	NS	0.370 UJ	**0.690 J-**	**4.0**	50 U	NS	
Copper	200	**4.0**	**14.8 J**	**6.2 J**	NS	3.6 U	NS	**4.6 J**	NS	**11.9**	3.640 U	NS	3.640 U	3.640 U	**5.5**	**5.260 J**	NS	
Iron	300	**3950**	**1730 J-**	**1540 J-**	NS	**2460 J-**	NS	**3030 J-**	NS	**4120**	**415 J-**	NS	**8140 J-**	**2750 J-**	**4560**	**805**	NS	
Lead	25	**12.6**	5 U	2.8 U	NS	2.8 U	NS	2.8 U	NS	**18.3**	2.180 U	NS	2.180 U	2.180 U	**27.3**	**6.750**	NS	
Magnesium	35000	**42700**	**20400**	**22200**	NS	**54200**	NS	**30500**	NS	**3920**	**3800 J**	NS	**143000 J**	**348000 J**	**58900**	**41000 J**	NS	
Manganese	300	**389**	**168**	**187**	NS	**159**	NS	**275**	NS	**112**	**103 J-**	NS	**1180 J-**	**978 J-**	**607**	**322 J**	NS	
Mercury	0.7	0.10 U	0.0300 U	**0.2**	NS	0.0300 U	NS	0.2 U	NS	0.10 U	0.2 U	NS	0.2 U	0.2 U	**0.15**	0.0300 UJ	NS	
Nickel	100	**3.9**	**138 J-**	**113 J-**	NS	**42.1 J-**	NS	**113 J-**	NS	**24.9**	**8.960 J-**	NS	1.560 UJ	**4.460 J-**	**3.5**	40 U	NS	
Potassium	NA	**16800**	**14300 J**	**16100 J**	NS	**53000 J**	NS	**48000 J**	NS	**14800**	**20700**	NS	**72900**	**92500**	**27800**	**36800 J+**	NS	
Selenium	10	4.2 U	10 U	3.0 U	NS	3.0 U	NS	3.0 U	NS	**4.7**	3.040 U	NS	3.040 U	3.040 U	8.4 U	3.040 U	NS	
Silver	50	1.4 U	1.6 U	1.6 U	NS	1.6 U	NS	1.6 U	NS	1.4 U	1.640 U	NS	1.640 U	1.640 U	2.8 U	1.640 U	NS	
Sodium	20000	**120000**	**53100**	**62500**	NS	**243000**	NS	**882000**	NS	**54800**	**51500**	NS	**652000**	**5120000 D**	**160000**	**157000 J**	NS	
Thallium	0.5	***4.7 U***	***3.1 U***	***3.1 U***	NS	***3.1 U***	NS	***3.1 U***	NS	***4.7 U***	***3.050 U***	NS	***3.050 U***	***3.050 U***	***4.7 U***	***3.050 U***	NS	
Vanadium	NA	1.8 U	50 U	50 U	NS	50 U	NS	50 U	NS	**18.5**	**3.300 J**	NS	**1.720 J**	**3.660 J**	1.8 U	50 U	NS	
Zinc	2000	**19.3**	**38.6 J**	**22.4 J**	NS	**45.8 J**	NS	**22.9 J**	NS	**21.9**	**8.870 J-**	NS	**14.6 J-**	**19.0 J-**	**22.4**	**33.8 J**	NS	
Cyanide (ug/L)																		
Available Cyanide	NA	NS	1.5 U	1.5 U	NS	1.5 U	NS	1.5 U	NS	NS	1.5 U	NS	**1.7 J**	**1.5 J**	NS	**1.6 J**	NS	
Cyanide, Total	200	**46**	**48**	**51**	NS	**33**	NS	**30**	NS	10 U	**13**	NS	**16**	10 U	**85**	10 U	NS	

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Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-1 Monitoring Wells														
		21MWD05			21MWS06			21MWD06			21MWS07			21MWD07	
Sample Date	AWQSGVs	4/21/2004	5/17/2006	9/4/2008	4/21/2004	5/17/2006	9/11/2008	4/21/2004	5/17/2006	8/29/2008	4/21/2004	5/18/2006	8/29/2008	4/21/2004	5/23/2006
BTEX (ug/L)															
Benzene	1	**0.5**	**3.3 J**	0.35 U	**0.6**	0.39 U	**9.1**	**1.3**	0.39 U	0.35 U	**8.5**	**10**	0.35U	**6600**	**2300 D**
Ethylbenzene	5	0.4 U	0.45 U	0.05 U	0.4 U	**2.6 J**	0.05 U	0.4 U	**2.6 J**	0.05 U	0.4 U	0.45 U	0.05U	**990**	**180 JD**
m,p-Xylene	NA	NS	1.2 U	0.47 U	NS	1.2 U	0.47 U	NS	1.2 U	0.47 U	NS	1.2 U	0.47U	NS	**200 JD**
o-Xylene	NA	NS	0.46 U	0.16 U	NS	0.46 U	0.16 U	NS	0.46 U	0.16 U	NS	0.46 U	0.16U	NS	**210 JD**
Toluene	5	0.2 U	0.36 U	0.16 U	0.2 U	0.36 U	0.16 U	**0.4**	0.36 U	0.16 U	0.2 U	0.36 U	0.16 U	**590**	**120 JD**
Total Xylene (calculated)	5	**1.1**	0	0	0.2 U	0	0	0.2 U	0	0	**0.4**	0	0	**1700**	**410**
(VOCs) (ug/L)															
1,1,2-Trichloroethane	1	0.3 U	0.41 U	0.32 U	0.3 U	0.41 U	0.32 U	0.3 U	0.41 U	0.32 U	0.3 U	0.41 U	0.32 U	***34 U***	0.41 U
1,1-Dichloroethene	5	0.4 U	0.42 UJ	0.67 U	0.4 U	0.42 U	0.67 U	0.4 U	0.42 U	0.67 U	0.4 U	0.42 UJ	0.67 U	***43 U***	0.42 U
1,2-Dibromoethane (EDB)	0.6	NS	0.32 U	0.26 U	NS	0.32 U	0.26 U	NS	0.32 U	0.26 U	NS	0.32 U	0.26 U	NS	0.32 UJ
1,2-Dichloroethane	0.6	0.3 U	0.34 U	0.41 U	0.3 U	0.34 U	0.41 U	0.3 U	0.34 U	0.41 U	0.3 U	0.34 U	0.41 U	***26 U***	0.34 U
1,2-Dichloropropane	1	0.2 U	0.40 U	0.46 U	0.2 U	0.40 U	0.46 U	0.2 U	0.40 U	0.46 U	0.2 U	0.40 U	0.46 U	***23 U***	0.40 U
2-Butanone (Methyl Ethyl Ketone)	50	2.5 U	1.1 UJ	1.9 U	2.5 U	1.1 U	1.9 U	2.5 U	1.1 U	1.9 U	2.5 U	1.1 UJ	1.9 U	***250 U***	1.1 U
2-Hexanone	50	1.0 U	1.7 U	1.8 U	1.0 U	1.7 U	1.8 U	1.0 U	1.7 U	1.8 U	1.0 U	1.7 U	1.8 U	***97 U***	1.7 U
Acetone	50	1.0 U	**2.3 R**	2.2 U	1.0 U	**2.3 R**	2.2 U	1.0 U	**2.3 R**	2.2 U	1.0 U	**2.3 R**	2.2 U	***97 U***	2.3 U
Bromodichloromethane	50	0.4 U	0.33 U	0.23 U	0.4 U	0.33 U	0.23 U	0.4 U	0.33 U	0.23 U	0.4 U	0.33 U	0.23 U	36 U	0.33 U
Bromomethane	5	0.4 U	0.41 U	1.4 U	0.4 U	0.41 UJ	1.4 U	0.4 U	0.41 UJ	1.4 U	0.4 U	0.41 U	1.4 U	***44 U***	0.41 U
Carbon Disulfide	60	0.2 U	0.40 UJ	0.20 U	0.2 U	0.40 U	0.20 U	0.2 U	0.40 U	0.20 U	0.2 U	0.40 UJ	0.20 U	24 U	0.40 UJ
Chlorobenzene	5	0.2 U	0.47 U	0.28 U	0.2 U	0.47 U	0.28 U	0.2 U	0.47 U	0.28 U	0.2 U	0.47 U	0.28 U	***18 U***	0.47 U
Chloroform	7	0.2 U	0.33 U	0.45 U	**0.5**	0.33 U	0.45 U	**1.0**	0.33 U	0.45 U	0.2 U	0.33 U	0.45 U	***19 U***	0.33 U
Chloromethane	5	0.5 U	0.34 UJ	0.37 U	0.5 U	0.34 UJ	0.37 U	0.5 U	0.34 UJ	0.37 U	0.5 U	0.34 UJ	0.37 U	***46 U***	0.34 UJ
cis-1,2-Dichloroethene	5	**47**	0.29 U	**43 J**	0.2 U	0.29 U	0.72 U	**11**	**10 J**	**14**	0.2 U	0.29 U	0.72 U	***24 U***	0.29 U
cis-1,3-Dichloropropene	0.4	0.2 U	0.36 U	0.29 U	0.2 U	0.36 U	0.29 U	0.2 U	0.36 U	0.29 U	0.2 U	0.36 U	0.29 U	***24 U***	0.36 UJ
Cyclohexane	NA	NS	0.36 U	0.57 U	NS	0.36 U	0.57 U	NS	0.36 U	0.57 U	NS	**2.5 J**	0.57 U	NS	0.36 UJ
Isopropylbenzene	5	NS	0.44 U	0.37 U	NS	0.44 U	**8.3**	NS	0.44 U	0.37 U	NS	**2.9 J**	0.37 U	NS	**39**
Methyl Acetate	NA	NS	0.20 UJ	0.45 U	NS	0.20 UJ	0.45 U	NS	0.20 UJ	0.45 U	NS	0.20 UJ	0.45 U	NS	0.20 U
Methyl tert-butyl ether	10	NS	0.28 U	0.23 U	NS	0.28 U	0.23 U	NS	0.28 U	0.23 U	NS	0.28 U	0.23 U	NS	0.28 U
Methylcyclohexane	NA	NS	0.34 U	0.47 U	NS	0.34 U	0.47 U	NS	0.34 U	0.47 U	NS	0.34 U	0.47 U	NS	**3.4 J**
Naphthalene	10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Styrene	5	0.3 U	0.41 U	0.19 U	0.3 U	0.41 U	0.19 U	0.3 U	0.41 U	0.19 U	0.3 U	0.41 U	0.19 U	***28 U***	**6.2**
Tetrachloroethene	5	0.3 U	0.48 UJ	0.97 U	0.3 U	0.48 U	0.97 U	**0.4**	**0.67 J**	0.97 U	0.3 U	0.48 UJ	0.97 U	***31 U***	0.48 U
trans-1,2-Dichloroethene	5	**2.4**	0.40 UJ	0.44 U	0.2 U	0.40 U	0.44 U	**0.4**	0.40 U	0.44 U	0.2 U	0.40 UJ	0.44 U	***25 U***	0.40 U
trans-1,3-Dichloropropene	0.4	0.2 U	0.32 U	0.31 U	0.2 U	0.32 U	0.31 U	0.2 U	0.32 U	0.31 U	0.2 U	0.32 U	0.31 U	***21 U***	0.32 U
Trichloroethene	5	**0.8**	0.46 U	0.34 U	0.2 U	0.46 U	0.34 U	**10**	**7.0 J**	0.34 U	0.2 U	0.46 U	0.34 U	***18 U***	0.46 U
Vinyl Chloride	2	**4**	0.33 UJ	**5.2 J**	0.5 U	0.33 UJ	0.30 U	0.5 U	0.33 UJ	0.30 U	0.5 U	0.33 UJ	0.30 U	***53 U***	0.33 U
Total VOCs	NA	**55.8**	**3.3**	**48.2**	**1.1**	**2.6**	**17.4**	**24.5**	**20.27**	**14**	**8.9**	**15.4**	0	**9880**	**3058.6**
(PAHs) (ug/l)															
Acenaphthene	20	**2.3**	1.4 U	0.330 U	**7.8**	1.4 U	**1.5 J**	**0.3**	1.4 U	0.330 U	**18**	**21**	**8.8 J**	**64**	**77**
Acenaphthylene	NA	**3.0**	1.3 U	0.360 U	0.071 U	1.3 U	0.360 U	0.074 U	1.3 U	0.360 U	0.076 U	1.3 U	0.360 U	**45**	**8.0 J**
Anthracene	50	**5.0**	1.4 U	1.4 U	**0.2**	1.4 U	1.4 U	0.084 U	1.4 U	1.4 U	**0.8**	1.4 U	1.4 U	8.0 U	**12**
Benzo(a)anthracene	0.002	**0.7**	***1.1 U***	***1.3 U***	***0.2 U***	***1.1 U***	***1.3 U***	***0.2 U***	***1.1 U***	***1.3 U***	***0.2 U***	***1.1 U***	***1.3 U***	***15 U***	***1.1 U***
Benzo(a)pyrene	NA	**0.3**	1.2 U	0.220 U	0.082 U	1.2 U	0.220 U	0.084 U	1.2 U	0.220 U	0.087 U	1.2 U	0.220 U	8.0 U	1.2 U
Benzo(b)fluoranthene	0.002	**0.1 J**	***0.760 U***	***0.440 U***	***0.2 U***	***0.760 U***	***0.440 U***	***0.2 U***	***0.760 U***	***0.440 U***	***0.2 U***	***0.760 U***	***0.440 U***	***16 U***	***0.760 U***
Benzo(ghi)perylene	NA	0.062 U	1.1 U	0.400 U	0.061 U	1.1 U	0.400 U	0.063 U	1.1 U	0.400 U	0.065 U	1.1 U	0.400 U	6.0 U	1.1 U
Benzo(k)fluoranthene	0.002	**0.2**	***1.9 U***	***0.310 U***	***0.2 U***	***1.9 U***	***0.310 U***	***0.2 U***	***1.9 U***	***0.310 U***	***0.2 U***	***1.9 U***	***0.310 U***	***16 U***	***1.9 U***
Chrysene	0.002	**0.9**	***1.7 U***	***0.270 U***	***0.071 U***	***1.7 U***	***0.270 U***	***0.074 U***	***1.7 U***	***0.270 U***	***0.076 U***	***1.7 U***	***0.270 U***	***7.0 U***	***1.7 U***
Dibenz(a,h)anthracene	NA	0.041 U	0.880 U	0.550 U	0.041 U	0.880 U	0.550 U	0.042 U	0.880 U	0.550 U	0.043 U	0.880 U	0.550 U	4.0 U	0.880 U
Fluoranthene	50	**6.5**	1.2 U	0.200 U	**0.8**	1.2 U	0.200 U	**0.4**	1.2 U	0.200 U	**0.9**	1.2 U	0.200 U	5.0 U	**6.9 J**
Fluorene	50	**6.0**	1.4 U	0.290 U	0.1 U	1.4 U	0.290 U	**0.3**	1.4 U	0.290 U	**4.0**	**3.4 J**	**1.1 J**	**87**	**58**
Indeno(1,2,3-cd)pyrene	0.002	***0.082 U***	***0.840 U***	***0.670 U***	***0.082 U***	***0.840 U***	***0.670 U***	***0.084 U***	***0.840 U***	***0.670 U***	***0.087 U***	***0.840 U***	***0.670 U***	***8.0 U***	***0.840 UJ***
Naphthalene	10	**15**	1.4 U	0.290 U	**1.0**	1.4 U	0.290 U	**1.1**	1.4 U	0.290 U	**5.6**	1.4 U	0.290 U	**13000**	**2200 D**
Phenanthrene	50	**16**	1.4 U	1.4 U	0.1 U	1.4 U	1.4 U	**1.2**	1.4 U	1.4 U	**2.4**	1.4 U	1.4 U	**98**	**65**
Pyrene	50	**6.4**	1.5 U	1.4 U	**1.0**	1.5 U	1.4 U	**0.6**	1.5 U	1.4 U	**0.8**	1.5 U	1.4 U	7.0 U	**8.3 J**
BAP Equivalents	NA	**0.3829**	0	0	0	0	0	0	0	0	0	0	0	0	0
Total PAH	NA	**62.4**	0	0	**10.8**	0	**1.5**	**3.9**	0	0	**32.5**	**24.4**	**9.9**	**13294**	**2435.2**

Notes:

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Bold = Detected analytes

***Bold and Italics*=** Not detect exceeds NYSDEC AWQSGVs

Yellow highlighted values exceed NYSDEC AWQSGVs

NA = Not Applicable

NS= Not Sampled

ug/L = micrograms per Liter

mg/L = milligrams per Liter

1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)

U = Non-detected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.

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R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.

D = Diluted run

DL = Detection Limit

Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-1 Monitoring Wells													
		21MWD05			21MWS06			21MWD06			21MWS07			21MWD07	
Sample Date	AWQSGVs	4/21/2004	5/17/2006	9/4/2008	4/21/2004	5/17/2006	9/11/2008	4/21/2004	5/17/2006	8/29/2008	4/21/2004	5/18/2006	8/29/2008	4/21/2004	5/23/2006
(SVOCs) (ug/L)															
1,1-Biphenyl	5	NS	1.4 U	0.330 U	NS	1.4 U	0.330 U	NS	1.4 U	0.330 U	NS	1.4 U	0.330 U	NS	**46**
2,4-Dimethylphenol	50	0.9 U	1.2 U	0.780 U	0.9 U	1.2 U	0.780 UJ	0.9 U	1.2 U	0.780 UJ	0.9 U	1.2 U	0.780 R	**1700**	**410 D**
2-Methylnaphthalene	NA	**6.3**	1.1 U	0.380 U	0.5 U	1.1 U	0.380 U	0.5 U	1.1 U	0.380 U	**0.7**	**2.3 J**	0.380 U	**740**	**380 D**
2-Methylphenol	NA	0.9 U	1.5 U	0.370 U	0.9 U	1.5 U	0.370 UJ	0.9 U	1.5 U	0.370 UJ	0.9 U	1.5 U	0.370 R	**89**	**53**
3+4-Methylphenols	NA	NS	1.3 U	0.400 U	NS	1.3 U	0.400 UJ	NS	1.3 U	0.400 UJ	NS	1.3 U	0.400 R	NS	**80**
4-Methylphenol	NA	0.5 U	NS	NS	0.5 U	NS	NS	0.6 U	NS	NS	0.6 U	NS	NS	**110**	NS
bis(2-Ethylhexyl) phthalate	5	0.7 U	1.6 U	1.3 U	0.8 U	**2.1 J**	1.3 U	0.8 U	1.6 U	1.3 U	0.9 U	1.6 U	1.3 U	***56 U***	1.6 U
Butyl benzyl phthalate	50	0.4 U	1.5 U	0.430 U	0.4 U	1.5 U	0.430 U	**0.6**	1.5 U	0.430 U	0.4 U	1.5 U	0.430 U	40 U	1.5 U
Caprolactam	NA	NS	**1.3 R**	1.5 U	NS	**1.3 R**	1.5 R	NS	**1.3 R**	1.5 R	NS	**1.3 R**	1.5 R	NS	**1.3 R**
Carbazole	NA	**1.7**	1.3 U	0.240 U	**0.099**	1.3 U	0.240 U	**0.4**	1.3 U	0.240 U	**13**	**2.7 J**	0.240 U	**330**	**380 JD**
Dibenzofuran	NA	**3.3**	1.3 U	0.320 U	0.3 U	1.3 U	0.320 U	0.4 U	1.3 U	0.320 U	**1.7**	1.3 U	0.320 U	**94**	**32**
Diethyl phthalate	50	0.3 U	1.4 U	0.330 U	0.3 U	1.4 U	0.330 UJ	0.3 U	1.4 U	0.330 UJ	0.3 U	1.4 U	0.330 U	25 U	1.4 U
Phenol	1	0.5 U	***1.3 U***	0.560 UJ	0.5 U	***1.3 U***	0.560 R	0.6 U	***1.3 U***	0.560 R	0.6 U	***1.3 U***	0.560 R	***52 U***	***1.3 R***
Total SVOCs	NA	**73.7**	0	0	**10.899**	**2.1**	**1.5**	**4.9**	0	0	**47.9**	**29.4**	**9.9**	**16357**	**3816.2**
Metals (ug/L)															
Aluminum	NA	**488**	**463**	NS	**460**	200 U	NS	**1280**	200 U	NS	**233**	200 U	NS	**4270**	**83.2 J**
Antimony	3	**6**	***3.170 U***	NS	**6.2**	***3.170 U***	NS	***5.8 U***	**60.9**	NS	***5.8 U***	***60 U***	NS	***5.8 U***	***60 U***
Arsenic	25	**6.4**	**17.0**	NS	3.2 U	3.320 U	NS	**24.1**	**20.8**	NS	3.2 U	3.320 U	NS	**5.9**	3.3 U
Barium	1000	**73.6**	200 U	NS	**137**	200 U	NS	**84.2**	200 U	NS	**139**	200 U	NS	**165**	**74.5 J**
Beryllium	3	0.30 U	***5 U***	NS	0.30 U	***5 U***	NS	0.30 U	***5 U***	NS	0.30 U	***5 U***	NS	0.30 U	***5 U***
Cadmium	5	0.40 U	5 U	NS	0.40 U	5 U	NS	0.40 U	5 U	NS	0.40 U	5 U	NS	0.40 U	0.33 U
Calcium	NA	**49400**	**51300 J**	NS	**403000**	**182000 J**	NS	**70200**	**51500 J**	NS	**154000**	**137000 J**	NS	**109000**	**77500**
Chromium	50	**3.1**	**18.4**	NS	**2.5**	10 U	NS	**3.0**	**12.3**	NS	**2.2**	10 U	NS	**11.7**	**183 J-**
Cobalt	NA	1.7 U	50 U	NS	**8.8**	50 U	NS	1.7 U	50 U	NS	1.7 U	50 U	NS	**3.0**	50 U
Copper	200	**4.6**	3.640 U	NS	3.7 U	3.640 U	NS	**5.1**	**8.210 J**	NS	3.7 U	**4.070 J**	NS	**14.5**	3.6 U
Iron	300	**5080**	**6510**	NS	**1810**	**285**	NS	**46900**	**33100**	NS	**12700**	**13700**	NS	**24600**	**11100 J-**
Lead	25	2.3 U	**2.370 J**	NS	2.3 U	2.180 U	NS	2.3 U	2.180 U	NS	2.3 U	2.180 U	NS	**6.0**	5 U
Magnesium	35000	**31100**	**34200 J**	NS	**64200**	**23300 J**	NS	**26600**	**20600 J**	NS	**45200**	**41000 J**	NS	**86300**	**49900**
Manganese	300	**427**	**380 J**	NS	**3380**	**30.7 J**	NS	**844**	**497 J**	NS	**1880**	**2310 J**	NS	**1660**	**983**
Mercury	0.7	0.10 U	0.0300 UJ	NS	0.10 U	0.0300 UJ	NS	0.10 U	0.0300 UJ	NS	0.10 U	0.0300 UJ	NS	0.10 U	0.2 U
Nickel	100	**4.8**	40 U	NS	**15.0**	40 U	NS	**4.0**	40 U	NS	**3.0**	40 U	NS	**14.9**	**78.2 J-**
Potassium	NA	**19100**	**30900 J+**	NS	**28200**	**25300 J+**	NS	**22400**	**27800 J+**	NS	**8260**	**10000 J+**	NS	**30900**	**32300 J**
Selenium	10	4.2 U	3.040 U	NS	8.4 U	3.040 U	NS	4.2 U	3.040 U	NS	4.2 U	3.040 U	NS	4.2 U	3.0 U
Silver	50	1.4 U	1.640 U	NS	2.8 U	1.640 U	NS	1.4 U	1.640 U	NS	1.4 U	1.640 U	NS	1.4 U	1.6 U
Sodium	20000	**132000**	**169000 J**	NS	**238000**	**265000 J**	NS	**104000**	**120000 J**	NS	**20700**	**27800 J**	NS	**350000**	**191000**
Thallium	0.5	***4.7 U***	***10 U***	NS	***4.7 U***	***3.050 U***	NS	***4.7 U***	***3.050 U***	NS	***4.7 U***	***3.050 U***	NS	***4.7 U***	***3.1 U***
Vanadium	NA	**2.0**	50 U	NS	1.8 U	50 U	NS	**4.8**	50 U	NS	1.8 U	50 U	NS	**10.6**	50 U
Zinc	2000	**9.5**	**22.5 J**	NS	**15.2**	**22.0 J**	NS	**19.2**	**29.0 J**	NS	**13.2**	**23.7 J**	NS	**45.5**	**25.7 J**
Cyanide (ug/L)															
Available Cyanide	NA	NS	1.5 U	NS	NS	1.5 U	NS	NS	1.5 U	NS	NS	1.5 U	NS	NS	1.5 U
Cyanide, Total	200	10 U	10 U	NS	**42**	**20**	NS	10 U	10 U	NS	**45**	**25**	NS	**46**	**24**

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Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-1 Monitoring Wells													
		21MWS08			21MWD08			21MWDD08		21MWS09			21MWD09		
Sample Date	AWQSGVs	4/20/2004	5/24/2006	8/28/2008	4/20/2004	5/24/2006	8/28/2008	5/24/2006	9/2/2008	4/20/2004	5/17/2006	8/29/2008	4/20/2004	5/17/2006	8/28/2008
BTEX (ug/L)															
Benzene	1	580	720 D	720	7800	1000 D	1500	2200 D	5700	910	15 J	140	35000	25000 D	35000 J
Ethylbenzene	5	110	86	53	1000	130	93	50	8.6 J	44	2.7 J	2.3 J	4800	1200 J	4100
m,p-Xylene	NA	NS	31	28	NS	48	33	67	5.2 J	NS	1.2 U	0.47 U	NS	1000 J	1700
o-Xylene	NA	NS	28	24	NS	15	9.2	42	7.4 J	NS	0.46 U	0.16 U	NS	410 J	560
Toluene	5	5.1	3.0 J	3.1 J	*15 U*	4.2 J	3.3 J	100	2.9 J	5.2	0.36 U	0.16 U	3300	700 J	1200
Total Xylene (calculated)	5	64	59	52	740	63	42.2	109	12.6	35	0	0	4500	1410	2260
(VOCs) (ug/L)															
1,1,2-Trichloroethane	1	*1.7 U*	0.41 U	0.32 U	*34 U*	0.41 U	0.32 U	6.9 J	0.32 UJ	*3.4 U*	0.41 U	0.32 U	*85 U*	*41 U*	0.32 U
1,1-Dichloroethene	5	2.2 U	0.42 U	0.67 UJ	*43 UJ*	0.42 U	0.67 U	0.42 U	0.67 UJ	4.3 UJ	0.42 U	0.67 U	*110 U*	*42 UJ*	0.67 U
1,2-Dibromoethane (EDB)	0.6	NS	0.32 R	0.26 U	NS	0.32 R	0.26 U	0.32 R	0.26 UJ	NS	0.32 U	0.26 U	NS	*32 U*	0.26 U
1,2-Dichloroethane	0.6	*1.3 U*	0.34 U	0.41 UJ	*26 U*	0.34 U	0.41 U	54	0.41 UJ	*2.6 U*	0.34 U	0.41 U	*65 U*	*34 U*	0.41 U
1,2-Dichloropropane	1	*1.2 U*	0.40 U	0.46 U	*23 U*	0.40 U	0.46 U	0.40 U	0.46 UJ	*2.3 U*	0.40 U	0.46 U	*58 U*	*40 U*	0.46 U
2-Butanone (Methyl Ethyl Ketone)	50	12 U	1.1 U	1.9 UJ	*250 U*	1.1 U	1.9 U	1.1 U	1.9 UJ	25 U	1.1 U	1.9 U	*620 U*	*110 UJ*	1.9 U
2-Hexanone	50	4.8 U	1.7 UJ	1.8 U	*97 U*	1.7 UJ	1.8 U	1.7 UJ	1.8 UJ	9.7 U	1.7 U	1.8 U	*240 U*	*170 U*	1.8 U
Acetone	50	4.8 U	2.3 U	2.2 UJ	*97 UJ*	2.3 U	2.2 U	2.3 U	2.2 UJ	9.7 UJ	2.3 R	2.2 U	*240 U*	*230 R*	2.2 U
Bromodichloromethane	50	1.8 U	0.33 U	0.23 U	36 U	0.33 U	0.23 U	0.33 U	0.23 UJ	3.6 U	0.33 U	0.23 U	*90 U*	33 U	0.23 U
Bromomethane	5	2.2 U	0.41 U	1.4 UJ	*44 U*	0.41 U	1.4 U	3.2 J	1.4 UJ	4.4 U	0.41 UJ	1.4 U	*110 U*	*41 UJ*	1.4 U
Carbon Disulfide	60	1.2 U	0.87 J	0.20 UJ	24 UJ	0.40 U	0.20 U	0.40 U	0.20 UJ	2.4 UJ	0.40 U	0.20 U	60 U	40 U	0.20 U
Chlorobenzene	5	0.9 U	0.47 U	0.28 U	*18 U*	0.47 U	0.28 U	0.47 U	0.28 UJ	1.8 U	0.47 U	0.28 U	*45 U*	*47 U*	0.28 U
Chloroform	7	1.0 U	0.33 U	0.45 UJ	*19 U*	0.33 U	0.45 U	0.33 U	0.45 UJ	1.9 U	0.33 U	0.45 U	*48 U*	*33 U*	0.45 U
Chloromethane	5	2.3 U	0.34 UJ	0.37 UJ	*46 U*	0.34 UJ	0.37 U	1.4 J	0.37 UJ	4.6 U	0.34 UJ	0.37 U	*120 U*	*34 UJ*	0.37 U
cis-1,2-Dichloroethene	5	1.2 U	0.29 U	0.72 UJ	*24 U*	0.29 U	0.72 U	1.1 J	0.72 UJ	2.4 U	0.29 U	0.72 U	*60 U*	*29 U*	0.72 U
cis-1,3-Dichloropropene	0.4	*1.2 U*	0.36 UJ	0.29 U	*24 U*	0.36 UJ	0.29 U	6.2 J	0.29 UJ	*2.4 U*	0.36 U	0.29 U	*60 U*	*36 U*	0.29 U
Cyclohexane	NA	NS	0.36 U	0.57 UJ	NS	0.36 U	0.57 U	1.4 J	0.57 UJ	NS	0.36 U	0.57 U	NS	36 U	17
Isopropylbenzene	5	NS	54 J	62	NS	7.1 J	5.1	55 J	34 J	NS	0.44 U	20	NS	*44 U*	110
Methyl Acetate	NA	NS	0.20 U	0.45 UJ	NS	0.20 U	0.45 U	11 J	0.45 UJ	NS	0.20 UJ	0.45 U	NS	20 UJ	0.45 U
Methyl tert-butyl ether	10	NS	0.28 U	0.23 UJ	NS	0.28 U	0.23 U	0.82 J	0.23 UJ	NS	0.28 U	0.23 U	NS	*28 U*	0.23 U
Methylcyclohexane	NA	NS	0.74 J	0.47 UJ	NS	0.34 UJ	3.7 J	1.8 J	0.47 UJ	NS	0.34 U	0.47 U	NS	34 U	0.47 U
Naphthalene	10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Styrene	5	1.4 U	0.59 J	0.19 U	*28 U*	0.41 UJ	0.19 U	37 J	0.19 UJ	2.8 U	0.41 U	0.19 U	*70 U*	*41 U*	0.19 U
Tetrachloroethene	5	1.6 U	0.48 U	0.97 U	*31 U*	0.48 U	0.97 U	0.48 U	0.97 UJ	3.1 U	0.48 U	0.97 U	*78 U*	*48 UJ*	0.97 U
trans-1,2-Dichloroethene	5	1.2 U	0.40 U	0.44 UJ	*25 UJ*	0.40 U	0.44 U	1.5 J	5.7 J	2.5 UJ	0.40 U	0.44 U	*62 U*	*40 UJ*	0.44 U
trans-1,3-Dichloropropene	0.4	*1.0 U*	0.32 UJ	0.31 U	*21 U*	0.32 UJ	0.31 U	0.32 UJ	0.31 UJ	*2.1 U*	0.32 U	0.31 U	*52 U*	*32 U*	0.31 U
Trichloroethene	5	0.9 U	0.46 U	0.34 U	*18 U*	0.46 U	0.34 U	0.46 U	0.34 UJ	1.8 U	0.46 U	0.34 U	*45 U*	*46 U*	0.34 U
Vinyl Chloride	2	*2.6 U*	0.33 U	0.30 UJ	*53 U*	0.33 U	0.30 U	2.8 J	0.30 UJ	*5.3 U*	0.33 UJ	0.30 U	*130 U*	*33 UJ*	0.30 U
Total VOCs	NA	759.1	924.2	890.1	9540	1204.3	1647.3	2643.12	5763.8	994.2	17.7	162.3	47600	28310	42687
(PAHs) (ug/l)															
Acenaphthene	20	69	13	35 J	120	15	15 J	61	69	55	2.2 J	13 J	100	79	69
Acenaphthylene	NA	0.4 U	1.3 U	1.8 U	1.4 U	1.3 U	1.8 U	6.2 J	1.8 U	12	1.3 U	1.8 U	1.4 U	2.3 J	1.8 U
Anthracene	50	11	1.4 U	7.2 U	8.2	1.4 U	7.2 U	5.7 J	7.2 U	4.9	1.4 U	7.2 U	5.2	5.6 J	7.2 U
Benzo(a)anthracene	0.002	*0.8 U*	*1.1 U*	*6.6 U*	*3.0 U*	*1.1 U*	*6.6 U*	*1.1 U*	*6.6 U*	*0.3 U*	*1.1 U*	*6.6 U*	*3.0 U*	*1.1 U*	*6.6 U*
Benzo(a)pyrene	NA	0.9	1.2 U	1.1 U	1.6 U	1.2 U	1.1 U	1.2 U	1.1 U	0.2 U	1.2 U	1.1 U	1.6 U	1.2 U	1.1 U
Benzo(b)fluoranthene	0.002	0.8 J	*0.760 U*	*2.2 U*	*3.2 U*	*0.760 U*	*2.2 U*	*0.760 U*	*2.2 U*	*0.3 U*	*0.760 U*	*2.2 U*	*3.2 U*	*0.760 U*	*2.2 U*
Benzo(ghi)perylene	NA	2.6	1.1 U	2.0 U	1.2 U	1.1 U	2.0 U	1.1 U	2.0 U	0.1 U	1.1 U	2.0 U	1.2 U	1.1 U	2.0 U
Benzo(k)fluoranthene	0.002	*0.8 U*	*1.9 UJ*	*1.5 U*	*3.2 U*	*1.9 UJ*	*1.5 U*	*1.9 UJ*	*1.5 U*	*0.3 U*	*1.9 U*	*1.5 U*	*3.2 U*	*1.9 U*	*1.5 U*
Chrysene	0.002	*0.4 U*	*1.7 U*	*1.3 U*	*1.4 U*	*1.7 U*	*1.3 U*	*1.7 U*	*1.3 U*	*0.1 U*	*1.7 U*	*1.3 U*	*1.4 U*	*1.7 U*	*1.3 U*
Dibenz(a,h)anthracene	NA	2.3	0.870 U	2.8 U	0.8 U	0.870 U	2.8 U	0.880 U	2.8 U	0.082 U	0.880 U	2.8 U	0.8 U	0.880 U	2.8 U
Fluoranthene	50	9.7	5.4 J	9.3 J	4.2	1.5 J	1.0 U	5.6 J	1.0 U	3.5	1.2 U	1.0 U	3.9	4.6 J	1.0 U
Fluorene	50	38	1.4 U	28 J	19	1.4 U	1.4 U	42	7.7 J	19	1.4 U	1.4 U	29	40	27 J
Indeno(1,2,3-cd)pyrene	0.002	1.9	*0.840 U*	*3.4 U*	*1.6 U*	*0.840 U*	*3.4 U*	*0.840 U*	*3.4 U*	*0.2 U*	*0.840 U*	*3.4 U*	*1.6 U*	*0.840 U*	*3.4 U*
Naphthalene	10	520	1.4 U	1.4 U	2400	1.4 U	1.4 U	1.4 U	43 J	340	7.5 J	11 J	4200	2800 D	2800
Phenanthrene	50	63	1.4 U	19 J	42	1.4 U	11 J	37	9.3 J	25	1.4 U	6.9 U	30	44	23 J
Pyrene	50	9.7	6.1 J	7.4 J	8.1	2.4 J	7.2 U	4.8 J	7.2 U	3.4	1.5 U	7.2 U	4.9	3.9 J	7.2 U
BAP Equivalents	NA	3.47	0	0	0	0	0	0	0	0	0	0	0	0	0
Total PAH	NA	728.9	24.5	98.7	2601.5	18.9	26	162.3	129	462.8	9.7	24	4373	2979.4	2919

Notes:

NYSDEC Groundwater Standards - New York State Department of Environmental Conservation Ambient Water Quality Standards or Guidance Values (AWQSGVs) listed in Technical and Operations Guidance Series (TOGs) 1.1.1 (NYSDEC 1998)

Bold = Detected analytes

***Bold and Italics*=** Not detect exceeds NYSDEC AWQSGVs

Yellow highlighted values exceed NYSDEC AWQSGVs

NA = Not Applicable

NS= Not Sampled

ug/L = micrograms per Liter

mg/L = milligrams per Liter

1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)

U = Non-detected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.

J- = (Inorganics) The result is an estimated quantity, but the result may be biased low.

R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.

D = Diluted run

DL = Detection Limit

Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-1 Monitoring Wells													
		21MWS08			21MWD08			21MWDD08		21MWS09			21MWD09		
Sample Date	AWQSGVs	4/20/2004	5/24/2006	8/28/2008	4/20/2004	5/24/2006	8/28/2008	5/24/2006	9/2/2008	4/20/2004	5/17/2006	8/29/2008	4/20/2004	5/17/2006	8/28/2008
(SVOCs) (ug/L)															
1,1-Biphenyl	5	NS	1.4 U	1.6 U	NS	1.4 U	1.6 U	**4.5 J**	1.6 U	NS	1.4 U	1.6 U	NS	**28**	**22 J**
2,4-Dimethylphenol	50	4.2 U	1.2 U	3.9 U	17 U	1.2 U	3.9 U	1.2 U	3.9 UJ	1.7 U	1.2 U	3.9 U	**230**	**170 D**	**77**
2-Methylnaphthalene	NA	**20**	1.1 U	1.9 U	**260**	1.1 U	1.9 U	1.1 U	**5.7 J**	**49**	1.1 U	1.9 U	**280**	**240 D**	**200**
2-Methylphenol	NA	4.2 U	1.5 U	1.8 U	17 U	1.5 U	1.8 U	1.5 U	1.8 UJ	1.7 U	1.5 U	1.8 U	**23**	**25**	**19 J**
3+4-Methylphenols	NA	NS	1.3 U	2.0 U	NS	1.3 U	2.0 U	1.3 U	2.0 UJ	NS	1.3 U	2.0 U	NS	**39**	**27 J**
4-Methylphenol	NA	2.6 U	NS	NS	11 U	NS	NS	NS	NS	1.1 U	NS	NS	**41**	NS	NS
bis(2-Ethylhexyl) phthalate	5	2.8 U	1.5 U	6.6 U	***11 U***	1.5 U	6.6 U	1.5 U	6.6 U	1.1 U	1.6 U	6.6 U	***11 U***	1.6 U	6.6 U
Butyl benzyl phthalate	50	2.0 U	1.4 U	2.1 U	8.0 U	1.4 U	2.1 U	1.5 U	2.1 U	0.8 U	1.5 U	2.1 U	8.0 U	1.5 U	2.1 U
Caprolactam	NA	NS	**1.3 R**	7.6 R	NS	**1.3 R**	7.6 R	**1.3 R**	7.6 R	NS	**1.3 R**	7.6 R	NS	**1.3 R**	7.6 R
Carbazole	NA	**17**	**7.3 J**	**16 J**	**8.5**	1.3 U	1.2 U	**62**	1.2 U	**15**	1.3 U	1.2 U	**140**	**96 JD**	**110**
Dibenzofuran	NA	**21**	1.3 U	**6.7 J**	6.8 U	1.3 U	1.6 U	**11**	1.6 U	**12**	1.3 U	1.6 U	**50**	**39**	**30 J**
Diethyl phthalate	50	1.2 U	1.3 U	1.6 UJ	5.0 U	1.3 U	1.6 UJ	1.3 U	1.6 U	0.5 U	1.4 U	1.6 UJ	5.0 U	1.4 U	1.6 UJ
Phenol	1	***2.6 U***	**1.4 J**	2.8 R	**16**	***1.3 R***	**26 J**	**7.0 J**	**5.6 J**	***1.1 U***	***1.3 U***	2.8 R	**38**	**120 JD**	**250**
Total SVOCs	NA	**786.9**	**33.2**	**121.4**	**2886**	**18.9**	**52**	**246.8**	**140.3**	**538.8**	**9.7**	**24**	**5175**	**3736.4**	**3654**
Metals (ug/L)															
Aluminum	NA	62.6 U	**27.5 J**	NS	**476**	**24.0 J**	NS	**168 J**	NS	**64.9**	200 U	NS	**1460**	200 U	NS
Antimony	3	***5.8 U***	***60 U***	NS	***5.8 U***	**64.6**	NS	***60 U***	NS	***5.8 U***	***3.170 U***	NS	***5.8 U***	***3.170 U***	NS
Arsenic	25	3.2 U	3.3 U	NS	3.2 U	3.3 U	NS	3.3 U	NS	3.2 U	3.320 U	NS	**5.3**	3.320 U	NS
Barium	1000	**144**	**170 J**	NS	**278**	**153 J**	NS	**273 J**	NS	**208**	200 U	NS	**648**	**664 J**	NS
Beryllium	3	0.30 U	***5 U***	NS	0.30 U	***5 U***	NS	***5 U***	NS	0.30 U	***5 U***	NS	0.30 U	***5 U***	NS
Cadmium	5	0.40 U	0.33 U	NS	0.40 U	0.33 U	NS	0.33 U	NS	0.40 U	5 U	NS	0.40 U	5 U	NS
Calcium	NA	**80500**	**93700**	NS	**64000**	**52000**	NS	**63500**	NS	**256000**	**225000 J**	NS	**63400**	**46100 J**	NS
Chromium	50	1.6 U	**104 J-**	NS	**10.4**	**2170 J-**	NS	**124 J-**	NS	1.6 U	10 U	NS	**9.0**	10 U	NS
Cobalt	NA	1.7 U	50 U	NS	**6.6**	50 U	NS	50 U	NS	1.7 U	50 U	NS	**7.0**	50 U	NS
Copper	200	3.7 U	3.6 U	NS	3.7 U	**28.2**	NS	**4.4 J**	NS	3.7 U	3.640 U	NS	**7.4**	**7.920 J**	NS
Iron	300	**531**	**1180 J-**	NS	**9280**	**16900 J-**	NS	**9980 J-**	NS	**1060**	**311**	NS	**8980**	**2610**	NS
Lead	25	2.3 U	**7.4**	NS	2.3 U	**18.3**	NS	**7.9**	NS	**6.6**	**13.9**	NS	**15.2**	2.180 U	NS
Magnesium	35000	**38500**	**41200**	NS	**88600**	**74900**	NS	**39000**	NS	**68700**	**63100 J**	NS	**45000**	**38600 J**	NS
Manganese	300	**198**	**263**	NS	**545**	**428**	NS	**1280**	NS	**655**	**63.5 J**	NS	**847**	**552 J**	NS
Mercury	0.7	0.10 U	0.0300 U	NS	0.10 U	0.2 U	NS	0.0300 U	NS	0.10 U	0.0300 UJ	NS	0.10 U	0.0300 UJ	NS
Nickel	100	1.6 U	40 U	NS	**3.6**	**1180 J-**	NS	**80.6 J-**	NS	**2.4**	40 U	NS	**5.8**	40 U	NS
Potassium	NA	**18400**	**27400 J**	NS	**56100**	**51300 J**	NS	**25200 J**	NS	**27600**	**41200 J+**	NS	**28800**	**51500 J+**	NS
Selenium	10	5.1 U	10 U	NS	4.2 U	10 U	NS	10 U	NS	8.4 U	3.040 U	NS	4.2 U	3.040 U	NS
Silver	50	1.4 U	1.6 U	NS	1.4 U	1.6 U	NS	1.6 U	NS	2.8 U	1.640 U	NS	1.4 U	1.640 U	NS
Sodium	20000	**44400**	**80000**	NS	**835000**	**492000**	NS	**119000**	NS	**178000**	**139000 J**	NS	**332000**	**481000 J**	NS
Thallium	0.5	***4.7 U***	***3.1 U***	NS	***4.7 U***	***3.1 U***	NS	***3.1 U***	NS	***4.7 U***	***10 U***	NS	***4.7 U***	***3.050 U***	NS
Vanadium	NA	1.8 U	0.70 U	NS	**13.0**	50 U	NS	50 U	NS	**2.8**	50 U	NS	**8.3**	50 U	NS
Zinc	2000	5.8 U	**32.2 J**	NS	**25.9**	**384 J**	NS	**29.5 J**	NS	**8.8**	**20.9 J**	NS	**22.8**	**24.1 J**	NS
Cyanide (ug/L)															
Available Cyanide	NA	NS	1.5 U	NS	NS	1.5 U	NS	1.5 U	NS	NS	1.5 U	NS	NS	1.5 U	NS
Cyanide, Total	200	**180**	**117**	NS	**350**	**102**	NS	**64**	NS	**150**	**24**	NS	**120**	**28**	NS

Notes:
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Bold = Detected analytes
***Bold and Italics*=** Not detect exceeds NYSDEC AWQSGVs
Yellow highlighted values exceed NYSDEC AWQSGVs
NA = Not Applicable
NS= Not Sampled
ug/L = micrograms per Liter
mg/L = milligrams per Liter
1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)
U = Non-detected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.
J- = (Inorganics) The result is an estimated quantity, but the result may be biased low.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.
D = Diluted run
DL = Detection Limit

Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-1 Monitoring Wells												
		21MWS10			21MWD10			23MWS11				23MWD11		
Sample Date	AWQSGVs	4/22/2004	5/18/2006	9/2/2008	4/22/2004	4/22/2004	5/19/2006	4/20/2006	5/25/2006	5/25/2006 DUP	9/8/2008	4/20/2006	5/25/2006	9/8/2008
BTEX (ug/L)														
Benzene	1	**73**	**13**	**13**	**420**	**390**	**350 D**	1.00 U	0.39 UJ	0.39 U	0.35 U	1.00 U	0.39 U	**9.9**
Ethylbenzene	5	**55**	**9.1 J**	0.05 U	**93**	**97**	**23 J**	1.00 U	0.45 UJ	0.45 U	0.05 U	1.00 U	0.45 U	0.05 U
m,p-Xylene	NA	NS	1.2 U	0.47 U	NS	NS	**31 J**	2.00 U	1.2 UJ	1.2 U	0.47 U	2.00 U	1.2 U	0.47 U
o-Xylene	NA	NS	**2.6 J**	0.16 U	NS	NS	**25 J**	1.00 U	0.46 UJ	0.46 U	0.16 U	1.00 U	0.46 U	0.16 U
Toluene	5	**2.6**	0.36 U	0.16 U	**49**	**49**	**11 J**	1.00 U	0.36 UJ	0.36 U	0.16 U	1.00 U	0.36 U	0.16 U
Total Xylene (calculated)	5	**24**	**2.6**	0	**160**	**160**	**56**	0	0	0	0	0	0	0
(VOCs) (ug/L)														
1,1,2-Trichloroethane	1	0.3 U	0.41 U	0.32 U	***1.7 U***	***1.7 U***	0.41 U	1.00 U	0.41 UJ	0.41 U	0.32 U	1.00 U	0.41 U	0.32 U
1,1-Dichloroethene	5	0.4 U	0.42 UJ	0.67 U	2.2 U	2.2 U	0.42 U	1.00 U	0.42 UJ	0.42 U	0.67 U	1.00 U	0.42 U	0.67 U
1,2-Dibromoethane (EDB)	0.6	NS	0.32 U	0.26 U	NS	NS	0.32 U	***1.00 U***	**0.32 R**	**0.32 R**	0.26 U	***1.00 U***	**0.32 R**	0.26 U
1,2-Dichloroethane	0.6	0.3 U	0.34 U	0.41 U	***1.3 U***	***1.3 U***	0.34 U	***1.00 U***	0.34 UJ	0.34 U	0.41 U	***1.00 U***	0.34 U	0.41 U
1,2-Dichloropropane	1	0.2 U	0.40 U	0.46 U	***1.2 U***	***1.2 U***	0.40 U	1.00 U	0.40 UJ	0.40 U	0.46 U	1.00 U	0.40 U	0.46 U
2-Butanone (Methyl Ethyl Ketone)	50	2.5 U	1.1 UJ	1.9 U	12 U	12 U	1.1 U	5.00 U	1.1 UJ	1.1 U	1.9 U	5.00 U	1.1 U	1.9 U
2-Hexanone	50	1.0 U	1.7 U	1.8 U	4.8 U	4.8 U	1.7 U	5.00 U	1.7 UJ	1.7 U	1.8 U	5.00 U	1.7 U	1.8 U
Acetone	50	1.0 U	**2.3 R**	2.2 U	4.8 U	4.8 U	**2.3 R**	5.00 U	2.3 UJ	2.3 U	2.2 U	5.00 U	2.3 U	2.2 U
Bromodichloromethane	50	0.4 U	0.33 U	0.23 U	1.8 U	1.8 U	0.33 U	1.00 U	0.33 UJ	0.33 U	0.23 U	1.00 U	0.33 U	0.23 U
Bromomethane	5	0.4 U	0.41 U	1.4 U	2.2 U	2.2 U	0.41 UJ	1.00 U	0.41 UJ	0.41 U	1.4 U	1.00 U	0.41 U	1.4 U
Carbon Disulfide	60	0.2 U	0.40 UJ	0.20 U	1.2 U	1.2 U	0.40 U	2.00 U	0.40 UJ	0.40 U	0.20 U	2.00 U	0.40 U	0.20 U
Chlorobenzene	5	0.2 U	0.47 U	0.28 U	0.9 U	0.9 U	0.47 U	1.00 U	0.47 UJ	0.47 U	0.28 U	1.00 U	0.47 U	0.28 U
Chloroform	7	0.2 U	0.33 U	0.45 U	1.0 U	1.0 U	0.33 U	1.00 U	0.33 UJ	0.33 U	0.45 U	1.00 U	0.33 U	0.45 U
Chloromethane	5	0.5 U	0.34 UJ	0.37 U	2.3 U	2.3 U	0.34 UJ	1.00 U	0.34 UJ	0.34 UJ	0.37 U	1.00 U	0.34 U	0.37 U
cis-1,2-Dichloroethene	5	0.2 U	0.29 U	0.72 U	1.2 U	1.2 U	0.29 U	1.00 U	0.29 UJ	0.29 U	0.72 U	**5.8**	0.29 U	**32**
cis-1,3-Dichloropropene	0.4	0.2 U	0.36 U	0.29 U	***1.2 U***	***1.2 U***	0.36 U	***1.00 U***	0.36 UJ	0.36 UJ	0.29 U	***1.00 U***	0.36 UJ	0.29 U
Cyclohexane	NA	NS	**3.6 J**	0.57 U	NS	NS	**3.9 J**	NS	0.36 UJ	0.36 U	0.57 U	NS	0.36 U	0.57 U
Isopropylbenzene	5	NS	**5.7**	**6.2**	NS	NS	**40 J**	1.00 U	0.44 UJ	0.44 U	0.37 U	1.00 U	0.44 U	0.37 U
Methyl Acetate	NA	NS	0.20 UJ	0.45 U	NS	NS	0.20 UJ	NS	0.20 UJ	0.20 U	0.45 U	NS	0.20 U	0.45 U
Methyl tert-butyl ether	10	NS	0.28 U	0.23 U	NS	NS	0.28 U	2.00 U	0.28 UJ	0.28 U	0.23 U	2.00 U	0.28 U	0.23 U
Methylcyclohexane	NA	NS	**2.2 J**	0.47 U	NS	NS	**3.0 J**	NS	0.34 UJ	0.34 U	0.47 U	NS	0.34 U	0.47 U
Naphthalene	10	NS	NS	NS	NS	NS	NS	2.00 U	NS	NS	NS	2.00 U	NS	NS
Styrene	5	0.3 U	0.41 U	0.19 U	1.4 U	1.4 U	0.41 U	1.00 U	0.41 UJ	0.41 U	0.19 U	1.00 U	0.41 U	0.19 U
Tetrachloroethene	5	0.3 U	0.48 UJ	0.97 U	1.6 U	1.6 U	0.48 U	1.00 U	0.48 UJ	0.48 U	0.97 U	1.00 U	0.48 U	0.97 U
trans-1,2-Dichloroethene	5	0.2 UJ	0.40 UJ	0.44 U	1.2 UJ	1.2 UJ	0.40 U	1.00 U	0.40 UJ	0.40 U	0.44 U	1.00 U	0.40 U	0.44 U
trans-1,3-Dichloropropene	0.4	0.2 U	0.32 U	0.31 U	***1.0 U***	***1.0 U***	0.32 U	***1.00 U***	0.32 UJ	0.32 UJ	0.31 U	***1.00 U***	0.32 UJ	0.31 U
Trichloroethene	5	0.2 U	0.46 U	0.34 U	0.9 U	0.9 U	0.46 U	1.00 U	0.46 UJ	0.46 U	0.34 U	1.00 U	0.46 U	0.34 U
Vinyl Chloride	2	0.5 U	0.33 UJ	0.30 U	***2.6 U***	***2.6 U***	0.33 UJ	1.00 U	0.33 UJ	0.33 U	0.30 U	1.00 U	0.33 U	0.30 U
Total VOCs	NA	**154.6**	**36.2**	**19.2**	**722**	**696**	**486.9**	0	0	0	0	**5.8**	0	**41.9**
(PAHs) (ug/l)														
Acenaphthene	20	**34**	**24**	**17 J**	**92**	**81**	**61**	NS	1.4 U	1.4 U	0.330 U	NS	1.4 U	0.330 U
Acenaphthylene	NA	0.073 U	1.3 U	1.8 U	1.4 U	0.7 U	**2.9 J**	NS	1.3 U	1.3 U	0.360 U	NS	1.3 U	0.360 U
Anthracene	50	**7.9**	**6.0 J**	7.3 U	**11**	0.8 U	**9.2 J**	NS	1.4 U	1.4 U	1.4 U	NS	1.4 U	1.4 U
Benzo(a)anthracene	0.002	**5.3**	**2.9 J**	***6.7 U***	***3.0 U***	***1.5 U***	***1.1 U***	NS	***1.1 U***	***1.1 U***	***1.3 U***	NS	***1.1 U***	***1.3 U***
Benzo(a)pyrene	NA	**4.2**	**1.9 J**	1.1 U	1.6 U	0.8 U	1.2 U	NS	1.2 U	1.2 U	0.220 U	NS	1.2 U	0.220 U
Benzo(b)fluoranthene	0.002	**2.1**	**1.6 J**	***2.2 U***	***3.2 U***	***1.6 U***	***0.760 U***	NS	***0.760 U***	***0.760 U***	***0.440 U***	NS	***0.760 U***	***0.440 U***
Benzo(ghi)perylene	NA	**2.1**	1.1 U	2.0 U	1.2 U	0.6 U	1.1 U	NS	1.1 U	1.1 U	0.400 U	NS	1.1 U	0.400 U
Benzo(k)fluoranthene	0.002	**3.8**	***1.9 U***	***1.5 U***	***3.2 U***	***1.6 U***	***1.9 U***	NS	***1.9 U***	***1.9 U***	***0.310 U***	NS	***1.9 U***	***0.310 U***
Chrysene	0.002	**5.4**	**2.7 J**	***1.3 U***	***1.4 U***	***0.7 U***	***1.7 U***	NS	***1.7 U***	***1.7 U***	***0.270 U***	NS	***1.7 U***	***0.270 U***
Dibenz(a,h)anthracene	NA	0.042 U	0.880 U	2.8 U	0.8 U	0.4 U	0.880 U	NS	0.870 U	0.870 U	0.550 U	NS	0.870 U	0.550 U
Fluoranthene	50	**19 J**	**13**	**7.5 J**	**12 J**	**10 J**	**9.8 J**	NS	1.2 U	1.2 U	0.200 U	NS	1.2 U	0.200 U
Fluorene	50	**60**	**37**	**30 J**	**110**	**99**	**110 D**	NS	1.4 U	1.4 U	0.290 U	NS	1.4 U	0.290 U
Indeno(1,2,3-cd)pyrene	0.002	**1.7**	***0.840 U***	***3.4 U***	***1.6 U***	***0.8 U***	***0.840 U***	NS	***0.840 U***	***0.840 UJ***	***0.670 U***	NS	***0.840 U***	***0.670 U***
Naphthalene	10	**140**	**9.0 J**	1.4 U	**2300**	**2300**	**390 D**	NS	1.4 U	1.4 U	0.290 U	NS	1.4 U	0.290 U
Phenanthrene	50	**110 J**	**62**	**16 J**	**110 J**	**100 J**	**96 JD**	NS	1.4 U	1.4 U	1.4 U	NS	1.4 U	1.4 U
Pyrene	50	**21**	**14**	7.3 U	**12**	**11**	**6.6 J**	NS	1.5 U	1.5 U	1.4 U	NS	1.5 U	1.4 U
BAP Equivalents	NA	**5.1534**	**2.3527**	0	0	0	0	NS	0	0	0	NS	0	0
Total PAH	NA	**416.5**	**174.1**	**70.5**	**2647**	**2601**	**685.5**	NS	0	0	0	NS	0	0

Notes:

NYSDEC Groundwater Standards - New York State Department of Environmental Conservation Ambient Water Quality Standards or Guidance Values (AWQSGVs) listed in Technical and Operations Guidance Series (TOGs) 1.1.1 (NYSDEC 1998)

Bold = Detected analytes

Bold and Italics= Not detect exceeds NYSDEC AWQSGVs

Yellow highlighted values exceed NYSDEC AWQSGVs

NA = Not Applicable

NS= Not Sampled

ug/L = micrograms per Liter

mg/L = milligrams per Liter

1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)

U = Non-detected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.

J- = (Inorganics) The result is an estimated quantity, but the result may be biased low.

R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.

D = Diluted run

DL = Detection Limit

Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-1 Monitoring Wells												
		21MWS10			21MWD10			23MWS11				23MWD11		
Sample Date	AWQSGVs	4/22/2004	5/18/2006	9/2/2008	4/22/2004	4/22/2004	5/19/2006	4/20/2006	5/25/2006	5/25/2006 DUP	9/8/2008	4/20/2006	5/25/2006	9/8/2008
(SVOCs) (ug/L)														
1,1-Biphenyl	5	NS	1.4 U	1.6 U	NS	NS	**12**	NS	1.4 U	1.4 U	0.330 U	NS	1.4 U	0.330 U
2,4-Dimethylphenol	50	0.9 U	1.2 U	3.9 U	17 U	8.5 U	**3.7 J**	NS	1.2 U	1.2 U	0.780 U	NS	1.2 U	0.780 U
2-Methylnaphthalene	NA	**140**	**1.4 J**	1.9 U	**230**	**210**	**97 JD**	NS	1.1 U	1.1 U	0.380 U	NS	**1.3 J**	0.380 U
2-Methylphenol	NA	0.9 U	1.5 U	1.9 U	17 U	8.5 U	1.5 U	NS	1.5 U	1.5 U	0.370 U	NS	1.5 U	0.370 U
3+4-Methylphenols	NA	NS	1.3 U	2.0 U	NS	NS	1.3 U	NS	1.3 U	1.3 U	0.400 U	NS	1.3 U	0.400 U
4-Methylphenol	NA	0.6 U	NS	NS	11 U	5.4 U	NS	NS	NS	NS	NS	NS	NS	NS
bis(2-Ethylhexyl) phthalate	5	0.6 U	1.6 U	6.7 U	***11 U***	***5.6 U***	1.6 U	NS	1.5 U	1.5 U	1.3 U	NS	1.5 U	1.3 U
Butyl benzyl phthalate	50	0.4 U	1.5 U	2.2 U	8.0 U	4.0 U	1.5 U	NS	1.4 U	1.4 U	0.430 U	NS	1.4 U	0.430 U
Caprolactam	NA	NS	**1.3 R**	7.6 R	NS	NS	**1.3 R**	NS	1.3 UJ	1.3 U	1.5 R	NS	1.3 U	1.5 R
Carbazole	NA	**120**	**65**	**32 J**	**160**	**150**	**160 D**	NS	1.3 U	1.3 U	0.240 U	NS	1.3 U	0.240 U
Dibenzofuran	NA	**45**	**30**	**23 J**	**110**	**100**	**96 JD**	NS	1.3 U	1.3 U	0.320 U	NS	1.3 U	0.320 U
Diethyl phthalate	50	0.3 U	1.4 U	1.6 U	5.0 U	**3.5**	1.4 U	NS	1.3 U	1.3 U	0.330 U	NS	1.3 U	0.330 U
Phenol	1	0.5 U	***1.3 U***	2.8 R	***10 U***	***5.2 U***	**4.3 J**	NS	***1.3 U***	***1.3 R***	0.560 R	NS	***1.3 U***	0.560 R
Total SVOCs	NA	**721.5**	**270.5**	**125.5**	**3147**	**3064.5**	**1058.5**	NS	0	0	0	NS	**1.3**	0
Metals (ug/L)														
Aluminum	NA	**812**	200 U	NS	**344**	**357**	200 U	NS	**64.8 J**	5.310 U	NS	NS	**62.4 J**	NS
Antimony	3	***5.8 U***	***3.170 U***	NS	***5.8 U***	***5.8 U***	***60 U***	NS	***3.170 U***	***3.170 U***	NS	NS	***3.170 U***	NS
Arsenic	25	3.2 U	3.320 U	NS	3.2 U	3.2 U	3.320 U	NS	**10.8**	**9.810 J**	NS	NS	3.320 U	NS
Barium	1000	**213**	**250 J**	NS	**360**	**360**	**389 J**	NS	**243 J-**	**222 J-**	NS	NS	**524 J-**	NS
Beryllium	3	0.30 U	***5 U***	NS	0.30 U	0.30 U	***5 U***	NS	0.090 U	0.090 U	NS	NS	0.090 U	NS
Cadmium	5	0.40 U	5 U	NS	0.40 U	0.40 U	5 U	NS	0.327 UJ	**0.327 J**	NS	NS	0.327 UJ	NS
Calcium	NA	**196000**	**248000 J**	NS	**164000**	**165000**	**144000 J**	NS	**184000 J**	**168000 J**	NS	NS	**89600 J**	NS
Chromium	50	**3.0**	10 U	NS	**2.4**	**3.0**	**15.9**	NS	**9.200 J**	**6.520 J**	NS	NS	**1.790 J**	NS
Cobalt	NA	1.7 U	50 U	NS	1.7 U	1.7 U	50 U	NS	**0.570 J-**	0.370 UJ	NS	NS	**1.020 J-**	NS
Copper	200	**6.0**	3.640 U	NS	3.7 U	3.7 U	**7.630 J**	NS	3.640 U	3.640 U	NS	NS	3.640 U	NS
Iron	300	**4000**	**1750**	NS	**7030**	**7110**	**4930**	NS	**2260 J-**	**2010 J-**	NS	NS	**4900 J-**	NS
Lead	25	**44.1**	**2.720 J**	NS	**4.9**	**4.3**	2.180 U	NS	2.180 U	2.180 U	NS	NS	2.180 U	NS
Magnesium	35000	**48200**	**71400 J**	NS	**62200**	**62700**	**51600 J**	NS	**23500 J**	**21200 J**	NS	NS	**80200 J**	NS
Manganese	300	**392**	**334 J**	NS	**1090**	**1090**	**960 J**	NS	**585 J-**	**533 J-**	NS	NS	**635 J-**	NS
Mercury	0.7	0.10 U	0.0300 UJ	NS	0.10 U	0.10 U	0.0300 UJ	NS	0.0300 UJ	0.2 U	NS	NS	0.2 U	NS
Nickel	100	**3.9**	40 U	NS	**3.3**	**1.9**	40 U	NS	**5.500 J-**	**3.290 J-**	NS	NS	1.560 UJ	NS
Potassium	NA	**32600**	**55700 J+**	NS	**19700**	**20100**	**30700 J+**	NS	**24100**	**21200**	NS	NS	**68900**	NS
Selenium	10	4.2 U	3.040 U	NS	4.2 U	4.2 U	3.040 U	NS	3.040 U	3.040 U	NS	NS	3.040 U	NS
Silver	50	1.4 U	1.640 U	NS	1.4 U	1.4 U	1.640 U	NS	1.640 U	1.640 U	NS	NS	1.640 U	NS
Sodium	20000	**193000**	**465000 J**	NS	**138000**	**139000**	**169000 J**	NS	**92300**	**85800**	NS	NS	**598000**	NS
Thallium	0.5	***4.7 U***	***3.050 U***	NS	***4.7 U***	***4.7 U***	***10 U***	NS	***3.050 U***	***3.050 U***	NS	NS	***3.050 U***	NS
Vanadium	NA	**2.7**	50 U	NS	1.8 U	**2.3**	50 U	NS	**2.640 J**	**1.720 J**	NS	NS	**2.190 J**	NS
Zinc	2000	**21.6**	**21.2 J**	NS	**11.0**	**10.4**	**53.4 J**	NS	**12.4 J-**	**11.2 J-**	NS	NS	**11.9 J-**	NS
Cyanide (ug/L)														
Available Cyanide	NA	NS	1.5 U	NS	NS	NS	1.5 U	NS	**1.8 J**	**1.9 J**	NS	NS	**2.1**	NS
Cyanide, Total	200	10 U	10 U	NS	**29**	**33**	**29**	NS	10 U	10 U	NS	NS	10 U	NS

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1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)
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Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-2 Monitoring Wells														
		23MWS12		23MWD12	23MWDD12			EBMWD13		EBMWD13		EBMWD14	EBMWDD14		EBMWD15	
Sample Date	AWQSGVs	5/22/2006	9/8/2008	5/22/2006	4/12/2006	5/22/2006	9/8/2008	5/22/2006	9/3/2008	5/22/2006	9/3/2008	5/19/2006	5/19/2006	8/27/2008	5/24/2006	9/3/2008
BTEX (ug/L)																
Benzene	1	**120 D**	**3000**	**8000 D**	**1100 D**	**240 D**	**150**	**580 D**	**340**	0.39 U	0.35 U	**330 D**	0.39 U	**34**	**190 D**	**290**
Ethylbenzene	5	**68**	**420**	**300 JD**	**390 D**	**57 JD**	**63 J**	**24**	**8.6**	0.45 U	0.05 U	0.45 U	0.45 UJ	**7.8**	**150 D**	**280**
m,p-Xylene	NA	**180**	**760**	**1500 D**	**1100 D**	**190 JD**	**68 J**	**27**	0.47 U	1.2 U	0.47 U	**290 J**	1.2 U	**2.0 J**	**150**	**130**
o-Xylene	NA	**70**	**300**	**600 D**	**460 D**	**91 JD**	**67 J**	**25**	**9.7**	0.46 U	0.16 U	**170 D**	0.46 U	**4.6 J**	**130**	**170**
Toluene	5	**140 D**	**1800**	**4300 D**	**1500 D**	**280 D**	**91 J**	**7**	0.16 U	0.36 U	0.16 U	**90 J**	0.36 U	0.16 U	**49**	**21**
Total Xylene (calculated)	5	**250**	**1060**	**2100**	**1560**	**281**	**135**	**52**	**9.7**	0	0	**460**	0	**6.6**	**280**	**300**
(VOCs) (ug/L)																
1,1,2-Trichloroethane	1	0.41 U	0.32 U	0.41 U	1.00 U	0.41 U	0.32 UJ	0.41 U	0.32 U	0.41 U	0.32 U	0.41 U	0.41 U	0.32 U	0.41 U	0.32 U
1,1-Dichloroethene	5	0.42 U	0.67 U	0.42 U	1.00 U	0.42 U	0.67 UJ	0.42 U	0.67 U	0.42 U	0.67 U	0.42 U	0.42 UJ	0.67 U	0.42 U	0.67 U
1,2-Dibromoethane (EDB)	0.6	0.32 UJ	0.26 U	0.32 UJ	***1.00 U***	0.32 UJ	0.26 UJ	0.32 UJ	0.26 U	0.32 UJ	0.26 U	0.32 U	0.32 U	0.26 U	**0.32 R**	0.26 U
1,2-Dichloroethane	0.6	0.34 U	0.41 U	0.34 U	***1.00 U***	0.34 U	0.41 UJ	0.34 U	0.41 U	0.34 U	0.41 U	0.34 U	0.34 U	0.41 U	**4.6 J**	0.41 U
1,2-Dichloropropane	1	0.40 U	0.46 U	0.40 U	1.00 U	0.40 U	0.46 UJ	0.40 U	0.46 U	0.40 U	0.46 U	0.40 U	0.40 U	0.46 U	**0.61 J**	0.46 U
2-Butanone (Methyl Ethyl Ketone)	50	1.1 U	1.9 U	**81**	5.00 U	1.1 U	1.9 UJ	1.1 U	1.9 U	1.1 U	1.9 U	1.1 U	1.1 UJ	1.9 U	1.1 U	1.9 U
2-Hexanone	50	1.7 U	1.8 U	**6.9 J**	5.00 U	1.7 U	1.8 UJ	1.7 U	1.8 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.7 UJ	1.8 U
Acetone	50	2.3 UJ	2.2 U	**400 J**	5.00 U	2.3 UJ	2.2 UJ	2.3 UJ	2.2 U	2.3 UJ	2.2 U	**2.3 R**	**2.3 R**	2.2 U	2.3 U	2.2 U
Bromodichloromethane	50	0.33 U	0.23 U	0.33 U	1.00 U	0.33 U	0.23 UJ	0.33 U	0.23 U	0.33 U	0.23 U	0.33 U	0.33 U	0.23 U	0.33 U	0.23 U
Bromomethane	5	0.41 U	1.4 U	0.41 U	1.00 U	0.41 U	1.4 UJ	0.41 U	1.4 U	0.41 U	1.4 U	0.41 UJ	0.41 U	1.4 U	0.41 U	1.4 U
Carbon Disulfide	60	0.40 U	0.20 U	0.40 U	1.00 U	0.40 U	**12 J**	0.40 U	0.20 U	0.40 U	0.20 U	0.40 U	0.40 UJ	0.20 U	0.40 U	0.20 U
Chlorobenzene	5	0.47 U	0.28 U	0.47 U	1.00 U	0.47 U	0.28 UJ	0.47 U	0.28 U	0.47 U	0.28 U	0.47 U	0.47 U	0.28 U	0.47 U	0.28 U
Chloroform	7	0.33 U	0.45 U	0.33 U	1.00 U	0.33 U	0.45 UJ	0.33 U	0.45 U	0.33 U	0.45 U	0.33 U	0.33 U	0.45 U	0.33 U	0.45 U
Chloromethane	5	0.34 U	0.37 U	0.34 U	1.00 U	0.34 U	0.37 UJ	0.34 U	0.37 U	0.34 U	0.37 U	0.34 UJ	0.34 UJ	0.37 U	0.34 UJ	0.37 U
cis-1,2-Dichloroethene	5	0.29 U	0.72 U	**5.9**	1.00 U	0.29 U	0.72 UJ	**3.4 J**	**5.7**	0.29 U	0.72 U	0.29 U	0.29 U	0.72 U	**14 J**	**14**
cis-1,3-Dichloropropene	0.4	0.36 U	0.29 U	0.36 U	***1.00 U***	0.36 U	0.29 UJ	0.36 U	0.29 U	0.36 U	0.29 U	0.36 U	0.36 U	0.29 U	**4.9 J**	0.29 U
Cyclohexane	NA	0.36 UJ	0.57 U	0.36 UJ	NS	0.36 UJ	0.57 UJ	0.36 UJ	**3.9 J**	0.36 UJ	0.57 U	**5.7 J**	0.36 UJ	0.57 U	**9.8**	**18**
Isopropylbenzene	5	**2.0 J**	**17 J**	**31**	**20**	**12**	**4.6 J**	**33**	**35**	0.44 U	0.37 U	**12 J**	0.44 U	0.37 U	**33 J**	**53**
Methyl Acetate	NA	0.20 U	0.45 U	0.20 U	NS	0.20 U	0.45 UJ	0.20 U	0.45 U	0.20 U	0.45 U	0.20 UJ	0.20 UJ	0.45 U	0.20 U	0.45 U
Methyl tert-butyl ether	10	0.28 U	0.23 U	0.28 U	2.00 U	0.28 U	0.23 UJ	0.28 U	0.23 U	0.28 U	0.23 U	**1.2 J**	0.28 U	0.23 U	0.28 U	0.23 U
Methylcyclohexane	NA	**4.1 J**	0.47 U	0.34 U	NS	**1.1 J**	**1.9 J**	**3.8 J**	**4.9 J**	0.34 U	0.47 U	**4.6 J**	0.34 U	0.47 U	**9.3**	**19**
Naphthalene	10	NS	NS	NS	**6600 D**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Styrene	5	**30**	0.19 U	**510 D**	**220 D**	**110**	**25 J**	0.41 U	0.19 U	0.41 U	0.19 U	**2.4 J**	0.41 U	0.19 U	**1.5 J**	0.19 U
Tetrachloroethene	5	0.48 U	0.97 U	0.48 U	1.00 U	0.48 U	0.97 UJ	0.48 U	0.97 U	0.48 U	0.97 U	0.48 U	0.48 U	0.97 U	0.48 U	0.97 U
trans-1,2-Dichloroethene	5	0.40 U	0.44 U	0.40 U	1.00 U	0.40 U	0.44 UJ	0.40 U	0.44 U	0.40 U	0.44 U	0.40 U	0.40 U	0.44 U	**0.98 J**	0.44 U
trans-1,3-Dichloropropene	0.4	0.32 U	0.31 U	0.32 U	***1.00 U***	0.32 U	0.31 UJ	0.32 U	0.31 U	0.32 U	0.31 U	0.32 U	0.32 U	0.31 U	0.32 UJ	0.31 U
Trichloroethene	5	0.46 U	0.34 U	0.46 U	1.00 U	0.46 U	0.34 UJ	0.46 U	0.34 U	0.46 U	0.34 U	0.46 U	0.46 UJ	0.34 U	**1.6 J**	0.34 U
Vinyl Chloride	2	0.33 U	0.30 U	0.33 U	1.00 U	0.33 U	0.30 UJ	0.33 U	0.30 U	0.33 U	0.30 U	0.33 UJ	0.33 UJ	0.30 U	0.33 U	0.30 U
Total VOCs	NA	**614.1**	**6297**	**15734.8**	**11390**	**981.1**	**482.5**	**703.2**	**407.8**	0	0	**905.9**	0	**48.4**	**749.29**	**995**
(PAHs) (ug/l)																
Acenaphthene	20	**15**	**14 J**	**46 J**	NS	**34**	**37 J**	**99**	**110**	1.4 U	0.330 U	**32**	1.4 U	**1.7 J**	**110**	**210**
Acenaphthylene	NA	**28**	1.8 U	**180 D**	NS	**79**	**61**	**23**	**18**	1.3 U	0.360 U	**20**	1.3 U	0.360 U	**40**	**8.3 J**
Anthracene	50	**9.2 J**	7.2 U	**86 J**	NS	**12**	**9.2 J**	**10**	**9.5 J**	1.4 U	1.4 U	**4.5 J**	1.4 U	1.5 U	**7.9 J**	**9.3 J**
Benzo(a)anthracene	0.002	**2.3 J**	***6.6 U***	**15 J**	NS	***1.1 U***	***6.6 U***	***1.1 U***	***1.3 U***	***1.1 U***	***1.3 U***	**1.2 J**	***1.1 U***	***1.3 U***	***1.1 U***	***1.3 U***
Benzo(a)pyrene	NA	**1.3 J**	1.1 U	**10 J**	NS	1.2 U	1.1 U	1.2 U	0.220 U	1.2 U	0.220 U	1.2 U	1.2 U	0.230 U	1.2 U	0.220 U
Benzo(b)fluoranthene	0.002	**1.5 J**	***2.2 U***	**11 J**	NS	***0.760 U***	***2.2 U***	***0.760 U***	***0.440 U***	***0.760 U***	***0.440 U***	***0.760 U***	***0.760 U***	***0.440 U***	***0.760 U***	***0.440 U***
Benzo(ghi)perylene	NA	1.1 U	2.0 U	**3.2 J**	NS	1.1 U	2.0 U	1.1 U	0.400 U	1.1 U	0.400 U	1.1 U	1.1 U	0.400 U	1.1 U	0.400 U
Benzo(k)fluoranthene	0.002	***1.9 U***	***1.5 U***	**5.1 J**	NS	***1.9 U***	***1.5 U***	***1.9 U***	***0.310 U***	***1.9 U***	***0.310 U***	***1.9 U***	***1.9 U***	***0.310 U***	***1.9 UJ***	***0.310 U***
Chrysene	0.002	**2.5 J**	***1.3 U***	**13 J**	NS	***1.7 U***	***1.3 U***	***1.7 U***	***0.270 U***	***1.7 U***	***0.270 U***	***1.7 U***	***1.7 U***	***0.270 U***	***1.7 U***	***0.270 U***
Dibenz(a,h)anthracene	NA	0.870 U	2.8 U	**0.880 R**	NS	0.880 U	2.8 U	0.880 U	0.550 U	0.870 U	0.550 U	0.880 U	0.880 U	0.560 U	0.880 U	0.550 U
Fluoranthene	50	**10**	1.0 U	**73 J**	NS	**5.6 J**	**5.5 J**	**7.0 J**	**7.6 J**	1.2 U	0.200 U	**4.4 J**	1.2 U	0.210 U	**5.4 J**	**4.6 J**
Fluorene	50	**25**	**12 J**	**89 J**	NS	**45**	**51 J**	**45**	**41**	1.4 U	0.290 U	**17**	1.4 U	0.290 U	**46**	**56**
Indeno(1,2,3-cd)pyrene	0.002	***0.840 UJ***	***3.4 U***	**1.3 J**	NS	***0.840 UJ***	***3.4 U***	***0.840 UJ***	***0.670 U***	***0.840 UJ***	***0.670 U***	***0.840 U***	***0.840 U***	***0.680 U***	***0.840 U***	***0.670 U***
Naphthalene	10	**430 D**	**330**	**3500 D**	NS	**1600 D**	**660**	**110**	**15**	**2.6 J**	**2.8 J**	**1100 D**	**1.9 J**	**35**	**1500 D**	**2400**
Phenanthrene	50	**30**	**12 J**	**120 D**	NS	**43**	**55**	**47**	**36**	1.4 U	1.4 U	**23**	1.4 U	1.4 U	**46**	**71**
Pyrene	50	**7.5 J**	7.2 U	**48 J**	NS	**5.1 J**	7.2 U	**5.7 J**	**5.3 J**	1.5 U	1.4 U	**9.0 J**	1.5 U	1.5 U	**4.3 J**	**3.5 J**
BAP Equivalents	NA	**1.6825**	0	**12.794**	NS	0	0	0	0	0	0	**0.12**	0	0	0	0
Total PAH	NA	**562.3**	**368**	**4200.6**	NS	**1823.7**	**878.7**	**346.7**	**242.4**	**2.6**	**2.8**	**1211.1**	**1.9**	**36.7**	**1759.6**	**2762.7**

Notes:

NYSDEC Groundwater Standards - New York State Department of Environmental Conservation Ambient Water Quality Standards or Guidance Values (AWQSGVs) listed in Technical and Operations Guidance Series (TOGs) 1.1.1 (NYSDEC 1998)

Bold = Detected analytes

Bold and Italics= Not detect exceeds NYSDEC AWQSGVs

Yellow highlighted values exceed NYSDEC AWQSGVs

NA = Not Applicable

NS= Not Sampled

ug/L = micrograms per Liter

mg/L = milligrams per Liter

1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)

U = Non-detected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.

J- = (Inorganics) The result is an estimated quantity, but the result may be biased low.

R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.

D = Diluted run

DL = Detection Limit

Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-2 Monitoring Wells														
		23MWS12		23MWD12	23MWDD12			EBMWD13		EBMWDD13		EBMWD14	EBMWDD14		EBMWD15	
Sample Date	AWQSGVs	5/22/2006	9/8/2008	5/22/2006	4/12/2006	5/22/2006	9/8/2008	5/22/2006	9/3/2008	5/22/2006	9/3/2008	5/19/2006	5/19/2006	8/27/2008	5/24/2006	9/3/2008
(SVOCs) (ug/L)																
1,1-Biphenyl	5	**7.6 J**	1.6 U	**76 J**	NS	**28**	**27 J**	**7.5 J**	**2.8 J**	1.4 U	0.330 U	**14**	1.4 U	0.330 U	**8.1 J**	**32**
2,4-Dimethylphenol	50	**61 D**	**40 J**	**4100 D**	NS	**110 D**	**11 J**	1.2 U	0.780 U	1.2 U	0.780 UJ	**10 J**	1.2 U	0.780 UJ	1.2 U	**3.3 J**
2-Methylnaphthalene	NA	**53 D**	**26 J**	**410 D**	NS	**220 D**	**6.2 J**	**27**	**1.1 J**	1.1 U	0.380 U	**130 D**	1.1 U	**1.4 J**	**140 D**	**160**
2-Methylphenol	NA	**9.1 J**	**9.0 J**	**930 D**	NS	**15**	1.8 U	1.5 U	0.370 U	1.5 U	0.370 UJ	1.5 U	1.5 U	0.370 UJ	1.5 U	0.370 U
3+4-Methylphenols	NA	**43**	**12 J**	**6300 D**	NS	**84**	2.0 U	1.3 U	0.400 U	**1.4 J**	0.400 UJ	1.3 U	1.3 U	0.400 UJ	1.3 U	0.400 U
4-Methylphenol	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
bis(2-Ethylhexyl) phthalate	5	1.5 U	6.6 U	**1.6 R**	NS	1.6 U	6.6 U	1.6 U	1.3 U	1.5 U	1.3 U	1.6 U	1.6 U	1.3 U	1.6 U	1.3 U
Butyl benzyl phthalate	50	1.4 U	2.1 U	**1.5 R**	NS	1.5 U	2.1 U	1.5 U	0.430 U	1.4 U	0.430 U	1.5 U	1.5 U	0.430 U	1.5 U	0.430 U
Caprolactam	NA	**1.3 R**	7.6 R	**1.3 R**	NS	**1.3 R**	7.6 R	**1.3 R**	1.5 U	**1.3 R**	1.5 U	**1.3 R**	**1.3 R**	1.5 R	**1.3 R**	1.5 U
Carbazole	NA	**65 J**	**22 J**	**530 JD**	NS	**290 D**	**70**	**120 J**	**49**	1.3 U	0.240 U	**5.5 J**	1.3 U	0.250 U	**130 D**	**75**
Dibenzofuran	NA	**21**	**9.8 J**	**64 J**	NS	**38**	**43 J**	**46**	**50**	1.3 U	0.320 U	**1.9 J**	1.3 U	0.320 U	**33**	**49**
Diethyl phthalate	50	1.3 U	1.6 U	**1.4 R**	NS	1.4 U	1.6 U	1.4 U	0.330 U	1.3 U	0.330 U	1.4 U	1.4 U	0.330 U	1.4 U	0.330 U
Phenol	1	***1.3 R***	**6.1 J**	**52 J**	NS	***1.3 R***	2.8 R	**14 J**	**13**	***1.3 R***	0.560 UJ	***1.3 U***	***1.3 U***	0.570 R	**2.9 J**	0.560 U
Total SVOCs	NA	**822**	**492.9**	**16662.6**	NS	**2608.7**	**1035.9**	**561.2**	**358.3**	**4**	**2.8**	**1372.5**	**1.9**	**38.1**	**2073.6**	**3082**
Metals (ug/L)																
Aluminum	NA	**77.4 J-**	NS	**1140 J-**	NS	**265 J-**	NS	**191 J-**	NS	5.3 UJ	NS	5.310 U	**335**	NS	**99.9 J**	NS
Antimony	3	***3.2 UJ***	NS	***60 U***	NS	***3.2 UJ***	NS	***3.2 UJ***	NS	***3.2 UJ***	NS	***3.170 U***	***3.170 U***	NS	***60 U***	NS
Arsenic	25	3.3 U	NS	**9.1 J**	NS	3.3 U	NS	**6.2 J**	NS	3.3 U	NS	3.320 U	10 U	NS	3.3 U	NS
Barium	1000	**332 J-**	NS	**121 J-**	NS	**69.7 J-**	NS	**218 J-**	NS	**4.7 J-**	NS	200 U	200 U	NS	**159 J**	NS
Beryllium	3	***5 U***	NS	***5 U***	NS	0.09 UJ	NS	0.09 UJ	NS	***5 U***	NS	***5 U***	***5 U***	NS	***5 U***	NS
Cadmium	5	0.33 UJ	NS	0.33 UJ	NS	0.33 UJ	NS	0.33 UJ	NS	0.33 UJ	NS	5 U	5 U	NS	0.33 U	NS
Calcium	NA	**281000 J**	NS	**62900 J**	NS	**179000 J**	NS	**50800 J**	NS	**231000 J**	NS	**172000 J**	**360000 J**	NS	**40300**	NS
Chromium	50	**209 J-**	NS	**93.0 J-**	NS	**170 J-**	NS	**236 J-**	NS	**256 J-**	NS	10 U	10 U	NS	**170 J-**	NS
Cobalt	NA	0.37 UJ	NS	50 U	NS	0.37 UJ	NS	0.37 UJ	NS	0.37 UJ	NS	50 U	50 U	NS	50 U	NS
Copper	200	**7.8 J-**	NS	**6.8 J-**	NS	**7.4 J-**	NS	**9.0 J-**	NS	**18.2 J-**	NS	3.640 U	**5.550 J**	NS	**4.6 J**	NS
Iron	300	**10300 J-**	NS	**29900 J-**	NS	**6670 J-**	NS	**30200 J-**	NS	**2700 J-**	NS	**179**	**1330**	NS	**19000 J-**	NS
Lead	25	**10.7 J-**	NS	**20.0 J-**	NS	5 U	NS	**30.8 J-**	NS	2.8 UJ	NS	2.180 U	2.180 U	NS	**5.1**	NS
Magnesium	35000	**32100 J**	NS	**129000 J**	NS	**380000 J**	NS	**53700 J**	NS	**516000 J**	NS	**558000 J**	**390000 J**	NS	**37500**	NS
Manganese	300	**1080 J-**	NS	**805 J-**	NS	**883 J-**	NS	**478 J-**	NS	**716 J-**	NS	**37.2 J**	**753 J**	NS	**761**	NS
Mercury	0.7	0.2 U	NS	0.2 U	NS	0.2 U	NS	0.2 U	NS	0.2 U	NS	0.0300 UJ	0.0300 UJ	NS	0.0300 U	NS
Nickel	100	**126 J-**	NS	40 U	NS	**91.7 J-**	NS	**141 J-**	NS	**103 J-**	NS	40 U	40 U	NS	**59.0 J-**	NS
Potassium	NA	**66000 J**	NS	**88500 J**	NS	**112000 J**	NS	**57600 J**	NS	**146000 J**	NS	**103000 J+**	**109000 J+**	NS	**47800 J**	NS
Selenium	10	10 U	NS	10 U	NS	3.0 U	NS	10 U	NS	3.0 U	NS	3.040 U	3.040 U	NS	3.0 U	NS
Silver	50	1.6 UJ	NS	1.6 UJ	NS	1.6 UJ	NS	1.6 UJ	NS	1.6 UJ	NS	1.640 U	1.640 U	NS	1.6 U	NS
Sodium	20000	**525000 J**	NS	**866000 J**	NS	**4790000 JD**	NS	**256000 J**	NS	**6040000 JD**	NS	**9410000 JD**	**7020000 J**	NS	**139000**	NS
Thallium	0.5	***3.1 U***	NS	***3.1 U***	NS	***3.1 U***	NS	***3.1 U***	NS	***3.1 U***	NS	***3.050 U***	***10 U***	NS	***3.1 U***	NS
Vanadium	NA	50 U	NS	50 U	NS	0.70 UJ	NS	50 U	NS	0.70 UJ	NS	50 U	50 U	NS	50 U	NS
Zinc	2000	**39.8 J**	NS	**50.8 J**	NS	**25.1 J**	NS	**40.8 J**	NS	**23.9 J**	NS	**11.8 J**	**12.0 J**	NS	**22.6 J**	NS
Cyanide (ug/L)																
Available Cyanide	NA	1.5 U	NS	1.5 U	NS	1.5 U	NS	1.5 U	NS	1.5 U	NS	1.5 U	1.5 U	NS	1.5 U	NS
Cyanide, Total	200	10 U	NS	**29**	NS	10 U	NS	10 U	NS	**16**	NS	10 U	10 U	NS	10 U	NS

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1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)
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Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-2 Monitoring Wells															
		EBMWDD15	20MWS16		20MWD16		20MWS17			20MWD17		EBMWDD18	EBMWDD18			23MWDD20	
Sample Date	AWQSGVs	5/24/2006	5/24/2006	9/9/2008	5/24/2006	9/9/2008	5/18/2006	5/18/2006 DUP	9/5/2008	5/18/2006	9/5/2008	5/17/2006	4/12/2006	5/17/2006	9/4/2008	5/25/2006	9/8/2008
BTEX (ug/L)																	
Benzene	1	**120 D**	0.39 U	0.35 U	0.39 U	0.35 U	0.39 U	0.39 U	0.35 U	**2.6 J**	**3.7 J**	**73**	**7.5**	**5.2**	**5.8**	0.39 U	**4.4 J**
Ethylbenzene	5	**280 D**	0.45 U	0.05 U	0.45 U	0.05 U	0.45 U	0.45 U	0.05 U	0.45 U	0.05 U	**44 J**	1.00 U	**6.6 J**	0.05 U	0.45 U	0.05 U
m,p-Xylene	NA	**320 D**	1.2 U	0.47 U	1.2 U	0.47 U	1.2 U	1.2 U	0.47 U	1.2 U	0.47 U	**77**	2.00 U	**2.2 J**	0.47 U	1.2 U	0.47 U
o-Xylene	NA	**150 D**	0.46 U	0.16 U	0.46 U	0.16 U	0.46 U	0.46 U	0.16 U	0.46 U	0.16 U	**30**	1.00 U	**1.7 J**	0.16 U	0.46 U	0.16 U
Toluene	5	**360 D**	0.36 U	0.16 U	0.36 U	0.16 U	0.36 U	0.36 U	0.16 U	0.36 U	0.16 U	**58**	1.00 U	**1.2 J**	0.16 U	0.36 U	0.16 U
Total Xylene (calculated)	5	**470**	0	0	0	0	0	0	0	0	0	**107**	0	**3.9**	0	0	0
(VOCs) (ug/L)																	
1,1,2-Trichloroethane	1	0.41 U	0.41 U	0.32 U	0.41 U	0.32 U	0.41 U	0.41 U	0.32 U	0.41 U	0.32 U	0.41 U	1.00 U	0.41 U	0.32 U	0.41 U	0.32 U
1,1-Dichloroethene	5	0.42 U	0.42 U	0.67 U	0.42 U	0.67 U	0.42 UJ	0.42 UJ	0.67 U	0.42 UJ	0.67 U	0.42 UJ	1.00 U	0.42 UJ	0.67 U	0.42 U	0.67 U
1,2-Dibromoethane (EDB)	0.6	**0.32 R**	**0.32 R**	0.26 U	**0.32 R**	0.26 U	0.32 U	0.32 U	0.26 U	0.32 U	0.26 U	0.32 U	***1.00 U***	0.32 U	0.26 U	**0.32 R**	0.26 U
1,2-Dichloroethane	0.6	0.34 U	0.34 U	0.41 U	0.34 U	0.41 U	0.34 U	0.34 U	0.41 U	0.34 U	0.41 U	0.34 U	***1.00 U***	0.34 U	0.41 U	0.34 U	0.41 U
1,2-Dichloropropane	1	0.40 U	0.40 U	0.46 U	0.40 U	0.46 U	0.40 U	0.40 U	0.46 U	0.40 U	0.46 U	0.40 U	1.00 U	0.40 U	0.46 U	0.40 U	0.46 U
2-Butanone (Methyl Ethyl Ketone)	50	1.1 U	1.1 U	1.9 U	1.1 U	1.9 U	1.1 UJ	1.1 UJ	1.9 U	1.1 UJ	1.9 U	1.1 UJ	5.00 U	1.1 UJ	1.9 U	1.1 U	1.9 U
2-Hexanone	50	1.7 UJ	1.7 UJ	1.8 U	1.7 UJ	1.8 U	1.7 U	1.7 U	1.8 U	1.7 U	1.8 U	1.7 U	5.00 U	1.7 U	1.8 U	1.7 U	1.8 U
Acetone	50	2.3 U	2.3 U	2.2 U	2.3 U	2.2 U	**2.3 R**	**2.3 R**	2.2 U	**2.3 R**	2.2 U	**2.3 R**	5.00 U	**2.3 R**	2.2 U	2.3 U	2.2 U
Bromodichloromethane	50	0.33 U	0.33 U	0.23 U	0.33 U	0.23 U	0.33 U	0.33 U	0.23 U	0.33 U	0.23 U	0.33 U	1.00 U	0.33 U	0.23 U	0.33 U	0.23 U
Bromomethane	5	0.41 U	0.41 U	1.4 U	0.41 U	1.4 U	0.41 UJ	0.41 U	1.4 U	0.41 U	1.4 U	0.41 U	1.00 U	0.41 U	1.4 U	0.41 U	1.4 U
Carbon Disulfide	60	0.40 U	0.40 U	0.20 U	0.40 U	0.20 U	0.40 UJ	0.40 UJ	0.20 U	0.40 UJ	0.20 U	0.40 UJ	1.00 U	0.40 UJ	0.20 U	0.40 U	0.20 U
Chlorobenzene	5	0.47 U	0.47 U	0.28 U	0.47 U	0.28 U	0.47 U	0.47 U	0.28 U	0.47 U	0.28 U	0.47 U	1.00 U	0.47 U	0.28 U	0.47 U	0.28 U
Chloroform	7	0.33 U	0.33 U	0.45 U	0.33 U	0.45 U	0.33 U	0.33 U	0.45 U	0.33 U	0.45 U	0.33 U	1.00 U	0.33 U	0.45 U	0.33 U	0.45 U
Chloromethane	5	0.34 UJ	0.34 UJ	0.37 U	0.34 UJ	0.37 U	0.34 UJ	0.34 UJ	0.37 U	0.34 UJ	0.37 U	0.34 UJ	1.00 U	0.34 UJ	0.37 U	0.34 U	0.37 U
cis-1,2-Dichloroethene	5	0.29 U	0.29 U	0.72 U	0.29 U	**6**	0.29 U	0.29 U	0.72 U	**9.3**	**13**	**4.5 J**	**18**	**17**	**26**	0.29 U	0.72 U
cis-1,3-Dichloropropene	0.4	0.36 UJ	0.36 UJ	0.29 U	0.36 UJ	0.29 U	0.36 U	0.36 U	0.29 U	0.36 U	0.29 U	0.36 U	***1.00 U***	0.36 U	0.29 U	0.36 UJ	0.29 U
Cyclohexane	NA	**6.8**	0.36 U	0.57 U	0.36 U	0.57 U	0.36 UJ	0.36 U	0.57 U	0.36 U	0.57 U	**4.2 J**	NS	**2.4 J**	0.57 U	0.36 U	0.57 U
Isopropylbenzene	5	**4.9 J**	0.44 UJ	0.37 U	0.44 UJ	0.37 U	0.44 U	0.44 U	0.37 U	0.44 U	0.37 U	**5.7**	1.00 U	**2.3 J**	0.37 U	0.44 U	0.37 U
Methyl Acetate	NA	0.20 U	0.20 U	0.45 U	0.20 U	0.45 U	0.20 UJ	0.20 UJ	0.45 U	0.20 UJ	0.45 U	0.20 UJ	NS	0.20 UJ	0.45 U	0.20 U	0.45 U
Methyl tert-butyl ether	10	0.28 U	0.28 U	0.23 U	0.28 U	0.23 U	0.28 U	0.28 U	0.23 U	0.28 U	0.23 U	0.28 U	2.00 U	0.28 U	0.23 U	0.28 U	0.23 U
Methylcyclohexane	NA	**12 J**	0.34 UJ	0.47 U	0.34 UJ	0.47 U	0.34 U	0.34 U	0.47 U	0.34 U	0.47 U	**8.5**	NS	**0.90 J**	0.47 U	0.34 U	0.47 U
Naphthalene	10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.00 U	NS	NS	NS	NS
Styrene	5	**140 D**	0.41 UJ	0.19 U	0.41 UJ	0.19 U	0.41 U	0.41 U	0.19 U	0.41 U	0.19 U	**36**	1.00 U	**0.52 J**	0.19 U	0.41 U	0.19 U
Tetrachloroethene	5	0.48 U	0.48 U	0.97 U	0.48 U	0.97 U	0.48 UJ	0.48 UJ	0.97 U	**1.6 J**	0.97 U	0.48 UJ	1.00 U	0.48 UJ	0.97 U	0.48 U	0.97 U
trans-1,2-Dichloroethene	5	0.40 U	0.40 U	0.44 U	0.40 U	0.44 U	0.40 UJ	0.40 UJ	0.44 U	0.40 UJ	0.44 U	0.40 UJ	1.00 U	**2.1 J**	**3.6 J**	0.40 U	0.44 U
trans-1,3-Dichloropropene	0.4	0.32 UJ	0.32 UJ	0.31 U	0.32 UJ	0.31 U	0.32 U	0.32 U	0.31 U	0.32 U	0.31 U	0.32 U	***1.00 U***	0.32 U	0.31 U	0.32 UJ	0.31 U
Trichloroethene	5	0.46 U	0.46 U	0.34 U	0.46 U	**4.6 J**	0.46 U	0.46 U	0.34 U	0.46 U	**5.7**	0.46 U	**5.6**	**4.7 J**	**4.1 J**	0.46 U	0.34 U
Vinyl Chloride	2	0.33 U	0.33 U	0.30 U	0.33 U	0.30 U	0.33 UJ	0.33 UJ	0.30 U	0.33 UJ	0.30 U	**4.7 J**	1.00 U	0.33 UJ	0.30 U	0.33 U	0.30 U
Total VOCs	NA	**1393.7**	0	0	0	**10.6**	0	0	0	**13.5**	**22.4**	**345.6**	**31.1**	**46.82**	**39.5**	0	**4.4**
(PAHs) (ug/l)																	
Acenaphthene	20	**27**	1.4 U	0.320 U	1.4 U	1.6 U	1.4 U	1.4 U	0.330 U	1.4 U	0.330 U	**56**	NS	**11**	**4.3 J**	1.4 U	0.330 U
Acenaphthylene	NA	**120**	1.3 U	0.350 U	1.3 U	1.8 U	1.3 U	1.3 U	0.360 U	1.3 U	0.360 U	**26**	NS	**5.2 J**	**1.9 J**	1.3 U	0.360 U
Anthracene	50	**10**	1.4 U	1.4 U	1.4 U	7.2 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	**12**	NS	1.4 U	1.4 U	1.4 U	1.4 U
Benzo(a)anthracene	0.002	***1.1 U***	***1.1 U***	***1.3 U***	***1.1 U***	***6.6 U***	***1.1 U***	***1.1 U***	***1.3 U***	***1.1 U***	***1.3 U***	**2.2 J**	NS	***1.1 U***	***1.3 U***	***1.1 U***	***1.3 U***
Benzo(a)pyrene	NA	1.2 U	1.2 U	0.220 U	1.2 U	1.1 U	1.2 U	1.2 U	0.220 U	1.2 U	0.220 U	**1.7 J**	NS	1.2 U	0.220 U	1.2 U	0.220 U
Benzo(b)fluoranthene	0.002	***0.760 U***	***0.760 U***	***0.430 U***	***0.760 U***	***2.2 U***	***0.760 U***	***0.760 U***	***0.440 U***	***0.760 U***	***0.440 U***	***0.760 U***	NS	***0.760 U***	***0.440 U***	***0.760 U***	***0.440 U***
Benzo(ghi)perylene	NA	1.1 U	1.1 U	0.390 U	1.1 U	2.0 U	1.1 U	1.1 U	0.400 U	1.1 U	0.400 U	1.1 U	NS	1.1 U	0.400 U	1.1 U	0.400 U
Benzo(k)fluoranthene	0.002	***1.9 UJ***	***1.9 UJ***	***0.300 U***	***1.9 UJ***	***1.5 U***	***1.9 U***	***1.9 U***	***0.310 U***	***1.9 U***	***0.310 U***	***1.9 U***	NS	***1.9 U***	***0.310 U***	***1.9 U***	***0.310 U***
Chrysene	0.002	***1.7 U***	***1.7 U***	***0.260 U***	***1.7 U***	***1.3 U***	***1.7 U***	***1.7 U***	***0.270 U***	***1.7 U***	***0.270 U***	**2.1 J**	NS	***1.7 U***	***0.270 U***	***1.7 U***	***0.270 U***
Dibenz(a,h)anthracene	NA	0.880 U	0.880 U	0.550 U	0.870 U	2.8 U	0.880 U	0.880 U	0.550 U	0.880 U	0.550 U	0.880 U	NS	0.880 U	0.550 U	0.870 U	0.550 U
Fluoranthene	50	**6.4 J**	1.2 U	0.200 U	1.2 U	1.0 U	1.2 U	1.2 U	0.200 U	1.2 U	0.200 U	**11**	NS	1.2 U	0.200 U	1.2 U	0.200 U
Fluorene	50	**35**	1.4 U	0.280 U	1.4 U	1.4 U	1.4 U	1.4 U	0.290 U	1.4 U	0.290 U	**28**	NS	1.4 U	0.290 U	1.4 U	0.290 U
Indeno(1,2,3-cd)pyrene	0.002	***0.840 U***	***0.840 U***	***0.670 U***	***0.840 U***	***3.4 U***	***0.840 U***	***0.840 U***	***0.670 U***	***0.840 U***	***0.670 U***	***0.840 U***	NS	***0.840 U***	***0.670 U***	***0.840 U***	***0.670 U***
Naphthalene	10	**2700 D**	1.4 U	0.280 U	1.4 U	1.4 U	1.4 U	1.4 U	0.290 U	1.4 U	0.290 U	1.4 U	NS	1.4 U	0.290 U	1.4 U	0.290 U
Phenanthrene	50	**62**	1.4 U	1.4 U	1.4 U	6.9 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	**54**	NS	1.4 U	1.4 U	1.4 U	1.4 U
Pyrene	50	**7.6 J**	1.5 U	1.4 U	1.5 U	7.2 U	1.5 U	1.5 U	1.4 U	1.5 U	1.4 U	**21**	NS	1.5 U	1.4 U	1.5 U	1.4 U
BAP Equivalents	NA	0	0	0	0	0	0	0	0	0	0	**1.9221**	NS	0	0	0	0
Total PAH	NA	**2968**	0	0	0	0	0	0	0	0	0	**214**	NS	**16.2**	**6.2**	0	0

Notes:

NYSDEC Groundwater Standards - New York State Department of Environmental Conservation Ambient Water Quality Standards or Guidance Values (AWQSGVs) listed in Technical and Operations Guidance Series (TOGs) 1.1.1 (NYSDEC 1998)

Bold = Detected analytes

Bold and Italics= Not detect exceeds NYSDEC AWQSGVs

Yellow highlighted values exceed NYSDEC AWQSGVs

NA = Not Applicable

NS= Not Sampled

ug/L = micrograms per Liter

mg/L = milligrams per Liter

1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)

U = Non-detected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.

J- = (Inorganics) The result is an estimated quantity, but the result may be biased low.

R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.

D = Diluted run

DL = Detection Limit

Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-2 Monitoring Wells																
		EBMWDD15	20MWS16		20MWD16		20MWS17			20MWD17		EBMWDD18	EBMWDD18			23MWDD20		
Sample Date	AWQSGVs	5/24/2006	5/24/2006	9/9/2008	5/24/2006	9/9/2008	5/18/2006	5/18/2006 DUP	9/5/2008	5/18/2006	9/5/2008	5/17/2006	4/12/2006	5/17/2006	9/4/2008	5/25/2006	9/8/2008	
(SVOCs) (ug/L)																		
1,1-Biphenyl	5	**31**	1.4 U	0.320 U	1.4 U	1.6 U	1.4 U	1.4 U	0.330 U	1.4 U	0.330 U	**30**	NS	1.4 U	0.330 U	1.4 U	0.330 U	
2,4-Dimethylphenol	50	1.2 U	1.2 U	0.770 U	1.2 U	3.9 R	1.2 UJ	1.2 U	0.780 U	1.2 U	0.780 U	1.2 U	NS	1.2 U	0.780 UJ	1.2 U	0.780 U	
2-Methylnaphthalene	NA	**260 D**	1.1 U	0.370 U	1.1 U	1.9 U	1.1 U	1.1 U	0.380 U	1.1 U	0.380 U	1.1 U	NS	1.1 U	0.380 U	1.1 U	0.380 U	
2-Methylphenol	NA	1.5 U	1.5 U	0.360 U	1.5 U	1.8 R	1.5 U	1.5 U	0.370 U	1.5 U	0.370 U	1.5 U	NS	1.5 U	0.370 UJ	1.5 U	0.370 U	
3+4-Methylphenols	NA	1.3 U	1.3 U	0.390 U	1.3 U	2.0 R	1.3 U	1.3 U	0.400 U	1.3 U	0.400 U	1.3 U	NS	1.3 U	0.400 UJ	1.3 U	0.400 U	
4-Methylphenol	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
bis(2-Ethylhexyl) phthalate	5	1.5 U	1.6 U	1.3 U	1.5 U	6.6 U	1.6 U	1.6 U	1.3 U	1.6 U	1.3 U	1.6 U	NS	1.6 U	1.3 U	1.5 U	1.3 U	
Butyl benzyl phthalate	50	1.5 U	1.5 U	0.420 U	1.4 U	2.1 U	1.5 U	1.5 U	0.430 U	1.5 U	0.430 U	1.5 U	NS	1.5 U	0.430 U	1.4 U	0.430 U	
Caprolactam	NA	**1.3 R**	**1.3 R**	1.5 R	**1.3 R**	7.6 R	**1.3 R**	**1.3 R**	1.5 U	**1.3 R**	1.5 U	**1.3 R**	NS	**1.3 R**	1.5 U	1.3 U	1.5 R	
Carbazole	NA	**7.9 J**	1.3 U	0.240 U	1.3 U	1.2 U	1.3 U	1.3 U	0.240 U	1.3 U	0.240 U	1.3 U	NS	1.3 U	0.240 U	1.3 U	0.240 U	
Dibenzofuran	NA	**6.2 J**	1.3 U	0.310 U	1.3 U	1.6 U	1.3 U	1.3 U	0.320 U	1.3 U	0.320 U	**1.6 J**	NS	1.3 U	0.320 U	1.3 U	0.320 U	
Diethyl phthalate	50	1.3 U	1.4 U	0.320 U	1.3 U	1.6 U	1.4 U	1.4 U	0.330 U	1.4 U	0.330 U	1.4 U	NS	1.4 U	0.330 U	1.3 U	0.330 U	
Phenol	1	***1.3 R***	***1.3 R***	0.560 R	***1.3 R***	***2.8 R***	***1.3 U***	***1.3 U***	0.560 UJ	***1.3 U***	0.560 UJ	**1.5 J**	NS	***1.3 U***	0.560 UJ	***1.3 U***	0.560 R	
Total SVOCs	NA	**3273.1**	0	0	0	0	0	0	0	0	0	**247.1**	NS	**16.2**	**6.2**	0	0	
Metals (ug/L)																		
Aluminum	NA	**214**	**834**	NS	**5.5 J**	NS	**219**	200 U	NS	200 U	NS	**852**	NS	200 U	NS	**41.7 J**	NS	
Antimony	3	***3.2 U***	***60 U***	NS	***60 U***	NS	***3.170 U***	***3.170 U***	NS	***60 U***	NS	***3.170 U***	NS	***3.170 U***	NS	***3.170 U***	NS	
Arsenic	25	3.3 U	3.3 U	NS	3.3 U	NS	3.320 U	3.320 U	NS	3.320 U	NS	3.320 U	NS	3.320 U	NS	**11.4**	NS	
Barium	1000	**31.5 J**	**33.6 J**	NS	**47.6 J**	NS	**229 J**	**234 J**	NS	**204 J**	NS	200 U	NS	200 U	NS	200 U	NS	
Beryllium	3	0.09 U	***5 U***	NS	***5 U***	NS	***5 U***	***5 U***	NS	***5 U***	NS	***5 U***	NS	***5 U***	NS	0.090 U	NS	
Cadmium	5	0.33 U	0.33 U	NS	0.33 U	NS	5 U	5 U	NS	5 U	NS	5 U	NS	5 U	NS	0.327 UJ	NS	
Calcium	NA	**308000**	**84500**	NS	**48600**	NS	**112000 J**	**117000 J**	NS	**32100 J**	NS	**41200 J**	NS	**44700 J**	NS	**74100 J**	NS	
Chromium	50	**153 J-**	**48.7 J-**	NS	**183 J-**	NS	10 U	10 U	NS	10 U	NS	10 U	NS	10 U	NS	**7.260 J**	NS	
Cobalt	NA	0.37 U	50 U	NS	50 U	NS	50 U	50 U	NS	50 U	NS	50 U	NS	50 U	NS	0.370 UJ	NS	
Copper	200	**6.7 J**	**3.8 J**	NS	3.6 U	NS	**4.360 J**	3.640 U	NS	**6.650 J**	NS	3.640 U	NS	**7.850 J**	NS	3.640 U	NS	
Iron	300	**2490 J-**	**6650 J-**	NS	**1420 J-**	NS	**1270**	**1040**	NS	**12300**	NS	**1870**	NS	**482**	NS	**781 J-**	NS	
Lead	25	2.8 U	**6.1**	NS	2.8 U	NS	**18.2 J**	**3.420 J**	NS	2.180 U	NS	**4.340 J**	NS	2.180 U	NS	2.180 U	NS	
Magnesium	35000	**353000**	**13000**	NS	**28900**	NS	**9880 J**	**10600 J**	NS	**30300 J**	NS	**26400 J**	NS	**35000 J**	NS	**121000 J**	NS	
Manganese	300	**1040**	**657**	NS	**683**	NS	**192 J**	**183 J**	NS	**600 J**	NS	**231 J**	NS	**251 J**	NS	**107 J-**	NS	
Mercury	0.7	0.0300 U	0.2 U	NS	0.2 U	NS	**0.0400 J-**	**0.0800 J-**	NS	0.0300 UJ	NS	0.0300 UJ	NS	0.0300 UJ	NS	0.2 U	NS	
Nickel	100	**74.4 J-**	40 U	NS	**63.2 J-**	NS	40 U	40 U	NS	40 U	NS	40 U	NS	40 U	NS	1.560 UJ	NS	
Potassium	NA	**151000 J**	**21600 J**	NS	**23000 J**	NS	**24800 J+**	**26500 J+**	NS	**37400 J+**	NS	**49500 J+**	NS	**35700 J+**	NS	**74600**	NS	
Selenium	10	3.0 U	3.0 U	NS	3.0 U	NS	3.040 U	3.040 U	NS	3.040 U	NS	3.040 U	NS	**3.040 J+**	NS	3.040 U	NS	
Silver	50	1.6 U	1.6 U	NS	1.6 U	NS	**1.840 J**	1.640 U	NS	1.640 U	NS	1.640 U	NS	1.640 U	NS	1.640 U	NS	
Sodium	20000	**5060000 D**	**68100**	NS	**71400**	NS	**175000 J**	**208000 J**	NS	**310000 J**	NS	**194000 J**	NS	**360000 J**	NS	**1730000 D**	NS	
Thallium	0.5	***3.1 U***	***3.1 U***	NS	***3.1 U***	NS	***10 U***	***3.050 U***	NS	***3.050 U***	NS	***10 U***	NS	***3.050 U***	NS	***3.050 U***	NS	
Vanadium	NA	0.70 U	50 U	NS	0.70 U	NS	50 U	50 U	NS	50 U	NS	50 U	NS	50 U	NS	**1.120 J**	NS	
Zinc	2000	**18.9 J**	**191 J**	NS	**23.6 J**	NS	**105 J**	**87.1 J**	NS	**20.9 J**	NS	**22.0 J**	NS	**22.1 J**	NS	**9.250 J-**	NS	
Cyanide (ug/L)																		
Available Cyanide	NA	1.5 U	1.5 U	NS	1.5 U	NS	1.5 U	1.5 U	NS	1.5 U	NS	1.5 U	NS	1.5 U	NS	**2.2**	NS	
Cyanide, Total	200	10 U	10 U	NS	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	NS	10 U	NS	**31**	NS	

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1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)
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Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-2 Monitoring Wells												
		23MWD22	20MWD23	20MWD23	20MWD24	20MWD24	EBMWD25	EBMWDD25	AC101					
Sample Date	AWQSGVs	9/26/2008	9/29/2008	9/29/2008 DUP	9/25/2008	9/25/2008	9/25/2008	9/25/2008	4/27/2006	4/27/2006	4/28/2006	5/9/2006	5/5/2006
BTEX (ug/L)													
Benzene	1	**26**	**3.8 J**	**5.3**	0.35 U	0.35 U	0.35 U	**4.9 J**	0.39 U	**3900 D**	**0.61 J**	**120**	**3.1 J**
Ethylbenzene	5	**0.56 J**	**4.5 J**	**8.9**	0.05 U	0.05 U	**3.6 J**	**69**	0.45 U	**290 D**	**0.62 J**	**38**	**4.3 J**
m,p-Xylene	NA	0.47 U	**3.4 J**	**7.2 J**	0.47 U	0.47 U	0.47 U	**34**	1.2 U	**77**	1.2 U	**9.4 J**	**3.4 J**
o-Xylene	NA	0.16 U	**5.6**	**10**	0.16 U	0.16 U	0.16 U	**26**	**2.2 J**	**160**	**2.2 J**	**40 J**	**8.9**
Toluene	5	0.16 U	**3.8 J**	**5.6**	0.16 U	0.16 U	0.16 U	**14**	0.36 U	**49**	0.36 U	**21 J**	0.36 U
Total Xylene (calculated)	5	0	**9**	**17.2**	0	0	0	**60**	**2.2**	**237**	**2.2**	**49.4**	**12.3**
(VOCs) (ug/L)													
1,1,2-Trichloroethane	1	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.41 U	0.41 U	0.41 U	***2.0 U***	0.41 U
1,1-Dichloroethene	5	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.42 U	0.42 U	0.42 U	**2.1 R**	0.42 U
1,2-Dibromoethane (EDB)	0.6	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.32 U	0.32 U	0.32 U	***1.6 U***	0.32 U
1,2-Dichloroethane	0.6	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.34 U	0.34 U	0.34 U	***1.7 U***	0.34 U
1,2-Dichloropropane	1	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.40 U	0.40 U	0.40 U	***2.0 UJ***	0.40 U
2-Butanone (Methyl Ethyl Ketone)	50	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.1 U	1.1 U	1.1 U	5.7 UJ	**1.7 J**
2-Hexanone	50	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7 U	1.7 U	8.4 U	1.7 U
Acetone	50	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	**2.3 R**	**2.3 R**	2.3 U	11 U	2.3 U
Bromodichloromethane	50	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.33 U	0.33 U	0.33 U	1.7 U	0.33 U
Bromomethane	5	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.41 U	0.41 U	0.41 U	2.1 U	0.41 U
Carbon Disulfide	60	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.40 U	0.40 U	2.0 UJ	0.40 U
Chlorobenzene	5	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.47 U	0.47 U	0.47 U	2.3 U	0.47 U
Chloroform	7	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.33 U	0.33 U	0.33 U	1.7 U	0.33 U
Chloromethane	5	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.34 U	0.34 U	0.34 U	1.7 U	0.34 U
cis-1,2-Dichloroethene	5	**1.6 J**	**30**	**30**	0.72 U	**28**	**42**	0.72 U	0.29 U	**2.8 J**	0.29 U	1.5 U	0.29 U
cis-1,3-Dichloropropene	0.4	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.36 U	0.36 U	0.36 U	***1.8 U***	0.36 U
Cyclohexane	NA	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.36 U	0.36 U	0.36 U	1.8 UJ	0.36 U
Isopropylbenzene	5	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	**7.6**	0.44 U	**26**	0.44 U	**3.4 J**	**0.88 J**
Methyl Acetate	NA	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.20 UJ	0.20 UJ	0.20 U	1.0 UJ	0.20 UJ
Methyl tert-butyl ether	10	**0.56 J**	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.28 U	0.28 U	0.28 U	1.4 UJ	0.28 U
Methylcyclohexane	NA	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	**11**	0.34 U	0.34 U	0.34 U	1.7 U	0.34 U
Naphthalene	10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Styrene	5	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	**7.7**	0.41 U	0.41 U	0.41 U	2.0 U	0.41 U
Tetrachloroethene	5	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U	**7.9**	0.97 U	0.48 U	0.48 U	0.48 U	2.4 UJ	0.48 UJ
trans-1,2-Dichloroethene	5	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.40 U	0.40 U	0.40 U	2.0 UJ	0.40 U
trans-1,3-Dichloropropene	0.4	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.32 U	0.32 U	0.32 U	***1.6 U***	0.32 U
Trichloroethene	5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	**7**	0.34 U	0.46 U	0.46 U	0.46 U	2.3 UJ	0.46 U
Vinyl Chloride	2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.33 U	0.33 U	0.33 U	1.6 U	0.33 U
Total VOCs	NA	**28.72**	**51.1**	**67**	0	**28**	**60.5**	**174.2**	**2.2**	**4504.8**	**3.43**	**231.8**	**22.28**
(PAHs) (ug/l)													
Acenaphthene	20	1.7 U	1.6 U	1.6 U	1.6 U	3.2 U	1.6 U	**74**	NS	NS	NS	NS	NS
Acenaphthylene	NA	1.8 U	**6.7 J**	**7.6 J**	1.8 U	3.5 U	1.8 U	**25 J**	NS	NS	NS	NS	NS
Anthracene	50	7.4 U	7.2 U	7.2 U	7.3 U	14 U	7.2 U	**11 J**	NS	NS	NS	NS	NS
Benzo(a)anthracene	0.002	***6.8 U***	***6.6 U***	***6.6 U***	***6.7 U***	***13 U***	***6.6 U***	***6.6 U***	NS	NS	NS	NS	NS
Benzo(a)pyrene	NA	1.1 U	1.1 U	1.1 U	1.1 U	2.2 U	1.1 U	1.1 U	NS	NS	NS	NS	NS
Benzo(b)fluoranthene	0.002	***2.2 U***	***2.2 U***	***2.2 U***	***2.2 U***	***4.3 U***	***2.2 U***	***2.2 U***	NS	NS	NS	NS	NS
Benzo(ghi)perylene	NA	2.0 U	2.0 U	2.0 U	2.0 U	3.9 U	2.0 U	2.0 U	NS	NS	NS	NS	NS
Benzo(k)fluoranthene	0.002	***1.6 U***	***1.5 U***	***1.5 U***	***1.5 U***	***3.0 U***	***1.5 U***	***1.5 U***	NS	NS	NS	NS	NS
Chrysene	0.002	***1.4 U***	***1.3 U***	***1.3 U***	***1.3 U***	***2.6 U***	***1.3 U***	***1.3 U***	NS	NS	NS	NS	NS
Dibenz(a,h)anthracene	NA	2.8 U	2.8 U	2.8 U	2.8 U	5.4 U	2.8 U	2.8 U	NS	NS	NS	NS	NS
Fluoranthene	50	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	**7.4 J**	NS	NS	NS	NS	NS
Fluorene	50	1.5 U	**12 J**	**12 J**	1.4 U	2.8 U	1.4 U	**44 J**	NS	NS	NS	NS	NS
Indeno(1,2,3-cd)pyrene	0.002	***3.4 U***	***3.4 U***	***3.4 U***	***3.4 U***	***6.6 U***	***3.4 U***	***3.4 U***	NS	NS	NS	NS	NS
Naphthalene	10	1.5 U	**69**	**89**	1.4 U	2.8 U	**29 J**	**600**	NS	NS	NS	NS	NS
Phenanthrene	50	7.1 U	**24 J**	**22 J**	7.0 U	14 U	6.9 U	**79**	NS	NS	NS	NS	NS
Pyrene	50	7.3 U	7.2 U	7.2 U	7.3 U	14 U	7.2 U	**9.7 J**	NS	NS	NS	NS	NS
BAP Equivalents	NA	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
Total PAH	NA	0	**111.7**	**130.6**	0	0	**29**	**850.1**	NS	NS	NS	NS	NS

Notes:

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1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)
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Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-2 Monitoring Wells							AC101				
Sample Date	AWQSGVs	23MWD22 9/26/2008	20MWD23 9/29/2008	20MWD23 9/29/2008 DUP	20MWD24 9/25/2008	20MWD24 9/25/2008	EBMWD25 9/25/2008	EBMWD25 9/25/2008	4/27/2006	4/27/2006	4/28/2006	5/9/2006	5/5/2006
(SVOCs) (ug/L)													
1,1-Biphenyl	5	1.7 U	1.6 U	1.6 U	1.6 U	3.2 U	1.6 U	**40 J**	NS	NS	NS	NS	NS
2,4-Dimethylphenol	50	4.0 U	3.9 UJ	3.9 UJ	3.9 U	7.6 U	3.9 R	3.9 UJ	NS	NS	NS	NS	NS
2-Methylnaphthalene	NA	1.9 U	**19 J**	**20 J**	1.9 U	3.7 U	1.9 U	**130**	NS	NS	NS	NS	NS
2-Methylphenol	NA	1.9 U	1.8 UJ	1.8 UJ	1.9 U	3.6 U	1.8 R	1.8 UJ	NS	NS	NS	NS	NS
3+4-Methylphenols	NA	2.0 U	2.0 UJ	2.0 UJ	2.0 U	3.9 U	2.0 R	2.0 UJ	NS	NS	NS	NS	NS
4-Methylphenol	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
bis(2-Ethylhexyl) phthalate	5	6.8 U	6.6 U	6.6 U	6.7 U	13 U	6.6 U	6.6 U	NS	NS	NS	NS	NS
Butyl benzyl phthalate	50	2.2 U	2.1 U	2.1 U	2.2 U	4.2 U	2.1 U	2.1 U	NS	NS	NS	NS	NS
Caprolactam	NA	7.7 U	7.6 UJ	7.6 U	7.6 U	15 U	7.6 R	7.6 UJ	NS	NS	NS	NS	NS
Carbazole	NA	1.2 U	**8.8 J**	**10 J**	1.2 U	2.4 U	1.2 U	1.2 U	NS	NS	NS	NS	NS
Dibenzofuran	NA	1.6 U	**6.4 J**	**6.5 J**	1.6 U	3.1 U	1.6 U	1.6 U	NS	NS	NS	NS	NS
Diethyl phthalate	50	1.7 U	1.6 U	1.6 U	1.6 U	3.2 U	1.6 U	1.6 U	NS	NS	NS	NS	NS
Phenol	1	***2.9 U***	***2.8 UJ***	***2.8 UJ***	***2.8 UJ***	***5.5 U***	***2.8 R***	***2.8 UJ***	NS	NS	NS	NS	NS
Total SVOCs	NA	0	**145.9**	**167.1**	0	0	**29**	**1020.1**	NS	NS	NS	NS	NS
Metals (ug/L)													
Aluminum	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Antimony	3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arsenic	25	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Barium	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Beryllium	3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cadmium	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Calcium	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cobalt	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Copper	200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	300	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	25	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Magnesium	35000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	300	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Potassium	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Silver	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sodium	20000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Thallium	0.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	2000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cyanide (ug/L)													
Available Cyanide	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cyanide, Total	200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

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Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-2 Monitoring Wells									
		23N101			LR02		LR08		LR11	LR17	
Sample Date	AWQSGVs	5/3/2006	5/5/2006	5/5/2006	5/22/2006	9/4/2008	5/19/2006	8/27/2008	5/24/2006	5/19/2006	9/5/2008
BTEX (ug/L)											
Benzene	1	0.39 U	**6.5**	**3.0 J**	***39 U***	0.35 U	***1.9 U***	0.35 U	0.39 U	***1.9 U***	0.35 U
Ethylbenzene	5	0.45 U	0.45 U	0.45 U	***45 U***	0.05 U	2.3 U	0.05 U	0.45 U	2.3 U	0.05 U
m,p-Xylene	NA	1.2 U	1.2 U	1.2 U	120 U	0.47 U	5.9 U	0.47 U	1.2 U	5.9 U	0.47 U
o-Xylene	NA	0.46 U	0.46 U	0.46 U	46 U	0.16 U	2.3 U	0.16 U	0.46 U	2.3 U	0.16 U
Toluene	5	0.36 U	0.36 U	0.36 U	***36 U***	0.16 U	1.8 U	0.16 U	0.36 U	1.8 U	0.16 U
Total Xylene (calculated)	5	0	0	0	0	0	0	0	0	0	0
(VOCs) (ug/L)											
1,1,2-Trichloroethane	1	0.41 U	0.41 U	0.41 U	***41 U***	0.32 U	***2.0 U***	0.32 U	0.41 U	***2.0 U***	0.32 U
1,1-Dichloroethene	5	0.42 U	0.42 U	0.42 U	***42 U***	0.67 U	2.1 U	0.67 U	0.42 U	2.1 U	0.67 U
1,2-Dibromoethane (EDB)	0.6	0.32 U	0.32 U	0.32 U	***32 UJ***	0.26 U	***1.6 U***	0.26 U	**0.32 R**	***1.6 U***	0.26 U
1,2-Dichloroethane	0.6	0.34 U	0.34 U	0.34 U	***34 U***	0.41 U	***1.7 U***	0.41 U	0.34 U	***1.7 U***	0.41 U
1,2-Dichloropropane	1	0.40 U	0.40 U	0.40 U	***40 U***	0.46 U	***2.0 U***	0.46 U	0.40 U	***2.0 U***	0.46 U
2-Butanone (Methyl Ethyl Ketone)	50	1.1 U	**3.9 J**	1.1 U	***110 U***	1.9 U	5.7 U	1.9 U	1.1 U	5.7 U	1.9 U
2-Hexanone	50	1.7 U	1.7 U	1.7 U	***170 U***	1.8 U	8.4 U	1.8 U	1.7 UJ	8.4 U	1.8 U
Acetone	50	2.3 U	2.3 U	2.3 U	***230 U***	2.2 U	**11 R**	2.2 U	2.3 U	**11 R**	2.2 U
Bromodichloromethane	50	0.33 U	0.33 U	0.33 U	33 U	0.23 U	1.7 U	0.23 U	0.33 U	1.7 U	0.23 U
Bromomethane	5	0.41 U	0.41 U	0.41 U	***41 U***	1.4 U	2.1 UJ	1.4 U	0.41 U	2.1 UJ	1.4 U
Carbon Disulfide	60	0.40 U	0.40 U	0.40 U	40 U	0.20 U	2.0 U	0.20 U	0.40 U	2.0 U	0.20 U
Chlorobenzene	5	0.47 U	0.47 U	0.47 U	***47 U***	0.28 U	2.3 U	0.28 U	0.47 U	2.3 U	0.28 U
Chloroform	7	0.33 U	0.33 U	0.33 U	***33 U***	0.45 U	1.7 U	0.45 U	0.33 U	1.7 U	0.45 U
Chloromethane	5	0.34 U	0.34 U	0.34 U	***34 UJ***	0.37 U	1.7 UJ	0.37 U	0.34 UJ	1.7 UJ	0.37 U
cis-1,2-Dichloroethene	5	0.29 U	0.29 U	0.29 U	***29 U***	0.72 U	1.5 U	0.72 U	0.29 U	1.5 U	0.72 U
cis-1,3-Dichloropropene	0.4	0.36 U	0.36 U	0.36 U	***36 U***	0.29 U	***1.8 U***	0.29 U	0.36 UJ	***1.8 U***	0.29 U
Cyclohexane	NA	0.36 U	0.36 U	0.36 U	36 U	0.57 U	1.8 U	0.57 U	0.36 U	1.8 U	0.57 U
Isopropylbenzene	5	0.44 U	0.44 U	0.44 U	***44 U***	0.37 U	2.2 U	0.37 U	0.44 UJ	2.2 U	0.37 U
Methyl Acetate	NA	0.20 UJ	0.20 UJ	0.20 UJ	20 U	0.45 U	1.0 UJ	0.45 U	0.20 U	1.0 UJ	0.45 U
Methyl tert-butyl ether	10	0.28 U	0.28 U	0.28 U	***28 U***	0.23 U	1.4 U	0.23 U	0.28 U	1.4 U	0.23 U
Methylcyclohexane	NA	0.34 U	0.34 U	0.34 U	34 U	0.47 U	1.7 U	0.47 U	0.34 UJ	**3.0 J**	0.47 U
Naphthalene	10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Styrene	5	0.41 U	0.41 U	0.41 U	***41 U***	0.19 U	2.0 U	0.19 U	0.41 UJ	2.0 U	0.19 U
Tetrachloroethene	5	0.48 UJ	0.48 UJ	0.48 UJ	***48 U***	**4.0 J**	2.4 U	0.97 UJ	0.48 U	2.4 U	0.97 U
trans-1,2-Dichloroethene	5	0.40 U	0.40 U	0.40 U	***40 U***	0.44 U	2.0 U	0.44 U	0.40 U	2.0 U	0.44 U
trans-1,3-Dichloropropene	0.4	0.32 U	0.32 U	0.32 U	***32 U***	0.31 U	***1.6 U***	0.31 U	0.32 UJ	***1.6 U***	0.31 U
Trichloroethene	5	0.46 U	0.46 U	0.46 U	***46 U***	0.34 U	2.3 U	0.34 U	0.46 U	2.3 U	0.34 U
Vinyl Chloride	2	0.33 U	0.33 U	0.33 U	***33 U***	0.30 U	1.6 UJ	0.30 U	0.33 U	1.6 UJ	0.30 U
Total VOCs	NA	0	**10.4**	**3**	0	**4**	0	0	0	**3**	0
(PAHs) (ug/l)											
Acenaphthene	20	NS	NS	NS	1.4 U	0.330 U	1.4 U	0.330 U	1.4 U	1.4 U	1.6 U
Acenaphthylene	NA	NS	NS	NS	1.3 U	0.360 U	1.3 U	0.360 U	1.3 U	1.3 U	1.8 U
Anthracene	50	NS	NS	NS	1.4 U	1.4 U	1.4 U	1.5 U	1.4 U	1.4 U	7.2 U
Benzo(a)anthracene	0.002	NS	NS	NS	***1.1 U***	***1.3 U***	***1.1 U***	***1.4 U***	***1.1 U***	***1.1 U***	***6.6 U***
Benzo(a)pyrene	NA	NS	NS	NS	1.2 U	0.220 U	1.2 U	0.230 U	1.2 U	1.2 U	1.1 U
Benzo(b)fluoranthene	0.002	NS	NS	NS	***0.760 U***	***0.440 U***	***0.760 U***	***0.450 U***	***0.760 U***	***0.760 U***	***2.2 U***
Benzo(ghi)perylene	NA	NS	NS	NS	1.1 U	0.400 U	1.1 U	0.410 U	1.1 U	1.1 U	2.0 U
Benzo(k)fluoranthene	0.002	NS	NS	NS	***1.9 U***	***0.310 U***	***1.9 U***	***0.310 U***	***1.9 UJ***	***1.9 U***	***1.5 U***
Chrysene	0.002	NS	NS	NS	***1.7 U***	***0.270 U***	***1.7 U***	***0.270 U***	***1.7 U***	***1.7 U***	***1.3 U***
Dibenz(a,h)anthracene	NA	NS	NS	NS	0.870 U	0.550 U	0.880 U	0.560 U	0.870 U	0.880 U	2.8 U
Fluoranthene	50	NS	NS	NS	1.2 U	0.200 U	1.2 U	0.210 U	1.2 U	1.2 U	**6.4 J**
Fluorene	50	NS	NS	NS	1.4 U	0.290 U	1.4 U	0.290 U	1.4 U	1.4 U	1.4 U
Indeno(1,2,3-cd)pyrene	0.002	NS	NS	NS	***0.840 UJ***	***0.670 U***	***0.840 U***	***0.690 U***	***0.840 U***	***0.840 U***	***3.4 U***
Naphthalene	10	NS	NS	NS	1.4 U	0.290 U	1.4 U	0.290 U	1.4 U	1.4 U	1.4 U
Phenanthrene	50	NS	NS	NS	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	6.9 U
Pyrene	50	NS	NS	NS	1.5 U	1.4 U	**3.5 J**	**1.8 J**	1.5 U	1.5 U	**11 J**
BAP Equivalents	NA	NS	NS	NS	0	0	0	0	0	0	0
Total PAH	NA	NS	NS	NS	0	0	**3.5**	**1.8**	0	0	**17.4**

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U = Non-detected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

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J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ = (Inorganics) The result is an estimated quantity, but the result may be biased high.

J- = (Inorganics) The result is an estimated quantity, but the result may be biased low.

R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.

D = Diluted run

DL = Detection Limit

Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

Location ID	NYSDEC	OU-2 Monitoring Wells									
		23N101			LR02		LR08		LR11	LR17	
Sample Date	AWQSGVs	5/3/2006	5/5/2006	5/5/2006	5/22/2006	9/4/2008	5/19/2006	8/27/2008	5/24/2006	5/19/2006	9/5/2008
(SVOCs) (ug/L)											
1,1-Biphenyl	5	NS	NS	NS	1.4 U	0.330 U	1.4 U	0.330 U	1.4 U	1.4 U	1.6 U
2,4-Dimethylphenol	50	NS	NS	NS	1.2 U	0.780 U	1.2 U	0.790 UJ	1.2 U	1.2 U	3.9 U
2-Methylnaphthalene	NA	NS	NS	NS	1.1 U	0.380 U	1.1 U	0.390 U	1.1 U	1.1 U	1.9 U
2-Methylphenol	NA	NS	NS	NS	1.5 U	0.370 U	1.5 U	0.380 UJ	1.5 U	1.5 U	1.8 U
3+4-Methylphenols	NA	NS	NS	NS	1.3 U	0.400 U	1.3 U	**3.5 J**	1.3 U	1.3 U	2.0 U
4-Methylphenol	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
bis(2-Ethylhexyl) phthalate	5	NS	NS	NS	1.5 U	1.3 U	1.6 U	1.4 U	1.5 U	**4.1 J**	6.6 U
Butyl benzyl phthalate	50	NS	NS	NS	1.4 U	0.430 U	1.5 U	0.440 U	1.4 U	1.5 U	2.1 U
Caprolactam	NA	NS	NS	NS	**1.3 R**	1.5 U	**1.3 R**	1.5 R	**1.3 R**	**1.3 R**	7.6 U
Carbazole	NA	NS	NS	NS	1.3 U	0.240 U	1.3 U	0.250 U	1.3 U	1.3 U	1.2 U
Dibenzofuran	NA	NS	NS	NS	1.3 U	0.320 U	1.3 U	0.320 U	1.3 U	1.3 U	1.6 U
Diethyl phthalate	50	NS	NS	NS	1.3 U	0.330 U	1.4 U	0.330 U	1.3 U	1.4 U	1.6 U
Phenol	1	NS	NS	NS	***1.3 R***	0.560 UJ	***1.3 U***	0.570 R	***1.3 R***	***1.3 U***	***2.8 UJ***
Total SVOCs	NA	NS	NS	NS	0	0	**3.5**	**5.3**	0	**4.1**	**17.4**
Metals (ug/L)											
Aluminum	NA	NS	NS	NS	**2180 J-**	NS	**297**	NS	**24.6 J**	200 U	NS
Antimony	3	NS	NS	NS	***60 U***	NS	***3.170 U***	NS	***3.2 U***	***3.170 U***	NS
Arsenic	25	NS	NS	NS	3.3 U	NS	3.320 U	NS	3.3 U	10 U	NS
Barium	1000	NS	NS	NS	**197 J-**	NS	**221 J**	NS	**91.8 J**	200 U	NS
Beryllium	3	NS	NS	NS	***5 U***	NS	***5 U***	NS	***5 U***	***5 U***	NS
Cadmium	5	NS	NS	NS	0.33 UJ	NS	5 U	NS	**0.34 J**	5 U	NS
Calcium	NA	NS	NS	NS	**120000 J**	NS	**145000 J**	NS	**83600**	**74600 J**	NS
Chromium	50	NS	NS	NS	**315 J-**	NS	10 U	NS	**251 J-**	10 U	NS
Cobalt	NA	NS	NS	NS	50 U	NS	50 U	NS	0.37 U	50 U	NS
Copper	200	NS	NS	NS	**17.4 J-**	NS	**30.7**	NS	**3.9 J**	**22.2 J**	NS
Iron	300	NS	NS	NS	**7820 J-**	NS	**324**	NS	**1460 J-**	**177**	NS
Lead	25	NS	NS	NS	**12.1 J-**	NS	2.180 U	NS	5 U	**4.260 J**	NS
Magnesium	35000	NS	NS	NS	**62100 J**	NS	**44800 J**	NS	**64800**	**15600 J**	NS
Manganese	300	NS	NS	NS	**779 J-**	NS	**395 J**	NS	**78.0**	15 U	NS
Mercury	0.7	NS	NS	NS	0.2 U	NS	0.0300 UJ	NS	0.2 U	0.0300 UJ	NS
Nickel	100	NS	NS	NS	**190 J-**	NS	40 U	NS	**167 J-**	40 U	NS
Potassium	NA	NS	NS	NS	**34900 J**	NS	**90200 J+**	NS	**105000 J**	**64300 J+**	NS
Selenium	10	NS	NS	NS	10 U	NS	3.040 U	NS	**14.5**	3.040 U	NS
Silver	50	NS	NS	NS	1.6 UJ	NS	1.640 U	NS	1.6 U	1.640 U	NS
Sodium	20000	NS	NS	NS	**751000 J**	NS	**86700 J**	NS	**2080000 D**	**141000 J**	NS
Thallium	0.5	NS	NS	NS	***3.1 U***	NS	***3.050 U***	NS	***3.1 U***	***3.050 U***	NS
Vanadium	NA	NS	NS	NS	50 U	NS	50 U	NS	50 U	50 U	NS
Zinc	2000	NS	NS	NS	**57.7 J**	NS	**68.5 J**	NS	**41.6 J**	**55.7 J**	NS
Cyanide (ug/L)											
Available Cyanide	NA	NS	NS	NS	1.5 U	NS	1.5 U	NS	1.5 U	1.5 U	NS
Cyanide, Total	200	NS	NS	NS	10 U	NS	**117**	NS	10 U	10 U	NS

Notes:
NYSDEC Groundwater Standards - New York State Department of Environmental Conservation Ambient Water Quality Standards or Guidance Values (AWQSGVs) listed in Technical and Operations Guidance Series (TOGs) 1.1.1 (NYSDEC 1998)
Bold = Detected analytes
Bold and Italics= Not detect exceeds NYSDEC AWQSGVs
Yellow highlighted values exceed NYSDEC AWQSGVs
NA = Not Applicable
NS= Not Sampled
ug/L = micrograms per Liter
mg/L = milligrams per Liter
1,2,4-Trichlorobenzene,1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene,Naphthalene were analyzed under methods SW8260 (RETEC) and SW8270(Haley & Aldrich)
U = Non-detected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
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R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria. The presence or absence of the analyte cannot be verified.
D = Diluted run
DL = Detection Limit

Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

	NYSDEC AWQSGVs	Summary Statistics											
		Samples	Detects	Non-Detects	Exceedances	DL Exceedances	Max Detected Concentration	ID for Max Concentration	Min Detected Concentration	ID for Min Concentration	Average Detected Concentration	Min DL for NonDetects	Max DL for NonDetects
BTEX ug/l													
Benzene	1	122	80	42	75	3	46000	MW03D-052306	0.4	21MWS05-042104	2981.283125	0.3	39
Ethyl Benzene	5	122	56	66	46	1	4800	21MWD09-042004	0.56	AC103-092608	396.6451584	0.03	45
m,p-Xylene		103	37	66	0	0	2700	MW03D-052306	2	EBMWDD14-082708	303.1466667	0.27	120
o-Xylene		103	41	62	0	0	1200	MW03D-052306	1.7	MW18DD-051706	131.3162088	0.09	46
Toluene	5	122	45	77	34	2	22000	MW03D-052306	0.4	21MWD06-042104	645.7425134	0.09	36
Total BTEX		122	100	22	34	0	42560	21MWD09-082808	0.4	21MWS07-042104	1883.148151	-	-
Total Xylene (calculated)	5	122	93	29	13	0	75800	MW03D-052306	0.4	LR17-051906	1602.203024	-	-
VOC ug/l													
1,1,2-Trichloroethane	1	122	1	121	1	13	6.9	MW08DD-052406	6.9	MW08DD-052406	6.9	0.19	85
1,1-Dichloroethene	5	122	2	120	0	5	2.1	AC101(60-64)050906	0.5	21MWD02-041904	1.3	0.39	110
1,2-Dibromoethane (EDB)		103	15	88	0	0	0.32	LR11-052406	0.32	LR11-052406	0.32	0.15	32
1,2-Dichloroethane	5	122	3	119	2	5	60	MW04DD-052506	4.6	MW15D-052406	39.53333333	0.24	65
1,2-Dichloropropane	1	122	1	121	0	13	0.61	MW15D-052406	0.61	MW15D-052406	0.61	0.2	58
2-Butanone (Methyl Ethyl Ketone)	50	122	3	119	1	5	81	MW12D-052206	1.7	AC101(66-70)050506	28.86666667	1.1	620
2-Hexanone	50	122	1	121	0	5	6.9	MW12D-052206	6.9	MW12D-052206	6.9	1	240
Acetone	50	122	23	99	1	5	400	MW12D-052206	2.3	MW18DD-051706	20.08409091	1	240
Bromodichloromethane	50	122	1	121	0	1	4.6	MW04D-052506	4.6	MW04D-052506	4.6	0.13	90
Bromomethane	5	122	1	121	0	5	3.2	MW08DD-052406	3.2	MW08DD-052406	3.2	0.4	110
Carbon Disulfide	60	122	2	120	0	0	12	23MWDD12-090808	0.87	MW08S-052406	6.435	0.12	60
Chlorobenzene	5	122	1	121	0	5	0.7	21MWD01-042004	0.7	21MWD01-042004	0.7	0.16	47
Chloroform	7	122	2	120	0	5	1	21MWD06-042104	0.5	21MWS06-042104	0.75	0.2	48
Chloromethane	5	122	2	120	1	5	7.2	MW03D-052306	1.4	MW08DD-052406	4.3	0.22	120
cis-1,2-Dichloroethene	5	122	30	92	23	5	47	21MWD05-042104	1.1	MW08DD-052406	16.47276786	0.2	60
cis-1,3-Dichloropropene	0.4	122	3	119	3	18	310	MW03D-052306	4.9	MW15D-052406	107.0333333	0.17	60
Cyclohexane		98	14	84	0	0	78	21MWS04-090208	1.4	MW08DD-052406	16.7875	0.33	36
Isopropylbenzene	5	103	38	65	30	2	110	21MWD09-082808	0.88	AC101(66-70)050506	28.28898462	0.22	44
Methyl Acetate		98	1	97	0	0	11	MW08DD-052406	11	MW08DD-052406	11	0.2	20
Methyl tert-butyl ether	10	103	3	100	0	2	1.2	MW14D-051906	0.56	AC103-092608	0.785	0.13	28
Methylcyclohexane		98	23	75	0	0	35	MW04DD-052506	0.74	MW08S-052406	9.17127451	0.27	34
Naphthalene		5	2	3	2	0	6600	23MWDD12-041206	35	21MWDD03-041206	3317.5	2	2
Styrene	5	122	17	105	13	5	510	MW12D-052206	0.52	MW18DD-051706	51.252	0.11	70
Tetrachloroethene	5	122	6	116	1	5	7.9	EBMWD25-092508	0.4	21MWD06-042104	3.38375	0.3	78
trans-1,2-Dichloroethene	5	122	8	114	1	5	5.7	21MWDD08-090208	0.3	21MWD02-041904	2.965	0.2	62
trans-1,3-Dichloropropene	0.4	122	1	121	1	18	6.1	MW04D-052506	6.1	MW04D-052506	6.1	0.18	52
Trichloroethene	5	122	11	111	5	5	10	21MWD06-042104	0.8	21MWD05-042104	4.939285714	0.2	46
Vinyl Chloride	2	122	4	118	4	10	5.2	21MWD05-090408	2.8	MW08DD-052406	4.516666667	0.17	130
Total VOC		122	110	12	0	0	76367.3	MW03D-052306	4	LR02-090408	2956.503313	-	-
PAH ug/l													
Acenaphthene	20	109	65	44	39	0	210	EBMWD15-090308	0.1	21MWS05-042104	45.12242563	0.32	3.2
Acenaphthylene		109	28	81	0	0	180	MW12D-052206	1.2	21MWD01-042004	27.15238095	0.07	3.5
Anthracene	50	109	35	74	1	0	86	MW12D-052206	0.1	21MWS01-042004	9.678225806	0.08	14
Benzo(a)anthracene	0.002	109	7	102	7	60	15	MW12D-052206	0.7	21MWD05-042104	4.228571429	0.2	15
Benzo(a)pyrene		109	7	102	0	0	10	MW12D-052206	0.3	21MWD05-042104	2.9	0.08	8
Benzo(b)fluoranthene	0.002	109	6	103	6	61	11	MW12D-052206	0.1	21MWD05-042104	2.85	0.2	16
Benzo(ghi)perylene		109	3	106	0	0	3.2	MW12D-052206	2.1	21MWS10-042204	2.633333333	0.06	6
Benzo(k)fluoranthene	0.002	109	3	106	3	64	5.1	MW12D-052206	0.2	21MWD05-042104	3.033333333	0.2	16
Chrysene	0.002	109	6	103	6	61	13	MW12D-052206	0.9	21MWD05-042104	4.433333333	0.07	7
Dibenz(a,h)anthracene		109	2	107	0	0	2.3	21MWS08-042004	0.88	MW12D-052206	1.59	0.04	5.4
Fluoranthene	50	109	44	65	1	0	73	MW12D-052206	0.4	21MWD06-042104	7.236486486	0.05	5
Fluorene	50	109	50	59	10	0	110	MW10D-051906	0.1	21MWD01-042004	30.82579365	0.1	2.8
Indeno(1,2,3-cd)pyrene	0.002	109	3	106	3	64	1.9	21MWS08-042004	1.3	MW12D-052206	1.633333333	0.08	8
Naphthalene	10	109	54	55	38	0	13000	21MWD07-042104	0.2	21MWS05-042104	1001.195128	0.04	2.8
Phenanthrene	50	109	48	61	15	0	120	MW12D-052206	0.2	21MWS05-042104	38.50637363	0.1	14
Pyrene	50	109	45	64	0	0	48	MW12D-052206	0.1	21MWD01-042004	6.980128205	0.07	14
Total PAH		109	93	16	0	0	13294	21MWD07-042104	0.5	21MWS05-042104	667.5780138	-	-

Table 5-8
Summary of Groundwater Analytical Results
Former East 21st Street Works, New York, New York

	NYSDEC AWQSGVs	Summary Statistics											
		Samples	Detects	Non-Detects	Exceedances	DL Exceedances	Max Detected Concentration	ID for Max Concentration	Min Detected Concentration	ID for Min Concentration	Average Detected Concentration	Min DL for NonDetects	Max DL for NonDetects
SVOC (ug/l)													
1,1-Biphenyl	5	90	22	68	20	0	76	MW12D-052206	2.8	EBMWD13-090308	23.959375	0.32	3.2
2,4-Dimethylphenol	50	109	16	93	11	0	4100	MW12D-052206	3.3	EBMWD15-090308	367.8890909	0.77	17
2-Methylnaphthalene		109	44	65	0	0	740	21MWD07-042104	0.7	21MWS07-042104	112.6833333	0.37	3.7
2-Methylphenol		109	11	98	0	0	930	MW12D-052206	1.9	MW04D-052506	80.45833333	0.36	17
3+4-Methylphenols		89	14	75	0	0	6300	MW12D-052206	1.4	MW13DD-052206	341.7825	0.39	3.9
4-Methylphenol		19	2	17	0	0	110	21MWD07-042104	41	21MWD09-042004	75.5	0.5	11
bis(2-Ethylhexyl) phthalate	5	109	5	104	0	6	4.1	LR17-051906	0.6	21MWS01-042004	2.02	0.6	56
Butyl benzyl phthalate	50	109	2	107	0	0	1.5	MW12D-052206	0.6	21MWD06-042104	1.05	0.4	40
Caprolactam		90	41	49	0	0	1.3	LR17-051906	1.3	LR17-051906	1.3	1.3	15
Carbazole		109	43	66	0	0	530	MW12D-052206	0.099	21MWS06-042104	67.53998485	0.08	2.4
Dibenzofuran		109	38	71	0	0	110	21MWD10-042204	1.6	MW18D-051706	27.96964286	0.3	6.8
Diethyl phthalate	50	109	3	106	0	0	3.7	21MWS04-042204	1.4	MW12D-052206	2.866666667	0.2	25
Phenol	1	109	21	88	21	41	250	21MWD09-082808	1.4	MW08S-052406	36.14333333	0.5	52
Total SVOC		109	93	16	0	0	16662.6	MW12D-052206	1.5	21MWS06-082908	901.1199983	-	-
Metals (ug/L)													
Aluminum	NA	67	50	17	0	0	6110	21MWD02-041904	5.5	MW16D-052406	673.888	5.3	200
Antimony	3	67	6	61	6	61	118	MW02D-051606	5.8	21MWS05-042104	43.58333333	3.17	60
Arsenic	25	67	19	48	1	0	38.7	MW01D-052306	3.9	MW03D-052306	11.61789474	3.2	10
Barium	1000	67	54	13	0	0	664	MW09D-051706	4.7	MW13DD-052206	227.5111111	200	200
Beryllium	3	67	1	66	0	38	0.4	21MWD02-041904	0.4	21MWD02-041904	0.4	0.09	5
Cadmium	5	67	2	65	0	0	0.34	LR11-052406	0.327	DUP-052506	0.3335	0.327	5
Calcium	NA	67	67	0	0	0	403000	21MWS06-042104	18600	MW03DD-052306	133262.6866		
Chromium	50	67	46	21	20	0	2170	MW08D-052406	0.5	MW04D-052506	133.3276087	0.343	10
Cobalt	NA	67	10	57	0	0	18.2	21MWD02-041904	0.57	MW11S-052506	5.358	0.37	50
Copper	200	67	39	28	0	0	30.7	LR08-051906	3.8	MW16S-052406	9.401794872	3.6	3.7
Iron	300	67	67	0	64	0	57700	21MWD02-041904	177	LR17-051906	8679.701493		
Lead	25	67	31	36	3	0	44.1	21MWS10-042204	2.37	MW05D-051706	11.74129032	2.18	5
Magnesium	35000	67	67	0	42	0	558000	MW14D-051906	3800	MW04S-052506	79252.23881		
Manganese	300	67	66	1	48	0	3380	21MWS06-042104	30.7	MW06S-051706	654.6272727	15	15
Mercury	.7	67	4	63	0	0	0.2	DUP-052306	0.04	MW17S-051806	0.1175	0.03	0.2
Nickel	100	67	39	28	9	0	1180	MW08D-052406	1.9	21MWD10-042204D	77.32846154	1.56	40
Potassium	NA	67	67	0	0	0	151000	MW15DD-052406	8260	21MWS07-042104	44506.86567		
Selenium	10	67	4	63	2	0	21.1	MW01S-052306	3.04	MW18DD-051706	10.835	3	10
Silver	50	67	1	66	0	0	1.84	MW17S-051806	1.84	MW17S-051806	1.84	0.7	2.8
Sodium	20000	67	67	0	67	0	9410000	MW14D-051906	20700	21MWS07-042104	832582.0896		
Thallium	.5	67	1	66	1	66	19.7	MW02S-051606	19.7	MW02S-051606	19.7	3.05	10
Vanadium	NA	67	19	48	0	0	22.9	21MWD02-041904	1.12	MW20DD-052506	5.997368421	0.7	50
Zinc	2000	67	66	1	0	0	384	MW08D-052406	8.8	21MWS09-042004	35.52151515	5.8	5.8
Cyanide (ug/L)													
Available Cyanide	NA	48	8	40	0	0	3.1	MW01D-052306	1.5	MW04DD-052506	1.9875	1.5	1.5
Cyanide, Total	200	67	36	31	1	0	350	21MWD08-042004	13	MW04S-052506	64.11111111	10	10

Table 5-9
Summary of OU2 RI Soil Gas Analytical Results
Former East 21st Street Works, New York, New York

Sample Area	NYSDOH Background Indoor Air Values [3]		20th Street		
Sample ID			20SG101	20SG102	20SG103
Sampling Date			2/21/2006	3/1/2006	2/24/2006
Sampling Depth (ft bgs)	75th Percentile	90th Percentile	4.0 - 5.0	4.0 - 5.0	4.5 - 5.5
Type of Sample			Soil Gas	Soil Gas	Soil Gas
Possibly MGP Related or Other Sources [1] (µg/m³)					
1,2,4-Trimethylbenzene	4.4	11	430	29	12
1,3,5-Trimethylbenzene	1.7	3.8	200	17	8.9 U
2,3-Dimethylpentane	2.1	7.9	30 U	3.0 U	37 U
2-Hexanone	NA	NA	30 U	3.0 U	37 U
2-Methylpentane	NA	NA	26 U	2.6 U	32 U
4-Ethyltoluene	NA	NA	460 J	32	45 U
4-Methyl-2-pentanone	0.98	3	30 U	3.0 U	37 U
Benzene	5.7	15	6.1	1.8	12
Carbon Disulfide	NA	NA	23 U	7.4	28 U
Cyclohexane	2.9	9.1	25 U	2.6 U	69
Ethylbenzene	2.8	7.3	200	7.7	7.9 U
Heptane	7.7	19	30	3.0 U	340
Hexane	6.5	19	26 U	2.6 U	32 U
2,2,4-Trimethylpentane	2.6	7.3	34 U	3.5 U	42 U
Indan	NA	NA	35 U	3.6 U	44 U
Indene	NA	NA	35 U	3.5 U	43 U
Isopentane	NA	NA	29 J	7.4 J	27 U
Naphthalene	NA	NA	38 U	3.9 U	48 U
Styrene	0.68	1.3	6.2 U	0.63 U	7.8 U
Thiophene	NA	NA	25 U	2.6 U	31 U
Toluene	25	59	140	6.2	19
m/p-Xylenes	4.7	12	730	35	13
o-Xylene	3.1	7.9	300	16	7.9 U
Not MGP Related [2] (µg/m³)					
1,1,1-Trichloroethane	1.4	3.5	8.0 U	0.81 U	9.9 U
1,1,2,2-Tetrachloroethane	0.2	0.23	10 U	1.0 U	12 U
1,1,2-Trichloroethane	0.2	0.24	8.0 U	0.81 U	9.9 U
1,1-Dichloroethane	0.19	0.23	5.9 U	0.60 U	7.4 U
1,1-Dichloroethene	0.19	0.23	5.8 U	0.59 U	7.2 U
1,2,4-Trichlorobenzene	0.24	3	54 U	5.5 U	68 U
1,2-Dibromoethane (EDB)	0.19	0.23	11 U	1.1 U	14 U
1,2-Dichlorobenzene	0.24	0.78	8.8 U	0.90 U	11 U
1,2-Dichloroethane	0.19	0.22	5.9 U	0.60 U	7.4 U
1,2-Dichloropropane	0.2	0.24	6.7 U	0.69 U	8.4 U
1,3-Butadiene	NA	NA	16 U	1.7	20 U
1.3-Dichlorobenzene	0.24	0.66	8.8 U	0.90 U	11 U
1,4-Dichlorobenzene	0.54	1.3	8.8 U	0.90 U	11 U
1,4-Dioxane	NA	NA	26 U	2.7 U	33 U
2-Butanone (MEK)	7.5	14	22 U	7.2	27 U
Acetone	46	110	23	26	63
Benzyl chloride	NA	NA	7.6 U	0.77 U	9.4 U
Bromodichloromethane	NA	NA	49 U	5.0 U	61 U
Bromoform	NA	NA	75 U	7.7 U	94 U
Bromomethane	0.24	0.58	5.7 U	0.58 U	7.1 U
Carbon Tetrachloride	0.68	0.87	9.2 U	0.94 U	11 U
Chlorobenzene	0.19	0.23	6.7 U	0.68 U	8.4 U
Chloroethane	0.2	0.25	3.8 U	0.39 U	4.8 U
Chloroform	0.54	1.4	7.1 U	0.72 J	8.9 U
Chloromethane	2	3.3	3.0 U	0.36	3.8 U
cis-1,2-Dichloroethene	0.2	0.24	5.8 U	0.59 U	7.2 U
cis-1,3-Dichloropropene	0.2	0.24	6.6 U	0.68 U	8.3 U
Dibromochloromethane	NA	NA	62 U	6.3 U	78 U
Ethanol	610	1600	14 U	4.9	17 U
Trichlorofluoromethane (Freon 11)	5.5	17	8.2 U	1.6	10 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	1.1	1.8	11 U	1.1 U	14 U
1,2-Dichlorotetrafluoroethane	0.21	0.63	10 U	1.0 U	13 U
Dichlorodifluoromethane (Freon 12)	5.6	15	7.2 U	2.9	9.0 U
Helium			0.015 U	0.1	0.047
Hexachlorobutadiene (C-46)	0.25	4.8	78 U	7.9 U	97 U
Methyl tert-Butyl Ether	6.7	27	26 U	2.7 U	33 U
Methylene Chloride (Dichloromethane)	6.3	22	5.1 U	0.87	6.5
2-Propanol	NA	NA	18 U	1.8 U	22 U
Propene	NA	NA	37	1.3 U	56
Tetrachloroethene	1.2	2.9	16	5.5	12 U
Tetrahydrofuran	0.32	3.3	22 U	2.2 U	27 U
Trans-1,2-Dichloroethene	NA	NA	29 U	3.0 U	36 U
Trans-1,3-Dichloropropene	0.18	0.22	6.6 U	0.68 UJ	8.3 U
Trichloroethene	0.23	0.48	7.8 U	0.80 U	9.8 U
Vinyl Acetate	NA	NA	NA	NA	NA
Vinyl Chloride	0.2	0.23	3.7 U	0.38 U	4.6 U

Notes:

U - Not detected at the detection limit indicated.

J - Estimated Concentration.

NA - Not Available. No data available for background concentrations of these compounds.

DUP - As suffix on Sample ID indicates that the sample is a field duplicate.

1. These compounds may be related to either MGP sources or non-MGP sources, or both. MGP sources include MGP tars and petroleum feedstocks used in MGP processes, such as the carbureted water gas process. Non-MGP sources include cleaning products, floor wax and polish, vehicle exhaust, construction materials, and cigarette smoke.

2. These compounds are not related to MGP sources and are present due to non-MGP sources, such as vehicle exhaust, heating and air conditioning systems, cleaning agents, art supplies, paints, etc.

Table 5-10
Summary of OU2 RI Surface Sediment Analytical Results - All Compounds
Former East 21st Street Works, New York, New York

Location	GS07	GS09	GS13	GS14	GS16	GS17	GS21	GS24	GS25	GS26	GS27	GS28	GS28 DUP	GS29	GS30	GS31	GS35	GS36	GS37
Sample Date	10/29/2008	10/30/2008	10/9/2008	10/11/2008	10/29/2008	10/29/2008	10/9/2008	10/27/2008	10/27/2008	10/30/2008	10/30/2008	10/30/2008	10/30/2008	10/9/2008	10/9/2008	10/9/2008	10/27/2008	10/30/2008	10/29/2008
Top of Sediment Elevation	-24	-37	-18	-18	115	-15		-35	-35	-30	-32	-31	-31	-39	-41	-38	-20	-15	-24
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
Sediment Type	Gravel	Clay	Gravel	Silt/Peat	Silt/Peat	Silt	Silty Peat	Silt/Clay	Sand	Sand	Sand	Sand	Sand	Silty Clay	Sand/Clay	Clay/Silt	Silt	Silt	Silt
Observation			Stain	Sheen	NAPL		Sheen/Stain										Sheen	NAPL/Sheen	
Odor			Organic	Organic	MGP	Organic	MGP										MGP	MGP	Organic
BTEX (mg/Kg)																			
Benzene	0.0032 U	0.0033 U	**15.000**	5.200 UJ	**0.056 J**	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U	**0.180 J**	**0.013 J**	0.0037 U
Ethylbenzene	0.0032 U	0.0033 U	NS	NS	**1.000 J**	0.0048 U	NS	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U	**1.100 J**	**0.320 J**	0.0037 U
m,p-Xylene	0.0065 U	0.0066 U	NS	NS	**0.062 J**	0.0096 U	NS	0.0067 U	0.0062 U	0.0066 U	0.0062 U	0.0062 U	0.0068 U	0.0069 U	0.0068 U	0.0071 U	**0.340 J**	**0.039 J**	0.0074 U
o-Xylene	0.0065 U	0.0066 U	NS	NS	**0.240 J**	0.0096 U	NS	0.0067 U	0.0062 U	0.0066 U	0.0062 U	0.0062 U	0.0068 U	0.0069 U	0.0068 U	0.0071 U	**0.400 J**	**0.070 J**	0.0074 U
Toluene	0.0049 U	0.0049 U	15.000 U	7.800 UJ	0.047 UJ	0.0072 U	7.100 U	0.0050 U	0.0047 U	0.0049 U	0.0046 U	0.0047 U	0.0051 U	0.0052 U	0.0051 U	0.0054 U	**0.098 J**	0.0087 UJ	0.0055 U
Total Xylene (calculated)	0.00650 U	0.00660 U	NS	NS	**0.302**	0.00960 U	NS	0.00670 U	0.00620 U	0.00660 U	0.00620 U	0.00620 U	0.00680 U	0.00690 U	0.00680 U	0.00710 U	**0.740**	**0.109**	0.00740 U
Total BTEX	0.01215 U	0.01235 U	**22.500**	6.500 U	**1.38150**	0.018 U	5.900 U	0.01250 U	0.01165 U	0.01235 U	0.01160 U	0.01165 U	0.01275 U	0.013 U	0.01275 U	0.01340 U	**2.118**	**0.44635**	0.01385 U
VOC (mg/Kg)																			
1,1,1-Trichloroethane	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U	0.011 UJ	0.0058 UJ	0.0037 U
2-Butanone (Methyl Ethyl Ketone)	0.032 U	0.033 U	98.000 U	52.000 UJ	0.310 UJ	0.048 U	47.000 U	0.033 U	0.031 U	0.033 U	0.031 U	0.031 U	0.034 U	0.035 U	0.034 U	0.036 U	0.110 UJ	0.058 UJ	0.037 U
Acetone	0.032 U	0.033 U	98.000 U	52.000 UJ	**0.430 J**	0.048 U	47.000 U	0.033 U	0.031 U	0.033 U	0.031 U	0.031 U	0.034 U	0.035 U	0.034 U	0.036 U	0.110 UJ	**0.072 J**	0.037 U
Chlorobenzene	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U	0.011 UJ	0.0058 UJ	0.0037 U
Tetrachloroethene	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U	0.011 UJ	0.0058 UJ	0.0037 U
Trichloroethene	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U	0.011 UJ	0.0058 UJ	0.0037 U
Vinyl Chloride	0.0065 U	0.0066 U	20.000 U	10.000 UJ	0.062 UJ	0.0096 U	9.400 U	0.0067 U	0.0062 U	0.0066 U	0.0062 U	0.0062 U	0.0068 U	0.0069 U	0.0068 U	0.0071 U	0.022 UJ	0.012 UJ	0.0074 U
Total VOC	0.17175 U	0.17630 U	**496.50002**	256.60001 U	**3.20100**	0.25680 U	232.90001 U	0.17735 U	0.16610 U	0.17630 U	0.16535 U	0.16610 U	0.18215 U	0.18645 U	0.18215 U	0.19180 U	**2.66700**	**0.77845**	0.19770 U
PAH (mg/Kg)																			
2-Methylnaphthalene	**16.000**	0.088 U	**280.000**	**48.000 J**	**57.000 J**	**3.200**	**70.000**	0.018 U	0.830 U	0.880 U	0.016 U	0.017 U	1.800 U	0.018 U	0.018 UJ	0.019 U	**220.000 J**	**4.700 J**	0.980 U
Acenaphthene	**39.000**	0.088 U	**190.000**	**110.000 J**	**240.000 J**	**2.200**	**42.000**	**0.020**	0.830 U	0.880 U	0.016 U	0.017 U	1.800 U	0.018 U	0.018 UJ	0.019 U	**32.000 J**	**30.000 J**	0.980 U
Acenaphthylene	**230.000**	**0.620**	**16.000**	**14.000 J**	**19.000 J**	**3.700**	**14.000**	**0.077**	**8.400**	0.880 U	**0.043**	0.017 U	1.800 U	0.018 U	0.018 UJ	0.019 U	**71.000 J**	**12.000 J**	0.980 U
Anthracene	**170.000**	**0.200**	**94.000**	**94.000 J**	**110.000 J**	**4.900**	**64.000**	**0.070**	**5.600**	0.880 U	**0.040**	0.017 U	1.800 U	**0.039**	0.018 UJ	0.019 U	**46.000 J**	**27.000 J**	0.980 U
Benzo(a)anthracene	**71.000**	**0.570**	**55.000**	**51.000 J**	**55.000 J**	**17.000**	**60.000**	**0.220**	**22.000**	0.880 U	**0.082**	0.017 U	1.800 U	**0.120**	0.018 UJ	0.019 U	**19.000 J**	**17.000 J**	**1.200**
Benzo(a)pyrene	**51.000**	**0.990**	**37.000**	**39.000 J**	**38.000 J**	**10.000**	**39.000**	**0.160**	**18.000**	0.880 U	**0.084**	0.017 U	1.800 U	**0.110**	0.018 UJ	0.019 U	**14.000 J**	**11.000 J**	**1.000**
Benzo(b)fluoranthene	**19.000**	**0.500**	**20.000**	**15.000 J**	**17.000 J**	**6.000**	**23.000**	**0.099**	**9.900**	0.880 U	**0.045**	0.017 U	1.800 U	**0.110**	0.018 UJ	0.019 U	**8.800 J**	**5.600 J**	**1.000**
Benzo(ghi)perylene	**16.000**	**0.300**	**19.000**	**22.000 J**	**13.000 J**	**4.500**	**21.000**	**0.076**	**6.200**	0.880 U	**0.038**	0.017 U	1.800 U	**0.100**	0.018 UJ	0.019 U	**8.000 J**	**4.700 J**	0.980 U
Benzo(k)fluoranthene	**32.000**	**0.630**	**23.000**	**26.000 J**	**19.000 J**	**6.300**	**26.000**	**0.100**	**14.000**	0.880 U	**0.057**	0.017 U	1.800 U	**0.110**	0.018 UJ	0.019 U	**9.500 J**	**7.400 J**	0.980 U
Chrysene	**67.000**	**0.460**	**46.000**	**40.000 J**	**50.000 J**	**16.000**	**54.000**	**0.180**	**20.000**	0.880 U	**0.079**	0.017 U	1.800 U	**0.110**	**0.019 J**	0.019 U	**18.000 J**	**16.000 J**	**1.400**
Dibenz(a,h)anthracene	**5.300**	0.088 U	**3.500**	**6.000 J**	3.300 UJ	1.300 U	5.000 U	0.018 U	**3.000**	0.880 U	0.016 U	0.017 U	1.800 U	**0.100**	0.018 UJ	0.480 U	3.000 UJ	1.600 UJ	0.980 U
Fluoranthene	**140.000**	**0.510**	**91.000**	**120.000 J**	**91.000 J**	**21.000**	**100.000**	**0.250**	**36.000**	0.880 U	**0.082**	0.017 U	1.800 U	**0.110**	**0.064 J**	0.019 U	**37.000 J**	**27.000 J**	**2.500**
Fluorene	**34.000**	0.088 U	**91.000**	**62.000 J**	**85.000 J**	1.300 U	**40.000**	0.018 U	0.830 U	0.880 U	0.016 U	0.017 U	1.800 U	0.018 U	0.018 UJ	0.019 U	**52.000 J**	**18.000 J**	0.980 U
Indeno(1,2,3-cd)pyrene	**14.000**	**0.260**	**18.000**	**15.000 J**	**9.700 J**	**3.600**	**20.000**	**0.074**	**5.700**	0.880 U	**0.030**	0.017 U	1.800 U	**0.110**	0.018 UJ	0.019 U	**8.600 J**	**3.000 J**	0.980 U
Naphthalene	**37.000**	**0.110**	**400.000**	**120.000 J**	**310.000 J**	**4.400**	**280.000**	0.018 U	**1.400**	0.880 U	**0.017**	0.017 U	1.800 U	0.018 U	0.018 UJ	0.019 U	**270.000 J**	**22.000 J**	0.980 U
Phenanthrene	**520.000**	**0.310**	**280.000**	**240.000 J**	**300.000 J**	**3.700**	**180.000**	**0.057**	**3.300**	0.880 U	**0.058**	0.017 U	1.800 U	**0.036**	0.018 UJ	0.019 U	**130.000 J**	**64.000 J**	**2.200**
Pyrene	**250.000**	**1.800**	**130.000**	**170.000 J**	**150.000 J**	**37.000**	**130.000**	**0.470**	**54.000**	**0.900**	**0.140**	**0.018**	1.800 U	**0.120**	**0.096 J**	0.019 U	**55.000 J**	**44.000 J**	**2.700**
Total HMW PAH	**525.300**	**5.554**	**351.500**	**384.000**	**353.350**	**101.050**	**375.500**	**1.388**	**152.800**	**4.420**	**0.563**	**0.086**	8.100 U	**0.990**	**0.178**	0.316 U	**142.400**	**109.500**	**9.260**
Total LMW PAH	**1186.000**	**1.882**	**1442.000**	**808.000**	**1212.000**	**43.750**	**790.000**	**0.501**	**55.945**	3.520 U	**0.264**	0.068 U	7.200 U	**0.230**	**0.127**	0.076 U	**858.000**	**204.700**	**7.640**
Total PAH	**1711.300**	**7.436**	**1793.500**	**1192.000**	**1565.350**	**144.800**	**1165.500**	**1.889**	**208.745**	**7.940**	**0.827**	**0.154**	15.300 U	**1.220**	**0.305**	0.392 U	**1000.400**	**314.200**	**16.900**
Benzo(a)pyrene Equivalents	**67.087**	**1.17376**	**50.076**	**53.400**	**48.060**	**13.389**	**52.114**	**0.20948**	**24.920**	**1.01684**	**0.10835**	**0.01965**	**2.0799**	**0.24521**	**0.02081**	**0.25246**	**19.253**	**14.450**	**1.7653**
SVOC (mg/Kg)																			
1,1-Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U
3+4-Methylphenols	<5.200 U	<0.530 U	<3.900 U	<8.300 UJ	<5.000 UJ	<3.800 U	<19.000 U	<0.530 U	<2.500 U	<1.000 U	<0.490 U	<0.500 U	<5.500 U	<0.560 U	<0.540 UJ	<0.570 U	<4.400 UJ	<4.600 UJ	<1.200 U
bis(2-Ethylhexyl) phthalate	<8.600 U	<0.880 U	<6.500 U	<14.000 UJ	<8.300 UJ	<6.400 U	<31.000 U	<0.890 U	<4.200 U	<1.800 U	<0.820 U	<0.830 U	<9.100 U	<0.920 U	<0.900 UJ	<0.950 U	<7.400 UJ	<7.800 UJ	<2.000 U
Carbazole	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U
Dibenzofuran	**7.300**	<0.440 U	**8.000**	<6.900 UJ	**10.000 J**	<3.200 U	**16.000**	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	**5.900 J**	<3.900 UJ	<0.980 U
Phenol	<6.100 U	<0.610 U	<4.600 U	<9.700 UJ	<5.800 UJ	<4.500 U	<22.000 U	<0.620 U	<2.900 U	<1.200 U	<0.580 U	<0.580 U	<6.400 U	<0.650 U	<0.630 UJ	<0.670 U	<5.200 UJ	<5.400 UJ	<1.400 U
Total SVOC	**1871.100**	**21.230**	**1929.850**	**1409.100**	**1722.900**	**250.000**	**1682.000**	**15.17650**	**277.260**	**40.600**	**13.05950**	**12.719**	<165.250 U	**14.993**	**13.83450**	<14.70950 U	**1137.750**	**442.650**	**53.460**
Carbon/Soot (%)																			
Average Soot	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Average Total Organic Carbon	**6.8 J**	**0.40**	**6.9**	**2.8**	**6.5**	**5.1 J**	**5.0**	**0.28 J**	**3.7 J**	**0.26**	**0.080**	**0.55 J**	**0.75**	**0.10 J**	**0.31 J**	**0.36 J**	**5.0 J**	**4.1**	**3.2**
Soot Run 1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Soot Run 2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Soot Run 3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon	**6.8 J**	**0.41**	**7.5**	**2.5**	**6.7**	**5.1 J**	**4.6**	**0.27 J**	**3.0 J**	**0.27**	**0.087**	**0.61 J**	**0.80**	**0.11 J**	**0.29 J**	**0.41 J**	**4.3 J**	**3.7**	**2.9**
Total Organic Carbon (Run 2)	**6.7 J**	**0.41**	**6.3**	**3.1**	**5.6**	**5.1 J**	**5.6**	**0.30 J**	**3.9 J**	**0.23**	**0.083**	**0.56 J**	**0.61**	**0.10 J**	**0.32 J**	**0.36 J**	**5.2 J**	**4.3**	**3.7**
Total Organic Carbon (Run 3)	**7.0 J**	**0.38**	**6.8**	**2.9**	**7.2**	**5.1 J**	**4.6**	**0.26 J**	**4.2 J**	**0.28**	**0.07**	**0.50 J**	**0.84**	**0.09 J**	**0.33 J**	**0.33 J**	**5.5 J**	**4.2**	**2.9**

Notes:
NA = Not Available
NS = Not Sampled
mg/Kg = milligram per kilogram
Bold = detected above reporting limit
Total VOCs include BTEX
Total SVOCs include Total PAH
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-10
Summary of OU2 RI Surface Sediment Analytical Results - All Compounds
Former East 21st Street Works, New York, New York

Location	GS38	GS39	GS40	GS41	GS41 DUP	GS42	GS43	RB2	RB3	RB4	RB5	RB6	RB8	RB9	RB10	RB11	RB12	RB13	RB14
Sample Date	10/29/2008	10/27/2008	10/27/2008	10/29/2008	10/29/2008	10/29/2008	10/30/2008	6/18/2008	6/19/2008	6/19/2008	6/20/2008	6/20/2008	6/23/2008	6/24/2008	6/24/2008	6/25/2008	6/25/2008	6/26/2008	6/27/2008
Top of Sediment Elevation	-41	-20	-29	-25	-25	-11	-14	-9	-12	-8	-8	-15	-24	-35	-32	-25	-6	-21	-25
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-0.4	0-0.5	0-0.5	0-1	0-1	0-1	0-1	0-1	0-1	0-1
Sediment Type	Sandy Silt and Clay	Silt and Gravel	Sand and Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Gravel	Sand/Silt	Sand	Silt	Sand	Silt	Silt
Observation		NAPL											TLM/Stain/Sheen			NAPL		Sheen	Sheen/Stain
Odor		MGP	Organic	Organic	Organic	Organic	Organic		MGP, Organic	H_2S	H_2S	H_2S	MGP	H_2S		MGP		MGP, H2S, Organic	MGP
BTEX (mg/Kg)																			
Benzene	0.0036 U	**8.200**	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	**0.0097 J**	**0.0095**	**0.0081 J**	**0.019 J**	**4.500**	0.0031 U	0.0031 U	0.600 U	0.0034 U	**0.021 J**	**58.000 J**
Ethylbenzene	0.0036 U	**220.000**	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	**0.022 J**	**0.098**	0.0060 UJ	**0.017 J**	**38.000**	0.0031 U	**0.0070**	**3.900**	0.0034 U	**0.160 J**	**460.000 J**
m,p-Xylene	0.0071 U	**150.000**	0.0092 U	0.012 UJ	0.011 UJ	0.024 UJ	0.016 UJ	0.013 UJ	**0.028 J**	**0.087**	0.012 UJ	**0.027 J**	**22.000**	0.0062 U	0.0062 U	**5.600**	0.0068 U	**0.065 J**	**350.000 J**
o-Xylene	0.0071 U	**89.000**	0.0092 U	0.012 UJ	0.011 UJ	0.024 UJ	0.016 UJ	0.013 UJ	**0.017 J**	**0.071**	0.012 UJ	0.012 UJ	**12.000**	0.0062 U	0.0062 U	**3.200**	0.0068 U	**0.110 J**	**170.000 J**
Toluene	0.0054 U	**33.000**	0.0069 U	0.0094 UJ	0.0085 UJ	0.018 UJ	0.012 UJ	0.0099 UJ	0.011 UJ	**0.017**	0.0089 UJ	0.0094 UJ	4.700 U	0.0046 U	0.0046 U	0.900 U	0.0051 U	0.0091 UJ	**140.000 J**
Total Xylene (calculated)	0.00710 U	**239.000**	0.00920 U	0.012 U	0.011 U	0.024 U	0.016 U	0.013 U	**0.045**	**0.158**	0.012 U	**0.033**	**34.000**	0.00620 U	0.00620 U	**8.800**	0.00680 U	**0.175**	**520.000**
Total BTEX	0.01340 U	**500.200**	0.01725 U	0.02290 U	0.02095 U	0.045 U	0.02980 U	0.02455 U	**0.08220**	**0.28250**	**0.02755**	**0.07370**	**78.850**	0.01160 U	**0.01705**	**13.450**	0.01275 U	**0.36055**	**1178.000**
VOC (mg/Kg)																			
1,1,1-Trichloroethane	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	**39.000 J**
2-Butanone (Methyl Ethyl Ketone)	0.036 U	82.000 U	0.046 U	0.062 UJ	0.057 UJ	0.120 UJ	0.078 UJ	0.066 UJ	0.074 UJ	0.041 U	0.060 UJ	0.062 UJ	32.000 U	0.031 U	0.031 U	6.000 U	0.034 U	0.061 UJ	340.000 UJ
Acetone	0.036 U	82.000 U	0.046 U	**0.081 J**	**0.110 J**	**0.170 J**	**0.130 J**	**0.160 J**	**0.084 J**	**0.120**	**0.095 J**	**0.140 J**	32.000 U	0.031 U	0.031 U	6.000 U	0.034 U	**0.250 J**	340.000 UJ
Chlorobenzene	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	**35.000 J**
Tetrachloroethene	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	**44.000 J**
Trichloroethene	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	**36.000 J**
Vinyl Chloride	0.0071 U	16.000 U	0.0092 U	0.012 UJ	0.011 UJ	0.024 UJ	0.016 UJ	0.013 UJ	0.015 UJ	0.0082 U	0.012 UJ	0.012 UJ	6.300 U	0.0062 U	0.0062 U	1.200 U	0.0068 U	0.012 UJ	68.000 UJ
Total VOC	0.19180 U	**907.00004**	0.24585 U	**0.38100**	**0.38500**	**0.75350**	**0.51000**	**0.47925**	**0.49730**	**0.58525**	**0.39085**	**0.49080**	**237.65001**	0.16535 U	**0.17080**	**43.30000**	0.18215 U	**0.88240**	**2958.00014**
PAH (mg/Kg)																			
2-Methylnaphthalene	NS	**1000.000**	**3.400**	1.700 UJ	1.500 UJ	**3.800 J**	2.100 UJ	0.350 UJ	**1.600 J**	**11.000**	**1.700 J**	**8.000 J**	**360.000**	**0.048**	0.016 U	**70.000**	**0.890**	**15.000**	**180.000 J**
Acenaphthene	NS	**340.000**	**2.100**	1.700 UJ	1.500 UJ	**3.800 J**	2.100 UJ	0.350 UJ	**1.300 J**	**8.600**	**3.000 J**	**8.200 J**	**140.000**	0.016 U	0.016 U	**5.200**	**0.460**	**36.000**	**85.000 J**
Acenaphthylene	NS	**100.000**	**8.000**	1.700 UJ	1.500 UJ	**2.000 J**	2.100 UJ	**0.520 J**	**0.990 J**	**3.500**	**1.700 J**	**3.200 J**	**16.000**	**0.027**	0.016 U	**34.000**	**0.570**	**3.000**	**9.800 J**
Anthracene	NS	**190.000**	**11.000**	1.700 UJ	**3.400 J**	**3.700 J**	2.100 UJ	**0.890 J**	**2.900 J**	**11.000**	**5.000 J**	**7.800 J**	**63.000**	**0.038**	0.016 U	**20.000**	**1.000**	**18.000 J**	**43.000 J**
Benzo(a)anthracene	NS	**84.000**	**27.000**	**1.800 J**	**5.700 J**	**3.500 J**	**2.400 J**	**1.400 J**	**3.200 J**	**9.200**	**7.400 J**	**7.800 J**	**17.000**	**0.063**	0.016 U	**12.000**	**1.700**	**11.000**	**21.000 J**
Benzo(a)pyrene	NS	**77.000**	**22.000**	1.700 UJ	**4.500 J**	**3.000 J**	2.100 UJ	**1.600 J**	**3.300 J**	**8.500**	**7.700 J**	**7.400 J**	**13.000**	**0.060**	0.016 U	**9.300**	**1.600**	**8.100**	**16.000 J**
Benzo(b)fluoranthene	NS	**28.000**	**14.000**	1.700 UJ	**2.400 J**	1.600 UJ	2.100 UJ	**1.100 J**	**2.700 J**	**5.800**	**6.500 J**	**5.400 J**	**5.000**	**0.037**	0.016 U	**5.000**	**0.970**	**5.700**	**9.300 J**
Benzo(ghi)perylene	NS	**18.000**	**9.300**	1.700 UJ	**2.000 J**	1.600 UJ	2.100 UJ	**0.720 J**	**1.600 J**	**3.800**	**4.000 J**	**2.900 J**	**4.600**	**0.032**	0.016 U	**3.400**	**0.820**	**3.100**	**6.200 J**
Benzo(k)fluoranthene	NS	**53.000**	**16.000**	1.700 UJ	**3.800 J**	1.600 UJ	2.100 UJ	**1.000 J**	**2.100 J**	**4.300**	**4.700 J**	**4.200 J**	**7.900**	**0.064**	0.016 U	**7.400**	**1.600**	**4.800**	**7.900 J**
Chrysene	NS	**81.000**	**20.000**	**2.200 J**	**5.200 J**	**4.000 J**	**2.800 J**	**1.600 J**	**3.400 J**	**9.000**	**8.000 J**	**7.900 J**	**16.000**	**0.059**	0.016 U	**11.000**	**1.700**	**10.000**	**19.000 J**
Dibenz(a,h)anthracene	NS	**6.400**	**3.400**	1.700 UJ	1.500 UJ	1.600 UJ	2.100 UJ	0.350 UJ	0.390 UJ	**0.720**	1.300 UJ	**0.740 J**	**1.100**	0.016 U	0.016 U	**0.950**	**0.210**	**0.940**	1.800 UJ
Fluoranthene	NS	**160.000**	**27.000**	**3.300 J**	**12.000 J**	**6.500 J**	**4.200 J**	**2.200 J**	**6.400 J**	**18.000**	**15.000 J**	**14.000 J**	**62.000**	**0.110**	0.016 U	**34.000**	**3.500**	**21.000 J**	**45.000 J**
Fluorene	NS	**190.000**	**1.200**	1.700 UJ	1.500 UJ	**1.600 J**	2.100 UJ	0.350 UJ	**1.800 J**	**6.900**	**2.100 J**	**6.400 J**	**68.000**	**0.017**	0.016 U	**22.000**	**0.440**	**5.800**	**40.000 J**
Indeno(1,2,3-cd)pyrene	NS	**15.000**	**8.300**	1.700 UJ	**1.700 J**	1.600 UJ	2.100 UJ	**0.580 J**	**1.400 J**	**2.900**	**3.300 J**	**2.500 J**	**4.200**	**0.028**	0.016 U	**3.400**	**0.760**	**2.700**	**4.600 J**
Naphthalene	NS	**1100.000**	**13.000**	**3.500 J**	1.500 UJ	**5.500 J**	**4.200 J**	**0.450 J**	**3.000 J**	**10.000**	**2.900 J**	**10.000 J**	**570.000**	**0.079**	**0.058**	**96.000**	**1.400**	**29.000**	**320.000 J**
Phenanthrene	NS	**610.000**	**10.000**	1.700 UJ	**6.200 J**	**6.900 J**	**2.300 J**	**1.100 J**	**5.600 J**	**25.000**	**8.500 J**	**19.000 J**	**220.000**	**0.066**	0.016 U	**85.000**	**2.400**	**34.000**	**110.000 J**
Pyrene	NS	**260.000**	**56.000**	**4.500 J**	**14.000 J**	**8.500 J**	**6.400 J**	**2.600 J**	**6.600 J**	**23.000**	**16.000 J**	**17.000 J**	**100.000**	**0.200**	**0.030**	**36.000**	**4.500**	**25.000 J**	**61.000 J**
Total HMW PAH	NS	**622.400**	**176.000**	**13.600**	**40.050**	**23.000**	**17.900**	**10.775**	**24.495**	**67.220**	**58.250**	**55.840**	**168.800**	**0.551**	**0.094**	**88.450**	**13.860**	**71.340**	**145.900**
Total LMW PAH	NS	**3690.000**	**75.700**	**11.900**	**25.350**	**33.800**	**15.950**	**5.685**	**23.590**	**94.000**	**39.900**	**76.600**	**1499.000**	**0.393**	**0.114**	**366.200**	**10.660**	**161.800**	**832.800**
Total PAH	NS	**4312.400**	**251.700**	**25.500**	**65.400**	**56.800**	**33.850**	**16.460**	**48.085**	**161.220**	**98.150**	**132.440**	**1667.800**	**0.944**	**0.208**	**454.650**	**24.520**	**233.140**	**978.700**
Benzo(a)pyrene Equivalents	NS	**96.711**	**30.510**	**2.0607**	**6.2732**	**4.322**	**2.5633**	**2.0946**	**4.2494**	**11.062**	**10.125**	**9.7599**	**16.815**	**0.0815**	**0.01849**	**12.375**	**2.1707**	**11.038**	**20.488**
SVOC (mg/Kg)																			
1,1-Biphenyl	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NS	<5.500 U	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ
3+4-Methylphenols	NS	<6.600 U	<3.700 U	<5.000 UJ	<4.500 UJ	<4.900 UJ	<6.200 UJ	<2.100 UJ	<2.400 UJ	<2.600 U	<3.800 UJ	<4.000 UJ	<0.510 U	<0.490 U	<0.490 U	<0.480 U	<0.550 U	<0.980 U	<5.400 UJ
bis(2-Ethylhexyl) phthalate	NS	<11.000 U	<6.200 U	<8.300 UJ	<7.600 UJ	**9.600 J**	<10.000 UJ	**5.400 J**	**7.100 J**	**4.500**	**24.000 J**	**15.000 J**	<0.840 U	<0.820 U	<0.820 U	<0.800 U	<0.910 U	**8.000**	<9.000 UJ
Carbazole	NS	<5.500 U	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	**0.770**	<0.410 U	<0.410 U	**1.300**	<0.460 U	<0.810 U	<4.500 UJ
Dibenzofuran	NS	**26.000**	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	**5.800**	<0.410 U	<0.410 U	**6.700**	<0.460 U	**1.900**	**4.600 J**
Phenol	NS	<7.600 U	<4.300 U	<5.800 UJ	<5.300 UJ	<5.700 UJ	<7.300 UJ	<2.400 UJ	<2.700 UJ	<3.100 U	<4.400 UJ	<4.700 UJ	<0.590 U	<0.580 U	<0.580 U	<0.560 U	<0.640 U	<1.100 U	<6.300 UJ
Total SVOC	NS	**4605.450**	**347.860**	**162.850**	**189.450**	**195.650**	**203.850**	**75.475**	**115.020**	**231.990**	**223.800**	**247.475**	**1695.405**	**13.17650**	**12.44050**	**478.930**	**38.80050**	**267.005**	**1151.400**
Carbon/Soot (%)																			
Average Soot	NS	NS	NS	NS	NS	NS	NS	**0.34 J**	**0.25 J**	**0.57**	**1.3 J**	**2.0 J**	**0.36**	**0.26**	0.010 U	**0.41**	**1.4**	**1.8 J**	**1.1 J**
Average Total Organic Carbon	NS	**4.7 J**	**7.2 J**	**2.2 J**	**2.6**	**3.9 J**	**4.8**	**2.8 J**	**3.0 J**	**2.6**	**4.6 J**	**7.2 J**	**1.6**	**0.41**	0.010 U	0.010 U	**1.4**	**4.4 J**	**4.8 J**
Soot Run 1	NS	NS	NS	NS	NS	NS	NS	**0.34 J**	**0.28 J**	**0.51**	**1.2 J**	**2.7 J**	**0.26**	**0.14**	0.010 U	**0.36**	**1.5**	**1.5 J**	**1.1 J**
Soot Run 2	NS	NS	NS	NS	NS	NS	NS	**0.36 J**	**0.21 J**	**0.63**	**1.1 J**	**1.6 J**	**0.33**	**0.14**	**0.03**	**0.27**	**1.4**	**2.0 J**	**1.3 J**
Soot Run 3	NS	NS	NS	NS	NS	NS	NS	**0.33 J**	**0.26 J**	**0.59**	**1.6 J**	**1.8 J**	**0.49**	**0.49**	0.010 U	**0.62**	**1.3**	**1.8 J**	**0.84 J**
Total Organic Carbon	NS	**4.2 J**	**7.8 J**	**2.3 J**	**2.9**	**3.8 J**	**5.4**	**2.8 J**	**2.7 J**	**2.6**	**4.8 J**	**6.5 J**	**1.7**	**0.45**	0.010 U	0.010 U	**1.1**	**5.2 J**	**4.5 J**
Total Organic Carbon (Run 2)	NS	**5.5 J**	**7.0 J**	**2.1 J**	**2.5**	**3.6 J**	**4.5**	**2.8 J**	**3.1 J**	**2.8**	**4.5 J**	**7.9 J**	**1.9**	**0.30**	0.010 U	0.010 U	**1.6**	**4.0 J**	**4.9 J**
Total Organic Carbon (Run 3)	NS	**4.4 J**	**6.7 J**	**2.3 J**	**2.3**	**4.4 J**	**4.6**	**2.8 J**	**3.2 J**	**2.5**	**4.7 J**	**7.3 J**	**1.3**	**0.48**	0.010 U	0.010 U	**1.5**	**4.2 J**	**5.0 J**

Notes:
NA = Not Available
NS = Not Sampled
mg/Kg = milligram per kilogram
Bold = detected above reporting limit
Total VOCs include BTEX
Total SVOCs include Total PAH
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-10
Summary of OU2 RI Surface Sediment Analytical Results - All Compounds
Former East 21st Street Works, New York, New York

Location	RB16	RB17	RB18	RB19	RB20	RB21	RB22	RB23	RB24	RB25	RB26	RB27	RB28	RB29	RB30	RB31	RB32
Sample Date	6/30/2008	6/30/2008	7/1/2008	7/1/2008	7/2/2008	7/2/2008	7/7/2008	7/8/2008	7/8/2008	7/9/2008	7/9/2008	7/10/2008	7/10/2008	7/11/2008	7/11/2008	7/15/2008	7/15/2008
Top of Sediment Elevation	-32	-32	-26	-15	-23	-32	-32	-7	-21	-10	-32	-35	-35	-35	-38	-35	-35
Depth Interval (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Sediment Type	Silt	Sand, Silt, and Clay	Silt	Silt	Silt	Sand	Sand	Silt	Silt	Silt	Silty Sand	Sand	Gravel	Sand	Sand, Silt, and Clay	Sand, Silt, and Clay	Sand
Observation														Sheen			
Odor	MGP, H2S, Organic		H_2S	H_2S	H_2S			H_2S	H_2S	H_2S			H_2S				
BTEX (mg/Kg)																	
Benzene	0.0037 U	0.0033 U	**0.0083 J**	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ	**0.0058**	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	**2.100**	0.0036 U	0.0034 U	0.0031 U
Ethylbenzene	**0.0050**	0.0033 U	0.0069 UJ	0.0069 UJ	**0.330**	0.0030 U	0.0030 U	0.0062 UJ	**0.043**	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	**9.100**	0.0036 U	0.0034 U	0.0031 U
m,p-Xylene	0.0074 U	0.0066 U	0.014 UJ	0.014 UJ	0.0076 U	0.0061 U	0.0061 U	0.012 UJ	**0.029**	0.010 UJ	0.0062 U	0.0060 U	0.0066 U	**4.400**	0.0071 U	0.0068 U	0.0062 U
o-Xylene	0.0074 U	0.0066 U	0.014 UJ	0.014 UJ	**0.0077**	0.0061 U	0.0061 U	0.012 UJ	**0.053**	0.010 UJ	0.0062 U	0.0060 U	0.0066 U	**4.600**	0.0071 U	0.0068 U	0.0062 U
Toluene	0.0055 U	0.0049 U	0.010 UJ	0.010 UJ	0.0057 U	0.0046 U	0.0046 U	0.0094 UJ	0.0072 U	0.0078 UJ	0.0047 U	0.0045 U	0.0049 U	0.660 U	0.0054 U	0.0051 U	0.0047 U
Total Xylene (calculated)	0.00740 U	0.00660 U	0.014 U	0.014 U	**0.01150**	0.00610 U	0.00610 U	0.012 U	**0.082**	0.010 U	0.00620 U	0.006 U	0.00660 U	**9.000**	0.00710 U	0.00680 U	0.00620 U
Total BTEX	**0.017**	0.01235 U	**0.03075**	0.02590 U	**0.34625**	0.01140 U	0.01140 U	0.02290 U	**0.13440**	0.01910 U	0.01165 U	0.01125 U	0.01235 U	**20.530**	0.01340 U	0.01275 U	0.01165 U
VOC (mg/Kg)																	
1,1,1-Trichloroethane	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U
2-Butanone (Methyl Ethyl Ketone)	0.037 U	0.033 U	**0.070 J**	0.069 UJ	0.038 U	0.030 U	0.030 U	0.062 UJ	0.048 U	0.052 UJ	0.031 U	0.030 U	0.033 U	4.400 U	0.036 U	0.034 U	0.031 U
Acetone	0.037 UJ	0.033 UJ	**0.290 J**	**0.250 J**	0.038 U	0.030 U	0.030 UJ	**0.110 J**	**0.140 J**	**0.071 J**	0.031 U	0.030 U	0.033 U	4.400 U	0.036 U	0.034 U	0.031 U
Chlorobenzene	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U
Tetrachloroethene	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U
Trichloroethene	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U
Vinyl Chloride	0.0074 U	0.0066 U	0.014 UJ	0.014 UJ	0.0076 U	0.0061 U	0.0061 U	0.012 UJ	0.0096 U	0.010 UJ	0.0062 U	0.0060 U	0.0066 U	0.880 U	0.0071 U	0.0068 U	0.0062 U
Total VOC	**0.20085**	0.17630 U	**0.66510**	**0.58475**	**0.53505**	0.16130 U	0.16130 U	**0.41000**	**0.48920**	**0.32200**	0.16610 U	0.16025 U	0.17630 U	**42.42000**	0.19180 U	0.18215 U	0.16610 U
PAH (mg/Kg)																	
2-Methylnaphthalene	**1.200**	**0.033**	**1.400 J**	**0.790 J**	**0.680**	**0.043**	0.016 U	**0.160 J**	**0.870**	**0.050 J**	**0.018**	0.016 U	0.088 U	**2.600**	**0.150**	0.018 U	0.017 U
Acenaphthene	**22.000**	**0.022**	0.740 UJ	**0.480 J**	**11.000**	0.016 U	0.016 U	**0.130 J**	**4.300**	**0.058 J**	0.017 U	0.016 U	**0.210**	**6.000**	**0.440**	0.018 U	0.017 U
Acenaphthylene	**1.400**	**0.300**	**1.700 J**	**0.680 J**	**23.000**	**0.041**	0.016 U	**0.210 J**	**0.830**	**0.360 J**	**0.190**	0.016 U	**0.570**	**1.900**	**0.120**	**0.028**	0.017 U
Anthracene	**10.000**	**0.270**	**1.400 J**	**1.200 J**	**2.800**	**0.029**	0.016 U	**0.190 J**	**5.300**	**0.280 J**	**0.240**	0.016 U	**1.400**	**6.300**	**1.200**	**0.037**	0.017 U
Benzo(a)anthracene	**4.700**	**0.800**	**2.100 J**	**2.000 J**	**1.600**	**0.051**	0.016 U	**0.390 J**	**2.600**	**0.980 J**	**0.830**	**0.021**	**2.600**	**6.600**	**1.200**	**0.110**	**0.029**
Benzo(a)pyrene	**3.200**	**0.700**	**2.000 J**	**2.100 J**	**1.500**	**0.052**	0.016 U	**0.560 J**	**3.700**	**1.100 J**	**0.650**	**0.024**	**2.800**	**6.000**	**0.820**	**0.082**	0.017 U
Benzo(b)fluoranthene	**2.000**	**0.650**	**1.400 J**	**1.600 J**	**1.300**	**0.042**	0.016 U	**0.320 J**	**2.100**	**0.600 J**	**0.560**	**0.029**	**2.000**	**5.200**	**0.870**	**0.088**	0.017 U
Benzo(ghi)perylene	**1.000**	**0.330**	**1.100 J**	**1.000 J**	**0.860**	**0.027**	0.016 U	**0.230 J**	**1.800**	**0.300 J**	**0.210**	0.016 U	**1.300**	**2.800**	**0.260**	**0.047**	0.017 U
Benzo(k)fluoranthene	**1.700**	**0.530**	**1.100 J**	**1.300 J**	**0.890**	**0.032**	0.016 U	**0.440 J**	**1.900**	**0.710 J**	**0.550**	**0.028**	**2.100**	**4.200**	**0.680**	**0.085**	**0.020**
Chrysene	**4.000**	**0.620**	**2.000 J**	**2.400 J**	**1.400**	**0.044**	0.016 U	**0.460 J**	**2.500**	**0.940 J**	**0.600**	**0.029**	**2.400**	**5.500**	**0.950**	**0.100**	**0.024**
Dibenz(a,h)anthracene	**0.270**	**0.087**	0.740 UJ	0.370 UJ	**0.200**	0.016 U	0.016 U	0.033 UJ	0.130 U	**0.060 J**	**0.048**	0.016 U	**0.190**	**1.000**	**0.044**	0.018 U	0.017 U
Fluoranthene	**8.900**	**1.800**	**4.000 J**	**3.200 J**	**3.600**	**0.068**	**0.021**	**0.810 J**	**8.200**	**1.100 J**	**1.900**	**0.047**	**4.600**	**13.000**	**3.100**	**0.250**	**0.032**
Fluorene	**5.800**	**0.020**	0.740 UJ	**0.430 J**	**1.000**	0.016 U	0.016 U	**0.120 J**	**1.900**	**0.064 J**	**0.026**	0.016 U	**0.220**	**3.700**	**0.660**	0.018 U	0.017 U
Indeno(1,2,3-cd)pyrene	**0.920**	**0.330**	**0.960 J**	**0.830 J**	**0.710**	**0.023**	0.016 U	**0.170 J**	**1.200**	**0.260 J**	**0.230**	0.016 U	**1.400**	**2.700**	**0.250**	**0.041**	0.017 U
Naphthalene	**2.300**	**0.097**	**1.400 J**	**1.100 J**	**4.500**	**0.056**	**0.026**	**0.160 J**	**1.600**	**0.069 J**	**0.030**	0.016 U	**0.130**	**12.000**	**0.300**	**0.028**	0.017 U
Phenanthrene	**33.000**	**0.094**	**2.400 J**	**1.900 J**	**8.100**	**0.050**	0.016 U	**0.430 J**	**10.000**	**0.320 J**	**0.400**	**0.020**	**2.700**	**14.000**	**3.500**	**0.083**	0.017 U
Pyrene	**14.000**	**1.900**	**4.600 J**	**3.700 J**	**4.200**	**0.110**	**0.037**	**0.800 J**	**9.000**	**1.300 J**	**1.400**	**0.071**	**5.200**	**11.000**	**2.300**	**0.250**	**0.063**
Total HMW PAH	**31.790**	**5.947**	**15.630**	**15.115**	**12.660**	**0.389**	**0.101**	**3.38650**	**24.865**	**6.250**	**5.078**	**0.226**	**19.990**	**45.000**	**7.374**	**0.812**	**0.17850**
Total LMW PAH	**84.600**	**2.636**	**13.040**	**9.780**	**54.680**	**0.303**	**0.095**	**2.210**	**33.000**	**2.301**	**2.81250**	**0.115**	**9.874**	**59.500**	**9.470**	**0.453**	**0.09150**
Total PAH	**116.390**	**8.583**	**28.670**	**24.895**	**67.340**	**0.692**	**0.196**	**5.59650**	**57.865**	**8.551**	**7.89050**	**0.341**	**29.864**	**104.500**	**16.844**	**1.265**	**0.270**
Benzo(a)pyrene Equivalents	**4.253**	**0.97092**	**2.829**	**2.7434**	**2.0713**	**0.07196**	**0.01849**	**0.66936**	**4.3765**	**1.35204**	**0.8661**	**0.03811**	**3.6134**	**8.4975**	**1.10375**	**0.11585**	**0.02182**
SVOC (mg/Kg)																	
1,1-Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	<0.490 U	<0.440 U	<0.920 UJ	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U
3+4-Methylphenols	<0.590 U	<0.530 U	**2.000 J**	**2.100 J**	<1.200 U	<0.490 U	<0.490 U	<1.000 UJ	<0.770 U	<0.830 UJ	<0.500 U	<0.480 U	<0.530 U	<0.700 U	<0.570 U	<0.550 U	<0.500 U
bis(2-Ethylhexyl) phthalate	<0.980 U	<0.880 U	**4.900 J**	**8.000 J**	<2.000 U	<0.810 U	<0.810 U	<1.700 UJ	<1.300 U	<1.400 UJ	<0.830 U	<0.800 U	<0.880 U	<1.200 U	<0.950 U	<0.910 U	<0.830 U
Carbazole	<0.490 U	<0.440 U	<0.920 UJ	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	**0.840**	<0.480 U	<0.460 U	<0.420 U
Dibenzofuran	<0.490 U	<0.440 U	<0.920 UJ	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U
Phenol	<0.690 U	<0.610 U	<1.300 UJ	<1.300 UJ	<1.400 U	<0.570 U	<0.570 U	<1.200 UJ	<0.900 U	<0.970 UJ	<0.580 U	<0.560 U	<0.610 U	<0.820 U	<0.670 U	<0.640 U	<0.580 U
Total SVOC	**134.229**	**24.034**	**71.960**	**68.320**	**103.605**	**14.938**	**13.15950**	**32.20450**	**79.015**	**30.73450**	**21.272**	**13.113**	**44.383**	**124.215**	**32.18050**	**14.98650**	**12.835**
Carbon/Soot (%)																	
Average Soot	**0.17**	**0.06**	**1.3 J**	**1.7 J**	**0.83**	**0.48**	**0.17**	**2.8 J**	**1.5**	**0.73 J**	**0.16**	**0.17**	**1.3**	**1.5**	**0.23**	**0.05**	**0.06**
Average Total Organic Carbon	**0.39**	**0.15**	**4.8 J**	**5.7 J**	**1.7**	**0.55**	**0.16**	**6.1 J**	**3.5**	**3.4 J**	**0.49**	**0.58**	**1.9**	**2.3**	**0.25**	**0.17**	**0.45**
Soot Run 1	**0.11**	**0.09**	**1.2 J**	**1.8 J**	**0.86**	**0.48**	**0.12**	**2.9 J**	**1.4**	**0.70 J**	**0.20**	**0.18**	**1.3**	**1.3**	**0.29**	**0.05**	**0.01**
Soot Run 2	**0.17**	**0.05**	**1.3 J**	**1.8 J**	**0.92**	**0.62**	**0.23**	**2.5 J**	**1.8**	**0.72 J**	**0.12**	**0.08**	**0.97**	**1.8**	**0.24**	**0.06**	**0.04**
Soot Run 3	**0.24**	**0.06**	**1.3 J**	**1.6 J**	**0.69**	**0.34**	**0.17**	**2.8 J**	**1.2**	**0.76 J**	**0.15**	**0.26**	**1.7**	**1.3**	**0.16**	**0.06**	**0.14**
Total Organic Carbon	**0.44**	**0.15**	**4.5 J**	**4.4 J**	**1.9**	**0.39**	**0.11**	**6.5 J**	**3.6**	**3.6 J**	**0.53**	**0.63**	**1.9**	**2.2**	**0.27**	**0.19**	**0.39**
Total Organic Carbon (Run 2)	**0.38**	**0.14**	**5.3 J**	**6.3 J**	**1.5**	**0.53**	**0.24**	**5.3 J**	**3.2**	**3.6 J**	**0.36**	**0.51**	**1.1**	**2.6**	**0.29**	**0.13**	**0.54**
Total Organic Carbon (Run 3)	**0.36**	**0.16**	**4.6 J**	**6.3 J**	**1.5**	**0.72**	**0.12**	**6.4 J**	**3.6**	**3.0 J**	**0.58**	**0.61**	**2.7**	**2.2**	**0.18**	**0.19**	**0.41**

Notes:
NA = Not Available
NS = Not Sampled
mg/Kg = milligram per kilogram
Bold = detected above reporting limit
Total VOCs include BTEX
Total SVOCs include Total PAH
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-10
Summary of OU2 RI Surface Sediment Analytical Results - All Compounds
Former East 21st Street Works, New York, New York

Location	RB33	RB34	RB35	RB36	RB37	RB38	RB39	RB40	RB41	RB43	RB44	RB45	RB46	RB47	RB48	RB49	RB50
Sample Date	7/16/2008	7/16/2008	7/17/2008	7/17/2008	7/18/2008	7/18/2008	7/21/2008	7/21/2008	7/22/2008	7/23/2008	7/24/2008	7/24/2008	7/25/2008	7/25/2008	7/28/2008	7/28/2008	7/29/2008
Top of Sediment Elevation	-25	-35	-30	-32	-35	-35	-35	-36	-29	-8	-7	-10	-16	-20	-10	-20	-16
Depth Interval (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Sediment Type	Silt	Sand, Silt, and Clay	Silt	Sand/Clay	Sand	Silt	Sand, Silt, and Clay	Sand	Sand	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt
Observation			Sheen/Stain														Sheen
Odor	H_2S				H_2S	H_2S		Organic		H_2S	H_2S	H_2S	H_2S	H_2S	H_2S		H_2S
BTEX (mg/Kg)																	
Benzene	**0.045 J**	0.0035 U	0.460 U	0.0036 U	0.310 U	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	**0.390 J**	0.0071 UJ	0.0036 U	0.600 UJ
Ethylbenzene	**0.180 J**	0.0035 U	**13.000**	0.0036 U	**1.400**	0.0033 U	0.0031 U	**0.068**	0.0033 U	0.0066 UJ	**0.0061 J**	0.0066 UJ	0.0058 UJ	**8.400 J**	0.0071 UJ	0.0036 U	**45.000 J**
m,p-Xylene	**0.100 J**	0.0069 U	**4.700**	0.0071 U	0.620 U	0.0066 U	0.0062 U	**0.032**	0.0067 U	0.013 UJ	0.011 UJ	0.013 UJ	0.012 UJ	**0.580 J**	0.014 UJ	0.0072 U	**14.000 J**
o-Xylene	**0.230 J**	0.0069 U	**4.000**	0.0071 U	0.620 U	0.0066 U	0.0062 U	**0.022**	0.0067 U	0.013 UJ	0.011 UJ	0.013 UJ	0.012 UJ	**1.600 J**	0.014 UJ	0.0072 U	**20.000 J**
Toluene	**0.055 J**	0.0052 U	0.690 U	0.0054 U	0.460 U	0.0049 U	0.0047 U	0.0092 U	0.0050 U	0.0099 UJ	0.0085 UJ	0.0099 UJ	0.0087 UJ	**0.033 J**	0.011 UJ	0.0054 U	**1.100 J**
Total Xylene (calculated)	**0.330**	0.00690 U	**8.700**	0.00710 U	0.620 U	0.00660 U	0.00620 U	**0.054**	0.00670 U	0.013 U	0.011 U	0.013 U	0.012 U	**2.180**	0.014 U	0.00720 U	**34.000**
Total BTEX	**0.610**	0.013 U	**22.275**	0.01340 U	**2.405**	0.01235 U	0.01165 U	**0.12970**	0.01250 U	0.02455 U	**0.02420**	0.02455 U	0.02215 U	**11.003**	0.02660 U	0.01350 U	**80.400**
VOC (mg/Kg)																	
1,1,1-Trichloroethane	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ
2-Butanone (Methyl Ethyl Ketone)	0.140 UJ	0.035 U	4.600 U	0.036 U	3.100 U	0.033 U	0.031 U	0.062 U	0.033 U	0.066 UJ	0.057 UJ	0.066 UJ	0.058 UJ	0.058 UJ	0.071 UJ	0.036 U	6.000 UJ
Acetone	**0.400 J**	0.035 U	4.600 U	0.036 U	3.100 U	0.033 U	0.031 U	0.062 U	0.033 U	**0.130 J**	**0.110 J**	**0.073 J**	**0.120 J**	**0.150 J**	0.071 UJ	0.036 U	6.000 UJ
Chlorobenzene	**1.600 J**	0.0035 U	0.460 U	0.0036 U	0.310 U	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ
Tetrachloroethene	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ
Trichloroethene	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ
Vinyl Chloride	0.028 UJ	0.0069 U	0.920 U	0.0071 U	0.620 U	0.0066 U	0.0062 U	0.012 U	0.0067 U	0.013 UJ	0.011 UJ	0.013 UJ	0.012 UJ	0.012 UJ	0.014 UJ	0.0072 U	1.200 UJ
Total VOC	**3.22900**	0.18645 U	**45.13500**	0.19180 U	**17.78000**	0.17630 U	0.16610 U	**0.43740**	0.17735 U	**0.44925**	**0.38825**	**0.39225**	**0.40225**	**8.40000**	0.38025 U	0.19260 U	**110.23001**
PAH (mg/Kg)																	
2-Methylnaphthalene	**1.100 J**	0.018 U	**35.000**	**0.570**	**7.800**	**0.049**	0.017 U	**4.700**	0.180 U	**0.150 J**	**0.820 J**	0.070 UJ	0.160 UJ	**8.500 J**	0.380 UJ	**0.320 J**	**210.000 J**
Acenaphthene	**1.300 J**	0.018 U	**43.000**	0.480 U	**8.200**	**0.037**	0.017 U	**16.000**	0.180 U	**0.150 J**	**1.200 J**	**0.073 J**	**0.300 J**	**12.000 J**	0.380 UJ	0.190 U	**200.000 J**
Acenaphthylene	**0.570 J**	0.018 U	**4.700**	**3.400**	**4.900**	**0.140**	0.017 U	**18.000**	**0.930**	**0.380 J**	**0.780 J**	**0.290 J**	**0.250 J**	**2.000 J**	**0.600 J**	**0.420 J**	**17.000 J**
Anthracene	**1.700 J**	0.018 U	**30.000**	**6.800**	**12.000**	**0.170**	0.017 U	**40.000**	**2.800**	**0.430 J**	**1.300 J**	**0.300 J**	**0.470 J**	**16.000 J**	**0.800 J**	**0.660 J**	**160.000 J**
Benzo(a)anthracene	**2.100 J**	0.018 U	**19.000**	**15.000**	**12.000**	**1.100**	0.017 U	**36.000**	**4.200**	**1.100 J**	**2.400 J**	**0.830 J**	**0.810 J**	**12.000 J**	**1.700 J**	**1.100 J**	**98.000 J**
Benzo(a)pyrene	**1.900 J**	0.018 U	**12.000**	**9.600**	**8.900**	**0.780**	0.017 U	**24.000**	**4.800**	**1.000 J**	**2.000 J**	**0.770 J**	**0.500 J**	**9.800 J**	**1.100 J**	**0.860 J**	**67.000 J**
Benzo(b)fluoranthene	**1.200 J**	0.018 U	**7.700**	**9.000**	**8.200**	**0.620**	0.017 U	**23.000**	**2.900**	**0.740 J**	**1.600 J**	**0.600 J**	**0.450 J**	**6.600 J**	**1.200 J**	**0.850 J**	**43.000 J**
Benzo(ghi)perylene	**0.950 J**	0.018 U	**5.100**	**3.900**	**4.300**	**0.280**	0.017 U	**11.000**	**2.900**	**0.590 J**	**1.000 J**	**0.420 J**	**0.320 J**	**5.600 J**	**0.900 J**	**0.550 J**	**34.000 J**
Benzo(k)fluoranthene	**1.200 J**	0.018 U	**7.800**	**8.200**	**6.500**	**0.620**	0.017 U	**19.000**	**2.400**	**0.680 J**	**1.400 J**	**0.540 J**	**0.450 J**	**5.400 J**	**1.200 J**	**0.770 J**	**40.000 J**
Chrysene	**1.900 J**	0.018 U	**14.000**	**10.000**	**10.000**	**0.760**	0.017 U	**23.000**	**3.000**	**0.950 J**	**1.900 J**	**0.680 J**	**0.670 J**	**9.600 J**	**1.600 J**	**0.920 J**	**74.000 J**
Dibenz(a,h)anthracene	**0.220 J**	0.018 U	**2.000**	**1.800**	**1.600**	**0.098**	0.017 U	**3.000**	**0.320**	**0.170 J**	**0.260 J**	**0.120 J**	0.160 UJ	**0.900 J**	0.380 UJ	0.190 U	7.900 UJ
Fluoranthene	**3.500 J**	0.018 U	**36.000**	**31.000**	**33.000**	**1.300**	**0.022**	**90.000**	**5.000**	**1.300 J**	**3.300 J**	**0.880 J**	**1.100 J**	**24.000 J**	**2.500 J**	**1.200 J**	**170.000 J**
Fluorene	**1.000 J**	0.018 U	**25.000**	0.480 U	**8.900**	**0.037**	0.017 U	**16.000**	0.180 U	**0.130 J**	**0.440 J**	0.070 UJ	**0.220 J**	**9.300 J**	0.380 UJ	0.190 U	**120.000 J**
Indeno(1,2,3-cd)pyrene	**0.750 J**	0.018 U	**4.800**	**4.000**	**4.000**	**0.280**	0.017 U	**12.000**	**1.800**	**0.500 J**	**0.920 J**	**0.360 J**	**0.280 J**	**3.800 J**	**0.700 J**	**0.460 J**	**24.000 J**
Naphthalene	**1.200 J**	0.018 U	**45.000**	**1.300**	**13.000**	**0.130**	0.017 U	**15.000**	**0.200**	**0.200 J**	**1.300 J**	**0.094 J**	**0.220 J**	**13.000 J**	0.380 UJ	**0.420 J**	**440.000 J**
Phenanthrene	**4.300 J**	0.018 U	**71.000**	**6.800**	**38.000**	**0.130**	0.017 U	**92.000**	**0.530**	**0.410 J**	**1.900 J**	**0.340 J**	**0.850 J**	**50.000 J**	**0.880 J**	**0.640 J**	**350.000 J**
Pyrene	**4.500 J**	0.018 U	**48.000**	**27.000**	**32.000**	**1.800**	**0.022**	**71.000**	**14.000**	**1.600 J**	**3.700 J**	**1.200 J**	**1.400 J**	**32.000 J**	**2.900 J**	**2.000 J**	**250.000 J**
Total HMW PAH	**14.720**	0.081 U	**120.400**	**88.500**	**87.500**	**6.338**	**0.090**	**222.000**	**36.320**	**7.330**	**15.180**	**5.520**	**4.960**	**85.700**	**11.490**	**7.605**	**633.950**
Total LMW PAH	**14.670**	0.072 U	**289.700**	**50.350**	**125.800**	**1.993**	**0.08150**	**291.700**	**9.730**	**3.150**	**11.040**	**2.047**	**3.490**	**134.800**	**5.540**	**3.850**	**1667.000**
Total PAH	**29.390**	0.153 U	**410.100**	**138.850**	**213.300**	**8.331**	**0.17150**	**513.700**	**46.050**	**10.480**	**26.220**	**7.567**	**8.450**	**220.500**	**17.030**	**11.455**	**2300.950**
Benzo(a)pyrene Equivalents	**2.5389**	**0.0208**	**17.242**	**14.292**	**12.995**	**1.08496**	**0.01965**	**34.313**	**6.037**	**1.41175**	**2.7679**	**1.07508**	**0.73917**	**13.0036**	**1.6636**	**1.20462**	**87.924**
SVOC (mg/Kg)																	
1,1-Biphenyl	NA	NA	**26.700**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	**1.500 J**	<0.460 U	<0.620 U	<0.480 U	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ
3+4-Methylphenols	<1.100 UJ	<0.560 U	<0.740 U	<0.570 U	<0.490 U	<0.530 U	<0.500 U	**1.600**	<0.530 U	<1.000 UJ	<0.910 UJ	<1.000 UJ	<0.930 UJ	<1.900 UJ	<5.700 UJ	<2.900 U	<4.800 UJ
bis(2-Ethylhexyl) phthalate	<1.800 UJ	<0.920 U	<1.200 U	<0.950 U	<0.820 U	<0.880 U	<0.830 U	<1.600 U	<0.890 U	**2.000 J**	**2.100 J**	<1.800 UJ	<1.600 UJ	<3.100 UJ	<9.500 UJ	<4.800 U	<7.900 UJ
Carbazole	<0.920 UJ	<0.460 U	**4.270**	<0.480 U	**2.000**	<0.440 U	<0.420 U	**2.600**	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ
Dibenzofuran	<0.920 UJ	<0.460 U	**15.300**	<0.480 U	**2.700**	<0.440 U	<0.420 U	**15.000**	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	**5.500 J**
Phenol	<1.300 UJ	<0.650 U	<0.860 U	<0.670 U	<0.580 U	<0.610 U	<0.580 U	<1.200 U	<0.620 U	<1.200 UJ	<1.100 UJ	<1.200 UJ	<1.100 UJ	<2.200 UJ	<6.700 UJ	<3.400 U	<5.600 UJ
Total SVOC	**57.99950**	<13.926 U	**481.170**	**158.530**	**234.450**	**21.582**	**12.73650**	**565.495**	**60.355**	**38.195**	**51.255**	**34.182**	**32.870**	**272.160**	**161.645**	**84.445**	**2469.350**
Carbon/Soot (%)																	
Average Soot	**4.6 J**	**0.35**	**3.4**	**1.2**	**2.2**	**0.07**	**0.13**	**0.46**	**0.31**	**0.50 J**	**2.1 J**	**0.35 J**	**0.30 J**	**0.26 J**	**0.51 J**	**0.59**	**0.94 J**
Average Total Organic Carbon	**7.7 J**	**0.36**	**5.4**	**3.1**	**1.8**	**0.61**	**0.21**	**0.56**	**0.45**	**3.7 J**	**6.8 J**	**3.1 J**	**3.0 J**	**2.7 J**	**2.9 J**	**3.1**	**5.7 J**
Soot Run 1	**4.3 J**	**0.32**	**3.6**	**1.5**	**2.4**	**0.07**	**0.10**	**0.36**	**0.34**	**0.48 J**	**2.1 J**	**0.31 J**	**0.30 J**	**0.20 J**	**0.53 J**	**0.98**	**0.88 J**
Soot Run 2	**4.8 J**	**0.48**	**2.9**	**1.4**	**2.7**	**0.06**	**0.09**	**0.83**	**0.27**	**0.55 J**	**2.1 J**	**0.41 J**	**0.31 J**	**0.20 J**	**0.45 J**	**0.41**	**1.1 J**
Soot Run 3	**4.5 J**	**0.24**	**3.8**	**0.79**	**1.6**	**0.07**	**0.19**	**0.20**	**0.31**	**0.49 J**	**2.0 J**	**0.34 J**	**0.28 J**	**0.38 J**	**0.56 J**	**0.38**	**0.88 J**
Total Organic Carbon	**7.4 J**	**0.38**	**5.6**	**3.3**	**1.5**	**0.58**	**0.21**	**0.72**	**0.34**	**4.0 J**	**6.7 J**	**3.2 J**	**3.0 J**	**2.5 J**	**3.0 J**	**3.4**	**6.4 J**
Total Organic Carbon (Run 2)	**7.2 J**	**0.32**	**5.9**	**3.4**	**2.0**	**0.50**	**0.22**	**0.35**	**0.40**	**3.6 J**	**7.6 J**	**3.4 J**	**2.8 J**	**2.9 J**	**2.8 J**	**2.7**	**5.0 J**
Total Organic Carbon (Run 3)	**8.4 J**	**0.39**	**4.9**	**2.6**	**1.7**	**0.76**	**0.19**	**0.62**	**0.60**	**3.4 J**	**6.2 J**	**2.6 J**	**3.2 J**	**2.7 J**	**2.8 J**	**3.2**	**5.8 J**

Notes:
NA = Not Available
NS = Not Sampled
mg/Kg = milligram per kilogram
Bold = detected above reporting limit
Total VOCs include BTEX
Total SVOCs include Total PAH
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-10
Summary of OU2 RI Surface Sediment Analytical Results - All Compounds
Former East 21st Street Works, New York, New York

Location	RB51	RB52	RB53	RB54	RB55	RB56	RB57	RB58	RB59	RB59 DUP	RB60	RB60 DUP	RB61	RB62	RB63	RB64	RB65	RB66
Sample Date	7/29/2008	7/30/2008	7/31/2008	8/1/2008	10/27/2008	10/24/2008	10/24/2008	10/21/2008	10/21/2008	10/21/2008	10/21/2008	10/21/2008	10/24/2008	10/21/2008	10/24/2008	10/24/2008	10/22/2008	10/22/2008
Top of Sediment Elevation	-22	-14	-25	-18	-5	-8	-10	-25	-9	-9	-12	-12	-23	-14	-27	-26	-32	-36
Depth Interval (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
Sediment Type	Silt	Silt	Silt	Silt/Peat	Sand	Silt	Silty Sand	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Gravel/Sand	Gravel/Silt	Silt	Sand
Observation																Sheen	Sheen	Stain
Odor	H_2S	H_2S		H_2S	Organic	Organic	Organic	Organic	Organic	Organic	MGP		Organic	Organic		Organic	Organic	
BTEX (mg/Kg)																		
Benzene	**0.022**	**0.041 J**	0.0053 UJ	**0.017 J**	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ	0.0029 U
Ethylbenzene	**0.032 J**	**0.080 J**	0.0053 UJ	**0.056 J**	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	**0.021**	**0.410**	0.0030 U	**0.0085 J**	0.0029 U
m,p-Xylene	**0.018 J**	**0.079 J**	0.011 UJ	**0.036 J**	0.0068 U	0.012 UJ	0.013 UJ	0.046 UJ	0.014 UJ	0.014 UJ	0.042 UJ	0.044 UJ	0.013 U	0.010 U	**0.610**	0.0060 U	0.012 UJ	0.0059 U
o-Xylene	**0.036 J**	**0.099 J**	0.011 UJ	**0.036 J**	0.0068 U	0.012 UJ	0.013 UJ	0.046 UJ	0.014 UJ	0.014 UJ	0.042 UJ	0.044 UJ	0.013 U	0.010 U	0.610 U	0.0060 U	0.012 UJ	0.0059 U
Toluene	0.0082 UJ	0.0099 UJ	0.0080 UJ	0.0094 UJ	0.0051 U	0.0087 UJ	0.0099 UJ	0.035 UJ	0.010 UJ	0.010 UJ	0.032 UJ	0.033 UJ	0.010 U	0.0075 U	0.460 U	0.0045 U	0.0089 UJ	0.0044 U
Total Xylene (calculated)	**0.054**	**0.178**	0.011 U	**0.072**	0.00680 U	0.012 U	0.013 U	0.046 U	0.014 U	0.014 U	0.042 U	0.044 U	0.013 U	0.010 U	**0.915**	0.006 U	0.012 U	0.00590 U
Total BTEX	**0.11210**	**0.30395**	0.02030 U	**0.14970**	0.01275 U	0.02215 U	0.02455 U	0.08650 U	0.02580 U	0.02590 U	0.079 U	0.08250 U	0.02470 U	**0.03725**	**1.705**	0.01125 U	**0.02795**	0.011 U
VOC (mg/Kg)																		
1,1,1-Trichloroethane	0.0054 UJ	0.0066 UJ	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ	0.0029 U
2-Butanone (Methyl Ethyl Ketone)	0.054 UJ	**0.096 J**	0.053 UJ	0.062 UJ	0.034 U	0.058 UJ	0.066 UJ	0.230 UJ	0.068 UJ	0.069 UJ	0.210 UJ	0.220 UJ	0.067 U	0.050 U	3.000 U	0.030 U	0.060 UJ	0.029 U
Acetone	**0.130 J**	**0.290 J**	0.053 UJ	**0.180 J**	**0.059**	**0.064 J**	**0.110 J**	0.230 UJ	**0.079 J**	0.069 UJ	0.210 UJ	**0.230 J**	0.067 U	**0.130**	3.000 U	0.030 U	0.060 UJ	0.029 U
Chlorobenzene	0.0054 UJ	0.0066 UJ	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ	0.0029 U
Tetrachloroethene	0.0054 UJ	0.0066 UJ	0.0053 UJ	0.0062 UJ	**0.040**	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ	0.0029 U
Trichloroethene	0.0054 UJ	0.0066 UJ	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ	0.0029 U
Vinyl Chloride	0.011 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.0068 U	0.012 UJ	0.013 UJ	0.046 UJ	0.014 UJ	0.014 UJ	0.042 UJ	0.044 UJ	0.013 U	0.010 U	0.610 U	0.0060 U	0.012 UJ	0.0059 U
Total VOC	**0.48460**	**0.95165**	0.28475 U	**0.60680**	**0.26245**	**0.34625**	**0.42925**	1.23500 U	**0.40950**	0.36925 U	1.12800 U	**1.29800**	0.35675 U	**0.39125**	**16.69500**	0.16025 U	**0.32625**	0.15595 U
PAH (mg/Kg)																		
2-Methylnaphthalene	**4.400 J**	**10.000 J**	**1.200 J**	**12.000 J**	**14.000**	1.600 UJ	1.800 UJ	**1.600 J**	1.800 UJ	1.800 UJ	**7.800 J**	**10.000 J**	0.890 U	**4.800**	**3.300**	**1.200**	**13.000 J**	0.780 U
Acenaphthene	**4.200 J**	**6.400 J**	**0.600 J**	**10.000 J**	**36.000**	1.600 U	1.800 UJ	1.600 UJ	1.800 UJ	1.800 UJ	**11.000 J**	**14.000 J**	**1.600**	**17.000**	**13.000**	0.800 U	**5.600 J**	0.780 U
Acenaphthylene	**2.300 J**	**2.800 J**	**0.870 J**	**3.700 J**	3.600 U	1.600 UJ	1.800 UJ	1.600 UJ	1.800 UJ	1.800 UJ	**4.700 J**	**6.000 J**	**2.900**	**5.000**	**57.000**	0.800 U	1.600 UJ	0.780 U
Anthracene	**5.200 J**	**5.000 J**	**1.000 J**	**12.000 J**	**83.000**	1.600 UJ	1.800 UJ	**2.300 J**	**1.800 J**	1.800 UJ	**10.000 J**	**14.000 J**	0.890 U	**23.000**	**77.000**	**1.600**	**3.000 J**	0.780 U
Benzo(a)anthracene	**9.300 J**	**5.500 J**	**2.100 J**	**9.200 J**	**120.000**	**3.400 J**	**3.000 J**	**4.700 J**	**3.000 J**	**1.900 J**	**11.000 J**	**16.000 J**	**1.300**	**30.000**	**91.000**	**2.700**	**4.800 J**	**1.900**
Benzo(a)pyrene	**7.500 J**	**4.800 J**	**1.400 J**	**5.500 J**	**92.000**	**4.800 J**	**4.800 J**	**5.900 J**	**4.900 J**	**4.500 J**	**9.100 J**	**11.000 J**	**2.300**	**18.000**	**46.000**	**3.000**	**5.500 J**	**2.600**
Benzo(b)fluoranthene	**5.800 J**	**3.900 J**	**1.400 J**	**4.700 J**	**72.000**	**3.500 J**	1.800 UJ	**4.300 J**	1.800 UJ	1.800 UJ	**5.100 J**	**8.100 J**	0.890 U	**12.000**	**22.000**	**1.900**	**3.900 J**	0.780 U
Benzo(ghi)perylene	**4.000 J**	**2.200 J**	**0.910 J**	**3.400 J**	**51.000**	1.600 UJ	1.800 UJ	**4.300 J**	1.800 UJ	1.800 UJ	**4.900 J**	**6.100 J**	0.890 U	**8.800**	**16.000**	**2.100**	**4.000 J**	0.780 U
Benzo(k)fluoranthene	**4.800 J**	**3.200 J**	**1.200 J**	**4.400 J**	**70.000**	**3.800 J**	1.800 UJ	**4.500 J**	1.800 UJ	1.800 UJ	**6.100 J**	**7.500 J**	0.890 U	**12.000**	**37.000**	**2.400**	**4.200 J**	**2.100**
Chrysene	**7.500 J**	**4.500 J**	**1.700 J**	**7.600 J**	**110.000**	**3.500 J**	**10.000 J**	**4.800 J**	**3.200 J**	**2.200 J**	**10.000 J**	**14.000 J**	**1.300**	**26.000**	**63.000**	**2.600**	**4.400 J**	**1.600**
Dibenz(a,h)anthracene	**0.950 J**	**0.530 J**	0.280 UJ	1.700 UJ	**16.000**	1.600 UJ	1.800 UJ	1.600 UJ	1.800 UJ	1.800 UJ	1.400 UJ	1.500 UJ	0.890 U	**4.200**	**7.500**	0.800 U	1.600 UJ	0.780 U
Fluoranthene	**15.000 J**	**11.000 J**	**3.600 J**	**16.000 J**	**300.000**	**6.100 J**	**5.600 J**	**8.400 J**	**7.800 J**	1.800 UJ	**20.000 J**	**27.000 J**	**3.700**	**43.000**	**130.000**	**4.700**	**8.700 J**	**2.700**
Fluorene	**3.700 J**	**4.700 J**	**0.540 J**	**7.600 J**	**39.000**	1.600 UJ	1.800 UJ	1.600 UJ	1.800 UJ	1.800 UJ	**4.000 J**	**4.800 J**	0.890 U	**1.400**	**8.600**	0.800 U	**2.200 J**	0.780 U
Indeno(1,2,3-cd)pyrene	**3.300 J**	**2.000 J**	**0.800 J**	**2.700 J**	**45.000**	1.600 UJ	1.800 UJ	**4.400 J**	1.800 UJ	1.800 UJ	**4.800 J**	**5.800 J**	0.890 U	**7.600**	**16.000**	0.800 U	**4.200 J**	0.780 U
Naphthalene	**7.700 J**	**12.000 J**	**3.700 J**	**12.000 J**	**42.000**	1.600 UJ	1.800 UJ	**2.000 J**	1.800 UJ	1.800 UJ	**11.000 J**	**13.000 J**	0.890 U	**6.700**	**8.400**	**7.500**	**39.000 J**	0.780 U
Phenanthrene	**16.000 J**	**13.000 J**	**2.300 J**	**26.000 J**	**320.000**	**2.500 J**	1.800 UJ	**4.700 J**	**6.700 J**	1.800 UJ	**20.000 J**	**24.000 J**	0.890 U	**13.000**	**44.000**	**2.000**	**6.800 J**	0.780 U
Pyrene	**16.000 J**	**13.000 J**	**3.700 J**	**21.000 J**	**270.000**	**6.900 J**	**6.700 J**	**9.800 J**	**8.600 J**	**5.600 J**	**25.000 J**	**35.000 J**	**4.600**	**57.000**	**200.000**	**7.700**	**11.000 J**	**7.000**
Total HMW PAH	**59.150**	**39.630**	**13.350**	**59.350**	**846.000**	**28.300**	**29.000**	**43.500**	**24.200**	**18.700**	**76.700**	**104.250**	**11.725**	**175.600**	**498.500**	**23.200**	**42.800**	**16.760**
Total LMW PAH	**58.500**	**64.900**	**13.810**	**99.300**	**835.800**	**13.400**	**11.900**	**21.400**	**20.800**	7.200 U	**88.500**	**112.800**	**10.425**	**113.900**	**341.300**	**18.200**	**79.100**	**5.430**
Total PAH	**117.650**	**104.530**	**27.160**	**158.650**	**1681.800**	**41.700**	**40.900**	**64.900**	**45.000**	**25.900**	**165.200**	**217.050**	**22.150**	**289.500**	**839.800**	**41.400**	**121.900**	**22.190**
Benzo(a)pyrene Equivalents	**10.3455**	**6.5065**	**1.9837**	**8.0616**	**132.510**	**6.4115**	**6.199**	**8.0898**	**6.2922**	**5.7812**	**11.961**	**14.829**	**2.96975**	**27.306**	**66.833**	**3.9266**	**7.6364**	**3.2806**
SVOC (mg/Kg)																		
1,1-Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U
3+4-Methylphenols	<4.300 UJ	<5.300 UJ	<4.200 UJ	<5.000 UJ	<27.000 U	<4.600 UJ	<5.300 UJ	<4.600 UJ	<5.400 UJ	<5.600 UJ	<4.200 UJ	<4.400 UJ	<2.700 U	<4.000 U	<4.900 U	<2.400 U	<4.800 UJ	<2.400 U
bis(2-Ethylhexyl) phthalate	<7.200 UJ	<8.800 UJ	<7.100 UJ	**10.000 J**	<45.000 U	**10.000 J**	<8.800 UJ	<7.800 UJ	<9.000 UJ	<9.200 UJ	<7.100 UJ	<7.400 UJ	<4.400 U	<6.700 U	<8.100 U	<4.000 U	<7.900 UJ	<3.900 U
Carbazole	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	**37.000**	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U
Dibenzofuran	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	**27.000**	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U
Phenol	<5.100 UJ	<6.100 UJ	<5.000 UJ	<5.800 UJ	<32.000 U	<5.400 UJ	<6.100 UJ	<5.400 UJ	<6.300 UJ	<6.500 UJ	<5.000 UJ	<5.200 UJ	<3.100 U	<4.700 U	<5.700 U	<2.800 U	<5.600 UJ	<2.700 U
Total SVOC	**226.405**	**238.395**	**133.855**	**301.850**	**2413.100**	**176.250**	**185.650**	**193.350**	**192.850**	**176.500**	**280.750**	**338.600**	**94.745**	**401.750**	**973.100**	**107.000**	**252.700**	**86.930**
Carbon/Soot (%)																		
Average Soot	**1.2**	**3.0 J**	**2.9 J**	**1.7 J**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Average Total Organic Carbon	**4.9**	**6.1 J**	**9.0 J**	**6.1 J**	**3.5**	**5.2**	**3.4 J**	**9.0**	**2.6**	**3.4 J**	**7.0**	**5.2 J**	**1.5 J**	**5.3**	**2.0 J**	**3.0 J**	**3.8**	**0.33 J**
Soot Run 1	**1.5**	**3.1 J**	**3.1 J**	**1.8 J**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Soot Run 2	**1.2**	**3.0 J**	**2.6 J**	**1.8 J**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Soot Run 3	**1.1**	**3.0 J**	**2.9 J**	**1.6 J**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon	**5.0**	**6.6 J**	**8.9 J**	**5.9 J**	**3.6**	**5.0**	**3.3 J**	**8.8**	**2.7**	**3.6 J**	**7.3**	**4.9 J**	**1.5 J**	**5.4**	**1.8 J**	**2.8 J**	**3.7**	**0.24 J**
Total Organic Carbon (Run 2)	**4.9**	**6.3 J**	**8.8 J**	**5.6 J**	**3.6**	**5.1**	**3.5 J**	**8.5**	**2.5**	**3.3 J**	**6.5**	**5.6 J**	**1.7 J**	**5.3**	**1.9 J**	**2.8 J**	**3.8**	**0.45 J**
Total Organic Carbon (Run 3)	**4.8**	**5.5 J**	**9.3 J**	**6.6 J**	**3.4**	**5.7**	**3.3 J**	**9.7**	**2.7**	**3.4 J**	**7.2**	**5.0 J**	**1.4 J**	**5.0**	**2.3 J**	**3.3 J**	**3.8**	**0.28 J**

Notes:
NA = Not Available
NS = Not Sampled
mg/Kg = milligram per kilogram
Bold = detected above reporting limit
Total VOCs include BTEX
Total SVOCs include Total PAH
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-10
Summary of OU2 RI Surface Sediment Analytical Results - All Compounds
Former East 21st Street Works, New York, New York

Location	RB67	RB68	RB69	RB70	RB71	RB72	RB73	RB74	RB75	RB76	ERSSREF02	ERSSREF04	ERSSREF05
Sample Date	10/22/2008	10/24/2008	10/22/2008	10/22/2008	10/23/2008	10/23/2008	10/23/2008	10/23/2008	10/23/2008	10/27/2008	6/12/2008	6/12/2008	6/12/2008
Top of Sediment Elevation	-21	-20	-20	-7	-9	-17	-22	-40	-29	-30	-19	-7	-15
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-0.5	0-0.5	0-0.5
Sediment Type	Silt	Silty Sand	Silt	Silt	Silty Sand	Sandy Silt	Silt	Sand	Silty Sand	Silt, Sand, and Gravel	Sandy Silt	Silt	Silt
Observation		Sheen/Stain	Sheen	Sheen					Sheen				
Odor	Organic	MGP	MGP	MGP	Organic	Organic	Organic	Organic	MGP		Organic	H_2S	H_2S
BTEX (mg/Kg)													
Benzene	**0.059 J**	3.000 U	**1.700 J**	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
Ethylbenzene	0.011 UJ	**40.000**	**5.000 J**	**5.000 J**	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	**17.000**	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
m,p-Xylene	0.021 UJ	**22.000**	2.300 UJ	2.600 UJ	0.019 U	0.057 UJ	1.500 UJ	0.0061 U	2.600 UJ	0.0060 U	0.012 UJ	0.010 UJ	0.014 UJ
o-Xylene	0.021 UJ	**16.000**	2.300 UJ	**2.900 J**	0.019 U	0.057 UJ	1.500 UJ	0.0061 U	2.600 UJ	0.0060 U	0.012 UJ	0.010 UJ	0.014 UJ
Toluene	0.016 UJ	4.500 U	1.700 UJ	2.000 UJ	0.014 U	0.043 UJ	1.100 UJ	0.0046 U	1.900 UJ	0.0045 U	0.0094 UJ	0.0078 UJ	0.010 UJ
Total Xylene (calculated)	0.021 U	**38.000**	2.300 U	**4.200**	0.019 U	0.057 U	1.500 U	0.00610 U	2.600 U	0.006 U	0.012 U	0.010 U	0.014 U
Total BTEX	**0.09350**	**81.750**	**9.850**	**10.850**	0.03540 U	0.10650 U	2.790 U	0.01140 U	**21.200**	0.01125 U	0.02290 U	0.01910 U	0.02590 U
VOC (mg/Kg)													
1,1,1-Trichloroethane	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
2-Butanone (Methyl Ethyl Ketone)	0.110 UJ	30.000 U	11.000 UJ	13.000 UJ	0.094 U	0.280 UJ	7.400 UJ	0.030 U	13.000 UJ	0.030 U	0.062 UJ	0.052 UJ	0.069 UJ
Acetone	0.110 UJ	30.000 U	11.000 UJ	13.000 UJ	0.094 U	**0.310 J**	7.400 UJ	0.030 U	13.000 UJ	0.030 U	0.062 UJ	0.052 UJ	0.069 UJ
Chlorobenzene	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	**0.020**	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
Tetrachloroethene	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
Trichloroethene	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
Vinyl Chloride	0.021 UJ	6.000 U	2.300 UJ	2.600 UJ	0.019 U	0.057 UJ	1.500 UJ	0.0061 U	2.600 UJ	0.0060 U	0.012 UJ	0.010 UJ	0.014 UJ
Total VOC	**0.63500**	**230.75001**	**65.10000**	**75.65000**	**0.51880**	**1.67350**	39.60000 U	0.16130 U	**85.65000**	0.16025 U	0.33100 U	0.27700 U	0.36925 U
PAH (mg/Kg)													
2-Methylnaphthalene	**3.800 J**	**2.400**	**140.000 J**	**23.000 J**	1.200 U	1.900 UJ	**3.300 J**	0.810 U	**36.000 J**	0.630 U	**0.480 J**	**0.360 J**	**0.220 J**
Acenaphthene	**7.900 J**	**1.300**	**110.000 J**	**84.000 J**	1.200 U	1.900 UJ	2.000 UJ	0.810 U	**130.000 J**	0.630 U	**0.390 J**	**0.200 J**	0.180 UJ
Acenaphthylene	**5.300 J**	0.800 U	**11.000 J**	**8.200 J**	1.200 U	1.900 UJ	2.000 UJ	0.810 U	**7.700 J**	**6.900**	**0.260 J**	**0.340 J**	**0.260 J**
Anthracene	**11.000 J**	**1.800**	**55.000 J**	**45.000 J**	**1.400**	1.900 UJ	**2.000 J**	0.810 U	**41.000 J**	**19.000**	**0.510 J**	**0.570 J**	**0.490 J**
Benzo(a)anthracene	**16.000 J**	**2.000**	**32.000 J**	**26.000 J**	**3.100**	**2.200 J**	**2.600 J**	**0.890**	**22.000 J**	**29.000**	**1.100 J**	**1.100 J**	**1.200 J**
Benzo(a)pyrene	**11.000 J**	**2.700**	**20.000 J**	**15.000 J**	**4.100**	1.900 UJ	**4.800 J**	**2.000**	**12.000 J**	**20.000**	**1.200 J**	**1.300 J**	**1.200 J**
Benzo(b)fluoranthene	**9.400 J**	0.800 U	**13.000 J**	**9.300 J**	**3.300**	1.900 UJ	2.000 UJ	0.810 U	**8.800 J**	**14.000**	**0.990 J**	**0.960 J**	**1.100 J**
Benzo(ghi)perylene	**6.400 J**	0.800 U	**11.000 J**	**7.000 J**	**3.300**	1.900 UJ	2.000 UJ	0.810 U	**6.100 J**	**8.300**	**0.690 J**	**0.760 J**	**0.720 J**
Benzo(k)fluoranthene	**8.800 J**	**2.000**	**13.000 J**	**9.200 J**	**3.400**	1.900 UJ	2.000 UJ	0.810 U	**8.700 J**	**17.000**	**0.950 J**	**0.940 J**	**0.950 J**
Chrysene	**14.000 J**	**2.000**	**26.000 J**	**21.000 J**	**3.200**	**2.400 J**	**2.700 J**	**0.960**	**18.000 J**	**25.000**	**1.200 J**	**1.200 J**	**1.200 J**
Dibenz(a,h)anthracene	**4.100 J**	0.800 U	3.000 UJ	**4.200 J**	1.200 U	1.900 UJ	2.000 UJ	0.810 U	**3.900 J**	**3.100**	**0.210 J**	**0.220 J**	**0.210 J**
Fluoranthene	**23.000 J**	**3.500**	**52.000 J**	**39.000 J**	**7.500**	**6.000 J**	**7.000 J**	0.810 U	**64.000 J**	**57.000**	**2.500 J**	**2.000 J**	**1.800 J**
Fluorene	**2.800 J**	**1.100**	**45.000 J**	**23.000 J**	1.200 U	1.900 UJ	2.000 UJ	0.810 U	**81.000 J**	0.630 U	**0.290 J**	**0.270 J**	0.180 UJ
Indeno(1,2,3-cd)pyrene	**6.500 J**	0.800 U	**10.000 J**	**6.400 J**	**3.500**	1.900 UJ	2.000 UJ	0.810 U	**5.800 J**	**8.100**	**0.570 J**	**0.610 J**	**0.590 J**
Naphthalene	**9.100 J**	**5.100**	**340.000 J**	**54.000 J**	1.200 U	1.900 UJ	**3.300 J**	0.810 U	**190.000 J**	**1.800**	**0.720 J**	**0.480 J**	**0.350 J**
Phenanthrene	**16.000 J**	**3.800**	**150.000 J**	**120.000 J**	**3.300**	**2.600 J**	**5.000 J**	**1.000**	**190.000 J**	**4.500**	**1.200 J**	**0.970 J**	**0.900 J**
Pyrene	**24.000 J**	**5.800**	**76.000 J**	**61.000 J**	**7.800**	**7.100 J**	**8.000 J**	**3.100**	**61.000 J**	**56.000**	**2.400 J**	**2.200 J**	**2.000 J**
Total HMW PAH	**100.200**	**16.100**	**202.500**	**159.100**	**32.300**	**17.400**	**23.100**	**8.975**	**146.300**	**180.500**	**9.310**	**9.290**	**9.170**
Total LMW PAH	**78.900**	**19.400**	**903.000**	**396.200**	**15.200**	**14.300**	**23.600**	**3.835**	**739.700**	**90.145**	**6.350**	**5.190**	**4.200**
Total PAH	**179.100**	**35.500**	**1105.500**	**555.300**	**47.500**	**31.700**	**46.700**	**12.810**	**886.000**	**270.645**	**15.660**	**14.480**	**13.370**
Benzo(a)pyrene Equivalents	**18.392**	**3.402**	**27.156**	**23.483**	**5.7272**	**2.3219**	**6.2727**	**2.58001**	**19.665**	**28.405**	**1.6867**	**1.7976**	**1.7097**
SVOC (mg/Kg)													
1,1-Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
3+4-Methylphenols	<4.200 UJ	<2.400 U	<9.100 UJ	<4.200 UJ	<3.800 U	<5.700 UJ	<5.900 UJ	<2.400 U	<4.100 UJ	<4.800 U	**1.900 J**	<0.830 UJ	<1.100 UJ
bis(2-Ethylhexyl) phthalate	<7.100 UJ	<4.000 U	<15.000 UJ	<6.900 UJ	**13.000**	**10.000 J**	<9.800 UJ	<4.100 U	<6.800 UJ	<7.900 U	**6.900 J**	**4.900 J**	<1.800 UJ
Carbazole	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ	<2.000 U	**24.000 J**	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
Dibenzofuran	<3.500 UJ	<2.000 U	**8.800 J**	**4.400 J**	<3.100 U	<4.800 UJ	<4.900 UJ	<2.000 U	**48.000 J**	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
Phenol	<5.000 UJ	<2.800 U	<11.000 UJ	<4.900 UJ	<4.400 U	<6.700 UJ	<6.900 UJ	<2.800 U	<4.800 UJ	<5.600 U	**1.700 J**	<0.970 UJ	<1.300 UJ
Total SVOC	**294.650**	**101.100**	**1358.850**	**672.250**	**158.950**	**195.300**	**210.150**	**78.865**	**1066.650**	**394.060**	**50.280**	**40.390**	**42.080**
Carbon/Soot (%)													
Average Soot	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1.3 J**	**2.0 J**	**2.1 J**
Average Total Organic Carbon	**4.2**	**0.78 J**	**3.1**	**8.2**	**3.5**	**5.7**	**7.8**	**0.74 J**	**6.2**	**2.4 J**	**4.9 J**	**4.3 J**	**2.2 J**
Soot Run 1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1.3 J**	**2.0 J**	**0.66 J**
Soot Run 2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1.4 J**	**1.8 J**	**0.49 J**
Soot Run 3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1.2 J**	**2.4 J**	**5.3 J**
Total Organic Carbon	**3.8**	**0.59 J**	**3.1**	**8.9**	**3.7**	**6.1**	**8.0**	**0.53 J**	**7.6**	**2.9 J**	**5.6 J**	**4.1 J**	**2.4 J**
Total Organic Carbon (Run 2)	**4.7**	**0.79 J**	**3.3**	**7.3**	**3.5**	**5.4**	**8.2**	**0.52 J**	**5.5**	**2.3 J**	**4.4 J**	**4.1 J**	**2.0 J**
Total Organic Carbon (Run 3)	**4.2**	**0.97 J**	**3.1**	**8.5**	**3.2**	**5.5**	**7.3**	**1.2 J**	**5.4**	**2.2 J**	**4.8 J**	**4.8 J**	**2.4 J**

Notes:
NA = Not Available
NS = Not Sampled
mg/Kg = milligram per kilogram
Bold = detected above reporting limit
Total VOCs include BTEX
Total SVOCs include Total PAH
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-10
Summary of OU2 RI Surface Sediment Analytical Results - All Compounds
Former East 21st Street Works, New York, New York

	Summary Statistics											
	Samples	**Detects**	**Non-Detects**	**Exceedances**	**DL Exceedances**	**Max Detected Concentration**	**ID for Max Concentration**	**Min Detected Concentration**	**ID for Min Concentration**	**Average Detected Concentration**	**Min DL for NonDetects**	**Max DL for NonDetects**
BTEX (mg/Kg)												
Benzene	103	22	82	0	0	58	RB14(0-1)062708	0.0058	RB24(0-0.5)070808	4.109290909	0.0029	5.2
Ethylbenzene	100	33	68	0	0	460	RB14(0-1)062708	0.005	RB16(0-0.5)063008	26.35647273	0.0029	0.74
m,p-Xylene	100	23	78	0	0	350	RB14(0-1)062708	0.018	RB-51(0-0.5)072908	24.99269565	0.0059	2.6
o-Xylene	100	23	78	0	0	170	RB14(0-1)062708	0.0077	RB20(0-0.5)070208	14.11703043	0.0059	2.6
Toluene	103	7	97	0	0	140	RB14(0-1)062708	0.017	RB4(0-0.4)061908	24.90042857	0.0044	15
Total Xylene (calculated)	100	25	76	0	0	520	RB14(0-1)062708	0.0115	RB20(0-0.5)070208	36.04554	0.0059	2.6
Total BTEX	103	37	67	0	0	1178	RB14(0-1)062708	0.017	RB16(0-0.5)063008	55.72362568	0.011	6.5
VOC (mg/Kg)												
1,1,1-Trichloroethane	103	1	103	0	0	39	RB14(0-1)062708	39	RB14(0-1)062708	39	0.0029	9.8
2-Butanone (Methyl Ethyl Ketone)	103	2	102	0	0	0.096	RB-52(0-0.5)073008	0.07	RB18(0-0.5)070108	0.083	0.029	340
Acetone	103	33	71	0	0	0.43	GS16(0-1)102908	0.059	RB55(0-1)102708	0.159636364	0.029	340
Chlorobenzene	103	3	101	0	0	35	RB14(0-1)062708	0.02	RB71(0-1)102308	12.20666667	0.0029	9.8
Tetrachloroethene	103	2	102	0	0	44	RB14(0-1)062708	0.04	RB55(0-1)102708	22.02	0.0029	9.8
Trichloroethene	103	1	103	0	0	36	RB14(0-1)062708	36	RB14(0-1)062708	36	0.0029	9.8
Vinyl Chloride	103	0	104	0	0	-	-	-	-	-	0.0059	68
Total VOC	103	55	49	0	0	2958.00014	RB14(0-1)062708	0.1708	RB10(0-1)062708	97.62311782	0.15595	256.60001
PAH (mg/Kg)												
2-Methylnaphthalene	102	65	37	0	0	1000	GS39(0-1)102708	0.018	RB26(0-0.5)070908	44.33637879	0.016	2.1
Acenaphthene	102	60	42	0	0	340	GS39(0-1)102708	0.02	GS24(0-1)102708	34.46508197	0.016	2.1
Acenaphthylene	102	72	30	0	0	230	GS07(0-1)102908	0.027	RB9(0-1)062708	10.87591667	0.016	3.6
Anthracene	102	81	21	0	0	190	GS39(0-1)102708	0.029	RB21(0-0.5)070208	21.04906098	0.016	2.1
Benzo(a)anthracene	102	93	9	0	0	120	RB55(0-1)102708	0.021	RB27(0-0.5)071008	13.86485106	0.016	1.8
Benzo(a)pyrene	102	89	13	0	0	92	RB55(0-1)102708	0.024	RB27(0-0.5)071008	10.69557778	0.016	2.1
Benzo(b)fluoranthene	102	80	22	0	0	72	RB55(0-1)102708	0.029	RB27(0-0.5)071008	7.022592593	0.016	2.1
Benzo(ghi)perylene	102	77	25	0	0	51	RB55(0-1)102708	0.027	RB21(0-0.5)070208	5.415897436	0.016	2.1
Benzo(k)fluoranthene	102	82	20	0	0	70	RB55(0-1)102708	0.02	RB32(0-0.5)071508	7.728024096	0.016	2.1
Chrysene	102	94	8	0	0	110	RB55(0-1)102708	0.019	GS30-100908	11.87172632	0.016	1.8
Dibenz(a,h)anthracene	102	44	58	0	0	16	RB55(0-1)102708	0.044	RB30(0-0.5)071108	2.079266667	0.016	7.9
Fluoranthene	102	94	8	0	0	300	RB55(0-1)102708	0.021	RB22(0-0.5)070708	26.16901053	0.016	1.8
Fluorene	102	58	44	0	0	190	GS39(0-1)102708	0.017	RB9(0-1)062708	19.60718644	0.016	2.1
Indeno(1,2,3-cd)pyrene	102	76	26	0	0	45	RB55(0-1)102708	0.023	RB21(0-0.5)070208	4.763454545	0.016	2.1
Naphthalene	102	79	23	0	0	1100	GS39(0-1)102708	0.017	GS27(0-1)103008	61.77655	0.016	1.9
Phenanthrene	102	87	15	0	0	610	GS39(0-1)102708	0.02	RB27(0-0.5)071008	52.32697727	0.016	1.8
Pyrene	102	99	3	0	0	270	RB55(0-1)102708	0.018	GS28(0-1)103008	33.03627	0.018	1.8
Total HMW PAH	102	99	3	0	0	846	RB55(0-1)102708	0.086	GS28(0-1)103008	88.67419	0.081	8.1
Total LMW PAH	102	96	6	0	0	3690	GS39(0-1)102708	0.0815	RB39(0-0.5)072108	214.3666856	0.068	7.2
Total PAH	102	99	3	0	0	4312.4	GS39(0-1)102708	0.154	GS28(0-1)103008	296.717755	0.153	15.3
Benzo(a)pyrene Equivalents	102	102	0	0	0	132.51	RB55(0-1)102708	0.01849	RB22(0-0.5)070708	12.88959456	-	-
SVOC (mg/Kg)												
1,1-Biphenyl	1	1	0	0	0	26.7	RB35(0-0.5)071708	26.7	RB35(0-0.5)071708	26.7	-	-
1,4-Dichlorobenzene	102	1	101	0	0	1.5	RB33(0-0.5)071608	1.5	RB33(0-0.5)071608	1.5	0.4	22
3+4-Methylphenols	102	4	98	0	0	2.1	RB19(0-0.5)070108	1.6	RB40(0-0.5)072108	1.9	0.48	27
bis(2-Ethylhexyl) phthalate	102	17	85	0	0	24	RB5(0-0.5)062008	2	RB43(0-0.5)072308	8.552941176	0.8	45
Carbazole	102	8	94	0	0	37	RB55(0-1)102708	0.77	RB8(0-1)062708	8.375555556	0.4	16
Dibenzofuran	102	18	84	0	0	48	RB75(0-1)102308	1.9	RB13(0-1)062708	12.16111111	0.4	6.9
Phenol	102	1	101	0	0	1.7	ERSSREF02061208	1.7	ERSSREF02061208	1.7	0.56	32
Total SVOC	102	99	3	0	0	4605.45	GS39(0-1)102708	12.4405	RB10(0-1)062708	385.483195	13.926	165.25
Carbon/Soot (%)												
Average Soot	53	52	1	0	0	4.6	RB33(0-0.5)071608	0.05	RB31(0-0.5)071508	1.09754717	0.01	0.01
Average Total Organic Carbon	102	100	2	0	0	9	RB58(0-1)102108	0.08	GS27(0-1)103008	3.306237624	0.01	0.01
Soot Run 1	53	52	1	0	0	4.3	RB33(0-0.5)071608	0.01	RB32(0-0.5)071508	1.090754717	0.01	0.01
Soot Run 2	53	53	0	0	0	4.8	RB33(0-0.5)071608	0.03	RB10(0-1)062708	1.052592593	-	-
Soot Run 3	53	52	1	0	0	5.3	ERSSREF05061208	0.06	RB31(0-0.5)071508	1.136981132	0.01	0.01
Total Organic Carbon	102	100	2	0	0	8.9	RB70(0-1)102208	0.087	GS27(0-1)103008	3.322742574	0.01	0.01
Total Organic Carbon (Run 2)	102	100	2	0	0	8.8	RB-53(0-0.5)073108	0.083	GS27(0-1)103008	3.280623762	0.01	0.01
Total Organic Carbon (Run 3)	102	100	2	0	0	9.7	RB58(0-1)102108	0.07	GS27(0-1)103008	3.321782178	0.01	0.01

Table 5-11
Summary of OU2 RI Surface Sediment Analytical Results - Volatile Organic Compounds
Former East 21st Street Works, New York, New York

Location	GS07	GS09	GS13	GS14	GS16	GS17	GS21	GS24	GS25	GS26	GS27	GS28	GS28 DUP	GS29	GS30	GS31
Sample Date	**10/29/2008**	**10/30/2008**	**10/9/2008**	**10/11/2008**	**10/29/2008**	**10/29/2008**	**10/9/2008**	**10/27/2008**	**10/27/2008**	**10/30/2008**	**10/30/2008**	**10/30/2008**	**10/30/2008**	**10/9/2008**	**10/9/2008**	**10/9/2008**
Top of Sediment Elevation	-24	-37	-18	-18	115	-15		-35	-35	-30	-32	-31	-31	-39	-41	-38
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
Sediment Type	Gravel	Clay	Gravel	Silt/Peat	Silt/Peat	Silt	Silty Peat	Silt/Clay	Sand	Sand	Sand	Sand	Sand	Silty Clay	Sand/Clay	Clay/Silt
Observation			Stain	Sheen	NAPL		Sheen/Stain									
Odor			Organic	Organic	MGP	Organic	MGP									
BTEX (mg/Kg)																
Benzene	0.0032 U	0.0033 U	**15.000**	5.200 UJ	**0.056 J**	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
Ethylbenzene	0.0032 U	0.0033 U	NS	NS	**1.000 J**	0.0048 U	NS	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
m,p-Xylene	0.0065 U	0.0066 U	NS	NS	**0.062 J**	0.0096 U	NS	0.0067 U	0.0062 U	0.0066 U	0.0062 U	0.0062 U	0.0068 U	0.0069 U	0.0068 U	0.0071 U
o-Xylene	0.0065 U	0.0066 U	NS	NS	**0.240 J**	0.0096 U	NS	0.0067 U	0.0062 U	0.0066 U	0.0062 U	0.0062 U	0.0068 U	0.0069 U	0.0068 U	0.0071 U
Toluene	0.0049 U	0.0049 U	15.000 U	7.800 UJ	0.047 UJ	0.0072 U	7.100 U	0.0050 U	0.0047 U	0.0049 U	0.0046 U	0.0047 U	0.0051 U	0.0052 U	0.0051 U	0.0054 U
Total Xylene (calculated)	0.00650 U	0.00660 U	NS	NS	**0.302**	0.00960 U	NS	0.00670 U	0.00620 U	0.00660 U	0.00620 U	0.00620 U	0.00680 U	0.00690 U	0.00680 U	0.00710 U
Total BTEX	0.01215 U	0.01235 U	**22.500**	6.500 U	**1.38150**	0.018 U	5.900 U	0.01250 U	0.01165 U	0.01235 U	0.01160 U	0.01165 U	0.01275 U	0.013 U	0.01275 U	0.01340 U
VOC (mg/Kg)																
1,1,1-Trichloroethane	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
1,1,2,2-Tetrachloroethane	0.0032 U	0.0033 U	NS	NS	0.031 UJ	0.0048 U	NS	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
1,1,2-Trichloroethane	0.0049 U	0.0049 U	15.000 U	7.800 UJ	0.047 UJ	0.0072 U	7.100 U	0.0050 U	0.0047 U	0.0049 U	0.0046 U	0.0047 U	0.0051 U	0.0052 U	0.0051 U	0.0054 U
1,1-Dichloroethane	0.0049 U	0.0049 U	15.000 U	7.800 UJ	0.047 UJ	0.0072 U	7.100 U	0.0050 U	0.0047 U	0.0049 U	0.0046 U	0.0047 U	0.0051 U	0.0052 U	0.0051 U	0.0054 U
1,1-Dichloroethene	0.0032 U	0.0033 U	NS	NS	0.031 UJ	0.0048 U	NS	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 UJ	0.0034 UJ	0.0036 UJ
1,2-Dichloroethane	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
1,2-Dichloropropane	0.011 U	0.012 U	34.000 U	18.000 UJ	0.110 UJ	0.017 U	16.000 U	0.012 U	0.011 U	0.012 U	0.011 U	0.011 U	0.012 U	0.012 U	0.012 U	0.012 U
2-Butanone (Methyl Ethyl Ketone)	0.032 U	0.033 U	98.000 U	52.000 UJ	0.310 UJ	0.048 U	47.000 U	0.033 U	0.031 U	0.033 U	0.031 U	0.031 U	0.034 U	0.035 U	0.034 U	0.036 U
2-Hexanone	0.032 U	0.033 U	98.000 U	52.000 UJ	0.310 UJ	0.048 U	47.000 U	0.033 U	0.031 U	0.033 U	0.031 U	0.031 U	0.034 U	0.035 U	0.034 U	0.036 U
4-Methyl-2-pentanone	0.032 U	0.033 U	98.000 U	52.000 UJ	0.310 UJ	0.048 U	47.000 U	0.033 U	0.031 U	0.033 U	0.031 U	0.031 U	0.034 U	0.035 U	0.034 U	0.036 U
Acetone	0.032 U	0.033 U	98.000 U	52.000 UJ	**0.430 J**	0.048 U	47.000 U	0.033 U	0.031 U	0.033 U	0.031 U	0.031 U	0.034 U	0.035 U	0.034 U	0.036 U
Bromodichloromethane	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
Bromoform	0.013 U	0.013 U	39.000 U	21.000 UJ	0.120 UJ	0.019 U	19.000 U	0.013 U	0.012 U	0.013 U	0.012 U	0.012 U	0.014 U	0.014 U	0.014 U	0.014 U
Bromomethane	0.0065 U	0.0066 U	20.000 U	10.000 UJ	0.062 UJ	0.0096 U	9.400 U	0.0067 U	0.0062 U	0.0066 U	0.0062 U	0.0062 U	0.0068 U	0.0069 U	0.0068 U	0.0071 U
Carbon Disulfide	0.032 UJ	0.033 UJ	98.000 UJ	52.000 UJ	0.310 UJ	0.048 UJ	47.000 UJ	0.033 UJ	0.031 UJ	0.033 UJ	0.031 UJ	0.031 UJ	0.034 UJ	0.035 UJ	0.034 UJ	0.036 UJ
Carbon Tetrachloride	0.0032 U	0.0033 U	NS	NS	0.031 UJ	0.0048 U	NS	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
Chlorobenzene	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
Chloroethane	0.0065 U	0.0066 U	20.000 U	10.000 UJ	0.062 UJ	0.0096 U	9.400 U	0.0067 U	0.0062 U	0.0066 U	0.0062 U	0.0062 U	0.0068 U	0.0069 U	0.0068 U	0.0071 U
Chloroform	0.0049 U	0.0049 U	15.000 U	7.800 UJ	0.047 UJ	0.0072 U	7.100 U	0.0050 U	0.0047 U	0.0049 U	0.0046 U	0.0047 U	0.0051 U	0.0052 U	0.0051 U	0.0054 U
Chloromethane	0.016 U	0.016 U	49.000 U	26.000 UJ	0.160 UJ	0.024 U	24.000 U	0.017 U	0.016 U	0.016 U	0.015 U	0.016 U	0.017 U	0.017 U	0.017 U	0.018 U
cis-1,2-Dichloroethene	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
cis-1,3-Dichloropropene	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
Dibromochloromethane	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
Methylene Chloride	0.032 U	0.033 U	98.000 U	52.000 UJ	0.310 UJ	0.048 U	47.000 U	0.033 U	0.031 U	0.033 U	0.031 U	0.031 U	0.034 U	0.035 U	0.034 U	0.036 U
Styrene	0.0065 U	0.0066 U	20.000 U	10.000 UJ	0.062 UJ	0.0096 U	9.400 U	0.0067 U	0.0062 U	0.0066 U	0.0062 U	0.0062 U	0.0068 U	0.0069 U	0.0068 U	0.0071 U
Tetrachloroethene	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
trans-1,2-Dichloroethene	0.0049 U	0.0049 U	15.000 U	7.800 UJ	0.047 UJ	0.0072 U	7.100 U	0.0050 U	0.0047 U	0.0049 U	0.0046 U	0.0047 U	0.0051 U	0.0052 U	0.0051 U	0.0054 U
trans-1,3-Dichloropropene	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
Trichloroethene	0.0032 U	0.0033 U	9.800 U	5.200 UJ	0.031 UJ	0.0048 U	4.700 U	0.0033 U	0.0031 U	0.0033 U	0.0031 U	0.0031 U	0.0034 U	0.0035 U	0.0034 U	0.0036 U
Vinyl Chloride	0.0065 U	0.0066 U	20.000 U	10.000 UJ	0.062 UJ	0.0096 U	9.400 U	0.0067 U	0.0062 U	0.0066 U	0.0062 U	0.0062 U	0.0068 U	0.0069 U	0.0068 U	0.0071 U
Total VOC	0.17175 U	0.17630 U	**496.50002**	256.60001 U	**3.20100**	0.25680 U	232.90001 U	0.17735 U	0.16610 U	0.17630 U	0.16535 U	0.16610 U	0.18215 U	0.18645 U	0.18215 U	0.19180 U

Notes:
Bold = detected above reporting limit
Total VOCs include BTEX
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-11
Summary of OU2 RI Surface Sediment Analytical Results - Volatile Organic Compounds
Former East 21st Street Works, New York, New York

Location	GS35	GS36	GS37	GS38	GS39	GS40	GS41	GS41 DUP	GS42	GS43	RB2	RB3	RB4	RB5	RB6
Sample Date	**10/27/2008**	**10/30/2008**	**10/29/2008**	**10/29/2008**	**10/27/2008**	**10/27/2008**	**10/29/2008**	**10/29/2008**	**10/29/2008**	**10/30/2008**	**6/18/2008**	**6/19/2008**	**6/19/2008**	**6/20/2008**	**6/20/2008**
Top of Sediment Elevation	-20	-15	-24	-41	-20	-29	-25	-25	-11	-14	-9	-12	-8	-8	-15
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-0.4	0-0.5	0-0.5
Sediment Type	Silt	Silt	Silt	Sandy Silt and Clay	Silt and Gravel	Sand and Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt
Observation	Sheen	NAPL/Sheen			NAPL										
Odor	MGP	MGP	Organic		MGP	Organic	Organic	Organic	Organic	Organic		MGP, Organic	H_2S	H_2S	H_2S
BTEX (mg/Kg)															
Benzene	**0.180 J**	**0.013 J**	0.0037 U	0.0036 U	**8.200**	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	**0.0097 J**	**0.0095**	**0.0081 J**	**0.019 J**
Ethylbenzene	**1.100 J**	**0.320 J**	0.0037 U	0.0036 U	**220.000**	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	**0.022 J**	**0.098**	0.0060 UJ	**0.017 J**
m,p-Xylene	**0.340 J**	**0.039 J**	0.0074 U	0.0071 U	**150.000**	0.0092 U	0.012 UJ	0.011 UJ	0.024 UJ	0.016 UJ	0.013 UJ	**0.028 J**	**0.087**	0.012 UJ	**0.027 J**
o-Xylene	**0.400 J**	**0.070 J**	0.0074 U	0.0071 U	**89.000**	0.0092 U	0.012 UJ	0.011 UJ	0.024 UJ	0.016 UJ	0.013 UJ	**0.017 J**	**0.071**	0.012 UJ	0.012 UJ
Toluene	**0.098 J**	0.0087 UJ	0.0055 U	0.0054 U	**33.000**	0.0069 U	0.0094 UJ	0.0085 UJ	0.018 UJ	0.012 UJ	0.0099 UJ	0.011 UJ	**0.017**	0.0089 UJ	0.0094 UJ
Total Xylene (calculated)	**0.740**	**0.109**	0.00740 U	0.00710 U	**239.000**	0.00920 U	0.012 U	0.011 U	0.024 U	0.016 U	0.013 U	**0.045**	**0.158**	0.012 U	**0.033**
Total BTEX	**2.118**	**0.44635**	0.01385 U	0.01340 U	**500.200**	0.01725 U	0.02290 U	0.02095 U	0.045 U	0.02980 U	0.02455 U	**0.08220**	**0.28250**	**0.02755**	**0.07370**
VOC (mg/Kg)															
1,1,1-Trichloroethane	0.011 UJ	0.0058 UJ	0.0037 U	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ
1,1,2,2-Tetrachloroethane	0.011 UJ	0.0058 UJ	0.0037 U	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ
1,1,2-Trichloroethane	0.017 UJ	0.0087 UJ	0.0055 U	0.0054 U	12.000 U	0.0069 U	0.0094 UJ	0.0085 UJ	0.018 UJ	0.012 UJ	0.0099 UJ	0.011 UJ	0.0061 U	0.0089 UJ	0.0094 UJ
1,1-Dichloroethane	0.017 UJ	0.0087 UJ	0.0055 U	0.0054 U	12.000 U	0.0069 U	0.0094 UJ	0.0085 UJ	0.018 UJ	0.012 UJ	0.0099 UJ	0.011 UJ	0.0061 U	0.0089 UJ	0.0094 UJ
1,1-Dichloroethene	0.011 UJ	0.0058 UJ	0.0037 U	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ
1,2-Dichloroethane	0.011 UJ	0.0058 UJ	0.0037 U	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ
1,2-Dichloropropane	0.039 UJ	0.020 UJ	0.013 U	0.012 U	29.000 U	0.016 U	0.022 UJ	0.020 UJ	0.043 UJ	0.027 UJ	0.023 UJ	0.026 UJ	0.014 U	0.021 UJ	0.022 UJ
2-Butanone (Methyl Ethyl Ketone)	0.110 UJ	0.058 UJ	0.037 U	0.036 U	82.000 U	0.046 U	0.062 UJ	0.057 UJ	0.120 UJ	0.078 UJ	0.066 UJ	0.074 UJ	0.041 U	0.060 UJ	0.062 UJ
2-Hexanone	0.110 UJ	0.058 UJ	0.037 U	0.036 U	82.000 U	0.046 U	0.062 UJ	0.057 UJ	0.120 UJ	0.078 UJ	0.066 UJ	0.074 UJ	0.041 U	0.060 UJ	0.062 UJ
4-Methyl-2-pentanone	0.110 UJ	0.058 UJ	0.037 U	0.036 U	82.000 U	0.046 U	0.062 UJ	0.057 UJ	0.120 UJ	0.078 UJ	0.066 UJ	0.074 UJ	0.041 U	0.060 UJ	0.062 UJ
Acetone	0.110 UJ	**0.072 J**	0.037 U	0.036 U	82.000 U	0.046 U	**0.081 J**	**0.110 J**	**0.170 J**	**0.130 J**	**0.160 J**	**0.084 J**	**0.120**	**0.095 J**	**0.140 J**
Bromodichloromethane	0.011 UJ	0.0058 UJ	0.0037 U	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ
Bromoform	0.044 UJ	0.023 UJ	0.015 U	0.014 U	33.000 U	0.018 U	0.025 UJ	0.023 UJ	0.049 UJ	0.031 UJ	0.026 UJ	0.029 UJ	0.016 U	0.024 UJ	0.025 UJ
Bromomethane	0.022 UJ	0.012 UJ	0.0074 U	0.0071 U	16.000 U	0.0092 U	0.012 UJ	0.011 UJ	0.024 UJ	0.016 UJ	0.013 UJ	0.015 UJ	0.0082 U	0.012 UJ	0.012 UJ
Carbon Disulfide	0.110 UJ	0.058 UJ	0.037 UJ	0.036 UJ	82.000 UJ	0.046 UJ	0.062 UJ	0.057 UJ	0.120 UJ	0.078 UJ	0.066 UJ	0.074 UJ	0.041 U	0.060 UJ	0.062 UJ
Carbon Tetrachloride	0.011 UJ	0.0058 UJ	0.0037 U	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ
Chlorobenzene	0.011 UJ	0.0058 UJ	0.0037 U	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ
Chloroethane	0.022 UJ	0.012 UJ	0.0074 U	0.0071 U	16.000 U	0.0092 U	0.012 UJ	0.011 UJ	0.024 UJ	0.016 UJ	0.013 UJ	0.015 UJ	0.0082 U	0.012 UJ	0.012 UJ
Chloroform	0.017 UJ	0.0087 UJ	0.0055 U	0.0054 U	12.000 U	0.0069 U	0.0094 UJ	0.0085 UJ	0.018 UJ	0.012 UJ	0.0099 UJ	0.011 UJ	0.0061 U	0.0089 UJ	0.0094 UJ
Chloromethane	0.056 UJ	0.029 UJ	0.018 U	0.018 U	41.000 U	0.023 U	0.031 UJ	0.028 UJ	0.061 UJ	0.039 UJ	0.033 UJ	0.037 UJ	0.020 U	0.030 UJ	0.031 UJ
cis-1,2-Dichloroethene	0.011 UJ	0.0058 UJ	0.0037 U	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ
cis-1,3-Dichloropropene	0.011 UJ	0.0058 UJ	0.0037 U	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ
Dibromochloromethane	0.011 UJ	0.0058 UJ	0.0037 U	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ
Methylene Chloride	0.110 UJ	0.058 UJ	0.037 U	0.036 U	82.000 U	0.046 U	0.062 UJ	0.057 UJ	0.120 UJ	0.078 UJ	0.066 UJ	0.074 UJ	0.041 U	0.060 UJ	0.062 UJ
Styrene	0.022 UJ	0.012 UJ	0.0074 U	0.0071 U	16.000 U	0.0092 U	0.012 UJ	0.011 UJ	0.024 UJ	0.016 UJ	0.013 UJ	0.015 UJ	0.0082 U	0.012 UJ	0.012 UJ
Tetrachloroethene	0.011 UJ	0.0058 UJ	0.0037 U	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ
trans-1,2-Dichloroethene	0.017 UJ	0.0087 UJ	0.0055 U	0.0054 U	12.000 U	0.0069 U	0.0094 UJ	0.0085 UJ	0.018 UJ	0.012 UJ	0.0099 UJ	0.011 UJ	0.0061 U	0.0089 UJ	0.0094 UJ
trans-1,3-Dichloropropene	0.011 UJ	0.0058 UJ	0.0037 U	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ
Trichloroethene	0.011 UJ	0.0058 UJ	0.0037 U	0.0036 U	8.200 U	0.0046 U	0.0062 UJ	0.0057 UJ	0.012 UJ	0.0078 UJ	0.0066 UJ	0.0074 UJ	0.0041 U	0.0060 UJ	0.0062 UJ
Vinyl Chloride	0.022 UJ	0.012 UJ	0.0074 U	0.0071 U	16.000 U	0.0092 U	0.012 UJ	0.011 UJ	0.024 UJ	0.016 UJ	0.013 UJ	0.015 UJ	0.0082 U	0.012 UJ	0.012 UJ
Total VOC	**2.66700**	**0.77845**	0.19770 U	0.19180 U	**907.00004**	0.24585 U	**0.38100**	**0.38500**	**0.75350**	**0.51000**	**0.47925**	**0.49730**	**0.58525**	**0.39085**	**0.49080**

Notes:
Bold = detected above reporting limit
Total VOCs include BTEX
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-11
Summary of OU2 RI Surface Sediment Analytical Results - Volatile Organic Compounds
Former East 21st Street Works, New York, New York

Location	RB8	RB9	RB10	RB11	RB12	RB13	RB14	RB16	RB17	RB18	RB19	RB20	RB21	RB22	RB23
Sample Date	**6/23/2008**	**6/24/2008**	**6/24/2008**	**6/25/2008**	**6/25/2008**	**6/26/2008**	**6/27/2008**	**6/30/2008**	**6/30/2008**	**7/1/2008**	**7/1/2008**	**7/2/2008**	**7/2/2008**	**7/7/2008**	**7/8/2008**
Top of Sediment Elevation	-24	-35	-32	-25	-6	-21	-25	-32	-32	-26	-15	-23	-32	-32	-7
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Sediment Type	Gravel	Sand/Silt	Sand	Silt	Sand	Silt	Silt	Silt	Sand, Silt, and Clay	Silt	Silt	Silt	Sand	Sand	Silt
Observation	TLM/Stain/Sheen			NAPL		Sheen	Sheen/Stain								
Odor	MGP	H_2S		MGP		MGP, H2S, Organic	MGP	MGP, H2S, Organic		H_2S	H_2S	H_2S			H_2S
BTEX (mg/Kg)															
Benzene	**4.500**	0.0031 U	0.0031 U	0.600 U	0.0034 U	**0.021 J**	**58.000 J**	0.0037 U	0.0033 U	**0.0083 J**	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
Ethylbenzene	**38.000**	0.0031 U	**0.0070**	**3.900**	0.0034 U	**0.160 J**	**460.000 J**	**0.0050**	0.0033 U	0.0069 UJ	0.0069 UJ	**0.330**	0.0030 U	0.0030 U	0.0062 UJ
m,p-Xylene	**22.000**	0.0062 U	0.0062 U	**5.600**	0.0068 U	**0.065 J**	**350.000 J**	0.0074 U	0.0066 U	0.014 UJ	0.014 UJ	0.0076 U	0.0061 U	0.0061 U	0.012 UJ
o-Xylene	**12.000**	0.0062 U	0.0062 U	**3.200**	0.0068 U	**0.110 J**	**170.000 J**	0.0074 U	0.0066 U	0.014 UJ	0.014 UJ	**0.0077**	0.0061 U	0.0061 U	0.012 UJ
Toluene	4.700 U	0.0046 U	0.0046 U	0.900 U	0.0051 U	0.0091 UJ	**140.000 J**	0.0055 U	0.0049 U	0.010 UJ	0.010 UJ	0.0057 U	0.0046 U	0.0046 U	0.0094 UJ
Total Xylene (calculated)	**34.000**	0.00620 U	0.00620 U	**8.800**	0.00680 U	**0.175**	**520.000**	0.00740 U	0.00660 U	0.014 U	0.014 U	**0.01150**	0.00610 U	0.00610 U	0.012 U
Total BTEX	**78.850**	0.01160 U	**0.01705**	**13.450**	0.01275 U	**0.36055**	**1178.000**	**0.017**	0.01235 U	**0.03075**	0.02590 U	**0.34625**	0.01140 U	0.01140 U	0.02290 U
VOC (mg/Kg)															
1,1,1-Trichloroethane	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	**39.000 J**	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
1,1,2,2-Tetrachloroethane	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	34.000 UJ	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
1,1,2-Trichloroethane	4.700 U	0.0046 U	0.0046 U	0.900 U	0.0051 U	0.0091 UJ	51.000 UJ	0.0055 U	0.0049 U	0.010 UJ	0.010 UJ	0.0057 U	0.0046 U	0.0046 U	0.0094 UJ
1,1-Dichloroethane	4.700 U	0.0046 U	0.0046 U	0.900 U	0.0051 U	0.0091 UJ	51.000 UJ	0.0055 U	0.0049 U	0.010 UJ	0.010 UJ	0.0057 U	0.0046 U	0.0046 U	0.0094 UJ
1,1-Dichloroethene	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	34.000 UJ	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
1,2-Dichloroethane	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	34.000 UJ	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
1,2-Dichloropropane	11.000 U	0.011 U	0.011 U	2.100 U	0.012 U	0.021 UJ	120.000 UJ	0.013 U	0.012 U	0.024 UJ	0.024 UJ	0.013 U	0.011 U	0.011 U	0.022 UJ
2-Butanone (Methyl Ethyl Ketone)	32.000 U	0.031 U	0.031 U	6.000 U	0.034 U	0.061 UJ	340.000 UJ	0.037 U	0.033 U	**0.070 J**	0.069 UJ	0.038 U	0.030 U	0.030 U	0.062 UJ
2-Hexanone	32.000 U	0.031 U	0.031 U	6.000 U	0.034 U	0.061 UJ	340.000 UJ	0.037 U	0.033 U	0.069 UJ	0.069 UJ	0.038 U	0.030 U	0.030 U	0.062 UJ
4-Methyl-2-pentanone	32.000 U	0.031 U	0.031 U	6.000 U	0.034 U	0.061 UJ	340.000 UJ	0.037 U	0.033 U	0.069 UJ	0.069 UJ	0.038 U	0.030 U	0.030 U	0.062 UJ
Acetone	32.000 U	0.031 U	0.031 U	6.000 U	0.034 U	**0.250 J**	340.000 UJ	0.037 UJ	0.033 UJ	**0.290 J**	**0.250 J**	0.038 U	0.030 U	0.030 UJ	**0.110 J**
Bromodichloromethane	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	34.000 UJ	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
Bromoform	13.000 U	0.012 U	0.012 U	2.400 U	0.014 U	0.024 UJ	140.000 UJ	0.015 U	0.013 U	0.028 UJ	0.028 UJ	0.015 U	0.012 U	0.012 U	0.025 UJ
Bromomethane	6.300 U	0.0062 U	0.0062 U	1.200 U	0.0068 U	0.012 UJ	68.000 UJ	0.0074 U	0.0066 U	0.014 UJ	0.014 UJ	0.0076 U	0.0061 U	0.0061 U	0.012 UJ
Carbon Disulfide	32.000 UJ	0.031 UJ	0.031 UJ	6.000 UJ	0.034 UJ	0.061 UJ	340.000 UJ	0.037 U	0.033 U	0.069 UJ	0.069 UJ	0.038 U	0.030 U	0.030 U	0.062 UJ
Carbon Tetrachloride	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	34.000 UJ	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
Chlorobenzene	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	**35.000 J**	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
Chloroethane	6.300 U	0.0062 U	0.0062 U	1.200 U	0.0068 U	0.012 UJ	68.000 UJ	0.0074 U	0.0066 U	0.014 UJ	0.014 UJ	0.0076 U	0.0061 U	0.0061 U	0.012 UJ
Chloroform	4.700 U	0.0046 U	0.0046 U	0.900 U	0.0051 U	0.0091 UJ	51.000 UJ	0.0055 U	0.0049 U	0.010 UJ	0.010 UJ	0.0057 U	0.0046 U	0.0046 U	0.0094 UJ
Chloromethane	16.000 U	0.015 U	0.015 U	3.000 U	0.017 U	0.030 UJ	170.000 UJ	0.018 U	0.016 U	0.035 UJ	0.035 UJ	0.019 U	0.015 U	0.015 U	0.031 UJ
cis-1,2-Dichloroethene	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	34.000 UJ	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
cis-1,3-Dichloropropene	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	34.000 UJ	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
Dibromochloromethane	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	34.000 UJ	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
Methylene Chloride	32.000 U	0.031 U	0.031 U	6.000 U	0.034 U	0.061 UJ	340.000 UJ	0.037 U	0.033 U	0.069 UJ	0.069 UJ	0.038 U	0.030 U	0.030 U	0.062 UJ
Styrene	6.300 U	0.0062 U	0.0062 U	1.200 U	0.0068 U	0.012 UJ	68.000 UJ	0.0074 U	0.0066 U	0.014 UJ	0.014 UJ	0.0076 U	0.0061 U	0.0061 U	0.012 UJ
Tetrachloroethene	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	**44.000 J**	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
trans-1,2-Dichloroethene	4.700 U	0.0046 U	0.0046 U	0.900 U	0.0051 U	0.0091 UJ	51.000 UJ	0.0055 U	0.0049 U	0.010 UJ	0.010 UJ	0.0057 U	0.0046 U	0.0046 U	0.0094 UJ
trans-1,3-Dichloropropene	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	34.000 UJ	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
Trichloroethene	3.200 U	0.0031 U	0.0031 U	0.600 U	0.0034 U	0.0061 UJ	**36.000 J**	0.0037 U	0.0033 U	0.0069 UJ	0.0069 UJ	0.0038 U	0.0030 U	0.0030 U	0.0062 UJ
Vinyl Chloride	6.300 U	0.0062 U	0.0062 U	1.200 U	0.0068 U	0.012 UJ	68.000 UJ	0.0074 U	0.0066 U	0.014 UJ	0.014 UJ	0.0076 U	0.0061 U	0.0061 U	0.012 UJ
Total VOC	**237.65001**	0.16535 U	**0.17080**	**43.30000**	0.18215 U	**0.88240**	**2958.00014**	**0.20085**	0.17630 U	**0.66510**	**0.58475**	**0.53505**	0.16130 U	0.16130 U	**0.41000**

Notes:
Bold = detected above reporting limit
Total VOCs include BTEX
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-11
Summary of OU2 RI Surface Sediment Analytical Results - Volatile Organic Compounds
Former East 21st Street Works, New York, New York

Location	RB24	RB25	RB26	RB27	RB28	RB29	RB30	RB31	RB32	RB33	RB34	RB35	RB36	RB37
Sample Date	**7/8/2008**	**7/9/2008**	**7/9/2008**	**7/10/2008**	**7/10/2008**	**7/11/2008**	**7/11/2008**	**7/15/2008**	**7/15/2008**	**7/16/2008**	**7/16/2008**	**7/17/2008**	**7/17/2008**	**7/18/2008**
Top of Sediment Elevation	-21	-10	-32	-35	-35	-35	-38	-35	-35	-25	-35	-30	-32	-35
Depth Interval (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Sediment Type	Silt	Silt	Silty Sand	Sand	Gravel	Sand	Sand, Silt, and Clay	Sand, Silt, and Clay	Sand	Silt	Sand, Silt, and Clay	Silt	Sand/Clay	Sand
Observation						Sheen						Sheen/Stain		
Odor	H_2S	H_2S			H_2S					H_2S				H_2S
BTEX (mg/Kg)														
Benzene	**0.0058**	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	**2.100**	0.0036 U	0.0034 U	0.0031 U	**0.045 J**	0.0035 U	0.460 U	0.0036 U	0.310 U
Ethylbenzene	**0.043**	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	**9.100**	0.0036 U	0.0034 U	0.0031 U	**0.180 J**	0.0035 U	**13.000**	0.0036 U	**1.400**
m,p-Xylene	**0.029**	0.010 UJ	0.0062 U	0.0060 U	0.0066 U	**4.400**	0.0071 U	0.0068 U	0.0062 U	**0.100 J**	0.0069 U	**4.700**	0.0071 U	0.620 U
o-Xylene	**0.053**	0.010 UJ	0.0062 U	0.0060 U	0.0066 U	**4.600**	0.0071 U	0.0068 U	0.0062 U	**0.230 J**	0.0069 U	**4.000**	0.0071 U	0.620 U
Toluene	0.0072 U	0.0078 UJ	0.0047 U	0.0045 U	0.0049 U	0.660 U	0.0054 U	0.0051 U	0.0047 U	**0.055 J**	0.0052 U	0.690 U	0.0054 U	0.460 U
Total Xylene (calculated)	**0.082**	0.010 U	0.00620 U	0.006 U	0.00660 U	**9.000**	0.00710 U	0.00680 U	0.00620 U	**0.330**	0.00690 U	**8.700**	0.00710 U	0.620 U
Total BTEX	**0.13440**	0.01910 U	0.01165 U	0.01125 U	0.01235 U	**20.530**	0.01340 U	0.01275 U	0.01165 U	**0.610**	0.013 U	**22.275**	0.01340 U	**2.405**
VOC (mg/Kg)														
1,1,1-Trichloroethane	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U
1,1,2,2-Tetrachloroethane	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U
1,1,2-Trichloroethane	0.0072 U	0.0078 UJ	0.0047 U	0.0045 U	0.0049 U	0.660 U	0.0054 U	0.0051 U	0.0047 U	0.021 UJ	0.0052 U	0.690 U	0.0054 U	0.460 U
1,1-Dichloroethane	0.0072 U	0.0078 UJ	0.0047 U	0.0045 U	0.0049 U	0.660 U	0.0054 U	0.0051 U	0.0047 U	0.021 UJ	0.0052 U	0.690 U	0.0054 U	0.460 U
1,1-Dichloroethene	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U
1,2-Dichloroethane	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U
1,2-Dichloropropane	0.017 U	0.018 UJ	0.011 U	0.010 U	0.012 U	1.500 U	0.012 U	0.012 U	0.011 U	0.049 UJ	0.012 U	1.600 U	0.012 U	1.100 U
2-Butanone (Methyl Ethyl Ketone)	0.048 U	0.052 UJ	0.031 U	0.030 U	0.033 U	4.400 U	0.036 U	0.034 U	0.031 U	0.140 UJ	0.035 U	4.600 U	0.036 U	3.100 U
2-Hexanone	0.048 U	0.052 UJ	0.031 U	0.030 U	0.033 U	4.400 U	0.036 U	0.034 U	0.031 U	0.140 UJ	0.035 U	4.600 U	0.036 U	3.100 U
4-Methyl-2-pentanone	0.048 U	0.052 UJ	0.031 U	0.030 U	0.033 U	4.400 U	0.036 U	0.034 U	0.031 U	0.140 UJ	0.035 U	4.600 U	0.036 U	3.100 U
Acetone	**0.140 J**	**0.071 J**	0.031 U	0.030 U	0.033 U	4.400 U	0.036 U	0.034 U	0.031 U	**0.400 J**	0.035 U	4.600 U	0.036 U	3.100 U
Bromodichloromethane	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U
Bromoform	0.019 U	0.021 UJ	0.012 U	0.012 U	0.013 U	1.800 U	0.014 U	0.014 U	0.012 U	0.056 UJ	0.014 U	1.800 U	0.014 U	1.200 U
Bromomethane	0.0096 U	0.010 UJ	0.0062 U	0.0060 U	0.0066 U	0.880 U	0.0071 U	0.0068 U	0.0062 U	0.028 UJ	0.0069 U	0.920 U	0.0071 U	0.620 U
Carbon Disulfide	0.048 U	0.052 UJ	0.031 U	0.030 U	0.033 U	4.400 U	0.036 U	0.034 U	0.031 U	0.140 UJ	0.035 U	4.600 U	0.036 U	3.100 U
Carbon Tetrachloride	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U
Chlorobenzene	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U	**1.600 J**	0.0035 U	0.460 U	0.0036 U	0.310 U
Chloroethane	0.0096 U	0.010 UJ	0.0062 U	0.0060 U	0.0066 U	0.880 U	0.0071 U	0.0068 U	0.0062 U	0.028 UJ	0.0069 UJ	0.920 U	0.0071 U	0.620 U
Chloroform	0.0072 U	0.0078 UJ	0.0047 U	0.0045 U	0.0049 U	0.660 U	0.0054 U	0.0051 U	0.0047 U	0.021 UJ	0.0052 U	0.690 U	0.0054 U	0.460 U
Chloromethane	0.024 U	0.026 UJ	0.016 U	0.015 U	0.016 U	2.200 U	0.018 U	0.017 UJ	0.016 UJ	0.069 UJ	0.017 U	2.300 UJ	0.018 UJ	1.500 UJ
cis-1,2-Dichloroethene	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U
cis-1,3-Dichloropropene	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U
Dibromochloromethane	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U
Methylene Chloride	0.048 U	0.052 UJ	0.031 U	0.030 U	0.033 U	4.400 U	0.036 U	0.034 U	0.031 U	0.140 UJ	0.035 U	4.600 U	0.036 U	3.100 U
Styrene	0.0096 U	0.010 UJ	0.0062 U	0.0060 U	0.0066 U	0.880 U	0.0071 U	0.0068 U	0.0062 U	0.028 UJ	0.0069 U	0.920 U	0.0071 U	0.620 U
Tetrachloroethene	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U
trans-1,2-Dichloroethene	0.0072 U	0.0078 UJ	0.0047 U	0.0045 U	0.0049 U	0.660 U	0.0054 U	0.0051 U	0.0047 U	0.021 UJ	0.0052 U	0.690 U	0.0054 U	0.460 U
trans-1,3-Dichloropropene	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U
Trichloroethene	0.0048 U	0.0052 UJ	0.0031 U	0.0030 U	0.0033 U	0.440 U	0.0036 U	0.0034 U	0.0031 U	0.014 UJ	0.0035 U	0.460 U	0.0036 U	0.310 U
Vinyl Chloride	0.0096 U	0.010 UJ	0.0062 U	0.0060 U	0.0066 U	0.880 U	0.0071 U	0.0068 U	0.0062 U	0.028 UJ	0.0069 U	0.920 U	0.0071 U	0.620 U
Total VOC	**0.48920**	**0.32200**	0.16610 U	0.16025 U	0.17630 U	**42.42000**	0.19180 U	0.18215 U	0.16610 U	**3.22900**	0.18645 U	**45.13500**	0.19180 U	**17.78000**

Notes:
Bold = detected above reporting limit
Total VOCs include BTEX
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-11
Summary of OU2 RI Surface Sediment Analytical Results - Volatile Organic Compounds
Former East 21st Street Works, New York, New York

Location	RB38	RB39	RB40	RB41	RB43	RB44	RB45	RB46	RB47	RB48	RB49	RB50	RB51	RB52
Sample Date	**7/18/2008**	**7/21/2008**	**7/21/2008**	**7/22/2008**	**7/23/2008**	**7/24/2008**	**7/24/2008**	**7/25/2008**	**7/25/2008**	**7/28/2008**	**7/28/2008**	**7/29/2008**	**7/29/2008**	**7/30/2008**
Top of Sediment Elevation	-35	-35	-36	-29	-8	-7	-10	-16	-20	-10	-20	-16	-22	-14
Depth Interval (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Sediment Type	Silt	Sand, Silt, and Clay	Sand	Sand	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt
Observation Odor	H_2S		Organic		H_2S	H_2S	H_2S	H_2S	H_2S	H_2S		Sheen H_2S	H_2S	H_2S
BTEX (mg/Kg)														
Benzene	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	**0.390 J**	0.0071 UJ	0.0036 U	0.600 UJ	**0.022**	**0.041 J**
Ethylbenzene	0.0033 U	0.0031 U	**0.068**	0.0033 U	0.0066 UJ	**0.0061 J**	0.0066 UJ	0.0058 UJ	**8.400 J**	0.0071 UJ	0.0036 U	**45.000 J**	**0.032 J**	**0.080 J**
m,p-Xylene	0.0066 U	0.0062 U	**0.032**	0.0067 U	0.013 UJ	0.011 UJ	0.013 UJ	0.012 UJ	**0.580 J**	0.014 UJ	0.0072 U	**14.000 J**	**0.018 J**	**0.079 J**
o-Xylene	0.0066 U	0.0062 U	**0.022**	0.0067 U	0.013 UJ	0.011 UJ	0.013 UJ	0.012 UJ	**1.600 J**	0.014 UJ	0.0072 U	**20.000 J**	**0.036 J**	**0.099 J**
Toluene	0.0049 U	0.0047 U	0.0092 U	0.0050 U	0.0099 UJ	0.0085 UJ	0.0099 UJ	0.0087 UJ	**0.033 J**	0.011 UJ	0.0054 U	**1.100 J**	0.0082 UJ	0.0099 UJ
Total Xylene (calculated)	0.00660 U	0.00620 U	**0.054**	0.00670 U	0.013 U	0.011 U	0.013 U	0.012 U	**2.180**	0.014 U	0.00720 U	**34.000**	**0.054**	**0.178**
Total BTEX	0.01235 U	0.01165 U	**0.12970**	0.01250 U	0.02455 U	**0.02420**	0.02455 U	0.02215 U	**11.003**	0.02660 U	0.01350 U	**80.400**	**0.11210**	**0.30395**
VOC (mg/Kg)														
1,1,1-Trichloroethane	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ	0.0054 UJ	0.0066 UJ
1,1,2,2-Tetrachloroethane	0.0033 U	0.0031 U	0.0062 U	0.0033 UJ	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ	0.0054 UJ	0.0066 UJ
1,1,2-Trichloroethane	0.0049 U	0.0047 U	0.0092 U	0.0050 U	0.0099 UJ	0.0085 UJ	0.0099 UJ	0.0087 UJ	0.0087 UJ	0.011 UJ	0.0054 U	0.890 UJ	0.0082 UJ	0.0099 UJ
1,1-Dichloroethane	0.0049 U	0.0047 U	0.0092 U	0.0050 U	0.0099 UJ	0.0085 UJ	0.0099 UJ	0.0087 UJ	0.0087 UJ	0.011 UJ	0.0054 U	0.890 UJ	0.0082 UJ	0.0099 UJ
1,1-Dichloroethene	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ	0.0054 UJ	0.0066 UJ
1,2-Dichloroethane	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ	0.0054 UJ	0.0066 UJ
1,2-Dichloropropane	0.012 U	0.011 U	0.022 U	0.012 U	0.023 UJ	0.020 UJ	0.023 UJ	0.020 UJ	0.020 UJ	0.025 UJ	0.013 U	2.100 UJ	0.019 UJ	0.023 UJ
2-Butanone (Methyl Ethyl Ketone)	0.033 U	0.031 U	0.062 U	0.033 U	0.066 UJ	0.057 UJ	0.066 UJ	0.058 UJ	0.058 UJ	0.071 UJ	0.036 U	6.000 UJ	0.054 UJ	**0.096 J**
2-Hexanone	0.033 U	0.031 U	0.062 U	0.033 U	0.066 UJ	0.057 UJ	0.066 UJ	0.058 UJ	0.058 UJ	0.071 UJ	0.036 U	6.000 UJ	0.054 UJ	0.066 UJ
4-Methyl-2-pentanone	0.033 U	0.031 U	0.062 U	0.033 U	0.066 UJ	0.057 UJ	0.066 UJ	0.058 UJ	0.058 UJ	0.071 UJ	0.036 U	6.000 UJ	0.054 UJ	0.066 UJ
Acetone	0.033 U	0.031 U	0.062 U	0.033 U	**0.130 J**	**0.110 J**	**0.073 J**	**0.120 J**	**0.150 J**	0.071 UJ	0.036 U	6.000 UJ	**0.130 J**	**0.290 J**
Bromodichloromethane	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ	0.0054 UJ	0.0066 UJ
Bromoform	0.013 U	0.012 U	0.025 U	0.013 U	0.026 UJ	0.023 UJ	0.026 UJ	0.023 UJ	0.023 UJ	0.028 UJ	0.014 U	2.400 UJ	0.022 UJ	0.026 UJ
Bromomethane	0.0066 U	0.0062 U	0.012 U	0.0067 U	0.013 UJ	0.011 UJ	0.013 UJ	0.012 UJ	0.012 UJ	0.014 UJ	0.0072 U	1.200 UJ	0.011 UJ	0.013 UJ
Carbon Disulfide	0.033 U	0.031 U	0.062 U	0.033 U	0.066 UJ	0.057 UJ	0.066 UJ	0.058 UJ	0.058 UJ	0.071 UJ	0.036 U	6.000 UJ	0.054 UJ	0.066 UJ
Carbon Tetrachloride	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ	0.0054 UJ	0.0066 UJ
Chlorobenzene	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ	0.0054 UJ	0.0066 UJ
Chloroethane	0.0066 U	0.0062 U	0.012 U	0.0067 U	0.013 UJ	0.011 UJ	0.013 UJ	0.012 UJ	0.012 UJ	0.014 UJ	0.0072 U	1.200 UJ	0.011 UJ	0.013 UJ
Chloroform	0.0049 U	0.0047 U	0.0092 U	0.0050 U	0.0099 UJ	0.0085 UJ	0.0099 UJ	0.0087 UJ	0.0087 UJ	0.011 UJ	0.0054 U	0.890 UJ	0.0082 UJ	0.0099 UJ
Chloromethane	0.016 UJ	0.016 UJ	0.031 UJ	0.017 UJ	0.033 UJ	0.028 UJ	0.033 UJ	0.029 UJ	0.029 UJ	0.036 UJ	0.018 U	3.000 UJ	0.027 UJ	0.033 UJ
cis-1,2-Dichloroethene	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ	0.0054 UJ	0.0066 UJ
cis-1,3-Dichloropropene	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ	0.0054 UJ	0.0066 UJ
Dibromochloromethane	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ	0.0054 UJ	0.0066 UJ
Methylene Chloride	0.033 U	0.031 U	0.062 U	0.033 U	0.066 UJ	0.057 UJ	0.066 UJ	0.058 UJ	0.058 UJ	0.071 UJ	0.036 U	6.000 UJ	0.054 UJ	0.066 UJ
Styrene	0.0066 U	0.0062 U	0.012 U	0.0067 U	0.013 UJ	0.011 UJ	0.013 UJ	0.012 UJ	0.012 UJ	0.014 UJ	0.0072 U	1.200 UJ	0.011 UJ	0.013 UJ
Tetrachloroethene	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ	0.0054 UJ	0.0066 UJ
trans-1,2-Dichloroethene	0.0049 U	0.0047 U	0.0092 U	0.0050 U	0.0099 UJ	0.0085 UJ	0.0099 UJ	0.0087 UJ	0.0087 UJ	0.011 UJ	0.0054 U	0.890 UJ	0.0082 UJ	0.0099 UJ
trans-1,3-Dichloropropene	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ	0.0054 UJ	0.0066 UJ
Trichloroethene	0.0033 U	0.0031 U	0.0062 U	0.0033 U	0.0066 UJ	0.0057 UJ	0.0066 UJ	0.0058 UJ	0.0058 UJ	0.0071 UJ	0.0036 U	0.600 UJ	0.0054 UJ	0.0066 UJ
Vinyl Chloride	0.0066 U	0.0062 U	0.012 U	0.0067 U	0.013 UJ	0.011 UJ	0.013 UJ	0.012 UJ	0.012 UJ	0.014 UJ	0.0072 U	1.200 UJ	0.011 UJ	0.013 UJ
Total VOC	0.17630 U	0.16610 U	**0.43740**	0.17735 U	**0.44925**	**0.38825**	**0.39225**	**0.40225**	**8.40000**	0.38025 U	0.19260 U	**110.23001**	**0.48460**	**0.95165**

Notes:
Bold = detected above reporting limit
Total VOCs include BTEX
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-11
Summary of OU2 RI Surface Sediment Analytical Results - Volatile Organic Compounds
Former East 21st Street Works, New York, New York

Location	RB53	RB54	RB55	RB56	RB57	RB58	RB59	RB59 DUP	RB60	RB60 DUP	RB61	RB62	RB63	RB64	RB65
Sample Date	**7/31/2008**	**8/1/2008**	**10/27/2008**	**10/24/2008**	**10/24/2008**	**10/21/2008**	**10/21/2008**	**10/21/2008**	**10/21/2008**	**10/21/2008**	**10/24/2008**	**10/21/2008**	**10/24/2008**	**10/24/2008**	**10/22/2008**
Top of Sediment Elevation	-25	-18	-5	-8	-10	-25	-9	-9	-12	-12	-23	-14	-27	-26	-32
Depth Interval (feet)	0-0.5	0-0.5	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
Sediment Type	Silt	Silt/Peat	Sand	Silt	Silty Sand	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Gravel/Sand	Gravel/Silt	Silt
Observation														Sheen	Sheen
Odor		H_2S	Organic	Organic	Organic	Organic	Organic	Organic	MGP		Organic	Organic		Organic	Organic
BTEX (mg/Kg)															
Benzene	0.0053 UJ	**0.017 J**	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
Ethylbenzene	0.0053 UJ	**0.056 J**	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	**0.021**	**0.410**	0.0030 U	**0.0085 J**
m,p-Xylene	0.011 UJ	**0.036 J**	0.0068 U	0.012 UJ	0.013 UJ	0.046 UJ	0.014 UJ	0.014 UJ	0.042 UJ	0.044 UJ	0.013 U	0.010 U	**0.610**	0.0060 U	0.012 UJ
o-Xylene	0.011 UJ	**0.036 J**	0.0068 U	0.012 UJ	0.013 UJ	0.046 UJ	0.014 UJ	0.014 UJ	0.042 UJ	0.044 UJ	0.013 U	0.010 U	0.610 U	0.0060 U	0.012 UJ
Toluene	0.0080 UJ	0.0094 UJ	0.0051 U	0.0087 UJ	0.0099 UJ	0.035 UJ	0.010 UJ	0.010 UJ	0.032 UJ	0.033 UJ	0.010 U	0.0075 U	0.460 U	0.0045 U	0.0089 UJ
Total Xylene (calculated)	0.011 U	**0.072**	0.00680 U	0.012 U	0.013 U	0.046 U	0.014 U	0.014 U	0.042 U	0.044 U	0.013 U	0.010 U	**0.915**	0.006 U	0.012 U
Total BTEX	0.02030 U	**0.14970**	0.01275 U	0.02215 U	0.02455 U	0.08650 U	0.02580 U	0.02590 U	0.079 U	0.08250 U	0.02470 U	**0.03725**	**1.705**	0.01125 U	**0.02795**
VOC (mg/Kg)															
1,1,1-Trichloroethane	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
1,1,2,2-Tetrachloroethane	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
1,1,2-Trichloroethane	0.0080 UJ	0.0094 UJ	0.0051 U	0.0087 UJ	0.0099 UJ	0.035 UJ	0.010 UJ	0.010 UJ	0.032 UJ	0.033 UJ	0.010 U	0.0075 U	0.460 U	0.0045 U	0.0089 UJ
1,1-Dichloroethane	0.0080 UJ	0.0094 UJ	0.0051 U	0.0087 UJ	0.0099 UJ	0.035 UJ	0.010 UJ	0.010 UJ	0.032 UJ	0.033 UJ	0.010 U	0.0075 U	0.460 U	0.0045 U	0.0089 UJ
1,1-Dichloroethene	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
1,2-Dichloroethane	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
1,2-Dichloropropane	0.019 UJ	0.022 UJ	0.012 U	0.020 UJ	0.023 UJ	0.081 UJ	0.024 UJ	0.024 UJ	0.074 UJ	0.078 UJ	0.023 U	0.018 U	1.100 U	0.010 U	0.021 UJ
2-Butanone (Methyl Ethyl Ketone)	0.053 UJ	0.062 UJ	0.034 U	0.058 UJ	0.066 UJ	0.230 UJ	0.068 UJ	0.069 UJ	0.210 UJ	0.220 UJ	0.067 U	0.050 U	3.000 U	0.030 U	0.060 UJ
2-Hexanone	0.053 UJ	0.062 UJ	0.034 U	0.058 UJ	0.066 UJ	0.230 UJ	0.068 UJ	0.069 UJ	0.210 UJ	0.220 UJ	0.067 U	0.050 U	3.000 U	0.030 U	0.060 UJ
4-Methyl-2-pentanone	0.053 UJ	0.062 UJ	0.034 U	0.058 UJ	0.066 UJ	0.230 UJ	0.068 UJ	0.069 UJ	0.210 UJ	0.220 UJ	0.067 U	0.050 U	3.000 U	0.030 U	0.060 UJ
Acetone	0.053 UJ	**0.180 J**	**0.059**	**0.064 J**	**0.110 J**	0.230 UJ	**0.079 J**	0.069 UJ	0.210 UJ	**0.230 J**	0.067 U	**0.130**	3.000 U	0.030 U	0.060 UJ
Bromodichloromethane	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
Bromoform	0.021 UJ	0.025 UJ	0.014 U	0.023 UJ	0.026 UJ	0.093 UJ	0.027 UJ	0.028 UJ	0.085 UJ	0.089 UJ	0.027 U	0.020 U	1.200 U	0.012 U	0.024 UJ
Bromomethane	0.011 UJ	0.012 UJ	0.0068 U	0.012 UJ	0.013 UJ	0.046 UJ	0.014 UJ	0.014 UJ	0.042 UJ	0.044 UJ	0.013 U	0.010 U	0.610 U	0.0060 U	0.012 UJ
Carbon Disulfide	0.053 UJ	0.062 UJ	0.034 UJ	0.058 UJ	0.066 UJ	0.230 UJ	0.068 UJ	0.069 UJ	0.210 UJ	0.220 UJ	0.067 UJ	0.050 UJ	3.000 UJ	0.030 UJ	0.060 UJ
Carbon Tetrachloride	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
Chlorobenzene	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
Chloroethane	0.011 UJ	0.012 UJ	0.0068 U	0.012 UJ	0.013 UJ	0.046 UJ	0.014 UJ	0.014 UJ	0.042 UJ	0.044 UJ	0.013 U	0.010 U	0.610 U	0.0060 U	0.012 UJ
Chloroform	0.0080 UJ	0.0094 UJ	0.0051 U	0.0087 UJ	0.0099 UJ	0.035 UJ	0.010 UJ	0.010 UJ	0.032 UJ	0.033 UJ	0.010 U	0.0075 U	0.460 U	0.0045 U	0.0089 UJ
Chloromethane	0.026 UJ	0.031 UJ	0.017 U	0.029 UJ	0.033 UJ	0.120 UJ	0.034 UJ	0.035 UJ	0.110 UJ	0.110 UJ	0.033 U	0.025 U	1.500 U	0.015 U	0.030 UJ
cis-1,2-Dichloroethene	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
cis-1,3-Dichloropropene	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
Dibromochloromethane	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
Methylene Chloride	0.053 UJ	0.062 UJ	0.034 U	0.058 UJ	0.066 UJ	0.230 UJ	0.068 UJ	0.069 UJ	0.210 UJ	0.220 UJ	0.067 U	0.050 U	3.000 U	0.030 U	0.060 UJ
Styrene	0.011 UJ	0.012 UJ	0.0068 U	0.012 UJ	0.013 UJ	0.046 UJ	0.014 UJ	0.014 UJ	0.042 UJ	0.044 UJ	0.013 U	0.010 U	0.610 U	0.0060 U	0.012 UJ
Tetrachloroethene	0.0053 UJ	0.0062 UJ	**0.040**	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
trans-1,2-Dichloroethene	0.0080 UJ	0.0094 UJ	0.0051 U	0.0087 UJ	0.0099 UJ	0.035 UJ	0.010 UJ	0.010 UJ	0.032 UJ	0.033 UJ	0.010 U	0.0075 U	0.460 U	0.0045 U	0.0089 UJ
trans-1,3-Dichloropropene	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
Trichloroethene	0.0053 UJ	0.0062 UJ	0.0034 U	0.0058 UJ	0.0066 UJ	0.023 UJ	0.0068 UJ	0.0069 UJ	0.021 UJ	0.022 UJ	0.0067 U	0.0050 U	0.300 U	0.0030 U	0.0060 UJ
Vinyl Chloride	0.011 UJ	0.012 UJ	0.0068 U	0.012 UJ	0.013 UJ	0.046 UJ	0.014 UJ	0.014 UJ	0.042 UJ	0.044 UJ	0.013 U	0.010 U	0.610 U	0.0060 U	0.012 UJ
Total VOC	0.28475 U	**0.60680**	**0.26245**	**0.34625**	**0.42925**	1.23500 U	**0.40950**	0.36925 U	1.12800 U	**1.29800**	0.35675 U	**0.39125**	**16.69500**	0.16025 U	**0.32625**

Notes:
Bold = detected above reporting limit
Total VOCs include BTEX
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-11
Summary of OU2 RI Surface Sediment Analytical Results - Volatile Organic Compounds
Former East 21st Street Works, New York, New York

Location	RB66	RB67	RB68	RB69	RB70	RB71	RB72	RB73	RB74	RB75	RB76	ERSSREF02	ERSSREF04	ERSSREF05
Sample Date	**10/22/2008**	**10/22/2008**	**10/24/2008**	**10/22/2008**	**10/22/2008**	**10/23/2008**	**10/23/2008**	**10/23/2008**	**10/23/2008**	**10/23/2008**	**10/27/2008**	**6/12/2008**	**6/12/2008**	**6/12/2008**
Top of Sediment Elevation	-36	-21	-20	-20	-7	-9	-17	-22	-40	-29	-30	-19	-7	-15
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-0.5	0-0.5	0-0.5
Sediment Type	Sand	Silt	Silty Sand	Silt	Silt	Silty Sand	Sandy Silt	Silt	Sand	Silty Sand	Silt, Sand, and Gravel	Sandy Silt	Silt	Silt
Observation	Stain		Sheen/Stain	Sheen	Sheen					Sheen				
Odor		Organic	MGP	MGP	MGP	Organic	Organic	Organic	Organic	MGP		Organic	H_2S	H_2S
BTEX (mg/Kg)														
Benzene	0.0029 U	**0.059 J**	3.000 U	**1.700 J**	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
Ethylbenzene	0.0029 U	0.011 UJ	**40.000**	**5.000 J**	**5.000 J**	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	**17.000**	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
m,p-Xylene	0.0059 U	0.021 UJ	**22.000**	2.300 UJ	2.600 UJ	0.019 U	0.057 UJ	1.500 UJ	0.0061 U	2.600 UJ	0.0060 U	0.012 UJ	0.010 UJ	0.014 UJ
o-Xylene	0.0059 U	0.021 UJ	**16.000**	2.300 UJ	**2.900 J**	0.019 U	0.057 UJ	1.500 UJ	0.0061 U	2.600 UJ	0.0060 U	0.012 UJ	0.010 UJ	0.014 UJ
Toluene	0.0044 U	0.016 UJ	4.500 U	1.700 UJ	2.000 UJ	0.014 U	0.043 UJ	1.100 UJ	0.0046 U	1.900 UJ	0.0045 U	0.0094 UJ	0.0078 UJ	0.010 UJ
Total Xylene (calculated)	0.00590 U	0.021 U	**38.000**	2.300 U	**4.200**	0.019 U	0.057 U	1.500 U	0.00610 U	2.600 U	0.006 U	0.012 U	0.010 U	0.014 U
Total BTEX	0.011 U	**0.09350**	**81.750**	**9.850**	**10.850**	0.03540 U	0.10650 U	2.790 U	0.01140 U	**21.200**	0.01125 U	0.02290 U	0.01910 U	0.02590 U
VOC (mg/Kg)														
1,1,1-Trichloroethane	0.0029 U	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
1,1,2,2-Tetrachloroethane	0.0029 U	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
1,1,2-Trichloroethane	0.0044 U	0.016 UJ	4.500 U	1.700 UJ	2.000 UJ	0.014 U	0.043 UJ	1.100 UJ	0.0046 U	1.900 UJ	0.0045 U	0.0094 UJ	0.0078 UJ	0.010 UJ
1,1-Dichloroethane	0.0044 U	0.016 UJ	4.500 U	1.700 UJ	2.000 UJ	0.014 U	0.043 UJ	1.100 UJ	0.0046 U	1.900 UJ	0.0045 U	0.0094 UJ	0.0078 UJ	0.010 UJ
1,1-Dichloroethene	0.0029 U	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
1,2-Dichloroethane	0.0029 U	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
1,2-Dichloropropane	0.010 U	0.037 UJ	10.000 U	4.000 UJ	4.600 UJ	0.033 U	0.100 UJ	2.600 UJ	0.011 U	4.500 UJ	0.010 U	0.022 UJ	0.018 UJ	0.024 UJ
2-Butanone (Methyl Ethyl Ketone)	0.029 U	0.110 UJ	30.000 U	11.000 UJ	13.000 UJ	0.094 U	0.280 UJ	7.400 UJ	0.030 U	13.000 UJ	0.030 U	0.062 UJ	0.052 UJ	0.069 UJ
2-Hexanone	0.029 U	0.110 UJ	30.000 U	11.000 UJ	13.000 UJ	0.094 U	0.280 UJ	7.400 UJ	0.030 U	13.000 UJ	0.030 U	0.062 UJ	0.052 UJ	0.069 UJ
4-Methyl-2-pentanone	0.029 U	0.110 UJ	30.000 U	11.000 UJ	13.000 UJ	0.094 U	0.280 UJ	7.400 UJ	0.030 U	13.000 UJ	0.030 U	0.062 UJ	0.052 UJ	0.069 UJ
Acetone	0.029 U	0.110 UJ	30.000 U	11.000 UJ	13.000 UJ	0.094 U	**0.310 J**	7.400 UJ	0.030 U	13.000 UJ	0.030 U	0.062 UJ	0.052 UJ	0.069 UJ
Bromodichloromethane	0.0029 U	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
Bromoform	0.012 U	0.042 UJ	12.000 U	4.500 UJ	5.200 UJ	0.038 U	0.110 UJ	2.900 UJ	0.012 U	5.100 UJ	0.012 U	0.025 UJ	0.021 UJ	0.028 UJ
Bromomethane	0.0059 U	0.021 UJ	6.000 U	2.300 UJ	2.600 UJ	0.019 U	0.057 UJ	1.500 UJ	0.0061 U	2.600 UJ	0.0060 U	0.012 UJ	0.010 UJ	0.014 UJ
Carbon Disulfide	0.029 UJ	0.110 UJ	30.000 UJ	11.000 UJ	13.000 UJ	0.094 U	0.280 UJ	7.400 UJ	0.030 UJ	13.000 UJ	0.030 UJ	0.062 UJ	0.052 UJ	0.069 UJ
Carbon Tetrachloride	0.0029 U	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
Chlorobenzene	0.0029 U	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	**0.020**	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
Chloroethane	0.0059 U	0.021 UJ	6.000 U	2.300 UJ	2.600 UJ	0.019 U	0.057 UJ	1.500 UJ	0.0061 U	2.600 UJ	0.0060 U	0.012 UJ	0.010 UJ	0.014 UJ
Chloroform	0.0044 U	0.016 UJ	4.500 U	1.700 UJ	2.000 UJ	0.014 U	0.043 UJ	1.100 UJ	0.0046 U	1.900 UJ	0.0045 U	0.0094 UJ	0.0078 UJ	0.010 UJ
Chloromethane	0.015 U	0.053 UJ	15.000 U	5.700 UJ	6.500 UJ	0.047 U	0.140 UJ	3.700 UJ	0.015 U	6.400 UJ	0.015 U	0.031 UJ	0.026 UJ	0.035 UJ
cis-1,2-Dichloroethene	0.0029 U	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
cis-1,3-Dichloropropene	0.0029 U	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
Dibromochloromethane	0.0029 U	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
Methylene Chloride	0.029 U	0.110 UJ	30.000 U	11.000 UJ	13.000 UJ	0.094 U	0.280 UJ	7.400 UJ	0.030 U	13.000 UJ	0.030 U	0.062 UJ	0.052 UJ	0.069 UJ
Styrene	0.0059 U	0.021 UJ	6.000 U	2.300 UJ	2.600 UJ	0.019 U	0.057 UJ	1.500 UJ	0.0061 U	2.600 UJ	0.0060 U	0.012 UJ	0.010 UJ	0.014 UJ
Tetrachloroethene	0.0029 U	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
trans-1,2-Dichloroethene	0.0044 U	0.016 UJ	4.500 U	1.700 UJ	2.000 UJ	0.014 U	0.043 UJ	1.100 UJ	0.0046 U	1.900 UJ	0.0045 U	0.0094 UJ	0.0078 UJ	0.010 UJ
trans-1,3-Dichloropropene	0.0029 U	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
Trichloroethene	0.0029 U	0.011 UJ	3.000 U	1.100 UJ	1.300 UJ	0.0094 U	0.028 UJ	0.740 UJ	0.0030 U	1.300 UJ	0.0030 U	0.0062 UJ	0.0052 UJ	0.0069 UJ
Vinyl Chloride	0.0059 U	0.021 UJ	6.000 U	2.300 UJ	2.600 UJ	0.019 U	0.057 UJ	1.500 UJ	0.0061 U	2.600 UJ	0.0060 U	0.012 UJ	0.010 UJ	0.014 UJ
Total VOC	0.15595 U	**0.63500**	**230.75001**	**65.10000**	**75.65000**	**0.51880**	**1.67350**	39.60000 U	0.16130 U	**85.65000**	0.16025 U	0.33100 U	0.27700 U	0.36925 U

Notes:
Bold = detected above reporting limit
Total VOCs include BTEX
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-12
Summary of OU2 RI Surface Sediment Analytical Results - Semivolatile Organic Compounds and Total Organic Carbon
Former East 21st Street Works, New York, New York

Location	GS07	GS09	GS13	GS14	GS16	GS17	GS21	GS24	GS25	GS26	GS27	GS28	GS28 DUP	GS29	GS30	GS31	GS35	GS36	GS37	GS38	GS39
Sample Date	**10/29/2008**	**10/30/2008**	**10/9/2008**	**10/11/2008**	**10/29/2008**	**10/29/2008**	**10/9/2008**	**10/27/2008**	**10/27/2008**	**10/30/2008**	**10/30/2008**	**10/30/2008**	**10/30/2008**	**10/9/2008**	**10/9/2008**	**10/9/2008**	**10/27/2008**	**10/30/2008**	**10/29/2008**	**10/29/2008**	**10/27/2008**
Top of Sediment Elevation	-24	-37	-18	-18	115	-15		-35	-35	-30	-32	-31	-31	-39	-41	-38	-20	-15	-24	-41	-20
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
Sediment Type	Gravel	Clay	Gravel	Silt/Peat	Silt/Peat	Silt	Silty Peat	Silt/Clay	Sand	Sand	Sand	Sand	Sand	Silty Clay	Sand/Clay	Clay/Silt	Silt	Silt	Silt	Sandy Silt and Clay	Silt and Gravel
Observation			Stain	Sheen	NAPL		Sheen/Stain										Sheen	NAPL/Sheen			NAPL
Odor			Organic	Organic	MGP	Organic	MGP										MGP	MGP	Organic		MGP
PAH (mg/Kg)																					
2-Methylnaphthalene	**16.000**	0.088 U	**280.000**	**48.000 J**	**57.000 J**	**3.200**	**70.000**	0.018 U	0.830 U	0.880 U	0.016 U	0.017 U	1.800 U	0.018 U	0.018 UJ	0.019 U	**220.000 J**	**4.700 J**	0.980 U	NS	**1000.000**
Acenaphthene	**39.000**	0.088 U	**190.000**	**110.000 J**	**240.000 J**	**2.200**	**42.000**	**0.020**	0.830 U	0.880 U	0.016 U	0.017 U	1.800 U	0.018 U	0.018 UJ	0.019 U	**32.000 J**	**30.000 J**	0.980 U	NS	**340.000**
Acenaphthylene	**230.000**	**0.620**	**16.000**	**14.000 J**	**19.000 J**	**3.700**	**14.000**	**0.077**	**8.400**	0.880 U	**0.043**	0.017 U	1.800 U	0.018 U	0.018 UJ	0.019 U	**71.000 J**	**12.000 J**	0.980 U	NS	**100.000**
Anthracene	**170.000**	**0.200**	**94.000**	**94.000 J**	**110.000 J**	**4.900**	**64.000**	**0.070**	**5.600**	0.880 U	**0.040**	0.017 U	1.800 U	**0.039**	0.018 UJ	0.019 U	**46.000 J**	**27.000 J**	0.980 U	NS	**190.000**
Benzo(a)anthracene	**71.000**	**0.570**	**55.000**	**51.000 J**	**55.000 J**	**17.000**	**60.000**	**0.220**	**22.000**	0.880 U	**0.082**	0.017 U	1.800 U	**0.120**	0.018 UJ	0.019 U	**19.000 J**	**17.000 J**	**1.200**	NS	**84.000**
Benzo(a)pyrene	**51.000**	**0.990**	**37.000**	**39.000 J**	**38.000 J**	**10.000**	**39.000**	**0.160**	**18.000**	0.880 U	**0.084**	0.017 U	1.800 U	**0.110**	0.018 UJ	0.019 U	**14.000 J**	**11.000 J**	**1.000**	NS	**77.000**
Benzo(b)fluoranthene	**19.000**	**0.500**	**20.000**	**15.000 J**	**17.000 J**	**6.000**	**23.000**	**0.099**	**9.900**	0.880 U	**0.045**	0.017 U	1.800 U	**0.110**	0.018 UJ	0.019 U	**8.800 J**	**5.600 J**	**1.000**	NS	**28.000**
Benzo(ghi)perylene	**16.000**	**0.300**	**19.000**	**22.000 J**	**13.000 J**	**4.500**	**21.000**	**0.076**	**6.200**	0.880 U	**0.038**	0.017 U	1.800 U	**0.100**	0.018 UJ	0.019 U	**8.000 J**	**4.700 J**	0.980 U	NS	**18.000**
Benzo(k)fluoranthene	**32.000**	**0.630**	**23.000**	**26.000 J**	**19.000 J**	**6.300**	**26.000**	**0.100**	**14.000**	0.880 U	**0.057**	0.017 U	1.800 U	**0.110**	0.018 UJ	0.019 U	**9.500 J**	**7.400 J**	0.980 U	NS	**53.000**
Chrysene	**67.000**	**0.460**	**46.000**	**40.000 J**	**50.000 J**	**16.000**	**54.000**	**0.180**	**20.000**	0.880 U	**0.079**	0.017 U	1.800 U	**0.110**	**0.019 J**	0.019 U	**18.000 J**	**16.000 J**	**1.400**	NS	**81.000**
Dibenz(a,h)anthracene	**5.300**	0.088 U	**3.500**	**6.000 J**	3.300 UJ	1.300 U	5.000 U	0.018 U	**3.000**	0.880 U	0.016 U	0.017 U	1.800 U	**0.100**	0.018 UJ	0.480 U	3.000 UJ	1.600 UJ	0.980 U	NS	**6.400**
Fluoranthene	**140.000**	**0.510**	**91.000**	**120.000 J**	**91.000 J**	**21.000**	**100.000**	**0.250**	**36.000**	0.880 U	**0.082**	0.017 U	1.800 U	**0.110**	**0.064 J**	0.019 U	**37.000 J**	**27.000 J**	**2.500**	NS	**160.000**
Fluorene	**34.000**	0.088 U	**91.000**	**62.000 J**	**85.000 J**	1.300 U	**40.000**	0.018 U	0.830 U	0.880 U	0.016 U	0.017 U	1.800 U	0.018 U	0.018 UJ	0.019 U	**52.000 J**	**18.000 J**	0.980 U	NS	**190.000**
Indeno(1,2,3-cd)pyrene	**14.000**	**0.260**	**18.000**	**15.000 J**	**9.700 J**	**3.600**	**20.000**	**0.074**	**5.700**	0.880 U	**0.030**	0.017 U	1.800 U	**0.110**	0.018 UJ	0.019 U	**8.600 J**	**3.000 J**	0.980 U	NS	**15.000**
Naphthalene	**37.000**	**0.110**	**400.000**	**120.000 J**	**310.000 J**	**4.400**	**280.000**	0.018 U	**1.400**	0.880 U	**0.017**	0.017 U	1.800 U	0.018 U	0.018 UJ	0.019 U	**270.000 J**	**22.000 J**	0.980 U	NS	**1100.000**
Phenanthrene	**520.000**	**0.310**	**280.000**	**240.000 J**	**300.000 J**	**3.700**	**180.000**	**0.057**	**3.300**	0.880 U	**0.058**	0.017 U	1.800 U	**0.036**	0.018 UJ	0.019 U	**130.000 J**	**64.000 J**	**2.200**	NS	**610.000**
Pyrene	**250.000**	**1.800**	**130.000**	**170.000 J**	**150.000 J**	**37.000**	**130.000**	**0.470**	**54.000**	**0.900**	**0.140**	**0.018**	1.800 U	**0.120**	**0.096 J**	0.019 U	**55.000 J**	**44.000 J**	**2.700**	NS	**260.000**
Total HMW PAH	**525.300**	**5.554**	**351.500**	**384.000**	**353.350**	**101.050**	**375.500**	**1.388**	**152.800**	**4.420**	**0.563**	**0.086**	8.100 U	**0.990**	**0.178**	0.316 U	**142.400**	**109.500**	**9.260**	NS	**622.400**
Total LMW PAH	**1186.000**	**1.882**	**1442.000**	**808.000**	**1212.000**	**43.750**	**790.000**	**0.501**	**55.945**	3.520 U	**0.264**	0.068 U	7.200 U	**0.230**	**0.127**	0.076 U	**858.000**	**204.700**	**7.640**	NS	**3690.000**
Total PAH	**1711.300**	**7.436**	**1793.500**	**1192.000**	**1565.350**	**144.800**	**1165.500**	**1.889**	**208.745**	**7.940**	**0.827**	**0.154**	15.300 U	**1.220**	**0.305**	0.392 U	**1000.400**	**314.200**	**16.900**	NS	**4312.400**
Benzo(a)pyrene Equivalents	**67.087**	**1.17376**	**50.076**	**53.400**	**48.060**	**13.389**	**52.114**	**0.20948**	**24.920**	**1.01684**	**0.10835**	**0.01965**	**2.0799**	**0.24521**	**0.02081**	**0.25246**	**19.253**	**14.450**	**1.7653**	NS	**96.711**
SVOC (mg/Kg)																					
1,1-Biphenyl																					
1,2,4-Trichlorobenzene	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
1,2-Dichlorobenzene	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
1,3-Dichlorobenzene	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
1,4-Dichlorobenzene	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
2,2'-oxybis(1-Chloropropane)	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
2,4,5-Trichlorophenol	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
2,4,6-Trichlorophenol	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
2,4-Dichlorophenol	<8.600 U	<0.880 U	<6.500 U	<14.000 UJ	<8.300 UJ	<6.400 U	<31.000 U	<0.890 U	<4.200 U	<1.800 U	<0.820 U	<0.830 U	<9.100 U	<0.920 U	<0.900 UJ	<0.950 U	<7.400 UJ	<7.800 UJ	<2.000 U	NS	<11.000 U
2,4-Dimethylphenol	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
2,4-Dinitrophenol	<17.000 U	<1.800 U	<13.000 U	<28.000 UJ	<17.000 UJ	<13.000 U	<63.000 U	<1.800 U	<8.300 U	<3.500 U	<1.600 U	<1.700 U	<18.000 U	<1.800 U	<1.800 UJ	<1.900 U	<15.000 UJ	<16.000 UJ	<3.900 U	NS	<22.000 U
2,4-Dinitrotoluene	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
2,6-Dinitrotoluene	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
2-Chloronaphthalene	<3.500 U	<0.088 U	<3.900 U	<1.400 UJ	<3.300 UJ	<1.300 U	<5.000 U	<0.018 U	<0.830 U	<0.880 U	<0.016 U	<0.017 U	<1.800 U	<0.018 U	<0.018 UJ	<0.019 U	<3.000 UJ	<1.600 UJ	<0.980 U	NS	<6.600 U
2-Chlorophenol	<5.200 U	<0.530 U	<3.900 U	<8.300 UJ	<5.000 UJ	<3.800 U	<19.000 U	<0.530 U	<2.500 U	<1.000 U	<0.490 U	<0.500 U	<5.500 U	<0.560 U	<0.540 UJ	<0.570 U	<4.400 UJ	<4.600 UJ	<1.200 U	NS	<6.600 U
2-Methylphenol	<5.200 U	<0.530 U	<3.900 U	<8.300 UJ	<5.000 UJ	<3.800 U	<19.000 U	<0.530 U	<2.500 U	<1.000 U	<0.490 U	<0.500 U	<5.500 U	<0.560 U	<0.540 UJ	<0.570 U	<4.400 UJ	<4.600 UJ	<1.200 U	NS	<6.600 U
2-Nitroaniline	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
2-Nitrophenol	<17.000 U	<1.800 U	<13.000 U	<28.000 UJ	<17.000 UJ	<13.000 U	<63.000 U	<1.800 U	<8.300 U	<3.500 U	<1.600 U	<1.700 U	<18.000 U	<1.800 U	<1.800 UJ	<1.900 U	<15.000 UJ	<16.000 UJ	<3.900 U	NS	<22.000 U
3,3'-Dichlorobenzidine	<8.600 U	<0.880 U	<6.500 U	<14.000 UJ	<8.300 UJ	<6.400 U	<31.000 U	<0.890 U	<4.200 U	<1.800 U	<0.820 U	<0.830 U	<9.100 U	<0.920 U	<0.900 UJ	<0.950 U	<7.400 UJ	<7.800 UJ	<2.000 U	NS	<11.000 U
3+4-Methylphenols	<5.200 U	<0.530 U	<3.900 U	<8.300 UJ	<5.000 UJ	<3.800 U	<19.000 U	<0.530 U	<2.500 U	<1.000 U	<0.490 U	<0.500 U	<5.500 U	<0.560 U	<0.540 UJ	<0.570 U	<4.400 UJ	<4.600 UJ	<1.200 U	NS	<6.600 U
3-Nitroaniline	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
4,6-Dinitro-2-methylphenol	<17.000 U	<1.800 U	<13.000 U	<28.000 UJ	<17.000 UJ	<13.000 U	<63.000 U	<1.800 U	<8.300 U	<3.500 U	<1.600 U	<1.700 U	<18.000 U	<1.800 U	<1.800 UJ	<1.900 U	<15.000 UJ	<16.000 UJ	<3.900 U	NS	<22.000 U
4-Bromophenyl phenyl ether	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
4-Chloro-3-methylphenol	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
4-Chloroaniline	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
4-Chlorophenyl phenyl ether	<4.300 U	<0.440 U	<3.300 U		<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
4-Nitroaniline	<6.100 U	<0.610 U	<4.600 U	<9.700 UJ	<5.800 UJ	<4.500 U	<22.000 U	<0.620 U	<2.900 U	<1.200 U	<0.580 U	<0.580 U	<6.400 U	<0.650 U	<0.630 UJ	<0.670 U	<5.200 UJ	<5.400 UJ	<1.400 U	NS	<7.600 U
4-Nitrophenol	<8.600 U	<0.880 U	<6.500 U	<14.000 UJ	<8.300 UJ	<6.400 U	<31.000 U	<0.890 U	<4.200 U	<1.800 U	<0.820 U	<0.830 U	<9.100 U	<0.920 U	<0.900 UJ	<0.950 U	<7.400 UJ	<7.800 UJ	<2.000 U	NS	<11.000 U

Notes:
Bold = detected above reporting limit
Total SVOCs include Total PAH
Surface Sed Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 5-12
Summary of OU2 RI Surface Sediment Analytical Results - Semivolatile Organic Compounds and Total Organic Carbon
Former East 21st Street Works, New York, New York

Location	GS07	GS09	GS13	GS14	GS16	GS17	GS21	GS24	GS25	GS26	GS27	GS28	GS28 DUP	GS29	GS30	GS31	GS35	GS36	GS37	GS38	GS39
Sample Date	**10/29/2008**	**10/30/2008**	**10/9/2008**	**10/11/2008**	**10/29/2008**	**10/29/2008**	**10/9/2008**	**10/27/2008**	**10/27/2008**	**10/30/2008**	**10/30/2008**	**10/30/2008**	**10/30/2008**	**10/9/2008**	**10/9/2008**	**10/9/2008**	**10/27/2008**	**10/30/2008**	**10/29/2008**	**10/29/2008**	**10/27/2008**
Top of Sediment Elevation	-24	-37	-18	-18	115	-15		-35	-35	-30	-32	-31	-31	-39	-41	-38	-20	-15	-24	-41	-20
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
Sediment Type	Gravel	Clay	Gravel	Silt/Peat	Silt/Peat	Silt	Silty Peat	Silt/Clay	Sand	Sand	Sand	Sand	Sand	Silty Clay	Sand/Clay	Clay/Silt	Silt	Silt	Silt	Sandy Silt and Clay	Silt and Gravel
Observation			Stain	Sheen	NAPL		Sheen/Stain										Sheen	NAPL/Sheen			NAPL
Odor			Organic	Organic	MGP	Organic	MGP										MGP	MGP	Organic		MGP
SVOC (mg/Kg)																					
Benzoic Acid	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
bis(2-Chloroethoxy)methane	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
bis(2-Chloroethyl) ether	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
bis(2-Ethylhexyl) phthalate	<8.600 U	<0.880 U	<6.500 U	<14.000 UJ	<8.300 UJ	<6.400 U	<31.000 U	<0.890 U	<4.200 U	<1.800 U	<0.820 U	<0.830 U	<9.100 U	<0.920 U	<0.900 UJ	<0.950 U	<7.400 UJ	<7.800 UJ	<2.000 U	NS	<11.000 U
Butyl benzyl phthalate	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
Carbazole	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
Dibenzofuran	**7.300**	<0.440 U	**8.000**	<6.900 UJ	**10.000 J**	<3.200 U	**16.000**	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	**5.900 J**	<3.900 UJ	<0.980 U	NS	**26.000**
Diethyl phthalate	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
Dimethyl phthalate	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
Di-n-butyl phthalate	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
Di-n-octyl phthalate	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
Hexachlorobenzene	<14.000 U	<0.350 U	<21.000 U	<5.600 UJ	<13.000 UJ	<5.100 U	<20.000 U	<0.071 U	<3.300 U	<3.500 U	<0.066 U	<0.067 U	<7.300 U	<0.074 U	<0.072 UJ	<0.076 U	<12.000 UJ	<6.200 UJ	<3.900 U	NS	<87.000 U
Hexachlorobutadiene	<8.600 U	<0.220 U	<6.500 U	<3.500 UJ	<8.300 UJ	<3.200 U	<12.000 U	<0.044 U	<2.100 U	<1.800 U	<0.041 U	<0.042 U	<4.600 U	<0.046 U	<0.045 UJ	<0.048 U	<7.400 UJ	<3.900 UJ	<2.000 U	NS	<11.000 U
Hexachlorocyclopentadiene	<8.600 U	<0.880 U	<6.500 U	<14.000 UJ	<8.300 UJ	<6.400 U	<31.000 U	<0.890 U	<4.200 U	<1.800 U	<0.820 U	<0.830 U	<9.100 U	<0.920 U	<0.900 UJ	<0.950 U	<7.400 UJ	<7.800 UJ	<2.000 U	NS	<11.000 U
Hexachloroethane	<14.000 U	<0.350 U	<21.000 U	<5.600 UJ	<13.000 UJ	<5.100 U	<20.000 U	<0.071 U	<3.300 U	<3.500 U	<0.066 U	<0.067 U	<7.300 U	<0.074 U	<0.072 UJ	<0.076 U	<12.000 UJ	<6.200 UJ	<3.900 U	NS	<87.000 U
Isophorone	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
Nitrobenzene	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
N-Nitrosodi-n-propylamine	<4.300 U	<0.440 U	<3.300 U	<6.900 UJ	<4.200 UJ	<3.200 U	<16.000 U	<0.440 U	<2.100 U	<0.880 U	<0.410 U	<0.420 U	<4.600 U	<0.460 U	<0.450 UJ	<0.480 U	<3.700 UJ	<3.900 UJ	<0.980 U	NS	<5.500 U
N-Nitrosodiphenylamine	<13.000 U	<1.300 U	<9.800 U	<21.000 UJ	<12.000 UJ	<9.600 U	<47.000 U	<1.300 U	<6.200 U	<2.600 U	<1.200 U	<1.200 U	<14.000 U	<1.400 U	<1.400 UJ	<1.400 U	<11.000 UJ	<12.000 UJ	<2.900 U	NS	<16.000 U
Pentachlorophenol	<14.000 U	<0.350 U	<13.000 U	<5.600 UJ	<13.000 UJ	<5.100 U	<20.000 U	<0.071 UJ	<3.300 UJ	<3.500 U	<0.066 U	<0.067 U	<7.300 U	<0.074 U	<0.072 UJ	<0.076 U	<12.000 UJ	<6.200 UJ	<3.900 U	NS	<22.000 UJ
Phenol	<6.100 U	<0.610 U	<4.600 U	<9.700 UJ	<5.800 UJ	<4.500 U	<22.000 U	<0.620 U	<2.900 U	<1.200 U	<0.580 U	<0.580 U	<6.400 U	<0.650 U	<0.630 UJ	<0.670 U	<5.200 UJ	<5.400 UJ	<1.400 U	NS	<7.600 U
Total SVOC	**1871.100**	**21.230**	**1929.850**	**1409.100**	**1722.900**	**250.000**	**1682.000**	**15.17650**	**277.260**	**40.600**	**13.05950**	**12.719**	<165.250 U	**14.993**	**13.83450**	<14.70950 U	**1137.750**	**442.650**	**53.460**	NS	**4605.450**
Carbon (%)																					
Average Soot Carbon	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Average Total Organic Carbon	**6.8 J**	**0.40**	**6.9**	**2.8**	**6.5**	**5.1 J**	**5.0**	**0.28 J**	**3.7 J**	**0.26**	**0.080**	**0.55 J**	**0.75**	**0.10 J**	**0.31 J**	**0.36 J**	**5.0 J**	**4.1**	**3.2**	NS	**4.7 J**
Soot Run 1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Soot Run 2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Soot Run 3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (Run 1)	**6.8 J**	**0.41**	**7.5**	**2.5**	**6.7**	**5.1 J**	**4.6**	**0.27 J**	**3.0 J**	**0.27**	**0.087**	**0.61 J**	**0.80**	**0.11 J**	**0.29 J**	**0.41 J**	**4.3 J**	**3.7**	**2.9**	NS	**4.2 J**
Total Organic Carbon (Run 2)	**6.7 J**	**0.41**	**6.3**	**3.1**	**5.6**	**5.1 J**	**5.6**	**0.30 J**	**3.9 J**	**0.23**	**0.083**	**0.56 J**	**0.61**	**0.10 J**	**0.32 J**	**0.36 J**	**5.2 J**	**4.3**	**3.7**	NS	**5.5 J**
Total Organic Carbon (Run 3)	**7.0 J**	**0.38**	**6.8**	**2.9**	**7.2**	**5.1 J**	**4.6**	**0.26 J**	**4.2 J**	**0.28**	**0.07**	**0.50 J**	**0.84**	**0.09 J**	**0.33 J**	**0.33 J**	**5.5 J**	**4.2**	**2.9**	NS	**4.4 J**

Notes:
Bold = detected above reporting limit
Total SVOCs include Total PAH
Surface Sed Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 5-12
Summary of OU2 RI Surface Sediment Analytical Results - Semivolatile Organic Compounds and Total Organic Carbon
Former East 21st Street Works, New York, New York

Location	GS40	GS41	GS41 DUP	GS42	GS43	RB2	RB3	RB4	RB5	RB6	RB8	RB9	RB10	RB11	RB12	RB13	RB14	RB16	RB17	RB18
Sample Date	**10/27/2008**	**10/29/2008**	**10/29/2008**	**10/29/2008**	**10/30/2008**	**6/18/2008**	**6/19/2008**	**6/19/2008**	**6/20/2008**	**6/20/2008**	**6/23/2008**	**6/24/2008**	**6/24/2008**	**6/25/2008**	**6/25/2008**	**6/26/2008**	**6/27/2008**	**6/30/2008**	**6/30/2008**	**7/1/2008**
Top of Sediment Elevation	-29	-25	-25	-11	-14	-9	-12	-8	-8	-15	-24	-35	-32	-25	-6	-21	-25	-32	-32	-26
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-0.4	0-0.5	0-0.5	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-0.5	0-0.5	0-0.5
Sediment Type	Sand and Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Gravel	Sand/Silt	Sand	Silt	Sand	Silt	Silt	Silt	Sand, Silt, and Clay	Silt
Observation											TLM/Stain/Sheen			NAPL		Sheen	Sheen/Stain			
Odor	Organic	Organic	Organic	Organic	Organic		MGP, Organic	H_2S	H_2S	H_2S	MGP	H_2S		MGP		MGP, H2S, Organic	MGP	MGP, H2S, Organic		H_2S
PAH (mg/Kg)																				
2-Methylnaphthalene	**3.400**	1.700 UJ	1.500 UJ	**3.800 J**	2.100 UJ	0.350 UJ	**1.600 J**	**11.000**	**1.700 J**	**8.000 J**	**360.000**	**0.048**	0.016 U	**70.000**	**0.890**	**15.000**	**180.000 J**	**1.200**	**0.033**	**1.400 J**
Acenaphthene	**2.100**	1.700 UJ	1.500 UJ	**3.800 J**	2.100 UJ	0.350 UJ	**1.300 J**	**8.600**	**3.000 J**	**8.200 J**	**140.000**	0.016 U	0.016 U	**5.200**	**0.460**	**36.000**	**85.000 J**	**22.000**	**0.022**	0.740 UJ
Acenaphthylene	**8.000**	1.700 UJ	1.500 UJ	**2.000 J**	2.100 UJ	**0.520 J**	**0.990 J**	**3.500**	**1.700 J**	**3.200 J**	**16.000**	**0.027**	0.016 U	**34.000**	**0.570**	**3.000**	**9.800 J**	**1.400**	**0.300**	**1.700 J**
Anthracene	**11.000**	1.700 UJ	**3.400 J**	**3.700 J**	2.100 UJ	**0.890 J**	**2.900 J**	**11.000**	**5.000 J**	**7.800 J**	**63.000**	**0.038**	0.016 U	**20.000**	**1.000**	**18.000 J**	**43.000 J**	**10.000**	**0.270**	**1.400 J**
Benzo(a)anthracene	**27.000**	**1.800 J**	**5.700 J**	**3.500 J**	**2.400 J**	**1.400 J**	**3.200 J**	**9.200**	**7.400 J**	**7.800 J**	**17.000**	**0.063**	0.016 U	**12.000**	**1.700**	**11.000**	**21.000 J**	**4.700**	**0.800**	**2.100 J**
Benzo(a)pyrene	**22.000**	1.700 UJ	**4.500 J**	**3.000 J**	2.100 UJ	**1.600 J**	**3.300 J**	**8.500**	**7.700 J**	**7.400 J**	**13.000**	**0.060**	0.016 U	**9.300**	**1.600**	**8.100**	**16.000 J**	**3.200**	**0.700**	**2.000 J**
Benzo(b)fluoranthene	**14.000**	1.700 UJ	**2.400 J**	1.600 UJ	2.100 UJ	**1.100 J**	**2.700 J**	**5.800**	**6.500 J**	**5.400 J**	**5.000**	**0.037**	0.016 U	**5.000**	**0.970**	**5.700**	**9.300 J**	**2.000**	**0.650**	**1.400 J**
Benzo(ghi)perylene	**9.300**	1.700 UJ	**2.000 J**	1.600 UJ	2.100 UJ	**0.720 J**	**1.600 J**	**3.800**	**4.000 J**	**2.900 J**	**4.600**	**0.032**	0.016 U	**3.400**	**0.820**	**3.100**	**6.200 J**	**1.000**	**0.330**	**1.100 J**
Benzo(k)fluoranthene	**16.000**	1.700 UJ	**3.800 J**	1.600 UJ	2.100 UJ	**1.000 J**	**2.100 J**	**4.300**	**4.700 J**	**4.200 J**	**7.900**	**0.064**	0.016 U	**7.400**	**1.600**	**4.800**	**7.900 J**	**1.700**	**0.530**	**1.100 J**
Chrysene	**20.000**	**2.200 J**	**5.200 J**	**4.000 J**	**2.800 J**	**1.600 J**	**3.400 J**	**9.000**	**8.000 J**	**7.900 J**	**16.000**	**0.059**	0.016 U	**11.000**	**1.700**	**10.000**	**19.000 J**	**4.000**	**0.620**	**2.000 J**
Dibenz(a,h)anthracene	**3.400**	1.700 UJ	1.500 UJ	1.600 UJ	2.100 UJ	0.350 UJ	0.390 UJ	**0.720**	1.300 UJ	**0.740 J**	**1.100**	0.016 U	0.016 U	**0.950**	**0.210**	**0.940**	1.800 UJ	**0.270**	**0.087**	0.740 UJ
Fluoranthene	**27.000**	**3.300 J**	**12.000 J**	**6.500 J**	**4.200 J**	**2.200 J**	**6.400 J**	**18.000**	**15.000 J**	**14.000 J**	**62.000**	**0.110**	0.016 U	**34.000**	**3.500**	**21.000 J**	**45.000 J**	**8.900**	**1.800**	**4.000 J**
Fluorene	**1.200**	1.700 UJ	1.500 UJ	**1.600 J**	2.100 UJ	0.350 UJ	**1.800 J**	**6.900**	**2.100 J**	**6.400 J**	**68.000**	**0.017**	0.016 U	**22.000**	**0.440**	**5.800**	**40.000 J**	**5.800**	**0.020**	0.740 UJ
Indeno(1,2,3-cd)pyrene	**8.300**	1.700 UJ	**1.700 J**	1.600 UJ	2.100 UJ	**0.580 J**	**1.400 J**	**2.900**	**3.300 J**	**2.500 J**	**4.200**	**0.028**	0.016 U	**3.400**	**0.760**	**2.700**	**4.600 J**	**0.920**	**0.330**	**0.960 J**
Naphthalene	**13.000**	**3.500 J**	1.500 UJ	**5.500 J**	**4.200 J**	**0.450 J**	**3.000 J**	**10.000**	**2.900 J**	**10.000 J**	**570.000**	**0.079**	**0.058**	**96.000**	**1.400**	**29.000**	**320.000 J**	**2.300**	**0.097**	**1.400 J**
Phenanthrene	**10.000**	1.700 UJ	**6.200 J**	**6.900 J**	**2.300 J**	**1.100 J**	**5.600 J**	**25.000**	**8.500 J**	**19.000 J**	**220.000**	**0.066**	0.016 U	**85.000**	**2.400**	**34.000**	**110.000 J**	**33.000**	**0.094**	**2.400 J**
Pyrene	**56.000**	**4.500 J**	**14.000 J**	**8.500 J**	**6.400 J**	**2.600 J**	**6.600 J**	**23.000**	**16.000 J**	**17.000 J**	**100.000**	**0.200**	**0.030**	**36.000**	**4.500**	**25.000 J**	**61.000 J**	**14.000**	**1.900**	**4.600 J**
Total HMW PAH	**176.000**	**13.600**	**40.050**	**23.000**	**17.900**	**10.775**	**24.495**	**67.220**	**58.250**	**55.840**	**168.800**	**0.551**	**0.094**	**88.450**	**13.860**	**71.340**	**145.900**	**31.790**	**5.947**	**15.630**
Total LMW PAH	**75.700**	**11.900**	**25.350**	**33.800**	**15.950**	**5.685**	**23.590**	**94.000**	**39.900**	**76.600**	**1499.000**	**0.393**	**0.114**	**366.200**	**10.660**	**161.800**	**832.800**	**84.600**	**2.636**	**13.040**
Total PAH	**251.700**	**25.500**	**65.400**	**56.800**	**33.850**	**16.460**	**48.085**	**161.220**	**98.150**	**132.440**	**1667.800**	**0.944**	**0.208**	**454.650**	**24.520**	**233.140**	**978.700**	**116.390**	**8.583**	**28.670**
Benzo(a)pyrene Equivalents	**30.510**	**2.0607**	**6.2732**	**4.322**	**2.5633**	**2.0946**	**4.2494**	**11.062**	**10.125**	**9.7599**	**16.815**	**0.0815**	**0.01849**	**12.375**	**2.1707**	**11.038**	**20.488**	**4.253**	**0.97092**	**2.829**
SVOC (mg/Kg)																				
1,1-Biphenyl																				
1,2,4-Trichlorobenzene	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
1,2-Dichlorobenzene	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
1,3-Dichlorobenzene	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
1,4-Dichlorobenzene	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
2,2'-oxybis(1-Chloropropane)	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
2,4,5-Trichlorophenol	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
2,4,6-Trichlorophenol	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
2,4-Dichlorophenol	<6.200 U	<8.300 UJ	<7.600 UJ	<8.100 UJ	<10.000 UJ	<3.500 UJ	<3.900 UJ	<4.400 U	<6.300 UJ	<6.700 UJ	<0.840 U	<0.820 U	<0.820 U	<0.800 U	<0.910 U	<1.600 U	<9.000 UJ	<0.980 U	<0.880 U	<1.800 UJ
2,4-Dimethylphenol	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
2,4-Dinitrophenol	<12.000 U	<17.000 UJ	<15.000 UJ	<16.000 UJ	<21.000 UJ	<7.000 UJ	<7.800 UJ	<8.700 U	<13.000 UJ	<13.000 UJ	<1.700 U	<1.600 U	<1.600 U	<1.600 U	<1.800 U	<3.200 U	<18.000 UJ	<2.000 U	<1.800 U	<3.700 UJ
2,4-Dinitrotoluene	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
2,6-Dinitrotoluene	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
2-Chloronaphthalene	<0.620 U	<1.700 UJ	<1.500 UJ	<1.600 UJ	<2.100 UJ	<0.350 UJ	<0.390 UJ	<0.440 U	<1.300 UJ	<0.670 UJ	<1.700 U	<0.016 U	<0.016 U	<0.800 U	<0.091 U	<0.160 U	<1.800 UJ	<0.098 U	<0.018 U	<0.740 UJ
2-Chlorophenol	<3.700 U	<5.000 UJ	<4.500 UJ	<4.900 UJ	<6.200 UJ	<2.100 UJ	<2.400 UJ	<2.600 U	<3.800 UJ	<4.000 UJ	<0.510 U	<0.490 U	<0.490 U	<0.480 U	<0.550 U	<0.980 U	<5.400 UJ	<0.590 U	<0.530 U	<1.100 UJ
2-Methylphenol	<3.700 U	<5.000 UJ	<4.500 UJ	<4.900 UJ	<6.200 UJ	<2.100 UJ	<2.400 UJ	<2.600 U	<3.800 UJ	<4.000 UJ	<0.510 U	<0.490 U	<0.490 U	<0.480 U	<0.550 U	<0.980 U	<5.400 UJ	<0.590 U	<0.530 U	<1.100 UJ
2-Nitroaniline	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<1.300 UJ
2-Nitrophenol	<12.000 U	<17.000 UJ	<15.000 UJ	<16.000 UJ	<21.000 UJ	<7.000 UJ	<7.800 UJ	<8.700 U	<13.000 UJ	<13.000 UJ	<1.700 U	<1.600 U	<1.600 U	<1.600 U	<1.800 U	<3.200 U	<18.000 UJ	<2.000 U	<1.800 U	<3.700 UJ
3,3'-Dichlorobenzidine	<6.200 U	<8.300 UJ	<7.600 UJ	<8.100 UJ	<10.000 UJ	<3.500 UJ	<3.900 UJ	<4.400 U	<6.300 UJ	<6.700 UJ	<0.840 U	<0.820 U	<0.820 U	<0.800 U	<0.910 U	<1.600 U	<9.000 UJ	<0.980 U	<0.880 U	<1.800 UJ
3+4-Methylphenols	<3.700 U	<5.000 UJ	<4.500 UJ	<4.900 UJ	<6.200 UJ	<2.100 UJ	<2.400 UJ	<2.600 U	<3.800 UJ	<4.000 UJ	<0.510 U	<0.490 U	<0.490 U	<0.480 U	<0.550 U	<0.980 U	<5.400 UJ	<0.590 U	<0.530 U	**2.000 J**
3-Nitroaniline	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
4,6-Dinitro-2-methylphenol	<12.000 U	<17.000 UJ	<15.000 UJ	<16.000 UJ	<21.000 UJ	<7.000 UJ	<7.800 UJ	<8.700 U	<13.000 UJ	<13.000 UJ	<1.700 U	<1.600 U	<1.600 U	<1.600 U	<1.800 U	<3.200 U	<18.000 UJ	<2.000 U	<1.800 U	<3.700 UJ
4-Bromophenyl phenyl ether	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
4-Chloro-3-methylphenol	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
4-Chloroaniline	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
4-Chlorophenyl phenyl ether	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
4-Nitroaniline	<4.300 U	<5.800 UJ	<5.300 UJ	<5.700 UJ	<7.300 UJ	<2.400 UJ	<2.700 UJ	<3.100 U	<4.400 UJ	<4.700 UJ	<0.590 U	<0.580 U	<0.580 U	<0.560 U	<0.640 U	<1.100 U	<6.300 UJ	<0.690 U	<0.610 U	<1.300 UJ
4-Nitrophenol	<6.200 U	<8.300 UJ	<7.600 UJ	<8.100 UJ	<10.000 UJ	<3.500 UJ	<3.900 UJ	<4.400 U	<6.300 UJ	<6.700 UJ	<0.840 U	<0.820 U	<0.820 U	<0.800 U	<0.910 U	<1.600 U	<9.000 UJ	<0.980 U	<0.880 U	<1.800 UJ

Notes:
Bold = detected above reporting limit
Total SVOCs include Total PAH
Surface Sed Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 5-12
Summary of OU2 RI Surface Sediment Analytical Results - Semivolatile Organic Compounds and Total Organic Carbon
Former East 21st Street Works, New York, New York

Location	GS40	GS41	GS41 DUP	GS42	GS43	RB2	RB3	RB4	RB5	RB6	RB8	RB9	RB10	RB11	RB12	RB13	RB14	RB16	RB17	RB18
Sample Date	**10/27/2008**	**10/29/2008**	**10/29/2008**	**10/29/2008**	**10/30/2008**	**6/18/2008**	**6/19/2008**	**6/19/2008**	**6/20/2008**	**6/20/2008**	**6/23/2008**	**6/24/2008**	**6/24/2008**	**6/25/2008**	**6/25/2008**	**6/26/2008**	**6/27/2008**	**6/30/2008**	**6/30/2008**	**7/1/2008**
Top of Sediment Elevation	-29	-25	-25	-11	-14	-9	-12	-8	-8	-15	-24	-35	-32	-25	-6	-21	-25	-32	-32	-26
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-0.4	0-0.5	0-0.5	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-0.5	0-0.5	0-0.5
Sediment Type	Sand and Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Gravel	Sand/Silt	Sand	Silt	Sand	Silt	Silt	Silt	Sand, Silt, and Clay	Silt
Observation											TLM/Stain/Sheen			NAPL		Sheen	Sheen/Stain			
Odor	Organic	Organic	Organic	Organic	Organic		MGP, Organic	H_2S	H_2S	H_2S	MGP	H_2S		MGP		MGP, H2S, Organic	MGP	MGP, H2S, Organic		H_2S
SVOC (mg/Kg)																				
Benzoic Acid	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<45.000 UJ	<4.900 U	<4.400 U	<9.200 UJ
bis(2-Chloroethoxy)methane	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
bis(2-Chloroethyl) ether	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
bis(2-Ethylhexyl) phthalate	<6.200 U	<8.300 UJ	<7.600 UJ	**9.600 J**	<10.000 UJ	**5.400 J**	**7.100 J**	**4.500**	**24.000 J**	**15.000 J**	<0.840 U	<0.820 U	<0.820 U	<0.800 U	<0.910 U	**8.000**	<9.000 UJ	<0.980 U	<0.880 U	**4.900 J**
Butyl benzyl phthalate	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
Carbazole	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	**0.770**	<0.410 U	<0.410 U	**1.300**	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
Dibenzofuran	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	**5.800**	<0.410 U	<0.410 U	**6.700**	<0.460 U	**1.900**	**4.600 J**	<0.490 U	<0.440 U	<0.920 UJ
Diethyl phthalate	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
Dimethyl phthalate	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
Di-n-butyl phthalate	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
Di-n-octyl phthalate	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
Hexachlorobenzene	<2.500 U	<6.700 UJ	<6.100 UJ	<6.500 UJ	<8.300 UJ	<1.400 UJ	<1.600 UJ	<1.700 U	<5.100 UJ	<2.700 UJ	<6.800 U	<0.066 U	<0.066 U	<3.200 U	<0.360 U	<0.650 U	<7.200 UJ	<0.390 U	<0.070 U	<3.000 UJ
Hexachlorobutadiene	<1.500 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<0.880 UJ	<0.980 UJ	<1.100 U	<3.200 UJ	<1.700 UJ	<0.840 U	<0.041 U	<0.041 U	<0.800 U	<0.230 U	<0.410 U	<4.500 UJ	<0.240 U	<0.044 U	<1.800 UJ
Hexachlorocyclopentadiene	<6.200 U	<8.300 UJ	<7.600 UJ	<8.100 UJ	<10.000 UJ	<3.500 UJ	<3.900 UJ	<4.400 U	<6.300 UJ	<6.700 UJ	<0.840 U	<0.820 U	<0.820 U	<0.800 U	<0.910 U	<1.600 U	<9.000 U	<0.980 U	<0.880 U	<1.800 UJ
Hexachloroethane	<2.500 U	<6.700 UJ	<6.100 UJ	<6.500 UJ	<8.300 UJ	<1.400 UJ	<1.600 UJ	<1.700 U	<5.100 UJ	<2.700 UJ	<6.800 U	<0.066 U	<0.066 U	<3.200 U	<0.360 U	<0.650 U	<7.200 UJ	<0.390 U	<0.070 U	<3.000 UJ
Isophorone	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 U	<0.490 U	<0.440 U	<0.920 UJ
Nitrobenzene	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
N-Nitrosodi-n-propylamine	<3.100 U	<4.200 UJ	<3.800 UJ	<4.100 UJ	<5.200 UJ	<1.800 UJ	<2.000 UJ	<2.200 U	<3.200 UJ	<3.300 UJ	<0.420 U	<0.410 U	<0.410 U	<0.400 U	<0.460 U	<0.810 U	<4.500 UJ	<0.490 U	<0.440 U	<0.920 UJ
N-Nitrosodiphenylamine	<9.200 U	<12.000 UJ	<11.000 UJ	<12.000 UJ	<16.000 UJ	<5.300 UJ	<5.900 UJ	<6.600 U	<9.500 UJ	<10.000 UJ	<1.300 U	<1.200 U	<1.200 U	<1.200 U	<1.400 U	<2.400 U	<14.000 UJ	<1.500 U	<1.300 U	<2.800 UJ
Pentachlorophenol	<2.500 UJ	<6.700 UJ	<6.100 UJ	<6.500 UJ	<8.300 UJ	<1.400 UJ	<1.600 UJ	<1.700 U	<5.100 UJ	<2.700 UJ	<1.700 U	<0.066 U	<0.066 U	<1.600 U	<0.360 U	<0.650 U	<7.200 UJ	<0.390 U	<0.070 U	<3.000 UJ
Phenol	<4.300 U	<5.800 UJ	<5.300 UJ	<5.700 UJ	<7.300 UJ	<2.400 UJ	<2.700 UJ	<3.100 U	<4.400 UJ	<4.700 UJ	<0.590 U	<0.580 U	<0.580 U	<0.560 U	<0.640 U	<1.100 U	<6.300 UJ	<0.690 U	<0.610 U	<1.300 UJ
Total SVOC	**347.860**	**162.850**	**189.450**	**195.650**	**203.850**	**75.475**	**115.020**	**231.990**	**223.800**	**247.475**	**1695.405**	**13.17650**	**12.44050**	**478.930**	**38.80050**	**267.005**	**1151.400**	**134.229**	**24.034**	**71.960**
Carbon (%)																				
Average Soot Carbon	NS	NS	NS	NS	NS	**0.34 J**	**0.25 J**	**0.57**	**1.3 J**	**2.0 J**	**0.36**	**0.26**	0.010 U	**0.41**	**1.4**	**1.8 J**	**1.1 J**	**0.17**	**0.06**	**1.3 J**
Average Total Organic Carbon	**7.2 J**	**2.2 J**	**2.6**	**3.9 J**	**4.8**	**2.8 J**	**3.0 J**	**2.6**	**4.6 J**	**7.2 J**	**1.6**	**0.41**	0.010 U	0.010 U	**1.4**	**4.4 J**	**4.8 J**	**0.39**	**0.15**	**4.8 J**
Soot Run 1	NS	NS	NS	NS	NS	**0.34 J**	**0.28 J**	**0.51**	**1.2 J**	**2.7 J**	**0.26**	**0.14**	0.010 U	**0.36**	**1.5**	**1.5 J**	**1.1 J**	**0.11**	**0.09**	**1.2 J**
Soot Run 2	NS	NS	NS	NS	NS	**0.36 J**	**0.21 J**	**0.63**	**1.1 J**	**1.6 J**	**0.33**	**0.14**	**0.03**	**0.27**	**1.4**	**2.0 J**	**1.3 J**	**0.17**	**0.05**	**1.3 J**
Soot Run 3	NS	NS	NS	NS	NS	**0.33 J**	**0.26 J**	**0.59**	**1.6 J**	**1.8 J**	**0.49**	**0.49**	0.010 U	**0.62**	**1.3**	**1.8 J**	**0.84 J**	**0.24**	**0.06**	**1.3 J**
Total Organic Carbon (Run 1)	**7.8 J**	**2.3 J**	**2.9**	**3.8 J**	**5.4**	**2.8 J**	**2.7 J**	**2.6**	**4.8 J**	**6.5 J**	**1.7**	**0.45**	0.010 U	0.010 U	**1.1**	**5.2 J**	**4.5 J**	**0.44**	**0.15**	**4.5 J**
Total Organic Carbon (Run 2)	**7.0 J**	**2.1 J**	**2.5**	**3.6 J**	**4.5**	**2.8 J**	**3.1 J**	**2.8**	**4.5 J**	**7.9 J**	**1.9**	**0.30**	0.010 U	0.010 U	**1.6**	**4.0 J**	**4.9 J**	**0.38**	**0.14**	**5.3 J**
Total Organic Carbon (Run 3)	**6.7 J**	**2.3 J**	**2.3**	**4.4 J**	**4.6**	**2.8 J**	**3.2 J**	**2.5**	**4.7 J**	**7.3 J**	**1.3**	**0.48**	0.010 U	0.010 U	**1.5**	**4.2 J**	**5.0 J**	**0.36**	**0.16**	**4.6 J**

Notes:
Bold = detected above reporting limit
Total SVOCs include Total PAH
Surface Sed Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 5-12
Summary of OU2 RI Surface Sediment Analytical Results - Semivolatile Organic Compounds and Total Organic Carbon
Former East 21st Street Works, New York, New York

Location	RB19	RB20	RB21	RB22	RB23	RB24	RB25	RB26	RB27	RB28	RB29	RB30	RB31	RB32	RB33	RB34	RB35	RB36
Sample Date	**7/1/2008**	**7/2/2008**	**7/2/2008**	**7/7/2008**	**7/8/2008**	**7/8/2008**	**7/9/2008**	**7/9/2008**	**7/10/2008**	**7/10/2008**	**7/11/2008**	**7/11/2008**	**7/15/2008**	**7/15/2008**	**7/16/2008**	**7/16/2008**	**7/17/2008**	**7/17/2008**
Top of Sediment Elevation	-15	-23	-32	-32	-7	-21	-10	-32	-35	-35	-35	-38	-35	-35	-25	-35	-30	-32
Depth Interval (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Sediment Type	Silt	Silt	Sand	Sand	Silt	Silt	Silt	Silty Sand	Sand	Gravel	Sand	Sand, Silt, and Clay	Sand, Silt, and Clay	Sand	Silt	Sand, Silt, and Clay	Silt	Sand/Clay
Observation											Sheen						Sheen/Stain	
Odor	H_2S	H_2S			H_2S	H_2S	H_2S			H_2S					H_2S			
PAH (mg/Kg)																		
2-Methylnaphthalene	**0.790 J**	**0.680**	**0.043**	0.016 U	**0.160 J**	**0.870**	**0.050 J**	**0.018**	0.016 U	0.088 U	**2.600**	**0.150**	0.018 U	0.017 U	**1.100 J**	0.018 U	**35.000**	**0.570**
Acenaphthene	**0.480 J**	**11.000**	0.016 U	0.016 U	**0.130 J**	**4.300**	**0.058 J**	0.017 U	0.016 U	**0.210**	**6.000**	**0.440**	0.018 U	0.017 U	**1.300 J**	0.018 U	**43.000**	0.480 U
Acenaphthylene	**0.680 J**	**23.000**	**0.041**	0.016 U	**0.210 J**	**0.830**	**0.360 J**	**0.190**	0.016 U	**0.570**	**1.900**	**0.120**	**0.028**	0.017 U	**0.570 J**	0.018 U	**4.700**	**3.400**
Anthracene	**1.200 J**	**2.800**	**0.029**	0.016 U	**0.190 J**	**5.300**	**0.280 J**	**0.240**	0.016 U	**1.400**	**6.300**	**1.200**	**0.037**	0.017 U	**1.700 J**	0.018 U	**30.000**	**6.800**
Benzo(a)anthracene	**2.000 J**	**1.600**	**0.051**	0.016 U	**0.390 J**	**2.600**	**0.980 J**	**0.830**	**0.021**	**2.600**	**6.600**	**1.200**	**0.110**	**0.029**	**2.100 J**	0.018 U	**19.000**	**15.000**
Benzo(a)pyrene	**2.100 J**	**1.500**	**0.052**	0.016 U	**0.560 J**	**3.700**	**1.100 J**	**0.650**	**0.024**	**2.800**	**6.000**	**0.820**	**0.082**	0.017 U	**1.900 J**	0.018 U	**12.000**	**9.600**
Benzo(b)fluoranthene	**1.600 J**	**1.300**	**0.042**	0.016 U	**0.320 J**	**2.100**	**0.600 J**	**0.560**	**0.029**	**2.000**	**5.200**	**0.870**	**0.088**	0.017 U	**1.200 J**	0.018 U	**7.700**	**9.000**
Benzo(ghi)perylene	**1.000 J**	**0.860**	**0.027**	0.016 U	**0.230 J**	**1.800**	**0.300 J**	**0.210**	0.016 U	**1.300**	**2.800**	**0.260**	**0.047**	0.017 U	**0.950 J**	0.018 U	**5.100**	**3.900**
Benzo(k)fluoranthene	**1.300 J**	**0.890**	**0.032**	0.016 U	**0.440 J**	**1.900**	**0.710 J**	**0.550**	**0.028**	**2.100**	**4.200**	**0.680**	**0.085**	**0.020**	**1.200 J**	0.018 U	**7.800**	**8.200**
Chrysene	**2.400 J**	**1.400**	**0.044**	0.016 U	**0.460 J**	**2.500**	**0.940 J**	**0.600**	**0.029**	**2.400**	**5.500**	**0.950**	**0.100**	**0.024**	**1.900 J**	0.018 U	**14.000**	**10.000**
Dibenz(a,h)anthracene	0.370 UJ	**0.200**	0.016 U	0.016 U	0.033 UJ	0.130 U	**0.060 J**	**0.048**	0.016 U	**0.190**	**1.000**	**0.044**	0.018 U	0.017 U	**0.220 J**	0.018 U	**2.000**	**1.800**
Fluoranthene	**3.200 J**	**3.600**	**0.068**	**0.021**	**0.810 J**	**8.200**	**1.100 J**	**1.900**	**0.047**	**4.600**	**13.000**	**3.100**	**0.250**	**0.032**	**3.500 J**	0.018 U	**36.000**	**31.000**
Fluorene	**0.430 J**	**1.000**	0.016 U	0.016 U	**0.120 J**	**1.900**	**0.064 J**	**0.026**	0.016 U	**0.220**	**3.700**	**0.660**	0.018 U	0.017 U	**1.000 J**	0.018 U	**25.000**	0.480 U
Indeno(1,2,3-cd)pyrene	**0.830 J**	**0.710**	**0.023**	0.016 U	**0.170 J**	**1.200**	**0.260 J**	**0.230**	0.016 U	**1.400**	**2.700**	**0.250**	**0.041**	0.017 U	**0.750 J**	0.018 U	**4.800**	**4.000**
Naphthalene	**1.100 J**	**4.500**	**0.056**	**0.026**	**0.160 J**	**1.600**	**0.069 J**	**0.030**	0.016 U	**0.130**	**12.000**	**0.300**	**0.028**	0.017 U	**1.200 J**	0.018 U	**45.000**	**1.300**
Phenanthrene	**1.900 J**	**8.100**	**0.050**	0.016 U	**0.430 J**	**10.000**	**0.320 J**	**0.400**	**0.020**	**2.700**	**14.000**	**3.500**	**0.083**	0.017 U	**4.300 J**	0.018 U	**71.000**	**6.800**
Pyrene	**3.700 J**	**4.200**	**0.110**	**0.037**	**0.800 J**	**9.000**	**1.300 J**	**1.400**	**0.071**	**5.200**	**11.000**	**2.300**	**0.250**	**0.063**	**4.500 J**	0.018 U	**48.000**	**27.000**
Total HMW PAH	**15.115**	**12.660**	**0.389**	**0.101**	**3.38650**	**24.865**	**6.250**	**5.078**	**0.226**	**19.990**	**45.000**	**7.374**	**0.812**	**0.17850**	**14.720**	0.081 U	**120.400**	**88.500**
Total LMW PAH	**9.780**	**54.680**	**0.303**	**0.095**	**2.210**	**33.000**	**2.301**	**2.81250**	**0.115**	**9.874**	**59.500**	**9.470**	**0.453**	**0.09150**	**14.670**	0.072 U	**289.700**	**50.350**
Total PAH	**24.895**	**67.340**	**0.692**	**0.196**	**5.59650**	**57.865**	**8.551**	**7.89050**	**0.341**	**29.864**	**104.500**	**16.844**	**1.265**	**0.270**	**29.390**	0.153 U	**410.100**	**138.850**
Benzo(a)pyrene Equivalents	**2.7434**	**2.0713**	**0.07196**	**0.01849**	**0.66936**	**4.3765**	**1.35204**	**0.8661**	**0.03811**	**3.6134**	**8.4975**	**1.10375**	**0.11585**	**0.02182**	**2.5389**	**0.0208**	**17.242**	**14.292**
SVOC (mg/Kg)																		
1,1-Biphenyl																	**26.700**	
1,2,4-Trichlorobenzene	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
1,2-Dichlorobenzene	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
1,3-Dichlorobenzene	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
1,4-Dichlorobenzene	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	**1.500 J**	<0.460 U	<0.620 U	<0.480 U
2,2'-oxybis(1-Chloropropane)	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
2,4,5-Trichlorophenol	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
2,4,6-Trichlorophenol	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
2,4-Dichlorophenol	<1.800 UJ	<2.000 U	<0.810 U	<0.810 U	<1.700 UJ	<1.300 U	<1.400 UJ	<0.830 U	<0.800 U	<0.880 U	<1.200 U	<0.950 U	<0.910 U	<0.830 U	<1.800 UJ	<0.920 U	<1.200 U	<0.950 U
2,4-Dimethylphenol	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
2,4-Dinitrophenol	<3.700 UJ	<4.000 U	<1.600 U	<1.600 U	<3.300 UJ	<2.600 U	<2.800 UJ	<1.700 U	<1.600 U	<1.800 U	<2.300 U	<1.900 U	<1.800 U	<1.700 U	<3.700 UJ	<1.800 U	<2.500 U	<1.900 U
2,4-Dinitrotoluene	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
2,6-Dinitrotoluene	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
2-Chloronaphthalene	<0.370 UJ	<0.200 U	<0.016 U	<0.016 U	<0.033 UJ	<0.130 U	<0.028 UJ	<0.017 U	<0.016 U	<0.088 U	<0.120 U	<0.038 U	<0.018 U	<0.017 U	<0.037 UJ	<0.018 U	<0.740 U	<0.570 U
2-Chlorophenol	<1.100 UJ	<1.200 U	<0.490 U	<0.490 U	<1.000 UJ	<0.770 U	<0.830 UJ	<0.500 U	<0.480 U	<0.530 U	<0.700 U	<0.570 U	<0.550 U	<0.500 U	<1.100 UJ	<0.560 U	<0.740 U	<0.570 U
2-Methylphenol	<1.100 UJ	<1.200 U	<0.490 U	<0.490 U	<1.000 UJ	<0.770 U	<0.830 UJ	<0.500 U	<0.480 U	<0.530 U	<0.700 U	<0.570 U	<0.550 U	<0.500 U	<1.100 UJ	<0.560 U	<0.740 U	<0.570 U
2-Nitroaniline	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
2-Nitrophenol	<3.700 UJ	<4.000 U	<1.600 U	<1.600 U	<3.300 UJ	<2.600 U	<2.800 UJ	<1.700 U	<1.600 U	<1.800 U	<2.300 U	<1.900 U	<1.800 U	<1.700 U	<3.700 UJ	<1.800 U	<2.500 U	<1.900 U
3,3'-Dichlorobenzidine	<1.800 UJ	<2.000 U	<0.810 U	<0.810 U	<1.700 UJ	<1.300 U	<1.400 UJ	<0.830 U	<0.800 U	<0.880 U	<1.200 U	<0.950 U	<0.910 U	<0.830 U	<1.800 UJ	<0.920 U	<1.200 U	<0.950 U
3+4-Methylphenols	**2.100 J**	<1.200 U	<0.490 U	<0.490 U	<1.000 UJ	<0.770 U	<0.830 UJ	<0.500 U	<0.480 U	<0.530 U	<0.700 U	<0.570 U	<0.550 U	<0.500 U	<1.100 UJ	<0.560 U	<0.740 U	<0.570 U
3-Nitroaniline	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
4,6-Dinitro-2-methylphenol	<3.700 UJ	<4.000 U	<1.600 U	<1.600 U	<3.300 UJ	<2.600 U	<2.800 UJ	<1.700 U	<1.600 U	<1.800 U	<2.300 U	<1.900 U	<1.800 U	<1.700 U	<3.700 UJ	<1.800 U	<2.500 U	<1.900 U
4-Bromophenyl phenyl ether	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
4-Chloro-3-methylphenol	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
4-Chloroaniline	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
4-Chlorophenyl phenyl ether	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
4-Nitroaniline	<1.300 UJ	<1.400 U	<0.570 U	<0.570 U	<1.200 UJ	<0.900 U	<0.970 UJ	<0.580 U	<0.560 U	<0.610 U	<0.820 U	<0.670 U	<0.640 U	<0.580 U	<1.300 UJ	<0.650 U	<0.860 U	<0.670 U
4-Nitrophenol	<1.800 UJ	<2.000 U	<0.810 U	<0.810 U	<1.700 UJ	<1.300 U	<1.400 UJ	<0.830 U	<0.800 U	<0.880 U	<1.200 U	<0.950 U	<0.910 U	<0.830 U	<1.800 UJ	<0.920 U	<1.200 U	<0.950 U

Notes:
Bold = detected above reporting limit
Total SVOCs include Total PAH
Surface Sed Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 5-12
Summary of OU2 RI Surface Sediment Analytical Results - Semivolatile Organic Compounds and Total Organic Carbon
Former East 21st Street Works, New York, New York

Location	RB19	RB20	RB21	RB22	RB23	RB24	RB25	RB26	RB27	RB28	RB29	RB30	RB31	RB32	RB33	RB34	RB35	RB36
Sample Date	**7/1/2008**	**7/2/2008**	**7/2/2008**	**7/7/2008**	**7/8/2008**	**7/8/2008**	**7/9/2008**	**7/9/2008**	**7/10/2008**	**7/10/2008**	**7/11/2008**	**7/11/2008**	**7/15/2008**	**7/15/2008**	**7/16/2008**	**7/16/2008**	**7/17/2008**	**7/17/2008**
Top of Sediment Elevation	-15	-23	-32	-32	-7	-21	-10	-32	-35	-35	-35	-38	-35	-35	-25	-35	-30	-32
Depth Interval (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Sediment Type	Silt	Silt	Sand	Sand	Silt	Silt	Silt	Silty Sand	Sand	Gravel	Sand	Sand, Silt, and Clay	Sand, Silt, and Clay	Sand	Silt	Sand, Silt, and Clay	Silt	Sand/Clay
Observation											Sheen						Sheen/Stain	
Odor	H_2S	H_2S			H_2S	H_2S	H_2S			H_2S					H_2S			
SVOC (mg/Kg)																		
Benzoic Acid	<9.200 UJ	<10.000 U	<4.100 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
bis(2-Chloroethoxy)methane	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
bis(2-Chloroethyl) ether	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
bis(2-Ethylhexyl) phthalate	**8.000 J**	<2.000 U	<0.810 U	<0.810 U	<1.700 UJ	<1.300 U	<1.400 UJ	<0.830 U	<0.800 U	<0.880 U	<1.200 U	<0.950 U	<0.910 U	<0.830 U	<1.800 UJ	<0.920 U	<1.200 U	<0.950 U
Butyl benzyl phthalate	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
Carbazole	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	**0.840**	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	**4.270**	<0.480 U
Dibenzofuran	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	**15.300**	<0.480 U
Diethyl phthalate	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
Dimethyl phthalate	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
Di-n-butyl phthalate	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
Di-n-octyl phthalate	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
Hexachlorobenzene	<1.500 UJ	<0.810 U	<0.065 U	<0.065 U	<0.130 UJ	<0.510 U	<0.110 UJ	<0.067 U	<0.064 U	<0.350 U	<0.470 U	<0.150 U	<0.073 U	<0.067 U	<0.150 UJ	<0.074 U	<4.900 U	<3.800 U
Hexachlorobutadiene	<0.920 UJ	<0.500 U	<0.041 U	<0.041 U	<0.083 UJ	<0.320 U	<0.069 UJ	<0.042 U	<0.040 U	<0.220 U	<0.290 U	<0.095 U	<0.046 U	<0.042 U	<0.092 UJ	<0.046 U	<1.200 U	<0.950 U
Hexachlorocyclopentadiene	<1.800 UJ	<2.000 U	<0.810 U	<0.810 U	<1.700 UJ	<1.300 U	<1.400 UJ	<0.830 U	<0.800 U	<0.880 U	<1.200 U	<0.950 U	<0.910 U	<0.830 U	<1.800 UJ	<0.920 U	<1.200 U	<0.950 U
Hexachloroethane	<1.500 UJ	<0.810 U	<0.065 U	<0.065 U	<0.130 UJ	<0.510 U	<0.110 UJ	<0.067 U	<0.064 U	<0.350 U	<0.470 U	<0.150 U	<0.073 U	<0.067 U	<0.150 UJ	<0.074 U	<4.900 U	<3.800 U
Isophorone	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
Nitrobenzene	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
N-Nitrosodi-n-propylamine	<0.920 UJ	<1.000 U	<0.410 U	<0.410 U	<0.830 UJ	<0.640 U	<0.690 UJ	<0.420 U	<0.400 U	<0.440 U	<0.580 U	<0.480 U	<0.460 U	<0.420 U	<0.920 UJ	<0.460 U	<0.620 U	<0.480 U
N-Nitrosodiphenylamine	<2.800 UJ	<3.000 U	<1.200 U	<1.200 U	<2.500 UJ	<1.900 U	<2.100 UJ	<1.200 U	<1.200 U	<1.300 U	<1.800 U	<1.400 U	<1.400 U	<1.200 U	<2.800 UJ	<1.400 U	<1.800 U	<1.400 U
Pentachlorophenol	<1.500 UJ	<0.810 U	<0.065 U	<1.600 U	<3.300 UJ	<2.600 U	<2.800 UJ	<1.700 U	<1.600 U	<1.800 U	<2.300 U	<1.900 U	<0.073 U	<0.067 U	<0.150 UJ	<0.074 U	<2.500 U	<1.900 U
Phenol	<1.300 UJ	<1.400 U	<0.570 U	<0.570 U	<1.200 UJ	<0.900 U	<0.970 UJ	<0.580 U	<0.560 U	<0.610 U	<0.820 U	<0.670 U	<0.640 U	<0.580 U	<1.300 UJ	<0.650 U	<0.860 U	<0.670 U
Total SVOC	**68.320**	**103.605**	**14.938**	**13.15950**	**32.20450**	**79.015**	**30.73450**	**21.272**	**13.113**	**44.383**	**124.215**	**32.18050**	**14.98650**	**12.835**	**57.99950**	<13.926 U	**481.170**	**158.530**
Carbon (%)																		
Average Soot Carbon	**1.7 J**	**0.83**	**0.48**	**0.17**	**2.8 J**	**1.5**	**0.73 J**	**0.16**	**0.17**	**1.3**	**1.5**	**0.23**	**0.05**	**0.06**	**4.6 J**	**0.35**	**3.4**	**1.2**
Average Total Organic Carbon	**5.7 J**	**1.7**	**0.55**	**0.16**	**6.1 J**	**3.5**	**3.4 J**	**0.49**	**0.58**	**1.9**	**2.3**	**0.25**	**0.17**	**0.45**	**7.7 J**	**0.36**	**5.4**	**3.1**
Soot Run 1	**1.8 J**	**0.86**	**0.48**	**0.12**	**2.9 J**	**1.4**	**0.70 J**	**0.20**	**0.18**	**1.3**	**1.3**	**0.29**	**0.05**	**0.01**	**4.3 J**	**0.32**	**3.6**	**1.5**
Soot Run 2	**1.8 J**	**0.92**	**0.62**	**0.23**	**2.5 J**	**1.8**	**0.72 J**	**0.12**	**0.08**	**0.97**	**1.8**	**0.24**	**0.06**	**0.04**	**4.8 J**	**0.48**	**2.9**	**1.4**
Soot Run 3	**1.6 J**	**0.69**	**0.34**	**0.17**	**2.8 J**	**1.2**	**0.76 J**	**0.15**	**0.26**	**1.7**	**1.3**	**0.16**	**0.06**	**0.14**	**4.5 J**	**0.24**	**3.8**	**0.79**
Total Organic Carbon (Run 1)	**4.4 J**	**1.9**	**0.39**	**0.11**	**6.5 J**	**3.6**	**3.6 J**	**0.53**	**0.63**	**1.9**	**2.2**	**0.27**	**0.19**	**0.39**	**7.4 J**	**0.38**	**5.6**	**3.3**
Total Organic Carbon (Run 2)	**6.3 J**	**1.5**	**0.53**	**0.24**	**5.3 J**	**3.2**	**3.6 J**	**0.36**	**0.51**	**1.1**	**2.6**	**0.29**	**0.13**	**0.54**	**7.2 J**	**0.32**	**5.9**	**3.4**
Total Organic Carbon (Run 3)	**6.3 J**	**1.5**	**0.72**	**0.12**	**6.4 J**	**3.6**	**3.0 J**	**0.58**	**0.61**	**2.7**	**2.2**	**0.18**	**0.19**	**0.41**	**8.4 J**	**0.39**	**4.9**	**2.6**

Notes:
Bold = detected above reporting limit
Total SVOCs include Total PAH
Surface Sed Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 5-12
Summary of OU2 RI Surface Sediment Analytical Results - Semivolatile Organic Compounds and Total Organic Carbon
Former East 21st Street Works, New York, New York

Location	RB37	RB38	RB39	RB40	RB41	RB43	RB44	RB45	RB46	RB47	RB48	RB49	RB50	RB51	RB52	RB53	RB54	RB55
Sample Date	**7/18/2008**	**7/18/2008**	**7/21/2008**	**7/21/2008**	**7/22/2008**	**7/23/2008**	**7/24/2008**	**7/24/2008**	**7/25/2008**	**7/25/2008**	**7/28/2008**	**7/28/2008**	**7/29/2008**	**7/29/2008**	**7/30/2008**	**7/31/2008**	**8/1/2008**	**10/27/2008**
Top of Sediment Elevation	-35	-35	-35	-36	-29	-8	-7	-10	-16	-20	-10	-20	-16	-22	-14	-25	-18	-5
Depth Interval (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-1
Sediment Type	Sand	Silt	Sand, Silt, and Clay	Sand	Sand	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt/Peat	Sand
Observation													Sheen					
Odor	H_2S	H_2S		Organic		H_2S	H_2S	H_2S	H_2S	H_2S	H_2S		H_2S	H_2S	H_2S		H_2S	Organic
PAH (mg/Kg)																		
2-Methylnaphthalene	**7.800**	**0.049**	0.017 U	**4.700**	0.180 U	**0.150 J**	**0.820 J**	0.070 UJ	0.160 UJ	**8.500 J**	0.380 UJ	**0.320 J**	**210.000 J**	**4.400 J**	**10.000 J**	**1.200 J**	**12.000 J**	**14.000**
Acenaphthene	**8.200**	**0.037**	0.017 U	**16.000**	0.180 U	**0.150 J**	**1.200 J**	**0.073 J**	**0.300 J**	**12.000 J**	0.380 UJ	0.190 U	**200.000 J**	**4.200 J**	**6.400 J**	**0.600 J**	**10.000 J**	**36.000**
Acenaphthylene	**4.900**	**0.140**	0.017 U	**18.000**	**0.930**	**0.380 J**	**0.780 J**	**0.290 J**	**0.250 J**	**2.000 J**	**0.600 J**	**0.420 J**	**17.000 J**	**2.300 J**	**2.800 J**	**0.870 J**	**3.700 J**	3.600 U
Anthracene	**12.000**	**0.170**	0.017 U	**40.000**	**2.800**	**0.430 J**	**1.300 J**	**0.300 J**	**0.470 J**	**16.000 J**	**0.800 J**	**0.660 J**	**160.000 J**	**5.200 J**	**5.000 J**	**1.000 J**	**12.000 J**	**83.000**
Benzo(a)anthracene	**12.000**	**1.100**	0.017 U	**36.000**	**4.200**	**1.100 J**	**2.400 J**	**0.830 J**	**0.810 J**	**12.000 J**	**1.700 J**	**1.100 J**	**98.000 J**	**9.300 J**	**5.500 J**	**2.100 J**	**9.200 J**	**120.000**
Benzo(a)pyrene	**8.900**	**0.780**	0.017 U	**24.000**	**4.800**	**1.000 J**	**2.000 J**	**0.770 J**	**0.500 J**	**9.800 J**	**1.100 J**	**0.860 J**	**67.000 J**	**7.500 J**	**4.800 J**	**1.400 J**	**5.500 J**	**92.000**
Benzo(b)fluoranthene	**8.200**	**0.620**	0.017 U	**23.000**	**2.900**	**0.740 J**	**1.600 J**	**0.600 J**	**0.450 J**	**6.600 J**	**1.200 J**	**0.850 J**	**43.000 J**	**5.800 J**	**3.900 J**	**1.400 J**	**4.700 J**	**72.000**
Benzo(ghi)perylene	**4.300**	**0.280**	0.017 U	**11.000**	**2.900**	**0.590 J**	**1.000 J**	**0.420 J**	**0.320 J**	**5.600 J**	**0.900 J**	**0.550 J**	**34.000 J**	**4.000 J**	**2.200 J**	**0.910 J**	**3.400 J**	**51.000**
Benzo(k)fluoranthene	**6.500**	**0.620**	0.017 U	**19.000**	**2.400**	**0.680 J**	**1.400 J**	**0.540 J**	**0.450 J**	**5.400 J**	**1.200 J**	**0.770 J**	**40.000 J**	**4.800 J**	**3.200 J**	**1.200 J**	**4.400 J**	**70.000**
Chrysene	**10.000**	**0.760**	0.017 U	**23.000**	**3.000**	**0.950 J**	**1.900 J**	**0.680 J**	**0.670 J**	**9.600 J**	**1.600 J**	**0.920 J**	**74.000 J**	**7.500 J**	**4.500 J**	**1.700 J**	**7.600 J**	**110.000**
Dibenz(a,h)anthracene	**1.600**	**0.098**	0.017 U	**3.000**	**0.320**	**0.170 J**	**0.260 J**	**0.120 J**	0.160 UJ	**0.900 J**	0.380 UJ	0.190 U	7.900 UJ	**0.950 J**	**0.530 J**	0.280 UJ	1.700 UJ	**16.000**
Fluoranthene	**33.000**	**1.300**	**0.022**	**90.000**	**5.000**	**1.300 J**	**3.300 J**	**0.880 J**	**1.100 J**	**24.000 J**	**2.500 J**	**1.200 J**	**170.000 J**	**15.000 J**	**11.000 J**	**3.600 J**	**16.000 J**	**300.000**
Fluorene	**8.900**	**0.037**	0.017 U	**16.000**	0.180 U	**0.130 J**	**0.440 J**	0.070 UJ	**0.220 J**	**9.300 J**	0.380 UJ	0.190 U	**120.000 J**	**3.700 J**	**4.700 J**	**0.540 J**	**7.600 J**	**39.000**
Indeno(1,2,3-cd)pyrene	**4.000**	**0.280**	0.017 U	**12.000**	**1.800**	**0.500 J**	**0.920 J**	**0.360 J**	**0.280 J**	**3.800 J**	**0.700 J**	**0.460 J**	**24.000 J**	**3.300 J**	**2.000 J**	**0.800 J**	**2.700 J**	**45.000**
Naphthalene	**13.000**	**0.130**	0.017 U	**15.000**	**0.200**	**0.200 J**	**1.300 J**	**0.094 J**	**0.220 J**	**13.000 J**	0.380 UJ	**0.420 J**	**440.000 J**	**7.700 J**	**12.000 J**	**3.700 J**	**12.000 J**	**42.000**
Phenanthrene	**38.000**	**0.130**	0.017 U	**92.000**	**0.530**	**0.410 J**	**1.900 J**	**0.340 J**	**0.850 J**	**50.000 J**	**0.880 J**	**0.640 J**	**350.000 J**	**16.000 J**	**13.000 J**	**2.300 J**	**26.000 J**	**320.000**
Pyrene	**32.000**	**1.800**	**0.022**	**71.000**	**14.000**	**1.600 J**	**3.700 J**	**1.200 J**	**1.400 J**	**32.000 J**	**2.900 J**	**2.000 J**	**250.000 J**	**16.000 J**	**13.000 J**	**3.700 J**	**21.000 J**	**270.000**
Total HMW PAH	**87.500**	**6.338**	**0.090**	**222.000**	**36.320**	**7.330**	**15.180**	**5.520**	**4.960**	**85.700**	**11.490**	**7.605**	**633.950**	**59.150**	**39.630**	**13.350**	**59.350**	**846.000**
Total LMW PAH	**125.800**	**1.993**	**0.08150**	**291.700**	**9.730**	**3.150**	**11.040**	**2.047**	**3.490**	**134.800**	**5.540**	**3.850**	**1667.000**	**58.500**	**64.900**	**13.810**	**99.300**	**835.800**
Total PAH	**213.300**	**8.331**	**0.17150**	**513.700**	**46.050**	**10.480**	**26.220**	**7.567**	**8.450**	**220.500**	**17.030**	**11.455**	**2300.950**	**117.650**	**104.530**	**27.160**	**158.650**	**1681.800**
Benzo(a)pyrene Equivalents	**12.995**	**1.08496**	**0.01965**	**34.313**	**6.037**	**1.41175**	**2.7679**	**1.07508**	**0.73917**	**13.0036**	**1.6636**	**1.20462**	**87.924**	**10.3455**	**6.5065**	**1.9837**	**8.0616**	**132.510**
SVOC (mg/Kg)																		
1,1-Biphenyl																		
1,2,4-Trichlorobenzene	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
1,2-Dichlorobenzene	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
1,3-Dichlorobenzene	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
1,4-Dichlorobenzene	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
2,2'-oxybis(1-Chloropropane)	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
2,4,5-Trichlorophenol	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
2,4,6-Trichlorophenol	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
2,4-Dichlorophenol	<0.820 U	<0.880 U	<0.830 U	<1.600 U	<0.890 U	<1.800 UJ	<1.500 UJ	<1.800 UJ	<1.600 UJ	<3.100 UJ	<9.500 UJ	<4.800 U	<7.900 UJ	<7.200 UJ	<8.800 UJ	<7.100 UJ	<8.300 UJ	<45.000 U
2,4-Dimethylphenol	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
2,4-Dinitrophenol	<1.600 U	<1.800 U	<1.700 U	<3.300 U	<1.800 U	<3.500 UJ	<3.000 UJ	<3.500 UJ	<3.100 UJ	<6.200 UJ	<19.000 UJ	<9.700 U	<16.000 UJ	<14.000 UJ	<18.000 UJ	<14.000 UJ	<17.000 UJ	<90.000 U
2,4-Dinitrotoluene	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
2,6-Dinitrotoluene	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
2-Chloronaphthalene	<0.490 U	<0.018 U	<0.017 U	<0.990 U	<0.180 U	<0.070 UJ	<0.150 UJ	<0.070 UJ	<0.160 UJ	<0.620 UJ	<0.380 UJ	<0.190 U	<4.800 UJ	<0.290 UJ	<0.350 UJ	<0.280 UJ	<1.700 UJ	<3.600 U
2-Chlorophenol	<0.490 U	<0.530 U	<0.500 U	<0.990 U	<0.530 U	<1.000 UJ	<0.910 UJ	<1.000 UJ	<0.930 UJ	<1.900 UJ	<5.700 UJ	<2.900 U	<4.800 UJ	<4.300 UJ	<5.300 UJ	<4.200 UJ	<5.000 UJ	<27.000 U
2-Methylphenol	<0.490 U	<0.530 U	<0.500 U	<0.990 U	<0.530 U	<1.000 UJ	<0.910 UJ	<1.000 UJ	<0.930 UJ	<1.900 UJ	<5.700 UJ	<2.900 U	<4.800 UJ	<4.300 UJ	<5.300 UJ	<4.200 UJ	<5.000 UJ	<27.000 U
2-Nitroaniline	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
2-Nitrophenol	<1.600 U	<1.800 U	<1.700 U	<3.300 U	<1.800 U	<3.500 UJ	<3.000 UJ	<3.500 UJ	<3.100 UJ	<6.200 UJ	<19.000 UJ	<9.700 U	<16.000 UJ	<14.000 UJ	<18.000 UJ	<14.000 UJ	<17.000 UJ	<90.000 U
3,3'-Dichlorobenzidine	<0.820 U	<0.880 U	<0.830 U	<1.600 U	<0.890 U	<1.800 UJ	<1.500 UJ	<1.800 UJ	<1.600 UJ	<3.100 UJ	<9.500 UJ	<4.800 U	<7.900 UJ	<7.200 UJ	<8.800 UJ	<7.100 UJ	<8.300 UJ	<45.000 U
3+4-Methylphenols	<0.490 U	<0.530 U	<0.500 U	**1.600**	<0.530 U	<1.000 UJ	<0.910 UJ	<1.000 UJ	<0.930 UJ	<1.900 UJ	<5.700 UJ	<2.900 U	<4.800 UJ	<4.300 UJ	<5.300 UJ	<4.200 UJ	<5.000 UJ	<27.000 U
3-Nitroaniline	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
4,6-Dinitro-2-methylphenol	<1.600 U	<1.800 U	<1.700 U	<3.300 U	<1.800 U	<3.500 UJ	<3.000 UJ	<3.500 UJ	<3.100 UJ	<6.200 UJ	<19.000 UJ	<9.700 U	<16.000 UJ	<14.000 UJ	<18.000 UJ	<14.000 UJ	<17.000 UJ	<90.000 U
4-Bromophenyl phenyl ether	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
4-Chloro-3-methylphenol	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
4-Chloroaniline	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
4-Chlorophenyl phenyl ether	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
4-Nitroaniline	<0.580 U	<0.610 U	<0.580 U	<1.200 U	<0.620 U	<1.200 UJ	<1.100 UJ	<1.200 UJ	<1.100 UJ	<2.200 UJ	<6.700 UJ	<3.400 U	<5.600 UJ	<5.100 UJ	<6.100 UJ	<5.000 UJ	<5.800 UJ	<32.000 U
4-Nitrophenol	<0.820 U	<0.880 U	<0.830 U	<1.600 U	<0.890 U	<1.800 UJ	<1.500 UJ	<1.800 UJ	<1.600 UJ	<3.100 UJ	<9.500 UJ	<4.800 U	<7.900 UJ	<7.200 UJ	<8.800 UJ	<7.100 UJ	<8.300 UJ	<45.000 U

Notes:
Bold = detected above reporting limit
Total SVOCs include Total PAH
Surface Sed Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 5-12
Summary of OU2 RI Surface Sediment Analytical Results - Semivolatile Organic Compounds and Total Organic Carbon
Former East 21st Street Works, New York, New York

Location	RB37	RB38	RB39	RB40	RB41	RB43	RB44	RB45	RB46	RB47	RB48	RB49	RB50	RB51	RB52	RB53	RB54	RB55
Sample Date	7/18/2008	7/18/2008	7/21/2008	7/21/2008	7/22/2008	7/23/2008	7/24/2008	7/24/2008	7/25/2008	7/25/2008	7/28/2008	7/28/2008	7/29/2008	7/29/2008	7/30/2008	7/31/2008	8/1/2008	10/27/2008
Top of Sediment Elevation	-35	-35	-35	-36	-29	-8	-7	-10	-16	-20	-10	-20	-16	-22	-14	-25	-18	-5
Depth Interval (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-1
Sediment Type	Sand	Silt	Sand, Silt, and Clay	Sand	Sand	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt/Peat	Sand
Observation													Sheen					
Odor	H_2S	H_2S		Organic		H_2S	H_2S	H_2S	H_2S	H_2S	H_2S		H_2S	H_2S	H_2S		H_2S	Organic
SVOC (mg/Kg)																		
Benzoic Acid	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
bis(2-Chloroethoxy)methane	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
bis(2-Chloroethyl) ether	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
bis(2-Ethylhexyl) phthalate	<0.820 U	<0.880 U	<0.830 U	<1.600 U	<0.890 U	**2.000 J**	**2.100 J**	<1.800 UJ	<1.600 UJ	<3.100 UJ	<9.500 UJ	<4.800 U	<7.900 UJ	<7.200 UJ	<8.800 UJ	<7.100 UJ	**10.000 J**	<45.000 U
Butyl benzyl phthalate	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
Carbazole	**2.000**	<0.440 U	<0.420 U	**2.600**	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	**37.000**
Dibenzofuran	**2.700**	<0.440 U	<0.420 U	**15.000**	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	**5.500 J**	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	**27.000**
Diethyl phthalate	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
Dimethyl phthalate	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
Di-n-butyl phthalate	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
Di-n-octyl phthalate	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
Hexachlorobenzene	<3.300 U	<0.070 U	<0.067 U	<6.600 U	<0.710 U	<0.280 UJ	<0.610 UJ	<0.280 UJ	<0.620 UJ	<2.500 UJ	<1.500 UJ	<0.770 U	<32.000 UJ	<1.200 UJ	<1.400 UJ	<1.100 UJ	<6.700 UJ	<14.000 U
Hexachlorobutadiene	<0.820 U	<0.044 U	<0.042 U	<1.600 U	<0.440 U	<0.180 UJ	<0.380 UJ	<0.180 UJ	<0.390 UJ	<1.600 UJ	<0.950 UJ	<0.480 U	<7.900 UJ	<0.720 UJ	<0.880 UJ	<0.710 UJ	<4.200 UJ	<9.000 U
Hexachlorocyclopentadiene	<0.820 U	<0.880 U	<0.830 U	<1.600 U	<0.890 U	<1.800 UJ	<1.500 UJ	<1.800 UJ	<1.600 UJ	<3.100 UJ	<9.500 UJ	<4.800 U	<7.900 UJ	<7.200 UJ	<8.800 UJ	<7.100 UJ	<8.300 UJ	<45.000 U
Hexachloroethane	<3.300 U	<0.070 U	<0.067 U	<6.600 U	<0.710 U	<0.280 UJ	<0.610 UJ	<0.280 UJ	<0.620 UJ	<2.500 UJ	<1.500 UJ	<0.770 U	<32.000 UJ	<1.200 UJ	<1.400 UJ	<1.100 UJ	<6.700 UJ	<14.000 U
Isophorone	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
Nitrobenzene	<0.410 U	<0.440 U	<0.420 U	<0.820 U	<0.440 U	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
N-Nitrosodi-n-propylamine	<0.410 U	<0.440 U	<0.420 U	<0.820 U	NS	<0.880 UJ	<0.760 UJ	<0.880 UJ	<0.780 UJ	<1.600 UJ	<4.800 UJ	<2.400 U	<4.000 UJ	<3.600 UJ	<4.400 UJ	<3.500 UJ	<4.200 UJ	<22.000 U
N-Nitrosodiphenylamine	<1.200 U	<1.300 U	<1.200 U	<2.500 U	<1.300 U	<2.600 UJ	<2.300 UJ	<2.600 UJ	<2.300 UJ	<4.600 UJ	<14.000 UJ	<7.200 U	<12.000 UJ	<11.000 UJ	<13.000 UJ	<11.000 UJ	<12.000 UJ	<68.000 U
Pentachlorophenol	<1.600 U	<0.070 U	<0.067 U	<3.300 U	<0.710 U	<0.280 UJ	<0.610 UJ	<0.280 UJ	<0.620 UJ	<2.500 UJ	<1.500 UJ	<0.770 U	<16.000 UJ	<1.200 UJ	<1.400 UJ	<1.100 UJ	<6.700 UJ	<14.000 UJ
Phenol	<0.580 U	<0.610 U	<0.580 U	<1.200 U	<0.620 U	<1.200 UJ	<1.100 UJ	<1.200 UJ	<1.100 UJ	<2.200 UJ	<6.700 UJ	<3.400 U	<5.600 UJ	<5.100 UJ	<6.100 UJ	<5.000 UJ	<5.800 UJ	<32.000 U
Total SVOC	**234.450**	**21.582**	**12.73650**	**565.495**	**60.355**	**38.195**	**51.255**	**34.182**	**32.870**	**272.160**	**161.645**	**84.445**	**2469.350**	**226.405**	**238.395**	**133.855**	**301.850**	**2413.100**
Carbon (%)																		
Average Soot Carbon	**2.2**	**0.07**	**0.13**	**0.46**	**0.31**	**0.50 J**	**2.1 J**	**0.35 J**	**0.30 J**	**0.26 J**	**0.51 J**	**0.59**	**0.94 J**	**1.2**	**3.0 J**	**2.9 J**	**1.7 J**	NS
Average Total Organic Carbon	**1.8**	**0.61**	**0.21**	**0.56**	**0.45**	**3.7 J**	**6.8 J**	**3.1 J**	**3.0 J**	**2.7 J**	**2.9 J**	**3.1**	**5.7 J**	**4.9**	**6.1 J**	**9.0 J**	**6.1 J**	**3.5**
Soot Run 1	**2.4**	**0.07**	**0.10**	**0.36**	**0.34**	**0.48 J**	**2.1 J**	**0.31 J**	**0.30 J**	**0.20 J**	**0.53 J**	**0.98**	**0.88 J**	**1.5**	**3.1 J**	**3.1 J**	**1.8 J**	NS
Soot Run 2	**2.7**	**0.06**	**0.09**	**0.83**	**0.27**	**0.55 J**	**2.1 J**	**0.41 J**	**0.31 J**	**0.20 J**	**0.45 J**	**0.41**	**1.1 J**	**1.2**	**3.0 J**	**2.6 J**	**1.8 J**	NS
Soot Run 3	**1.6**	**0.07**	**0.19**	**0.20**	**0.31**	**0.49 J**	**2.0 J**	**0.34 J**	**0.28 J**	**0.38 J**	**0.56 J**	**0.38**	**0.88 J**	**1.1**	**3.0 J**	**2.9 J**	**1.6 J**	NS
Total Organic Carbon (Run 1)	**1.5**	**0.58**	**0.21**	**0.72**	**0.34**	**4.0 J**	**6.7 J**	**3.2 J**	**3.0 J**	**2.5 J**	**3.0 J**	**3.4**	**6.4 J**	**5.0**	**6.6 J**	**8.9 J**	**5.9 J**	**3.6**
Total Organic Carbon (Run 2)	**2.0**	**0.50**	**0.22**	**0.35**	**0.40**	**3.6 J**	**7.6 J**	**3.4 J**	**2.8 J**	**2.9 J**	**2.8 J**	**2.7**	**5.0 J**	**4.9**	**6.3 J**	**8.8 J**	**5.6 J**	**3.6**
Total Organic Carbon (Run 3)	**1.7**	**0.76**	**0.19**	**0.62**	**0.60**	**3.4 J**	**6.2 J**	**2.6 J**	**3.2 J**	**2.7 J**	**2.8 J**	**3.2**	**5.8 J**	**4.8**	**5.5 J**	**9.3 J**	**6.6 J**	**3.4**

Notes:
Bold = detected above reporting limit
Total SVOCs include Total PAH
Surface Sed Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 5-12
Summary of OU2 RI Surface Sediment Analytical Results - Semivolatile Organic Compounds and Total Organic Carbon
Former East 21st Street Works, New York, New York

Location	RB56	RB57	RB58	RB59	RB59 DUP	RB60	RB60 DUP	RB61	RB62	RB63	RB64	RB65	RB66	RB67	RB68	RB69	RB70	RB71	RB72	RB73
Sample Date	**10/24/2008**	**10/24/2008**	**10/21/2008**	**10/21/2008**	**10/21/2008**	**10/21/2008**	**10/21/2008**	**10/24/2008**	**10/21/2008**	**10/24/2008**	**10/24/2008**	**10/22/2008**	**10/22/2008**	**10/22/2008**	**10/24/2008**	**10/22/2008**	**10/22/2008**	**10/23/2008**	**10/23/2008**	**10/23/2008**
Top of Sediment Elevation	-8	-10	-25	-9	-9	-12	-12	-23	-14	-27	-26	-32	-36	-21	-20	-20	-7	-9	-17	-22
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
Sediment Type	Silt	Silty Sand	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Gravel/Sand	Gravel/Silt	Silt	Sand	Silt	Silty Sand	Silt	Silt	Silty Sand	Sandy Silt	Silt
Observation											Sheen	Sheen	Stain		Sheen/Stain	Sheen	Sheen			
Odor	Organic	Organic	Organic	Organic	Organic	MGP		Organic	Organic		Organic	Organic		Organic	MGP	MGP	MGP	Organic	Organic	Organic
PAH (mg/Kg)																				
2-Methylnaphthalene	1.600 UJ	1.800 UJ	**1.600 J**	1.800 UJ	1.800 UJ	**7.800 J**	**10.000 J**	0.890 U	**4.800**	**3.300**	**1.200**	**13.000 J**	0.780 U	**3.800 J**	**2.400**	**140.000 J**	**23.000 J**	1.200 U	1.900 UJ	**3.300 J**
Acenaphthene	1.600 U	1.800 UJ	1.600 UJ	1.800 UJ	1.800 UJ	**11.000 J**	**14.000 J**	**1.600**	**17.000**	**13.000**	0.800 U	**5.600 J**	0.780 U	**7.900 J**	**1.300**	**110.000 J**	**84.000 J**	1.200 U	1.900 UJ	2.000 UJ
Acenaphthylene	1.600 UJ	1.800 UJ	1.600 UJ	1.800 UJ	1.800 UJ	**4.700 J**	**6.000 J**	**2.900**	**5.000**	**57.000**	0.800 U	1.600 UJ	0.780 U	**5.300 J**	0.800 U	**11.000 J**	**8.200 J**	1.200 U	1.900 UJ	2.000 UJ
Anthracene	1.600 UJ	1.800 UJ	**2.300 J**	**1.800 J**	1.800 UJ	**10.000 J**	**14.000 J**	0.890 U	**23.000**	**77.000**	**1.600**	**3.000 J**	0.780 U	**11.000 J**	**1.800**	**55.000 J**	**45.000 J**	**1.400**	1.900 UJ	**2.000 J**
Benzo(a)anthracene	**3.400 J**	**3.000 J**	**4.700 J**	**3.000 J**	**1.900 J**	**11.000 J**	**16.000 J**	**1.300**	**30.000**	**91.000**	**2.700**	**4.800 J**	**1.900**	**16.000 J**	**2.000**	**32.000 J**	**26.000 J**	**3.100**	**2.200 J**	**2.600 J**
Benzo(a)pyrene	**4.800 J**	**4.800 J**	**5.900 J**	**4.900 J**	**4.500 J**	**9.100 J**	**11.000 J**	**2.300**	**18.000**	**46.000**	**3.000**	**5.500 J**	**2.600**	**11.000 J**	**2.700**	**20.000 J**	**15.000 J**	**4.100**	1.900 UJ	**4.800 J**
Benzo(b)fluoranthene	**3.500 J**	1.800 UJ	**4.300 J**	1.800 UJ	1.800 UJ	**5.100 J**	**8.100 J**	0.890 U	**12.000**	**22.000**	**1.900**	**3.900 J**	0.780 U	**9.400 J**	0.800 U	**13.000 J**	**9.300 J**	**3.300**	1.900 UJ	2.000 UJ
Benzo(ghi)perylene	1.600 UJ	1.800 UJ	**4.300 J**	1.800 UJ	1.800 UJ	**4.900 J**	**6.100 J**	0.890 U	**8.800**	**16.000**	**2.100**	**4.000 J**	0.780 U	**6.400 J**	0.800 U	**11.000 J**	**7.000 J**	**3.300**	1.900 UJ	2.000 UJ
Benzo(k)fluoranthene	**3.800 J**	1.800 UJ	**4.500 J**	1.800 UJ	1.800 UJ	**6.100 J**	**7.500 J**	0.890 U	**12.000**	**37.000**	**2.400**	**4.200 J**	**2.100**	**8.800 J**	**2.000**	**13.000 J**	**9.200 J**	**3.400**	1.900 UJ	2.000 UJ
Chrysene	**3.500 J**	**10.000 J**	**4.800 J**	**3.200 J**	**2.200 J**	**10.000 J**	**14.000 J**	**1.300**	**26.000**	**63.000**	**2.600**	**4.400 J**	**1.600**	**14.000 J**	**2.000**	**26.000 J**	**21.000 J**	**3.200**	**2.400 J**	**2.700 J**
Dibenz(a,h)anthracene	1.600 UJ	1.800 UJ	1.600 UJ	1.800 UJ	1.800 UJ	1.400 UJ	1.500 UJ	0.890 U	**4.200**	**7.500**	0.800 U	1.600 UJ	0.780 U	**4.100 J**	0.800 U	3.000 UJ	**4.200 J**	1.200 U	1.900 UJ	2.000 UJ
Fluoranthene	**6.100 J**	**5.600 J**	**8.400 J**	**7.800 J**	1.800 UJ	**20.000 J**	**27.000 J**	**3.700**	**43.000**	**130.000**	**4.700**	**8.700 J**	**2.700**	**23.000 J**	**3.500**	**52.000 J**	**39.000 J**	**7.500**	**6.000 J**	**7.000 J**
Fluorene	1.600 UJ	1.800 UJ	1.600 UJ	1.800 UJ	1.800 UJ	**4.000 J**	**4.800 J**	0.890 U	**1.400**	**8.600**	0.800 U	**2.200 J**	0.780 U	**2.800 J**	**1.100**	**45.000 J**	**23.000 J**	1.200 U	1.900 UJ	2.000 UJ
Indeno(1,2,3-cd)pyrene	1.600 UJ	1.800 UJ	**4.400 J**	1.800 UJ	1.800 UJ	**4.800 J**	**5.800 J**	0.890 U	**7.600**	**16.000**	0.800 U	**4.200 J**	0.780 U	**6.500 J**	0.800 U	**10.000 J**	**6.400 J**	**3.500**	1.900 UJ	2.000 UJ
Naphthalene	1.600 UJ	1.800 UJ	**2.000 J**	1.800 UJ	1.800 UJ	**11.000 J**	**13.000 J**	0.890 U	**6.700**	**8.400**	**7.500**	**39.000 J**	0.780 U	**9.100 J**	**5.100**	**340.000 J**	**54.000 J**	1.200 U	1.900 UJ	**3.300 J**
Phenanthrene	**2.500 J**	1.800 UJ	**4.700 J**	**6.700 J**	1.800 UJ	**20.000 J**	**24.000 J**	0.890 U	**13.000**	**44.000**	**2.000**	**6.800 J**	0.780 U	**16.000 J**	**3.800**	**150.000 J**	**120.000 J**	**3.300**	**2.600 J**	**5.000 J**
Pyrene	**6.900 J**	**6.700 J**	**9.800 J**	**8.600 J**	**5.600 J**	**25.000 J**	**35.000 J**	**4.600**	**57.000**	**200.000**	**7.700**	**11.000 J**	**7.000**	**24.000 J**	**5.800**	**76.000 J**	**61.000 J**	**7.800**	**7.100 J**	**8.000 J**
Total HMW PAH	**28.300**	**29.000**	**43.500**	**24.200**	**18.700**	**76.700**	**104.250**	**11.725**	**175.600**	**498.500**	**23.200**	**42.800**	**16.760**	**100.200**	**16.100**	**202.500**	**159.100**	**32.300**	**17.400**	**23.100**
Total LMW PAH	**13.400**	**11.900**	**21.400**	**20.800**	7.200 U	**88.500**	**112.800**	**10.425**	**113.900**	**341.300**	**18.200**	**79.100**	**5.430**	**78.900**	**19.400**	**903.000**	**396.200**	**15.200**	**14.300**	**23.600**
Total PAH	**41.700**	**40.900**	**64.900**	**45.000**	**25.900**	**165.200**	**217.050**	**22.150**	**289.500**	**839.800**	**41.400**	**121.900**	**22.190**	**179.100**	**35.500**	**1105.500**	**555.300**	**47.500**	**31.700**	**46.700**
Benzo(a)pyrene Equivalents	**6.4115**	**6.199**	**8.0898**	**6.2922**	**5.7812**	**11.961**	**14.829**	**2.96975**	**27.306**	**66.833**	**3.9266**	**7.6364**	**3.2806**	**18.392**	**3.402**	**27.156**	**23.483**	**5.7272**	**2.3219**	**6.2727**
SVOC (mg/Kg)																				
1,1-Biphenyl																				
1,2,4-Trichlorobenzene	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
1,2-Dichlorobenzene	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
1,3-Dichlorobenzene	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
1,4-Dichlorobenzene	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
2,2'-oxybis(1-Chloropropane)	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
2,4,5-Trichlorophenol	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
2,4,6-Trichlorophenol	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
2,4-Dichlorophenol	<7.800 UJ	<8.800 UJ	<7.800 UJ	<9.000 UJ	<9.200 UJ	<7.100 UJ	<7.400 UJ	<4.400 U	<6.700 U	<8.100 U	<4.000 U	<7.900 UJ	<3.900 U	<7.100 UJ	<4.000 U	<15.000 UJ	<6.900 UJ	<6.300 U	<9.500 UJ	<9.800 UJ
2,4-Dimethylphenol	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
2,4-Dinitrophenol	<16.000 UJ	<18.000 UJ	<16.000 UJ	<18.000 UJ	<18.000 UJ	<14.000 UJ	<15.000 UJ	<8.900 U	<13.000 U	<16.000 U	<8.000 U	<16.000 UJ	<7.800 U	<14.000 UJ	<8.000 U	<30.000 UJ	<14.000 UJ	<12.000 U	<19.000 UJ	<20.000 UJ
2,4-Dinitrotoluene	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
2,6-Dinitrotoluene	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
2-Chloronaphthalene	<1.600 U	<1.800 UJ	<1.600 UJ	<1.800 UJ	<1.800 UJ	<1.400 UJ	<1.500 UJ	<0.890 U	<1.300 U	<1.600 U	<0.800 U	<1.600 UJ	<0.780 U	<1.400 UJ	<0.800 U	<3.000 UJ	<1.400 UJ	<1.200 U	<5.700 UJ	<5.900 UJ
2-Chlorophenol	<4.600 UJ	<5.300 UJ	<4.600 UJ	<5.400 UJ	<5.600 UJ	<4.200 UJ	<4.400 UJ	<2.700 U	<4.000 U	<4.900 U	<2.400 U	<4.800 UJ	<2.400 U	<4.200 UJ	<2.400 U	<9.100 UJ	<4.200 UJ	<3.800 U	<5.700 UJ	<5.900 UJ
2-Methylphenol	<4.600 UJ	<5.300 UJ	<4.600 UJ	<5.400 UJ	<5.600 UJ	<4.200 UJ	<4.400 UJ	<2.700 U	<4.000 U	<4.900 U	<2.400 U	<4.800 UJ	<2.400 U	<4.200 UJ	<2.400 U	<9.100 UJ	<4.200 UJ	<3.800 U	<5.700 UJ	<5.900 UJ
2-Nitroaniline	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
2-Nitrophenol	<16.000 UJ	<18.000 UJ	<16.000 UJ	<18.000 UJ	<18.000 UJ	<14.000 UJ	<15.000 UJ	<8.900 U	<13.000 U	<16.000 U	<8.000 U	<16.000 UJ	<7.800 U	<14.000 UJ	<8.000 U	<30.000 UJ	<14.000 UJ	<12.000 U	<19.000 UJ	<20.000 UJ
3,3'-Dichlorobenzidine	<7.800 UJ	<8.800 UJ	<7.800 UJ	<9.000 UJ	<9.200 UJ	<7.100 UJ	<7.400 UJ	<4.400 U	<6.700 U	<8.100 U	<4.000 U	<7.900 UJ	<3.900 U	<7.100 UJ	<4.000 U	<15.000 UJ	<6.900 UJ	<6.300 U	<9.500 UJ	<9.800 UJ
3+4-Methylphenols	<4.600 UJ	<5.300 UJ	<4.600 UJ	<5.400 UJ	<5.600 UJ	<4.200 UJ	<4.400 UJ	<2.700 U	<4.000 U	<4.900 U	<2.400 U	<4.800 UJ	<2.400 U	<4.200 UJ	<2.400 U	<9.100 UJ	<4.200 UJ	<3.800 U	<5.700 UJ	<5.900 UJ
3-Nitroaniline	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
4,6-Dinitro-2-methylphenol	<16.000 UJ	<18.000 UJ	<16.000 UJ	<18.000 UJ	<18.000 UJ	<14.000 UJ	<15.000 UJ	<8.900 U	<13.000 U	<16.000 U	<8.000 U	<16.000 UJ	<7.800 U	<14.000 UJ	<8.000 U	<30.000 UJ	<14.000 UJ	<12.000 U	<19.000 UJ	<20.000 UJ
4-Bromophenyl phenyl ether	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
4-Chloro-3-methylphenol	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
4-Chloroaniline	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
4-Chlorophenyl phenyl ether	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
4-Nitroaniline	<5.400 UJ	<6.100 UJ	<5.400 UJ	<6.300 UJ	<6.500 UJ	<5.000 UJ	<5.200 UJ	<3.100 U	<4.700 U	<5.700 U	<2.800 U	<5.600 UJ	<2.700 U	<5.000 UJ	<2.800 U	<11.000 UJ	<4.900 UJ	<4.400 U	<6.700 UJ	<6.900 UJ
4-Nitrophenol	<7.800 UJ	<8.800 UJ	<7.800 UJ	<9.000 UJ	<9.200 UJ	<7.100 UJ	<7.400 UJ	<4.400 U	<6.700 U	<8.100 U	<4.000 U	<7.900 UJ	<3.900 U	<7.100 UJ	<4.000 U	<15.000 UJ	<6.900 UJ	<6.300 U	<9.500 UJ	<9.800 UJ

Notes:
Bold = detected above reporting limit
Total SVOCs include Total PAH
Surface Sed Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 5-12
Summary of OU2 RI Surface Sediment Analytical Results - Semivolatile Organic Compounds and Total Organic Carbon
Former East 21st Street Works, New York, New York

Location	RB56	RB57	RB58	RB59	RB59 DUP	RB60	RB60 DUP	RB61	RB62	RB63	RB64	RB65	RB66	RB67	RB68	RB69	RB70	RB71	RB72	RB73
Sample Date	**10/24/2008**	**10/24/2008**	**10/21/2008**	**10/21/2008**	**10/21/2008**	**10/21/2008**	**10/21/2008**	**10/24/2008**	**10/21/2008**	**10/24/2008**	**10/24/2008**	**10/22/2008**	**10/22/2008**	**10/22/2008**	**10/24/2008**	**10/22/2008**	**10/22/2008**	**10/23/2008**	**10/23/2008**	**10/23/2008**
Top of Sediment Elevation	-8	-10	-25	-9	-9	-12	-12	-23	-14	-27	-26	-32	-36	-21	-20	-20	-7	-9	-17	-22
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
Sediment Type	Silt	Silty Sand	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Gravel/Sand	Gravel/Silt	Silt	Sand	Silt	Silty Sand	Silt	Silt	Silty Sand	Sandy Silt	Silt
Observation											Sheen	Sheen	Stain		Sheen/Stain	Sheen	Sheen			
Odor	Organic	Organic	Organic	Organic	Organic	MGP		Organic	Organic		Organic	Organic		Organic	MGP	MGP	MGP	Organic	Organic	Organic
SVOC (mg/Kg)																				
Benzoic Acid	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
bis(2-Chloroethoxy)methane	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
bis(2-Chloroethyl) ether	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
bis(2-Ethylhexyl) phthalate	**10.000 J**	<8.800 UJ	<7.800 UJ	<9.000 UJ	<9.200 UJ	<7.100 UJ	<7.400 UJ	<4.400 U	<6.700 U	<8.100 U	<4.000 U	<7.900 UJ	<3.900 U	<7.100 UJ	<4.000 U	<15.000 UJ	<6.900 UJ	**13.000**	**10.000 J**	<9.800 UJ
Butyl benzyl phthalate	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
Carbazole	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
Dibenzofuran	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	**8.800 J**	**4.400 J**	<3.100 U	<4.800 UJ	<4.900 UJ
Diethyl phthalate	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
Dimethyl phthalate	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
Di-n-butyl phthalate	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
Di-n-octyl phthalate	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
Hexachlorobenzene	<6.200 UJ	<7.000 UJ	<6.200 UJ	<7.200 UJ	<7.400 UJ	<5.700 UJ	<5.900 UJ	<3.600 U	<5.300 U	<6.500 U	<3.200 U	<6.300 UJ	<3.100 U	<5.700 UJ	<3.200 U	<12.000 UJ	<5.600 UJ	<5.000 U	<7.600 UJ	<7.800 UJ
Hexachlorobutadiene	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
Hexachlorocyclopentadiene	<7.800 UJ	<8.800 UJ	<7.800 UJ	<9.000 UJ	<9.200 UJ	<7.100 UJ	<7.400 UJ	<4.400 U	<6.700 U	<8.100 U	<4.000 U	<7.900 UJ	<3.900 U	<7.100 UJ	<4.000 U	<15.000 UJ	<6.900 UJ	<6.300 U	<9.500 UJ	<9.800 UJ
Hexachloroethane	<6.200 UJ	<7.000 UJ	<6.200 UJ	<7.200 UJ	<7.400 UJ	<5.700 UJ	<5.900 UJ	<3.600 U	<5.300 U	<6.500 U	<3.200 U	<6.300 UJ	<3.100 U	<5.700 UJ	<3.200 U	<12.000 UJ	<5.600 UJ	<5.000 U	<7.600 UJ	<7.800 UJ
Isophorone	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
Nitrobenzene	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
N-Nitrosodi-n-propylamine	<3.900 UJ	<4.400 UJ	<3.900 UJ	<4.500 UJ	<4.600 UJ	<3.500 UJ	<3.700 UJ	<2.200 U	<3.300 U	<4.100 U	<2.000 U	<4.000 UJ	<2.000 U	<3.500 UJ	<2.000 U	<7.600 UJ	<3.500 UJ	<3.100 U	<4.800 UJ	<4.900 UJ
N-Nitrosodiphenylamine	<12.000 UJ	<13.000 UJ	<12.000 UJ	<14.000 UJ	<14.000 UJ	<11.000 UJ	<11.000 UJ	<6.700 U	<10.000 U	<12.000 U	<6.000 U	<12.000 UJ	<5.900 U	<11.000 UJ	<6.000 U	<23.000 UJ	<10.000 UJ	<9.400 U	<14.000 UJ	<15.000 UJ
Pentachlorophenol	<6.200 UJ	<7.000 UJ	<6.200 UJ	<7.200 UJ	<7.400 UJ	<5.700 UJ	<5.900 UJ	<3.600 UJ	<13.000 U	<6.500 UJ	<3.200 UJ	<6.300 UJ	<3.100 U	<5.700 UJ	<3.200 UJ	<12.000 UJ	<5.600 UJ	<5.000 UJ	<7.600 UJ	<7.800 UJ
Phenol	<5.400 UJ	<6.100 UJ	<5.400 UJ	<6.300 UJ	<6.500 UJ	<5.000 UJ	<5.200 UJ	<3.100 U	<4.700 U	<5.700 U	<2.800 U	<5.600 UJ	<2.700 U	<5.000 UJ	<2.800 U	<11.000 UJ	<4.900 UJ	<4.400 U	<6.700 UJ	<6.900 UJ
Total SVOC	**176.250**	**185.650**	**193.350**	**192.850**	**176.500**	**280.750**	**338.600**	**94.745**	**401.750**	**973.100**	**107.000**	**252.700**	**86.930**	**294.650**	**101.100**	**1358.850**	**672.250**	**158.950**	**195.300**	**210.150**
Carbon (%)																				
Average Soot Carbon	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Average Total Organic Carbon	**5.2**	**3.4 J**	**9.0**	**2.6**	**3.4 J**	**7.0**	**5.2 J**	**1.5 J**	**5.3**	**2.0 J**	**3.0 J**	**3.8**	**0.33 J**	**4.2**	**0.78 J**	**3.1**	**8.2**	**3.5**	**5.7**	**7.8**
Soot Run 1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Soot Run 2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Soot Run 3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (Run 1)	**5.0**	**3.3 J**	**8.8**	**2.7**	**3.6 J**	**7.3**	**4.9 J**	**1.5 J**	**5.4**	**1.8 J**	**2.8 J**	**3.7**	**0.24 J**	**3.8**	**0.59 J**	**3.1**	**8.9**	**3.7**	**6.1**	**8.0**
Total Organic Carbon (Run 2)	**5.1**	**3.5 J**	**8.5**	**2.5**	**3.3 J**	**6.5**	**5.6 J**	**1.7 J**	**5.3**	**1.9 J**	**2.8 J**	**3.8**	**0.45 J**	**4.7**	**0.79 J**	**3.3**	**7.3**	**3.5**	**5.4**	**8.2**
Total Organic Carbon (Run 3)	**5.7**	**3.3 J**	**9.7**	**2.7**	**3.4 J**	**7.2**	**5.0 J**	**1.4 J**	**5.0**	**2.3 J**	**3.3 J**	**3.8**	**0.28 J**	**4.2**	**0.97 J**	**3.1**	**8.5**	**3.2**	**5.5**	**7.3**

Notes:
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UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 5-12
Summary of OU2 RI Surface Sediment Analytical Results - Semivolatile Organic Compounds and Total Organic Carbon
Former East 21st Street Works, New York, New York

Location	RB74	RB75	RB76	ERSSREF02	ERSSREF04	ERSSREF05
Sample Date	10/23/2008	10/23/2008	10/27/2008	6/12/2008	6/12/2008	6/12/2008
Top of Sediment Elevation	-40	-29	-30	-19	-7	-15
Depth Interval (feet)	0-1	0-1	0-1	0-0.5	0-0.5	0-0.5
Sediment Type	Sand	Silty Sand	Silt, Sand, and Grave	Sandy Silt	Silt	Silt
Observation		Sheen				
Odor	Organic	MGP		Organic	H_2S	H_2S
PAH (mg/Kg)						
2-Methylnaphthalene	0.810 U	**36.000 J**	0.630 U	**0.480 J**	**0.360 J**	**0.220 J**
Acenaphthene	0.810 U	**130.000 J**	0.630 U	**0.390 J**	**0.200 J**	0.180 UJ
Acenaphthylene	0.810 U	**7.700 J**	**6.900**	**0.260 J**	**0.340 J**	**0.260 J**
Anthracene	0.810 U	**41.000 J**	**19.000**	**0.510 J**	**0.570 J**	**0.490 J**
Benzo(a)anthracene	**0.890**	**22.000 J**	**29.000**	**1.100 J**	**1.100 J**	**1.200 J**
Benzo(a)pyrene	**2.000**	**12.000 J**	**20.000**	**1.200 J**	**1.300 J**	**1.200 J**
Benzo(b)fluoranthene	0.810 U	**8.800 J**	**14.000**	**0.990 J**	**0.960 J**	**1.100 J**
Benzo(ghi)perylene	0.810 U	**6.100 J**	**8.300**	**0.690 J**	**0.760 J**	**0.720 J**
Benzo(k)fluoranthene	0.810 U	**8.700 J**	**17.000**	**0.950 J**	**0.940 J**	**0.950 J**
Chrysene	**0.960**	**18.000 J**	**25.000**	**1.200 J**	**1.200 J**	**1.200 J**
Dibenz(a,h)anthracene	0.810 U	**3.900 J**	**3.100**	**0.210 J**	**0.220 J**	**0.210 J**
Fluoranthene	0.810 U	**64.000 J**	**57.000**	**2.500 J**	**2.000 J**	**1.800 J**
Fluorene	0.810 U	**81.000 J**	0.630 U	**0.290 J**	**0.270 J**	0.180 UJ
Indeno(1,2,3-cd)pyrene	0.810 U	**5.800 J**	**8.100**	**0.570 J**	**0.610 J**	**0.590 J**
Naphthalene	0.810 U	**190.000 J**	**1.800**	**0.720 J**	**0.480 J**	**0.350 J**
Phenanthrene	**1.000**	**190.000 J**	**4.500**	**1.200 J**	**0.970 J**	**0.900 J**
Pyrene	**3.100**	**61.000 J**	**56.000**	**2.400 J**	**2.200 J**	**2.000 J**
Total HMW PAH	**8.975**	**146.300**	**180.500**	**9.310**	**9.290**	**9.170**
Total LMW PAH	**3.835**	**739.700**	**90.145**	**6.350**	**5.190**	**4.200**
Total PAH	**12.810**	**886.000**	**270.645**	**15.660**	**14.480**	**13.370**
Benzo(a)pyrene Equivalents	**2.58001**	**19.665**	**28.405**	**1.6867**	**1.7976**	**1.7097**
SVOC (mg/Kg)						
1,1-Biphenyl						
1,2,4-Trichlorobenzene	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
1,2-Dichlorobenzene	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
1,3-Dichlorobenzene	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
1,4-Dichlorobenzene	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
2,2'-oxybis(1-Chloropropane)	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
2,4,5-Trichlorophenol	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
2,4,6-Trichlorophenol	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
2,4-Dichlorophenol	<4.100 U	<6.800 UJ	<7.900 U	<1.700 UJ	<1.400 UJ	<1.800 UJ
2,4-Dimethylphenol	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
2,4-Dinitrophenol	<8.100 U	<14.000 UJ	<16.000 U	<3.300 UJ	<2.800 UJ	<3.700 UJ
2,4-Dinitrotoluene	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
2,6-Dinitrotoluene	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
2-Chloronaphthalene	<0.810 U	<1.400 UJ	<0.630 U	<0.170 UJ	<0.140 UJ	<0.180 UJ
2-Chlorophenol	<2.400 U	<4.100 UJ	<4.800 U	<1.000 UJ	<0.830 UJ	<1.100 UJ
2-Methylphenol	<2.400 U	<4.100 UJ	<4.800 U	<1.000 UJ	<0.830 UJ	<1.100 UJ
2-Nitroaniline	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
2-Nitrophenol	<8.100 U	<14.000 UJ	<16.000 U	<3.300 UJ	<2.800 UJ	<3.700 UJ
3,3'-Dichlorobenzidine	<4.100 U	<6.800 UJ	<7.900 U	<1.700 UJ	<1.400 UJ	<1.800 UJ
3+4-Methylphenols	<2.400 U	<4.100 UJ	<4.800 U	**1.900 J**	<0.830 UJ	<1.100 UJ
3-Nitroaniline	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
4,6-Dinitro-2-methylphenol	<8.100 U	<14.000 UJ	<16.000 U	<3.300 UJ	<2.800 UJ	<3.700 UJ
4-Bromophenyl phenyl ether	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
4-Chloro-3-methylphenol	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
4-Chloroaniline	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
4-Chlorophenyl phenyl ether	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
4-Nitroaniline	<2.800 U	<4.800 UJ	<5.600 U	<1.200 UJ	<0.970 UJ	<1.300 UJ
4-Nitrophenol	<4.100 U	<6.800 UJ	<7.900 U	<1.700 UJ	<1.400 UJ	<1.800 UJ

Notes:
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Total SVOCs include Total PAH
Surface Sed Totals use half the detection limit for nondetected compounds
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Table 5-12
Summary of OU2 RI Surface Sediment Analytical Results - Semivolatile Organic Compounds and Total Organic Carbon
Former East 21st Street Works, New York, New York

Location	RB74	RB75	RB76	ERSSREF02	ERSSREF04	ERSSREF05
Sample Date	10/23/2008	10/23/2008	10/27/2008	6/12/2008	6/12/2008	6/12/2008
Top of Sediment Elevation	-40	-29	-30	-19	-7	-15
Depth Interval (feet)	0-1	0-1	0-1	0-0.5	0-0.5	0-0.5
Sediment Type	Sand	Silty Sand	Silt, Sand, and Grave	Sandy Silt	Silt	Silt
Observation		Sheen				
Odor	Organic	MGP		Organic	H_2S	H_2S
SVOC (mg/Kg)						
Benzoic Acid	NS	NS	NS	NS	NS	NS
bis(2-Chloroethoxy)methane	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
bis(2-Chloroethyl) ether	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
bis(2-Ethylhexyl) phthalate	<4.100 U	<6.800 UJ	<7.900 U	**6.900 J**	**4.900 J**	<1.800 UJ
Butyl benzyl phthalate	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
Carbazole	<2.000 U	**24.000 J**	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
Dibenzofuran	<2.000 U	**48.000 J**	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
Diethyl phthalate	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
Dimethyl phthalate	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
Di-n-butyl phthalate	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
Di-n-octyl phthalate	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
Hexachlorobenzene	<3.200 U	<5.400 UJ	<2.500 U	<0.670 UJ	<0.560 UJ	<0.740 UJ
Hexachlorobutadiene	<2.000 U	<3.400 UJ	<1.600 U	<0.420 UJ	<0.350 UJ	<0.460 UJ
Hexachlorocyclopentadiene	<4.100 U	<6.800 UJ	<7.900 U	<1.700 UJ	<1.400 UJ	<1.800 UJ
Hexachloroethane	<3.200 U	<5.400 UJ	<2.500 U	<0.670 UJ	<0.560 UJ	<0.740 UJ
Isophorone	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
Nitrobenzene	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
N-Nitrosodi-n-propylamine	<2.000 U	<3.400 UJ	<4.000 U	<0.830 UJ	<0.690 UJ	<0.920 UJ
N-Nitrosodiphenylamine	<6.100 U	<10.000 UJ	<12.000 U	<2.500 UJ	<2.100 UJ	<2.800 UJ
Pentachlorophenol	<3.200 UJ	<5.400 UJ	<2.500 UJ	<0.670 UJ	<0.560 UJ	<0.740 UJ
Phenol	<2.800 U	<4.800 UJ	<5.600 U	**1.700 J**	<0.970 UJ	<1.300 UJ
Total SVOC	**78.865**	**1066.650**	**394.060**	**50.280**	**40.390**	**42.080**
Carbon (%)						
Average Soot Carbon	NS	NS	NS	**1.3 J**	**2.0 J**	**2.1 J**
Average Total Organic Carbon	**0.74 J**	**6.2**	**2.4 J**	**4.9 J**	**4.3 J**	**2.2 J**
Soot Run 1	NS	NS	NS	**1.3 J**	**2.0 J**	**0.66 J**
Soot Run 2	NS	NS	NS	**1.4 J**	**1.8 J**	**0.49 J**
Soot Run 3	NS	NS	NS	**1.2 J**	**2.4 J**	**5.3 J**
Total Organic Carbon (Run 1)	**0.53 J**	**7.6**	**2.9 J**	**5.6 J**	**4.1 J**	**2.4 J**
Total Organic Carbon (Run 2)	**0.52 J**	**5.5**	**2.3 J**	**4.4 J**	**4.1 J**	**2.0 J**
Total Organic Carbon (Run 3)	**1.2 J**	**5.4**	**2.2 J**	**4.8 J**	**4.8 J**	**2.4 J**

Notes:
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UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 5-13
Comparison of OU2 RI Surface Sediment Analytical Results to NYSDEC Screening Criteria
Former East 21st Street Works, New York, New York

Location ID	NYSDEC Screening Criteria [1, 2]	GS07	GS09	GS13	GS14	GS16	GS17	GS21	GS24	GS25	GS26	GS27	GS28	GS28 DUP	GS29	GS30
Sample Date		**10/29/2008**	**10/30/2008**	**10/9/2008**	**10/11/2008**	**10/29/2008**	**10/29/2008**	**10/9/2008**	**10/27/2008**	**10/27/2008**	**10/30/2008**	**10/30/2008**	**10/30/2008**	**10/30/2008**	**10/9/2008**	**10/9/2008**
Top of Sediment Elevation		-24	-37	-18	-18	115	-15		-35	-35	-30	-32	-31	-31	-39	-41
Depth Interval (feet)		0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
Sediment Type		Gravel	Clay	Gravel	Silt/Peat	Silt/Peat	Silt	Silty Peat	Silt/Clay	Sand	Sand	Sand	Sand	Sand	Silty Clay	Sand/Clay
Observation				Stain	Sheen	NAPL		Sheen/Stain								
Odor				Organic	Organic	MGP	Organic	MGP								
Total PAH (mg/Kg)	4	**1711.300**	**7.436**	**1793.500**	**1192.000**	**1565.350**	**144.800**	**1165.500**	**1.889**	**208.745**	**7.940**	**0.827**	**0.154**	15.300 U	**1.220**	**0.305**
Normalized VOCs (ug/g OC)																
Benzene	26	0.05 U	0.83 U	**217.39**	***185.71 U***	**0.86**	0.09 U	***94.00 U***	1.18 U	0.08 U	1.27 U	3.88 U	0.56 U	0.45 U	3.50 U	1.10 U
Ethylbenzene	6.4	0.05 U	0.83 U	NS	NS	**15.38**	0.09 U	NS	1.18 U	0.08 U	1.27 U	3.88 U	0.56 U	0.45 U	3.50 U	1.10 U
m,p-Xylene	N/A	0.10 U	1.65 U	NS	NS	**0.95**	0.19 U	NS	2.39 U	0.17 U	2.54 U	7.75 U	1.13 U	0.91 U	6.90 U	2.19 U
o-Xylene	27	0.10 U	1.65 U	NS	NS	**3.69**	0.19 U	NS	2.39 U	0.17 U	2.54 U	7.75 U	1.13 U	0.91 U	6.90 U	2.19 U
Toluene	45	0.07 U	1.23 U	***217.39 U***	***278.57 U***	0.72 U	0.14 U	***142.00 U***	1.79 U	0.13 U	1.88 U	5.75 U	0.85 U	0.68 U	5.20 U	1.65 U
1,1,1-Trichloroethane	N/A	0.05 U	0.83 U	142.03 U	185.71 U	0.48 U	0.09 U	94.00 U	1.18 U	0.08 U	1.27 U	3.88 U	0.56 U	0.45 U	3.50 U	1.10 U
2-Butanone (Methyl Ethyl Ketone)	N/A	0.47 U	8.25 U	1420.29 U	1857.14 U	4.77 U	0.94 U	940.00 U	11.79 U	0.84 U	12.69 U	38.75 U	5.64 U	4.53 U	35.00 U	10.97 U
Acetone	N/A	0.47 U	8.25 U	1420.29 U	1857.14 U	**6.62**	0.94 U	940.00 U	11.79 U	0.84 U	12.69 U	38.75 U	5.64 U	4.53 U	35.00 U	10.97 U
Chlorobenzene	3.5	0.05 U	0.83 U	***142.03 U***	***185.71 U***	0.48 U	0.09 U	***94.00 U***	1.18 U	0.08 U	1.27 U	***3.88 U***	0.56 U	0.45 U	3.50 U	1.10 U
Tetrachloroethene	N/A	0.05 U	0.83 U	142.03 U	185.71 U	0.48 U	0.09 U	94.00 U	1.18 U	0.08 U	1.27 U	3.88 U	0.56 U	0.45 U	3.50 U	1.10 U
Trichloroethene	N/A	0.05 U	0.83 U	142.03 U	185.71 U	0.48 U	0.09 U	94.00 U	1.18 U	0.08 U	1.27 U	3.88 U	0.56 U	0.45 U	3.50 U	1.10 U
Total VOC	N/A	2.56 U	44.13 U	**7195.66**	9164.25 U	**49.25**	5.00 U	4658.00 U	63.37 U	4.48 U	67.80 U	206.73 U	30.18 U	24.27 U	186.45 U	58.79 U
Normalized SVOCs (ug/g OC)																
2-Methylnaphthalene	30	**235.29**	22.00 U	**4057.97**	**1714.29**	**876.92**	**62.75**	**1400**	6.43 U	22.43 U	***338.46 U***	20.00 U	3.09 U	***240.00 U***	18.00 U	5.81 U
Acenaphthene	240	**573.53**	22.00 U	**2753.62**	**3928.57**	**3692.31**	**43.14**	**840**	**7.14**	22.43 U	***338.46 U***	20.00 U	3.09 U	240.00 U	18.00 U	5.81 U
Acenaphthylene	N/A	**3382.35**	**155**	**231.88**	**500**	**292.31**	**72.55**	**280**	**27.5**	**227.03**	338.46 U	**53.75**	3.09 U	240.00 U	18.00 U	5.81 U
Anthracene	107	**2500**	**50**	**1362.32**	**3357.14**	**1692.31**	**96.08**	**1280**	**25**	**151.35**	***338.46 U***	**50**	3.09 U	***240.00 U***	**39**	5.81 U
Benzo(a)anthracene	12	**1044.12**	**142.5**	**797.1**	**1821.43**	**846.15**	**333.33**	**1200**	**78.57**	**594.59**	***338.46 U***	**102.5**	3.09 U	***240.00 U***	**120**	5.81 U
Benzo(a)pyrene	N/A	**750**	**247.5**	**536.23**	**1392.86**	**584.62**	**196.08**	**780**	**57.14**	**486.49**	338.46 U	**105**	3.09 U	240.00 U	**110**	5.81 U
Benzo(b)fluoranthene	N/A	**279.41**	**125**	**289.86**	**535.71**	**261.54**	**117.65**	**460**	**35.36**	**267.57**	338.46 U	**56.25**	3.09 U	240.00 U	**110**	5.81 U
Benzo(ghi)perylene	N/A	**235.29**	**75**	**275.36**	**785.71**	**200**	**88.24**	**420**	**27.14**	**167.57**	338.46 U	**47.5**	3.09 U	240.00 U	**100**	5.81 U
Benzo(k)fluoranthene	N/A	**470.59**	**157.5**	**333.33**	**928.57**	**292.31**	**123.53**	**520**	**35.71**	**378.38**	338.46 U	**71.25**	3.09 U	240.00 U	**110**	5.81 U
Chrysene	N/A	**985.29**	**115**	**666.67**	**1428.57**	**769.23**	**313.73**	**1080**	**64.29**	**540.54**	338.46 U	**98.75**	3.09 U	240.00 U	**110**	**6.13**
Dibenz(a,h)anthracene	N/A	**77.94**	22.00 U	**50.72**	**214.29**	50.77 U	25.49 U	100.00 U	6.43 U	**81.08**	338.46 U	20.00 U	3.09 U	240.00 U	**100**	5.81 U
Fluoranthene	1340	**2058.82**	**127.5**	**1318.84**	**4285.71**	**1400**	**411.76**	**2000**	**89.29**	**972.97**	338.46 U	**102.5**	3.09 U	240.00 U	**110**	**20.65**
Fluorene	38	**500**	22.00 U	**1318.84**	**2214.29**	**1307.69**	25.49 U	**800**	6.43 U	22.43 U	***338.46 U***	20.00 U	3.09 U	***240.00 U***	18.00 U	5.81 U
Indeno(1,2,3-cd)pyrene	N/A	**205.88**	**65**	**260.87**	**535.71**	**149.23**	**70.59**	**400**	**26.43**	**154.05**	338.46 U	**37.5**	3.09 U	240.00 U	**110**	5.81 U
Naphthalene	38	**544.12**	**27.5**	**5797.1**	**4285.71**	**4769.23**	**86.27**	**5600**	6.43 U	**37.84**	***338.46 U***	**21.25**	3.09 U	***240.00 U***	18.00 U	5.81 U
Phenanthrene	160	**7647.06**	**77.5**	**4057.97**	**8571.43**	**4615.38**	**72.55**	**3600**	**20.36**	**89.19**	***338.46 U***	**72.5**	3.09 U	***240.00 U***	**36**	5.81 U
Pyrene	961	**3676.47**	**450**	**1884.06**	**6071.43**	**2307.69**	**725.49**	**2600**	**167.86**	**1459.46**	**346.15**	**175**	**3.27**	240.00 U	**120**	**30.97**
1,1-Biphenyl	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	12	***63.24 U***	***110.00 U***	***47.83 U***	***246.43 U***	***64.62 U***	***62.75 U***	***320.00 U***	***157.14 U***	***56.76 U***	***338.46 U***	***512.50 U***	***76.36 U***	***613.33 U***	***460.00 U***	***145.16 U***
3+4-Methylphenols	N/A	76.47 U	132.50 U	56.52 U	296.43 U	76.92 U	74.51 U	380.00 U	189.29 U	67.57 U	384.62 U	612.50 U	90.91 U	733.33 U	560.00 U	174.19 U
bis(2-Ethylhexyl) phthalate	199.5	126.47 U	***220.00 U***	94.20 U	***500.00 U***	127.69 U	125.49 U	***620.00 U***	***317.86 U***	113.51 U	***692.31 U***	***1025.00 U***	150.91 U	***1213.33 U***	***920.00 U***	***290.32 U***
Carbazole	N/A	63.24 U	110.00 U	47.83 U	246.43 U	64.62 U	62.75 U	320.00 U	157.14 U	56.76 U	338.46 U	512.50 U	76.36 U	613.33 U	460.00 U	145.16 U
Dibenzofuran	N/A	**107.35**	110.00 U	**115.94**	246.43 U	**153.85**	62.75 U	**320**	157.14 U	56.76 U	338.46 U	512.50 U	76.36 U	613.33 U	460.00 U	145.16 U
Perylene	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phenol	N/A	89.71 U	152.50 U	66.67 U	346.43 U	89.23 U	88.24 U	440.00 U	221.43 U	78.38 U	461.54 U	725.00 U	105.45 U	853.33 U	650.00 U	203.23 U
Carbon/Soot (%)																
Soot Run 1	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Soot Run 2	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Soot Run 3	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon	N/A	**6.8 J**	**0.41**	**7.5**	**2.5**	**6.7**	**5.1 J**	**4.6**	**0.27 J**	**3.0 J**	**0.27**	**0.087**	**0.61 J**	**0.8**	**0.11 J**	**0.29 J**
Total Organic Carbon (Run 2)	N/A	**6.7 J**	**0.41**	**6.3**	**3.1**	**5.6**	**5.1 J**	**5.6**	**0.30 J**	**3.9 J**	**0.23**	**0.083**	**0.56 J**	**0.61**	**0.10 J**	**0.32 J**
Total Organic Carbon (Run 3)	N/A	**7.0 J**	**0.38**	**6.8**	**2.9**	**7.2**	**5.1 J**	**4.6**	**0.26 J**	**4.2 J**	**0.28**	**0.07**	**0.50 J**	**0.84**	**0.09 J**	**0.33 J**
Average Soot	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Average Total Organic Carbon	N/A	**6.8 J**	**0.4**	**6.9**	**2.8**	**6.5**	**5.1 J**	**5**	**0.28 J**	**3.7 J**	**0.26**	**0.08**	**0.55 J**	**0.75**	**0.10 J**	**0.31 J**

Notes:

[1] total PAH value - Effects Range Low (NYSDEC, 1999)

[2] Other Constituents - Chronic Toxicity Values (NYSDEC, 1999)

mg/Kg = milligram per kilogram

ug/g OC - micrograms per gram of organic carbon

Bold = detected above reporting limit

Bolded and Shaded = detected exceeds NYSDEC Screening Criteria

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-13
Comparison of OU2 RI Surface Sediment Analytical Results to NYSDEC Screening Criteria
Former East 21st Street Works, New York, New York

Location ID	NYSDEC Screening Criteria [1, 2]	GS31	GS35	GS36	GS37	GS38	GS39	GS40	GS41	GS41 DUP	GS42	GS43	RB2	RB3	RB4
Sample Date		**10/9/2008**	**10/27/2008**	**10/30/2008**	**10/29/2008**	**10/29/2008**	**10/27/2008**	**10/27/2008**	**10/29/2008**	**10/29/2008**	**10/29/2008**	**10/30/2008**	**6/18/2008**	**6/19/2008**	**6/19/2008**
Top of Sediment Elevation		-38	-20	-15	-24	-41	-20	-29	-25	-25	-11	-14	-9	-12	-8
Depth Interval (feet)		0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-0.4
Sediment Type		Clay/Silt	Silt	Silt	Silt	Sandy Silt and Clay	Silt and Gravel	Sand and Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt
Observation			Sheen	NAPL/Sheen			NAPL								
Odor			MGP	MGP	Organic		MGP	Organic	Organic	Organic	Organic	Organic		MGP, Organic	H_2S
Total PAH (mg/Kg)	4	0.392 U	**1000.400**	**314.200**	**16.900**	NS	**4312.400**	**251.700**	**25.500**	**65.400**	**56.800**	**33.850**	**16.460**	**48.085**	**161.220**
Normalized VOCs (ug/g OC)															
Benzene	26	1.00 U	**3.6**	**0.32**	0.12 U	NS	**174.47**	0.06 U	0.28 U	0.22 U	0.31 U	0.16 U	0.24 U	**0.32**	**0.37**
Ethylbenzene	6.4	1.00 U	**22**	**7.8**	0.12 U	NS	**4680.85**	0.06 U	0.28 U	0.22 U	0.31 U	0.16 U	0.24 U	**0.73**	**3.77**
m,p-Xylene	N/A	1.97 U	**6.8**	**0.95**	0.23 U	NS	**3191.49**	0.13 U	0.55 U	0.42 U	0.62 U	0.33 U	0.46 U	**0.93**	**3.35**
o-Xylene	27	1.97 U	**8**	**1.71**	0.23 U	NS	**1893.62**	0.13 U	0.55 U	0.42 U	0.62 U	0.33 U	0.46 U	**0.57**	**2.73**
Toluene	45	1.50 U	**1.96**	0.21 U	0.17 U	NS	**702.13**	0.10 U	0.43 U	0.33 U	0.46 U	0.25 U	0.35 U	0.37 U	**0.65**
1,1,1-Trichloroethane	N/A	1.00 U	0.22 U	0.14 U	0.12 U	NS	174.47 U	0.06 U	0.28 U	0.22 U	0.31 U	0.16 U	0.24 U	0.25 U	0.16 U
2-Butanone (Methyl Ethyl Ketone)	N/A	10.00 U	2.20 U	1.41 U	1.16 U	NS	1744.68 U	0.64 U	2.82 U	2.19 U	3.08 U	1.63 U	2.36 U	2.47 U	1.58 U
Acetone	N/A	10.00 U	2.20 U	**1.76**	1.16 U	NS	1744.68 U	0.64 U	**3.68**	**4.23**	**4.36**	**2.71**	**5.71**	**2.8**	**4.62**
Chlorobenzene	3.5	1.00 U	0.22 U	0.14 U	0.12 U	NS	***174.47 U***	0.06 U	0.28 U	0.22 U	0.31 U	0.16 U	0.24 U	0.25 U	0.16 U
Tetrachloroethene	N/A	1.00 U	0.22 U	0.14 U	0.12 U	NS	174.47 U	0.06 U	0.28 U	0.22 U	0.31 U	0.16 U	0.24 U	0.25 U	0.16 U
Trichloroethene	N/A	1.00 U	0.22 U	0.14 U	0.12 U	NS	174.47 U	0.06 U	0.28 U	0.22 U	0.31 U	0.16 U	0.24 U	0.25 U	0.16 U
Total VOC	N/A	53.27 U	**53.34**	**18.96**	6.22 U	NS	**19297.9**	3.41 U	**17.33**	**14.81**	**19.36**	**10.61**	**17.13**	**16.61**	**22.55**
Normalized SVOCs (ug/g OC)															
2-Methylnaphthalene	30	5.28 U	**4400**	**114.63**	***30.63 U***	NS	**21276.6**	**47.22**	***77.27 U***	***57.69 U***	**97.44**	***43.75 U***	12.50 U	**53.33**	**423.08**
Acenaphthene	240	5.28 U	**640**	**731.71**	30.63 U	NS	**7234.04**	**29.17**	77.27 U	57.69 U	**97.44**	43.75 U	12.50 U	**43.33**	**330.77**
Acenaphthylene	N/A	5.28 U	**1420**	**292.68**	30.63 U	NS	**2127.66**	**111.11**	77.27 U	57.69 U	**51.28**	43.75 U	**18.57**	**33**	**134.62**
Anthracene	107	5.28 U	**920**	**658.54**	30.63 U	NS	**4042.55**	**152.78**	77.27 U	**130.77**	**94.87**	43.75 U	**31.79**	**96.67**	**423.08**
Benzo(a)anthracene	12	5.28 U	**380**	**414.63**	**37.5**	NS	**1787.23**	**375**	**81.82**	**219.23**	**89.74**	**50**	**50**	**106.67**	**353.85**
Benzo(a)pyrene	N/A	5.28 U	**280**	**268.29**	**31.25**	NS	**1638.3**	**305.56**	77.27 U	**173.08**	**76.92**	43.75 U	**57.14**	**110**	**326.92**
Benzo(b)fluoranthene	N/A	5.28 U	**176**	**136.59**	**31.25**	NS	**595.74**	**194.44**	77.27 U	**92.31**	41.03 U	43.75 U	**39.29**	**90**	**223.08**
Benzo(ghi)perylene	N/A	5.28 U	**160**	**114.63**	30.63 U	NS	**382.98**	**129.17**	77.27 U	**76.92**	41.03 U	43.75 U	**25.71**	**53.33**	**146.15**
Benzo(k)fluoranthene	N/A	5.28 U	**190**	**180.49**	30.63 U	NS	**1127.66**	**222.22**	77.27 U	**146.15**	41.03 U	43.75 U	**35.71**	**70**	**165.38**
Chrysene	N/A	5.28 U	**360**	**390.24**	**43.75**	NS	**1723.4**	**277.78**	**100**	**200**	**102.56**	**58.33**	**57.14**	**113.33**	**346.15**
Dibenz(a,h)anthracene	N/A	133.33 U	60.00 U	39.02 U	30.63 U	NS	**136.17**	**47.22**	77.27 U	57.69 U	41.03 U	43.75 U	12.50 U	13.00 U	**27.69**
Fluoranthene	1340	5.28 U	**740**	**658.54**	**78.13**	NS	**3404.26**	**375**	**150**	**461.54**	**166.67**	**87.5**	**78.57**	**213.33**	**692.31**
Fluorene	38	5.28 U	**1040**	**439.02**	30.63 U	NS	**4042.55**	**16.67**	***77.27 U***	***57.69 U***	**41.03**	***43.75 U***	12.50 U	**60**	**265.38**
Indeno(1,2,3-cd)pyrene	N/A	5.28 U	**172**	**73.17**	30.63 U	NS	**319.15**	**115.28**	77.27 U	**65.38**	41.03 U	43.75 U	**20.71**	**46.67**	**111.54**
Naphthalene	38	5.28 U	**5400**	**536.59**	30.63 U	NS	**23404.26**	**180.56**	**159.09**	***57.69 U***	**141.03**	**87.5**	**16.07**	**100**	**384.62**
Phenanthrene	160	5.28 U	**2600**	**1560.98**	**68.75**	NS	**12978.72**	**138.89**	77.27 U	**238.46**	**176.92**	**47.92**	**39.29**	**186.67**	**961.54**
Pyrene	961	5.28 U	**1100**	**1073.17**	**84.38**	NS	**5531.91**	**777.78**	**204.55**	**538.46**	**217.95**	**133.33**	**92.86**	**220**	**884.62**
1,1-Biphenyl	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	12	***133.33 U***	***74.00 U***	***95.12 U***	***30.63 U***	NS	***117.02 U***	***43.06 U***	***190.91 U***	***146.15 U***	***105.13 U***	***108.33 U***	***64.29 U***	***66.67 U***	***84.62 U***
3+4-Methylphenols	N/A	158.33 U	88.00 U	112.20 U	37.50 U	NS	140.43 U	51.39 U	227.27 U	173.08 U	125.64 U	129.17 U	75.00 U	80.00 U	100.00 U
bis(2-Ethylhexyl) phthalate	199.5	***263.89 U***	148.00 U	190.24 U	62.50 U	NS	***234.04 U***	86.11 U	***377.27 U***	***292.31 U***	**246.15**	***208.33 U***	**192.86**	**236.67**	**173.08**
Carbazole	N/A	133.33 U	74.00 U	95.12 U	30.63 U	NS	117.02 U	43.06 U	190.91 U	146.15 U	105.13 U	108.33 U	64.29 U	66.67 U	84.62 U
Dibenzofuran	N/A	133.33 U	**118**	95.12 U	30.63 U	NS	**553.19**	43.06 U	190.91 U	146.15 U	105.13 U	108.33 U	64.29 U	66.67 U	84.62 U
Perylene	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phenol	N/A	186.11 U	104.00 U	131.71 U	43.75 U	NS	161.70 U	59.72 U	263.64 U	203.85 U	146.15 U	152.08 U	85.71 U	90.00 U	119.23 U
Carbon/Soot (%)															
Soot Run 1	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.34 J**	**0.28 J**	**0.51**
Soot Run 2	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.36 J**	**0.21 J**	**0.63**
Soot Run 3	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.33 J**	**0.26 J**	**0.59**
Total Organic Carbon	N/A	**0.41 J**	**4.3 J**	**3.7**	**2.9**	NS	**4.2 J**	**7.8 J**	**2.3 J**	**2.9**	**3.8 J**	**5.4**	**2.8 J**	**2.7 J**	**2.6**
Total Organic Carbon (Run 2)	N/A	**0.36 J**	**5.2 J**	**4.3**	**3.7**	NS	**5.5 J**	**7.0 J**	**2.1 J**	**2.5**	**3.6 J**	**4.5**	**2.8 J**	**3.1 J**	**2.8**
Total Organic Carbon (Run 3)	N/A	**0.33 J**	**5.5 J**	**4.2**	**2.9**	NS	**4.4 J**	**6.7 J**	**2.3 J**	**2.3**	**4.4 J**	**4.6**	**2.8 J**	**3.2 J**	**2.5**
Average Soot	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.34 J**	**0.25 J**	**0.57**
Average Total Organic Carbon	N/A	**0.36 J**	**5.0 J**	**4.1**	**3.2**	NS	**4.7 J**	**7.2 J**	**2.2 J**	**2.6**	**3.9 J**	**4.8**	**2.8 J**	**3.0 J**	**2.6**

Notes:

[1] total PAH value - Effects Range Low (NYSDEC, 1999)

[2] Other Constituents - Chronic Toxicity Values (NYSDEC, 1999)

mg/Kg = milligram per kilogram

ug/g OC - micrograms per gram of organic carbon

Bold = detected above reporting limit

Bolded and Shaded = detected exceeds NYSDEC Screening Criteria

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-13
Comparison of OU2 RI Surface Sediment Analytical Results to NYSDEC Screening Criteria
Former East 21st Street Works, New York, New York

Location ID		RB5	RB6	RB8	RB9	RB10	RB11	RB12	RB13	RB14	RB16	RB17	RB18	RB19
Sample Date		6/20/2008	6/20/2008	6/23/2008	6/24/2008	6/24/2008	6/25/2008	6/25/2008	6/26/2008	6/27/2008	6/30/2008	6/30/2008	7/1/2008	7/1/2008
Top of Sediment Elevation	NYSDEC	-8	-15	-24	-35	-32	-25	-6	-21	-25	-32	-32	-26	-15
Depth Interval (feet)	Screening	0-0.5	0-0.5	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-0.5	0-0.5	0-0.5	0-0.5
Sediment Type	Criteria [1, 2]	Silt	Silt	Gravel	Sand/Silt	Sand	Silt	Sand	Silt	Silt	Silt	Sand, Silt, and Clay	Silt	Silt
Observation				TLM/Stain/Sheen			NAPL		Sheen	Sheen/Stain				
Odor		H_2S	H_2S	MGP	H_2S		MGP		MGP, H2S, Organic	MGP	MGP, H2S, Organic		H_2S	H_2S
Total PAH (mg/Kg)	4	**98.150**	**132.440**	**1667.800**	**0.944**	**0.208**	**454.650**	**24.520**	**233.140**	**978.700**	**116.390**	**8.583**	**28.670**	**24.895**
Normalized VOCs (ug/g OC)														
Benzene	26	**0.18**	**0.26**	**281.25**	0.76 U	***31.00 U***	***6000.00 U***	0.24 U	**0.48**	**1208.33**	0.95 U	2.20 U	**0.17**	0.12 U
Ethylbenzene	6.4	0.13 U	**0.24**	**2375**	0.76 U	**70**	**39000**	0.24 U	**3.64**	**9583.33**	**1.28**	2.20 U	0.14 U	0.12 U
m,p-Xylene	N/A	0.26 U	**0.38**	**1375**	1.51 U	62.00 U	**56000**	0.49 U	**1.48**	**7291.67**	1.90 U	4.40 U	0.29 U	0.25 U
o-Xylene	27	0.26 U	0.17 U	**750**	1.51 U	***62.00 U***	**32000**	0.49 U	**2.5**	**3541.67**	1.90 U	4.40 U	0.29 U	0.25 U
Toluene	45	0.19 U	0.13 U	***293.75 U***	1.12 U	***46.00 U***	***9000.00 U***	0.36 U	0.21 U	**2916.67**	1.41 U	3.27 U	0.21 U	0.18 U
1,1,1-Trichloroethane	N/A	0.13 U	0.09 U	200.00 U	0.76 U	31.00 U	6000.00 U	0.24 U	0.14 U	**812.5**	0.95 U	2.20 U	0.14 U	0.12 U
2-Butanone (Methyl Ethyl Ketone)	N/A	1.30 U	0.86 U	2000.00 U	7.56 U	310.00 U	60000.00 U	2.43 U	1.39 U	7083.33 U	9.49 U	22.00 U	**1.46**	1.21 U
Acetone	N/A	**2.07**	**1.94**	2000.00 U	7.56 U	310.00 U	60000.00 U	2.43 U	**5.68**	7083.33 U	9.49 U	22.00 U	**6.04**	**4.39**
Chlorobenzene	3.5	0.13 U	0.09 U	***200.00 U***	0.76 U	***31.00 U***	***6000.00 U***	0.24 U	0.14 U	**729.17**	0.95 U	2.20 U	0.14 U	0.12 U
Tetrachloroethene	N/A	0.13 U	0.09 U	200.00 U	0.76 U	31.00 U	6000.00 U	0.24 U	0.14 U	**916.67**	0.95 U	2.20 U	0.14 U	0.12 U
Trichloroethene	N/A	0.13 U	0.09 U	200.00 U	0.76 U	31.00 U	6000.00 U	0.24 U	0.14 U	**750**	0.95 U	2.20 U	0.14 U	0.12 U
Total VOC	N/A	**8.48**	**6.85**	**14853.13**	40.35 U	**1708**	**433000**	13.00 U	**20.09**	**61625**	**51.53**	117.55 U	**13.83**	**10.28**
Normalized SVOCs (ug/g OC)														
2-Methylnaphthalene	30	**36.96**	**111.11**	**22500**	**11.71**	***160.00 U***	**700000**	**63.57**	**340.91**	**3750**	**307.69**	**22**	**29.17**	**13.86**
Acenaphthene	240	**65.22**	**113.89**	**8750**	3.90 U	160.00 U	**52000**	**32.86**	**818.18**	**1770.83**	**5641.03**	**14.67**	15.42 U	**8.42**
Acenaphthylene	N/A	**36.96**	**44.44**	**1000**	**6.59**	160.00 U	**340000**	**40.71**	**68.18**	**204.17**	**358.97**	**200**	**35.42**	**11.93**
Anthracene	107	**108.7**	**108.33**	**3937.5**	**9.27**	***160.00 U***	**200000**	**71.43**	**409.09**	**895.83**	**2564.1**	**180**	**29.17**	**21.05**
Benzo(a)anthracene	12	**160.87**	**108.33**	**1062.5**	**15.37**	***160.00 U***	**120000**	**121.43**	**250**	**437.5**	**1205.13**	**533.33**	**43.75**	**35.09**
Benzo(a)pyrene	N/A	**167.39**	**102.78**	**812.5**	**14.63**	160.00 U	**93000**	**114.29**	**184.09**	**333.33**	**820.51**	**466.67**	**41.67**	**36.84**
Benzo(b)fluoranthene	N/A	**141.3**	**75**	**312.5**	**9.02**	160.00 U	**50000**	**69.29**	**129.55**	**193.75**	**512.82**	**433.33**	**29.17**	**28.07**
Benzo(ghi)perylene	N/A	**86.96**	**40.28**	**287.5**	**7.8**	160.00 U	**34000**	**58.57**	**70.45**	**129.17**	**256.41**	**220**	**22.92**	**17.54**
Benzo(k)fluoranthene	N/A	**102.17**	**58.33**	**493.75**	**15.61**	160.00 U	**74000**	**114.29**	**109.09**	**164.58**	**435.9**	**353.33**	**22.92**	**22.81**
Chrysene	N/A	**173.91**	**109.72**	**1000**	**14.39**	160.00 U	**110000**	**121.43**	**227.27**	**395.83**	**1025.64**	**413.33**	**41.67**	**42.11**
Dibenz(a,h)anthracene	N/A	28.26 U	**10.28**	**68.75**	3.90 U	160.00 U	**9500**	**15**	**21.36**	37.50 U	**69.23**	**58**	15.42 U	6.49 U
Fluoranthene	1340	**326.09**	**194.44**	**3875**	**26.83**	160.00 U	**340000**	**250**	**477.27**	**937.5**	**2282.05**	**1200**	**83.33**	**56.14**
Fluorene	38	**45.65**	**88.89**	**4250**	**4.15**	***160.00 U***	**220000**	**31.43**	**131.82**	**833.33**	**1487.18**	**13.33**	15.42 U	**7.54**
Indeno(1,2,3-cd)pyrene	N/A	**71.74**	**34.72**	**262.5**	**6.83**	160.00 U	**34000**	**54.29**	**61.36**	**95.83**	**235.9**	**220**	**20**	**14.56**
Naphthalene	38	**63.04**	**138.89**	**35625**	**19.27**	**580**	**960000**	**100**	**659.09**	**6666.67**	**589.74**	**64.67**	**29.17**	**19.3**
Phenanthrene	160	**184.78**	**263.89**	**13750**	**16.1**	160.00 U	**850000**	**171.43**	**772.73**	**2291.67**	**8461.54**	**62.67**	**50**	**33.33**
Pyrene	961	**347.83**	**236.11**	**6250**	**48.78**	**300**	**360000**	**321.43**	**568.18**	**1270.83**	**3589.74**	**1266.67**	**95.83**	**64.91**
1,1-Biphenyl	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	12	***69.57 U***	***45.83 U***	***26.25 U***	***100.00 U***	***4100.00 U***	***4000.00 U***	***32.86 U***	***18.41 U***	***93.75 U***	***125.64 U***	***293.33 U***	***19.17 U***	***16.14 U***
3+4-Methylphenols	N/A	82.61 U	55.56 U	31.88 U	119.51 U	4900.00 U	4800.00 U	39.29 U	22.27 U	112.50 U	151.28 U	353.33 U	**41.67**	**36.84**
bis(2-Ethylhexyl) phthalate	199.5	**521.74**	**208.33**	52.50 U	***200.00 U***	***8200.00 U***	***8000.00 U***	65.00 U	**181.82**	187.50 U	***251.28 U***	***586.67 U***	**102.08**	**140.35**
Carbazole	N/A	69.57 U	45.83 U	**48.13**	100.00 U	4100.00 U	**13000**	32.86 U	18.41 U	93.75 U	125.64 U	293.33 U	19.17 U	16.14 U
Dibenzofuran	N/A	69.57 U	45.83 U	**362.5**	100.00 U	4100.00 U	**67000**	32.86 U	**43.18**	**95.83**	125.64 U	293.33 U	19.17 U	16.14 U
Perylene	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phenol	N/A	95.65 U	65.28 U	36.88 U	141.46 U	5800.00 U	5600.00 U	45.71 U	25.00 U	131.25 U	176.92 U	406.67 U	27.08 U	22.81 U
Carbon/Soot (%)														
Soot Run 1	N/A	**1.2 J**	**2.7 J**	**0.26**	**0.14**	0.010 U	**0.36**	**1.5**	**1.5 J**	**1.1 J**	**0.11**	**0.09**	**1.2 J**	**1.8 J**
Soot Run 2	N/A	**1.1 J**	**1.6 J**	**0.33**	**0.14**	**0.03**	**0.27**	**1.4**	**2.0 J**	**1.3 J**	**0.17**	**0.05**	**1.3 J**	**1.8 J**
Soot Run 3	N/A	**1.6 J**	**1.8 J**	**0.49**	**0.49**	0.010 U	**0.62**	**1.3**	**1.8 J**	**0.84 J**	**0.24**	**0.06**	**1.3 J**	**1.6 J**
Total Organic Carbon	N/A	**4.8 J**	**6.5 J**	**1.7**	**0.45**	0.010 U	0.010 U	**1.1**	**5.2 J**	**4.5 J**	**0.44**	**0.15**	**4.5 J**	**4.4 J**
Total Organic Carbon (Run 2)	N/A	**4.5 J**	**7.9 J**	**1.9**	**0.3**	0.010 U	0.010 U	**1.6**	**4.0 J**	**4.9 J**	**0.38**	**0.14**	**5.3 J**	**6.3 J**
Total Organic Carbon (Run 3)	N/A	**4.7 J**	**7.3 J**	**1.3**	**0.48**	0.010 U	0.010 U	**1.5**	**4.2 J**	**5.0 J**	**0.36**	**0.16**	**4.6 J**	**6.3 J**
Average Soot	N/A	**1.3 J**	**2.0 J**	**0.36**	**0.26**	0.010 U	**0.41**	**1.4**	**1.8 J**	**1.1 J**	**0.17**	**0.06**	**1.3 J**	**1.7 J**
Average Total Organic Carbon	N/A	**4.6 J**	**7.2 J**	**1.6**	**0.41**	0.010 U	0.010 U	**1.4**	**4.4 J**	**4.8 J**	**0.39**	**0.15**	**4.8 J**	**5.7 J**

Notes:

[1] total PAH value - Effects Range Low (NYSDEC, 1999)

[2] Other Constituents - Chronic Toxicity Values (NYSDEC, 1999)

mg/Kg = milligram per kilogram

ug/g OC - micrograms per gram of organic carbon

Bold = detected above reporting limit

Bolded and Shaded = detected exceeds NYSDEC Screening Criteria

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-13
Comparison of OU2 RI Surface Sediment Analytical Results to NYSDEC Screening Criteria
Former East 21st Street Works, New York, New York

Location ID	NYSDEC Screening Criteria [1, 2]	RB20	RB21	RB22	RB23	RB24	RB25	RB26	RB27	RB28	RB29	RB30	RB31	RB32
Sample Date		**7/2/2008**	**7/2/2008**	**7/7/2008**	**7/8/2008**	**7/8/2008**	**7/9/2008**	**7/9/2008**	**7/10/2008**	**7/10/2008**	**7/11/2008**	**7/11/2008**	**7/15/2008**	**7/15/2008**
Top of Sediment Elevation		-23	-32	-32	-7	-21	-10	-32	-35	-35	-35	-38	-35	-35
Depth Interval (feet)		0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Sediment Type		Silt	Sand	Sand	Silt	Silt	Silt	Silty Sand	Sand	Gravel	Sand	Sand, Silt, and Clay	Sand, Silt, and Clay	Sand
Observation											Sheen			
Odor		H_2S			H_2S	H_2S	H_2S			H_2S				
Total PAH (mg/Kg)	4	**67.340**	**0.692**	**0.196**	**5.59650**	**57.865**	**8.551**	**7.89050**	**0.341**	**29.864**	**104.500**	**16.844**	**1.265**	**0.270**
Normalized VOCs (ug/g OC)														
Benzene	26	0.22 U	0.55 U	1.88 U	0.10 U	**0.17**	0.15 U	0.63 U	0.52 U	0.17 U	**91.3**	1.44 U	2.00 U	0.69 U
Ethylbenzene	6.4	**19.41**	0.55 U	1.88 U	0.10 U	**1.23**	0.15 U	0.63 U	0.52 U	0.17 U	**395.65**	1.44 U	2.00 U	0.69 U
m,p-Xylene	N/A	0.45 U	1.11 U	3.81 U	0.20 U	**0.83**	0.29 U	1.27 U	1.03 U	0.35 U	**191.3**	2.84 U	4.00 U	1.38 U
o-Xylene	27	**0.45**	1.11 U	3.81 U	0.20 U	**1.51**	0.29 U	1.27 U	1.03 U	0.35 U	**200**	2.84 U	4.00 U	1.38 U
Toluene	45	0.34 U	0.84 U	2.88 U	0.15 U	0.21 U	0.23 U	0.96 U	0.78 U	0.26 U	28.70 U	2.16 U	3.00 U	1.04 U
1,1,1-Trichloroethane	N/A	0.22 U	0.55 U	1.88 U	0.10 U	0.14 U	0.15 U	0.63 U	0.52 U	0.17 U	19.13 U	1.44 U	2.00 U	0.69 U
2-Butanone (Methyl Ethyl Ketone)	N/A	2.24 U	5.45 U	18.75 U	1.02 U	1.37 U	1.53 U	6.33 U	5.17 U	1.74 U	191.30 U	14.40 U	20.00 U	6.89 U
Acetone	N/A	2.24 U	5.45 U	18.75 U	**1.8**	**4**	**2.09**	6.33 U	5.17 U	1.74 U	191.30 U	14.40 U	20.00 U	6.89 U
Chlorobenzene	3.5	0.22 U	0.55 U	1.88 U	0.10 U	0.14 U	0.15 U	0.63 U	0.52 U	0.17 U	***19.13 U***	1.44 U	2.00 U	0.69 U
Tetrachloroethene	N/A	0.22 U	0.55 U	1.88 U	0.10 U	0.14 U	0.15 U	0.63 U	0.52 U	0.17 U	19.13 U	1.44 U	2.00 U	0.69 U
Trichloroethene	N/A	0.22 U	0.55 U	1.88 U	0.10 U	0.14 U	0.15 U	0.63 U	0.52 U	0.17 U	19.13 U	1.44 U	2.00 U	0.69 U
Total VOC	N/A	**31.48**	29.36 U	100.86 U	**6.72**	**14**	**9.44**	33.91 U	27.64 U	9.27 U	**1844.33**	76.72 U	107.15 U	36.92 U
Normalized SVOCs (ug/g OC)														
2-Methylnaphthalene	30	**40**	**7.82**	10.00 U	**2.62**	**24.86**	**1.47**	**3.67**	2.76 U	4.63 U	**113.04**	**60**	10.59 U	3.78 U
Acenaphthene	240	**647.06**	2.91 U	10.00 U	**2.13**	**122.86**	**1.71**	3.47 U	2.76 U	**11.05**	**260.87**	**176**	10.59 U	3.78 U
Acenaphthylene	N/A	**1352.94**	**7.45**	10.00 U	**3.44**	**23.71**	**10.59**	**38.78**	2.76 U	**30**	**82.61**	**48**	**16.47**	3.78 U
Anthracene	107	**164.71**	**5.27**	10.00 U	**3.11**	**151.43**	**8.24**	**48.98**	2.76 U	**73.68**	**273.91**	**480**	**21.76**	3.78 U
Benzo(a)anthracene	12	**94.12**	**9.27**	10.00 U	**6.39**	**74.29**	**28.82**	**169.39**	**3.62**	**136.84**	**286.96**	**480**	**64.71**	**6.44**
Benzo(a)pyrene	N/A	**88.24**	**9.45**	10.00 U	**9.18**	**105.71**	**32.35**	**132.65**	**4.14**	**147.37**	**260.87**	**328**	**48.24**	3.78 U
Benzo(b)fluoranthene	N/A	**76.47**	**7.64**	10.00 U	**5.25**	**60**	**17.65**	**114.29**	**5**	**105.26**	**226.09**	**348**	**51.76**	3.78 U
Benzo(ghi)perylene	N/A	**50.59**	**4.91**	10.00 U	**3.77**	**51.43**	**8.82**	**42.86**	2.76 U	**68.42**	**121.74**	**104**	**27.65**	3.78 U
Benzo(k)fluoranthene	N/A	**52.35**	**5.82**	10.00 U	**7.21**	**54.29**	**20.88**	**112.24**	**4.83**	**110.53**	**182.61**	**272**	**50**	**4.44**
Chrysene	N/A	**82.35**	**8**	10.00 U	**7.54**	**71.43**	**27.65**	**122.45**	**5**	**126.32**	**239.13**	**380**	**58.82**	**5.33**
Dibenz(a,h)anthracene	N/A	**11.76**	2.91 U	10.00 U	0.54 U	3.71 U	**1.76**	**9.8**	2.76 U	**10**	**43.48**	**17.6**	10.59 U	3.78 U
Fluoranthene	1340	**211.76**	**12.36**	**13.13**	**13.28**	**234.29**	**32.35**	**387.76**	**8.1**	**242.11**	**565.22**	**1240**	**147.06**	**7.11**
Fluorene	38	**58.82**	2.91 U	10.00 U	**1.97**	**54.29**	**1.88**	**5.31**	2.76 U	**11.58**	**160.87**	**264**	10.59 U	3.78 U
Indeno(1,2,3-cd)pyrene	N/A	**41.76**	**4.18**	10.00 U	**2.79**	**34.29**	**7.65**	**46.94**	2.76 U	**73.68**	**117.39**	**100**	**24.12**	3.78 U
Naphthalene	38	**264.71**	**10.18**	**16.25**	**2.62**	**45.71**	**2.03**	**6.12**	2.76 U	**6.84**	**521.74**	**120**	**16.47**	3.78 U
Phenanthrene	160	**476.47**	**9.09**	10.00 U	**7.05**	**285.71**	**9.41**	**81.63**	**3.45**	**142.11**	**608.7**	**1400**	**48.82**	3.78 U
Pyrene	961	**247.06**	**20**	**23.13**	**13.11**	**257.14**	**38.24**	**285.71**	**12.24**	**273.68**	**478.26**	**920**	**147.06**	**14**
1,1-Biphenyl	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	12	***58.82 U***	***74.55 U***	***256.25 U***	***13.61 U***	***18.29 U***	***20.29 U***	***85.71 U***	***68.97 U***	***23.16 U***	***25.22 U***	***192.00 U***	***270.59 U***	***93.33 U***
3+4-Methylphenols	N/A	70.59 U	89.09 U	306.25 U	16.39 U	22.00 U	24.41 U	102.04 U	82.76 U	27.89 U	30.43 U	228.00 U	323.53 U	111.11 U
bis(2-Ethylhexyl) phthalate	199.5	117.65 U	147.27 U	***506.25 U***	27.87 U	37.14 U	41.18 U	169.39 U	137.93 U	46.32 U	52.17 U	***380.00 U***	***535.29 U***	184.44 U
Carbazole	N/A	58.82 U	74.55 U	256.25 U	13.61 U	18.29 U	20.29 U	85.71 U	68.97 U	23.16 U	**36.52**	192.00 U	270.59 U	93.33 U
Dibenzofuran	N/A	58.82 U	74.55 U	256.25 U	13.61 U	18.29 U	20.29 U	85.71 U	68.97 U	23.16 U	25.22 U	192.00 U	270.59 U	93.33 U
Perylene	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phenol	N/A	82.35 U	103.64 U	356.25 U	19.67 U	25.71 U	28.53 U	118.37 U	96.55 U	32.11 U	35.65 U	268.00 U	376.47 U	128.89 U
Carbon/Soot (%)														
Soot Run 1	N/A	**0.86**	**0.48**	**0.12**	**2.9 J**	**1.4**	**0.70 J**	**0.2**	**0.18**	**1.3**	**1.3**	**0.29**	**0.05**	**0.01**
Soot Run 2	N/A	**0.92**	**0.62**	**0.23**	**2.5 J**	**1.8**	**0.72 J**	**0.12**	**0.08**	**0.97**	**1.8**	**0.24**	**0.06**	**0.04**
Soot Run 3	N/A	**0.69**	**0.34**	**0.17**	**2.8 J**	**1.2**	**0.76 J**	**0.15**	**0.26**	**1.7**	**1.3**	**0.16**	**0.06**	**0.14**
Total Organic Carbon	N/A	**1.9**	**0.39**	**0.11**	**6.5 J**	**3.6**	**3.6 J**	**0.53**	**0.63**	**1.9**	**2.2**	**0.27**	**0.19**	**0.39**
Total Organic Carbon (Run 2)	N/A	**1.5**	**0.53**	**0.24**	**5.3 J**	**3.2**	**3.6 J**	**0.36**	**0.51**	**1.1**	**2.6**	**0.29**	**0.13**	**0.54**
Total Organic Carbon (Run 3)	N/A	**1.5**	**0.72**	**0.12**	**6.4 J**	**3.6**	**3.0 J**	**0.58**	**0.61**	**2.7**	**2.2**	**0.18**	**0.19**	**0.41**
Average Soot	N/A	**0.83**	**0.48**	**0.17**	**2.8 J**	**1.5**	**0.73 J**	**0.16**	**0.17**	**1.3**	**1.5**	**0.23**	**0.05**	**0.06**
Average Total Organic Carbon	N/A	**1.7**	**0.55**	**0.16**	**6.1 J**	**3.5**	**3.4 J**	**0.49**	**0.58**	**1.9**	**2.3**	**0.25**	**0.17**	**0.45**

Notes:

[1] total PAH value - Effects Range Low (NYSDEC, 1999)

[2] Other Constituents - Chronic Toxicity Values (NYSDEC, 1999)

mg/Kg = milligram per kilogram

ug/g OC - micrograms per gram of organic carbon

Bold = detected above reporting limit

Bolded and Shaded = detected exceeds NYSDEC Screening Criteria

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-13
Comparison of OU2 RI Surface Sediment Analytical Results to NYSDEC Screening Criteria
Former East 21st Street Works, New York, New York

Location ID		RB33	RB34	RB35	RB36	RB37	RB38	RB39	RB40	RB41	RB43	RB44	RB45	RB46
Sample Date		7/16/2008	7/16/2008	7/17/2008	7/17/2008	7/18/2008	7/18/2008	7/21/2008	7/21/2008	7/22/2008	7/23/2008	7/24/2008	7/24/2008	7/25/2008
Top of Sediment Elevation	NYSDEC	-25	-35	-30	-32	-35	-35	-35	-36	-29	-8	-7	-10	-16
Depth Interval (feet)	Screening	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Sediment Type	Criteria [1, 2]	Silt	Sand, Silt, and Clay	Silt	Sand/Clay	Sand	Silt	Sand, Silt, and Clay	Sand	Sand	Silt	Silt	Silt	Silt
Observation				Sheen/Stain										
Odor		H_2S				H_2S	H_2S		Organic		H_2S	H_2S	H_2S	H_2S
Total PAH (mg/Kg)	4	**29.390**	0.153 U	**410.100**	**138.850**	**213.300**	**8.331**	**0.17150**	**513.700**	**46.050**	**10.480**	**26.220**	**7.567**	**8.450**
Normalized VOCs (ug/g OC)														
Benzene	26	**0.58**	0.97 U	8.52 U	0.12 U	17.22 U	0.54 U	1.48 U	1.11 U	0.73 U	0.18 U	0.08 U	0.21 U	0.19 U
Ethylbenzene	6.4	**2.34**	0.97 U	**240.74**	0.12 U	**77.78**	0.54 U	1.48 U	**12.14**	0.73 U	0.18 U	**0.09**	0.21 U	0.19 U
m,p-Xylene	N/A	**1.3**	1.92 U	**87.04**	0.23 U	34.44 U	1.08 U	2.95 U	**5.71**	1.49 U	0.35 U	0.16 U	0.42 U	0.40 U
o-Xylene	27	**2.99**	1.92 U	**74.07**	0.23 U	***34.44 U***	1.08 U	2.95 U	**3.93**	1.49 U	0.35 U	0.16 U	0.42 U	0.40 U
Toluene	45	**0.71**	1.44 U	12.78 U	0.17 U	25.56 U	0.80 U	2.24 U	1.64 U	1.11 U	0.27 U	0.13 U	0.32 U	0.29 U
1,1,1-Trichloroethane	N/A	0.18 U	0.97 U	8.52 U	0.12 U	17.22 U	0.54 U	1.48 U	1.11 U	0.73 U	0.18 U	0.08 U	0.21 U	0.19 U
2-Butanone (Methyl Ethyl Ketone)	N/A	1.82 U	9.72 U	85.19 U	1.16 U	172.22 U	5.41 U	14.76 U	11.07 U	7.33 U	1.78 U	0.84 U	2.13 U	1.93 U
Acetone	N/A	**5.19**	9.72 U	85.19 U	1.16 U	172.22 U	5.41 U	14.76 U	11.07 U	7.33 U	**3.51**	**1.62**	**2.35**	**4**
Chlorobenzene	3.5	**20.78**	0.97 U	***8.52 U***	0.12 U	***17.22 U***	0.54 U	1.48 U	1.11 U	0.73 U	0.18 U	0.08 U	0.21 U	0.19 U
Tetrachloroethene	N/A	0.18 U	0.97 U	8.52 U	0.12 U	17.22 U	0.54 U	1.48 U	1.11 U	0.73 U	0.18 U	0.08 U	0.21 U	0.19 U
Trichloroethene	N/A	0.18 U	0.97 U	8.52 U	0.12 U	17.22 U	0.54 U	1.48 U	1.11 U	0.73 U	0.18 U	0.08 U	0.21 U	0.19 U
Total VOC	N/A	**41.92**	51.77 U	**835.87**	6.21 U	**987.76**	28.88 U	79.12 U	**78.11**	39.38 U	**12.14**	**5.7**	**12.63**	**13.38**
Normalized SVOCs (ug/g OC)														
2-Methylnaphthalene	30	**14.29**	5.00 U	**648.15**	**18.39**	**433.33**	**8.03**	8.10 U	**839.29**	***40.00 U***	**4.05**	**12.06**	2.26 U	5.33 U
Acenaphthene	240	**16.88**	5.00 U	**796.3**	15.48 U	**455.56**	**6.07**	8.10 U	**2857.14**	40.00 U	**4.05**	**17.65**	**2.35**	**10**
Acenaphthylene	N/A	**7.4**	5.00 U	**87.04**	**109.68**	**272.22**	**22.95**	8.10 U	**3214.29**	**206.67**	**10.27**	**11.47**	**9.35**	**8.33**
Anthracene	107	**22.08**	5.00 U	**555.56**	**219.35**	**666.67**	**27.87**	8.10 U	**7142.86**	**622.22**	**11.62**	**19.12**	**9.68**	**15.67**
Benzo(a)anthracene	12	**27.27**	5.00 U	**351.85**	**483.87**	**666.67**	**180.33**	8.10 U	**6428.57**	**933.33**	**29.73**	**35.29**	**26.77**	**27**
Benzo(a)pyrene	N/A	**24.68**	5.00 U	**222.22**	**309.68**	**494.44**	**127.87**	8.10 U	**4285.71**	**1066.67**	**27.03**	**29.41**	**24.84**	**16.67**
Benzo(b)fluoranthene	N/A	**15.58**	5.00 U	**142.59**	**290.32**	**455.56**	**101.64**	8.10 U	**4107.14**	**644.44**	**20**	**23.53**	**19.35**	**15**
Benzo(ghi)perylene	N/A	**12.34**	5.00 U	**94.44**	**125.81**	**238.89**	**45.9**	8.10 U	**1964.29**	**644.44**	**15.95**	**14.71**	**13.55**	**10.67**
Benzo(k)fluoranthene	N/A	**15.58**	5.00 U	**144.44**	**264.52**	**361.11**	**101.64**	8.10 U	**3392.86**	**533.33**	**18.38**	**20.59**	**17.42**	**15**
Chrysene	N/A	**24.68**	5.00 U	**259.26**	**322.58**	**555.56**	**124.59**	8.10 U	**4107.14**	**666.67**	**25.68**	**27.94**	**21.94**	**22.33**
Dibenz(a,h)anthracene	N/A	**2.86**	5.00 U	**37.04**	**58.06**	**88.89**	**16.07**	8.10 U	**535.71**	**71.11**	**4.59**	**3.82**	**3.87**	5.33 U
Fluoranthene	1340	**45.45**	5.00 U	**666.67**	**1000**	**1833.33**	**213.11**	**10.48**	**16071.43**	**1111.11**	**35.14**	**48.53**	**28.39**	**36.67**
Fluorene	38	**12.99**	5.00 U	**462.96**	15.48 U	**494.44**	**6.07**	8.10 U	**2857.14**	***40.00 U***	**3.51**	**6.47**	2.26 U	**7.33**
Indeno(1,2,3-cd)pyrene	N/A	**9.74**	5.00 U	**88.89**	**129.03**	**222.22**	**45.9**	8.10 U	**2142.86**	**400**	**13.51**	**13.53**	**11.61**	**9.33**
Naphthalene	38	**15.58**	5.00 U	**833.33**	**41.94**	**722.22**	**21.31**	8.10 U	**2678.57**	**44.44**	**5.41**	**19.12**	**3.03**	**7.33**
Phenanthrene	160	**55.84**	5.00 U	**1314.81**	**219.35**	**2111.11**	**21.31**	8.10 U	**16428.57**	**117.78**	**11.08**	**27.94**	**10.97**	**28.33**
Pyrene	961	**58.44**	5.00 U	**888.89**	**870.97**	**1777.78**	**295.08**	**10.48**	**12678.57**	**3111.11**	**43.24**	**54.41**	**38.71**	**46.67**
1,1-Biphenyl	N/A	NS	NS	**494.44**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	12	**19.48**	***127.78 U***	11.48 U	***15.48 U***	***22.78 U***	***72.13 U***	***200.00 U***	***146.43 U***	***97.78 U***	***23.78 U***	11.18 U	***28.39 U***	***26.00 U***
3+4-Methylphenols	N/A	14.29 U	155.56 U	13.70 U	18.39 U	27.22 U	86.89 U	238.10 U	**285.71**	117.78 U	27.03 U	13.38 U	32.26 U	31.00 U
bis(2-Ethylhexyl) phthalate	199.5	23.38 U	***255.56 U***	22.22 U	30.65 U	45.56 U	144.26 U	***395.24 U***	***285.71 U***	197.78 U	**54.05**	**30.88**	58.06 U	53.33 U
Carbazole	N/A	11.95 U	127.78 U	**79.07**	15.48 U	**111.11**	72.13 U	200.00 U	**464.29**	97.78 U	23.78 U	11.18 U	28.39 U	26.00 U
Dibenzofuran	N/A	11.95 U	127.78 U	**283.33**	15.48 U	**150**	72.13 U	200.00 U	**2678.57**	97.78 U	23.78 U	11.18 U	28.39 U	26.00 U
Perylene	N/A	NS	NS	**133.7**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phenol	N/A	16.88 U	180.56 U	15.93 U	21.61 U	32.22 U	100.00 U	276.19 U	214.29 U	137.78 U	32.43 U	16.18 U	38.71 U	36.67 U
Carbon/Soot (%)														
Soot Run 1	N/A	**4.3 J**	**0.32**	**3.6**	**1.5**	**2.4**	**0.07**	**0.1**	**0.36**	**0.34**	**0.48 J**	**2.1 J**	**0.31 J**	**0.30 J**
Soot Run 2	N/A	**4.8 J**	**0.48**	**2.9**	**1.4**	**2.7**	**0.06**	**0.09**	**0.83**	**0.27**	**0.55 J**	**2.1 J**	**0.41 J**	**0.31 J**
Soot Run 3	N/A	**4.5 J**	**0.24**	**3.8**	**0.79**	**1.6**	**0.07**	**0.19**	**0.2**	**0.31**	**0.49 J**	**2.0 J**	**0.34 J**	**0.28 J**
Total Organic Carbon	N/A	**7.4 J**	**0.38**	**5.6**	**3.3**	**1.5**	**0.58**	**0.21**	**0.72**	**0.34**	**4.0 J**	**6.7 J**	**3.2 J**	**3.0 J**
Total Organic Carbon (Run 2)	N/A	**7.2 J**	**0.32**	**5.9**	**3.4**	**2**	**0.5**	**0.22**	**0.35**	**0.4**	**3.6 J**	**7.6 J**	**3.4 J**	**2.8 J**
Total Organic Carbon (Run 3)	N/A	**8.4 J**	**0.39**	**4.9**	**2.6**	**1.7**	**0.76**	**0.19**	**0.62**	**0.6**	**3.4 J**	**6.2 J**	**2.6 J**	**3.2 J**
Average Soot	N/A	**4.6 J**	**0.35**	**3.4**	**1.2**	**2.2**	**0.07**	**0.13**	**0.46**	**0.31**	**0.50 J**	**2.1 J**	**0.35 J**	**0.30 J**
Average Total Organic Carbon	N/A	**7.7 J**	**0.36**	**5.4**	**3.1**	**1.8**	**0.61**	**0.21**	**0.56**	**0.45**	**3.7 J**	**6.8 J**	**3.1 J**	**3.0 J**

Notes:

[1] total PAH value - Effects Range Low (NYSDEC, 1999)

[2] Other Constituents - Chronic Toxicity Values (NYSDEC, 1999)

mg/Kg = milligram per kilogram

ug/g OC - micrograms per gram of organic carbon

Bold = detected above reporting limit

Bolded and Shaded = detected exceeds NYSDEC Screening Criteria

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-13
Comparison of OU2 RI Surface Sediment Analytical Results to NYSDEC Screening Criteria
Former East 21st Street Works, New York, New York

Location ID		RB47	RB48	RB49	RB50	RB51	RB52	RB53	RB54	RB55	RB56	RB57	RB58	RB59
Sample Date		7/25/2008	7/28/2008	7/28/2008	7/29/2008	7/29/2008	7/30/2008	7/31/2008	8/1/2008	10/27/2008	10/24/2008	10/24/2008	10/21/2008	10/21/2008
Top of Sediment Elevation	NYSDEC	-20	-10	-20	-16	-22	-14	-25	-18	-5	-8	-10	-25	-9
Depth Interval (feet)	Screening	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-1	0-1	0-1	0-1	0-1
Sediment Type	Criteria [1, 2]	Silt	Silt	Silt	Silt	Silt	Silt	Silt	Silt/Peat	Sand	Silt	Silty Sand	Silt	Silt
Observation					Sheen									
Odor		H_2S	H_2S		H_2S	H_2S	H_2S		H_2S	Organic	Organic	Organic	Organic	Organic
Total PAH (mg/Kg)	4	**220.500**	**17.030**	**11.455**	**2300.950**	**117.650**	**104.530**	**27.160**	**158.650**	**1681.800**	**41.700**	**40.900**	**64.900**	**45.000**
Normalized VOCs (ug/g OC)														
Benzene	26	**14.44**	0.24 U	0.12 U	10.53 U	**0.45**	**0.67**	0.06 U	**0.28**	0.10 U	0.11 U	0.19 U	0.26 U	0.26 U
Ethylbenzene	6.4	**311.11**	0.24 U	0.12 U	**789.47**	**0.65**	**1.31**	0.06 U	**0.92**	0.10 U	0.11 U	0.19 U	0.26 U	0.26 U
m,p-Xylene	N/A	**21.48**	0.48 U	0.23 U	**245.61**	**0.37**	**1.3**	0.12 U	**0.59**	0.19 U	0.23 U	0.38 U	0.51 U	0.54 U
o-Xylene	27	**59.26**	0.48 U	0.23 U	**350.88**	**0.73**	**1.62**	0.12 U	**0.59**	0.19 U	0.23 U	0.38 U	0.51 U	0.54 U
Toluene	45	**1.22**	0.38 U	0.17 U	**19.3**	0.17 U	0.16 U	0.09 U	0.15 U	0.15 U	0.17 U	0.29 U	0.39 U	0.38 U
1,1,1-Trichloroethane	N/A	0.21 U	0.24 U	0.12 U	10.53 U	0.11 U	0.11 U	0.06 U	0.10 U	0.10 U	0.11 U	0.19 U	0.26 U	0.26 U
2-Butanone (Methyl Ethyl Ketone)	N/A	2.15 U	2.45 U	1.16 U	105.26 U	1.10 U	**1.57**	0.59 U	1.02 U	0.97 U	1.12 U	1.94 U	2.56 U	2.62 U
Acetone	N/A	**5.56**	2.45 U	1.16 U	105.26 U	**2.65**	**4.75**	0.59 U	**2.95**	**1.69**	**1.23**	**3.24**	2.56 U	**3.04**
Chlorobenzene	3.5	0.21 U	0.24 U	0.12 U	***10.53 U***	0.11 U	0.11 U	0.06 U	0.10 U	0.10 U	0.11 U	0.19 U	0.26 U	0.26 U
Tetrachloroethene	N/A	0.21 U	0.24 U	0.12 U	10.53 U	0.11 U	0.11 U	0.06 U	0.10 U	**1.14**	0.11 U	0.19 U	0.26 U	0.26 U
Trichloroethene	N/A	0.21 U	0.24 U	0.12 U	10.53 U	0.11 U	0.11 U	0.06 U	0.10 U	0.10 U	0.11 U	0.19 U	0.26 U	0.26 U
Total VOC	N/A	**311.11**	13.08 U	6.22 U	**1933.86**	**9.88**	**15.59**	3.17 U	**9.95**	**7.52**	**6.66**	**12.59**	13.77 U	**15.75**
Normalized SVOCs (ug/g OC)														
2-Methylnaphthalene	30	**314.81**	13.10 U	**10.32**	**3684.21**	**89.8**	**163.93**	**13.33**	**196.72**	**400**	***30.77 U***	***52.94 U***	**17.78**	***69.23 U***
Acenaphthene	240	**444.44**	13.10 U	6.13 U	**3508.77**	**85.71**	**104.92**	**6.67**	**163.93**	**1028.57**	30.77 U	52.94 U	17.78 U	69.23 U
Acenaphthylene	N/A	**74.07**	**20.69**	**13.55**	**298.25**	**46.94**	**45.9**	**9.67**	**60.66**	102.86 U	30.77 U	52.94 U	17.78 U	69.23 U
Anthracene	107	**592.59**	**27.59**	**21.29**	**2807.02**	**106.12**	**81.97**	**11.11**	**196.72**	**2371.43**	30.77 U	52.94 U	**25.56**	**69.23**
Benzo(a)anthracene	12	**444.44**	**58.62**	**35.48**	**1719.3**	**189.8**	**90.16**	**23.33**	**150.82**	**3428.57**	**65.38**	**88.24**	**52.22**	**115.38**
Benzo(a)pyrene	N/A	**362.96**	**37.93**	**27.74**	**1175.44**	**153.06**	**78.69**	**15.56**	**90.16**	**2628.57**	**92.31**	**141.18**	**65.56**	**188.46**
Benzo(b)fluoranthene	N/A	**244.44**	**41.38**	**27.42**	**754.39**	**118.37**	**63.93**	**15.56**	**77.05**	**2057.14**	**67.31**	52.94 U	**47.78**	69.23 U
Benzo(ghi)perylene	N/A	**207.41**	**31.03**	**17.74**	**596.49**	**81.63**	**36.07**	**10.11**	**55.74**	**1457.14**	30.77 U	52.94 U	**47.78**	69.23 U
Benzo(k)fluoranthene	N/A	**200**	**41.38**	**24.84**	**701.75**	**97.96**	**52.46**	**13.33**	**72.13**	**2000**	**73.08**	52.94 U	**50**	69.23 U
Chrysene	N/A	**355.56**	**55.17**	**29.68**	**1298.25**	**153.06**	**73.77**	**18.89**	**124.59**	**3142.86**	**67.31**	**294.12**	**53.33**	**123.08**
Dibenz(a,h)anthracene	N/A	**33.33**	13.10 U	6.13 U	138.60 U	**19.39**	**8.69**	3.11 U	27.87 U	**457.14**	30.77 U	52.94 U	17.78 U	69.23 U
Fluoranthene	1340	**888.89**	**86.21**	**38.71**	**2982.46**	**306.12**	**180.33**	**40**	**262.3**	**8571.43**	**117.31**	**164.71**	**93.33**	**300**
Fluorene	38	**344.44**	13.10 U	6.13 U	**2105.26**	**75.51**	**77.05**	**6**	**124.59**	**1114.29**	30.77 U	***52.94 U***	17.78 U	***69.23 U***
Indeno(1,2,3-cd)pyrene	N/A	**140.74**	**24.14**	**14.84**	**421.05**	**67.35**	**32.79**	**8.89**	**44.26**	**1285.71**	30.77 U	52.94 U	**48.89**	69.23 U
Naphthalene	38	**481.48**	13.10 U	**13.55**	**7719.3**	**157.14**	**196.72**	**41.11**	**196.72**	**1200**	30.77 U	***52.94 U***	**22.22**	***69.23 U***
Phenanthrene	160	**1851.85**	**30.34**	**20.65**	**6140.35**	**326.53**	**213.11**	**25.56**	**426.23**	**9142.86**	**48.08**	52.94 U	**52.22**	**257.69**
Pyrene	961	**1185.19**	**100**	**64.52**	**4385.96**	**326.53**	**213.11**	**41.11**	**344.26**	**7714.29**	**132.69**	**197.06**	**108.89**	**330.77**
1,1-Biphenyl	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	12	***59.26 U***	***165.52 U***	***77.42 U***	***70.18 U***	***73.47 U***	***72.13 U***	***38.89 U***	***68.85 U***	***628.57 U***	***75.00 U***	***129.41 U***	***43.33 U***	***173.08 U***
3+4-Methylphenols	N/A	70.37 U	196.55 U	93.55 U	84.21 U	87.76 U	86.89 U	46.67 U	81.97 U	771.43 U	88.46 U	155.88 U	51.11 U	207.69 U
bis(2-Ethylhexyl) phthalate	199.5	114.81 U	***327.59 U***	154.84 U	138.60 U	146.94 U	144.26 U	78.89 U	**163.93**	***1285.71 U***	**192.31**	***258.82 U***	86.67 U	***346.15 U***
Carbazole	N/A	59.26 U	165.52 U	77.42 U	70.18 U	73.47 U	72.13 U	38.89 U	68.85 U	**1057.14**	75.00 U	129.41 U	43.33 U	173.08 U
Dibenzofuran	N/A	59.26 U	165.52 U	77.42 U	**96.49**	73.47 U	72.13 U	38.89 U	68.85 U	**771.43**	75.00 U	129.41 U	43.33 U	173.08 U
Perylene	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phenol	N/A	81.48 U	231.03 U	109.68 U	98.25 U	104.08 U	100.00 U	55.56 U	95.08 U	914.29 U	103.85 U	179.41 U	60.00 U	242.31 U
Carbon/Soot (%)														
Soot Run 1	N/A	**0.20 J**	**0.53 J**	**0.98**	**0.88 J**	**1.5**	**3.1 J**	**3.1 J**	**1.8 J**	NS	NS	NS	NS	NS
Soot Run 2	N/A	**0.20 J**	**0.45 J**	**0.41**	**1.1 J**	**1.2**	**3.0 J**	**2.6 J**	**1.8 J**	NS	NS	NS	NS	NS
Soot Run 3	N/A	**0.38 J**	**0.56 J**	**0.38**	**0.88 J**	**1.1**	**3.0 J**	**2.9 J**	**1.6 J**	NS	NS	NS	NS	NS
Total Organic Carbon	N/A	**2.5 J**	**3.0 J**	**3.4**	**6.4 J**	**5**	**6.6 J**	**8.9 J**	**5.9 J**	**3.6**	**5**	**3.3 J**	**8.8**	**2.7**
Total Organic Carbon (Run 2)	N/A	**2.9 J**	**2.8 J**	**2.7**	**5.0 J**	**4.9**	**6.3 J**	**8.8 J**	**5.6 J**	**3.6**	**5.1**	**3.5 J**	**8.5**	**2.5**
Total Organic Carbon (Run 3)	N/A	**2.7 J**	**2.8 J**	**3.2**	**5.8 J**	**4.8**	**5.5 J**	**9.3 J**	**6.6 J**	**3.4**	**5.7**	**3.3 J**	**9.7**	**2.7**
Average Soot	N/A	**0.26 J**	**0.51 J**	**0.59**	**0.94 J**	**1.2**	**3.0 J**	**2.9 J**	**1.7 J**	NS	NS	NS	NS	NS
Average Total Organic Carbon	N/A	**2.7 J**	**2.9 J**	**3.1**	**5.7 J**	**4.9**	**6.1 J**	**9.0 J**	**6.1 J**	**3.5**	**5.2**	**3.4 J**	**9**	**2.6**

Notes:
[1] total PAH value - Effects Range Low (NYSDEC, 1999)
[2] Other Constituents - Chronic Toxicity Values (NYSDEC, 1999)
mg/Kg = milligram per kilogram
ug/g OC - micrograms per gram of organic carbon
Bold = detected above reporting limit
Bolded and Shaded = detected exceeds NYSDEC Screening Criteria
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-13
Comparison of OU2 RI Surface Sediment Analytical Results to NYSDEC Screening Criteria
Former East 21st Street Works, New York, New York

Location ID		RB59 DUP	RB60	RB60 DUP	RB61	RB62	RB63	RB64	RB65	RB66	RB67	RB68	RB69	RB70	RB71
Sample Date		10/21/2008	10/21/2008	10/21/2008	10/24/2008	10/21/2008	10/24/2008	10/24/2008	10/22/2008	10/22/2008	10/22/2008	10/24/2008	10/22/2008	10/22/2008	10/23/2008
Top of Sediment Elevation	NYSDEC	-9	-12	-12	-23	-14	-27	-26	-32	-36	-21	-20	-20	-7	-9
Depth Interval (feet)	Screening	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
Sediment Type	Criteria [1, 2]	Silt	Silt	Silt	Silt	Silt	Gravel/Sand	Gravel/Silt	Silt	Sand	Silt	Silty Sand	Silt	Silt	Silty Sand
Observation								Sheen	Sheen	Stain		Sheen/Stain	Sheen	Sheen	
Odor		Organic	MGP		Organic	Organic		Organic	Organic		Organic	MGP	MGP	MGP	Organic
Total PAH (mg/Kg)	4	**25.900**	**165.200**	**217.050**	**22.150**	**289.500**	**839.800**	**41.400**	**121.900**	**22.190**	**179.100**	**35.500**	**1105.500**	**555.300**	**47.500**
Normalized VOCs (ug/g OC)															
Benzene	26	0.20 U	0.30 U	0.42 U	0.45 U	0.09 U	15.00 U	0.10 U	0.16 U	0.88 U	**1.4**	***384.62 U***	**54.84**	15.85 U	0.27 U
Ethylbenzene	6.4	0.20 U	0.30 U	0.42 U	0.45 U	**0.4**	**20.5**	0.10 U	**0.22**	0.88 U	0.26 U	**5128.21**	**161.29**	**60.98**	0.27 U
m,p-Xylene	N/A	0.41 U	0.60 U	0.85 U	0.87 U	0.19 U	**30.5**	0.20 U	0.32 U	1.79 U	0.50 U	**2820.51**	74.19 U	31.71 U	0.54 U
o-Xylene	27	0.41 U	0.60 U	0.85 U	0.87 U	0.19 U	***30.50 U***	0.20 U	0.32 U	1.79 U	0.50 U	**2051.28**	***74.19 U***	**35.37**	0.54 U
Toluene	45	0.29 U	0.46 U	0.63 U	0.67 U	0.14 U	23.00 U	0.15 U	0.23 U	1.33 U	0.38 U	***576.92 U***	***54.84 U***	24.39 U	0.40 U
1,1,1-Trichloroethane	N/A	0.20 U	0.30 U	0.42 U	0.45 U	0.09 U	15.00 U	0.10 U	0.16 U	0.88 U	0.26 U	384.62 U	35.48 U	15.85 U	0.27 U
2-Butanone (Methyl Ethyl Ketone)	N/A	2.03 U	3.00 U	4.23 U	4.47 U	0.94 U	150.00 U	1.00 U	1.58 U	8.79 U	2.62 U	3846.15 U	354.84 U	158.54 U	2.69 U
Acetone	N/A	2.03 U	3.00 U	**4.42**	4.47 U	**2.45**	150.00 U	1.00 U	1.58 U	8.79 U	2.62 U	3846.15 U	354.84 U	158.54 U	2.69 U
Chlorobenzene	3.5	0.20 U	0.30 U	0.42 U	0.45 U	0.09 U	***15.00 U***	0.10 U	0.16 U	0.88 U	0.26 U	***384.62 U***	***35.48 U***	***15.85 U***	**0.57**
Tetrachloroethene	N/A	0.20 U	0.30 U	0.42 U	0.45 U	0.09 U	15.00 U	0.10 U	0.16 U	0.88 U	0.26 U	384.62 U	35.48 U	15.85 U	0.27 U
Trichloroethene	N/A	0.20 U	0.30 U	0.42 U	0.45 U	0.09 U	15.00 U	0.10 U	0.16 U	0.88 U	0.26 U	384.62 U	35.48 U	15.85 U	0.27 U
Total VOC	N/A	10.83 U	16.12 U	**24.94**	23.84 U	**7.35**	**834.75**	5.34 U	**8.6**	47.28 U	**15.1**	**29583.35**	**2099.97**	**922.56**	**14.84**
Normalized SVOCs (ug/g OC)															
2-Methylnaphthalene	30	***52.94 U***	**111.43**	**192.31**	***59.33 U***	**90.57**	**165**	**40**	**342.11**	***236.36 U***	**90.48**	**307.69**	**4516.13**	**280.49**	***34.29 U***
Acenaphthene	240	52.94 U	**157.14**	**269.23**	**106.67**	**320.75**	**650**	26.67 U	**147.37**	236.36 U	**188.1**	**166.67**	**3548.39**	**1024.39**	34.29 U
Acenaphthylene	N/A	52.94 U	**67.14**	**115.38**	**193.33**	**94.34**	**2850**	26.67 U	42.11 U	236.36 U	**126.19**	102.56 U	**354.84**	**100**	34.29 U
Anthracene	107	52.94 U	**142.86**	**269.23**	59.33 U	**433.96**	**3850**	**53.33**	**78.95**	***236.36 U***	**261.9**	**230.77**	**1774.19**	**548.78**	**40**
Benzo(a)anthracene	12	**55.88**	**157.14**	**307.69**	**86.67**	**566.04**	**4550**	**90**	**126.32**	**575.76**	**380.95**	**256.41**	**1032.26**	**317.07**	**88.57**
Benzo(a)pyrene	N/A	**132.35**	**130**	**211.54**	**153.33**	**339.62**	**2300**	**100**	**144.74**	**787.88**	**261.9**	**346.15**	**645.16**	**182.93**	**117.14**
Benzo(b)fluoranthene	N/A	52.94 U	**72.86**	**155.77**	59.33 U	**226.42**	**1100**	**63.33**	**102.63**	236.36 U	**223.81**	102.56 U	**419.35**	**113.41**	**94.29**
Benzo(ghi)perylene	N/A	52.94 U	**70**	**117.31**	59.33 U	**166.04**	**800**	**70**	**105.26**	236.36 U	**152.38**	102.56 U	**354.84**	**85.37**	**94.29**
Benzo(k)fluoranthene	N/A	52.94 U	**87.14**	**144.23**	59.33 U	**226.42**	**1850**	**80**	**110.53**	**636.36**	**209.52**	**256.41**	**419.35**	**112.2**	**97.14**
Chrysene	N/A	**64.71**	**142.86**	**269.23**	**86.67**	**490.57**	**3150**	**86.67**	**115.79**	**484.85**	**333.33**	**256.41**	**838.71**	**256.1**	**91.43**
Dibenz(a,h)anthracene	N/A	52.94 U	20.00 U	28.85 U	59.33 U	**79.25**	**375**	26.67 U	42.11 U	236.36 U	**97.62**	102.56 U	96.77 U	**51.22**	34.29 U
Fluoranthene	1340	52.94 U	**285.71**	**519.23**	**246.67**	**811.32**	**6500**	**156.67**	**228.95**	**818.18**	**547.62**	**448.72**	**1677.42**	**475.61**	**214.29**
Fluorene	38	***52.94 U***	**57.14**	**92.31**	***59.33 U***	**26.42**	**430**	26.67 U	**57.89**	***236.36 U***	**66.67**	**141.03**	**1451.61**	**280.49**	34.29 U
Indeno(1,2,3-cd)pyrene	N/A	52.94 U	**68.57**	**111.54**	59.33 U	**143.4**	**800**	26.67 U	**110.53**	236.36 U	**154.76**	102.56 U	**322.58**	**78.05**	**100**
Naphthalene	38	***52.94 U***	**157.14**	**250**	***59.33 U***	**126.42**	**420**	**250**	**1026.32**	***236.36 U***	**216.67**	**653.85**	**10967.74**	**658.54**	34.29 U
Phenanthrene	160	52.94 U	**285.71**	**461.54**	59.33 U	**245.28**	**2200**	**66.67**	**178.95**	***236.36 U***	**380.95**	**487.18**	**4838.71**	**1463.41**	**94.29**
Pyrene	961	**164.71**	**357.14**	**673.08**	**306.67**	**1075.47**	**10000**	**256.67**	**289.47**	**2121.21**	**571.43**	**743.59**	**2451.61**	**743.9**	**222.86**
1,1-Biphenyl	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	12	***135.29 U***	***50.00 U***	***71.15 U***	***146.67 U***	***62.26 U***	***205.00 U***	***66.67 U***	***105.26 U***	***606.06 U***	***83.33 U***	***256.41 U***	***245.16 U***	***42.68 U***	***88.57 U***
3+4-Methylphenols	N/A	164.71 U	60.00 U	84.62 U	180.00 U	75.47 U	245.00 U	80.00 U	126.32 U	727.27 U	100.00 U	307.69 U	293.55 U	51.22 U	108.57 U
bis(2-Ethylhexyl) phthalate	199.5	***270.59 U***	101.43 U	142.31 U	***293.33 U***	126.42 U	***405.00 U***	133.33 U	***207.89 U***	***1181.82 U***	169.05 U	***512.82 U***	***483.87 U***	84.15 U	**371.43**
Carbazole	N/A	135.29 U	50.00 U	71.15 U	146.67 U	62.26 U	205.00 U	66.67 U	105.26 U	606.06 U	83.33 U	256.41 U	245.16 U	42.68 U	88.57 U
Dibenzofuran	N/A	135.29 U	50.00 U	71.15 U	146.67 U	62.26 U	205.00 U	66.67 U	105.26 U	606.06 U	83.33 U	256.41 U	**283.87**	**53.66**	88.57 U
Perylene	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phenol	N/A	191.18 U	71.43 U	100.00 U	206.67 U	88.68 U	285.00 U	93.33 U	147.37 U	818.18 U	119.05 U	358.97 U	354.84 U	59.76 U	125.71 U
Carbon/Soot (%)															
Soot Run 1	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Soot Run 2	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Soot Run 3	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon	N/A	**3.6 J**	**7.3**	**4.9 J**	**1.5 J**	**5.4**	**1.8 J**	**2.8 J**	**3.7**	**0.24 J**	**3.8**	**0.59 J**	**3.1**	**8.9**	**3.7**
Total Organic Carbon (Run 2)	N/A	**3.3 J**	**6.5**	**5.6 J**	**1.7 J**	**5.3**	**1.9 J**	**2.8 J**	**3.8**	**0.45 J**	**4.7**	**0.79 J**	**3.3**	**7.3**	**3.5**
Total Organic Carbon (Run 3)	N/A	**3.4 J**	**7.2**	**5.0 J**	**1.4 J**	**5**	**2.3 J**	**3.3 J**	**3.8**	**0.28 J**	**4.2**	**0.97 J**	**3.1**	**8.5**	**3.2**
Average Soot	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Average Total Organic Carbon	N/A	**3.4 J**	**7**	**5.2 J**	**1.5 J**	**5.3**	**2.0 J**	**3.0 J**	**3.8**	**0.33 J**	**4.2**	**0.78 J**	**3.1**	**8.2**	**3.5**

Notes:

[1] total PAH value - Effects Range Low (NYSDEC, 1999)

[2] Other Constituents - Chronic Toxicity Values (NYSDEC, 1999)

mg/Kg = milligram per kilogram

ug/g OC - micrograms per gram of organic carbon

Bold = detected above reporting limit

Bolded and Shaded = detected exceeds NYSDEC Screening Criteria

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-13
Comparison of OU2 RI Surface Sediment Analytical Results to NYSDEC Screening Criteria
Former East 21st Street Works, New York, New York

Location ID		RB72	RB73	RB74	RB75	RB76	ERSSREF02	ERSSREF04	ERSSREF05
Sample Date		10/23/2008	10/23/2008	10/23/2008	10/23/2008	10/27/2008	6/12/2008	6/12/2008	6/12/2008
Top of Sediment Elevation	NYSDEC	-17	-22	-40	-29	-30	-19	-7	-15
Depth Interval (feet)	Screening	0-1	0-1	0-1	0-1	0-1	0-0.5	0-0.5	0-0.5
Sediment Type	Criteria [1, 2]	Sandy Silt	Silt	Sand	Silty Sand	Silt, Sand, and Gravel	Sandy Silt	Silt	Silt
Observation					Sheen				
Odor		Organic	Organic	Organic	MGP		Organic	H_2S	H_2S
Total PAH (mg/Kg)	4	**31.700**	**46.700**	**12.810**	**886.000**	**270.645**	**15.660**	**14.480**	**13.370**
Normalized VOCs (ug/g OC)									
Benzene	26	0.49 U	9.49 U	0.41 U	20.97 U	0.13 U	0.13 U	0.12 U	0.31 U
Ethylbenzene	6.4	0.49 U	***9.49 U***	0.41 U	**274.19**	0.13 U	0.13 U	0.12 U	0.31 U
m,p-Xylene	N/A	1.00 U	19.23 U	0.82 U	41.94 U	0.25 U	0.24 U	0.23 U	0.64 U
o-Xylene	27	1.00 U	19.23 U	0.82 U	***41.94 U***	0.25 U	0.24 U	0.23 U	0.64 U
Toluene	45	0.75 U	14.10 U	0.62 U	30.65 U	0.19 U	0.19 U	0.18 U	0.45 U
1,1,1-Trichloroethane	N/A	0.49 U	9.49 U	0.41 U	20.97 U	0.13 U	0.13 U	0.12 U	0.31 U
2-Butanone (Methyl Ethyl Ketone)	N/A	4.91 U	94.87 U	4.05 U	209.68 U	1.25 U	1.27 U	1.21 U	3.14 U
Acetone	N/A	**5.44**	94.87 U	4.05 U	209.68 U	1.25 U	1.27 U	1.21 U	3.14 U
Chlorobenzene	3.5	0.49 U	***9.49 U***	0.41 U	***20.97 U***	0.13 U	0.13 U	0.12 U	0.31 U
Tetrachloroethene	N/A	0.49 U	9.49 U	0.41 U	20.97 U	0.13 U	0.13 U	0.12 U	0.31 U
Trichloroethene	N/A	0.49 U	9.49 U	0.41 U	20.97 U	0.13 U	0.13 U	0.12 U	0.31 U
Total VOC	N/A	**29.34**	507.70 U	21.81 U	**1381.5**	6.73 U	6.78 U	6.43 U	16.77 U
Normalized SVOCs (ug/g OC)									
2-Methylnaphthalene	30	***33.33 U***	**42.31**	***109.46 U***	**580.65**	26.25 U	**9.8**	**8.37**	**10**
Acenaphthene	240	33.33 U	25.64 U	109.46 U	**2096.77**	26.25 U	**7.96**	**4.65**	8.18 U
Acenaphthylene	N/A	33.33 U	25.64 U	109.46 U	**124.19**	**287.5**	**5.31**	**7.91**	**11.82**
Anthracene	107	33.33 U	**25.64**	***109.46 U***	**661.29**	**791.67**	**10.41**	**13.26**	**22.27**
Benzo(a)anthracene	12	**38.6**	**33.33**	**120.27**	**354.84**	**1208.33**	**22.45**	**25.58**	**54.55**
Benzo(a)pyrene	N/A	33.33 U	**61.54**	**270.27**	**193.55**	**833.33**	**24.49**	**30.23**	**54.55**
Benzo(b)fluoranthene	N/A	33.33 U	25.64 U	109.46 U	**141.94**	**583.33**	**20.2**	**22.33**	**50**
Benzo(ghi)perylene	N/A	33.33 U	25.64 U	109.46 U	**98.39**	**345.83**	**14.08**	**17.67**	**32.73**
Benzo(k)fluoranthene	N/A	33.33 U	25.64 U	109.46 U	**140.32**	**708.33**	**19.39**	**21.86**	**43.18**
Chrysene	N/A	**42.11**	**34.62**	**129.73**	**290.32**	**1041.67**	**24.49**	**27.91**	**54.55**
Dibenz(a,h)anthracene	N/A	33.33 U	25.64 U	109.46 U	**62.9**	**129.17**	**4.29**	**5.12**	**9.55**
Fluoranthene	1340	**105.26**	**89.74**	109.46 U	**1032.26**	**2375**	**51.02**	**46.51**	**81.82**
Fluorene	38	33.33 U	25.64 U	***109.46 U***	**1306.45**	26.25 U	**5.92**	**6.28**	8.18 U
Indeno(1,2,3-cd)pyrene	N/A	33.33 U	25.64 U	109.46 U	**93.55**	**337.5**	**11.63**	**14.19**	**26.82**
Naphthalene	38	33.33 U	**42.31**	***109.46 U***	**3064.52**	**75**	**14.69**	**11.16**	**15.91**
Phenanthrene	160	**45.61**	**64.1**	**135.14**	**3064.52**	**187.5**	**24.49**	**22.56**	**40.91**
Pyrene	961	**124.56**	**102.56**	**418.92**	**983.87**	**2333.33**	**48.98**	**51.16**	**90.91**
1,1-Biphenyl	N/A	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	12	***84.21 U***	***62.82 U***	***270.27 U***	***54.84 U***	***166.67 U***	***16.94 U***	***16.05 U***	***41.82 U***
3+4-Methylphenols	N/A	100.00 U	75.64 U	324.32 U	66.13 U	200.00 U	**38.78**	19.30 U	50.00 U
bis(2-Ethylhexyl) phthalate	199.5	**175.44**	125.64 U	***554.05 U***	109.68 U	***329.17 U***	**140.82**	**113.95**	81.82 U
Carbazole	N/A	84.21 U	62.82 U	270.27 U	**387.1**	166.67 U	16.94 U	16.05 U	41.82 U
Dibenzofuran	N/A	84.21 U	62.82 U	270.27 U	**774.19**	166.67 U	16.94 U	16.05 U	41.82 U
Perylene	N/A	NS	NS	NS	NS	NS	NS	NS	NS
Phenol	N/A	117.54 U	88.46 U	378.38 U	77.42 U	233.33 U	**34.69**	22.56 U	59.09 U
Carbon/Soot (%)									
Soot Run 1	N/A	NS	NS	NS	NS	NS	**1.3 J**	**2.0 J**	**0.66 J**
Soot Run 2	N/A	NS	NS	NS	NS	NS	**1.4 J**	**1.8 J**	**0.49 J**
Soot Run 3	N/A	NS	NS	NS	NS	NS	**1.2 J**	**2.4 J**	**5.3 J**
Total Organic Carbon	N/A	**6.1**	**8**	**0.53 J**	**7.6**	**2.9 J**	**5.6 J**	**4.1 J**	**2.4 J**
Total Organic Carbon (Run 2)	N/A	**5.4**	**8.2**	**0.52 J**	**5.5**	**2.3 J**	**4.4 J**	**4.1 J**	**2.0 J**
Total Organic Carbon (Run 3)	N/A	**5.5**	**7.3**	**1.2 J**	**5.4**	**2.2 J**	**4.8 J**	**4.8 J**	**2.4 J**
Average Soot	N/A	NS	NS	NS	NS	NS	**1.3 J**	**2.0 J**	**2.1 J**
Average Total Organic Carbon	N/A	**5.7**	**7.8**	**0.74 J**	**6.2**	**2.4 J**	**4.9 J**	**4.3 J**	**2.2 J**

Notes:

[1] total PAH value - Effects Range Low (NYSDEC, 1999)

[2] Other Constituents - Chronic Toxicity Values (NYSDEC, 1999)

mg/Kg = milligram per kilogram

ug/g OC - micrograms per gram of organic carbon

Bold = detected above reporting limit

Bolded and Shaded = detected exceeds NYSDEC Screening Criteria

U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-14
Summary of OU2 RI Background Surface Sediment Locations and Observations
Former East 21st Street Works, New York, New York

Sample ID	Total PAH (mg/Kg)	Water Depth (ft)	Approx. Distance From Shore (ft)	Sediment Type	Observations
BG13a	21.6	20	120	fine sandy silt	No odor, no visible impact
BG13b	1.17	22	180	very fine silt and clay, some muck and shells	No odor, no visible impact
BG13c					Not collected - too much ferry traffic to access
BG12a	24.875	8	168	silt/muck	No odor, no visible impact
BG12b	48.1	9.6	218	peat/silt	organic odor, very slight sheen
BG12c	54.15	24	230	silt and sand	very faint hydrocarbon odor, no visible impact
BG11a	30	24	124	very fine silt, trace Gravel	organic odor, no visible impact
BG11b	115.7	31	196	fine silt some peat	slight hydrocarbon odor, no visible impact
BG11c	246	25	240	fine silt and peat	hydrocarbon odor, some sheen blebs
BG10a	350.6	11	75	silt and peat	hydrocarbon and petroleum like odors, no visible impact
BG10b	41.7	12	150	sandy silt and peat	organic odor, no visible impact
BG10c	40.65	24	351	sandy silt and peat	organic odor, no visible impact
BG9a	40.4	17	10	silt, trace shell	organic odor, no visible impact
BG9b	19.7	13	60	silt	slight. organic odor, no visible impact
BG9c	< 13.600	9	280	silt, trace clay	No odor, no visible impact
BG9d	22.2 / 58.5	38	370	silty sand, trace very fine sand	petroleum odor, no visible impact
BG8a	79.1	13	46	silt and very fine to fine sand, trace peat	organic odor, no visible impact
BG8b	96.3	17	81	very fine sandy silt, trace peat	strong organic odor, no visible impact
BG8c	57.6	19	233	silt and peat, wood/hair fibers	organic odor, slight hydrocarbon odor, no visible impact
BG7a	< 16.150	11	50	silt, trace clay	slight organic odor, no visible impact
BG7b	21.6	14	225	silt, trace peat	organic odor, no visible impact
BG7c	21.8	19	249	rounded gravel to 0.4 ft. then silt, trace very fine sand	slight petroleum like odor, no visible impact
BG6a	21.5	8	100	silt, trace very fine sand	organic odor, no visible impact
BG6b	18.2	9	175	silt, trace very fine sand	organic odor, no visible impact
BG6c	23.5 / 19.2	20	330	silt, trace very fine sand	organic odor, no visible impact
BG6d	21.4	41	450	silt and peat	organic odor, no visible impact
BG5a	63.6	23	117	peat and silty sand	organic odor, no visible impact
BG5b	42.9	26	59	rock fragments to 0.2 then silty clay and peat	strong organic odor, no visible impact
BG5c	40.8	28	129	silt and peat, very fine sand 0.6-0.75 ft.	slight organic and hydrocarbon odor, no visible impact
BG4a	18.1	5	20	silt, trace peat, trace clay	very slight organic odor, no visible impact
BG4b	28.75	13	88	silt and peat, gravel from 0.4-0.6 ft.	No odor, no visible impact
BG4c	37.9 / 25.9	10	90	silt and peat, trace clay	No odor, no visible impact
BG3a	32.2	12	191	silt, clay and peat	very slight organic odor, no visible impact
BG3b	40.95	18	268	silt and peat	organic odor, no visible impact
BG3c	41.9	25	320	silt, trace silty sand and peat	organic odor, no visible impact
BG2a	31	16	143	silt, trace gravel and organics	organic odor, no visible impact
BG2b	36.4	10	124	silt, trace peat	organic odor, no visible impact
BG2c	29.75	12	160	silt, trace peat	slight organic and hydrocarbon odor, no visible impact
BG1a	32.4	3	202	silt, trace peat	organic odor, no visible impact
BG1b	35.05	10	299	silt and peat	slight organic odor, no visible impact
BG1c	124.8	17	424	silt, some gravel	slight organic odor, no visible impact

Notes:
Water depth at time sample collected

Table 5-15
Summary of East River Background Surface Sediment Analytical Results
Former East 21st Street Works, New York, New York

Location	BG01a	BG01b	BG01c	BG02a	BG02b	BG02c	BG03a	BG03b	BG03c	BG04a	BG04b	BG04c	BG04c	BG05a	BG05b	BG05c	BG06a	BG06b	BG06c	BG06d-DUP
Sample Date	10/10/2008	10/10/2008	10/10/2008	10/10/2008	10/10/2008	10/10/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BTEX (mg/Kg)																				
Benzene	0.053 UJ	0.051 UJ	0.0060 UJ	0.046 UJ	0.0066 UJ	0.0062 UJ	0.0068 UJ	0.0064 UJ	0.0054 UJ	0.0066 UJ	0.0062 UJ	0.0068 UJ	0.0061 UJ	0.0051 UJ	0.0050 U	0.0039 U	0.0068 UJ	0.0069 UJ	0.0066 UJ	**0.0076 J**
Ethylbenzene	0.053 UJ	0.051 UJ	0.0060 UJ	0.046 UJ	0.0066 UJ	0.0062 UJ	0.0068 UJ	0.0064 UJ	0.0054 UJ	0.0066 UJ	0.0062 UJ	0.0068 UJ	0.0061 UJ	0.0051 UJ	0.0050 U	0.0039 U	0.0068 UJ	0.0069 UJ	0.0066 UJ	0.0068 UJ
m,p-Xylene	0.100 UJ	0.100 UJ	0.012 UJ	0.093 UJ	0.013 UJ	0.012 UJ	0.014 UJ	0.013 UJ	0.011 UJ	0.013 UJ	0.012 UJ	0.014 UJ	0.012 UJ	0.010 UJ	0.010 U	0.0078 U	0.014 UJ	0.014 UJ	0.013 UJ	0.014 UJ
o-Xylene	0.100 UJ	0.100 UJ	0.012 UJ	0.093 UJ	0.013 UJ	0.012 UJ	0.014 UJ	0.013 UJ	0.011 UJ	0.013 UJ	0.012 UJ	0.014 UJ	0.012 UJ	0.010 UJ	0.010 U	0.0078 U	0.014 UJ	0.014 UJ	0.013 UJ	0.014 UJ
Toluene	0.079 UJ	0.077 UJ	0.0089 UJ	0.070 UJ	0.0099 UJ	0.0094 UJ	0.010 UJ	0.0096 UJ	0.0082 UJ	0.0099 UJ	0.0094 UJ	0.010 UJ	0.0091 UJ	0.0076 UJ	0.0075 U	0.0058 U	0.010 UJ	0.010 UJ	0.0099 UJ	0.010 UJ
Total Xylene (calculated)	0.100 U	0.100 U	0.012 U	0.093 U	0.013 U	0.012 U	0.014 U	0.013 U	0.011 U	0.013 U	0.012 U	0.014 U	0.012 U	0.010 U	0.010 U	0.00780 U	0.014 U	0.014 U	0.013 U	0.014 U
Total BTEX	0.19250 U	0.18950 U	0.02245 U	0.174 U	0.02455 U	0.02290 U	0.02580 U	0.02420 U	0.02050 U	0.02455 U	0.02290 U	0.02580 U	0.02265 U	0.01890 U	0.01875 U	0.01460 U	0.02580 U	0.02590 U	0.02455 U	**0.030**
VOC (mg/Kg)																				
2-Butanone (Methyl Ethyl Ketone)	0.530 UJ	0.510 UJ	0.060 UJ	0.460 UJ	0.066 UJ	0.062 UJ	0.068 UJ	0.064 UJ	0.054 UJ	0.066 UJ	0.062 UJ	0.068 UJ	0.061 UJ	0.051 UJ	0.050 U	0.039 U	0.068 UJ	0.069 UJ	0.066 UJ	0.068 UJ
Acetone	0.530 UJ	0.510 UJ	**0.074 J**	0.460 UJ	**0.092 J**	**0.100 J**	**0.150 J**	**0.200 J**	**0.056 J**	**0.130 J**	**0.150 J**	**0.210 J**	**0.140 J**	**0.130 J**	**0.090 J**	**0.086 J**	**0.130 J**	**0.140 J**	**0.091 J**	**0.150 J**
Chlorobenzene	0.053 UJ	0.051 UJ	0.0060 UJ	0.046 UJ	**0.064 J**	0.0062 UJ	0.0068 UJ	0.0064 UJ	0.0054 UJ	0.0066 UJ	0.0062 UJ	0.0068 UJ	0.0061 UJ	0.0051 UJ	0.0050 U	0.0039 U	0.0068 UJ	0.0069 UJ	0.0066 UJ	0.0068 UJ
Total VOC	2.81000 U	2.72500 U	**0.36475**	2.46900 U	**0.47195**	**0.40000**	**0.48050**	**0.51100**	**0.31900**	**0.44925**	**0.45000**	**0.54050**	**0.43450**	**0.37675**	**0.33275**	**0.27565**	**0.46050**	**0.47475**	**0.41025**	**0.48470**
PAH (mg/Kg)																				
2-Methylnaphthalene	1.800 UJ	1.700 UJ	**3.400 J**	1.600 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.700 UJ	1.400 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.600 UJ	**1.400 J**	1.300 U	**1.400**	1.800 UJ	1.800 UJ	1.800 UJ	1.800 UJ
Acenaphthene	1.800 UJ	1.700 UJ	**1.700 J**	1.600 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.700 UJ	1.400 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.600 UJ	1.400 UJ	1.300 U	1.000 U	1.800 UJ	1.800 UJ	1.800 UJ	1.800 UJ
Acenaphthylene	1.800 UJ	1.700 UJ	1.600 UJ	1.600 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.700 UJ	1.400 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.600 UJ	**1.600 J**	1.300 U	1.000 U	1.800 UJ	1.800 UJ	1.800 UJ	1.800 UJ
Anthracene	1.800 UJ	1.700 UJ	**4.800 J**	**1.900 J**	1.800 UJ	1.700 UJ	1.800 UJ	**1.800 J**	**2.000 J**	1.800 UJ	1.700 UJ	**2.000 J**	1.600 UJ	**3.000 J**	**1.900**	**2.200**	1.800 UJ	1.800 UJ	1.800 UJ	1.800 UJ
Benzo(a)anthracene	**2.200 J**	**2.600 J**	**12.000 J**	**1.800 J**	**2.500 J**	**2.000 J**	**3.000 J**	**3.500 J**	**3.700 J**	1.800 UJ	**2.300 J**	**3.600 J**	**2.000 J**	**5.000 J**	**3.100**	**3.400**	1.800 UJ	1.800 UJ	**2.400 J**	**1.800 J**
Benzo(a)pyrene	**4.400 J**	**4.500 J**	**9.600 J**	**3.800 J**	**4.600 J**	**4.200 J**	**6.800 J**	**6.800 J**	**6.200 J**	1.800 UJ	**6.000 J**	**7.000 J**	**5.800 J**	**6.700 J**	**5.400**	**4.700**	**5.900 J**	1.800 UJ	1.800 UJ	1.800 UJ
Benzo(b)fluoranthene	1.800 UJ	1.700 UJ	**7.400 J**	1.600 UJ	**3.800 J**	1.700 UJ	1.800 UJ	1.700 UJ	**4.000 J**	1.800 UJ	1.700 UJ	1.800 UJ	1.600 UJ	**4.300 J**	**3.600**	**3.100**	1.800 UJ	1.800 UJ	1.800 UJ	1.800 UJ
Benzo(ghi)perylene	1.800 UJ	1.700 UJ	**5.400 J**	1.600 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.700 UJ	1.400 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.600 UJ	**3.900 J**	1.300 U	1.000 U	1.800 UJ	1.800 UJ	1.800 UJ	1.800 UJ
Benzo(k)fluoranthene	1.800 UJ	1.700 UJ	**6.600 J**	1.600 UJ	1.800 UJ	1.700 UJ	1.800 UJ	**4.100 J**	**3.800 J**	1.800 UJ	1.700 UJ	1.800 UJ	1.600 UJ	**4.200 J**	**3.400**	**2.900**	1.800 UJ	1.800 UJ	1.800 UJ	1.800 UJ
Chrysene	**2.700 J**	**3.000 J**	**10.000 J**	**2.100 J**	**2.600 J**	**2.200 J**	**3.000 J**	**3.300 J**	**3.400 J**	1.800 UJ	**2.300 J**	**3.400 J**	**2.000 J**	**4.500 J**	**3.400**	**3.200**	1.800 UJ	1.800 UJ	**2.400 J**	**2.000 J**
Dibenz(a,h)anthracene	1.800 UJ	1.700 UJ	1.600 UJ	1.600 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.700 UJ	1.400 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.600 UJ	1.400 UJ	1.300 U	1.000 U	1.800 UJ	1.800 UJ	1.800 UJ	1.800 UJ
Fluoranthene	**5.700 J**	**6.200 J**	**17.000 J**	**5.000 J**	**5.500 J**	**4.700 J**	**3.800 J**	**5.000 J**	**4.800 J**	**2.100 J**	**3.100 J**	**4.800 J**	**2.700 J**	**7.500 J**	**5.900**	**5.200**	1.800 UJ	**2.000 J**	**3.000 J**	**2.700 J**
Fluorene	1.800 UJ	1.700 UJ	**2.000 J**	1.600 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.700 UJ	1.400 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.600 UJ	1.400 UJ	1.300 U	1.000 U	1.800 UJ	1.800 UJ	1.800 UJ	1.800 UJ
Indeno(1,2,3-cd)pyrene	1.800 UJ	1.700 UJ	**5.500 J**	1.600 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.700 UJ	1.400 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.600 UJ	**4.200 J**	1.300 U	1.000 U	1.800 UJ	1.800 UJ	1.800 UJ	1.800 UJ
Naphthalene	1.800 UJ	1.700 UJ	**4.300 J**	1.600 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.700 UJ	1.400 UJ	1.800 UJ	1.700 UJ	1.800 UJ	1.600 UJ	**1.600 J**	1.300 U	**1.400**	1.800 UJ	1.800 UJ	1.800 UJ	1.800 UJ
Phenanthrene	1.800 UJ	**2.400 J**	**8.500 J**	**2.400 J**	**2.100 J**	**1.700 J**	1.800 UJ	**2.700 J**	**2.500 J**	1.800 UJ	**1.700 J**	**2.100 J**	1.600 UJ	**5.000 J**	**5.000**	**4.300**	1.800 UJ	1.800 UJ	1.800 UJ	1.800 UJ
Pyrene	**6.600 J**	**7.000 J**	**25.000 J**	**6.000 J**	**6.300 J**	**5.600 J**	**4.800 J**	**6.100 J**	**5.900 J**	**2.500 J**	**4.000 J**	**6.000 J**	**3.800 J**	**8.600 J**	**6.000**	**6.000**	**2.100 J**	**2.700 J**	**4.000 J**	**3.200 J**
Total HMW PAH	**20.400**	**21.350**	**82.300**	**17.700**	**23.400**	**18.250**	**22.100**	**27.200**	**29.100**	**9.700**	**18.850**	**24.500**	**17.600**	**42.100**	**26.850**	**24.800**	**14.300**	**9.900**	**14.200**	**12.400**
Total LMW PAH	**12.000**	**13.700**	**42.500**	**13.300**	**13.000**	**11.500**	**10.100**	**13.750**	**12.800**	**8.400**	**9.900**	**13.400**	**8.300**	**21.500**	**16.050**	**16.000**	7.200 U	**8.300**	**9.300**	**9.000**
Total PAH	**32.400**	**35.050**	**124.800**	**31.000**	**36.400**	**29.750**	**32.200**	**40.950**	**41.900**	**18.100**	**28.750**	**37.900**	**25.900**	**63.600**	**42.900**	**40.800**	**21.500**	**18.200**	**23.500**	**21.400**
Benzo(a)pyrene Equivalents	**5.7117**	**5.7915**	**12.966**	**4.9501**	**6.2316**	**5.4307**	**8.192**	**8.2143**	**7.7814**	**2.0799**	**7.2608**	**8.4524**	**6.970**	**8.7965**	**6.8224**	**5.9322**	**7.0799**	**2.0799**	**2.2314**	**2.171**
SVOC (mg/Kg)																				
bis(2-Ethylhexyl) phthalate	**10.000 J**	6.800 UJ	7.900 UJ	7.800 UJ	**18.000 J**	8.300 UJ	9.000 UJ	**18.000 J**	**8.800 J**	8.800 UJ	**17.000 J**	**12.000 J**	8.100 UJ	**9.800 J**	**6.800**	**7.100**	**13.000 J**	9.200 UJ	**21.000 J**	**9.700 J**
Total SVOC	**182.750**	**149.800**	**255.600**	**159.450**	**194.750**	**167.100**	**180.050**	**195.000**	**164.750**	**162.850**	**178.950**	**193.250**	**159.200**	**182.050**	**154.750**	**129.950**	**177.850**	**168.800**	**184.850**	**174.450**
Carbon/Soot (mg/Kg)																				
Average Total Organic Carbon	**3.2**	**3.7**	**6.6**	**5.2**	**3.9**	**4.5**	**2.5 J**	**3.6 J**	**3.2 J**	**2.1 J**	**3.3 J**	**3.0 J**	**2.8 J**	**3.6 J**	**4.4 J**	**3.0 J**	**2.2**	**2.4 J**	**2.9 J**	**4.1 J**
Total Organic Carbon	**3.3**	**3.8**	**7.5**	**4.8**	**3.8**	**4.6**	**2.5 J**	**3.8 J**	**3.1 J**	**2.1 J**	**3.3 J**	**3.1 J**	**2.7 J**	**3.2 J**	**5.3 J**	**2.8 J**	**2.3**	**2.2 J**	**2.9 J**	**4.0 J**
Total Organic Carbon (Run 2)	**3.2**	**3.7**	**6.5**	**5.3**	**4.0**	**4.6**	**2.4 J**	**3.5 J**	**3.0 J**	**2.2 J**	**3.2 J**	**2.9 J**	**2.8 J**	**4.3 J**	**4.0 J**	**2.7 J**	**2.3**	**2.5 J**	**2.9 J**	**4.0 J**
Total Organic Carbon (Run 3)	**3.3**	**3.6**	**5.8**	**5.3**	**4.0**	**4.2**	**2.5 J**	**3.4 J**	**3.6 J**	**1.9 J**	**3.5 J**	**3.1 J**	**2.8 J**	**3.4 J**	**3.9 J**	**3.3 J**	**2.0**	**2.3 J**	**2.8 J**	**4.3 J**

Notes:
mg/Kg = milligram per kilogram
Bold = detected above reporting limit
Total VOCs include BTEX
Total SVOCs include Total PAH
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-15
Summary of East River Background Surface Sediment Analytical Results
Former East 21st Street Works, New York, New York

Location	BG06d	BG07a	BG07b	BG07c	BG08a	BG08b	BG08c	BG09a	BG09b	BG09c	BG09d-DUP	BG09d	BG10a	BG10b	BG10c	BG11a	BG11b	BG11c	BG12a	BG12b	BG12c-DUP	BG12c	BG13a	BG12b
Sample Date	10/8/2008	10/7/2008	10/7/2008	10/8/2008	10/10/2008	10/10/2008	10/10/2008	10/7/2008	10/7/2008	10/7/2008	10/7/2008	10/7/2008	10/8/2008	10/8/2008	10/8/2008	10/7/2008	10/7/2008	10/7/2008	10/6/2008	10/6/2008	10/6/2008	10/6/2008	10/7/2008	10/7/2008
Depth Interval (feet)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BTEX (mg/Kg)																								
Benzene	**0.0070 J**	0.0071 UJ	0.0068 UJ	0.0066 UJ	4.900 U	0.0048 U	0.042 UJ	0.0056 UJ	0.0066 UJ	0.0061 UJ	**0.0092 J**	**0.0075 J**	0.027 UJ	0.0069 UJ	0.0064 UJ	0.0061 UJ	0.0052 UJ	0.022 UJ	0.0061 UJ	0.0053 UJ	0.0052 UJ	0.0052 UJ	0.0054 UJ	0.0030 U
Ethylbenzene	0.0064 UJ	0.0071 UJ	0.0068 UJ	0.0066 UJ	4.900 U	0.0048 U	0.042 UJ	0.0056 UJ	0.0066 UJ	0.0061 UJ	0.0062 UJ	0.0060 UJ	**0.140 J**	0.0069 UJ	0.0064 UJ	0.0061 UJ	**0.0094 J**	**0.220 J**	0.0061 UJ	0.0053 UJ	0.0052 UJ	0.0052 UJ	0.0054 UJ	0.0030 U
m,p-Xylene	0.013 UJ	0.014 UJ	0.014 UJ	0.013 UJ	9.800 U	0.0096 U	0.085 UJ	0.011 UJ	0.013 UJ	0.012 UJ	0.012 UJ	0.012 UJ	**0.065 J**	0.014 UJ	0.013 UJ	0.012 UJ	**0.012 J**	**0.120 J**	0.012 UJ	0.011 UJ	0.010 UJ	0.010 UJ	0.011 UJ	0.0060 U
o-Xylene	0.013 UJ	0.014 UJ	0.014 UJ	0.013 UJ	9.800 U	0.0096 U	0.085 UJ	0.011 UJ	0.013 UJ	0.012 UJ	0.012 UJ	0.012 UJ	**0.078 J**	0.014 UJ	0.013 UJ	0.012 UJ	**0.017 J**	**0.230 J**	0.012 UJ	0.011 UJ	0.010 UJ	0.010 UJ	0.011 UJ	0.0060 U
Toluene	0.0096 UJ	0.011 UJ	0.010 UJ	0.0099 UJ	7.400 U	0.0072 U	0.064 UJ	0.0083 UJ	0.0098 UJ	0.0091 UJ	0.0094 UJ	0.0089 UJ	0.041 UJ	0.010 UJ	0.0096 UJ	0.0091 UJ	0.0078 UJ	0.033 UJ	0.0091 UJ	0.0080 UJ	0.0078 UJ	0.0078 UJ	0.0082 UJ	0.0045 U
Total Xylene (calculated)	0.013 U	0.014 U	0.014 U	0.013 U	9.800 U	0.00960 U	0.085 U	0.011 U	0.013 U	0.012 U	0.012 U	0.012 U	**0.143**	0.014 U	0.013 U	0.012 U	**0.029**	**0.350**	0.012 U	0.011 U	0.010 U	0.010 U	0.011 U	0.006 U
Total BTEX	**0.028**	0.02660 U	0.02580 U	0.02455 U	18.400 U	0.018 U	0.159 U	0.02075 U	0.02455 U	0.02265 U	**0.029**	**0.02695**	**0.317**	0.02590 U	0.02420 U	0.02265 U	**0.04490**	**0.59750**	0.02265 U	0.02030 U	0.01910 U	0.01910 U	0.02050 U	0.01125 U
VOC (mg/Kg)																								
2-Butanone (Methyl Ethyl Ketone)	0.064 UJ	0.071 UJ	0.068 UJ	0.066 UJ	49.000 U	0.048 U	0.420 UJ	0.056 UJ	**0.071 J**	0.061 UJ	0.062 UJ	0.060 UJ	0.270 UJ	0.069 UJ	0.064 UJ	**0.063 J**	0.052 UJ	0.220 UJ	0.061 UJ	0.053 UJ	0.052 UJ	0.052 UJ	0.054 UJ	0.030 U
Acetone	**0.160 J**	**0.140 J**	**0.120 J**	**0.140 J**	49.000 U	0.048 U	0.420 UJ	**0.100 J**	**0.220 J**	**0.150 J**	**0.180 J**	**0.180 J**	0.270 UJ	**0.130 J**	**0.160 J**	**0.210 J**	**0.140 J**	**0.250 J**	**0.062 J**	**0.098 J**	**0.073 J**	0.052 UJ	**0.056 J**	0.030 U
Chlorobenzene	0.0064 UJ	0.0071 UJ	0.0068 UJ	0.0066 UJ	4.900 U	0.0048 U	0.042 UJ	0.0056 UJ	0.0066 UJ	0.0061 UJ	0.0062 UJ	0.0060 UJ	0.027 UJ	0.0069 UJ	0.0064 UJ	0.0061 UJ	0.0052 UJ	0.022 UJ	0.0061 UJ	0.0053 UJ	0.0052 UJ	0.0052 UJ	0.0054 UJ	0.0030 U
Total VOC	**0.47480**	**0.48475**	**0.45050**	**0.45925**	262.15001 U	0.25680 U	2.25500 U	**0.37025**	**0.57725**	**0.44450**	**0.48610**	**0.47525**	**1.66500**	**0.46475**	**0.47100**	**0.53700**	**0.41680**	**1.82900**	**0.35650**	**0.35625**	**0.32400**	0.27700 U	**0.31900**	0.16025 U
PAH (mg/Kg)																								
2-Methylnaphthalene	1.700 UJ	1.900 UJ	1.800 UJ	1.800 UJ	**1.400**	**1.400**	1.400 UJ	1.500 UJ	1.800 UJ	1.600 UJ	1.700 UJ	**1.700 J**	**10.000 J**	1.800 UJ	1.700 UJ	1.600 UJ	**6.800 J**	**16.000 J**	0.650 UJ	1.400 UJ	1.400 UJ	1.400 UJ	1.400 UJ	0.080 U
Acenaphthene	1.700 UJ	1.900 UJ	1.800 UJ	1.800 UJ	1.300 U	1.300 U	1.400 UJ	1.500 UJ	1.800 UJ	1.600 UJ	1.700 UJ	1.600 UJ	**21.000 J**	1.800 UJ	1.700 UJ	1.600 UJ	**5.800 J**	**12.000 J**	0.650 UJ	1.400 UJ	1.400 UJ	**1.400 J**	1.400 UJ	0.080 U
Acenaphthylene	1.700 UJ	1.900 UJ	1.800 UJ	1.800 UJ	1.300 U	1.300 U	1.400 UJ	1.500 UJ	1.800 UJ	1.600 UJ	1.700 UJ	1.600 UJ	**9.600 J**	1.800 UJ	1.700 UJ	1.600 UJ	**2.200 J**	**3.400 J**	0.650 UJ	1.400 UJ	**1.500 J**	1.400 UJ	1.400 UJ	0.080 U
Anthracene	1.700 UJ	1.900 UJ	1.800 UJ	1.800 UJ	**2.700**	**3.700**	**1.900 J**	**1.900 J**	1.800 UJ	1.600 UJ	1.700 UJ	**2.000 J**	**33.000 J**	**2.500 J**	1.700 UJ	1.600 UJ	**7.300 J**	**19.000 J**	**0.990 J**	**1.700 J**	**3.000 J**	**2.800 J**	1.400 UJ	0.080 U
Benzo(a)anthracene	1.700 UJ	1.900 UJ	1.800 UJ	1.800 UJ	**6.300**	**8.800**	**4.500 J**	**2.800 J**	1.800 UJ	1.600 UJ	**1.700 J**	**3.300 J**	**26.000 J**	**3.400 J**	**2.700 J**	**2.000 J**	**6.900 J**	**16.000 J**	**1.700 J**	**3.100 J**	**4.600 J**	**5.500 J**	**1.600 J**	0.080 U
Benzo(a)pyrene	1.700 UJ	1.900 UJ	**6.000 J**	**5.900 J**	**6.500**	**7.900**	**5.200 J**	**5.600 J**	1.800 UJ	1.600 UJ	1.700 UJ	**6.900 J**	**21.000 J**	**7.600 J**	**6.800 J**	**5.900 J**	**8.700 J**	**14.000 J**	**3.200 J**	**6.400 J**	**6.300 J**	**7.500 J**	**5.200 J**	**0.270**
Benzo(b)fluoranthene	1.700 UJ	1.900 UJ	1.800 UJ	1.800 UJ	**5.600**	**6.600**	**4.200 J**	**3.900 J**	1.800 UJ	1.600 UJ	1.700 UJ	**4.500 J**	**10.000 J**	1.800 UJ	**4.400 J**	1.600 UJ	**5.000 J**	**7.900 J**	**2.100 J**	**4.100 J**	**4.100 J**	**5.600 J**	1.400 UJ	0.080 U
Benzo(ghi)perylene	1.700 UJ	1.900 UJ	1.800 UJ	1.800 UJ	**4.400**	**5.000**	**3.800 J**	1.500 UJ	1.800 UJ	1.600 UJ	1.700 UJ	**4.300 J**	**9.200 J**	1.800 UJ	1.700 UJ	1.600 UJ	**4.600 J**	**7.400 J**	**1.900 J**	**3.800 J**	1.400 UJ	**4.400 J**	1.400 UJ	0.080 U
Benzo(k)fluoranthene	1.700 UJ	1.900 UJ	1.800 UJ	1.800 UJ	**4.700**	**5.600**	**4.000 J**	**3.400 J**	1.800 UJ	1.600 UJ	1.700 UJ	**4.300 J**	**13.000 J**	1.800 UJ	**4.100 J**	1.600 UJ	**5.400 J**	**9.300 J**	**2.000 J**	**3.900 J**	**3.800 J**	**5.900 J**	1.400 UJ	0.080 U
Chrysene	**1.800 J**	1.900 UJ	1.800 UJ	1.800 UJ	**5.900**	**8.000**	**4.400 J**	**2.500 J**	**1.800 J**	1.600 UJ	**2.000 J**	**4.000 J**	**25.000 J**	**3.100 J**	**2.600 J**	**2.000 J**	**7.000 J**	**13.000 J**	**1.600 J**	**3.000 J**	**4.100 J**	**5.100 J**	**1.600 J**	0.080 U
Dibenz(a,h)anthracene	1.700 UJ	1.900 UJ	1.800 UJ	1.800 UJ	1.300 U	1.300 U	1.400 UJ	1.500 UJ	1.800 UJ	1.600 UJ	1.700 UJ	1.600 UJ	**4.900 J**	1.800 UJ	1.700 UJ	1.600 UJ	1.400 UJ	**4.300 J**	0.650 UJ	1.400 UJ	1.400 UJ	1.400 UJ	1.400 UJ	0.080 U
Fluoranthene	**2.500 J**	1.900 UJ	1.800 UJ	1.800 UJ	**10.000**	**14.000**	**7.900 J**	**6.200 J**	**2.400 J**	1.600 UJ	**2.900 J**	**6.400 J**	**43.000 J**	**5.500 J**	**4.800 J**	**3.900 J**	**11.000 J**	**23.000 J**	**2.800 J**	**5.000 J**	**7.300 J**	**12.000 J**	**2.100 J**	**0.140**
Fluorene	1.700 UJ	1.900 UJ	1.800 UJ	1.800 UJ	1.300 U	1.300 U	1.400 UJ	1.500 UJ	1.800 UJ	1.600 UJ	1.700 UJ	1.600 UJ	**4.400 J**	1.800 UJ	1.700 UJ	1.600 UJ	**3.900 J**	**10.000 J**	0.650 UJ	1.400 UJ	1.400 UJ	**1.600 J**	1.400 UJ	0.080 U
Indeno(1,2,3-cd)pyrene	1.700 UJ	1.900 UJ	1.800 UJ	1.800 UJ	**4.500**	**4.900**	**4.100 J**	1.500 UJ	1.800 UJ	1.600 UJ	1.700 UJ	**4.600 J**	**8.400 J**	1.800 UJ	1.700 UJ	1.600 UJ	**4.600 J**	**6.700 J**	**2.000 J**	**4.100 J**	3.500 UJ	**4.700 J**	1.400 UJ	0.080 U
Naphthalene	1.700 UJ	1.900 UJ	1.800 UJ	1.800 UJ	**6.500**	**5.500**	1.400 UJ	1.500 UJ	1.800 UJ	1.600 UJ	1.700 UJ	**1.600 J**	**9.100 J**	1.800 UJ	1.700 UJ	1.600 UJ	**5.800 J**	**14.000 J**	**0.660 J**	1.400 UJ	**1.800 J**	**1.800 J**	1.400 UJ	0.080 U
Phenanthrene	1.700 UJ	1.900 UJ	1.800 UJ	1.800 UJ	**7.000**	**7.300**	**4.600 J**	**2.700 J**	1.800 UJ	1.600 UJ	**2.000 J**	**4.600 J**	**43.000 J**	**3.800 J**	**2.700 J**	**3.000 J**	**14.000 J**	**39.000 J**	**1.300 J**	**3.400 J**	**4.200 J**	**9.700 J**	1.400 UJ	**0.090**
Pyrene	**3.000 J**	1.900 UJ	**2.100 J**	**2.400 J**	**11.000**	**15.000**	**8.800 J**	**5.400 J**	**2.900 J**	1.600 UJ	**3.400 J**	**7.100 J**	**60.000 J**	**6.800 J**	**4.900 J**	**4.400 J**	**16.000 J**	**31.000 J**	**3.000 J**	**5.400 J**	**8.200 J**	**10.000 J**	**2.700 J**	**0.150**
Total HMW PAH	**10.750**	8.550 U	**14.400**	**14.600**	**49.550**	**62.450**	**39.700**	**25.850**	**11.000**	7.200 U	**12.200**	**39.800**	**177.500**	**25.400**	**28.050**	**18.300**	**58.900**	**109.600**	**17.825**	**34.500**	**34.250**	**49.400**	**14.600**	**0.700**
Total LMW PAH	**8.450**	7.600 U	7.200 U	7.200 U	**29.550**	**33.850**	**17.900**	**14.550**	**8.700**	6.400 U	**10.000**	**18.700**	**173.100**	**16.300**	**12.600**	**11.700**	**56.800**	**136.400**	**7.050**	**13.600**	**19.900**	**30.700**	**7.000**	**0.470**
Total PAH	**19.200**	16.150 U	**21.600**	**21.800**	**79.100**	**96.300**	**57.600**	**40.400**	**19.700**	13.600 U	**22.200**	**58.500**	**350.600**	**41.700**	**40.650**	**30.000**	**115.700**	**246.000**	**24.875**	**48.100**	**54.150**	**80.100**	**21.600**	**1.170**
Benzo(a)pyrene Equivalents	**1.9653**	**2.19545**	**7.1799**	**7.0799**	**8.8429**	**10.644**	**7.2244**	**7.1315**	**2.0808**	**1.8488**	**2.0505**	**8.987**	**30.495**	**9.0321**	**8.4886**	**7.070**	**11.111**	**21.466**	**4.1266**	**8.272**	**8.0871**	**9.8441**	**6.2086**	**0.32244**
SVOC (mg/Kg)																								
bis(2-Ethylhexyl) phthalate	**11.000 J**	9.500 UJ	9.000 UJ	8.800 UJ	13.000 U	**8.800**	**6.300 J**	**9.700 J**	**23.000 J**	8.100 UJ	**9.700 J**	**9.900 J**	7.200 UJ	9.200 UJ	8.500 UJ	8.100 UJ	6.900 UJ	7.200 UJ	**10.000 J**	7.100 UJ	6.900 UJ	6.900 UJ	7.200 UJ	0.800 U
Total SVOC	**166.250**	172.600 U	**169.450**	**166.550**	**282.600**	**207.100**	**155.350**	**167.950**	**183.050**	146.900 U	**165.100**	**195.250**	**468.250**	**192.300**	**180.950**	**163.300**	**230.000**	**363.650**	**63.010**	**163.650**	**168.450**	**194.400**	**139.250**	**13.670**
Carbon/Soot (mg/Kg)																								
Average Total Organic Carbon	**4.0 J**	**2.5**	**2.2**	**3.6**	**3.5**	**4.6**	**3.9**	**3.0 J**	**3.0 J**	**2.1 J**	**5.9 J**	**4.3 J**	**5.4 J**	**3.4 J**	**3.9**	**4.9 J**	**4.6 J**	**4.5 J**	**3.4 J**	**9.5 J**	**9.2 J**	**11 J**	**2.8 J**	**0.10 J**
Total Organic Carbon	**4.1 J**	**2.5**	**2.2**	**3.4**	**3.3**	**4.5**	**3.9**	**3.2 J**	**3.2 J**	**2.0 J**	**6.9 J**	**4.3 J**	**4.8 J**	**3.4 J**	**2.3**	**5.0 J**	**5.5 J**	**4.5 J**	**3.1 J**	**8.0 J**	**8.6 J**	**13 J**	**2.7 J**	**0.10 J**
Total Organic Carbon (Run 2)	**4.0 J**	**2.6**	**2.2**	**3.4**	**3.5**	**4.9**	**3.5**	**3.0 J**	**3.1 J**	**1.9 J**	**5.8 J**	**4.4 J**	**5.4 J**	**3.3 J**	**5.1**	**4.7 J**	**4.0 J**	**4.6 J**	**3.9 J**	**10 J**	**11 J**	**10 J**	**3.0 J**	**0.09 J**
Total Organic Carbon (Run 3)	**3.9 J**	**2.5**	**2.2**	**3.9**	**3.6**	**4.3**	**4.2**	**3.0 J**	**2.7 J**	**2.2 J**	**5.0 J**	**4.1 J**	**6.1 J**	**3.6 J**	**4.3**	**4.9 J**	**4.2 J**	**4.3 J**	**3.1 J**	**10 J**	**8.1 J**	**11 J**	**2.8 J**	**0.12 J**

Notes:
mg/Kg = milligram per kilogram
Bold = detected above reporting limit
Total VOCs include BTEX
Total SVOCs include Total PAH
Surface Sediment Totals use half the detection limit for nondetected compounds
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-15
Summary of East River Background Surface Sediment Analytical Results
Former East 21st Street Works, New York, New York

	Summary Statistics								
	Exceedances	**DL Exceedances**	**Max Detected Concentration**	**ID for Max Concentration**	**Min Detected Concentration**	**ID for Min Concentration**	**Average Detected Concentration**	**Min DL for NonDetects**	**Max DL for NonDetects**
BTEX (mg/Kg)									
Benzene	0	0	0.0092	SEDDUP102-100708	0.007	BG06d-100808	0.007825	0.003	4.9
Ethylbenzene	0	0	0.22	BG11c-100708	0.0094	BG11b-100708	0.123133333	0.003	4.9
m,p-Xylene	0	0	0.12	BG11c-100708	0.012	BG11b-100708	0.065666667	0.006	9.8
o-Xylene	0	0	0.23	BG11c-100708	0.017	BG11b-100708	0.108333333	0.006	9.8
Toluene	0	0	-	-	-	-	-	0.0045	7.4
Total Xylene (calculated)	0	0	0.35	BG11c-100708	0.029	BG11b-100708	0.174	0.006	9.8
Total BTEX	0	0	0.5975	BG11c-100708	0.02695	BG09D-100708	0.153335714	0.01125	18.4
VOC (mg/Kg)									
2-Butanone (Methyl Ethyl Ketone)	0	0	0.071	BG09b-100708	0.063	BG11a-100708	0.067	0.03	49
Acetone	0	0	0.25	BG11c-100708	0.056	BG13a-100708	0.133942857	0.03	49
Chlorobenzene	0	0	0.064	BG02b-101008	0.064	BG02b-101008	0.064	0.003	4.9
Total VOC	0	0	1.829	BG11c-100708	0.27565	BG05c-100808	0.505520833	0.16025	262.15001
PAH (mg/Kg)									
2-Methylnaphthalene	0	0	16	BG11c-100708	1.4	BG08b-101008	4.833333333	0.08	1.9
Acenaphthene	0	0	21	BG10a-100808	1.4	BG12c-100608	8.38	0.08	1.9
Acenaphthylene	0	0	9.6	BG10a-100808	1.5	SEDDUP101-100608	3.66	0.08	1.9
Anthracene	0	0	33	BG10a-100808	0.99	BG12a-100608	4.861428571	0.08	1.9
Benzo(a)anthracene	0	0	26	BG10a-100808	1.6	BG13a-100708	4.641176471	0.08	1.9
Benzo(a)pyrene	0	0	21	BG10a-100808	0.27	BG13b-100708	6.550571429	1.6	1.9
Benzo(b)fluoranthene	0	0	10	BG10a-100808	2.1	BG12a-100608	4.957894737	0.08	1.9
Benzo(ghi)perylene	0	0	9.2	BG10a-100808	1.9	BG12a-100608	4.841666667	0.08	1.9
Benzo(k)fluoranthene	0	0	13	BG10a-100808	2	BG12a-100608	4.968421053	0.08	1.9
Chrysene	0	0	25	BG10a-100808	1.6	BG13a-100708	4.277777778	0.08	1.9
Dibenz(a,h)anthracene	0	0	4.9	BG10a-100808	4.3	BG11c-100708	4.6	0.08	1.9
Fluoranthene	0	0	43	BG10a-100808	0.14	BG13b-100708	6.911282051	1.6	1.9
Fluorene	0	0	10	BG11c-100708	1.6	BG12c-100608	4.38	0.08	1.9
Indeno(1,2,3-cd)pyrene	0	0	8.4	BG10a-100808	2	BG12a-100608	4.858333333	0.08	3.5
Naphthalene	0	0	14	BG11c-100708	0.66	BG12a-100608	4.505	0.08	1.9
Phenanthrene	0	0	43	BG10a-100808	0.09	BG13b-100708	6.647931034	1.4	1.9
Pyrene	0	0	60	BG10a-100808	0.15	BG13b-100708	7.996428571	1.6	1.9
Calculated Weighted PAH	0	0	108.3	BG10a-100808	0.51	BG13b-100708	22.392125	5.6	6.65
Total HMW PAH	0	0	177.5	BG10a-100808	0.7	BG13b-100708	31.57916667	7.2	8.55
Total LMW PAH	0	0	173.1	BG10a-100808	0.47	BG13b-100708	22.82358974	6.4	7.6
Total PAH	0	0	350.6	BG10a-100808	1.17	BG13b-100708	53.28678571	13.6	16.15
Benzo(a)pyrene Equivalents	0	0	30.495	BG10a-100808	0.32244	BG13b-100708	7.202265682	-	-
SVOC (mg/Kg)									
bis(2-Ethylhexyl) phthalate	0	0	23	BG09B-100708	6.3	BG08c-101008	11.98	0.8	13
Total SVOC	0	0	468.25	BG10a-100808	13.67	BG13b-100708	183.7078571	146.9	172.6
Carbon/Soot (mg/Kg)									
Average Total Organic Carbon	0	0	11	BG12c-100608	0.1	BG13b-100708	3.988636364	-	-
Total Organic Carbon	0	0	13	BG12c-100608	0.1	BG13b-100708	3.990909091	-	-
Total Organic Carbon (Run 2)	0	0	11	SEDDUP101-100608	0.09	BG13b-100708	4.031590909	-	-
Total Organic Carbon (Run 3)	0	0	11	BG12c-100608	0.12	BG13b-100708	3.934545455	-	-

Table 5-16
Summary of OU2 RI Sediment Boring Locations Exceeding NYSDEC Screening Criteria
Former East 21st Street Works, New York, New York

Location ID	Depth Interval (feet)	Top of Sediment Elevation	Sediment Type	Observation	Odor	Total PAH (mg/kg)
GS07	0-1	-24	Gravel	---	---	*1711.3*
GS09	0-1	-37	Clay	---	---	7.436
GS13	0-1	-18	Gravel	Stain	Organic	*1793.5*
GS14	0-1	-18	Silt/Peat	Stain/Sheen	Organic	*1192*
GS16	0-1	-15	Silt/Peat	NAPL	MGP	*1565.35*
GS17	0-1	-15	Silt	---	Organic	*144.8*
GS21	0-1	-18.2	Silty Peat	Stain/Sheen	MGP	*1165.5*
GS25	0-1	-35	Sand	---	---	*208.745*
GS26	0-1	-30	Sand	---	---	7.94
GS35	0-1	-20	Silt	Sheen	MGP	*1000.4*
GS36	0-1	-15	Silt	NAPL/Sheen	MGP	*314.2*
GS37	0-1	-24	Silt	---	Organic	16.9
GS39	0-1	-20	Silt and Gravel	NAPL	MGP	*4312.4*
GS40	0-1	-29	Sand and Silt	---	Organic	*251.7*
GS41	0-1	-25	Silt	---	Organic	25.5
GS41 DUP	0-1	-25	Silt	---	Organic	65.4
GS42	0-1	-11	Silt	---	Organic	56.8
GS43	0-1	-14	Silt	---	Organic	33.85
RB2	0-1	-9	Silt	---	---	16.46
RB3	0-1	-12	Silt	---	MGP, Organic	48.085
RB4	0-0.4	-8	Silt	---	H_2S	*161.22*
RB5	0-0.5	-8	Silt	---	H_2S	*98.15*
RB6	0-0.5	-15	Silt	---	H_2S	*132.44*
RB8	0-1	-24	Gravel	TLM/Stain/Sheen	MGP	*1667.8*
RB11	0-1	-25	Silt	NAPL	MGP	*454.65*
RB12	0-1	-6	Sand	---	---	24.52
RB13	0-1	-21	Silt	Sheen	MGP, H_2S, Organic	*233.14*
RB14	0-1	-25	Silt	Stain/Sheen	MGP	*978.7*
RB16	0-0.5	-32	Silt	---	MGP, H_2S, Organic	*116.39*
RB17	0-0.5	-32	Sand, Silt, and Clay	---	---	8.583
RB18	0-0.5	-26	Silt	---	H_2S	28.67
RB19	0-0.5	-15	Silt	---	H_2S	24.895
RB20	0-0.5	-23	Silt	---	H_2S	67.34
RB23	0-0.5	-7	Silt	---	H_2S	5.5965
RB24	0-0.5	-21	Silt	---	H_2S	57.865
RB25	0-0.5	-10	Silt	---	H_2S	8.551
RB26	0-0.5	-32	Silty Sand	---	---	7.8905
RB28	0-0.5	-35	Gravel	---	H_2S	29.864
RB29	0-0.5	-35	Sand	Sheen	---	*104.5*
RB30	0-0.5	-38	Sand, Silt, and Clay	---	---	16.844
RB33	0-0.5	-25	Silt	---	H_2S	29.39
RB35	0-0.5	-30	Silt	Stain/Sheen	---	*410.1*
RB36	0-0.5	-32	Sand/Clay	---	---	*138.85*
RB37	0-0.5	-35	Sand	---	H_2S	*213.3*

Location ID	Depth Interval (feet)	Top of Sediment Elevation	Sediment Type	Observation	Odor	Total PAH (mg/kg)
RB38	0-0.5	-35	Silt	---	H_2S	8.331
RB40	0-0.5	-36	Sand	---	Organic	*513.7*
RB41	0-0.5	-29	Sand	---	---	46.05
RB43	0-0.5	-8	Silt	---	H_2S	10.48
RB44	0-0.5	-7	Silt	---	H_2S	26.22
RB45	0-0.5	-10	Silt	---	H_2S	7.567
RB46	0-0.5	-16	Silt	---	---	8.45
RB47	0-0.5	-20	Silt	---	H_2S	*220.5*
RB48	0-0.5	-10	Silt	---	H_2S	17.03
RB49	0-0.5	-20	Silt	---	---	11.455
RB50	0-0.5	-16	Silt	Sheen	H_2S	*2300.95*
RB51	0-0.5	-22	Silt	---	H_2S	*117.65*
RB52	0-0.5	-14	Silt	---	H_2S	*104.53*
RB53	0-0.5	-25	Silt	---	---	27.16
RB54	0-0.5	-18	Silt/Peat	---	H_2S	*158.65*
RB55	0-1	-5	Sand	---	Organic	*1681.8*
RB56	0-1	-8	Silt	---	Organic	41.7
RB57	0-1	-10	Silty Sand	---	Organic	40.9
RB58	0-1	-25	Silt	---	Organic	64.9
RB59	0-1	-9	Silt	---	Organic	45
RB59 DUP	0-1	-9	Silt	---	Organic	25.9
RB60	0-1	-12	Silt	---	MGP	*165.2*
RB60 DUP	0-1	-12	Silt	---	MGP	*217.05*
RB61	0-1	-23	Silt	---	Organic	22.15
RB62	0-1	-14	Silt	---	Organic	*289.5*
RB63	0-1	-27	Gravel/Sand	---	---	*839.8*
RB64	0-1	-26	Gravel/Silt	Sheen	Organic	41.4
RB65	0-1	-32	Silt	Sheen	Organic	*121.9*
RB66	0-1	-36	Sand	Stain	---	22.19
RB67	0-1	-21	Silt	---	Organic	*179.1*
RB68 [a]	0-1	-20	Silty Sand	Stain/Sheen	MGP	35.5
RB69	0-1	-20	Silt	Sheen	MGP	*1105.5*
RB70	0-1	-7	Silt	Sheen	MGP	*555.3*
RB71	0-1	-9	Silty Sand	---	Organic	47.5
RB72	0-1	-17	Sandy Silt	---	Organic	31.7
RB73	0-1	-22	Silt	---	Organic	46.7
RB74	0-1	-40	Sand	---	Organic	12.81
RB75	0-1	-29	Silty Sand	Sheen	MGP	*886*
RB76	0-1	-30	Silt, Sand, and Gravel	---	---	*270.645*
ERSSREF02	0-0.5	-19	Sandy Silt	---	Organic	15.66
ERSSREF04	0-0.5	-7	Silt	---	H_2S	14.48
ERSSREF05	0-0.5	-15	Silt	---	H_2S	13.37

Note:

Italics - concentration exceeds the site-specific background value 71.18 mg/kg total PAHs

Bold - potential for contribution from MGP site at the location

--- no visual impacts/odor observed

[a] potential MGP impact indicated by elevated BTEX values at the location

Table 5-17
Summary of OU2 RI Outfall Sediment Analytical Results
Former East 21st Street Works, New York, New York

Location	ER0F01	ER0F01	ER0F01	ER0F02	ER0F02	ER0F02	ER0F03	ER0F03	ER0F03	EROF04	EROF04	EROF04	ERSSREF03	ERSSREF03
Sample Date	6/12/2008	6/12/2008	6/12/2008	6/12/2008	6/12/2008	6/12/2008	6/12/2008	6/12/2008	6/12/2008	10/10/2008	10/10/2008	10/10/2008	6/12/2008	6/12/2008
Depth Interval (feet)	0-0.5	1-2	2-3	0-0.5	1-2	2-3	0-0.5	1-2	2-3	0-0.5	1-2	2-3	0-0.5	0.5-1.2
BTEX (mg/kg)														
Benzene	0.038 U	**0.0062 J**	**0.024 J**	0.0043 U	0.0053 UJ	**0.340 J**	0.0071 UJ	0.0074 UJ	0.0071 UJ	0.0045 U	0.046 UJ	0.046 UJ	0.0045 U	0.0048 U
Ethylbenzene	0.038 U	**0.016 J**	**0.066 J**	0.0043 U	**0.015 J**	**5.700 J**	0.0071 UJ	0.0074 UJ	0.0071 UJ	0.0045 U	0.046 UJ	0.046 UJ	0.0045 U	0.0048 U
m,p-Xylene	0.076 U	0.011 UJ	**0.064 J**	0.0086 U	0.011 UJ	**6.300 J**	0.014 UJ	0.015 UJ	0.014 UJ	0.0089 U	0.093 UJ	0.093 UJ	0.0091 U	0.0096 U
o-Xylene	0.076 U	**0.020 J**	**0.056 J**	0.0086 U	**0.017 J**	**4.600 J**	0.014 UJ	0.015 UJ	0.014 UJ	0.0089 U	0.093 UJ	0.093 UJ	0.0091 U	0.0096 U
Toluene	0.057 U	0.0080 UJ	0.0089 UJ	0.0065 U	0.0080 UJ	**0.360 J**	0.011 UJ	0.011 UJ	0.011 UJ	0.0067 U	0.070 UJ	0.070 UJ	0.0068 U	0.0072 U
Total Xylene (calculated)	ND	**0.020**	**0.120**	ND	**0.017**	**10.900**	ND	ND	ND	ND	ND	ND	ND	ND
Total BTEX	ND	**0.04220**	**0.210**	ND	**0.032**	**17.300**	ND	ND	ND	ND	ND	ND	ND	ND
VOC (mg/kg)														
Acetone	**0.640 J**	**0.072 J**	**0.130 J**	0.043 UJ	0.053 UJ	0.560 UJ	0.071 UJ	0.074 UJ	0.071 UJ	0.045 U	0.460 UJ	0.460 UJ	0.045 UJ	0.048 UJ
Total VOC	**2.4805**	**0.1142**	**0.34**	ND	**0.032**	**17.300**	ND	ND	ND	ND	ND	ND	ND	ND
PAH (mg/kg)														
2-Methylnaphthalene	**13.000**	**5.200 J**	**27.000 J**	**0.660**	**8.900 J**	**280.000 J**	0.190 UJ	0.200 UJ	0.190 UJ	1.200 UJ	1.600 UJ	**3.500 J**	**2.000**	0.130 U
Acenaphthene	**22.000**	**6.400 J**	**29.000 J**	**2.100**	**13.000 J**	**130.000 J**	0.190 UJ	0.200 UJ	0.190 UJ	1.200 UJ	1.600 UJ	**2.500 J**	**3.400**	0.130 U
Acenaphthylene	2.000 U	1.400 UJ	**2.600 J**	0.460 U	**2.800 J**	**15.000 J**	0.190 UJ	0.200 UJ	0.190 UJ	1.200 UJ	1.600 UJ	1.600 UJ	1.200 U	0.130 U
Anthracene	**43.000**	**18.000 J**	**40.000 J**	**2.300**	**18.000 J**	**110.000 J**	**0.390 J**	**0.350 J**	**0.360 J**	1.200 UJ	**1.800 J**	**6.300 J**	**8.700**	**0.580**
Benzo(a)anthracene	**54.000**	**20.000 J**	**34.000 J**	**3.000**	**16.000 J**	**75.000 J**	**1.100 J**	**0.900 J**	**0.850 J**	**2.200 J**	**3.500 J**	**9.200 J**	**24.000**	**2.400**
Benzo(a)pyrene	**44.000**	**16.000 J**	**32.000 J**	**2.800**	**13.000 J**	**61.000 J**	**1.300 J**	**0.990 J**	**0.870 J**	**3.700 J**	**4.700 J**	**7.600 J**	**21.000**	**2.100**
Benzo(b)fluoranthene	**33.000**	**11.000 J**	**15.000 J**	**2.600**	**8.700 J**	**26.000 J**	**1.100 J**	**0.970 J**	**0.990 J**	**3.200 J**	**4.000 J**	**6.600 J**	**15.000**	**1.600**
Benzo(ghi)perylene	**26.000**	**7.700 J**	**16.000 J**	**1.500**	**6.200 J**	**24.000 J**	**0.700 J**	**0.560 J**	**0.530 J**	**3.000 J**	1.600 UJ	**5.000 J**	**12.000**	**0.980**
Benzo(k)fluoranthene	**36.000**	**10.000 J**	**20.000 J**	**2.300**	**9.100 J**	**39.000 J**	**1.000 J**	**0.720 J**	**0.640 J**	**3.000 J**	**3.800 J**	**5.300 J**	**18.000**	**1.900**
Chrysene	**52.000**	**19.000 J**	**32.000 J**	**3.200**	**16.000 J**	**70.000 J**	**1.200 J**	**1.000 J**	**0.920 J**	**2.400 J**	**4.000 J**	**8.900 J**	**22.000**	**1.900**
Dibenz(a,h)anthracene	**8.200**	**2.400 J**	**3.600 J**	0.460 U	**1.700 J**	**7.800 J**	**0.200 J**	0.200 UJ	0.190 UJ	1.200 UJ	1.600 UJ	1.600 UJ	**3.700**	**0.360**
Fluoranthene	**140.000**	**36.000 J**	**64.000 J**	**6.000**	**27.000 J**	**130.000 J**	**1.900 J**	**1.400 J**	**1.500 J**	**4.700 J**	**8.500 J**	**20.000 J**	**48.000**	**3.000**
Fluorene	**21.000**	**7.100 J**	**24.000 J**	**0.930**	**8.500 J**	**80.000 J**	0.190 UJ	0.200 UJ	0.190 UJ	1.200 UJ	1.600 UJ	**4.200 J**	**3.600**	0.130 U
Indeno(1,2,3-cd)pyrene	**22.000**	**6.200 J**	**11.000 J**	**1.200**	**4.700 J**	**19.000 J**	**0.550 J**	**0.430 J**	**0.410 J**	1.200 UJ	1.600 UJ	**5.100 J**	**10.000**	**0.950**
Naphthalene	**15.000**	**4.800 J**	**21.000 J**	**2.100**	**23.000 J**	**220.000 J**	0.190 UJ	0.200 UJ	0.190 UJ	1.200 UJ	1.600 UJ	**4.000 J**	**3.400**	**0.330**
Phenanthrene	**140.000**	**40.000 J**	**100.000 J**	**3.400**	**37.000 J**	**270.000 J**	**0.690 J**	**0.480 J**	**0.480 J**	**1.400 J**	**2.400 J**	**16.000 J**	**40.000**	**0.450**
Pyrene	**120.000**	**41.000 J**	**86.000 J**	**6.400**	**35.000 J**	**190.000 J**	**2.200 J**	**1.600 J**	**1.600 J**	**6.900 J**	**8.800 J**	**22.000 J**	**58.000**	**4.000**
Total HMW PAH	**395.200**	**133.300**	**249.600**	**23.230**	**110.400**	**511.800**	**9.350**	**7.170**	**6.810**	**25.600**	**28.800**	**69.700**	**183.700**	**16.190**
Total LMW PAH	**395.000**	**117.500**	**307.600**	**17.720**	**138.200**	**1235.000**	**3.455**	**2.230**	**2.340**	**9.700**	**12.700**	**56.500**	**109.700**	**4.360**
Total PAH	**790.200**	**250.800**	**557.200**	**40.950**	**248.600**	**1746.800**	**12.805**	**9.400**	**9.150**	**35.300**	**41.500**	**126.200**	**293.400**	**20.550**
Benzo(a)pyrene Equivalents	**63.512**	**22.239**	**41.832**	**3.7362**	**17.747**	**81.260**	**1.7862**	**1.2282**	**1.10232**	**4.9324**	**5.492**	**9.7519**	**29.802**	**2.9759**
SVOC (mg/kg)														
3+4-Methylphenols	**7.400**	4.200 UJ	4.800 UJ	1.400 U	4.200 UJ	8.900 UJ	1.100 UJ	1.200 UJ	1.100 UJ	3.600 UJ	9.300 UJ	4.600 UJ	2.900 U	0.770 U
bis(2-Ethylhexyl) phthalate	10.000 U	7.100 UJ	7.900 UJ	2.300 U	7.100 UJ	15.000 UJ	1.900 UJ	2.000 UJ	**2.300 J**	**14.000 J**	16.000 UJ	7.800 UJ	4.800 U	1.300 U
Carbazole	**6.400**	3.500 UJ	4.000 UJ	1.100 U	3.500 UJ	7.400 UJ	0.950 UJ	0.980 UJ	0.950 UJ	3.000 UJ	7.800 UJ	3.900 UJ	**2.600**	0.640 U
Dibenzofuran	**10.000**	3.500 UJ	4.000 UJ	1.100 U	3.500 UJ	**9.300 J**	0.950 UJ	0.980 UJ	0.950 UJ	3.000 UJ	7.800 UJ	3.900 UJ	2.400 U	0.640 U
Total SVOC	**970.350**	**250.800**	**557.200**	**77.880**	**248.600**	**1756.100**	**42.380**	**9.400**	**11.450**	**144.650**	**41.500**	**126.200**	**375.650**	**20.550**

Notes:
ND = calculated totals are not detected
NS = Not Sampled
mg/Kg = milligram per kilogram
Bold = detected above reporting limit
Total VOCs include BTEX
Total SVOCs include Total PAH
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-17
Summary of OU2 RI Outfall Sediment Analytical Results
Former East 21st Street Works, New York, New York

Location	ER0F01	ER0F01	ER0F01	ER0F02	ER0F02	ER0F02	ER0F03	ER0F03	ER0F03	EROF04	EROF04	EROF04	ERSSREF03	ERSSREF03
Sample Date	6/12/2008	6/12/2008	6/12/2008	6/12/2008	6/12/2008	6/12/2008	6/12/2008	6/12/2008	6/12/2008	10/10/2008	10/10/2008	10/10/2008	6/12/2008	6/12/2008
Depth Interval (feet)	0-0.5	1-2	2-3	0-0.5	1-2	2-3	0-0.5	1-2	2-3	0-0.5	1-2	2-3	0-0.5	0.5-1.2
SHC_Carbon (mg/kg)														
2,6,10 Trimethyldodecane (1380)	**2.27**	**2.80 J**	**2.98 J**	**0.970 J**	**4.96 J**	**15.8 J**	**0.116 J**	**0.265 J**	**0.386 J**	NS	NS	NS	**0.103 J**	**0.0417 J**
2,6,10 Trimethyltridecane (1470)	**5.55**	**8.88 J**	**14.8 J**	**5.37**	**11.5 J**	**29.4 J**	**1.00 J**	**1.02 J**	**1.47 J**	NS	NS	NS	**2.20**	**0.504 J**
Decane	**0.892 J**	**0.795 J**	**1.15 J**	**0.886 J**	**1.21 J**	**3.64 R**	**0.204 J**	**0.127 J**	**0.168 J**	NS	NS	NS	**0.343**	**0.0635 J**
Docosane	**3.33**	**4.40 J**	**11.5 J**	1.71 U	2.22 UJ	**3.64 R**	**0.558 J**	**0.255 J**	**0.387 J**	NS	NS	NS	**0.994**	**0.626 J**
Dodecane	**1.13 J**	**0.612 J**	**6.42 J**	**0.882 J**	**0.900 J**	**3.64 R**	**0.0880 J**	**0.151 J**	**0.169 J**	NS	NS	NS	**0.169 J**	**0.293 J**
Eicosane	**5.72**	**9.16 J**	**17.6 J**	**3.58**	**5.81 J**	**3.64 R**	**0.396 J**	**0.348 J**	**0.515 J**	NS	NS	NS	**0.991**	**0.344 J**
Heneicosane	**1.80 J**	**1.23 J**	**10.9 J**	1.71 U	2.22 UJ	**3.64 R**	**0.261 J**	**0.273 J**	**0.285 J**	NS	NS	NS	**0.436**	**0.211 J**
Hentriacontane	**4.93**	**3.72 J**	**6.35 J**	**6.20**	**7.43 J**	**4.57 J**	**3.05 J**	**2.73 J**	**3.72 J**	NS	NS	NS	**1.73**	**1.31 J**
Heptacosane	**1.76 J**	**2.35 J**	**3.72 J**	**1.75**	**2.27 J**	**3.64 R**	**1.74 J**	**1.91 J**	**2.25 J**	NS	NS	NS	**1.47**	**1.86 J**
Heptadecane	**1.03 J**	**1.27 J**	**17.6 J**	**1.80**	**2.44 J**	**3.64 R**	**0.437 J**	**0.459 J**	**0.537 J**	NS	NS	NS	**0.403**	**0.207 J**
Hexacosane	**3.06**	**2.88 J**	**4.30 J**	**2.10**	**4.57 J**	**9.25 J**	**0.523 J**	**0.485 J**	**0.680 J**	NS	NS	NS	0.335 U	**0.475 J**
Hexadecane	1.88 U	**4.45 J**	**14.9 J**	**2.30**	**4.02 J**	**3.64 R**	**0.231 J**	0.555 UJ	0.751 UJ	NS	NS	NS	**0.775**	**0.214 J**
n-Dotriacontane (C32)	**2.83**	**1.41 J**	**1.51 J**	**0.751 J**	**1.38 J**	**3.64 R**	**0.377 J**	**0.444 J**	**0.530 J**	NS	NS	NS	0.335 U	**0.428 J**
n-Heptatriacontane (C37)	1.88 U	**0.656 J**	**0.803 J**	1.71 U	2.22 UJ	**3.64 R**	**0.542 J**	**0.383 J**	**0.517 J**	NS	NS	NS	0.335 U	0.376 UJ
n-Hexatriacontane (C36)	**1.89**	**1.88 J**	**2.53 J**	**1.18 J**	2.22 UJ	**3.64 R**	**0.391 J**	**0.449 J**	**0.790 J**	NS	NS	NS	**0.223 J**	0.376 UJ
n-Nonacosane (C29)	**53.0**	**17.7 J**	**27.2 J**	**5.64**	**8.63 J**	**3.64 R**	**2.37 J**	**2.02 J**	**2.70 J**	NS	NS	NS	**4.47**	**5.62 J**
n-Nonatriacontane (C39)	**0.496 J**	**0.544 J**	**0.750 J**	**0.282 J**	**0.253 J**	**3.64 R**	**0.270 J**	**0.336 J**	**0.473 J**	NS	NS	NS	**0.131 J**	**0.0834 J**
n-Octatriacontane (C38)	**0.882 J**	**0.850 J**	**1.19 J**	**0.629 J**	**1.03 J**	**3.64 R**	**0.487 J**	**0.487 J**	**0.756 J**	NS	NS	NS	**0.221 J**	**0.146 J**
Nonadecane	**1.60 J**	**1.13 J**	**15.0 J**	1.71 U	2.22 UJ	**2.83 J**	**0.311 J**	**0.299 J**	**0.533 J**	NS	NS	NS	**0.307 J**	**0.213 J**
Nonane	**0.241 J**	**0.487 J**	**0.709 J**	**0.622 J**	**1.15 J**	**3.64 R**	**0.0688 J**	**0.0666 J**	**0.0789 J**	NS	NS	NS	**0.121 J**	**0.0349 J**
Norpristane (1650)	**10.4**	**8.16 J**	**8.73 J**	**2.91**	**7.08 J**	**26.2 J**	**0.349 J**	**0.706 J**	**1.01 J**	NS	NS	NS	**0.0600 J**	**0.0255 J**
n-Pentacosane (C25)	**107**	**36.8 J**	**51.3 J**	**13.5**	**19.4 J**	**67.9 J**	**2.70 J**	**2.39 J**	**3.41 J**	NS	NS	NS	0.335 U	**9.35 J**
n-Pentatriacontane (C35)	**5.48**	**1.10 J**	**1.93 J**	**1.48 J**	**2.37 J**	**3.64 R**	**0.897 J**	**0.725 J**	**1.06 J**	NS	NS	NS	**1.53**	**0.151 J**
n-Tetracontane (C40)	**3.66**	**1.58 J**	**1.58 J**	**0.585 J**	**0.704 J**	**3.64 R**	**0.597 J**	**0.341 J**	**0.519 J**	NS	NS	NS	**0.860**	**0.539 J**
n-Triacontane (C30)	**6.09**	**4.80 J**	**6.44 J**	**3.16**	**4.67 J**	**3.64 R**	**0.891 J**	**0.616 J**	**1.10 J**	NS	NS	NS	**1.91**	**1.14 J**
n-Tritriacontane (C33)	1.88 U	**0.815 J**	**2.06 J**	**1.38 J**	**1.22 J**	**3.64 R**	**1.04 J**	**1.04 J**	**1.09 J**	NS	NS	NS	**0.203 J**	**0.384 J**
Octacosane	1.88 U	**2.12 J**	**1.64 J**	**1.45 J**	**2.17 J**	**3.64 R**	**0.330 J**	**0.303 J**	**0.516 J**	NS	NS	NS	0.335 U	**0.282 J**
Octadecane	**260**	**69.8 J**	**172 J**	**12.3**	**32.3 J**	**223 J**	**0.993 J**	**0.888 J**	**1.16 J**	NS	NS	NS	**21.6**	**5.94 J**
Pentadecane	1.88 U	2.28 UJ	**11.0 J**	**14.2**	**17.0 J**	**104 J**	**0.347 J**	**0.164 J**	**0.236 J**	NS	NS	NS	**0.231 J**	**0.146 J**
Pentadecane, 2,6,10,14-tetramethyl	**3.73**	**9.02 J**	**12.3 J**	**3.55**	**10.5 J**	**3.64 R**	**0.564 J**	**1.79 J**	**2.06 J**	NS	NS	NS	**0.488**	**0.222 J**
Phytane	**55.8**	**24.3 J**	**51.3 J**	**8.12**	**17.1 J**	**89.3 J**	**0.204 J**	**1.18 J**	**1.74 J**	NS	NS	NS	**6.78**	**2.70 J**
Tetracosane	1.88 U	2.28 UJ	**4.30 J**	1.71 U	2.22 UJ	**3.64 R**	**0.176 J**	**0.138 J**	**0.168 J**	NS	NS	NS	**0.226 J**	**0.140 J**
Tetradecane	**0.952 J**	**0.930 J**	**9.60 J**	**1.55 J**	**2.08 J**	**3.64 R**	**0.171 J**	**0.152 J**	**0.227 J**	NS	NS	NS	**0.293 J**	**0.108 J**
Tetratriacontane	**1.46 J**	**1.22 J**	**1.80 J**	1.71 U	2.22 UJ	**3.64 R**	**0.319 J**	**0.581 J**	**1.06 J**	NS	NS	NS	0.335 U	**0.218 J**
Total Petroleum Hydrocarbons (C9-C44)	**8920**	**7550**	**9260**	**7110**	**8880**	**17400**	**2880**	**1900**	**3180**	NS	NS	NS	**2390**	**874**
Total Saturated Hydrocarbons	**561**	**238**	**530**	**107**	**186**	**599**	**26.7**	**24.7**	**33.8**	NS	NS	NS	**53.1**	**36.1**
Tricosane	**14.1**	**10.5 J**	**21.0 J**	**3.91**	**6.42 J**	**27.1 J**	**0.220 J**	**0.541 J**	**0.814 J**	NS	NS	NS	**3.58**	**1.47 J**
Tridecane	**0.675 J**	**0.637 J**	**10.0 J**	**4.32**	**4.82 J**	**3.64 R**	**3.76 J**	**0.949 J**	**1.31 J**	NS	NS	NS	**0.234 J**	**0.591 J**
Undecane	**0.912 J**	**0.544 J**	**3.07 J**	**0.876 J**	**1.13 J**	**3.64 R**	**0.0853 J**	**0.120 J**	**0.173 J**	NS	NS	NS	**0.214 J**	**0.0413 J**
Carbon/Soot (mg/kg)														
Average Soot	**4.7**	**4.1 J**	**0.43 J**	**1.8**	**2.7 J**	**2.3 J**	**0.60 J**	**0.29 J**	**0.27 J**	NS	NS	NS	**2.7**	**0.47 J**
Average Total Organic Carbon	**7.9**	**4.8 J**	**3.1 J**	**5.9**	**4.5 J**	**7.4 J**	**2.5 J**	**2.7 J**	**2.4 J**	**3.0**	**7.0**	**6.0**	**4.4**	**2.2 J**
Soot Run 1	**5.0**	**4.1 J**	**0.30 J**	**1.7**	**2.4 J**	**3.1 J**	**0.58 J**	**0.42 J**	**0.27 J**	NS	NS	NS	**2.7**	**0.42 J**
Soot Run 2	**4.7**	**4.4 J**	**0.47 J**	**1.7**	**3.2 J**	**2.5 J**	**0.55 J**	**0.21 J**	**0.24 J**	NS	NS	NS	**2.7**	**0.40 J**
Soot Run 3	**4.3**	**3.8 J**	**0.52 J**	**1.9**	**2.6 J**	**1.3 J**	**0.68 J**	**0.23 J**	**0.31 J**	NS	NS	NS	**2.7**	**0.59 J**
Total Organic Carbon	**8.0**	**4.6 J**	**2.7 J**	**5.1**	**4.3 J**	**7.8 J**	**2.5 J**	**2.7 J**	**2.4 J**	**3.0**	**7.0**	**6.0**	**4.2**	**2.1 J**
Total Organic Carbon (Run 2)	**8.4**	**4.8 J**	**3.2 J**	**4.9**	**4.5 J**	**7.8 J**	**2.3 J**	**2.2 J**	**2.4 J**	**2.9**	**7.0**	**6.0**	**4.6**	**2.5 J**
Total Organic Carbon (Run 3)	**7.2**	**5.2 J**	**3.2 J**	**7.7**	**4.8 J**	**6.5 J**	**2.6 J**	**3.1 J**	**2.4 J**	**3.1**	**7.1**	**6.1**	**4.4**	**2.2 J**

Notes:
ND = calculated totals are not detected
NS = Not Sampled
mg/Kg = milligram per kilogram
Bold = detected above reporting limit
Total VOCs include BTEX
Total SVOCs include Total PAH
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Table 5-17
Summary of OU2 RI Outfall Sediment Analytical Results
Former East 21st Street Works, New York, New York

Summary Statistics											
Samples	Detects	Non-Detects	Exceedances	DL Exceedances	Max Detected Concentration	ID for Max Concentration	Min Detected Concentration	ID for Min Concentration	Average Detected Concentration	Min DL for Non Detects	Max DL for Non-Detects
14	3	11	0	0	0.34	ER0F02(2-3)061208	0.0062	ER0F01(1-2)061208	0.1234	0.0043	0.046
14	4	10	0	0	5.7	ER0F02(2-3)061208	0.015	ER0F02(1-2)061208	1.44925	0.0043	0.046
14	2	12	0	0	6.3	ER0F02(2-3)061208	0.064	ER0F01(2-3)061208	3.182	0.0086	0.093
14	4	10	0	0	4.6	ER0F02(2-3)061208	0.017	ER0F02(1-2)061208	1.17325	0.0086	0.093
14	1	13	0	0	0.36	ER0F02(2-3)061208	0.36	ER0F02(2-3)061208	0.36	0.0065	0.07
14	4	10	0	0	10.9	ER0F02(2-3)061208	0.017	ER0F02(1-2)061208	2.76425	-	0.076
14	4	10	0	0	17.3	ER0F02(2-3)061208	0.032	ER0F02(1-2)061208	4.39605	-	0.1425
14	3	11	0	0	0.64	ER0F01(0-0.5)061208	0.072	ER0F01(1-2)061208	0.280666667	0.043	0.56
14	5	9	0	0	17.3	ER0F02(2-3)061208	0.032	ER0F02(1-2)061208	8.666	-	-
14	8	6	0	0	280	ER0F02(2-3)061208	0.66	ER0F02(0-0.5)061208	42.5325	0.13	1.6
14	8	6	0	0	130	ER0F02(2-3)061208	2.1	ER0F02(0-0.5)061208	26.05	0.13	1.6
14	3	11	0	0	15	ER0F02(2-3)061208	2.6	ER0F01(2-3)061208	6.8	0.13	2
14	13	1	0	0	110	ER0F02(2-3)061208	0.35	ER0F03(1-2)061208	19.21384615	1.2	1.2
14	14	0	0	0	75	ER0F02(2-3)061208	0.85	ER0F03(2-3)061208	17.58214286	-	-
14	14	0	0	0	61	ER0F02(2-3)061208	0.87	ER0F03(2-3)061208	15.07571429	-	-
14	14	0	0	0	33	ER0F01(0-0.5)061208	0.97	ER0F03(1-2)061208	9.268571429	-	-
14	13	1	0	0	26	ER0F01(0-0.5)061208	0.53	ER0F03(2-3)061208	8.013076923	1.6	1.6
14	14	0	0	0	39	ER0F02(2-3)061208	0.64	ER0F03(2-3)061208	10.76857143	-	-
14	14	0	0	0	70	ER0F02(2-3)061208	0.92	ER0F03(2-3)061208	16.75142857	-	-
14	8	6	0	0	8.2	ER0F01(0-0.5)061208	0.2	ER0F03(0-0.5)061208	3.495	0.19	1.6
14	14	0	0	0	140	ER0F01(0-0.5)061208	1.4	ER0F03(1-2)061208	35.14285714	-	-
14	8	6	0	0	80	ER0F02(2-3)061208	0.93	ER0F02(0-0.5)061208	18.66625	0.13	1.6
14	12	2	0	0	22	ER0F01(0-0.5)061208	0.41	ER0F03(2-3)061208	6.795	1.2	1.6
14	9	5	0	0	220	ER0F02(2-3)061208	0.33	ERSSREF03(0.5-1.2)061208	32.62555556	0.19	1.6
14	14	0	0	0	270	ER0F02(2-3)061208	0.45	ERSSREF03(0.5-1.2)061208	46.59285714	-	-
14	14	0	0	0	190	ER0F02(2-3)061208	1.6	ER0F03(2-3)061208	41.67857143	-	-
14	14	0	0	0	297.8	ER0F02(2-3)061208	4.68	ER0F03(2-3)061208	77.37	-	-
14	14	0	0	0	511.8	ER0F02(2-3)061208	6.81	ER0F03(2-3)061208	126.4892857	-	-
14	14	0	0	0	1235	ER0F02(2-3)061208	2.23	ER0F03(1-2)061208	172.2860714	-	-
14	14	0	0	0	1746.8	ER0F02(2-3)061208	9.15	ER0F03(2-3)061208	298.7753571	-	-
14	14	0	0	0	81.26	ER0F02(2-3)061208	1.10232	ER0F03(2-3)061208	20.52836571	-	-
14	1	13	0	0	7.4	ER0F01(0-0.5)061208	7.4	ER0F01(0-0.5)061208	7.4	0.77	9.3
14	2	12	0	0	14	EROF04(0-0.5)101008	2.3	ER0F03(2-3)061208	8.15	1.3	16
14	2	12	0	0	6.4	ER0F01(0-0.5)061208	2.6	ERSSREF03(0-0.5)061208	4.5	0.64	7.8
14	2	12	0	0	10	ER0F01(0-0.5)061208	9.3	ER0F02(2-3)061208	9.65	0.64	7.8
14	14	0	0	0	1756.1	ER0F02(2-3)061208	9.4	ER0F03(1-2)061208	330.9078571	-	-

Table 5-17
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Summary Statistics											
Samples	Detects	Non-Detects	Exceedances	DL Exceedances	Max Detected Concentration	ID for Max Concentration	Min Detected Concentration	ID for Min Concentration	Average Detected Concentration	Min DL for Non Detects	Max DL for Non-Detects
0	**0**	**0**	**0**	**0**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
11	11	0	0	0	15.8	ER0F02(2-3)061208	0.0417	ERSSREF03(0.5-1.2)061208	2.790154545	-	-
11	11	0	0	0	29.4	ER0F02(2-3)061208	0.504	ERSSREF03(0.5-1.2)061208	7.426727273	-	-
11	11	0	0	0	3.64	ER0F02(2-3)061208	0.0635	ERSSREF03(0.5-1.2)061208	0.861681818	-	-
11	9	2	0	0	11.5	ER0F01(2-3)061208	0.255	ER0F03(1-2)061208	2.854444444	1.71	2.22
11	11	0	0	0	6.42	ER0F01(2-3)061208	0.088	ER0F03(0-0.5)061208	1.314	-	-
11	11	0	0	0	17.6	ER0F01(2-3)061208	0.344	ERSSREF03(0.5-1.2)061208	4.373090909	-	-
11	9	2	0	0	10.9	ER0F01(2-3)061208	0.211	ERSSREF03(0.5-1.2)061208	2.115111111	1.71	2.22
11	11	0	0	0	7.43	ER0F02(1-2)061208	1.31	ERSSREF03(0.5-1.2)061208	4.158181818	-	-
11	11	0	0	0	3.72	ER0F01(2-3)061208	1.47	ERSSREF03(0-0.5)061208	2.247272727	-	-
11	11	0	0	0	17.6	ER0F01(2-3)061208	0.207	ERSSREF03(0.5-1.2)061208	2.711181818	-	-
11	10	1	0	0	9.25	ER0F02(2-3)061208	0.475	ERSSREF03(0.5-1.2)061208	2.8323	0.335	0.335
11	8	3	0	0	14.9	ER0F01(2-3)061208	0.214	ERSSREF03(0.5-1.2)061208	3.81625	0.555	1.88
11	10	1	0	0	3.64	ER0F02(2-3)061208	0.377	ER0F03(0-0.5)061208	1.33	0.335	0.335
11	6	5	0	0	3.64	ER0F02(2-3)061208	0.383	ER0F03(1-2)061208	1.090166667	0.335	2.22
11	9	2	0	0	3.64	ER0F02(2-3)061208	0.223	ERSSREF03(0-0.5)061208	1.441444444	0.376	2.22
11	11	0	0	0	53	ER0F01(0-0.5)061208	2.02	ER0F03(1-2)061208	12.09	-	-
11	11	0	0	0	3.64	ER0F02(2-3)061208	0.0834	ERSSREF03(0.5-1.2)061208	0.659854545	-	-
11	11	0	0	0	3.64	ER0F02(2-3)061208	0.146	ERSSREF03(0.5-1.2)061208	0.938	-	-
11	9	2	0	0	15	ER0F01(2-3)061208	0.213	ERSSREF03(0.5-1.2)061208	2.469222222	1.71	2.22
11	11	0	0	0	3.64	ER0F02(2-3)061208	0.0349	ERSSREF03(0.5-1.2)061208	0.656290909	-	-
11	11	0	0	0	26.2	ER0F02(2-3)061208	0.0255	ERSSREF03(0.5-1.2)061208	5.966409091	-	-
11	10	1	0	0	107	ER0F01(0-0.5)061208	2.39	ER0F03(1-2)061208	31.375	0.335	0.335
11	11	0	0	0	5.48	ER0F01(0-0.5)061208	0.151	ERSSREF03(0.5-1.2)061208	1.851181818	-	-
11	11	0	0	0	3.66	ER0F01(0-0.5)061208	0.341	ER0F03(1-2)061208	1.327727273	-	-
11	11	0	0	0	6.44	ER0F01(2-3)061208	0.616	ER0F03(1-2)061208	3.132454545	-	-
11	10	1	0	0	3.64	ER0F02(2-3)061208	0.203	ERSSREF03(0-0.5)061208	1.2872	1.88	1.88
11	9	2	0	0	3.64	ER0F02(2-3)061208	0.282	ERSSREF03(0.5-1.2)061208	1.383444444	0.335	1.88
11	11	0	0	0	260	ER0F01(0-0.5)061208	0.888	ER0F03(1-2)061208	72.72554545	-	-
11	9	2	0	0	104	ER0F02(2-3)061208	0.146	ERSSREF03(0.5-1.2)061208	16.36933333	1.88	2.28
11	11	0	0	0	12.3	ER0F01(2-3)061208	0.222	ERSSREF03(0.5-1.2)061208	4.351272727	-	-
11	11	0	0	0	89.3	ER0F02(2-3)061208	0.204	ER0F03(0-0.5)061208	23.50218182	-	-
11	7	4	0	0	4.3	ER0F01(2-3)061208	0.138	ER0F03(1-2)061208	1.255428571	1.71	2.28
11	11	0	0	0	9.6	ER0F01(2-3)061208	0.108	ERSSREF03(0.5-1.2)061208	1.791181818	-	-
11	8	3	0	0	3.64	ER0F02(2-3)061208	0.218	ERSSREF03(0.5-1.2)061208	1.28725	0.335	2.22
11	11	0	0	0	17400	ER0F02(2-3)061208	874	ERSSREF03(0.5-1.2)061208	6394.909091	-	-
11	11	0	0	0	599	ER0F02(2-3)061208	24.7	ER0F03(1-2)061208	217.7636364	-	-
11	11	0	0	0	27.1	ER0F02(2-3)061208	0.22	ER0F03(0-0.5)061208	8.150454545	-	-
11	11	0	0	0	10	ER0F01(2-3)061208	0.234	ERSSREF03(0-0.5)061208	2.812363636	-	-
11	11	0	0	0	3.64	ER0F02(2-3)061208	0.0413	ERSSREF03(0.5-1.2)061208	0.982327273	-	-
0	0	0	0	0	-	-	-	-	-	-	-
11	11	0	0	0	4.7	ER0F01(0-0.5)061208	0.27	ER0F03(2-3)061208	1.850909091	-	-
14	14	0	0	0	7.9	ER0F01(0-0.5)061208	2.2	ERSSREF03(0.5-1.2)061208	4.557142857	-	-
11	11	0	0	0	5	ER0F01(0-0.5)061208	0.27	ER0F03(2-3)061208	1.908181818	-	-
11	11	0	0	0	4.7	ER0F01(0-0.5)061208	0.21	ER0F03(1-2)061208	1.915454545	-	-
11	11	0	0	0	4.3	ER0F01(0-0.5)061208	0.23	ER0F03(1-2)061208	1.720909091	-	-
14	14	0	0	0	8	ER0F01(0-0.5)061208	2.1	ERSSREF03(0.5-1.2)061208	4.457142857	-	-
14	14	0	0	0	8.4	ER0F01(0-0.5)061208	2.2	ER0F03(1-2)061208	4.535714286	-	-
14	14	0	0	0	7.7	ER0F02(0-0.5)061208	2.2	ERSSREF03(0.5-1.2)061208	4.685714286	-	-

Table 5-18
Summary of OU2 RI Surface Water Analytical Results
Former East 21st Street Works, New York, New York

Location ID Sample Date Depth (ft below surface)	Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations*	GS16 10/28/2008 1	GS16 10/28/2008 9	GS16 10/28/2008 17	GS35 10/27/2008 1	GS35 10/27/2008 10	GS35 10/27/2008 20	RB55 10/27/2008 1	RB55 10/27/2008 3	RB55 10/27/2008 5	RB61 10/24/2008 1	RB61 DUP 10/24/2008 0	RB61 10/24/2008 10	RB61 10/24/2008 19	RB75 10/24/2008 1	RB75 10/24/2008 18	RB75 10/24/2008 26
BTEX (µg/L)																	
Benzene	10	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
Ethylbenzene	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
m,p-Xylene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Toluene	6000	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	3.8 U	0.75 U	3.8 U	0.75 U	0.75 U	0.75 U
Total Xylene (calculated)	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total BTEX	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VOC (µg/L)																	
1,1,1-Trichloroethane	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	N/A	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	1	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	***3.8 U***	0.75 U	***3.8 U***	0.75 U	0.75 U	0.75 U
1,1-Dichloroethane	5	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	3.8 U	0.75 U	3.8 U	0.75 U	0.75 U	0.75 U
1,1-Dichloroethene	N/A	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 UJ	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	5	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	***12 U***	2.5 U	***12 U***	2.5 U	2.5 U	2.5 U
1,2-Dibromo-3-Chloropropane	0.04	***2.5 U***	***2.5 U***	***2.5 U***	***2.5 U***	***2.5 U***	***2.5 U***	***2.5 U***	***2.5 U***	***2.5 U***	***2.5 U***	***12 U***	***2.5 U***	***12 U***	***2.5 U***	***2.5 U***	***2.5 U***
1,2-Dibromoethane (EDB)	N/A	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U
1,2-Dichlorobenzene	3	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	***12 U***	2.5 U	***12 U***	2.5 U	2.5 U	2.5 U
1,2-Dichloroethane	0.6	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	***2.5 U***	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	1	***1.8 U***	***1.8 U***	***1.8 U***	***1.8 U***	***1.8 U***	***1.8 U***	***1.8 U***	***1.8 U***	***1.8 U***	***1.8 U***	***8.8 U***	***1.8 U***	***8.8 U***	***1.8 U***	***1.8 U***	***1.8 U***
1,3-Dichlorobenzene	3	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	***12 U***	2.5 U	***12 U***	2.5 U	2.5 U	2.5 U
1,4-Dichlorobenzene	3	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	***12 U***	2.5 U	***12 U***	2.5 U	2.5 U	2.5 U
2-Butanone (Methyl Ethyl Ketone)	N/A	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U
2-Hexanone	N/A	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone	N/A	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U
Acetone	N/A	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	N/A	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
Bromoform	N/A	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U	10 U	2.0 U	2.0 U	2.0 U
Bromomethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	60	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	25 UJ	5.0 UJ	25 UJ	5.0 UJ	5.0 UJ	5.0 UJ
Carbon Tetrachloride	N/A	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	0.50 UJ	2.5 UJ	0.50 UJ	2.5 UJ	0.50 UJ	0.50 UJ	0.50 UJ
Chlorobenzene	400	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
Chloroethane	N/A	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	3.8 U	0.75 U	3.8 U	0.75 U	0.75 U	0.75 U
Chloromethane	N/A	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	12 U	2.5 U	12 U	2.5 U	2.5 U	2.5 U
cis-1,2-Dichloroethene	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	0.4	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***2.5 U***	***0.50 U***	***2.5 U***	***0.50 U***	***0.50 U***	***0.50 U***
Dibromochloromethane	N/A	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	N/A	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U	25 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	N/A	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
Methyl tert-butyl ether	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	200	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U
Styrene	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	N/A	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	5	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	3.8 U	0.75 U	3.8 U	0.75 U	0.75 U	0.75 U
trans-1,3-Dichloropropene	0.4	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***0.50 U***	***2.5 U***	***0.50 U***	***2.5 U***	***0.50 U***	***0.50 U***	***0.50 U***
Trichloroethene	40	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
Trichlorofluoromethane	5	2.5 UJ	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	***12 UJ***	2.5 UJ	***12 UJ***	2.5 UJ	2.5 UJ	2.5 UJ
Vinyl Chloride	N/A	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
PAH (ug/L)																	
2-Methylnaphthalene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Acenaphthene	20	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Acenaphthylene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Anthracene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Benzo(a)anthracene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Benzo(a)pyrene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Benzo(b)fluoranthene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Benzo(ghi)perylene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Benzo(k)fluoranthene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chrysene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Dibenz(a,h)anthracene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Fluoranthene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	**0.50**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Fluorene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Indeno(1,2,3-cd)pyrene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Naphthalene	10	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Phenanthrene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Pyrene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	**0.58**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Total PAH	N/A	ND	ND	ND	ND	ND	ND	ND	ND	**1.08**	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene Equivalents	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SVOC																	
2-Chloronaphthalene	N/A	0.20 U	0.20 U	0.20 U	0.20 U	0.19 U	0.20 U	0.19 U	0.19 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Total Suspended Solids (mg/L)																	
TSS	N/A	14	13	200	14	18	61	12	13	15	14	15	15	16	19	17	16

Notes:
µg/L = micrograms per Liter
Bold = Detected analytes
Bold and Italics = nondetect level exceeds the criteria.
U = Nondetected result. The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
Totals calculated using 0 for the nondetect multiplier
*Standards and limitations are from NYCRR Chapter X Part 703 of T.O.G.S 1.1.1

Table 5-18
Summary of OU2 RI Surface Water Analytical Results
Former East 21st Street Works, New York, New York

		Summary Statistics											
		Samples	Detects	Non-Detects	Exceedances	DL Exceedances	Max Detected Concentration	ID for Max Concentration	Min Detected Concentration	ID for Min Concentration	Average Detected Concentration	Min DL for Non-Detects	Max DL for Non-Detects
BTEX (µg/L)													
Benzene	10	16	0	16	0	0	-	-	-	-	-	0.5	2.5
Ethylbenzene	5	16	0	16	0	0	-	-	-	-	-	0.5	2.5
m,p-Xylene	5	16	0	16	0	0	-	-	-	-	-	1	5
o-Xylene	5	16	0	16	0	0	-	-	-	-	-	1	5
Toluene	6000	16	0	16	0	0	-	-	-	-	-	0.75	3.8
Total Xylene (calculated)	N/A	16	0	16	0	0	-	-	-	-	-	-	-
Total BTEX	N/A	16	0	16	0	0	-	-	-	-	-	-	-
VOC (µg/L)													
1,1,1-Trichloroethane	5	16	0	16	0	0	-	-	-	-	-	0.5	2.5
1,1,2,2-Tetrachloroethane	N/A	16	0	16	0	0	-	-	-	-	-	0.5	2.5
1,1,2-Trichloroethane	1	16	0	16	0	1	-	-	-	-	-	0.75	3.8
1,1-Dichloroethane	5	16	0	16	0	0	-	-	-	-	-	0.75	3.8
1,1-Dichloroethene	N/A	16	0	16	0	0	-	-	-	-	-	0.5	2.5
1,2,4-Trichlorobenzene	5	16	0	16	0	2	-	-	-	-	-	2.5	12
1,2-Dibromo-3-Chloropropane	0.04	16	0	16	0	16	-	-	-	-	-	2.5	12
1,2-Dibromoethane (EDB)	N/A	16	0	16	0	0	-	-	-	-	-	2	10
1,2-Dichlorobenzene	3	16	0	16	0	2	-	-	-	-	-	2.5	12
1,2-Dichloroethane	0.6	16	0	16	0	1	-	-	-	-	-	0.5	2.5
1,2-Dichloropropane	1	16	0	16	0	16	-	-	-	-	-	1.8	8.8
1,3-Dichlorobenzene	3	16	0	16	0	2	-	-	-	-	-	2.5	12
1,4-Dichlorobenzene	3	16	0	16	0	2	-	-	-	-	-	2.5	12
2-Butanone (Methyl Ethyl Ketone)	N/A	16	0	16	0	0	-	-	-	-	-	5	25
2-Hexanone	N/A	16	0	16	0	0	-	-	-	-	-	5	25
4-Methyl-2-pentanone	N/A	16	0	16	0	0	-	-	-	-	-	5	25
Acetone	N/A	16	0	16	0	0	-	-	-	-	-	5	25
Bromodichloromethane	N/A	16	0	16	0	0	-	-	-	-	-	0.5	2.5
Bromoform	N/A	16	0	16	0	0	-	-	-	-	-	2	10
Bromomethane	5	16	0	16	0	0	-	-	-	-	-	1	5
Carbon Disulfide	60	16	0	16	0	0	-	-	-	-	-	5	25
Carbon Tetrachloride	N/A	16	0	16	0	0	-	-	-	-	-	0.5	2.5
Chlorobenzene	400	16	0	16	0	0	-	-	-	-	-	0.5	2.5
Chloroethane	N/A	16	0	16	0	0	-	-	-	-	-	1	5
Chloroform	7	16	0	16	0	0	-	-	-	-	-	0.75	3.8
Chloromethane	N/A	16	0	16	0	0	-	-	-	-	-	2.5	12
cis-1,2-Dichloroethene	5	16	0	16	0	0	-	-	-	-	-	0.5	2.5
cis-1,3-Dichloropropene	0.4	16	0	16	0	16	-	-	-	-	-	0.5	2.5
Dibromochloromethane	N/A	16	0	16	0	0	-	-	-	-	-	0.5	2.5
Dichlorodifluoromethane	N/A	16	0	16	0	0	-	-	-	-	-	5	25
Isopropylbenzene	N/A	16	0	16	0	0	-	-	-	-	-	0.5	2.5
Methyl tert-butyl ether	10	16	0	16	0	0	-	-	-	-	-	1	5
Methylene Chloride	200	16	0	16	0	0	-	-	-	-	-	5	25
Styrene	50	16	0	16	0	0	-	-	-	-	-	1	5
Tetrachloroethene	N/A	16	0	16	0	0	-	-	-	-	-	0.5	2.5
trans-1,2-Dichloroethene	5	16	0	16	0	0	-	-	-	-	-	0.75	3.8
trans-1,3-Dichloropropene	0.4	16	0	16	0	16	-	-	-	-	-	0.5	2.5
Trichloroethene	40	16	0	16	0	0	-	-	-	-	-	0.5	2.5
Trichlorofluoromethane	5	16	0	16	0	2	-	-	-	-	-	2.5	12
Vinyl Chloride	N/A	16	0	16	0	0	-	-	-	-	-	1	5
PAH (ug/L)													
2-Methylnaphthalene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Acenaphthene	20	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Acenaphthylene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Anthracene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Benzo(a)anthracene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Benzo(a)pyrene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Benzo(b)fluoranthene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Benzo(ghi)perylene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Benzo(k)fluoranthene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Chrysene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Dibenz(a,h)anthracene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Fluoranthene	N/A	16	1	15	0	0	0.5	RB55W5.0-102709	0.5	RB55W5.0-102709	0.5	0.19	0.2
Fluorene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Indeno(1,2,3-cd)pyrene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Naphthalene	10	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Phenanthrene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Pyrene	N/A	16	1	15	0	0	0.58	RB55W5.0-102709	0.58	RB55W5.0-102709	0.58	0.19	0.2
Total PAH	N/A	16	1	15	0	0	1.08	RB55W5.0-102709	1.08	RB55W5.0-102709	1.08	-	-
Benzo(a)pyrene Equivalents	N/A	16	0	16	0	0	-	-	-	-	-	-	-
SVOC													
2-Chloronaphthalene	N/A	16	0	16	0	0	-	-	-	-	-	0.19	0.2
Total Suspended Solids (mg/L)													
TSS	N/A	16	16	0	0	0	200	GS16W17.0-102709	12	RB55W1.0-102709	29.5	-	-

Table 6-1
Exposure Pathway Analysis - Adjacent Area Receptors
Former East 21st Street Works, New York, New York

Receptor	Exposure Medium	Exposure Pathway	Pathway Not Considered Complete	Pathway Considered Potentially Complete, But Not Likely to Result in Exposure	Pathway Potentially Complete Will Be Addressed in the Remedial Action Selection Report for the Site	Rationale for Inclusion or Exclusion
East 23rd Street Area						
Utility Workers	**Surface Soil (0-2 inches)**	Ingestion	X	---	---	Surface soil covered by pavement or sidewalk in majority of area. Near surface soils with residuals may be encountered during excavation work. Pathway considered potentially complete.
		Dermal Contact	X	---	---	
		Inhalation of Particulates	X	---	---	
		Inhalation of Volatiles in Ambient Air	X	---	---	
	Subsurface Soil (>2 inches)	Ingestion	---	X	---	Elevated concentrations of constituents of interest detected in subsurface soil. Subsurface utility work will likely encounter these materials. The pathway will be addressed in the Alternatives Analysis Report (AAR).
		Dermal Contact	---	---	X	
		Inhalation of Particulates	---	---	X	
		Inhalation of Volatiles in Ambient Air	---	---	X	
	Groundwater	Ingestion	---	X	---	Elevated concentrations of constituents of interest detected in groundwater. Subsurface utility work will likely encounter residuals. The pathway will be addressed in the AAR.
		Dermal contact	---	---	X	
		Inhalation of Volatiles in Ambient Air	---	---	X	
		Inhalation of Volatiles in Indoor Air	X	---	---	
	Surface Water	Ingestion	X	---	---	Surface water not present at this location.
		Dermal contact	X	---	---	
Avenue C and FDR Drive Area						
Utility Workers	**Surface Soil (0-2 inches)**	Ingestion	X	---	---	Surface soil covered by pavement or sidewalk in majority of area. Near surface soils with residuals may be encountered during excavation work. Pathway considered potentially complete.
		Dermal contact	X	---	---	
		Inhalation of Particulates	X	---	---	
		Inhalation of Volatiles in Ambient Air	X	---	---	
	Subsurface Soil (>2 inches)	Ingestion	---	X	---	Elevated concentrations of constituents of interest detected in subsurface soil. Subsurface utility work will likely encounter these materials. The pathway will be addressed in the AAR.
		Dermal contact	---	---	X	
		Inhalation of Particulates	---	---	X	
		Inhalation of Volatiles in Ambient Air	---	---	X	
	Groundwater	Ingestion	---	X	---	Elevated concentrations of constituents of interest detected in groundwater. Subsurface utility work will likely encounter residuals. The pathway will be addressed in the AAR.
		Dermal contact	---	---	X	
		Inhalation of Volatiles in Ambient Air	---	---	X	
	Surface Water	Ingestion	X	---	---	Surface water not present at this location.
		Dermal contact	X	---	---	
First Avenue Area						
Utility Workers	**Surface Soil (0-2 inches)**	Ingestion	X	---	---	Surface soil covered by pavement or sidewalk. Near surface soils with residuals may be encountered during excavation work. Pathway considered potentially complete.
		Dermal contact	X	---	---	
		Inhalation of Particulates	X	---	---	
		Inhalation of Volatiles in Ambient Air	X	---	---	
	Subsurface Soil (>2 inches)	Ingestion	---	X	---	Elevated concentrations of constituents of interest and NAPL detected in subsurface soil and steam tunnel. Subsurface utility work will likely encounter these materials. The pathway will be addressed in the AAR.
		Dermal contact	---	---	X	
		Inhalation of Particulates	---	---	X	
		Inhalation of Volatiles in Ambient Air	---	---	X	
		Inhalation of Volatiles in Indoor Air	X	---	---	
	Groundwater	Ingestion	---	X	---	Elevated concentrations of constituents of interest detected in groundwater. Subsurface utility work will likely encounter residuals. The pathway will be addressed in the AAR.
		Dermal contact	---	---	X	
		Inhalation of Volatiles in Ambient Air	---	---	X	
		Inhalation of Volatiles in Indoor Air	X	---	---	
	Surface Water	Ingestion	X	---	---	Surface water not present at this location.
		Dermal contact	X	---	---	

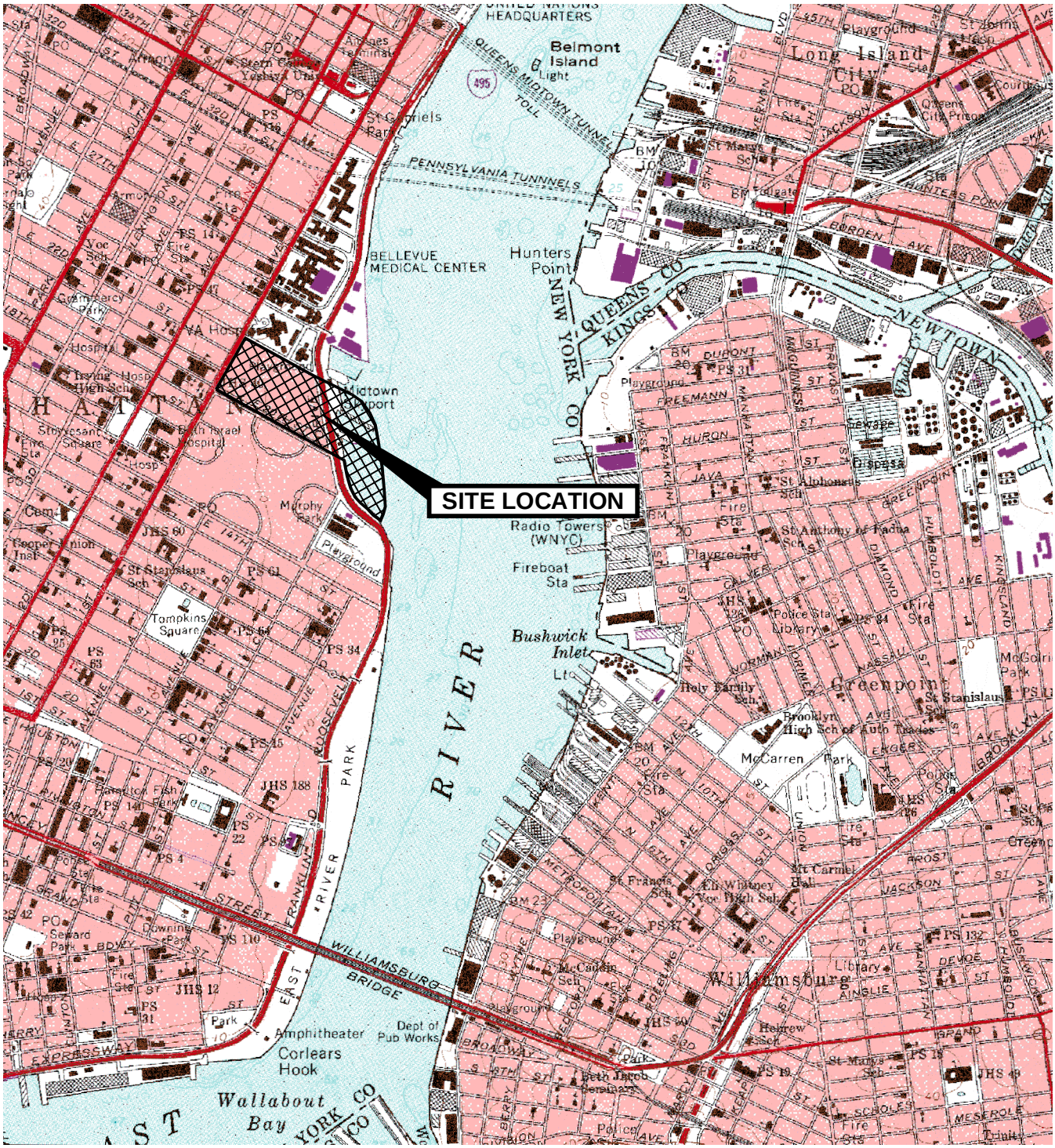
Table 6-1
Exposure Pathway Analysis - Adjacent Area Receptors
Former East 21st Street Works, New York, New York

Receptor	Exposure Medium	Exposure Pathway	Pathway Not Considered Complete	Pathway Considered Potentially Complete, But Not Likely to Result in Exposure	Pathway Potentially Complete Will Be Addressed in the Remedial Action Selection Report for the Site	Rationale for Inclusion or Exclusion
Stuyvesant Cove Park Area						
Park Visitors, Park Subsurface Workers	**Surface Soil**	Ingestion	X	---	---	Surface soil not impacted. Elevated concentrations of VOCs in ambient air unlikely due to dilution.
		Dermal contact	X	---	---	
		Inhalation of Particulates	X	---	---	
		Inhalation of Volatiles in Ambient Air	X	---	---	
	Surface Water	Ingestion	---	X	---	Surface water is not likely to be impacted at the shoreline area. Contact by a potential recreational user would be infrequent
		Dermal contact	---	X	---	
	Subsurface Soil (>2 inches)	Ingestion	---	X	---	Elevated concentrations of constituents of interest and NAPL detected in subsurface soil. Subsurface utility work will likely encounter these materials. The pathway will be addressed in the AAR.
		Dermal contact	---	---	X	
		Inhalation of Particulates	---	---	X	
		Inhalation of Volatiles in Ambient Air	---	---	X	
	Groundwater	Ingestion	---	X	---	Elevated concentrations of constituents of interest detected in groundwater. Subsurface utility work will likely encounter residuals. The pathway will be addressed in the AAR.
		Dermal contact	---	---	X	
		Inhalation of Volatiles in Ambient Air	---	---	X	
	Surface Water	Ingestion	X	---	---	Surface water not likely to be impacted due to dilution.
		Dermal contact	X	---	---	
Stuyvesant Cove (East River) Area						
Recreational Users	**Surface Sediment (0-1 foot)**	Ingestion	X	---	---[1]	Access to sediment from the riverbank is limited by bulkhead and fencing and surface sediment is largely covered by water at low tide. Ingestion of fish potential effected by surface sediment impacts is addressed by fishing advisories.
		Dermal contact	X	---	---[1]	
		Inhalation of Particulates	X	---	---[1]	
		Inhalation of Volatiles in Ambient Air	X	---	---[1]	
	Subsurface Soil (>1 foot)	Ingestion	X	---	---[1]	Access to sediment from the riverbank is limited by bulkhead and surface sediment is largely covered by water at low tide.
		Dermal contact	X	---	---[1]	
		Inhalation of Particulates	X	---	---[1]	
		Inhalation of Volatiles in Ambient Air	X	---	---[1]	
	Surface Water	Ingestion	X	---	---	Concentrations of MGP constituents in surface water at levels greater than water quality standards is unlikely due to dilution
		Dermal contact	X	---	---	

Note:

[1] May be included in the Alternatives Analysis Report as a result of ecological evaluation

Figures



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SCALE 1:24000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

AECOM

CONSOLIDATED EDISON OF NEW YORK INC. FORMER EAST 21ST STREET WORKS 01869-170-829		SITE LOCATION MAP
DATE: 07/09/09	DRWN: BcV/W-MA	FIGURE 2-1

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Vilage\01869\CADD\OU2-2009\SITE_LOC_OU2.dwg Layout: ANSI_AVI-LJ User: VershonB Plotted: Jul 09, 2009 - 9:36am Xref's:

LEGEND

EXISTING STRUCTURES

HISTORICAL STRUCTURES

LIMIT OF OU1

NOTE:
OU2 CONSISTS OF MGP-RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

EAST 23rd STREET

EAST 20th STREET

FIRST AVENUE

AVENUE "C"

EAST RIVER

PETER COOPER ROAD

HISTORIC BOUNDARY OF FORMER EAST 21ST STREET MGP WORKS

PARKING GARAGE

SOLAR ONE BLDG.

1 STORY BRICK BUILDING

15 STORY BRICK BUILDING No. 13

15 STORY BRICK BUILDING No. 15

15 STORY BRICK BUILDING No. 17

15 STORY BRICK BUILDING No. 19

15 STORY BRICK BUILDING No. 21

STOCK ROOM

METER PROVING ROOM

RECEIVING ROOM

GAS STORE REPAIR SHOP

METER SHOP

GASHOLDER 6

GASHOLDER 4

GASHOLDER 2

GASHOLDER 5

GASHOLDER 3

GASHOLDER 1

GOVERNER HOUSE

VALVE HOUSE

TIN SHOP

GENERATORS

RETORTS

CONDENSER

TAR SEPARATOR

DRIP TANK

DRIP TANKS

UNDERGROUND GAS OIL TANKS

WATER TANK

PUMP HOUSE (FIRE)

COAL HOUSE

OFFICE

ENGINE ROOM

CARPENTER SHOP

SMITH SHOP

STORAGE TANK OIL TANKS

GASHOLDER 7

GASHOLDER 8

VALVE HOUSE

MACHINE SHOP

WAGON SHED

METER HOUSE

SCRUBBERS

PURIFIERS

STORE HOUSE

COAL HOUSE

OIL TANK

TANK ENCLOSURE

15 STORY BRICK BUILDING No. 1

15 STORY BRICK BUILDING No. 3

15 STORY BRICK BUILDING No. 5

15 STORY BRICK BUILDING No. 7

15 STORY BRICK BUILDING No. 9

15 STORY BRICK BUILDING No. 10

15 STORY BRICK BUILDING No. 11

15 STORY BRICK BUILDING No. 12

1 STORY BRICK BUILDING

60 0 120

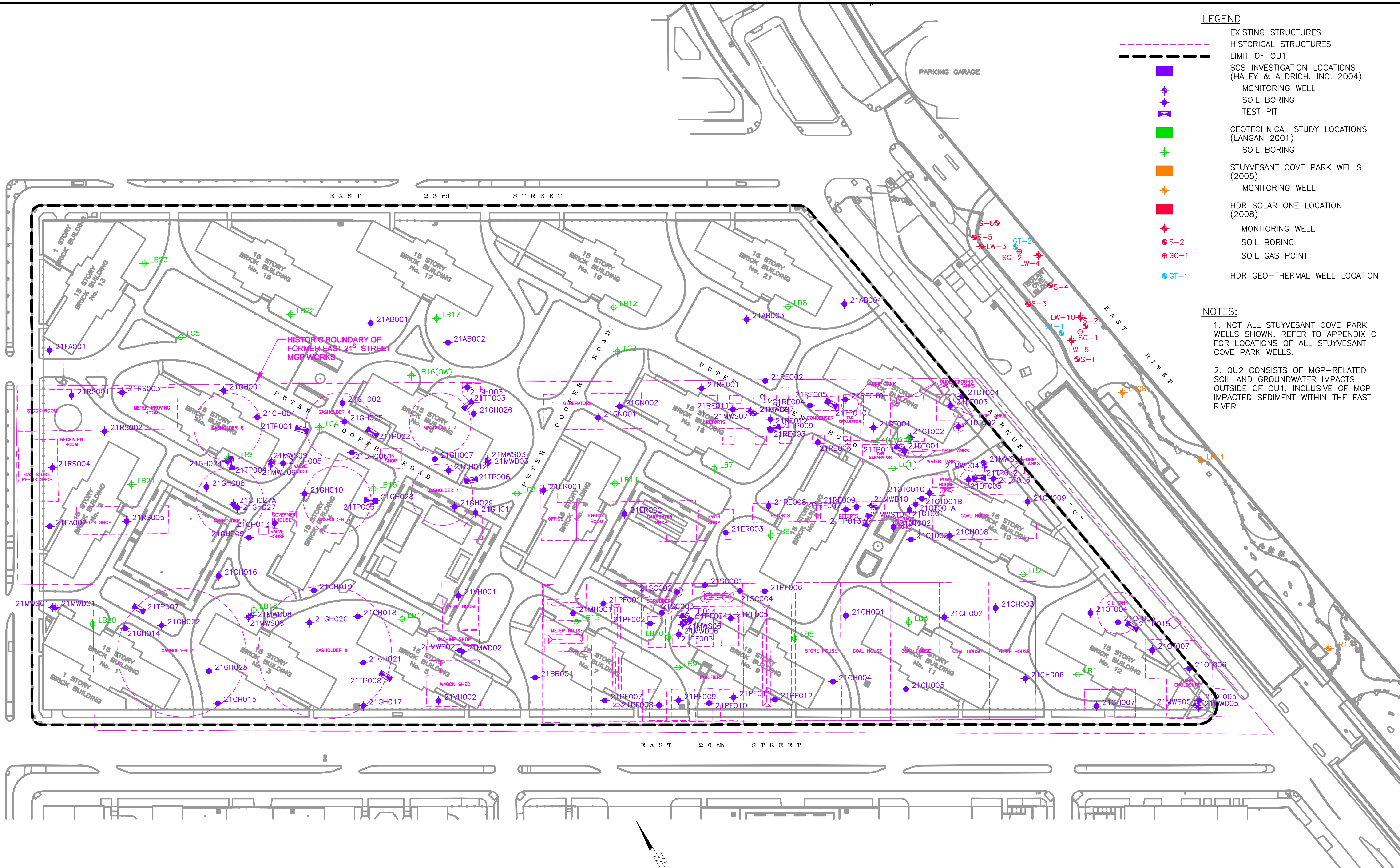
1"=120'

AECOM

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

FORMER MGP STRUCTURES

DATE: 07/09/09 | DRWN: BcV/W-MA | | | FIGURE 2-2



AECOM

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

PREVIOUS INVESTIGATION LOCATIONS

DATE: 07/22/09 | DRWN: BcV/W-MA

FIGURE 2-3

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\PREVIOUS_INVEST_OU2.dwg Layout: ANSI_B)-LJ User: VershonB Plotted: Jul 22, 2009 - 10:14am Xref's:

AECOM

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

DATE: 07/22/09 | DRWN: BcV/W-MA

RI SAMPLE LOCATIONS FOR OU1, OU2, AND OU3

FIGURE 3-1

1/4 0 1/2

1"=1/2 NAUTICAL MILE

LEGEND

- BG1b 10/10/2008 — EAST RIVER BACKGROUND SAMPLE LOCATION AND DATE COLLECTED
- ERSSREF03 6/12/08 — OUTFALL SEDIMENT SAMPLE LOCATION AND DATE COLLECTED

SITE LOCATION

12335

BG1b 10/10/2008
BG1c 10/10/2008
BG1a 10/10/2008
EROF04 10/11/2008 0-1, 1-2, 2-3
BG2c 10/10/2008
BG2b 10/10/2008
BG2a 10/8/2008
BG4c 10/8/2008
BG4b 10/8/2008
BG4a 10/8/2008
BG3b 10/8/2008
BG3a 10/8/2008
BG3c 10/8/2008
BG5b 10/8/2008
BG5a 10/8/2008
BG5c 10/8/2008
BG8a 10/7/2008
ERSSREF01 6/12/2008
BG8b 10/10/2008
BG8c 10/10/2008
ERSSREF03 6/12/2008
BG6d 10/8/2008
BG6a 10/8/2008
BG6b 10/8/2008
BG6c 10/8/2008
BG7a 10/10/2008
BG7b 10/7/2008
BG7c 10/7/2008
BG9d 10/7/2008
BG9a 10/8/2008
BG9b 10/7/2008
BG9c 10/7/2008
BG11b 10/7/2008
BG11a 10/6/2008
BG11c 10/7/2008
BG12c 10/6/2008
BG12a NA
BG12b 10/6/2008
BG10a 10/7/2008
BG10b 10/8/2008
BG10c 10/8/2008
BG13b 10/7/2008
BG13a 10/7/2008

AECOM

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

DATE: 07/21/09 | DRWN: BcV/W-MA

BACKGROUND GRAB SAMPLE LOCATIONS EAST RIVER, NY

FIGURE 3-2

NOTES:

AECOM ASSUMES THE ELECTRICAL DUCTS, GAS MAINS, STEAM MAINS, FIBER OPTIC CABLE LINES, TELEPHONE LINES AND STORM DRAINS TO BE LOCATED IN THE SUBSURFACE AT VARIOUS DEPTHS RANGING BETWEEN 3' AND 7' BELOW GROUND SURFACE.

1. UTILITY LOCATIONS SHOWN ARE OBTAINED FROM FIELD OBSERVATION, DETECTION BY ELECTRONIC DEVICE, AND AVAILABLE MAPS AND PLANS OF THE UTILITY OWNERS OR AUTHORITIES. THIS INFORMATION HAS NOT BEEN CONFIRMED AS EITHER ACCURATE OR COMPLETE. ACTUAL UTILITY LOCATIONS AND DEPTHS WILL BE VERIFIED PRIOR TO ANY SUBSURFACE ACTIVITY.
2. THE LOCATIONS AND ELEVATIONS OF UTILITIES SHOWN WERE ESTIMATED, BASED ON INFORMATION IN THE FOLLOWING PLANS PREPARED BY OTHERS AND INTERPRETED BY AECOM.
   * SITE PLAN OF OUTSIDE UTILITIES, PREPARED BY PETER COOPER BOARD OF DESIGN, NEW YORK, NY, DATED AUGUST 21, 1947.
   * NORTH BRANCH INTERCEPTING SEWER CONTRACT No. 3, SHEETS 3 THROUGH 6, PLAN AND PROFILE, PREPARED BY CITY OF NEW YORK DEPARTMENT OF PUBLIC WORKS, DIVISION OF SEWAGE DISPOSAL, BUREAU OF SEWAGE DISPOSAL DESIGN P.W. 53 NEWTON CREEK POLLUTION CONTROL PROJECT, DATED JULY 1967.
   * ELECTRONIC BASE PLAN PROVIDED BY HALEY AND ALDRICH: COMPOSITE UTILITY PLAN, FIGURE 1, DATED 2004.
   * THE 108" INTERCEPTING SEWER IS APPROXIMATELY 25'-35' bgs.
   * ALL WATER MAINS ARE APPROXIMATELY 42"-48" bgs.
3. COMMUNICATIONS CABLE SHOWN EXTENDS ACROSS EAST RIVER.
4. OU2 CONSISTS OF MGP RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT IN THE EAST RIVER.

LEGEND

EXISTING STRUCTURES	STORM SEWER
ELECTRICAL DUCT	TELEPHONE
GAS	FIBER OPTIC CABLE
WATER	STEAM
SEWER DRAIN	COMMUNICATIONS CABLE
	LIMITS OF OU1

AECOM

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

UNDERGROUND UTILITIES

DATE: 07/24/09 | DRWN: BcV/W-MA

FIGURE 3-3

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\UTILITIES_OU2.dwg Layout: ANSI_D User: VerrhonB Plotted: Jul 24, 2009 - 10:48am Xref's:

LEGEND

- EXISTING STRUCTURES
- HISTORICAL STRUCTURES
- LIMIT OF OU1
- RIVER BED 5' CONTOUR INTERVAL (NAVD88)
- GROUNDSURFACE 5' CONTOUR INTERVAL (NAVD88)

NOTES:

River bathymetric contours generated by Ocean Surveys, Inc. during a multibeam bathymetric survey performed in April 2008. Vertical Datum is the North American Vertical Datum of 1988.

Land surface topographic contour generated by contouring the land surface elevations surveyed at select monitoring well and boring locations. Vertical Datum is the North American Vertical Datum of 1988.

OU2 consists of MGP–related soil and groundwater impacts outside of OU1, inclusive of MGP impacted sediment within the East River

AECOM

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

SITE TOPOGRAPHY

DATE: 07/22/09 | DRWN: BcV/WFD

FIGURE 4-1

AECOM

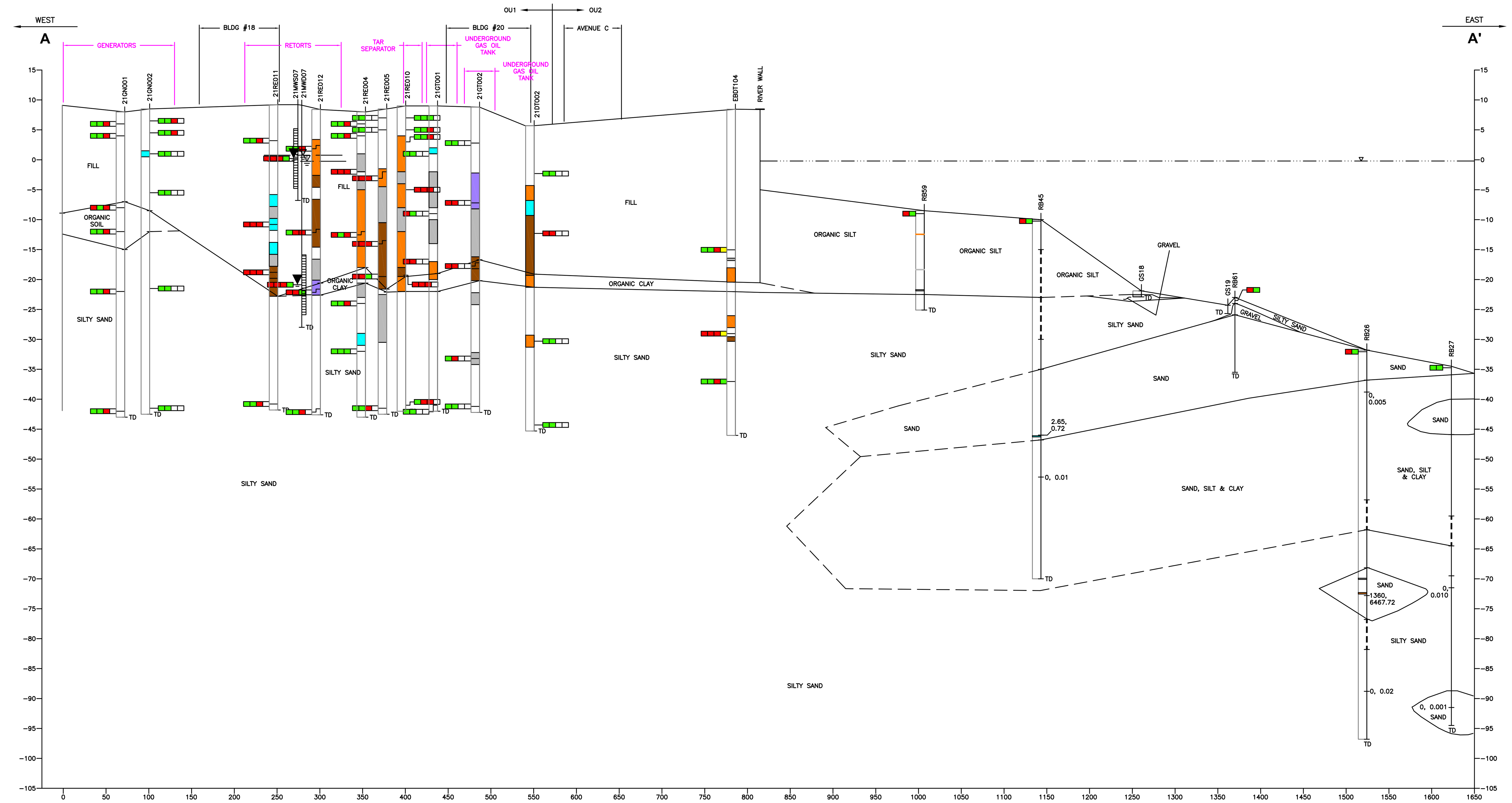
CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS

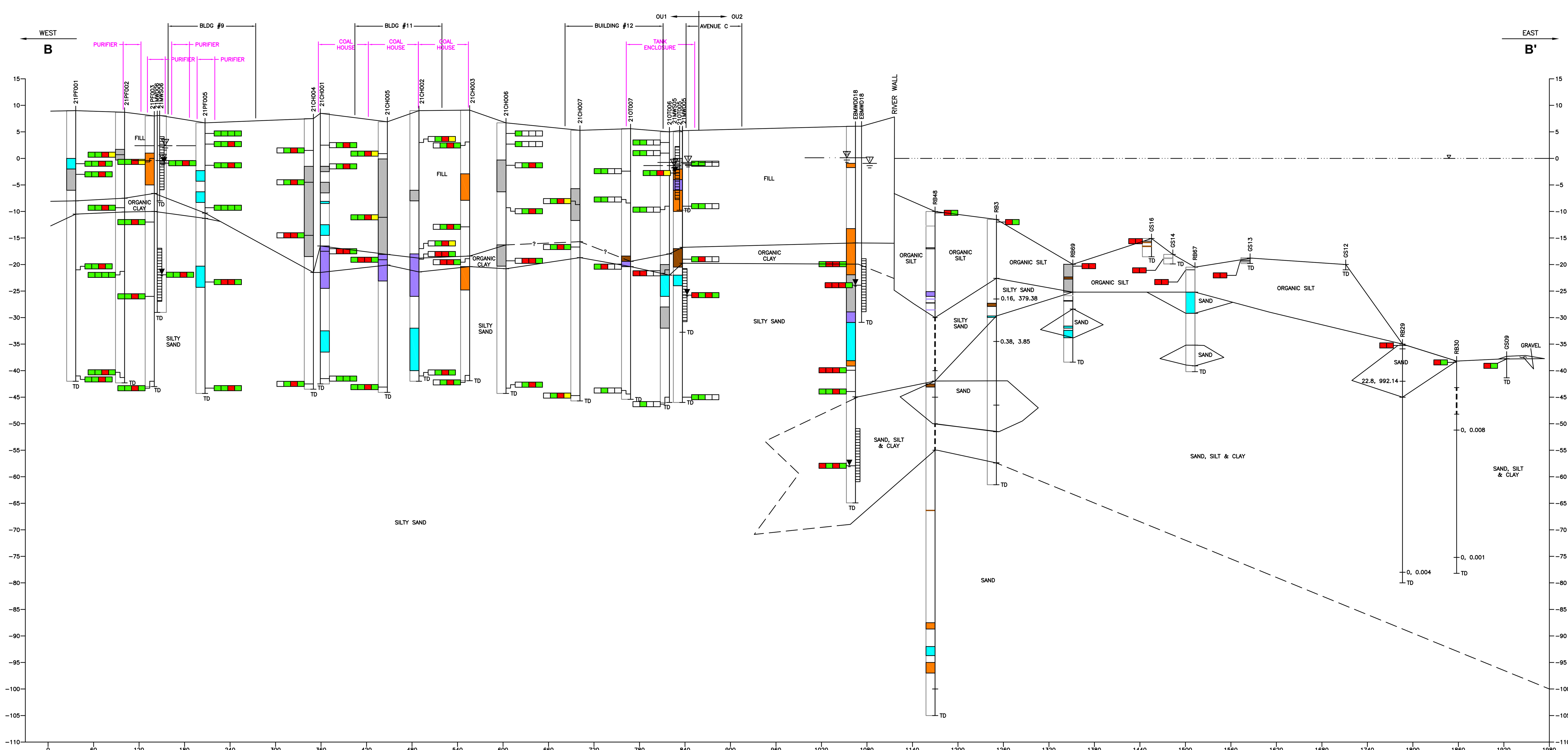
01869-170-829

CROSS SECTION LOCATIONS

DATE: 07/24/09 | DRWN: BcV/W-MA

FIGURE 4-2





LEGEND

GROUNDWATER ANALYTICAL (MAY 2006)

BOX 1: (BENZENE) GREEN IF <1 µg/L RED IF >1 µg/L

BOX 2: (SVOCs) GREEN IF NO SVOCs EXCEEDS ITS STANDARD RED IF ANY SVOCs EXCEEDS ITS STANDARD

BOX 3: (METALS) GREEN IF NO METAL EXCEEDS ITS STANDARD RED IF ANY METAL EXCEEDS ITS STANDARD

BOX 4: (CYANIDE) GREEN IF CYANIDE WAS NOT DETECTED YELLOW IF CYANIDE WAS DETECTED

ALL BOXES WHITE IF NOT ANALYZED

DENOTES GW SAMPLE ALL OTHERS ARE SOIL

SOIL ANALYTICAL (2004, 2006 AND 2008)

BOX 1: (TOTAL VOCs) GREEN IF <10 PPM RED IF >10 PPM

BOX 2: (TOTAL SVOCs) GREEN IF <500 PPM RED IF >500 PPM

BOX 3: (METALS) GREEN IF NO METAL EXCEEDS ITS STANDARD RED IF ANY METAL EXCEEDS ITS STANDARD

BOX 4: (CYANIDE) GREEN IF CYANIDE WAS NOT DETECTED YELLOW IF CYANIDE WAS DETECTED

ANALYTICAL NOTES:
1. BOX 4: (CYANIDE) AVAILABLE CYANIDE USED FOR RI (RETEC), TOTAL CYANIDE USED FOR SC (H&A).
2. ALL BOXES ARE READ FROM LEFT TO RIGHT REGARDLESS OF ORIENTATION.

SURFACE SEDIMENT ANALYTICAL (2008)

BOX 1: (TOTAL PAH) GREEN IF <4 PPM RED IF >4 PPM

BOX 2: (TOTAL PAH) GREEN IF <59.69 PPM (95% UCL) RED IF >59.69 PPM (95% UCL)

DEEP SURFACE SEDIMENT ANALYTICAL (2008)

1360.000, 6467.720 — CONCENTRATION OF BTEX, CONCENTRATION OF TOTAL PAHs

NOTES:

1. THE DESCRIPTIONS AND COLORED PORTIONS OF THE FIGURE ARE GENERAL IN NATURE AND ARE BASED ON A LIMITED NUMBER OF SAMPLES. REFER TO THE BORING LOGS AND THE RESULTS OF THE CHEMICAL ANALYSES FOR SPECIFIC INFORMATION REGARDING THE SUBSURFACE GEOLOGICAL UNITS AND THE DISTRIBUTION OF ANALYTICAL COMPOUNDS.

2. SECTION IS PROJECTED END-TO-END.

3. DESCRIPTION AND LOCATION OF THE RIVER WALL FROM THE TECHNICAL MEMORANDUM PIN X071.16 – RECONSTRUCTION OF FRANKLIN D. ROOSEVELT & HARLEM RIVER DRIVES, RIVERFRONT FILL RETAINING STRUCTURES, SEPTEMBER 1989, PREPARED FOR THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION BY TIPPETTS–ABBETT–McCARTHY–STRATTON ENGINEERS, ARCHITECTS AND PLANNERS.

VISIBLE IMPACTS

STAIN

SHEEN

STAIN, SHEEN, TLM/OLM ALL PRESENT

SAMPLED INTERVAL, WITHOUT IMPACT

TLM/OLM LENSES AND/OR RESIDUAL

TLM/OLM SATURATION

MONITORING WELL SCREEN

SOIL BORING

TD TOTAL DEPTH

FORMER STRUCTURE LOCATION

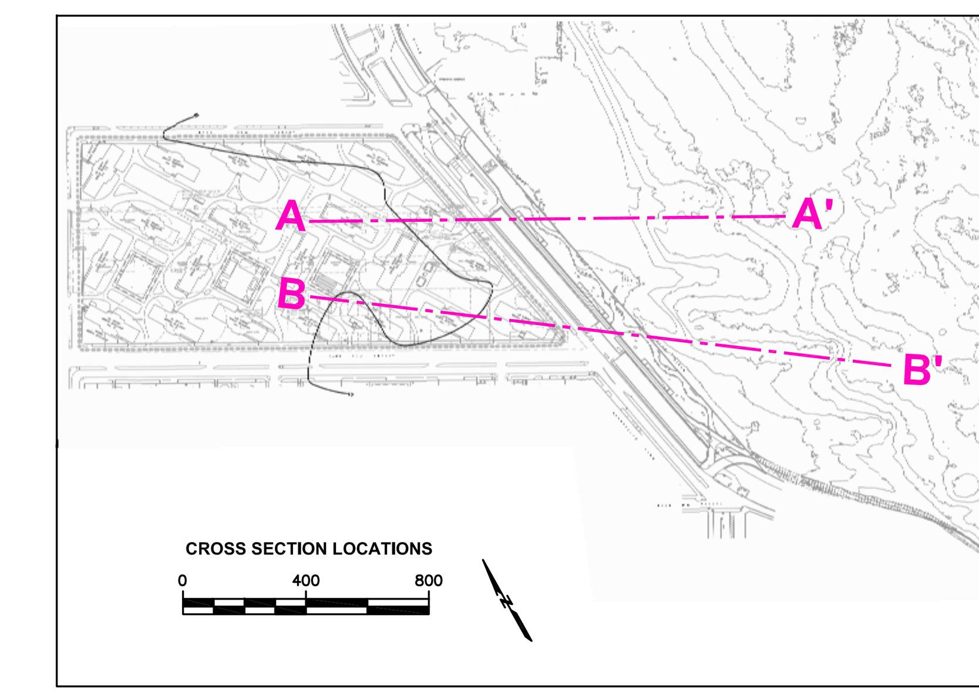
DIRECT CONTACT

INFERRED CONTACT

WATER TABLE (6/12/06) S = SHALLOW ZONE I = INTERMEDIATE ZONE D = DEEP ZONE

APPROXIMATE WATER LEVEL OF EAST RIVER

INDICATES NO RECOVERY IN THIS INTERVAL



REVISIONS: NO. | DESCRIPTION: | DATE: | BY:

DESIGNED BY: X

DRAWN BY: X

CHECKED BY:

APPROVED BY:

AECOM

AECOM ENVIRONMENT
RUSTEN CORPORATE PARK
100 RED SCHOOLHOUSE ROAD, SUITE B-1
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CROSS SECTIONS A-A' and B-B'

CONSOLIDATED EDISON OF NEW YORK, INC.
FORMER EAST 21st STREET WORKS

SCALE:	DATE:	PROJECT NUMBER:
AS SHOWN	07/07/09	01869–170–829

FIGURE NUMBER:

4-3

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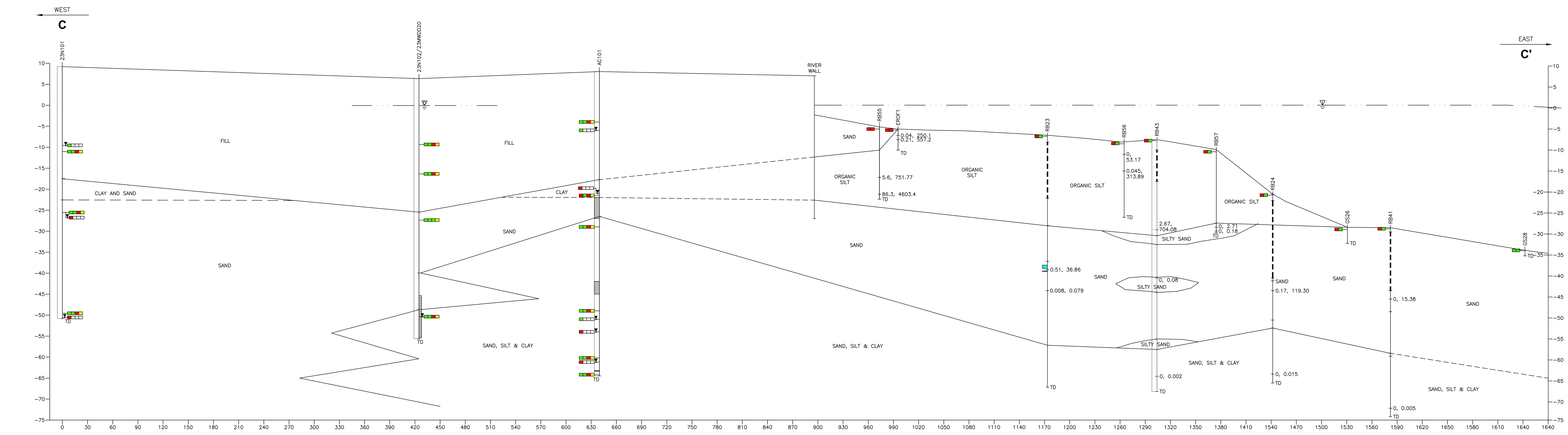


LEGEND

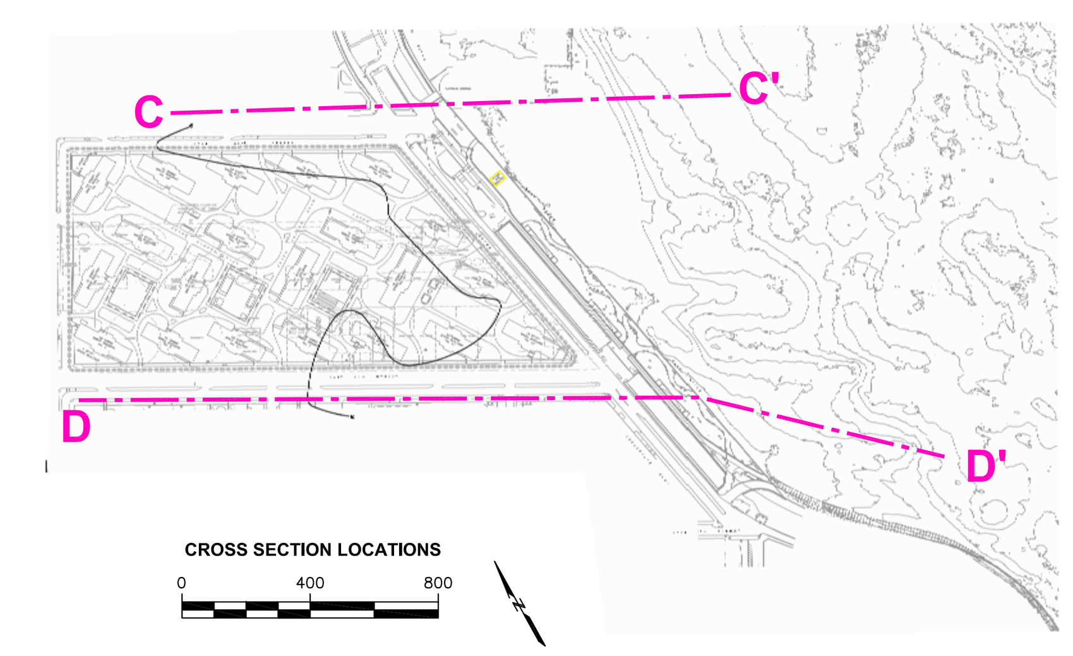
SHEEN
TLM/OLM SATURATION
STAIN, SHEEN, TLM/OLM ALL PRESENT
SAMPLED INTERVAL, WITHOUT IMPACT
DIRECT CONTACT
INFERRED CONTACT
WATER TABLE (6/12/06)
S = SHALLOW ZONE
I = INTERMEDIATE ZONE
D = DEEP ZONE
APPROXIMATE WATER LEVEL OF EAST RIVER
INDICATES NO RECOVERY IN THIS INTERVAL

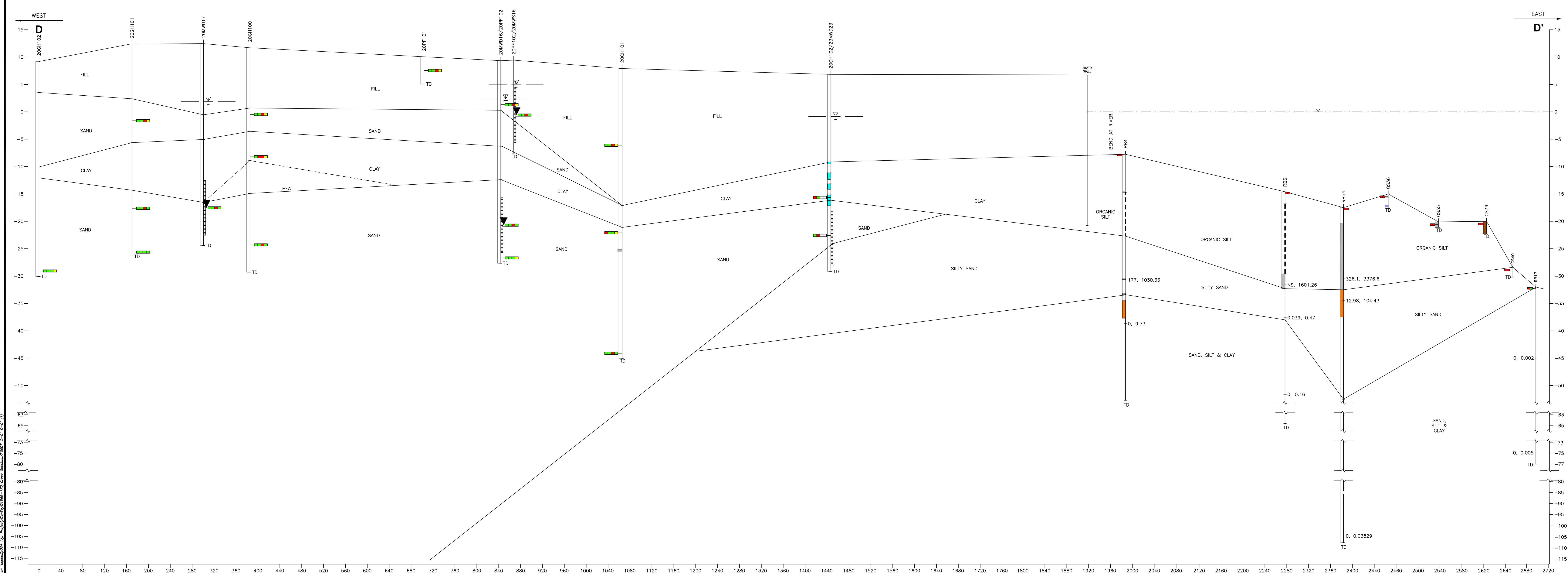
NOTES:

1. THE DESCRIPTIONS AND COLORED PORTIONS OF THE FIGURE ARE GENERAL IN NATURE AND ARE BASED ON A LIMITED NUMBER OF SAMPLES. REFER TO THE BORING LOGS AND THE RESULTS OF THE CHEMICAL ANALYSES FOR SPECIFIC INFORMATION REGARDING THE SUBSURFACE GEOLOGICAL UNITS AND THE DISTRIBUTION OF ANALYTICAL COMPOUNDS.

2. SECTION IS PROJECTED END–TO–END.

3. DESCRIPTION AND LOCATION OF THE RIVER WALL FROM THE TECHNICAL MEMORANDUM PIN X071.16 – RECONSTRUCTION OF FRANKLIN D. ROOSEVELT & HARLEM RIVER DRIVES, RIVERFRONT FILL RETAINING STRUCTURES, SEPTEMBER 1989, PREPARED FOR THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION BY TIPPETTS–ABBETT–McCARTHY–STRATTON ENGINEERS, ARCHITECTS AND PLANNERS.





DESIGNED BY: X
DRAWN BY: X
CHECKED BY:
APPROVED BY:

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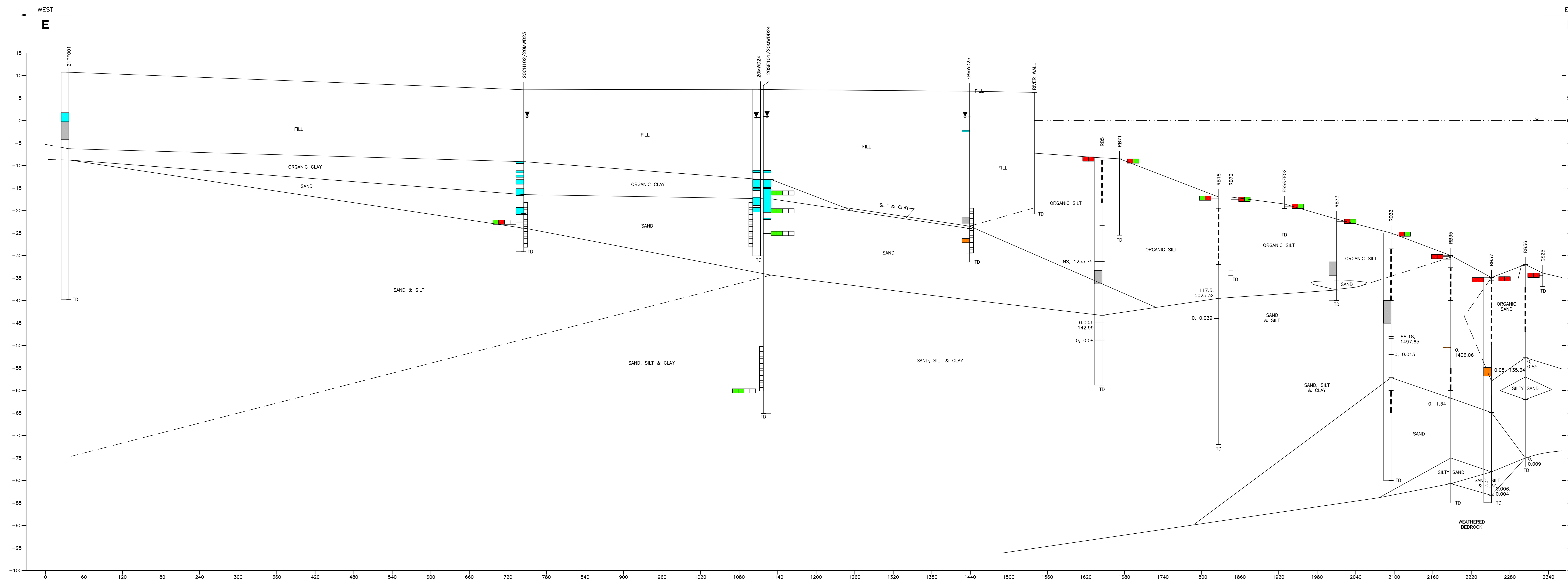
CROSS SECTIONS C-C' and D-D'

CONSOLIDATED EDISON OF NEW YORK, INC.
FORMER EAST 21st STREET WORKS

PROJECT NUMBER: 01869–170–829
DATE: 07/22/09
SCALE: AS SHOWN

FIGURE NUMBER: 4-4

ect\ConEd\01869–170\Cross Sections\XSECT_C–C'_D–D'(2).dwg



LEGEND

LEGEND

GROUNDWATER ANALYTICAL (MAY 2006)

- BOX 1: (BENZENE) GREEN IF <1 µg/L, RED IF >1 µg/L
- BOX 2: (SVOCs) GREEN IF NO SVOCs EXCEEDS ITS STANDARD, RED IF ANY SVOCs EXCEEDS ITS STANDARD
- BOX 3: (METALS) GREEN IF NO METAL EXCEEDS ITS STANDARD, RED IF ANY METAL EXCEEDS ITS STANDARD
- BOX 4: (CYANIDE) GREEN IF CYANIDE WAS NOT DETECTED, YELLOW IF CYANIDE WAS DETECTED

SOIL ANALYTICAL (2004, 2006 AND 2008)

- BOX 1: (TOTAL VOCs) GREEN IF <10 PPM, RED IF >10 PPM
- BOX 2: (TOTAL SVOCs) GREEN IF <500 PPM, RED IF >500 PPM
- BOX 3: (METALS) GREEN IF NO METAL EXCEEDS ITS STANDARD, RED IF ANY METAL EXCEEDS ITS STANDARD
- BOX 4: (CYANIDE) GREEN IF CYANIDE WAS NOT DETECTED, YELLOW IF CYANIDE WAS DETECTED

ALL BOXES WHITE IF NOT ANALYZED

DENOTES GW SAMPLE, ALL OTHERS ARE SOIL

SECTION KEY
NOT TO SCALE

ANALYTICAL NOTES:
1. BOX 4: (CYANIDE) AVAILABLE CYANIDE USED FOR RI (RETEC), TOTAL CYANIDE USED FOR SC (H&A).
2. ALL BOXES ARE READ FROM LEFT TO RIGHT REGARDLESS OF ORIENTATION.

SURFACE SEDIMENT ANALYTICAL (2008)

- BOX 1: (TOTAL PAH) GREEN IF <4 PPM, RED IF >4 PPM
- BOX 2: (TOTAL PAH) GREEN IF <59.69 PPM (95% UCL), RED IF >59.69 PPM (95% UCL)

DEEP SURFACE SEDIMENT ANALYTICAL (2008)

1360.000, 6467.720 — CONCENTRATION OF BTEX, CONCENTRATION OF TOTAL PAHs

VISIBLE IMPACTS

- STAIN
- SHEEN
- STAIN, SHEEN, TLM/OLM ALL PRESENT
- SAMPLED INTERVAL, WITHOUT IMPACT
- TLM/OLM LENSES AND/OR RESIDUAL
- TLM/OLM SATURATION
- MONITORING WELL SCREEN
- SOIL BORING
- TD — TOTAL DEPTH
- FORMER STRUCTURE LOCATION
- DIRECT CONTACT
- INFERRED CONTACT
- WATER TABLE (6/12/06): S = SHALLOW ZONE, I = INTERMEDIATE ZONE, D = DEEP ZONE
- APPROXIMATE WATER LEVEL OF EAST RIVER
- INDICATES NO RECOVERY IN THIS INTERVAL

NOTES:

1. THE DESCRIPTIONS AND COLORED PORTIONS OF THE FIGURE ARE GENERAL IN NATURE AND ARE BASED ON A LIMITED NUMBER OF SAMPLES. REFER TO THE BORING LOGS AND THE RESULTS OF THE CHEMICAL ANALYSES FOR SPECIFIC INFORMATION REGARDING THE SUBSURFACE GEOLOGICAL UNITS AND THE DISTRIBUTION OF ANALYTICAL COMPOUNDS.
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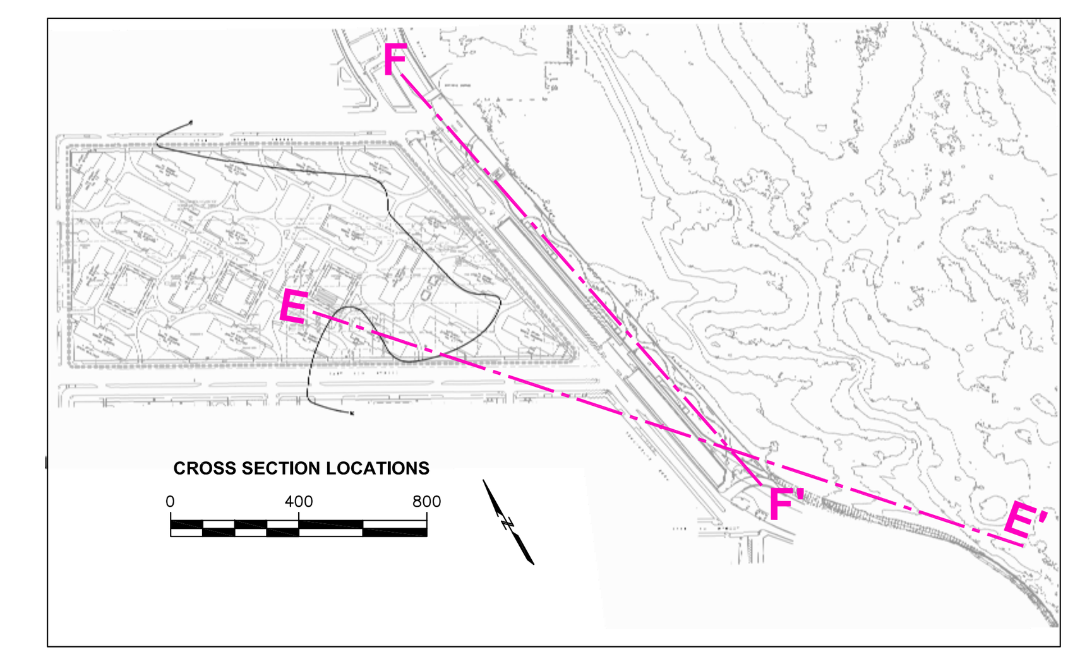

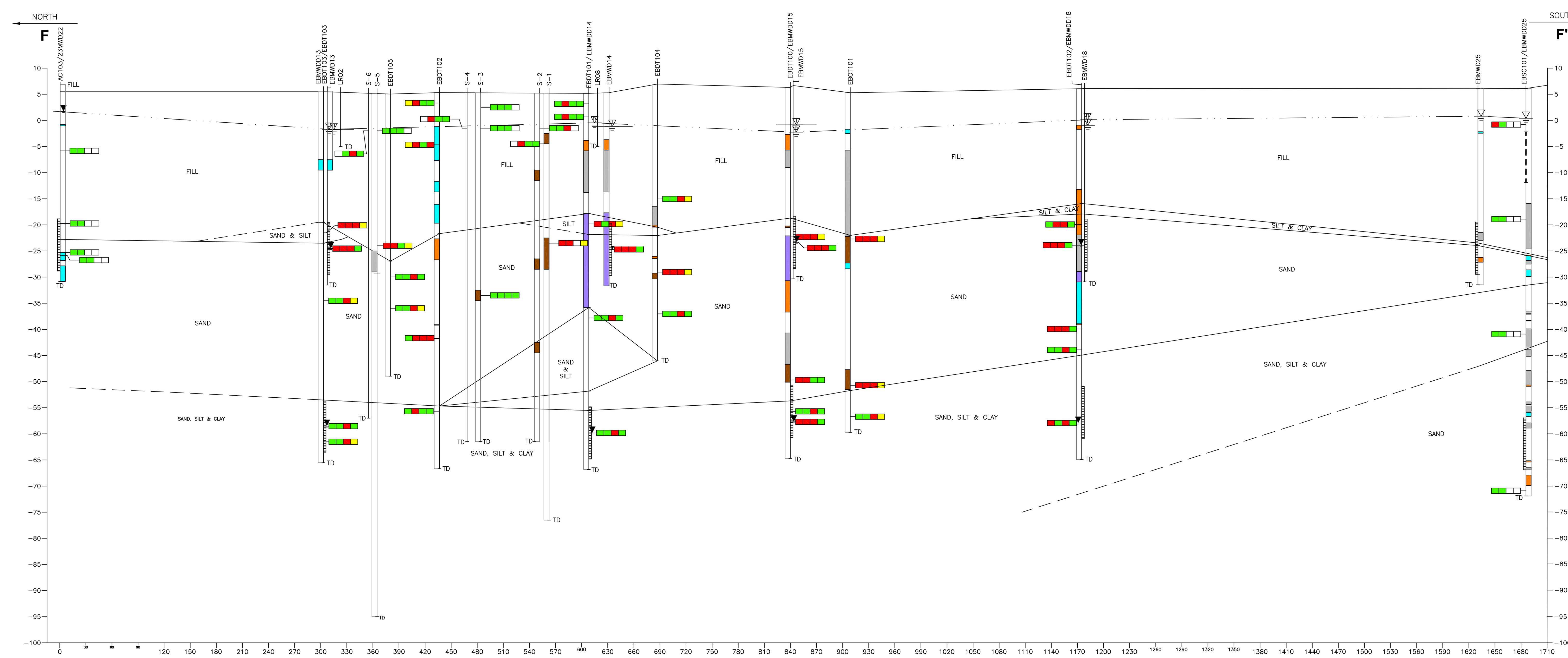

REVISIONS

NO.	DESCRIPTION:	DATE:	BY:

DESIGNED BY: X
DRAWN BY: X
CHECKED BY:
APPROVED BY:

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AECOM ENVIRONMENT
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CROSS SECTIONS E-E' and F-F'
CONSOLIDATED EDISON OF NEW YORK, INC.
FORMER EAST 21st STREET WORKS

SCALE: AS SHOWN
DATE: 07/08/09
PROJECT NUMBER: 01869-170-829

FIGURE NUMBER:
4-5

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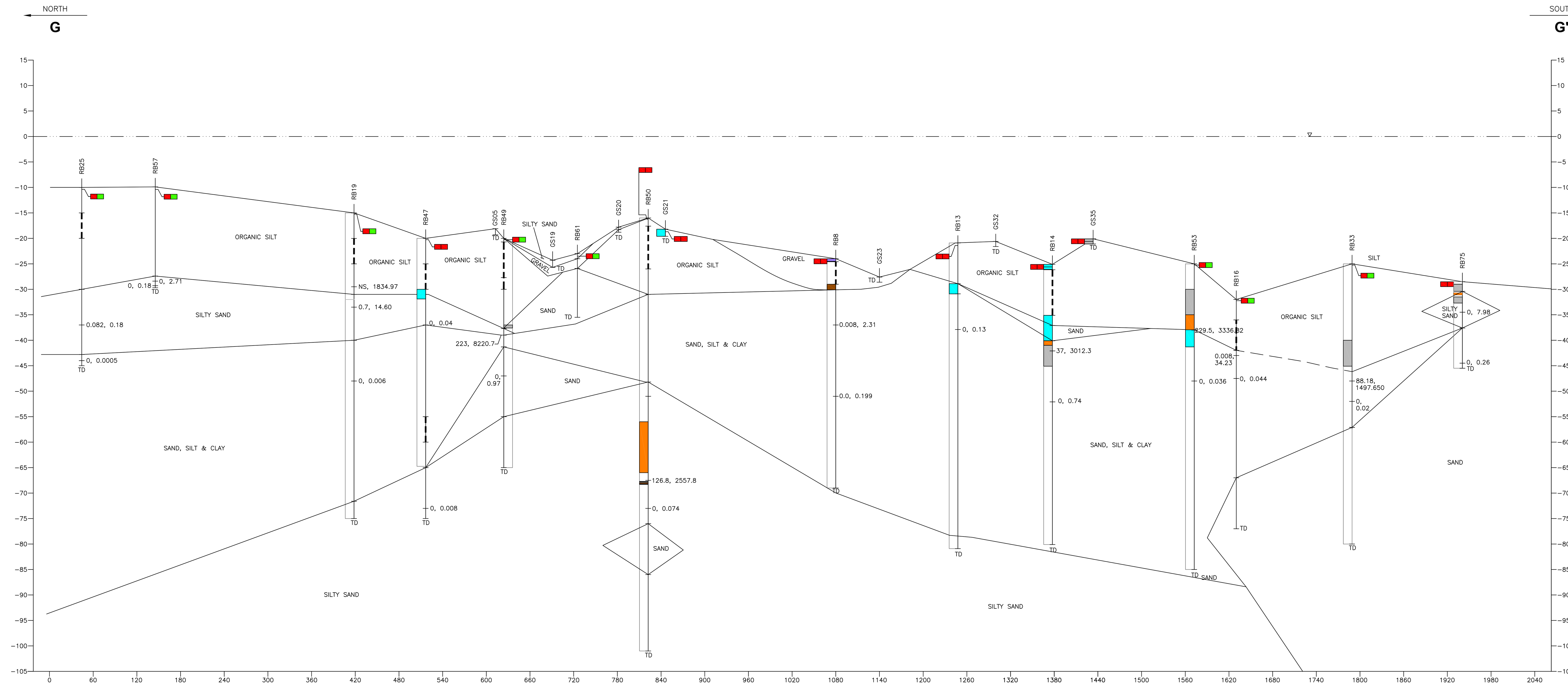

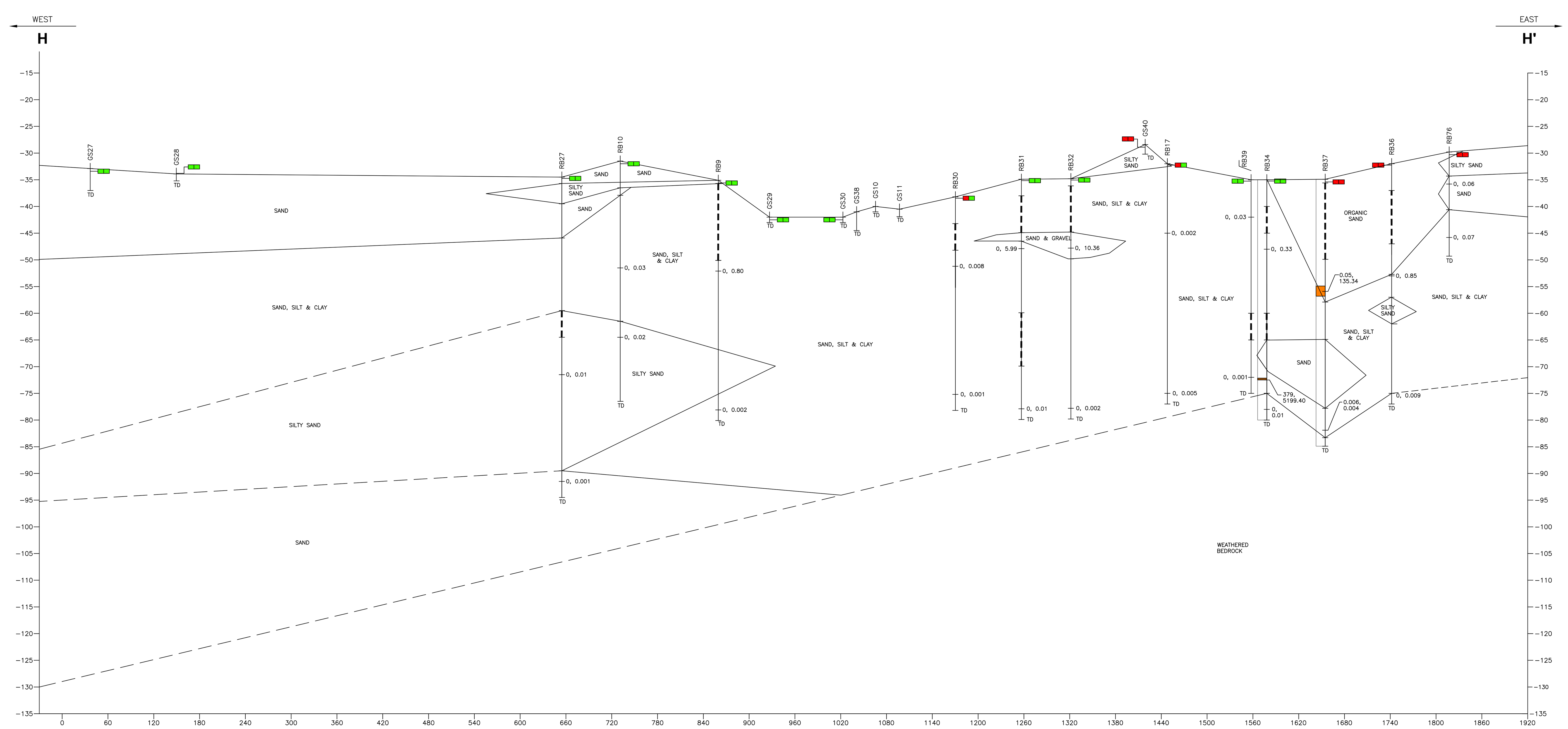

LEGEND

GROUNDWATER ANALYTICAL (MAY 2006)

BOX 1: (BENZENE) GREEN IF <1 µg/L RED IF >1 µg/L

BOX 2: (SVOCs) GREEN IF NO SVOCs EXCEEDS ITS STANDARD RED IF ANY SVOCs EXCEEDS ITS STANDARD

BOX 3: (METALS) GREEN IF NO METAL EXCEEDS ITS STANDARD RED IF ANY METAL EXCEEDS ITS STANDARD

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ALL BOXES WHITE IF NOT ANALYZED

DENOTES GW SAMPLE ALL OTHERS ARE SOIL

SOIL ANALYTICAL (2004, 2006 AND 2008)

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2. ALL BOXES ARE READ FROM LEFT TO RIGHT REGARDLESS OF ORIENTATION.

SURFACE SEDIMENT ANALYTICAL (2008)

BOX 1: (TOTAL PAH) GREEN IF <4 PPM RED IF >4 PPM

BOX 2: (TOTAL PAH) GREEN IF <59.69 PPM (95% UCL) RED IF >59.69 PPM (95% UCL)

DEEP SURFACE SEDIMENT ANALYTICAL (2008)

1360.000, 6467.720 — CONCENTRATION OF BTEX, CONCENTRATION OF TOTAL PAHs

NOTES:

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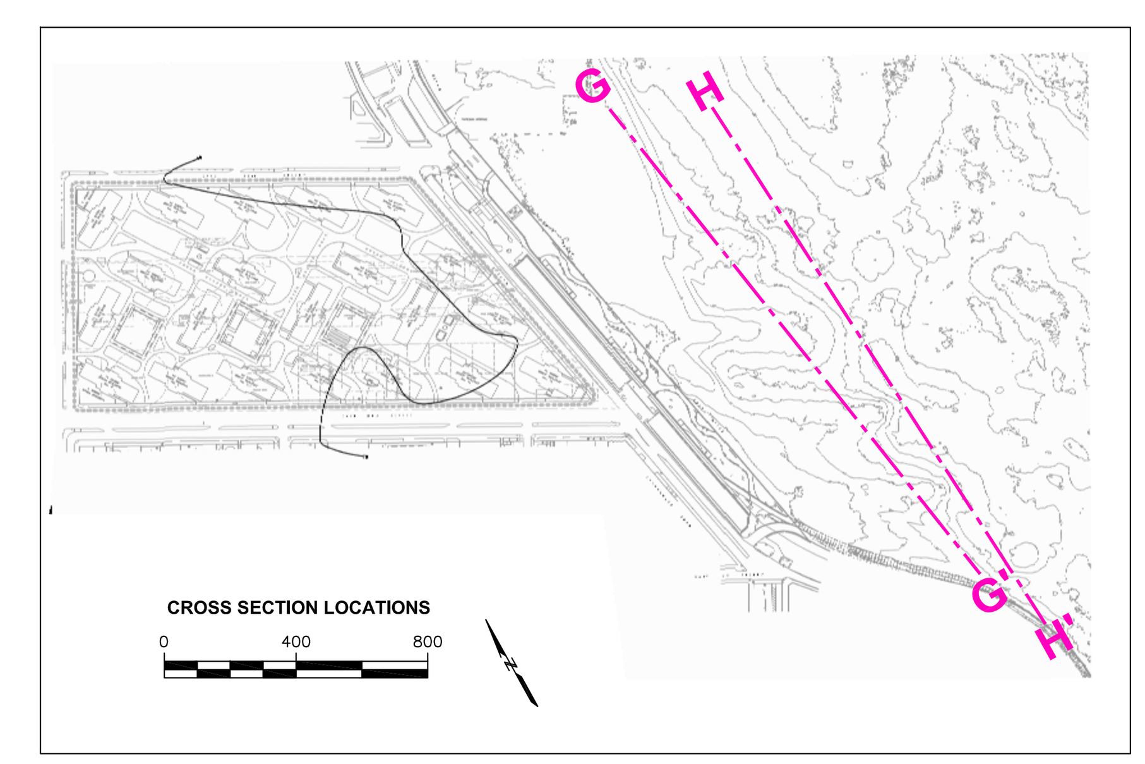
VISIBLE IMPACTS

STAIN
SHEEN
STAIN, SHEEN, TLM/OLM ALL PRESENT
SAMPLED INTERVAL, WITHOUT IMPACT
TLM/OLM LENSES AND/OR RESIDUAL
TLM/OLM SATURATION

MONITORING WELL SCREEN
SOIL BORING
TD TOTAL DEPTH
FORMER STRUCTURE LOCATION
DIRECT CONTACT
INFERRED CONTACT
WATER TABLE (6/12/06) S = SHALLOW ZONE I = INTERMEDIATE ZONE D = DEEP ZONE
APPROXIMATE WATER LEVEL OF EAST RIVER
INDICATES NO RECOVERY IN THIS INTERVAL



CROSS SECTION LOCATIONS

0 400 800

REVISIONS

NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: X
DRAWN BY: X
CHECKED BY:
APPROVED BY:

AECOM

AECOM ENVIRONMENT
RUSTEN CORPORATE PARK
100 RED SCHOOLHOUSE ROAD, SUITE B-1
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CROSS SECTIONS G-G' and H-H'

CONSOLIDATED EDISON OF NEW YORK, INC.
FORMER EAST 21st STREET WORKS

PROJECT NUMBER: 01869-170-829
DATE: 07/08/09
SCALE: AS SHOWN

FIGURE NUMBER

4-6

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NOTE

OU2 CONSISTS OF MGP-RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

LEGEND

- EXISTING STRUCTURES
- HISTORICAL STRUCTURES
- LIMIT OF OU1
- −130.6 TOP OF BEDROCK ELEVATION (NAVD 88)
- APPROXIMATE LOCATION OF NAPL SEEP IN BEDROCK STEAM TUNNEL
- 21RS001 −0.2 SOIL BORING BY HA
- 21FA104B 1.32 SOIL BORING BY RETEC
- HB−62 −119.23 SOIL BORING HISTORICAL (1946)
- 21BR05B SOIL BORING BY AECOM
- GT−2 −118 SOIL BORING BY HDR
- BEDROCK CONTOURS 10' INTERVAL (DASHED WHERE INFERRED)

HISTORIC BOUNDARY OF FORMER EAST 21ST STREET MGP WORKS

EAST 23rd STREET

EAST 20th STREET

FIRST AVENUE

PETER COOPER ROAD

EAST RIVER

PARKING GARAGE

SOLAR ONE BUILDING

60 0 120

1"=120'

AECOM

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

TOP OF BEDROCK CONTOUR MAP

DATE: 07/24/09 | DRWN: MAW/BIL | **FIGURE 4-7**

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\BEDROCK.dwg Layout: BR-x5 User: VershonB Plotted: Jul 24, 2009 - 11:39am Xref's:

NOTE:
OU2 CONSISTS OF MGP-RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

AECOM

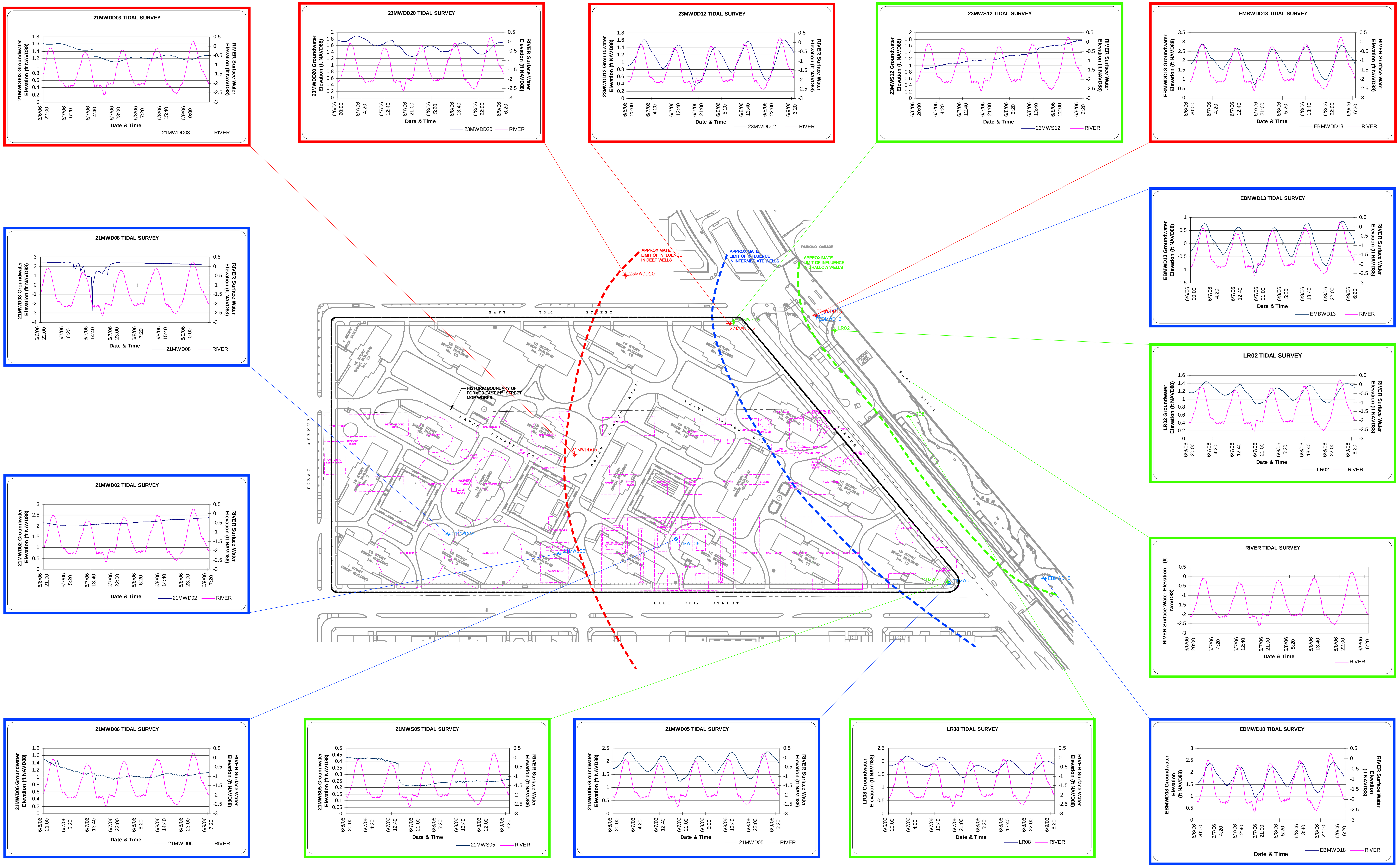
CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS

01869-170-829

DATE: 07/24/09 | DRWN: BcV/W-MA

UNCONFINED AQUIFER GROUNDWATER ELEVATION CONTOURS MAY/JUNE 2006 AND SEPTEMBER 24, 2008

FIGURE 4-8



NOTE:
OU2 CONSISTS OF MGP-RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

60 0 120
1"=120'

AECOM

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

TIDAL INFLUENCE ON GROUNDWATER ELEVATIONS

DATE: 07/09/09	DRWN: BcVIW-MA		FIGURE 4-9

NOTES:

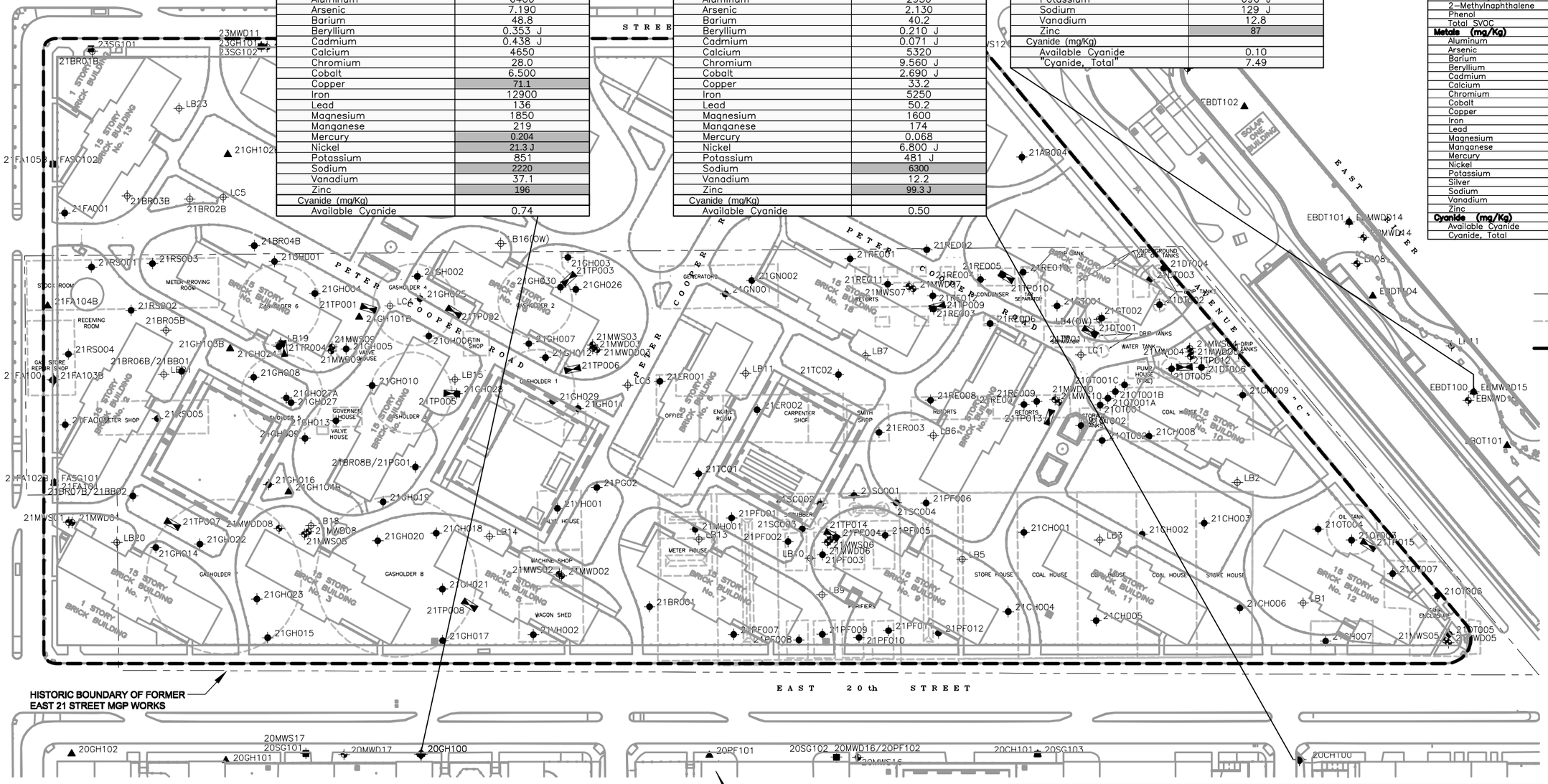
1. ANALYTICAL RESULTS WERE COMPARED TO THE NYSDEC RSCOs. SHADED VALUES INDICATE AN EXCEEDANCE OF THE RSCOs.
2. TABLE 5-1 PROVIDES A SUMMARY OF ANALYTES DETECTED AND THEIR CONCENTRATIONS IN THE OU2 RI SURFACE SOIL SAMPLES.
3. OU2 CONSISTS OF MGP-RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

20GH100	0.0 to 0.2
VOC (mg/Kg)	
Methylene Chloride	0.015 J
Total VOC	0.015
SVOC (mg/Kg)	
Anthracene	0.14 J
Benzo(a)anthracene	0.54
Benzo(a)pyrene	0.58
Benzo(b)fluoranthene	0.89
Benzo(ghi)perylene	0.17 J
Benzo(k)fluoranthene	0.38 J
Chrysene	0.65
Fluoranthene	1.2
Indeno(1,2,3-cd)pyrene	0.14 J
Phenanthrene	0.64
Pyrene	1.1
bis(2-Ethylhexyl) phthalate	2
Carbazole	0.079 J
Di-n-butyl phthalate	0.13 J
Total SVOC	8.639
Metals (mg/Kg)	
Aluminum	6400
Arsenic	7.190
Barium	48.8
Beryllium	0.353 J
Cadmium	0.438 J
Calcium	4650
Chromium	28.0
Cobalt	6.500
Copper	71.1
Iron	12900
Lead	136
Magnesium	1850
Manganese	219
Mercury	0.204
Nickel	21.3 J
Potassium	851
Sodium	2220
Vanadium	37.1
Zinc	196
Cyanide (mg/Kg)	
Available Cyanide	0.74

20CH100	DEPTH (0.0 to 0.2)
VOC (mg/Kg)	
Methylene Chloride	0.024 J
Total VOC	0.024
SVOC (mg/Kg)	
Anthracene	0.26 J
Benzo(a)anthracene	0.56 J
Benzo(a)pyrene	0.49 J
Benzo(b)fluoranthene	0.79 J
Benzo(ghi)perylene	0.14 J
Benzo(k)fluoranthene	0.39 J
Chrysene	0.61
Fluoranthene	1.4
Indeno(1,2,3-cd)pyrene	0.082 J
Naphthalene	0.13 J
Phenanthrene	0.89
Pyrene	1.2
bis(2-Ethylhexyl) phthalate	1.4 J
Di-n-butyl phthalate	2.3 J
Total SVOC	10.642
Metals (mg/Kg)	
Aluminum	2950
Arsenic	2.130
Barium	40.2
Beryllium	0.210 J
Cadmium	0.071 J
Calcium	5320
Chromium	9.560 J
Cobalt	2.690 J
Copper	33.2
Iron	5250
Lead	50.2
Magnesium	1600
Manganese	174
Mercury	0.068
Nickel	6.800 J
Potassium	481 J
Sodium	6300
Vanadium	12.2
Zinc	99.3 J
Cyanide (mg/Kg)	
Available Cyanide	0.50

EBDT100	DEPTH (0.0 to 0.2)
SVOC (mg/Kg)	
Benzo(a)anthracene	0.095 J
Benzo(a)pyrene	0.14 J
Benzo(b)fluoranthene	0.45 J
bis(2-Ethylhexyl) phthalate	0.39 J
Total SVOC	1.075
Metals (mg/Kg)	
Aluminum	4340 J
Arsenic	7.580
Barium	66.4
Cadmium	1.020
Calcium	15900 J
Chromium	12.8
Copper	34.3
Iron	7030
Lead	36.5 J
Magnesium	5810
Manganese	346
Mercury	0.062 J+
Nickel	8.690
Potassium	696 J
Sodium	129 J
Vanadium	12.8
Zinc	87
Cyanide (mg/Kg)	
Available Cyanide	0.10
"Cyanide, Total"	7.49

SOIL CRITERIA	NYSDEC RSCOs	Site Background Values
BTEX (mg/Kg)		
Methylene Chloride	0.1	0.00104
Total VOC	10	NA
PAH (mg/Kg)		
Acenaphthene	50	0.117
Acenaphthylene	41	0.259
Anthracene	50	0.488
Benzo(a)anthracene	0.224	2.599
Benzo(a)pyrene	0.061	1.046
Benzo(b)fluoranthene	1.1	0.728
Benzo(ghi)perylene	50	0.565
Benzo(k)fluoranthene	1.1	0.996
Chrysene	0.4	1.267
Dibenz(a,h)anthracene	0.014	0.162
Fluoranthene	50	3.416
Fluorene	50	0.267
Indeno(1,2,3-cd)pyrene	3.2	0.509
Naphthalene	13	0.476
Phenanthrene	50	3.949
Pyrene	50	4.525
SVOC (mg/Kg)		
bis(2-Ethylhexyl) phthalate	50	0.823
Carbazole	NA	0.131
Di-n-butyl phthalate	8.1	0.064
2-Methylnaphthalene	500	NA
Phenol	0.03	0.042
Total SVOC	500	NA
Metals (mg/Kg)		
Aluminum	SB	7960
Arsenic	7.5 or SB	13.63
Barium	300 or SB	124.7
Beryllium	0.16 or SB	0.463
Cadmium	1 or SB	0.2
Calcium	SB	11563
Chromium	10 or SB	36.69
Cobalt	30 or SB	5.698
Copper	25 or SB	35.84
Iron	2000 or SB	14369
Lead	SB	237.7
Magnesium	SB	3129
Manganese	SB	358.5
Mercury	0.1	1.305
Nickel	13 or SB	15.3
Potassium	SB	1197
Silver	SB	0.229
Sodium	SB	214.8
Vanadium	150 or SB	30.25
Zinc	20 or SB	81.77
Cyanide (mg/Kg)		
Available Cyanide	NA	NA
Cyanide, Total	NA	0.705



60 0 120
1"=120'

AECOM

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

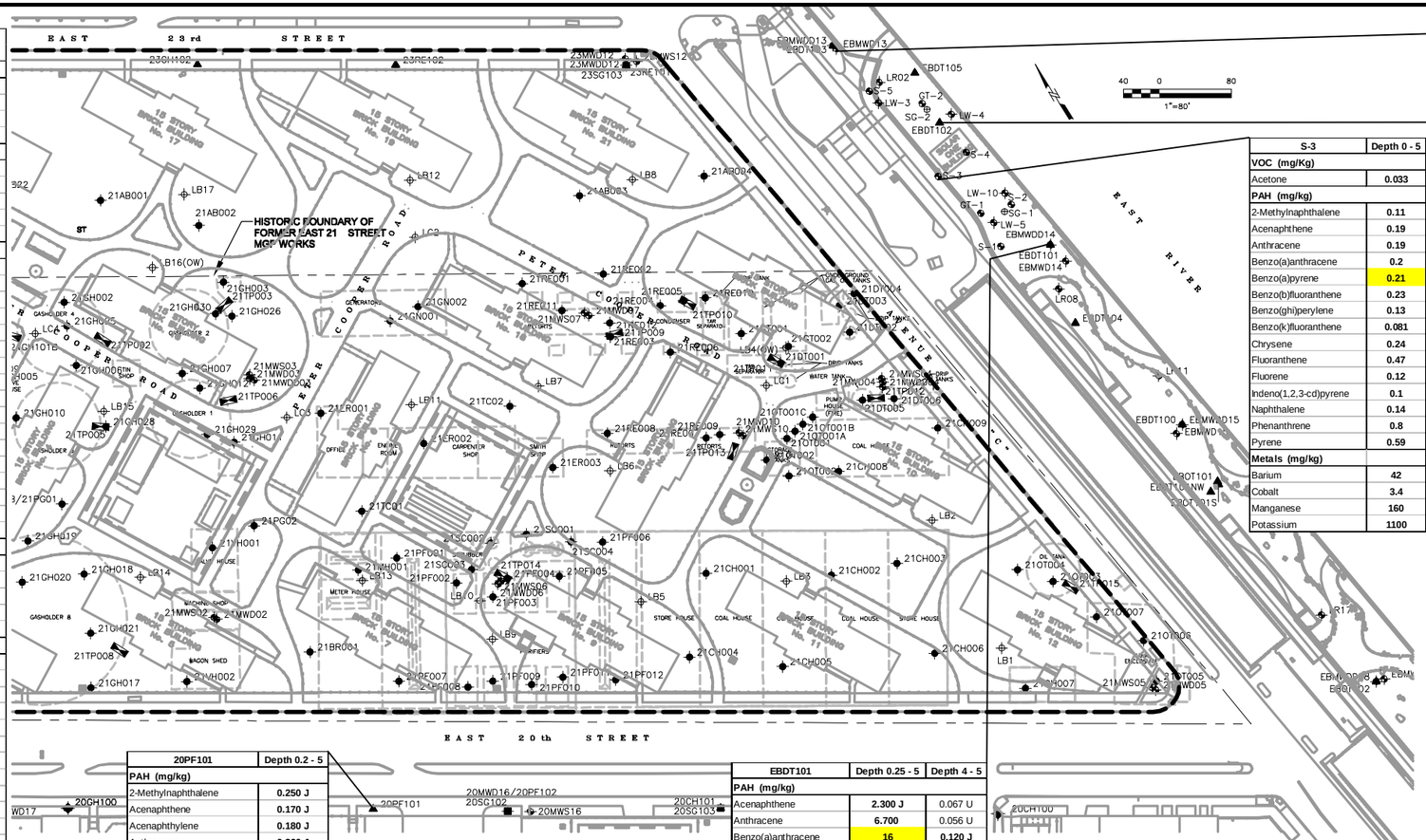
CONCENTRATIONS OF COMPOUNDS DETECTED IN OU2 RI SURFACE SOIL SAMPLES (0.0 FT TO 0.2 FT DEPTH)

DATE: 07/24/09 | DRWN: BcV/W-MA | **FIGURE 5-1**

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\SURFSOIL_DB_OU2.dwg Layout: B-120 User: VershonB Plotted: Jul 24, 2009 - 12:32pm Xref's:

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Vilage\01869\CADD\OU2-2009\UPPERFILL_DR_OU2.dwg Layout: OU2_5-2 User: VershonB Plotted: Jul 24, 2009 - 3:49pm Xref's:

Soil Criteria	NYSDEC RSCOs	Site Background Values
BTEX (mg/kg)		
Benzene	0.06	0.00202
Ethylbenzene	5.5	0.00014
Toluene	1.5	0.0028
Total Xylene (calculated)	1.2	0.00047
VOC (mg/Kg)		
2-Butanone (Methyl Ethyl Ketone)	0.3	0.00202
Acetone	0.2	0.043
Isopropylbenzene	NA	NA
Styrene	NA	NA
Total VOC	10	NA
PAH (mg/kg)		
2-Methylnaphthalene	36.4	0.106
Acenaphthene	50	0.117
Acenaphthylene	41	0.259
Anthracene	50	0.488
Benzo(a)anthracene	0.224	2.599
Benzo(a)pyrene	0.061	1.046
Benzo(b)fluoranthene	1.1	0.728
Benzo(ghi)perylene	50	0.565
Benzo(k)fluoranthene	1.1	0.996
Chrysene	0.4	1.267
Dibenz(a,h)anthracene	0.014	0.162
Fluoranthene	50	3.416
Fluorene	50	0.267
Indeno(1,2,3-cd)pyrene	3.2	0.509
Naphthalene	13	0.476
Phenanthrene	50	3.949
Pyrene	50	4.525
SVOC (mg/kg)		
4-Nitrophenol	0.1	NA
bis(2-Ethylhexyl) phthalate	50	0.823
Carbazole	NA	0.131
Dibenzofuran	6.2	0.197
Total SVOCs	500	NA
Metals (mg/kg)		
Aluminum	SB	7960
Antimony	NA	NA
Arsenic	7.5 or SB	13.63
Barium	300 or SB	124.7
Beryllium	0.16 or SB	0.463
Cadmium	1 or SB	0.2
Calcium	SB	11563
Chromium	10 or SB	38.69
Cobalt	30 or SB	5.698
Copper	25 or SB	35.84
Iron	2000 or SB	14369
Lead	SB	237.7
Magnesium	SB	3129
Manganese	SB	358.5
Mercury	0.1	1.305
Nickel	13 or SB	15.3
Potassium	SB	1197
Selenium	2 or SB	NA
Silver	SB	0.229
Sodium	SB	214.8
Vanadium	150 or SB	30.25
Zinc	20 or SB	81.77
Cyanide (mg/kg)		
Available Cyanide	NA	NA
Cyanide, Total	NA	0.705



S-3	Depth 0 - 5
VOC (mg/Kg)	
Acetone	0.033
PAH (mg/kg)	
2-Methylnaphthalene	0.11
Acenaphthene	0.19
Anthracene	0.19
Benzo(a)anthracene	0.2
Benzo(a)pyrene	0.21
Benzo(b)fluoranthene	0.23
Benzo(ghi)perylene	0.13
Benzo(k)fluoranthene	0.081
Chrysene	0.24
Fluoranthene	0.47
Fluorene	0.12
Indeno(1,2,3-cd)pyrene	0.1
Naphthalene	0.14
Phenanthrene	0.8
Pyrene	0.59
Metals (mg/kg)	
Barium	42
Cobalt	3.4
Manganese	160
Potassium	1100

EBDT102	Depth 0.2 - 5
BTEX (mg/kg)	
Benzene	0.0032 J
Ethylbenzene	0.015 J
Toluene	0.014 J
m,p-Xylene	0.051 J
o-Xylene	0.028 J
Total Xylene (calculated)	0.079
Total BTEX	0.1112
VOC (mg/Kg)	
2-Butanone (Methyl Ethyl Ketone)	0.029 J
Isopropylbenzene	0.0062 J
Styrene	0.0034 J
Total VOC	0.1498
PAH (mg/kg)	
Benzo(b)fluoranthene	0.240 J
Fluoranthene	0.580 J
Phenanthrene	0.720 J
Pyrene	0.460 J
SVOC (mg/kg)	
bis(2-Ethylhexyl) phthalate	0.390 J
Total SVOCs	2.390
Metals (mg/kg)	
Aluminum	4030
Arsenic	3.300
Barium	41.5
Calcium	43500
Chromium	10.6
Cobalt	2.790 J
Copper	16.5
Iron	5840
Lead	32.2
Magnesium	10300
Manganese	116
Mercury	0.288
Nickel	6.360
Potassium	871
Sodium	439 J
Vanadium	16.4
Zinc	35.1

EBDT103	Depth 0.2 - 0.5
BTEX (mg/kg)	
Ethylbenzene	0.019 J
Toluene	0.0068 J
m,p-Xylene	0.029 J
o-Xylene	0.042 J
Total Xylene (calculated)	0.071
Total BTEX	0.0968
VOC (mg/Kg)	
Isopropylbenzene	0.018 J
Total VOC	0.1148
PAH (mg/kg)	
Benzo(a)anthracene	*0.260 U*
Benzo(a)pyrene	*0.290 U*
Dibenz(a,h)anthracene	*0.230 U*
Fluoranthene	0.460 J
Phenanthrene	0.330 J
Pyrene	0.430 J
SVOC (mg/kg)	
4-Nitrophenol	*0.230 UJ*
Total SVOCs	1.220
Metals (mg/kg)	
Aluminum	4720
Arsenic	3.340
Barium	46.5
Beryllium	0.193 J
Cadmium	0.078 J
Calcium	41100
Chromium	9.500
Cobalt	3.870 J
Copper	21.1
Iron	8280
Lead	39.2
Magnesium	5450
Manganese	142
Mercury	0.043
Nickel	7.840
Potassium	766
Sodium	420 J
Vanadium	23.6
Zinc	52.8

20PF101	Depth 0.2 - 5
PAH (mg/kg)	
2-Methylnaphthalene	0.250 J
Acenaphthene	0.170 J
Acenaphthylene	0.180 J
Anthracene	0.360 J
Benzo(a)anthracene	1.1
Benzo(a)pyrene	1.4
Benzo(b)fluoranthene	1.5
Benzo(ghi)perylene	0.580
Benzo(k)fluoranthene	0.690
Chrysene	1.3
Dibenz(a,h)anthracene	0.068 J
Fluoranthene	2.000
Fluorene	0.250 J
Indeno(1,2,3-cd)pyrene	0.620
Naphthalene	0.640
Phenanthrene	1.700
Pyrene	1.700
SVOC (mg/kg)	
bis(2-Ethylhexyl) phthalate	0.091 J
Carbazole	0.130 J
Dibenzofuran	0.120 J
Total SVOCs	14.849
Metals (mg/kg)	
Aluminum	5560
Arsenic	4.490
Barium	337
Beryllium	*0.583 U*
Calcium	13600
Chromium	12.8
Cobalt	6.050
Copper	34.2
Iron	10400
Lead	245
Magnesium	2820
Manganese	176
Mercury	0.433
Nickel	14.9
Potassium	1420
Sodium	463 J
Vanadium	18.7
Zinc	210
Cyanide (mg/kg)	
Available Cyanide	1.7

EBDT101	Depth 0.25 - 5	Depth 4 - 5
PAH (mg/kg)		
Acenaphthene	2.300 J	0.067 U
Anthracene	6.700	0.056 U
Benzo(a)anthracene	16	0.120 J
Benzo(a)pyrene	15.000 J	0.130 J
Benzo(b)fluoranthene	15.000 J	0.280 J
Benzo(ghi)perylene	20.000 J	0.062 U
Benzo(k)fluoranthene	6.000 J	0.082 U
Chrysene	14	0.067 U
Dibenz(a,h)anthracene	1.300 J	*0.047 U*
Fluoranthene	20.000 J	0.220 J
Fluorene	2.100 J	0.063 U
Indeno(1,2,3-cd)pyrene	14	0.047 U
Naphthalene	0.760 J	0.064 U
Phenanthrene	22.000	0.081 J
Pyrene	34.000 D	0.066 U
SVOC (mg/kg)		
Carbazole	0.850 J	0.150 J
Dibenzofuran	1.400 J	0.062 U
Total SVOCs	191.410	0.981
Metals (mg/kg)		
Aluminum	8960	4900 J
Antimony	8.770 J-	0.375 UJ
Arsenic	2.570	2.510
Barium	108 J-	128
Calcium	11000	1720 J
Chromium	18.7	13.4
Cobalt	6.730	20.2
Copper	23.5	10.3
Iron	13200	8500
Lead	226 J	18.1 J
Magnesium	4370	1380
Manganese	268	780
Mercury	0.272 J-	0.083
Nickel	18	21.4
Potassium	3010	365 J
Selenium	0.682 J	0.390 U
Sodium	188 J	63.5 J
Vanadium	22.5	16.7
Zinc	55.4	22.1
Cyanide (mg/kg)		
Cyanide, Total	0.564 U	4.85

LEGEND

- EXISTING STRUCTURES
- HISTORICAL STRUCTURES
- LIMIT OF OU1
- 21MWS012 MONITORING WELL
- EBDT101 RI SOIL BORING
- LC1 / LB23 LANGAN SOIL BORING
- 21AB001 SCS SOIL BORING
- 21BR01B RI BEDROCK BORING
- 20CH101 SURFACE SOIL
- 20SG103 RI SOIL GAS
- S-2 HDR BEDROCK BORING
- SG-1 HDR SOIL GAS
- 21TP012 TEST PIT

NOTES:
1. ANALYTICAL RESULTS WERE COMPARED TO THE NYSDEC RSCOs. SHADED VALUES INDICATE AN EXCEEDENCE OF THE RCSOs.
2. TABLE 5-2 PROVIDES A SUMMARY OF ANALYTES DETECTED AND THEIR CONCENTRATIONS IN OU2 RI UPPER FILL AND LOWER FILL/NATURAL SOIL SAMPLES.
3. OU2 CONSISTS OF MGP RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

AECOM

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

CONCENTRATIONS OF COMPOUNDS DETECTED IN OU2 UPPER FILL SOIL SAMPLES (0.2 FT. TO 5 FT. DEPTH)

DATE: 07/24/09 | DRWN: BcV/W-MA | | **FIGURE 5-2**

AECOM

NOTE:
OU2 CONSISTS OF MGP-RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

DATE: 07/24/09 | DRWN: BcV/W-MA

TOTAL VOCS IN SUBSURFACE SOILS

FIGURE 5-3

AECOM

NOTE:
OU2 CONSISTS OF MGP–RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

DATE: 07/09/09 | DRWN: BcV/W–MA

TOTAL SVOCs IN SUBSURFACE SOILS

FIGURE 5-4

NOTES:

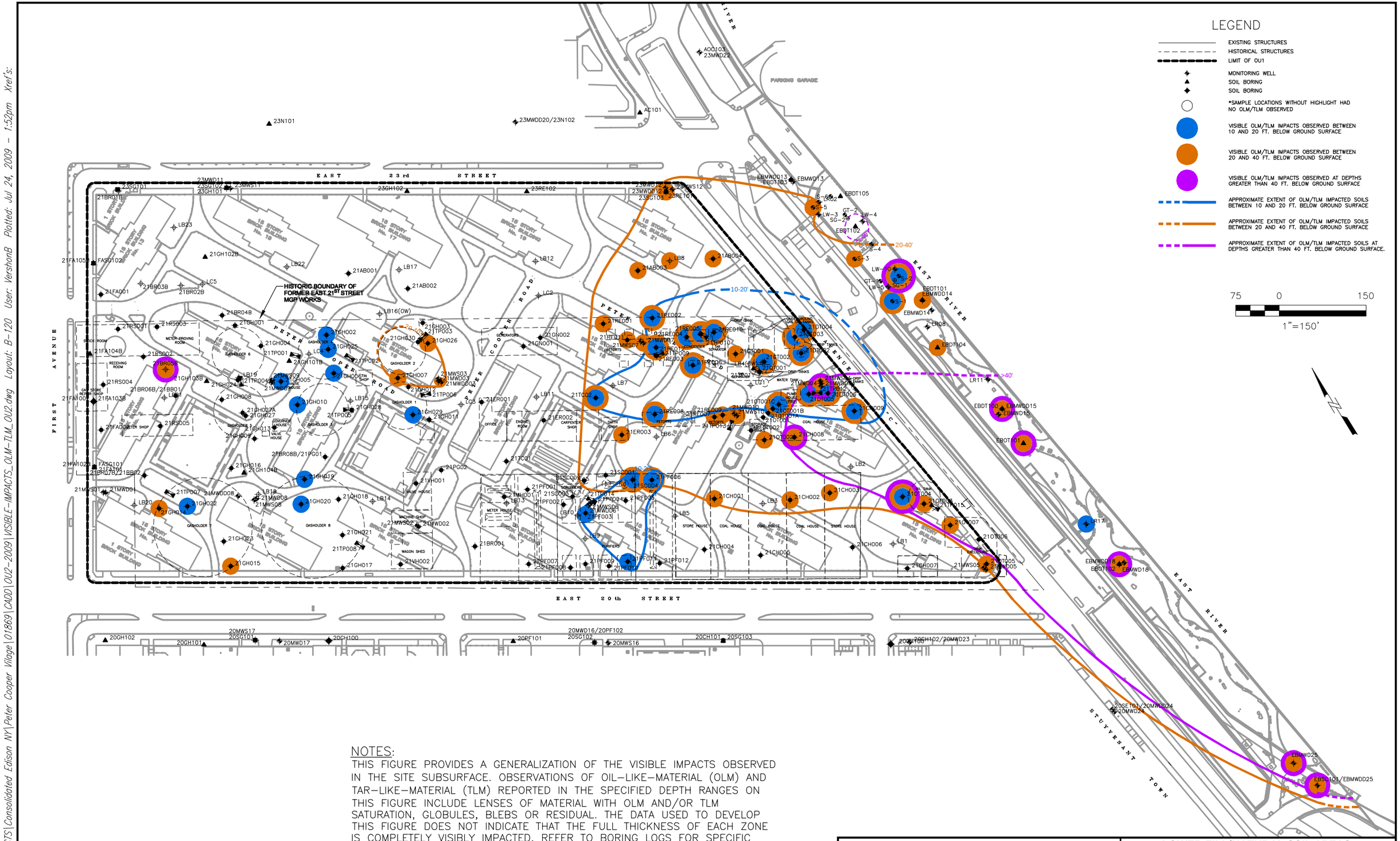
THIS FIGURE PROVIDES A GENERALIZATION OF STAINING AND/OR SHEENS OBSERVED IN THE SITE SUBSURFACE. THE DATA USED TO DEVELOP THIS FIGURE DOES NOT INDICATE THAT THE FULL THICKNESS OF EACH DEPTH ZONE IS COMPLETELY STAINED. REFER TO BORING LOGS FOR SPECIFIC VISIBLE IMPACT DETAILS AT EACH LOCATION.

OU2 CONSISTS OF MGP-RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

AECOM

CONSOLIDATED EDISON OF NEW YORK INC. FORMER EAST 21ST STREET WORKS 01869-170-829			**LOWER FILL/NATURAL SOIL AREAS VISIBLY IMPACTED WITH STAINING OR SHEEN BY DEPTH**
DATE: 07/24/09	DRWN: BcV/W-MA		**FIGURE 5-5**

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\VISIBLE-IMPACTS_SHEEN-STAIN_OU2.dwg Layout: B-120 User: VershonB Plotted: Jul 24, 2009 - 1:49pm Xref's:



NOTES:

THIS FIGURE PROVIDES A GENERALIZATION OF THE VISIBLE IMPACTS OBSERVED IN THE SITE SUBSURFACE. OBSERVATIONS OF OIL–LIKE–MATERIAL (OLM) AND TAR–LIKE–MATERIAL (TLM) REPORTED IN THE SPECIFIED DEPTH RANGES ON THIS FIGURE INCLUDE LENSES OF MATERIAL WITH OLM AND/OR TLM SATURATION, GLOBULES, BLEBS OR RESIDUAL. THE DATA USED TO DEVELOP THIS FIGURE DOES NOT INDICATE THAT THE FULL THICKNESS OF EACH ZONE IS COMPLETELY VISIBLY IMPACTED. REFER TO BORING LOGS FOR SPECIFIC VISIBLE IMPACT DETAILS AT EACH LOCATION.

OU2 CONSISTS OF MGP–RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

AECOM

CONSOLIDATED EDISON OF NEW YORK INC. FORMER EAST 21ST STREET WORKS 01869-170-829			**LOWER FILL/NATURAL SOIL AREAS VISIBLY IMPACTED WITH OLM/TLM BY DEPTH**
DATE: 07/24/09	DRWN: BcV/W–MA		**FIGURE 5-6**

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\VISIBLE-IMPACTS_OLM-TLM_OU2.dwg Layout: B-120 User: VershonB Plotted: Jul 24, 2009 - 1:52pm Xref's:

23N101 Analytes	Depth (17.5-20)	Depth (30-35)	Depth (55-60)
VOC (mg/Kg)			
Benzene	0.0030 U	0.0024 U	0.0026 U
Ethylbenzene	0.0027 U	0.0021 U	0.0023 U
Toluene	0.0031 U	0.0024 U	0.0026 U
m,p-Xylene	0.0066 U	0.0051 U	0.0055 U
o-Xylene	0.0029 U	0.0023 U	0.0025 U
Total VOC	0.021	0.033	0 U
SVOC (mg/Kg)			
Acenaphthene	0.092 U	0.070 U	0.074 U
Acenaphthylene	0.084 U	0.064 U	0.067 U
Anthracene	0.078 U	0.059 U	0.063 U
Benzo(a)anthracene	0.072 U	0.055 U	0.058 U
Benzo(a)pyrene	0.082 U	0.063 U	0.066 U
Benzo(b)fluoranthene	0.057 U	0.043 U	0.046 U
Benzo(ghi)perylene	0.085 U	0.065 U	0.069 U
Benzo(k)fluoranthene	0.110 R	0.086 R	0.091 R
Chrysene	0.092 U	0.070 U	0.075 U
Dibenz(a,h)anthracene	0.065 U	0.049 U	0.052 U
Fluoranthene	0.077 U	0.058 U	0.062 U
Fluorene	0.087 U	0.066 U	0.070 U
Indeno(1,2,3-cd)pyrene	0.065 UJ	0.050 UJ	0.053 UJ
Naphthalene	0.088 U	0.067 U	0.071 U
Phenanthrene	0.082 U	0.062 U	0.066 U
Pyrene	0.091 U	0.069 U	0.073 U
Total SVOCs	0.150	0.190	0.150
Inorganics (mg/Kg)			
Cyanide, Total	0.79 U	0.59 U	0.63 U

23N102 Analytes	Depth (13-15)	Depth (19-23)	Depth (31-33)	Dup Depth (31-33)
VOC (mg/Kg)				
Benzene	0.0028 U	0.0025 U	0.0023 U	0.0023 U
Ethylbenzene	0.0025 U	0.0022 U	0.0020 U	0.0021 U
Toluene	0.0028 U	0.0026 U	0.0023 U	0.0023 U
m,p-Xylene	0.0061 U	0.0055 U	0.0049 U	0.0050 U
o-Xylene	0.0027 U	0.0024 U	0.0022 U	0.0022 U
Total VOC	0.031	0.0097	0 U	0 U
SVOC (mg/Kg)				
Acenaphthene	0.220 J	0.220 J	0.110 J	0.066 U
Acenaphthylene	0.076 U	0.068 U	0.061 U	0.060 U
Anthracene	0.096 J	0.160 J	0.083 J	0.056 U
Benzo(a)anthracene	0.250 J	0.310 J	0.130 J	0.052 U
Benzo(a)pyrene	0.250 J	0.330 J	0.110 J	0.059 U
Benzo(b)fluoranthene	0.270 J	0.340 J	0.120 J	0.041 U
Benzo(ghi)perylene	0.078 U	0.120 J	0.063 U	0.061 U
Benzo(k)fluoranthene	0.100 R	0.130 J	0.083 R	0.081 U
Chrysene	0.250 J	0.330 J	0.130 J	0.066 U
Dibenz(a,h)anthracene	0.059 U	0.052 U	0.047 U	0.046 U
Fluoranthene	0.440 J	0.500	0.330 J	0.055 U
Fluorene	0.082 J	0.130 J	0.064 U	0.062 U
Indeno(1,2,3-cd)pyrene	0.069 J	0.110 J	0.048 UJ	0.047 UJ
Naphthalene	0.230 J	0.200 J	0.160 J	0.063 U
Phenanthrene	0.310 J	0.510	0.310 J	0.059 U
Pyrene	0.390 J	0.470	0.290 J	0.065 U
Total SVOCs	3.087	3.947	1.923	0.110
Inorganics (mg/Kg)				
Cyanide, Total	0.72 U	0.63 U	0.57 U	0.56 U

AC103 Analytes	Depth (10-15)	Dup Depth (10-15)	Depth (28-30)	Depth (32-34)	Depth (34-36)
VOC (mg/Kg)					
Benzene	0.0041 U	0.0042 U	0.0042 U	0.0050 U	0.0046 U
Ethylbenzene	0.0046 U	0.0047 U	0.0047 U	0.0056 U	0.0051 U
Toluene	0.0050 U	0.0051 U	0.0051 U	0.0061 U	0.0056 U
m,p-Xylene	0.067 J	0.011 UJ	0.011 U	0.013 U	0.012 U
o-Xylene	0.046 J	0.0044 UJ	0.0044 U	0.0053 U	0.0049 U
Total VOC	0.294	0 U	0.024	0 U	0 U
SVOC (mg/Kg)					
Acenaphthene	0.083 U	0.083 U	0.042 U	0.390 J	0.310 J
Acenaphthylene	0.056 U	0.056 U	0.028 U	0.0067 U	0.0061 U
Anthracene	0.130 U	0.130 U	0.065 U	0.230 J	0.210 J
Benzo(a)anthracene	0.092 U	0.092 U	0.240 J	0.300 J	0.330 J
Benzo(a)pyrene	0.110 U	0.110 U	0.057 U	0.210 J	0.230 J
Benzo(b)fluoranthene	0.280 U	0.280 U	0.230 J	0.220 J	0.250 J
Benzo(ghi)perylene	0.280 U	0.280 U	0.140 U	0.100 J	0.120 J
Benzo(k)fluoranthene	0.180 U	0.180 U	0.089 U	0.062 J	0.078 J
Chrysene	0.071 U	0.071 U	0.250 J	0.290 J	0.290 J
Dibenz(a,h)anthracene	0.280 U	0.280 U	0.140 U	0.034 U	0.031 U
Fluoranthene	0.093 U	0.093 U	0.550 J	0.490	0.550
Fluorene	0.100 U	0.100 U	0.052 U	0.150 J	0.130 J
Indeno(1,2,3-cd)pyrene	0.097 U	0.097 U	0.049 U	0.075 J	0.100 J
Naphthalene	0.093 U	0.092 U	0.047 U	0.250 J	0.180 J
Phenanthrene	0.120 U	0.120 U	0.630 J	0.750	0.660
Pyrene	0.084 U	0.083 U	0.520 J	0.670	0.570
Total SVOCs	0 U	0 U	2.420	4.477	4.139
Inorganics (mg/Kg)					
Cyanide, Total	NS	NS	NS	NS	NS

AC101 Analytes	Depth (10-15)	Depth (29-30)	Depth (35-40)	Depth (55-60)	Depth (65-70)	Depth (70-72)
VOC (mg/Kg)						
Benzene	0.0024 UJ	1.700 D	0.0056 J	0.0025 UJ	0.0024 U	0.0024 U
Ethylbenzene	0.0021 UJ	6.100 D	0.0021 U	0.0022 UJ	0.0022 U	0.0022 U
Toluene	0.0024 UJ	3.500 D	0.0024 U	0.0025 UJ	0.0025 U	0.0025 U
m,p-Xylene	0.018 J	10.000 D	0.0050 U	0.0054 UJ	0.0053 U	0.0053 U
o-Xylene	0.014 J	5.400 D	0.0022 U	0.0024 UJ	0.0024 U	0.0024 U
Total VOC	0.0515	27.778	0.0676	0 U	0 U	0 U
SVOC (mg/Kg)						
Acenaphthene	7.000	2.000 J	0.068 U	0.072 U	0.073 U	0.073 U
Acenaphthylene	0.640 U	2.400 J	0.062 U	0.065 U	0.067 U	0.067 U
Anthracene	16.000	2.800	0.058 U	0.061 U	0.062 U	0.062 U
Benzo(a)anthracene	15	2.900 J	0.053 U	0.056 U	0.057 U	0.058 U
Benzo(a)pyrene	13.000 J	2.100 J	0.061 U	0.064 U	0.066 U	0.066 U
Benzo(b)fluoranthene	14.000 J	2.200 J	0.042 U	0.044 U	0.045 U	0.045 U
Benzo(ghi)perylene	4.800 J	0.650 J	0.063 U	0.066 U	0.068 UJ	0.068 U
Benzo(k)fluoranthene	6.000 J	1.100 J	0.084 U	0.088 U	0.090 U	0.091 U
Chrysene	13	2.6	0.069 U	0.072 U	0.074 U	0.074 U
Dibenz(a,h)anthracene	0.490 UJ	0.110 J	0.048 U	0.050 U	0.051 U	0.052 U
Fluoranthene	31.000	4.400 D	0.057 U	0.060 U	0.061 U	0.061 U
Fluorene	7.000	4.900 D	0.064 U	0.068 U	0.069 U	0.070 U
Indeno(1,2,3-cd)pyrene	2.300 J	0.280 J	0.048 U	0.051 U	0.052 UJ	0.052 UJ
Naphthalene	0.690 J	22.000 D	0.065 U	0.160 J	0.070 U	0.070 U
Phenanthrene	31.000	10.000 D	0.061 U	0.064 U	0.065 U	0.066 U
Pyrene	41.000 D	7.000 D	0.068 U	0.071 U	0.072 U	0.073 U
Total SVOCs	211.190	83.890	0 U	0.244	0 U	0 U
Inorganics (mg/Kg)						
Cyanide, Total	0.594 U	0.646 U	0.581 U	0.61 U	0.63 U	0.62 U

EBDT103 Analytes	Depth (25-29)	Depth (39-41)	Depth (65-69)
VOC (mg/Kg)			
Benzene	7	0.0026 U	0.0046 J
Ethylbenzene	15	0.0023 U	0.0041 J
Toluene	17.000 J	0.0026 U	0.012 J
m,p-Xylene	36.000	0.0055 U	0.0097 J
o-Xylene	14.000	0.0025 U	0.0026 U
Total VOC	98.1	0 U	0.0304
SVOC (mg/Kg)			
Acenaphthene	45.000 D	0.075 U	0.078 U
Acenaphthylene	120.000 D	0.069 U	0.071 U
Anthracene	160.000 D	0.064 U	0.066 U
Benzo(a)anthracene	93.000 D	0.059 U	0.061 U
Benzo(a)pyrene	69.000 D	0.068 U	0.070 U
Benzo(b)fluoranthene	74.000 D	0.047 U	0.048 U
Benzo(ghi)perylene	12.000	0.070 U	0.072 U
Benzo(k)fluoranthene	23	0.093 U	0.096 U
Chrysene	95.000 D	0.076 U	0.079 U
Dibenz(a,h)anthracene	2.400 J	0.053 U	0.055 U
Fluoranthene	190.000 D	0.063 U	0.065 U
Fluorene	130.000 D	0.071 U	0.074 U
Indeno(1,2,3-cd)pyrene	11	0.054 U	0.056 U
Naphthalene	660.000 D	0.072 U	0.075 U
Phenanthrene	400.000 D	0.067 U	0.070 U
Pyrene	170.000 D	0.075 U	0.078 U
Total SVOCs	2606.23	0 U	0 U
Inorganics (mg/Kg)			
Cyanide, Total	0.61 U	0.64 U	0.663 U

EBDT105 Analytes	Depth (34-36)	Depth (40-42)
VOC (mg/Kg)		
Benzene	0.1	0.0032 J
Ethylbenzene	0.420	0.0022 U
Toluene	0.0064 J	0.0025 U
m,p-Xylene	0.130	0.0054 U
o-Xylene	0.190	0.0024 U
Total VOC	1.0554	0.0032
SVOC (mg/Kg)		
Acenaphthene	26.000	0.073 U
Acenaphthylene	7.900	0.067 U
Anthracene	25.000	0.062 U
Benzo(a)anthracene	26	0.058 U
Benzo(a)pyrene	16	0.066 U
Benzo(b)fluoranthene	18	0.045 U
Benzo(ghi)perylene	3.700 J	0.068 U
Benzo(k)fluoranthene	5.9	0.090 U
Chrysene	19	0.074 U
Dibenz(a,h)anthracene	0.830 J	0.052 U
Fluoranthene	58.000 D	0.061 U
Fluorene	32.000	0.069 U
Indeno(1,2,3-cd)pyrene	3.400 J	0.052 U
Naphthalene	17	0.070 U
Phenanthrene	110.000 D	0.066 U
Pyrene	47.000 D	0.073 U
Total SVOCs	448.200	0 U
Inorganics (mg/Kg)		
Cyanide, Total	0.60 U	0.62 U

S-6 Analytes	Depth (6-8)
BTEX (mg/Kg)	
Benzene	0.0011U
Ethylbenzene	0.0011U
Toluene	0.0011U
m,p-Xylene	0.0023U
o-Xylene	0.0011U
Total VOC	NA
PAH (mg/Kg)	
Acenaphthene	0.26
Acenaphthylene	0.076U
Anthracene	0.62
Benzo(a)anthracene	1.4
Benzo(a)pyrene	1.4
Benzo(b)fluoranthene	1.8
Benzo(ghi)perylene	0.95
Benzo(k)fluoranthene	0.44
Chrysene	1.2
Dibenz(a,h)anthracene	0.19
Fluoranthene	3.5
Fluorene	0.19
Indeno(1,2,3-cd)pyrene	0.79
Naphthalene	0.076U
Phenanthrene	2.8
Pyrene	3.8
Total SVOC	NA
Inorganics (mg/Kg)	
Cyanide, Total	NS

S-5 Analytes	Depth (6-8)	Depth (28-30)
BTEX (mg/Kg)		
Benzene	0.013U	5.6U
Ethylbenzene	0.013U	23
Toluene	0.013U	28
m,p-Xylene	0.026U	83
o-Xylene	0.013U	32
Total VOC	NA	NA
PAH (mg/Kg)		
Acenaphthene	0.088U	NS
Acenaphthylene	0.088U	NS
Anthracene	0.088U	NS
Benzo(a)anthracene	0.088U	NS
Benzo(a)pyrene	0.088U	NS
Benzo(b)fluoranthene	0.088U	NS
Benzo(ghi)perylene	0.088U	NS
Benzo(k)fluoranthene	0.088U	NS
Chrysene	0.088U	NS
Dibenz(a,h)anthracene	0.088U	NS
Fluoranthene	0.088U	NS
Fluorene	0.088U	NS
Indeno(1,2,3-cd)pyrene	0.088U	NS
Naphthalene	0.088U	1600
Phenanthrene	0.088U	NS
Pyrene	0.088U	NS
Total SVOC	NA	1600
Inorganics (mg/Kg)		
Cyanide, Total	NS	0.9

EBDT102 Analytes	Depth (9-11)	Depth (46-48)	Depth (60-62)
VOC (mg/Kg)			
Benzene	0.0097 J	0.760 U	0.0025 U
Ethylbenzene	4.000 D	4.800	0.029 J
Toluene	0.380 J	0.093 J	0.0082 J
m,p-Xylene	10.000 D	3.500	0.034 J
o-Xylene	2.600 D	1.900	0.0054 J
Total VOC	20.8797	11.953	0.0766
SVOC (mg/Kg)			
Acenaphthene	2.700	12.000	0.074 U
Acenaphthylene	0.300 U	160.000 D	0.068 U
Anthracene	5.400	55.000 D	0.063 U
Benzo(a)anthracene	4.4	55.000 D	0.058 U
Benzo(a)pyrene	3.7	44.000 D	0.067 U
Benzo(b)fluoranthene	3.6	32.000 D	0.046 U
Benzo(ghi)perylene	1.900	9.500 J	0.069 U
Benzo(k)fluoranthene	1.200 J	8.400 J	0.092 U
Chrysene	4	41.000 D	0.075 U
Dibenz(a,h)anthracene	0.240 U	1.200 J	0.052 U
Fluoranthene	10.000	140.000 D	0.062 U
Fluorene	3.500	90.000 D	0.070 U
Indeno(1,2,3-cd)pyrene	0.240 U	7.700 J	0.053 U
Naphthalene	6.100	600.000 D	0.170 J
Phenanthrene	18.000 D	360.000 D	0.067 J
Pyrene	9.900	160.000 D	0.074 U
Total SVOCs	83.730	1976.3	0.237
Inorganics (mg/Kg)			
Cyanide, Total	0.569 U	0.613 U	0.633 U

S-4 Analytes	S-4 Depth (6-8)
BTEX (mg/Kg)	
Benzene	0.06U
Ethylbenzene	0.12U
Toluene	0.12U
m,p-Xylene	0.24U
o-Xylene	0.12U
Total VOC	NA
PAH (mg/Kg)	
Acenaphthene	0.08U
Acenaphthylene	0.1
Anthracene	0.08U
Benzo(a)anthracene	0.21
Benzo(a)pyrene	0.19
Benzo(b)fluoranthene	0.2
Benzo(ghi)perylene	0.22
Benzo(k)fluoranthene	0.08U
Chrysene	0.14
Dibenz(a,h)anthracene	0.08U
Fluoranthene	0.35
Fluorene	0.08U
Indeno(1,2,3-cd)pyrene	0.1
Naphthalene	0.08U
Phenanthrene	0.08U
Pyrene	0.6
Total SVOC	NA
Inorganics (mg/Kg)	
Cyanide, Total	NS

EBDT101 Analytes	Depth (4-5)	Depth (23-27)	Depth (41-45)
VOC (mg/Kg)			
Benzene	0.0022 U	8.200 J	0.0066 J
Ethylbenzene	0.0020 U	34.000 J	0.013 J
Toluene	0.0023 U	0.720 UJ	0.0024 U
m,p-Xylene	0.0049 U	18.000 J	0.0050 U
o-Xylene	0.0022 U	14.000 J	0.0022 U
Total VOC	0 U	77.4	0.0196
SVOC (mg/Kg)			
Acenaphthene	0.067 U	16.000 D	0.280 J
Acenaphthylene	0.061 U	1.600	0.063 U
Anthracene	0.056 U	14.000 D	0.230 J
Benzo(a)anthracene	0.120 J	5.300 D	0.130 J
Benzo(a)pyrene	0.130 J	3.600 JD	0.100 J
Benzo(b)fluoranthene	0.280 J	3.600 J	0.200 J
Benzo(ghi)perylene	0.062 U	0.880 J	0.065 U
Benzo(k)fluoranthene	0.082 U	1.600 J	0.086 U
Chrysene	0.067 U	3.8	0.070 U
Dibenz(a,h)anthracene	0.047 U	0.081 J	0.049 U
Fluoranthene	0.220 J	15.000 D	0.290 J
Fluorene	0.063 U	0.083 U	0.150 J
Indeno(1,2,3-cd)pyrene	0.047 U	0.062 U	0.050 U
Naphthalene	0.064 U	40.000 D	0.320 J
Phenanthrene	0.081 J	32.000 D	0.890
Pyrene	0.066 U	22.000 D	0.580
Total SVOCs	0.981	174.771	3.470
Inorganics (mg/Kg)			
Cyanide, Total	4.85	4.37	4.23

S-2 Analytes	Depth (6-8)
BTEX (mg/Kg)	
Benzene	0.0012U
Ethylbenzene	0.0012U
Toluene	0.0012U
m,p-Xylene	0.0024U
o-Xylene	0.0012U
Total VOC	NA
PAH (mg/Kg)	
Acenaphthene	0.087
Acenaphthylene	1.5
Anthracene	0.39
Benzo(a)anthracene	0.38
Benzo(a)pyrene	0.66
Benzo(b)fluoranthene	0.59
Benzo(ghi)perylene	1.4
Benzo(k)fluoranthene	0.16
Chrysene	0.34
Dibenz(a,h)anthracene	0.14
Fluoranthene	0.44
Fluorene	0.12
Indeno(1,2,3-cd)pyrene	0.51
Naphthalene	0.078U
Phenanthrene	0.18
Pyrene	0.62
Total SVOC	NA
Inorganics (mg/Kg)	
Cyanide, Total	NS

S-3 Analytes	Depth (6-8)	Depth (38-40)
BTEX (mg/Kg)		
Benzene	0.0012U	1.8
Ethylbenzene	0.0012U	4.8
Toluene	0.0012U	3.4
m,p-Xylene	0.0024U	5.9
o-Xylene	0.0012U	2.7
Total VOC	NA	NA
PAH (mg/Kg)		
Acenaphthene	0.23	NS
Acenaphthylene	0.078U	NS
Anthracene	0.26	NS
Benzo(a)anthracene	0.7	NS
Benzo(a)pyrene	0.86	NS
Benzo(b)fluoranthene	0.96	NS
Benzo(ghi)perylene	0.47	NS
Benzo(k)fluoranthene	0.3	NS
Chrysene	0.6	NS
Dibenz(a,h)anthracene	0.13	NS
Fluoranthene	1.4	NS
Fluorene	0.14	NS
Indeno(1,2,3-cd)pyrene	0.41	NS
Naphthalene	0.3	45
Phenanthrene	0.82	NS
Pyrene	2.5	NS
Total SVOC	NA	NA
Inorganics (mg/Kg)		
Cyanide, Total	NS	0.27U

EBDT104 Analytes	Depth (21-23)	Depth (35-37)	Depth (43-45)
VOC (mg/Kg)			
Benzene	0.0024 U	1.8	0.0024 U
Ethylbenzene	0.0022 U	3.800	0.0021 U
Toluene	0.0025 U	0.910 J	0.0024 U
m,p-Xylene	0.0053 U	3.100	0.0051 U
o-Xylene	0.0023 U	1.200	0.0023 U
Total VOC	0 U	11.7	0 U
SVOC (mg/Kg)			
Acenaphthene	0.071 U	56.000 D	0.072 U
Acenaphthylene	0.065 U	4.600	0.066 U
Anthracene	0.061 U	26.000	0.070 J
Benzo(a)anthracene	0.058 J	22	0.057 U
Benzo(a)pyrene	0.064 U	16	0.065 U
Benzo(b)fluoranthene	0.049 J	12	0.045 U
Benzo(ghi)perylene	0.066 U	4.300	0.067 U
Benzo(k)fluoranthene	0.088 U	3.900 J	0.089 U
Chrysene	0.072 U	17	0.073 U
Dibenz(a,h)anthracene	0.050 U	0.750 J	0.051 U
Fluoranthene	0.120 J	54.000 D	0.060 U
Fluorene	0.068 U	29.000	0.069 U
Indeno(1,2,3-cd)pyrene	0.051 U	7.5	0.052 U
Naphthalene	0.069 U	180.000 D	0.069 U
Phenanthrene	0.085 J	130.000 D	0.065 U
Pyrene	0.170 J	62.000 D	0.072 U
Total SVOCs	0.482	694.05	0.070
Inorganics (mg/Kg)			
Cyanide, Total	0.61 U	0.62 U	0.62 U

S-1 Analytes	Depth (9-11)	Depth (28-30)
BTEX (mg/Kg)		
Benzene	0.0065U	17
Ethylbenzene	0.0065U	75
Toluene	0.0065U	34
m,p-Xylene	0.013U	100
o-Xylene	0.0065U	40
Total VOC	NA	NA
PAH (mg/Kg)		
Acenaphthene	0.087U	NS
Acenaphthylene	0.21	NS
Anthracene	ND	NS
Benzo(a)anthracene	1.7	NS
Benzo(a)pyrene	1.1	NS
Benzo(b)fluoranthene	1.1	NS
Benzo(ghi)perylene	0.45	NS
Benzo(k)fluoranthene	0.32	NS
Chrysene	1.2	NS
Dibenz(a,h)anthracene	0.12	NS
Fluoranthene	3.3	NS
Fluorene	0.087U	NS
Indeno(1,2,3-cd)pyrene	0.35	NS
Naphthalene	0.087U	1600
Phenanthrene	0.087U	NS
Pyrene	6.2	NS
Total SVOC	NA	NA
Inorganics (mg/Kg)		
Cyanide, Total	NS	0.71

EBOT102 Analytes	Depth (24-28)	Depth (45-47)	Depth (49-51)
VOC (mg/Kg)			
Benzene	0.040 UJ	4.200 J	0.0024 U
Ethylbenzene	0.300 J	120.000 J	0.0022 U
Toluene	0.064 UJ	13.000 J	0.0025 U
m,p-Xylene	0.570 J	110.000 J	0.0053 U
o-Xylene	0.270 J	59.000 J	0.0023 U
Total VOC	1.140	341.3	0 U
SVOC (mg/Kg)			y
Acenaphthene	12.000	1.600	0.072 U
Acenaphthylene	7.100 J	13.000 D	0.065 U
Anthracene	10.000 J	4.400 JD	0.061 U
Benzo(a)anthracene	8.1	3	0.056 U
Benzo(a)pyrene	7.100 J	1.900 J	0.064 U
Benzo(b)fluoranthene	5.200 J	1.600 J	0.044 U
Benzo(ghi)perylene	6.300 J	0.410 J	0.066 U
Benzo(k)fluoranthene	2.000 J	0.500 J	0.088 U
Chrysene	7.300 J	3	0.072 U
Dibenz(a,h)anthracene	0.350 J	0.099 UJ	0.050 U
Fluoranthene	10.000 J	5.000 JD	0.060 U
Fluorene	9.700	0.130 U	0.068 U
Indeno(1,2,3-cd)pyrene	3.400 J	0.100 U	0.051 U
Naphthalene	47.000 D	66.000 D	0.069 U
Phenanthrene	30.000 D	28.000 D	0.064 U
Pyrene	20.000 JD	10.000 D	0.071 U
Total SVOCs	211.010	178.480	0.320
Inorganics (mg/Kg)			
Cyanide, Total	0.686 U	4.55	4.56

EBOT101 Analytes	Depth (27-29)	Depth (55-57)	Depth (61-63)
VOC (mg/Kg)			
Benzene	10	140	0.010 J
Ethylbenzene	110	240	0.029 J
Toluene	18	860.000 D	0.032
m,p-Xylene	75.000	450.000	0.048 J
o-Xylene	33.000	200.000	0.017 J
Total VOC	274.6	2216	0.162
SVOC (mg/Kg)			
Acenaphthene	16.000 D	100	0.071 U
Acenaphthylene	1.600	1100.000 D	0.065 U
Anthracene	14.000 D	420.000 D	0.060 U
Benzo(a)anthracene	5.300 D	340.000 D	0.056 U
Benzo(a)pyrene	3.600 JD	260	0.064 U
Benzo(b)fluoranthene	3.600 J	190	0.044 U
Benzo(ghi)perylene	0.880 J	110	0.066 U
Benzo(k)fluoranthene	1.600 J	53	0.088 U
Chrysene	3.8	250	0.071 U
Dibenz(a,h)anthracene	0.081 J	13.000 J	0.050 U
Fluoranthene	15.000 D	640.000 D	0.059 U
Fluorene	0.083 U	570.000 D	0.067 U
Indeno(1,2,3-cd)pyrene	0.062 U	110	0.051 U
Naphthalene	40.000 D	5200.000 D	0.210 J
Phenanthrene	32.000 D	2100.000 D	0.073 J
Pyrene	22.000 D	980.000 D	0.070 U
Total SVOCs	174.771	14355.001	0.283
Inorganics (mg/Kg)			
Cyanide, Total	4.37	0.567 U	0.605 U

EBSC101 Analytes	Depth (6-8)	Depth (24-26)	Depth (46-48)	Depth (76-78)
VOC (mg/Kg)				
Benzene	0.053 U	0.031 J	0.0041 U	0.0041 U
Ethylbenzene	0.0076 U	3.500 D	0.0046 U	0.0045 U
Toluene	0.024 U	0.140	0.0050 U	0.0050 U
m,p-Xylene	0.072 U	1.100	0.011 U	0.010 U
o-Xylene	0.024 U	0.550	0.0043 U	0.0043 U
Total VOC	23.6	6.170	0 U	0 U
SVOC (mg/Kg)				
Acenaphthene	0.067 J	3.200 J	0.990	0.170 J
Acenaphthylene	0.0059 U	3.100 J	0.390	0.075 J
Anthracene	0.110 J	4.600	0.960	0.150 J
Benzo(a)anthracene	0.094 J	2.700 J	0.74	0.093 J
Benzo(a)pyrene	0.090 J	2.300 J	0.64	0.079 J
Benzo(b)fluoranthene	0.100 J	1.900 J	0.550	0.053 J
Benzo(ghi)perylene	0.056 J	1.200 J	0.340 J	0.041 J
Benzo(k)fluoranthene	0.018 U	0.610 J	0.180 J	0.017 U
Chrysene	0.091 J	2.500 J	0.67	0.086 J
Dibenz(a,h)anthracene	0.030 U	0.310 U	0.047 J	0.028 U
Fluoranthene	0.300 J	6.600	1.600	0.220 J
Fluorene	0.069 J	4.000 J	0.830	0.140 J
Indeno(1,2,3-cd)pyrene	0.051 J	0.750 J	0.240 J	0.0096 U
Naphthalene	0.043 J	20	0.480	0.580
Phenanthrene	0.360 J	16.000	3.200 D	0.570
Pyrene	0.270 J	8.700	2.100	0.320 J
Total SVOCs	1.898	86.860	14.635	2.998
Inorganics (mg/Kg)				
Cyanide, Total	NS	NS	NS	NS

20GH102 Analytes	Depth (39-41)	Dup Depth (39-41)
VOC (mg/Kg)		
Benzene	0.0022 U	0.0023 U
Ethylbenzene	0.0020 U	0.0042 J
Toluene	0.0022 U	0.0024 U
m,p-Xylene	0.0048 U	0.0050 U
o-Xylene	0.0021 U	0.0022 U
Total VOC	0 U	0.0042
SVOC (mg/Kg)		
Acenaphthene	0.068 U	0.067 U
Acenaphthylene	0.062 U	0.061 U
Anthracene	0.057 U	0.057 U
Benzo(a)anthracene	0.053 U	0.053 U
Benzo(a)pyrene	0.061 U	0.061 U
Benzo(b)fluoranthene	0.042 U	0.042 U
Benzo(ghi)perylene	0.063 U	0.063 U
Benzo(k)fluoranthene	0.084 U	0.083 U
Chrysene	0.068 U	0.068 U
Dibenz(a,h)anthracene	0.048 U	0.047 U
Fluoranthene	0.057 U	0.056 U
Fluorene	0.064 U	0.064 U
Indeno(1,2,3-cd)pyrene	0.048 U	0.048 U
Naphthalene	0.065 U	0.065 U
Phenanthrene	0.061 U	0.060 U
Pyrene	0.067 U	0.067 U
Total SVOCs	0 U	0.085
Inorganics (mg/Kg)		
Cyanide, Total	1.480	0.574 U

20GH101 Analytes	Depth (13-15)	Depth (29-31)	Depth (37-39)
VOC (mg/Kg)			
Benzene	0.0022 U	0.0025 U	0.0022 U
Ethylbenzene	0.0020 U	0.0022 U	0.0019 U
Toluene	0.0022 U	0.0026 U	0.0022 U
m,p-Xylene	0.0048 U	0.0055 U	0.0048 U
o-Xylene	0.0021 U	0.0024 U	0.0021 U
Total VOC	0 U	0 U	0 U
SVOC (mg/Kg)			
Acenaphthene	0.067 U	0.075 U	0.065 U
Acenaphthylene	0.061 U	0.068 U	0.059 U
Anthracene	0.057 U	0.064 U	0.055 U
Benzo(a)anthracene	0.053 U	0.059 U	0.051 U
Benzo(a)pyrene	0.061 U	0.067 U	0.058 U
Benzo(b)fluoranthene	0.042 U	0.046 U	0.040 U
Benzo(ghi)perylene	0.063 U	0.070 U	0.060 U
Benzo(k)fluoranthene	0.083 U	0.093 U	0.080 U
Chrysene	0.068 U	0.076 U	0.066 U
Dibenz(a,h)anthracene	0.048 U	0.053 U	0.046 U
Fluoranthene	0.056 U	0.063 U	0.054 U
Fluorene	0.064 U	0.071 U	0.062 U
Indeno(1,2,3-cd)pyrene	0.048 U	0.054 U	0.046 U
Naphthalene	0.065 U	0.072 U	0.062 U
Phenanthrene	0.060 U	0.067 U	0.058 U
Pyrene	0.067 U	0.075 U	0.065 U
Total SVOCs	0 U	0 U	0 U
Inorganics (mg/Kg)			
Cyanide, Total	0.577 U	0.638 U	0.554 U

20GH100 Analytes	Depth (13-15)	Depth (19-21)	Depth (35-37)
VOC (mg/Kg)			
Benzene	0.0023 U	0.340 U	0.0023 U
Ethylbenzene	0.0020 U	2.100 J	0.0021 U
Toluene	0.0023 U	0.550 U	0.0024 U
m,p-Xylene	0.0049 U	1.400 U	0.0050 U
o-Xylene	0.0022 U	0.520 U	0.0022 U
Total VOC	0 U	52.1	0 U
SVOC (mg/Kg)			
Acenaphthene	0.270 J	14.000 D	0.068 U
Acenaphthylene	0.061 U	2.000	0.062 U
Anthracene	0.160 J	7.000 D	0.058 U
Benzo(a)anthracene	0.100 J	4.400 D	0.054 U
Benzo(a)pyrene	0.078 J	2.700 D	0.061 U
Benzo(b)fluoranthene	0.064 J	2.300 J	0.042 U
Benzo(ghi)perylene	0.065 J	0.660 J	0.063 U
Benzo(k)fluoranthene	0.082 U	0.720	0.084 U
Chrysene	0.089 J	4.300 D	0.069 U
Dibenz(a,h)anthracene	0.047 U	0.230 J	0.048 U
Fluoranthene	0.180 J	7.400 D	0.057 U
Fluorene	0.150 J	7.600 D	0.065 U
Indeno(1,2,3-cd)pyrene	0.240 J	0.360 J	0.049 U
Naphthalene	0.520	48.000 D	0.065 U
Phenanthrene	0.650	30.000 D	0.061 U
Pyrene	0.420	17.000 D	0.068 U
Total SVOCs	3.296	177.346	0 U
Inorganics (mg/Kg)			
Cyanide, Total	0.569 U	0.566 U	0.584 U

20MWD16 Analytes	Depth (7-9)	Depth (35-37)
VOC (mg/Kg)		
Benzene	0.0023 U	0.0023 U
Ethylbenzene	0.053	0.0020 U
Toluene	0.014 J	0.0023 U
m,p-Xylene	0.300	0.0049 U
o-Xylene	0.230	0.0022 U
Total VOC	0.643	0.0078
SVOC (mg/Kg)		
Acenaphthene	0.069 U	0.068 U
Acenaphthylene	0.063 U	0.062 U
Anthracene	0.064 J	0.058 U
Benzo(a)anthracene	0.170 J	0.064 J
Benzo(a)pyrene	0.260 J	0.094 J
Benzo(b)fluoranthene	0.280 J	0.096 J
Benzo(ghi)perylene	0.089 J	0.072 J
Benzo(k)fluoranthene	0.120 J	0.084 U
Chrysene	0.180 J	0.069 U
Dibenz(a,h)anthracene	0.049 U	0.048 U
Fluoranthene	0.280 J	0.097 J
Fluorene	0.065 U	0.065 U
Indeno(1,2,3-cd)pyrene	0.082 J	0.067 J
Naphthalene	0.110 J	0.066 U
Phenanthrene	0.300 J	0.063 J
Pyrene	0.240 J	0.089 J
Total SVOCs	2.845	0.642
Inorganics (mg/Kg)		
Cyanide, Total	0.592 U	1.350

LEGEND

- EXISTING STRUCTURES
- HISTORICAL STRUCTURES
- LIMIT OF OU1
- MONITORING WELL
- RI SOIL BORING
- RI SURFACE SOIL
- RI SOIL GAS
- 21BR01B RI BEDROCK BORING LOCATION
- SCS SOIL BORING
- LB2 LC5 LANGAN SOIL BORING

SOIL CRITERIA	NYSDEC RSCOs
BTEX (mg/Kg)	
Benzene	0.06
Ethylbenzene	5.5
Toluene	1.5
m,p-Xylene	NA
o-Xylene	NA
Total VOC	10
PAH (mg/Kg)	
Acenaphthene	50
Acenaphthylene	41
Anthracene	50
Benzo(a)anthracene	0.224
Benzo(a)pyrene	0.061
Benzo(b)fluoranthene	1.1
Benzo(ghi)perylene	50
Benzo(k)fluoranthene	1.1
Chrysene	0.4
Dibenz(a,h)anthracene	0.014
Fluoranthene	50
Fluorene	50
Indeno(1,2,3-cd)pyrene	3.2
Naphthalene	13
Phenanthrene	50
Pyrene	50
Total SVOC	500
Inorganics (mg/Kg)	
Cyanide, Total	NA

20CH101 Analytes	Depth (13-15)	Depth (29-31)	Depth (51-53)
VOC (mg/Kg)			
Benzene	0.053 U	0.530 J	0.037 U
Ethylbenzene	0.089 U	2.300	0.063 U
Toluene	0.085 U	1.6	0.060 U
m,p-Xylene	0.210 U	3.800	0.150 U
o-Xylene	0.080 U	1.600	0.057 U
Total VOC	2.300	15.31	5.200
SVOC (mg/Kg)			
Acenaphthene	0.410 J	5.700 D	0.320 J
Acenaphthylene	0.094 U	1.500	0.100 J
Anthracene	0.430 J	5.100 D	0.350 J
Benzo(a)anthracene	0.63	3.900 D	0.260 J
Benzo(a)pyrene	0.63	2.700 D	0.180 J
Benzo(b)fluoranthene	0.970 J	3.500 J	0.300 J
Benzo(ghi)perylene	0.340 J	1.100	0.120 J
Benzo(k)fluoranthene	0.270 J	0.890	0.089 U
Chrysene	0.7	3.400 D	0.200 J
Dibenz(a,h)anthracene	0.330 J	0.300 J	0.051 U
Fluoranthene	0.900	8.800 D	0.600
Fluorene	0.310 J	5.500 D	0.350 J
Indeno(1,2,3-cd)pyrene	0.670	1.300	0.320 J
Naphthalene	0.570 J	27.000 D	1.300
Phenanthrene	2.000	18.000 D	1.300
Pyrene	1.000	7.700 D	0.660
Total SVOCs	10.630	110.990	7.153
Inorganics (mg/Kg)			
Cyanide, Total	0.882 U	0.611 U	0.617 U

20CH102 Analytes	Depth (22-23)	Depth (26-26.9)
VOC (mg/Kg)		
Benzene	0.99	0.0044 U
Ethylbenzene	9.500 D	0.0048 U
Toluene	4.200 D	0.0053 U
m,p-Xylene	21.000 D	0.011 U
o-Xylene	9.600 D	0.0046 U
Total VOC	46.509	0 U
SVOC (mg/Kg)		
Acenaphthene	1.100	0.0088 U
Acenaphthylene	3.400	0.0060 U
Anthracene	3.200 D	0.014 U
Benzo(a)anthracene	3	0.0098 U
Benzo(a)pyrene	2.2	0.012 U
Benzo(b)fluoranthene	2.2	0.029 U
Benzo(ghi)perylene	0.780	0.030 U
Benzo(k)fluoranthene	0.840	0.019 U
Chrysene	2.4	0.0076 U
Dibenz(a,h)anthracene	0.160 J	0.030 U
Fluoranthene	4.600 D	0.0099 U
Fluorene	4.000 D	0.011 U
Indeno(1,2,3-cd)pyrene	0.660	0.010 U
Naphthalene	16.000 D	0.053 J
Phenanthrene	11.000 D	0.057 J
Pyrene	4.000 D	0.0089 U
Total SVOCs	72.130	0.110
Inorganics (mg/Kg)		
Cyanide, Total	NS	NS

EBDT100 Analytes	Depth (26.6-29)	Depth (55-56.42)	Depth (61-63)
VOC (mg/Kg)			
Benzene	9.3	6.600 J	0.0025 U
Ethylbenzene	50	130	0.0039 J
Toluene	18.000 J	53	0.0052 J
m,p-Xylene	47.000	150.000	0.0054 U
o-Xylene	19.000	71.000	0.0024 U
Total VOC	162.5	456.4	0.0091
SVOC (mg/Kg)			
Acenaphthene	40.000 D	59.000 D	0.075 U
Acenaphthylene	6.000	400.000 D	0.069 U
Anthracene	22.000	140.000 D	0.064 U
Benzo(a)anthracene	18	98.000 D	0.059 U
Benzo(a)pyrene	14	67.000 JD	0.068 U
Benzo(b)fluoranthene	13	46.000 JD	0.046 U
Benzo(ghi)perylene	6.900	13.000 J	0.070 U
Benzo(k)fluoranthene	3.300 J	16.000 JD	0.093 U
Chrysene	13	78.000 D	0.076 U
Dibenz(a,h)anthracene	0.700 J	2.100 J	0.053 U
Fluoranthene	55.000 D	290.000 D	0.063 U
Fluorene	23.000	280.000 D	0.071 U
Indeno(1,2,3-cd)pyrene	7.1	7.000 J	0.054 U
Naphthalene	190.000 D	2500.000 D	0.100 J
Phenanthrene	100.000 D	870.000 D	0.067 U
Pyrene	49.000 D	350.000 D	0.075 U
Total SVOCs	630.1	6141.9	0.100
Inorganics (mg/Kg)			
Cyanide, Total	0.63 U	0.595 U	0.641 U

20SE101 Analytes	Depth (22-24)	Depth (25-29)	Depth (30-34)	Depth (66-68)
VOC (mg/Kg)				
Benzene	0.042	0.031 J	0.0044 U	0.0049 U
Ethylbenzene	0.180	0.023 J	0.0049 U	0.0054 U
Toluene	0.053	0.0055 U	0.0054 U	0.0060 U
m,p-Xylene	0.430	0.051 J	0.011 U	0.013 U
o-Xylene	0.230	0.032	0.0046 U	0.0052 U
Total VOC	1.660	0.154	0 U	0 U
SVOC (mg/Kg)				
Acenaphthene	2.900	0.0088 U	0.0086 U	0.0099 U
Acenaphthylene	4.500	0.0060 U	0.0058 U	0.0067 U
Anthracene	16.000	0.014 U	0.013 U	0.015 U
Benzo(a)anthracene	15	0.0098 U	0.069 J	0.011 U
Benzo(a)pyrene	12	0.012 U	0.060 J	0.014 U
Benzo(b)fluoranthene	15	0.029 U	0.068 J	0.033 U
Benzo(ghi)perylene	2.600 J	0.030 U	0.029 U	0.033 U
Benzo(k)fluoranthene	2.400 J	0.019 U	0.018 U	0.021 U
Chrysene	14	0.0076 U	0.048 J	0.0085 U
Dibenz(a,h)anthracene	0.950 J	0.030 U	0.029 U	0.034 U
Fluoranthene	23.000 D	0.060 J	0.054 J	0.011 U
Fluorene	15.000	0.011 U	0.011 U	0.012 U
Indeno(1,2,3-cd)pyrene	2.000 J	0.010 U	0.010 U	0.012 U
Naphthalene	29.000 D	0.050 J	0.0096 U	0.011 U
Phenanthrene	45.000 D	0.120 J	0.078 J	0.014 U
Pyrene	26.000 D	0.053 J	0.090 J	0.010 U
Total SVOCs	254.710	0.283	0.542	0 U
Inorganics (mg/Kg)				
Cyanide, Total	NS	NS	NS	NS

NOTES:
1. ANALYTICAL RESULTS WERE COMPARED TO THE NYSDEC RSCOs. SHADED VALUES INDICATE AN EXCEEDENCE OF THE RSCOs.
2. TOTAL VOC CONCENTRATIONS REPRESENT THE SUM OF THE CONCENTRATIONS OF ALL DETECTED VOCS, INCLUDING BUT NOT LIMITED TO BTEX.
3. TOTAL SVOC CONCENTRATIONS REPRESENT THE SUM OF THE CONCENTRATIONS OF ALL DETECTED SVOCS, INCLUDING BUT NOT LIMITED TO PAHS.
4. TABLE 5-2 PROVIDES A SUMMARY OF ANALYTES DETECTED AND THEIR CONCENTRATIONS IN RI UPPER FILL AND LOWER FILL/NATURAL SOIL SAMPLES.
5. OU2 CONSISTS OF MGP-RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

40 0 80
GRAPHIC SCALE IN FEET

AECOM

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

DATE: 07/24/09 DRWN: BcV/W-MA

BTEX, PAH AND CYANIDE CONCENTRATIONS IN OU2 LOWER FILL/ NATURAL SOIL

FIGURE 5-7

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\SOIL_DB_OU2.dwg Layout: ANSI_D (@80) User: VershonB Plotted: Jul 24, 2009 - 3:20pm Xref's:

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Vilage\01869\CADD\OU2-2009\EAST_RIVER_SED_SAMPS-ALT.dwg Layout: 5-8 User: VershonB Plotted: Jul 21, 2009 - 1:45pm Xref's:

RB55 EROF1 RB23 ERSSREF04 RB25 RB56 RB43 RB57 GS26 RB24 GS27 EROF2 RB58 RB42 RB41 RB12 GS28 RB44 RB19 RB22 RB59 RB47 RB60 EROF3 RB45 RB1 GS05 RB49 GS06 GS18 GS21 RB21 ERSSREF05 GS19 RB46 RB20 RB61 GS37 RB26 RB62 GS20 RB11 RB63 RB27 RB50 GS17 RB2 RB48 RB10 GS41 RB68 GS07 RB7 RB64 RB8 RB3 GS15 RB9 RB69 GS22 GS08 RB51 GS23 GS29 GS42 GS14 RB67 RB28 GS16 RB4 RB65 GS13 GS30 GS38 RB52 GS34 RB40 GS10 GS33 RB13 GS12 GS11 RB6 RB29 GS31 RB70 GS32 RB30 RB54 RB66 GS09 RB14 RB31 GS36 RB5 RB71 RB15 GS35 RB32 GS43 GS39 GS40 RB18 RB72 RB17 RB53 ERSSREF02 RB39 RB16 RB73 RB33 RB74 RB34 RB38 RB35 RB37 GS24 RB75 RB36 GS25 RB76

COMMUNICATIONS CABLE

PARKING GARAGE

SOLAR ONE BUILDING

EAST RIVER

AVENUE "C"

STUYVESANT TOWN

EAST 18th STREET

LEGEND:

- ID — SAMPLE LOCATION
- NO VISIBLE IMPACT IN SURFACE OR SUBSURFACE SEDIMENT
- SHEEN
- STAIN
- OLM/TLM
- SHEEN/STAIN/OLM/TLM
- LIMIT OF VISIBLE IMPACTS IN SURFACE SEDIMENTS

N

37.5 0 75
GRAPHIC SCALE IN FEET

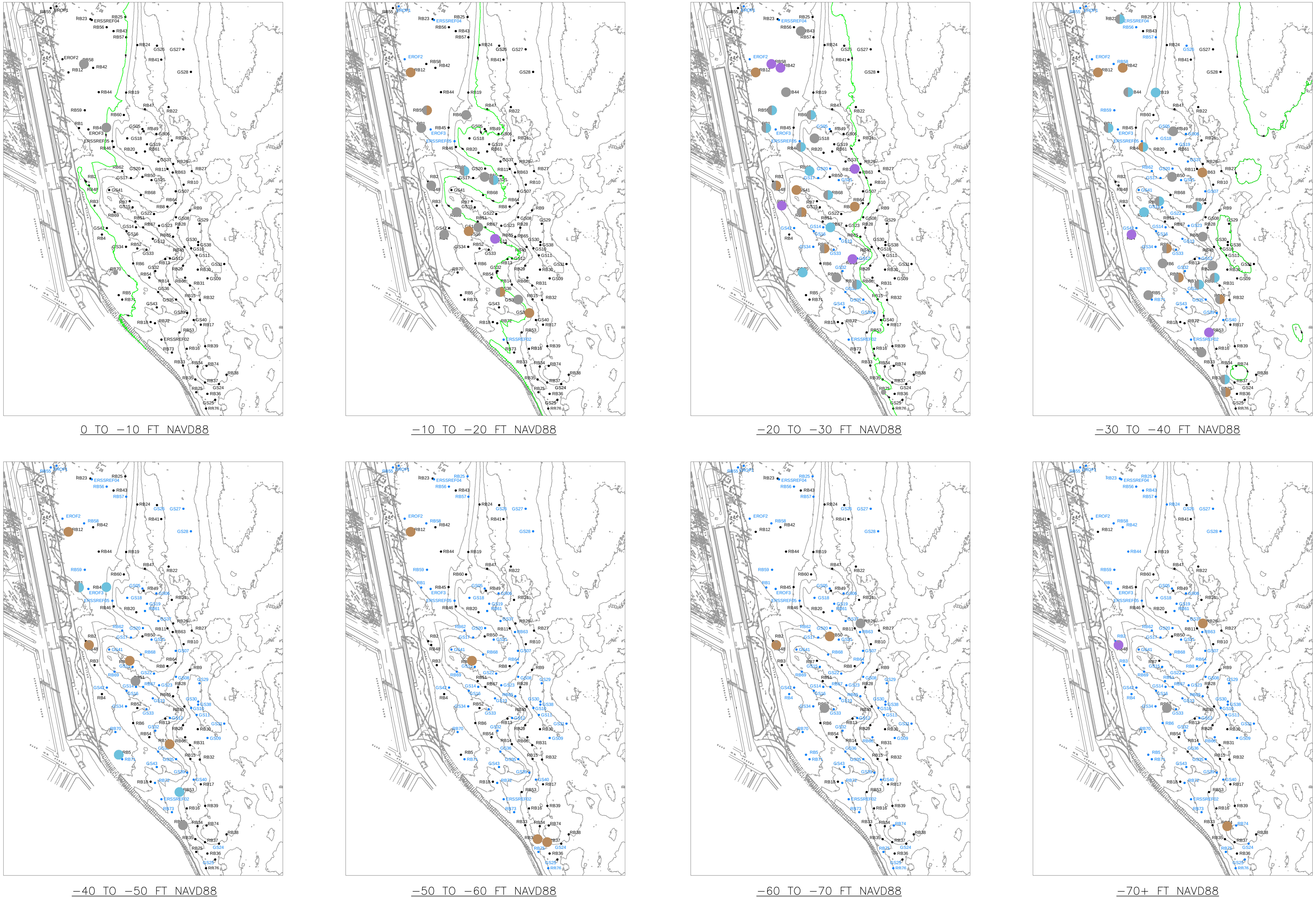
AECOM

CONSOLIDATED EDISON OF NEW YORK, INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

DATE: 07/21/09 | DRWN: BcV/W-MA

VISIBLE IMPACTS IN SEDIMENTS
EAST RIVER, NY

FIGURE 5-8



NOTE:
THERE ARE NO SEDIMENTS ABOVE THE LISTED DEEPEST ELEVATION RANGE EASTWARD OF THE GREEN CONTOUR LINE IN EACH OF THE UPPER FOUR PANELS ON THIS FIGURE.

LEGEND:

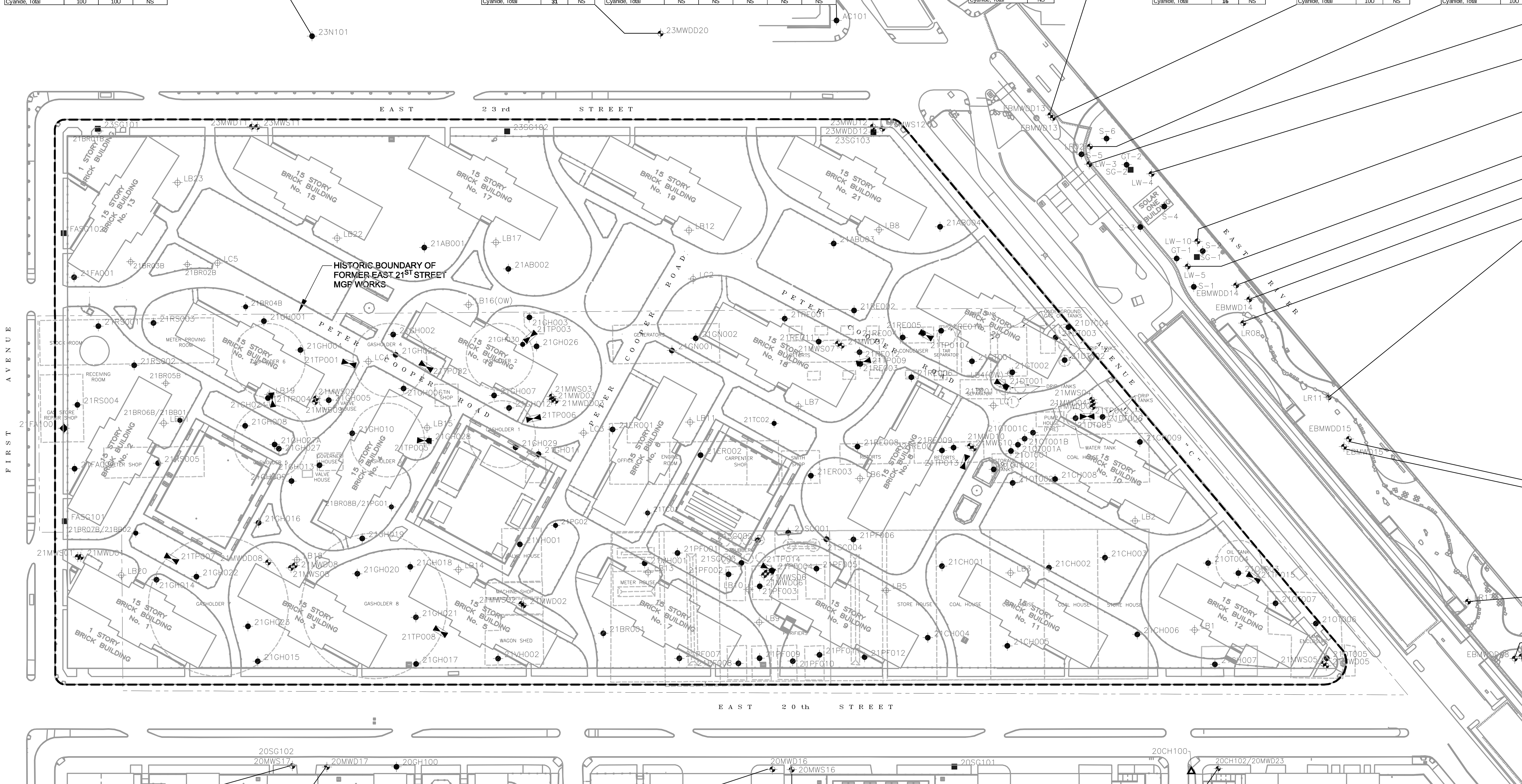
- SAMPLE LOCATION AND ID
- SAMPLE LOCATION DOES NOT EXTEND TO THE SPECIFIED ELEVATION RANGE
- SHEEN
- STAIN
- OLM/TLM
- ALL OF THE ABOVE

N

125 0 250
GRAPHIC SCALE IN FEET

AECOM

CONSOLIDATED EDISON OF NEW YORK INC. FORMER EAST 21ST STREET WORKS 01869-170-829			**DEEP SEDIMENT VISIBLE IMPACTS BY ELEVATION RANGE EAST RIVER, NY**	
DATE: 07/24/09	DRWN: MT			**FIGURE 5-9**



23N101	Grab (15-19)	Grab (31-35)	Grab (56-60)
Analytes	**5/3/2006**	**5/5/2006**	**5/5/2006**
BTEX (ug/L)			
Benzene	0.39U	6.5	3.0J
Ethylbenzene	0.45U	0.45U	0.45U
Toluene	0.36U	0.36U	0.36U
Total Xylene	0	0	0
PAH (ug/L)			
Acenaphthene	NS	NS	NS
Acenaphthylene	NS	NS	NS
Anthracene	NS	NS	NS
Benzo(a)anthracene	NS	NS	NS
Benzo(a)pyrene	NS	NS	NS
Benzo(b)fluoranthene	NS	NS	NS
Benzo(ghi)perylene	NS	NS	NS
Benzo(k)fluoranthene	NS	NS	NS
Chrysene	NS	NS	NS
Dibenz(a,h)anthracene	NS	NS	NS
Fluoranthene	NS	NS	NS
Fluorene	NS	NS	NS
Indeno(1,2,3-cd)pyrene	NS	NS	NS
Naphthalene	NS	NS	NS
Phenanthrene	NS	NS	NS
Pyrene	NS	NS	NS
SVOC (ug/L)			
2-Methylnaphthalene	1.1U	1.1U	0.380U
Phenol	1.3U	1.3U	0.560U
Inorganics (ug/L)			
Cyanide, Total	10U	10U	NS

23MWDD20		
Analytes	**5/25/2006**	**9/8/2008**
BTEX (ug/L)		
Benzene	0.39U	4.4J
Ethylbenzene	0.45U	0.05U
Toluene	0.36U	0.16U
Total Xylene	0	0
PAH (ug/L)		
Acenaphthene	1.4U	0.330U
Acenaphthylene	1.3U	0.360U
Anthracene	1.4U	1.4U
Benzo(a)anthracene	1.1U	1.3U
Benzo(a)pyrene	1.2U	0.220U
Benzo(b)fluoranthene	0.760U	0.440U
Benzo(ghi)perylene	1.1U	0.400U
Benzo(k)fluoranthene	1.9U	0.310U
Chrysene	1.7U	0.270U
Dibenz(a,h)anthracene	0.870U	0.550U
Fluoranthene	1.2U	0.200U
Fluorene	1.4U	0.290U
Indeno(1,2,3-cd)pyrene	0.840U	0.670U
Naphthalene	1.4U	0.290U
Phenanthrene	1.4U	1.4U
Pyrene	1.5U	1.4U
SVOC (ug/L)		
2-Methylnaphthalene	1.1U	0.380U
Phenol	1.3U	0.560R
Inorganics (ug/L)		
Cyanide, Total	31	NS

AC101	Grab (13-15)	Grab (28-30)	Grab (58-60)	Grab (60-40)	Grab (66-70)
Analytes	**4/27/2006**	**4/27/2006**	**4/28/2006**	**5/9/2006**	**5/5/2006**
BTEX (ug/L)					
Benzene	0.39U	3900D	0.61J	120	3.1J
Ethylbenzene	0.45U	290D	0.62J	38	4.3J
Toluene	0.36U	49	0.36U	21J	0.36U
Total Xylene	2.2	237	2.2	49.4	12.3
PAH (ug/L)					
Acenaphthene	NS	NS	NS	NS	NS
Acenaphthylene	NS	NS	NS	NS	NS
Anthracene	NS	NS	NS	NS	NS
Benzo(a)anthracene	NS	NS	NS	NS	NS
Benzo(a)pyrene	NS	NS	NS	NS	NS
Benzo(b)fluoranthene	NS	NS	NS	NS	NS
Benzo(ghi)perylene	NS	NS	NS	NS	NS
Benzo(k)fluoranthene	NS	NS	NS	NS	NS
Chrysene	NS	NS	NS	NS	NS
Dibenz(a,h)anthracene	NS	NS	NS	NS	NS
Fluoranthene	NS	NS	NS	NS	NS
Fluorene	NS	NS	NS	NS	NS
Indeno(1,2,3-cd)pyrene	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	NS	NS
Phenanthrene	NS	NS	NS	NS	NS
Pyrene	NS	NS	NS	NS	NS
SVOC (ug/L)					
2-Methylnaphthalene	NS	NS	NS	NS	NS
Phenol	NS	NS	NS	NS	NS
Inorganics (ug/L)					
Cyanide, Total	NS	NS	NS	NS	NS

23MWD22	
Analytes	**9/26/2008**
BTEX (ug/L)	
Benzene	26
Ethylbenzene	0.56J
Toluene	01.6U
Total Xylene	0
PAH (ug/L)	
Acenaphthene	1.7U
Acenaphthylene	1.8U
Anthracene	7.4U
Benzo(a)anthracene	6.8U
Benzo(a)pyrene	1.1U
Benzo(b)fluoranthene	2.2U
Benzo(ghi)perylene	2.0U
Benzo(k)fluoranthene	1.6U
Chrysene	1.4U
Dibenz(a,h)anthracene	2.8U
Fluoranthene	1.0U
Fluorene	1.5U
Indeno(1,2,3-cd)pyrene	3.4U
Naphthalene	1.5U
Phenanthrene	7.1U
Pyrene	7.3U
SVOC (ug/L)	
2-Methylnaphthalene	1.9U
Phenol	2.9U
Inorganics (ug/L)	
Cyanide, Total	NS

EBMWDD13		
Analytes	**5/22/2006**	**9/3/2008**
BTEX (ug/L)		
Benzene	0.39U	0.35U
Ethylbenzene	0.45U	0.05U
Toluene	0.36U	0.16U
Total Xylene	0	0
PAH (ug/L)		
Acenaphthene	1.4U	0.330U
Acenaphthylene	1.3U	0.360U
Anthracene	1.4U	1.4U
Benzo(a)anthracene	1.1U	1.3U
Benzo(a)pyrene	1.2U	0.220U
Benzo(b)fluoranthene	0.760U	0.440U
Benzo(ghi)perylene	1.1U	0.400U
Benzo(k)fluoranthene	1.9U	0.310U
Chrysene	1.7U	0.270U
Dibenz(a,h)anthracene	0.870U	0.550U
Fluoranthene	1.2U	0.200U
Fluorene	1.4U	0.290U
Indeno(1,2,3-cd)pyrene	0.840U	0.670U
Naphthalene	2.6J	2.8J
Phenanthrene	1.4U	1.4U
Pyrene	1.5U	1.4U
SVOC (ug/L)		
2-Methylnaphthalene	1.1U	0.380U
Phenol	1.3R	0.560UJ
Inorganics (ug/L)		
Cyanide, Total	16	NS

EBMWD13		
Analytes	**5/22/2006**	**9/3/2008**
BTEX (ug/L)		
Benzene	580D	340
Ethylbenzene	24	8.6
Toluene	7	0.16U
Total Xylene	52	9.7
PAH (ug/L)		
Acenaphthene	99	110
Acenaphthylene	23	18
Anthracene	10	9.5J
Benzo(a)anthracene	1.1U	1.3U
Benzo(a)pyrene	1.2U	0.220U
Benzo(b)fluoranthene	0.760U	0.440U
Benzo(ghi)perylene	1.1U	0.400U
Benzo(k)fluoranthene	1.9U	0.310U
Chrysene	1.7U	0.270U
Dibenz(a,h)anthracene	0.880U	0.550U
Fluoranthene	7.0J	7.6J
Fluorene	45	41
Indeno(1,2,3-cd)pyrene	0.840UJ	0.670U
Naphthalene	110	15
Phenanthrene	47	36
Pyrene	5.7J	5.3J
SVOC (ug/L)		
2-Methylnaphthalene	27	1.1J
Phenol	14J	13
Inorganics (ug/L)		
Cyanide, Total	10U	NS

LR02		
Analytes	**5/22/2006**	**9/4/2008**
BTEX (ug/L)		
Benzene	0.39U	0.35U
Ethylbenzene	0.45U	0.05U
Toluene	0.36U	0.16U
Total Xylene	0	0
PAH (ug/L)		
Acenaphthene	1.4U	0.330U
Acenaphthylene	1.3U	0.360U
Anthracene	1.4U	1.4U
Benzo(a)anthracene	1.1U	1.3U
Benzo(a)pyrene	1.2U	0.220U
Benzo(b)fluoranthene	0.760U	0.440U
Benzo(ghi)perylene	1.1U	0.400U
Benzo(k)fluoranthene	1.9U	0.310U
Chrysene	1.7U	0.270U
Dibenz(a,h)anthracene	0.870U	0.550U
Fluoranthene	1.2U	0.200U
Fluorene	1.4U	0.290U
Indeno(1,2,3-cd)pyrene	0.840UJ	0.670U
Naphthalene	1.4U	0.290U
Phenanthrene	1.4U	1.4U
Pyrene	1.5U	1.4U
SVOC (ug/L)		
2-Methylnaphthalene	1.1U	0.380U
Phenol	1.3R	0.560UJ
Inorganics (ug/L)		
Cyanide, Total	10U	NS

LW-3	
Analytes	**7/17/2008**
BTEX (ug/L)	
Benzene	ND
Ethylbenzene	ND
Toluene	ND
Total Xylene	ND
PAH (ug/L)	
Acenaphthene	ND
Acenaphthylene	NS
Anthracene	NS
Benzo(a)anthracene	NS
Benzo(a)pyrene	NS
Benzo(b)fluoranthene	NS
Benzo(ghi)perylene	NS
Benzo(k)fluoranthene	NS
Chrysene	NS
Dibenz(a,h)anthracene	NS
Fluoranthene	ND
Fluorene	ND
Indeno(1,2,3-cd)pyrene	NS
Naphthalene	ND
Phenanthrene	ND
Pyrene	3.1
SVOC (ug/L)	
2-Methylnaphthalene	NS
Phenol	ND
Inorganics (ug/L)	
Cyanide, Total	ND

LW-4	
Analytes	**7/17/2008**
BTEX (ug/L)	
Benzene	1.3
Ethylbenzene	10
Toluene	11
Total Xylene	47
PAH (ug/L)	
Acenaphthene	ND
Acenaphthylene	NS
Anthracene	NS
Benzo(a)anthracene	NS
Benzo(a)pyrene	NS
Benzo(b)fluoranthene	NS
Benzo(ghi)perylene	NS
Benzo(k)fluoranthene	NS
Chrysene	NS
Dibenz(a,h)anthracene	NS
Fluoranthene	ND
Fluorene	ND
Indeno(1,2,3-cd)pyrene	NS
Naphthalene	ND
Phenanthrene	ND
Pyrene	ND
SVOC (ug/L)	
2-Methylnaphthalene	NS
Phenol	ND
Inorganics (ug/L)	
Cyanide, Total	NS

LW-10	
Analytes	**7/17/2008**
BTEX (ug/L)	
Benzene	400
Ethylbenzene	ND
Toluene	ND
Total Xylene	ND
PAH (ug/L)	
Acenaphthene	13
Acenaphthylene	NS
Anthracene	NS
Benzo(a)anthracene	NS
Benzo(a)pyrene	NS
Benzo(b)fluoranthene	NS
Benzo(ghi)perylene	NS
Benzo(k)fluoranthene	NS
Chrysene	NS
Dibenz(a,h)anthracene	NS
Fluoranthene	4.1
Fluorene	2.1
Indeno(1,2,3-cd)pyrene	NS
Naphthalene	5.3
Phenanthrene	2.8
Pyrene	4.6
SVOC (ug/L)	
2-Methylnaphthalene	NS
Phenol	3.2
Inorganics (ug/L)	
Cyanide, Total	NS

LW-5	
Analytes	**7/17/2008**
BTEX (ug/L)	
Benzene	ND
Ethylbenzene	ND
Toluene	ND
Total Xylene	ND
PAH (ug/L)	
Acenaphthene	ND
Acenaphthylene	NS
Anthracene	NS
Benzo(a)anthracene	NS
Benzo(a)pyrene	NS
Benzo(b)fluoranthene	NS
Benzo(ghi)perylene	NS
Benzo(k)fluoranthene	NS
Chrysene	NS
Dibenz(a,h)anthracene	NS
Fluoranthene	ND
Fluorene	ND
Indeno(1,2,3-cd)pyrene	NS
Naphthalene	ND
Phenanthrene	ND
Pyrene	ND
SVOC (ug/L)	
2-Methylnaphthalene	NS
Phenol	ND
Inorganics (ug/L)	
Cyanide, Total	ND

EBMWDD14		
Analytes	**5/19/2006**	**8/27/2008**
BTEX (ug/L)		
Benzene	0.39U	34
Ethylbenzene	0.45U	7.8
Toluene	0.36U	0.16U
Total Xylene	0	6.6
PAH (ug/L)		
Acenaphthene	1.4U	
Acenaphthylene	1.3U	0.360U
Anthracene	1.4U	1.5U
Benzo(a)anthracene	1.1U	1.3U
Benzo(a)pyrene	1.2U	0.230U
Benzo(b)fluoranthene	0.760U	0.440U
Benzo(ghi)perylene	1.1U	0.400U
Benzo(k)fluoranthene	1.9U	0.310U
Chrysene	1.7U	0.270U
Dibenz(a,h)anthracene	0.880U	0.560U
Fluoranthene	1.2U	0.210U
Fluorene	1.4U	0.290U
Indeno(1,2,3-cd)pyrene	0.840UJ	0.680U
Naphthalene	1.9J	35
Phenanthrene	1.4U	1.4U
Pyrene	1.5U	1.5U
SVOC (ug/L)		
2-Methylnaphthalene	1.1U	1.4J
Phenol	1.3U	0.570R
Inorganics (ug/L)		
Cyanide, Total	10U	NS

EBMWD14	
Analytes	**5/19/2006**
BTEX (ug/L)	
Benzene	330D
Ethylbenzene	0.45U
Toluene	90J
Total Xylene	460
PAH (ug/L)	
Acenaphthene	32
Acenaphthylene	20
Anthracene	4.5J
Benzo(a)anthracene	1.2J
Benzo(a)pyrene	1.2U
Benzo(b)fluoranthene	0.760U
Benzo(ghi)perylene	1.1U
Benzo(k)fluoranthene	1.9U
Chrysene	1.7U
Dibenz(a,h)anthracene	0.880U
Fluoranthene	4.4J
Fluorene	17
Indeno(1,2,3-cd)pyrene	0.940U
Naphthalene	1100D
Phenanthrene	23
Pyrene	9.0J
SVOC (ug/L)	
2-Methylnaphthalene	130D
Phenol	1.3U
Inorganics (ug/L)	
Cyanide, Total	10U

LR08		
Analytes	**5/19/2006**	**8/27/2008**
BTEX (ug/L)		
Benzene	1.9U	0.35U
Ethylbenzene	2.3U	0.05U
Toluene	1.8U	0.16U
Total Xylene	0	0
PAH (ug/L)		
Acenaphthene	1.4U	0.330U
Acenaphthylene	1.3U	0.360U
Anthracene	1.4U	1.5U
Benzo(a)anthracene	1.1U	1.4U
Benzo(a)pyrene	1.2U	0.230U
Benzo(b)fluoranthene	0.760U	0.450U
Benzo(ghi)perylene	1.1U	0.410U
Benzo(k)fluoranthene	1.9U	0.310U
Chrysene	1.7U	0.270U
Dibenz(a,h)anthracene	0.880U	0.560U
Fluoranthene	1.2U	0.210U
Fluorene	1.4U	0.290U
Indeno(1,2,3-cd)pyrene	0.840U	0.690U
Naphthalene	1.4U	0.290U
Phenanthrene	1.4U	1.4U
Pyrene	3.5J	1.8J
SVOC (ug/L)		
2-Methylnaphthalene	1.1U	0.390U
Phenol	1.3U	0.570R
Inorganics (ug/L)		
Cyanide, Total	117	NS

LR11	
Analytes	**5/24/2006**
BTEX (ug/L)	
Benzene	0.39U
Ethylbenzene	0.45U
Toluene	0.36U
Total Xylene	0
PAH (ug/L)	
Acenaphthene	1.4U
Acenaphthylene	1.3U
Anthracene	1.4U
Benzo(a)anthracene	1.1U
Benzo(a)pyrene	1.2U
Benzo(b)fluoranthene	0.760U
Benzo(ghi)perylene	1.1U
Benzo(k)fluoranthene	1.9UJ
Chrysene	1.7U
Dibenz(a,h)anthracene	0.870U
Fluoranthene	1.2U
Fluorene	1.4U
Indeno(1,2,3-cd)pyrene	0.840U
Naphthalene	1.4U
Phenanthrene	1.4U
Pyrene	1.5U
SVOC (ug/L)	
2-Methylnaphthalene	1.1U
Phenol	1.3R
Inorganics (ug/L)	
Cyanide, Total	10U

EBMWDD15	
Analytes	**5/24/2006**
BTEX (ug/L)	
Benzene	120D
Ethylbenzene	280D
Toluene	360D
Total Xylene	470
PAH (ug/L)	
Acenaphthene	27
Acenaphthylene	120
Anthracene	10
Benzo(a)anthracene	1.1U
Benzo(a)pyrene	1.2U
Benzo(b)fluoranthene	0.760U
Benzo(ghi)perylene	1.1U
Benzo(k)fluoranthene	1.9UJ
Chrysene	1.7U
Dibenz(a,h)anthracene	0.880U
Fluoranthene	6.4J
Fluorene	35
Indeno(1,2,3-cd)pyrene	0.840U
Naphthalene	2700D
Phenanthrene	62
Pyrene	7.6J
SVOC (ug/L)	
2-Methylnaphthalene	1.1U
Phenol	1.5J
Inorganics (ug/L)	
Cyanide, Total	10U

EBMWD15		
Analytes	**5/24/2006**	**9/3/2008**
BTEX (ug/L)		
Benzene	190D	290
Ethylbenzene	150D	280
Toluene	49	21
Total Xylene	280	300
PAH (ug/L)		
Acenaphthene	110	210
Acenaphthylene	40	8.3J
Anthracene	7.9J	9.3J
Benzo(a)anthracene	1.1U	1.3U
Benzo(a)pyrene	1.2U	0.220U
Benzo(b)fluoranthene	0.760U	0.440U
Benzo(ghi)perylene	1.1U	0.400U
Benzo(k)fluoranthene	1.9UJ	0.310U
Chrysene	1.7U	0.270U
Dibenz(a,h)anthracene	0.880U	0.550U
Fluoranthene	5.4J	4.6J
Fluorene	46	56
Indeno(1,2,3-cd)pyrene	0.840U	0.670U
Naphthalene	1500D	2400
Phenanthrene	46	71
Pyrene	4.3J	3.5J
SVOC (ug/L)		
2-Methylnaphthalene	140D	160
Phenol	2.9J	0.560U
Inorganics (ug/L)		
Cyanide, Total	10U	NS

EBMWDD18			
Analytes	**4/12/2006**	**5/17/2006**	**9/4/2008**
BTEX (ug/L)			
Benzene	7.5	5.2	5.8
Ethylbenzene	1.00U	6.6J	0.05U
Toluene	1.00U	1.2J	0.16U
Total Xylene	0	3.9	0
PAH (ug/L)			
Acenaphthene	NS	11	4.3J
Acenaphthylene	NS	5.2J	1.9J
Anthracene	NS	1.4U	1.4U
Benzo(a)anthracene	NS	1.1U	1.3U
Benzo(a)pyrene	NS	1.2U	0.220U
Benzo(b)fluoranthene	NS	0.760U	0.440U
Benzo(ghi)perylene	NS	1.1U	0.440U
Benzo(k)fluoranthene	NS	1.9U	0.310U
Chrysene	NS	1.7U	0.270U
Dibenz(a,h)anthracene	NS	0.880U	0.550U
Fluoranthene	NS	1.2U	0.200U
Fluorene	NS	1.4U	0.290U
Indeno(1,2,3-cd)pyrene	NS	0.840U	0.670U
Naphthalene	NS	1.4U	0.290U
Phenanthrene	NS	1.4U	1.4U
Pyrene	NS	1.5U	1.4U
SVOC (ug/L)			
2-Methylnaphthalene	NS	1.1U	0.380U
Phenol	NS	1.3U	0.560UJ
Inorganics (ug/L)			
Cyanide, Total	NS	10U	NS

LR17		
Analytes	**5/19/2006**	**9/5/2008**
BTEX (ug/L)		
Benzene	1.9U	0.35U
Ethylbenzene	2.3U	0.05U
Toluene	1.8U	0.16U
Total Xylene	0	0
PAH (ug/L)		
Acenaphthene	1.4U	1.6U
Acenaphthylene	1.3U	1.8U
Anthracene	1.4U	7.2U
Benzo(a)anthracene	1.1U	6.6U
Benzo(a)pyrene	1.2U	1.1U
Benzo(b)fluoranthene	0.760U	2.2U
Benzo(ghi)perylene	1.1U	2.0U
Benzo(k)fluoranthene	1.9U	1.5U
Chrysene	1.7U	1.3U
Dibenz(a,h)anthracene	0.880U	2.8U
Fluoranthene	1.2U	6.4J
Fluorene	1.4U	1.4U
Indeno(1,2,3-cd)pyrene	0.840U	3.4U
Naphthalene	1.4U	1.4U
Phenanthrene	1.4U	6.9U
Pyrene	1.5U	11J
SVOC (ug/L)		
2-Methylnaphthalene	1.1U	1.9U
Phenol	1.3U	2.8UJ
Inorganics (ug/L)		
Cyanide, Total	10U	NS

20MWS17		DUP	
Analytes	**5/18/2006**	**5/18/2006**	**9/5/2008**
BTEX (ug/L)			
Benzene	0.39U	0.39U	0.35U
Ethylbenzene	0.45U	0.45U	0.05U
Toluene	0.36U	0.36U	0.16U
Total Xylene	0	0	0
PAH (ug/L)			
Acenaphthene	1.4U	1.4U	0.330U
Acenaphthylene	1.3U	1.3U	0.360U
Anthracene	1.4U	1.4U	1.4U
Benzo(a)anthracene	1.1U	1.1U	1.3U
Benzo(a)pyrene	1.2U	1.2U	0.220U
Benzo(b)fluoranthene	0.760U	0.760U	0.440U
Benzo(ghi)perylene	1.1U	1.1U	0.400U
Benzo(k)fluoranthene	1.9U	1.9U	0.310U
Chrysene	1.7U	1.7U	0.270U
Dibenz(a,h)anthracene	0.880U	0.880U	0.550U
Fluoranthene	1.2U	1.2U	0.200U
Fluorene	1.4U	1.4U	0.290U
Indeno(1,2,3-cd)pyrene	0.840U	0.840U	0.670U
Naphthalene	1.4U	1.4U	0.290U
Phenanthrene	1.4U	1.4U	1.4U
Pyrene	1.5U	1.5U	1.4U
SVOC (ug/L)			
2-Methylnaphthalene	1.1U	1.1U	0.380U
Phenol	1.3U	1.3U	0.560UJ
Inorganics (ug/L)			
Cyanide, Total	10U	10U	NS

20MWD17		
Analytes	**5/18/2006**	**9/5/2008**
BTEX (ug/L)		
Benzene	2.6J	3.7J
Ethylbenzene	0.45U	0.05U
Toluene	0.36U	0.16U
Total Xylene	0	0
PAH (ug/L)		
Acenaphthene	1.4U	0.330U
Acenaphthylene	1.3U	0.360U
Anthracene	1.4U	1.4U
Benzo(a)anthracene	1.1U	1.3U
Benzo(a)pyrene	1.2U	0.220U
Benzo(b)fluoranthene	0.760U	0.440U
Benzo(ghi)perylene	1.1U	0.400U
Benzo(k)fluoranthene	1.9U	0.310U
Chrysene	1.7U	0.270U
Dibenz(a,h)anthracene	0.880U	0.550U
Fluoranthene	1.2U	0.200U
Fluorene	1.4U	0.290U
Indeno(1,2,3-cd)pyrene	0.840U	0.670U
Naphthalene	1.4U	0.290U
Phenanthrene	1.4U	1.4U
Pyrene	1.5U	1.4U
SVOC (ug/L)		
2-Methylnaphthalene	1.1U	0.380U
Phenol	1.3U	0.560UJ
Inorganics (ug/L)		
Cyanide, Total	10U	NS

NOTE

1. TOTAL XYLENE CONCENTRATION WAS CALCULATED BY SUMMING THE CONCENTRATIONS OF m,p-XYLENES AND o-XYLENES.
2. OU2 CONSISTS OF MGP-RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

GROUNDWATER CRITERIA	Groundwater AWQSGVs
BTEX (ug/L)	
Benzene	1
Ethylbenzene	5
Toluene	5
Total Xylene	5
PAH (ug/L)	
Acenaphthene	20
Acenaphthylene	NA
Anthracene	50
Benzo(a)anthracene	0.002
Benzo(a)pyrene	NA
Benzo(b)fluoranthene	0.002
Benzo(ghi)perylene	NA
Benzo(k)fluoranthene	0.002
Chrysene	0.002
Dibenz(a,h)anthracene	NA
Fluoranthene	50
Fluorene	50
Indeno(1,2,3-cd)pyrene	0.002
Naphthalene	10
Phenanthrene	50
Pyrene	50
SVOC (ug/L)	
2-Methylnaphthalene	NA
Phenol	1
Inorganics (ug/L)	
Cyanide, Total	NA

20MWD16		
Analytes	**5/24/2006**	**9/9/2008**
BTEX (ug/L)		
Benzene	0.39U	0.35U
Ethylbenzene	0.45U	0.05U
Toluene	0.36U	0.16U
Total Xylene	0	0
PAH (ug/L)		
Acenaphthene	1.4U	1.6U
Acenaphthylene	1.3U	1.8U
Anthracene	1.4U	7.2U
Benzo(a)anthracene	1.1U	6.6U
Benzo(a)pyrene	1.2U	1.1U
Benzo(b)fluoranthene	0.760U	2.2U
Benzo(ghi)perylene	1.1U	2.0U
Benzo(k)fluoranthene	1.9UJ	1.5U
Chrysene	1.7U	1.3U
Dibenz(a,h)anthracene	0.870U	2.8U
Fluoranthene	1.2U	1.0U
Fluorene	1.4U	1.4U
Indeno(1,2,3-cd)pyrene	0.840U	3.4U
Naphthalene	1.4U	1.4U
Phenanthrene	1.4U	6.9U
Pyrene	1.5U	7.2U
SVOC (ug/L)		
2-Methylnaphthalene	1.1U	1.9U
Phenol	1.3R	2.8R
Inorganics (ug/L)		
Cyanide, Total	10U	NS

20MWS16		
Analytes	**5/24/2006**	**9/9/2008**
BTEX (ug/L)		
Benzene	0.39U	0.35U
Ethylbenzene	0.45U	0.05U
Toluene	0.36U	0.16U
Total Xylene	0	0
PAH (ug/L)		
Acenaphthene	1.4U	0.320U
Acenaphthylene	1.3U	0.350U
Anthracene	1.4U	1.4U
Benzo(a)anthracene	1.1U	1.3U
Benzo(a)pyrene	1.2U	0.220U
Benzo(b)fluoranthene	0.760U	0.430U
Benzo(ghi)perylene	1.1U	0.390U
Benzo(k)fluoranthene	1.9UJ	0.300U
Chrysene	1.7U	0.260U
Dibenz(a,h)anthracene	0.880U	0.550U
Fluoranthene	1.2U	0.200U
Fluorene	1.4U	0.280U
Indeno(1,2,3-cd)pyrene	0.840U	0.670U
Naphthalene	1.4U	0.280U
Phenanthrene	1.4U	1.4U
Pyrene	1.5U	1.4U
SVOC (ug/L)		
2-Methylnaphthalene	1.1U	0.370U
Phenol	1.3R	0.560R
Inorganics (ug/L)		
Cyanide, Total	10U	NS

LEGEND

- EXISTING STRUCTURES
- HISTORICAL STRUCTURES
- LIMIT OF OU1
- MONITORING WELL
- SOIL BORING
- TEST PIT
- LB2 LC5 — LANGAN SOIL BORING
- SOIL GAS
- 20CH100 — SURFACE SOIL
- 21BR01B — RI BEDROCK BORING LOCATION

20MWD23		DUP
Analytes	**9/29/2008**	**9/29/2008**
BTEX (ug/L)		
Benzene	3.8J	5.3
Ethylbenzene	4.5J	8.9
Toluene	3.8J	5.6
Total Xylene	9	17.2
PAH (ug/L)		
Acenaphthene	1.6U	1.6U
Acenaphthylene	6.7J	7.6J
Anthracene	7.2U	7.2U
Benzo(a)anthracene	6.6U	6.6U
Benzo(a)pyrene	1.1U	1.1U
Benzo(b)fluoranthene	2.2U	2.2U
Benzo(ghi)perylene	2.0U	2.0U
Benzo(k)fluoranthene	1.5U	1.5U
Chrysene	1.3U	1.3U
Dibenz(a,h)anthracene	2.8U	2.8U
Fluoranthene	1.0U	1.0U
Fluorene	12J	12J
Indeno(1,2,3-cd)pyrene	3.4U	3.4U
Naphthalene	69	89
Phenanthrene	24J	22J
Pyrene	7.2U	7.2U
SVOC (ug/L)		
2-Methylnaphthalene	19J	20J
Phenol	2.8UJ	2.8UJ
Inorganics (ug/L)		
Cyanide, Total	NS	NS

20MWDD24	
Analytes	**9/25/2008**
BTEX (ug/L)	
Benzene	0.35U
Ethylbenzene	0.05U
Toluene	0.16U
Total Xylene	0
PAH (ug/L)	
Acenaphthene	3.2U
Acenaphthylene	3.5U
Anthracene	14U
Benzo(a)anthracene	13U
Benzo(a)pyrene	2.2U
Benzo(b)fluoranthene	4.3U
Benzo(ghi)perylene	3.9U
Benzo(k)fluoranthene	3.0U
Chrysene	2.6U
Dibenz(a,h)anthracene	5.4U
Fluoranthene	2.0U
Fluorene	2.8U
Indeno(1,2,3-cd)pyrene	6.6U
Naphthalene	2.8U
Phenanthrene	14U
Pyrene	14U
SVOC (ug/L)	
2-Methylnaphthalene	3.7U
Phenol	5.5U
Inorganics (ug/L)	
Cyanide, Total	NS

20MWD24	
Analytes	**9/25/2008**
BTEX (ug/L)	
Benzene	0.35U
Ethylbenzene	0.05U
Toluene	0.16U
Total Xylene	0
PAH (ug/L)	
Acenaphthene	1.6U
Acenaphthylene	1.8U
Anthracene	7.3U
Benzo(a)anthracene	6.7U
Benzo(a)pyrene	1.1U
Benzo(b)fluoranthene	2.2U
Benzo(ghi)perylene	2.0U
Benzo(k)fluoranthene	1.5U
Chrysene	1.3U
Dibenz(a,h)anthracene	2.8UJ
Fluoranthene	1.0U
Fluorene	1.4U
Indeno(1,2,3-cd)pyrene	3.4U
Naphthalene	1.4U
Phenanthrene	7.0U
Pyrene	7.3U
SVOC (ug/L)	
2-Methylnaphthalene	1.9U
Phenol	2.8UJ
Inorganics (ug/L)	
Cyanide, Total	NS

EBMWD18	
Analytes	**9/17/2008**
BTEX (ug/L)	
Benzene	73
Ethylbenzene	44J
Toluene	58
Total Xylene	107
PAH (ug/L)	
Acenaphthene	56
Acenaphthylene	26
Anthracene	12
Benzo(a)anthracene	2.2J
Benzo(a)pyrene	1.7J
Benzo(b)fluoranthene	0.760U
Benzo(ghi)perylene	1.1U
Benzo(k)fluoranthene	1.9U
Chrysene	2.1J
Dibenz(a,h)anthracene	0.880U
Fluoranthene	11
Fluorene	28
Indeno(1,2,3-cd)pyrene	0.840U
Naphthalene	1.4U
Phenanthrene	54
Pyrene	21
SVOC (ug/L)	
2-Methylnaphthalene	1.1U
Phenol	1.5J
Inorganics (ug/L)	
Cyanide, Total	10U

EBMWD25	
Analytes	**9/25/2008**
BTEX (ug/L)	
Benzene	0.35U
Ethylbenzene	3.6J
Toluene	0.16U
Total Xylene	0
PAH (ug/L)	
Acenaphthene	1.6U
Acenaphthylene	1.8U
Anthracene	7.2U
Benzo(a)anthracene	6.6U
Benzo(a)pyrene	1.1U
Benzo(b)fluoranthene	2.2U
Benzo(ghi)perylene	2.0U
Benzo(k)fluoranthene	1.5U
Chrysene	1.3U
Dibenz(a,h)anthracene	2.8U
Fluoranthene	1.0U
Fluorene	1.4U
Indeno(1,2,3-cd)pyrene	3.4U
Naphthalene	29J
Phenanthrene	6.9U
Pyrene	7.2U
SVOC (ug/L)	
2-Methylnaphthalene	1.9U
Phenol	2.8R
Inorganics (ug/L)	
Cyanide, Total	NS

EBMWDD25	
Analytes	**9/25/2008**
BTEX (ug/L)	
Benzene	4.9J
Ethylbenzene	69
Toluene	14
Total Xylene	60
PAH (ug/L)	
Acenaphthene	74
Acenaphthylene	25J
Anthracene	11J
Benzo(a)anthracene	6.6U
Benzo(a)pyrene	1.1U
Benzo(b)fluoranthene	2.2U
Benzo(ghi)perylene	2.0U
Benzo(k)fluoranthene	1.5U
Chrysene	1.3U
Dibenz(a,h)anthracene	2.8U
Fluoranthene	7.4J
Fluorene	44J
Indeno(1,2,3-cd)pyrene	3.4U
Naphthalene	600
Phenanthrene	79
Pyrene	9.7J
SVOC (ug/L)	
2-Methylnaphthalene	130
Phenol	2.8UJ
Inorganics (ug/L)	
Cyanide, Total	NS

40 0 80
GRAPHIC SCALE IN FEET

AECOM

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

DATE: 07/24/09 DRWN: BcV/W-MA

OU2 VOC, SVOC, AND CYANIDE CONCENTRATIONS IN GROUNDWATER (2004, 2006, AND 2008)

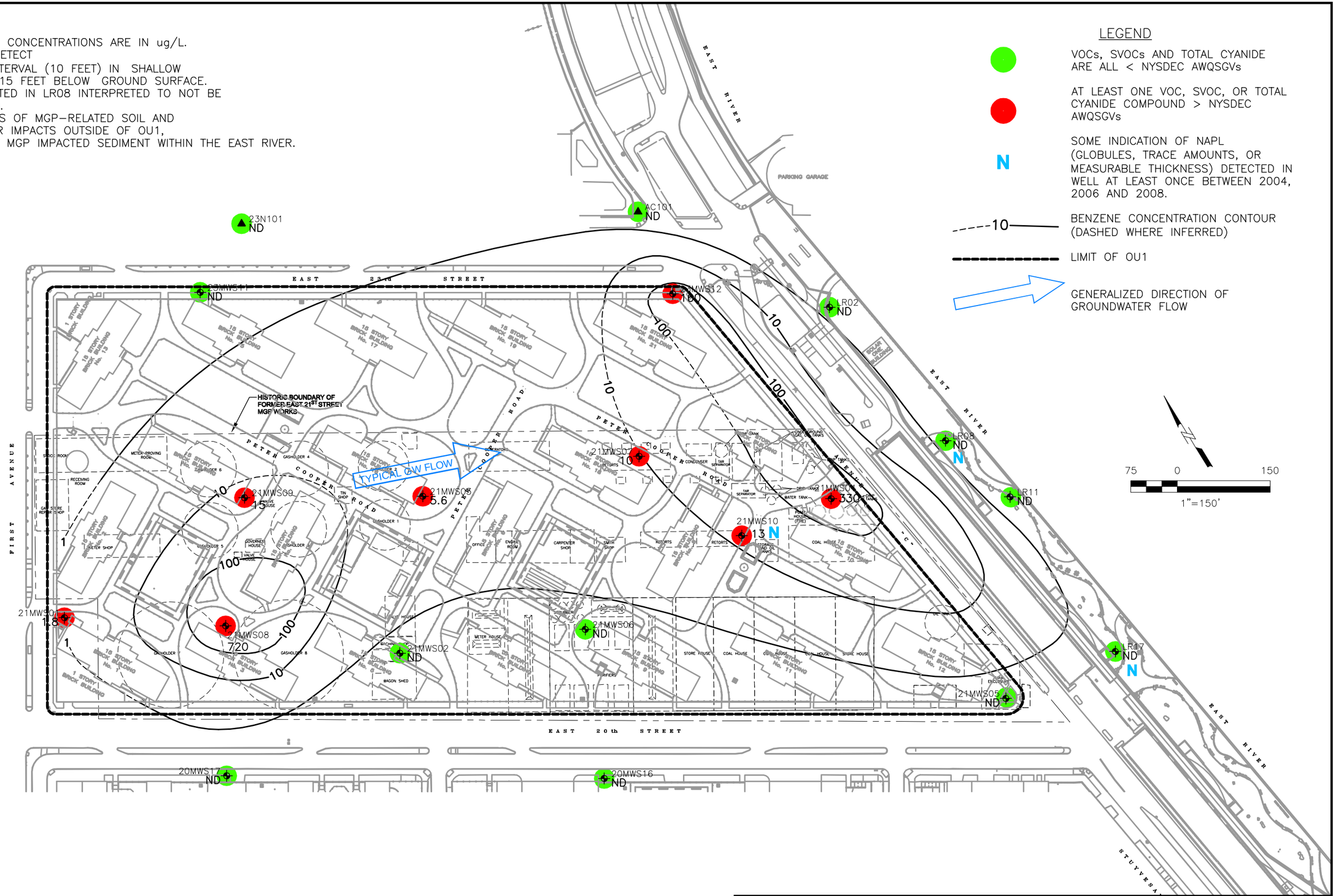
FIGURE 5-10

NOTES:

1. ALL BENZENE CONCENTRATIONS ARE IN ug/L.
2. ND – NON DETECT
3. SCREENED INTERVAL (10 FEET) IN SHALLOW WELLS IS 5–15 FEET BELOW GROUND SURFACE.
4. LNAPL DETECTED IN LR08 INTERPRETED TO NOT BE MGP RELATED.
5. OU2 CONSISTS OF MGP–RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

LEGEND

- VOCs, SVOCs AND TOTAL CYANIDE ARE ALL < NYSDEC AWQSGVs
- AT LEAST ONE VOC, SVOC, OR TOTAL CYANIDE COMPOUND > NYSDEC AWQSGVs
- N — SOME INDICATION OF NAPL (GLOBULES, TRACE AMOUNTS, OR MEASURABLE THICKNESS) DETECTED IN WELL AT LEAST ONCE BETWEEN 2004, 2006 AND 2008.
- 10 — BENZENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)
- LIMIT OF OU1
- GENERALIZED DIRECTION OF GROUNDWATER FLOW



AECOM

CONSOLIDATED EDISON OF NEW YORK INC. FORMER EAST 21ST STREET WORKS 01869-170-829			GROUNDWATER QUALITY IN THE SHALLOW AQUIFER ZONE 2006
DATE: 07/09/09	DRWN: BcV/W-MA		FIGURE 5-11

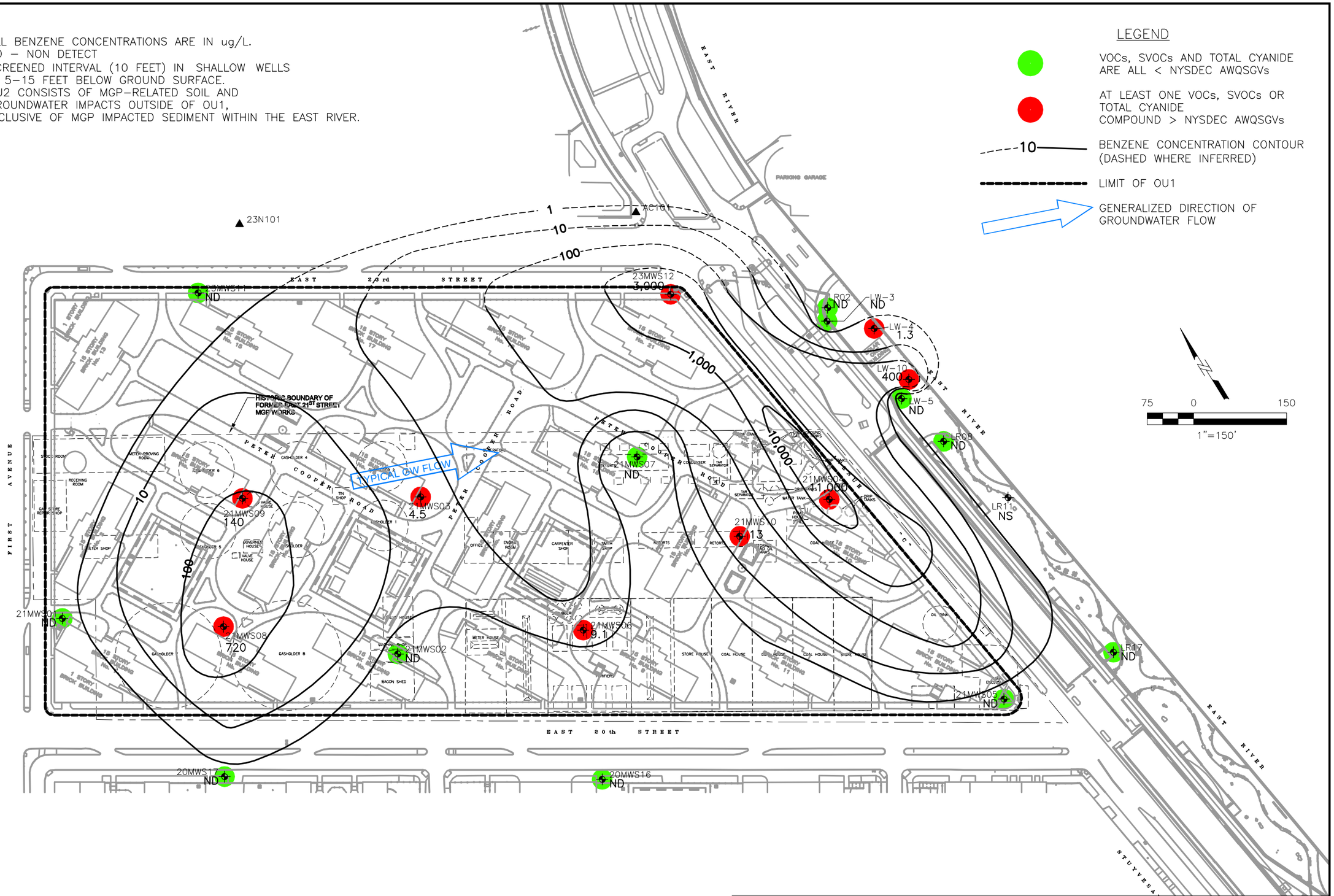
File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\Benzene-Isopleth_OU2.dwg Layout: S-WELLS (A) User: VershonB Plotted: Jul 09, 2009 - 1:27pm Xref's:

NOTE:

1. ALL BENZENE CONCENTRATIONS ARE IN ug/L.
2. ND – NON DETECT
3. SCREENED INTERVAL (10 FEET) IN SHALLOW WELLS IS 5–15 FEET BELOW GROUND SURFACE.
4. OU2 CONSISTS OF MGP–RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

LEGEND

- VOCs, SVOCs AND TOTAL CYANIDE ARE ALL < NYSDEC AWQSGVs
- AT LEAST ONE VOCs, SVOCs OR TOTAL CYANIDE COMPOUND > NYSDEC AWQSGVs
- 10 — BENZENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)
- LIMIT OF OU1
- GENERALIZED DIRECTION OF GROUNDWATER FLOW



AECOM

CONSOLIDATED EDISON OF NEW YORK INC. FORMER EAST 21ST STREET WORKS 01869-170-829			**GROUNDWATER QUALITY IN THE SHALLOW AQUIFER ZONE 2008**
DATE: 07/24/09	DRWN: BcV/W-MA		FIGURE 5-12

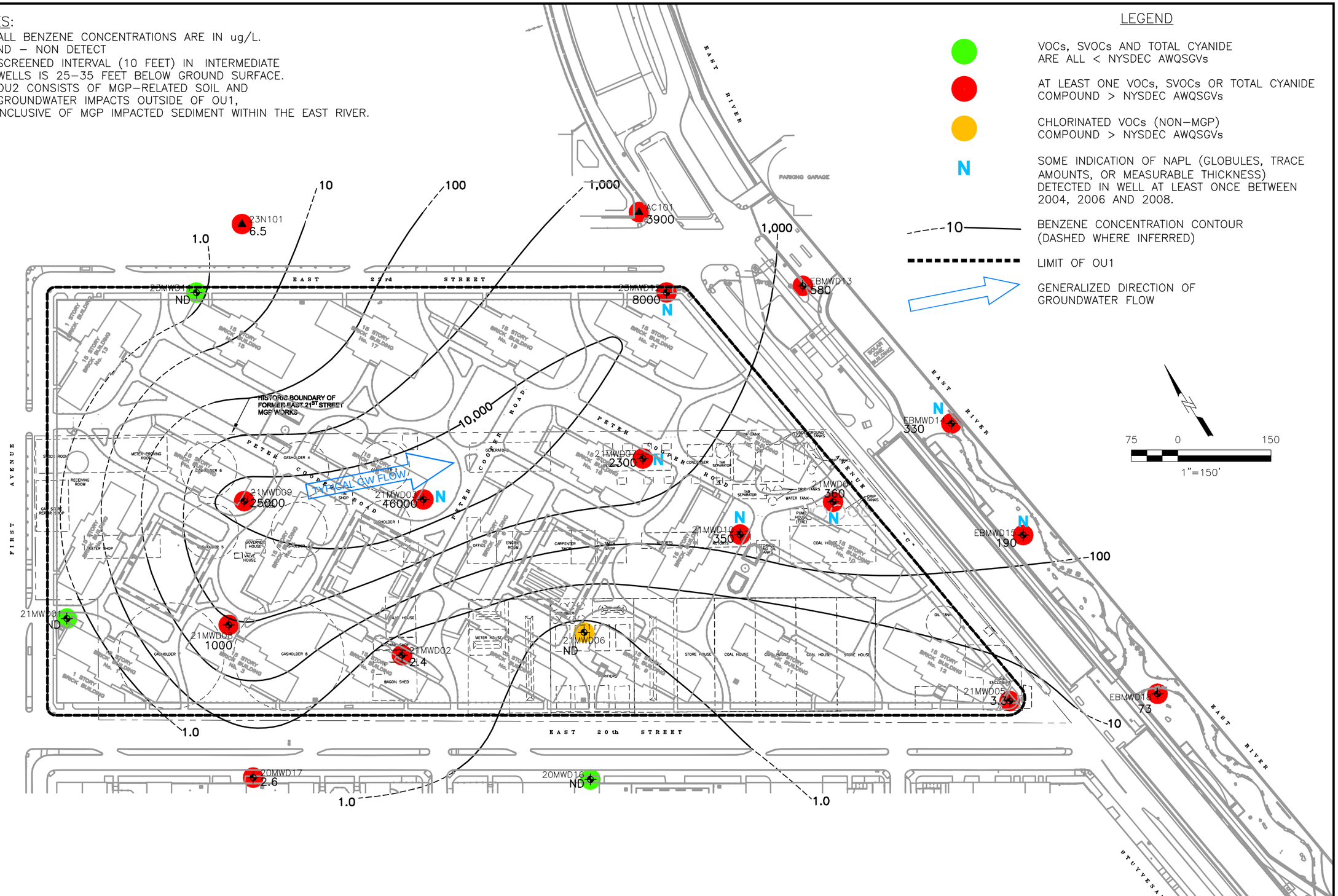
File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\Benzene-Isopleth_OU2.dwg Layout: S-WELLS (B) User: VershonB Plotted: Jul 24, 2009 - 2:46pm Xref's:

NOTES:

1. ALL BENZENE CONCENTRATIONS ARE IN ug/L.
2. ND – NON DETECT
3. SCREENED INTERVAL (10 FEET) IN INTERMEDIATE WELLS IS 25–35 FEET BELOW GROUND SURFACE.
4. OU2 CONSISTS OF MGP–RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

LEGEND

- VOCs, SVOCs AND TOTAL CYANIDE ARE ALL < NYSDEC AWQSGVs
- AT LEAST ONE VOCs, SVOCs OR TOTAL CYANIDE COMPOUND > NYSDEC AWQSGVs
- CHLORINATED VOCs (NON–MGP) COMPOUND > NYSDEC AWQSGVs
- N — SOME INDICATION OF NAPL (GLOBULES, TRACE AMOUNTS, OR MEASURABLE THICKNESS) DETECTED IN WELL AT LEAST ONCE BETWEEN 2004, 2006 AND 2008.
- 10 — BENZENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)
- LIMIT OF OU1
- GENERALIZED DIRECTION OF GROUNDWATER FLOW

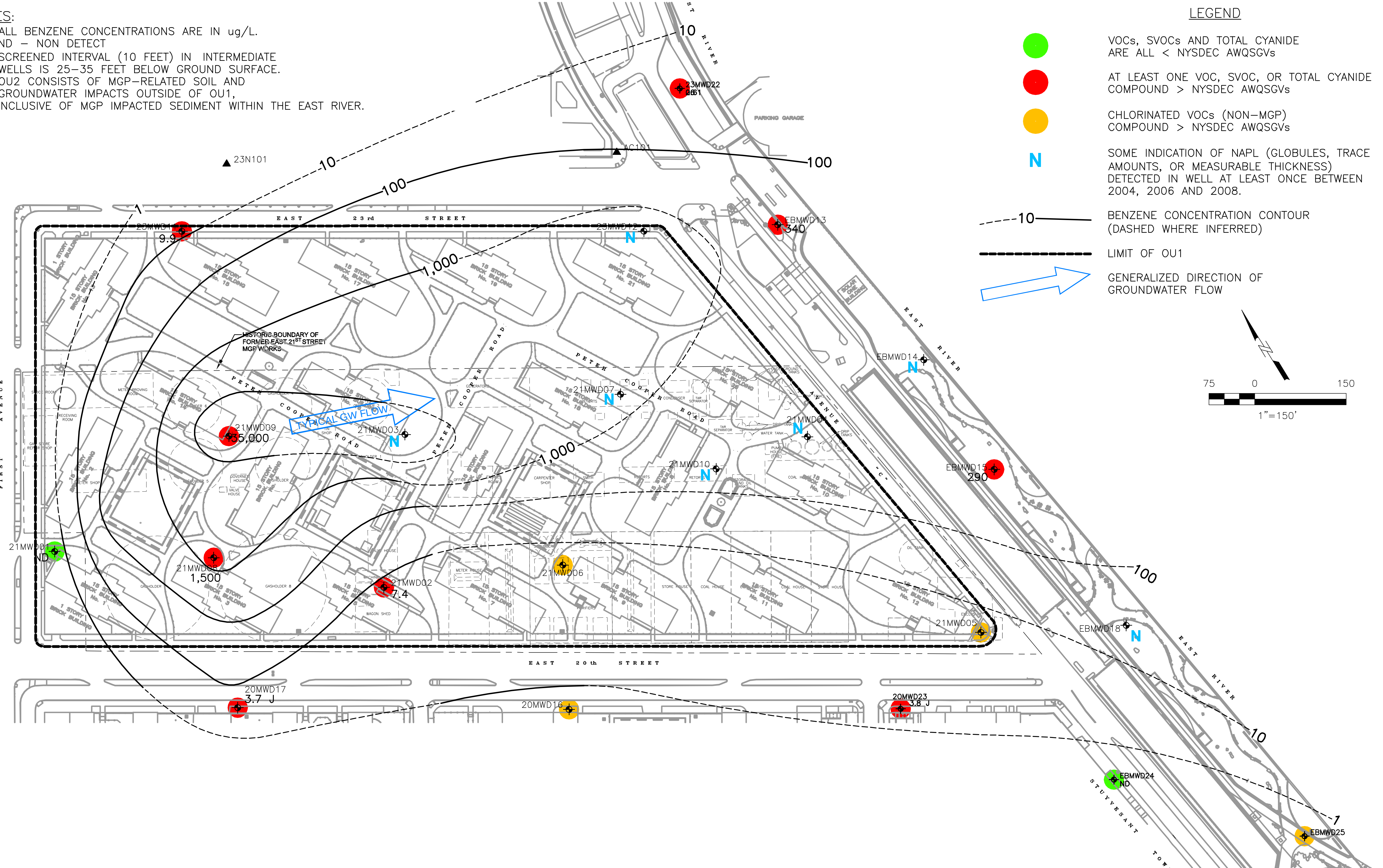


AECOM

CONSOLIDATED EDISON OF NEW YORK INC. FORMER EAST 21ST STREET WORKS 01869-170-829			**GROUNDWATER QUALITY IN THE INTERMEDIATE AQUIFER ZONE 2006**
DATE: 07/09/09	DRWN: BcV/W-MA		FIGURE 5-13

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\Benzene-Isopleth_OU2.dwg Layout: I-WELLS (A) User: VershonB Plotted: Jul 09, 2009 - 2:03pm Xref's:

NOTES:
1. ALL BENZENE CONCENTRATIONS ARE IN ug/L.
2. ND – NON DETECT
3. SCREENED INTERVAL (10 FEET) IN INTERMEDIATE WELLS IS 25–35 FEET BELOW GROUND SURFACE.
4. OU2 CONSISTS OF MGP–RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.



AECOM

CONSOLIDATED EDISON OF NEW YORK INC. FORMER EAST 21ST STREET WORKS 01869-170-829	GROUNDWATER QUALITY IN THE INTERMEDIATE AQUIFER ZONE 2008
DATE: 07/09/09 DRWN: BcV/W-MA	FIGURE 5-14

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\Benzene-Isopleth_OU2.dwg Layout: I-WELLS (B) User: VershonB Plotted: Jul 09, 2009 – 2:13pm Xref's:

NOTES:

1. ALL BENZENE CONCENTRATIONS ARE IN ug/L.
2. ND – NON DETECT
3. * ADDITIONAL RESULTS FOR BENZENE AVAILABLE AT AC101 LOCATION IN DEEP ZONE. RESULT FOR 60–64' ZONE PRESENTED. AT 58–60', BENZENE WAS ND, AT 66–70', BENZENE WAS 3.1ug/L
4. SCREENED INTERVAL (10 FEET) IN DEEP WELLS VARIES BETWEEN 50–70 FEET BELOW GROUND SURFACE.
5. OU2 CONSISTS OF MGP–RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

LEGEND

- VOCs, SVOCs AND TOTAL CYANIDE ARE ALL < NYSDEC AWQSGVs
- AT LEAST ONE VOC, SVOC, OR TOTAL CYANIDE COMPOUND > NYSDEC AWQSGVs
- CHLORINATED VOCs (NON–MGP) COMPOUND > NYSDEC AWQSGVs
- N — SOME INDICATION OF NAPL (GLOBULES, TRACE AMOUNTS, OR MEASURABLE THICKNESS) DETECTED IN WELL AT LEAST ONCE BETWEEN 2004, 2006 AND 2008.
- 10 — BENZENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)
- LIMIT OF OU1
- GENERALIZED DIRECTION OF GROUNDWATER FLOW

23N101 8

23MWDD20 ND

AC101* 120

23MWDD17 240 N

EBMWDD13 ND

EBMWDD14 ND

21MWDD03 4100

21MWDD04 5500 N

21MWDD08 2200

EBMWDD15 120 N

EBMWDD18 5.2

TYPICAL GW FLOW

HISTORIC BOUNDARY OF FORMER EAST 21ST STREET MGP WORKS

EAST 23rd STREET

EAST 20th STREET

FIRST AVENUE

PETER COOPER ROAD

EAST RIVER

PARKING GARAGE

SOLAR ONE BUILDING

1"=150'

AECOM

CONSOLIDATED EDISON OF NEW YORK INC. FORMER EAST 21ST STREET WORKS 01869-170-829			GROUNDWATER QUALITY IN THE DEEP AQUIFER ZONE 2006
DATE: 07/09/09	DRWN: BcV/W-MA		FIGURE 5-15

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\Benzene-Isopleth_OU2.dwg Layout: D-WELLS (A) User: VershonB Plotted: Jul 09, 2009 - 2:24pm Xref's:

NOTE:
1. ALL BENZENE CONCENTRATIONS ARE IN ug/L.
2. ND – NON DETECT
3. SCREENED INTERVAL (10 FEET) IN DEEP WELLS VARIES BETWEEN 50–70 FEET BELOW GROUND SURFACE.
4. OU2 CONSISTS OF MGP–RELATED SOIL AND GROUNDWATER IMPACTS OUTSIDE OF OU1, INCLUSIVE OF MGP IMPACTED SEDIMENT WITHIN THE EAST RIVER.

LEGEND

- VOCs, SVOCs AND TOTAL CYANIDE ARE ALL < NYSDEC AWQSGVs
- AT LEAST ONE VOC, SVOC, OR TOTAL CYANIDE COMPOUND > NYSDEC AWQSGVs
- CHLORINATED VOCs (NON–MGP) COMPOUND > NYSDEC AWQSGVs
- N — SOME INDICATION OF NAPL (GLOBULES, TRACE AMOUNTS, OR MEASURABLE THICKNESS) DETECTED IN WELL AT LEAST ONCE BETWEEN 2004 AND 2006
- 10 — BENZENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)
- LIMIT OF OU1
- GENERAILIZED DIRECTION OF GROUNDWATER FLOW

75 0 150
1"=150'

23N101
23MWDD20 4.4J
AC101*
23MWDD22
EBMWDD13 ND
23MWDD12 150
EBMWDD14 34
21MWDD03 17,000
21MWDD04 N
EBMWDD15 N
21MWDD08 5,700
EBMWDD18 5.8
20MWD23
EBMWDD24 4.9 J
EBMWDD25 4.9 J

10
100
1,000
10,000

HISTORIC BOUNDARY OF FORMER EAST 21ST STREET MGP WORKS

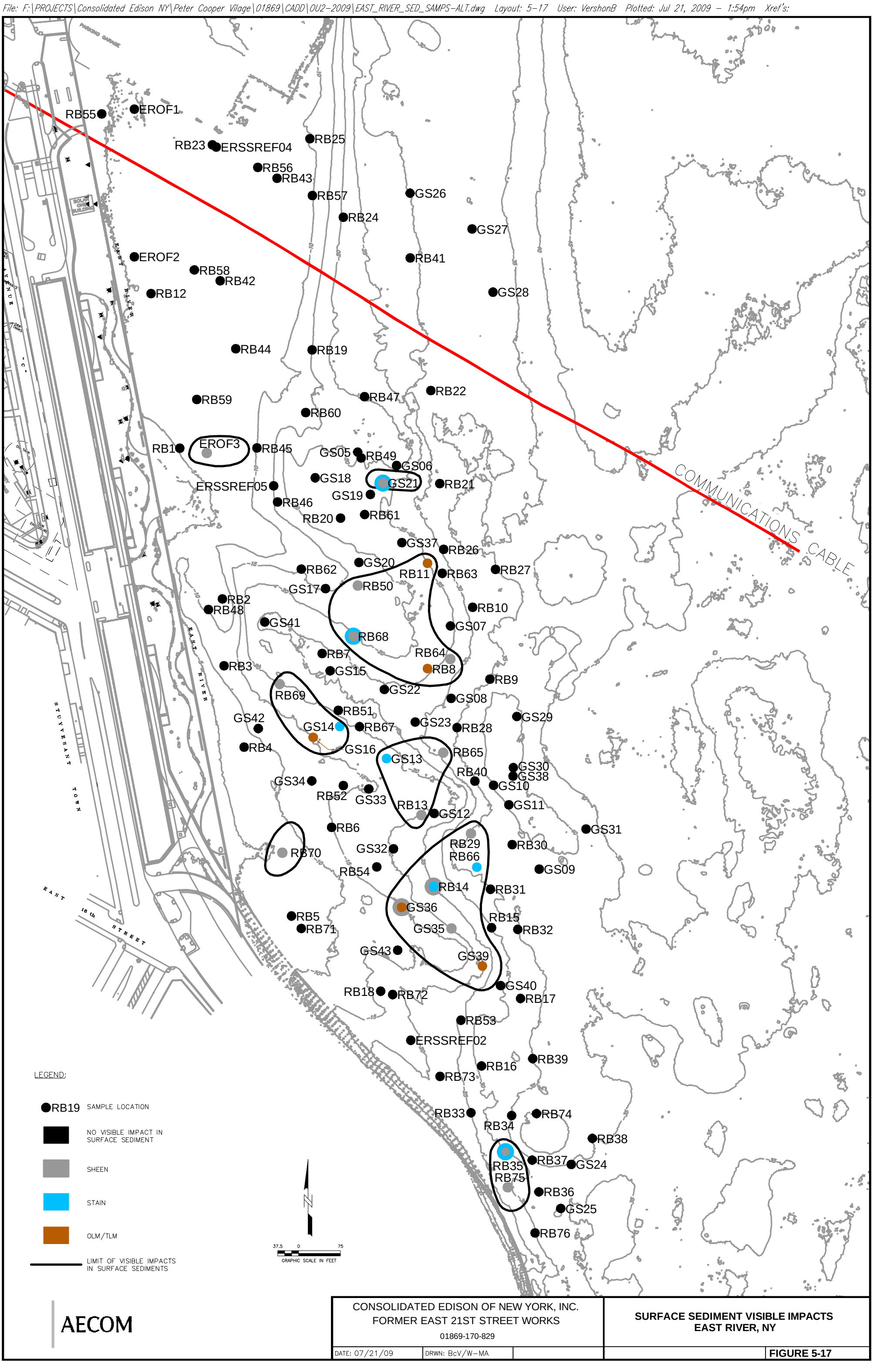
TYPICAL GW FLOW

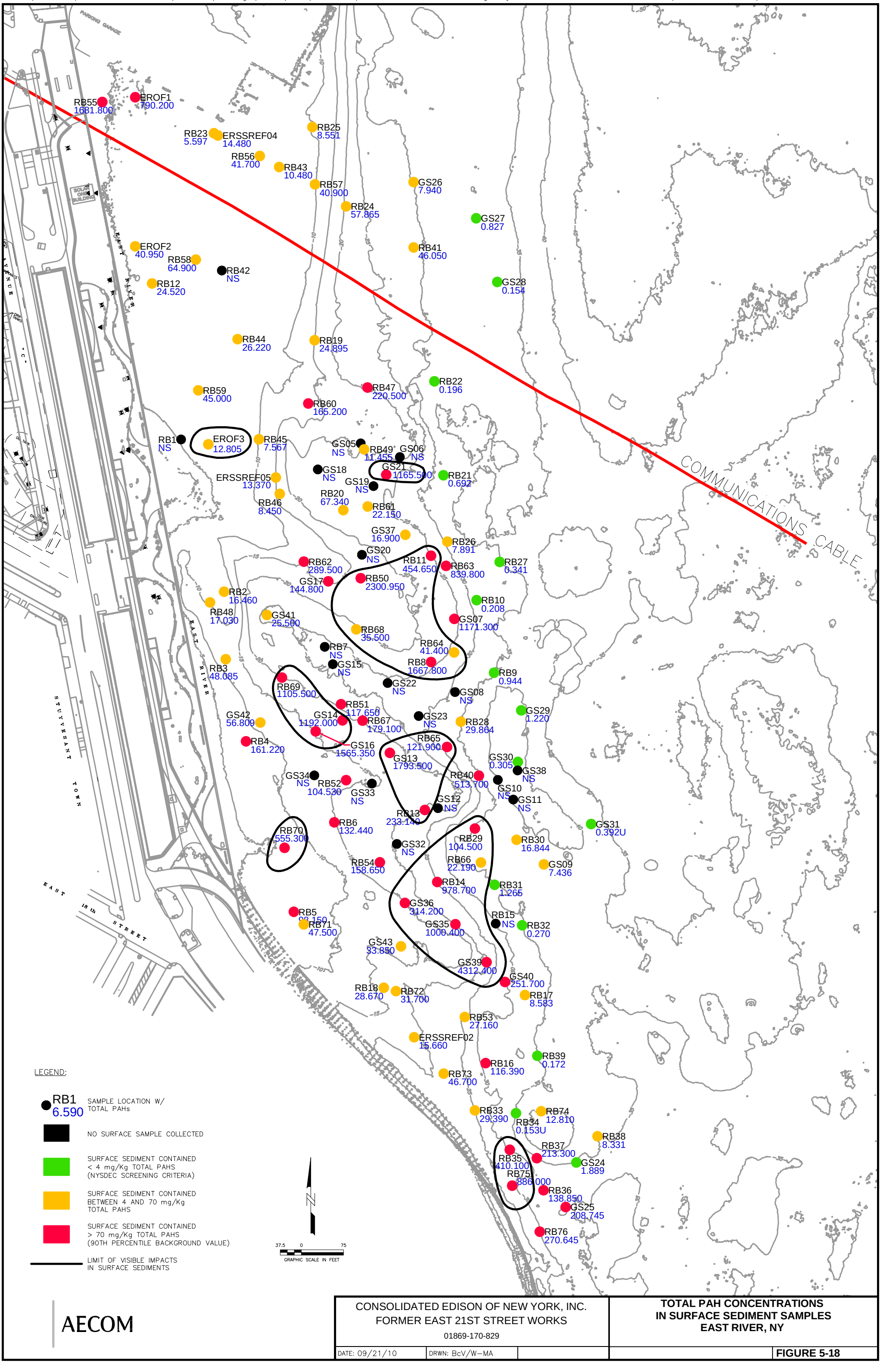
EAST 23rd STREET
EAST 20th STREET
FIRST AVENUE
PETER COOPER ROAD
EAST RIVER
STUYVESANT

AECOM

CONSOLIDATED EDISON OF NEW YORK INC. FORMER EAST 21ST STREET WORKS 01869-170-829			GROUNDWATER QUALITY IN THE DEEP AQUIFER ZONE 2008
DATE: 07/21/09	DRWN: BcV/W-MA		FIGURE 5-16

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\Benzene-Isopleth_OU2.dwg Layout: D-WELLS (B) User: VershonB Plotted: Jul 21, 2009 - 1:50pm Xref's:


PARKING GARAGE
SOLAR ONE BUILDING
EAST RIVER
AVENUE "C"
STUYVESANT TOWN
EAST 18th STREET
RB55
EROF1
RB23
ERSSREF04
RB25
RB56
RB43
RB57
GS26
RB24
GS27
EROF2
RB58
RB42
RB41
RB12
GS28
RB44
RB19
RB59
RB47
RB22
RB60
RB1
EROF3
RB45
GS05
RB49
GS06
GS18
GS21
RB21
ERSSREF05
GS19
RB46
RB20
RB61
COMMUNICATIONS CABLE
GS37
RB26
GS20
RB62
RB11
RB63
RB27
GS17
RB50
RB2
RB48
RB10
GS41
GS07
RB68
RB64
RB7
RB3
RB8
GS15
RB9
GS22
RB69
GS08
RB51
GS42
GS14
RB67
GS23
RB28
GS29
RB4
GS16
RB65
GS13
GS30
GS38
RB40
GS34
GS10
RB52
GS33
RB13
GS12
GS11
RB6
GS31
RB70
GS32
RB29
RB66
RB30
RB54
GS09
RB14
RB31
GS36
RB5
RB15
RB71
GS35
RB32
GS43
GS39
RB18
RB72
GS40
RB17
RB53
ERSSREF02
RB16
RB39
RB73
RB33
RB74
RB34
RB38
RB37
GS24
RB35
RB75
RB36
GS25
RB76
LEGEND:
RB19 SAMPLE LOCATION
NO VISIBLE IMPACT IN SURFACE SEDIMENT
SHEEN
STAIN
OLM/TLM
LIMIT OF VISIBLE IMPACTS IN SURFACE SEDIMENTS
37.5 0 75
GRAPHIC SCALE IN FEET
AECOM
CONSOLIDATED EDISON OF NEW YORK, INC.
FORMER EAST 21ST STREET WORKS
01869-170-829
DATE: 07/21/09
DRWN: BcV/W-MA
SURFACE SEDIMENT VISIBLE IMPACTS
EAST RIVER, NY
FIGURE 5-17



AECOM

CONSOLIDATED EDISON OF NEW YORK, INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

DATE: 09/21/10 | DRWN: BcV/W-MA

TOTAL PAH CONCENTRATIONS IN SURFACE SEDIMENT SAMPLES EAST RIVER, NY

FIGURE 5-18

Figure 5-19 Comparison of Data from Locations with Visible Impacts (surface/subsurface sediments)

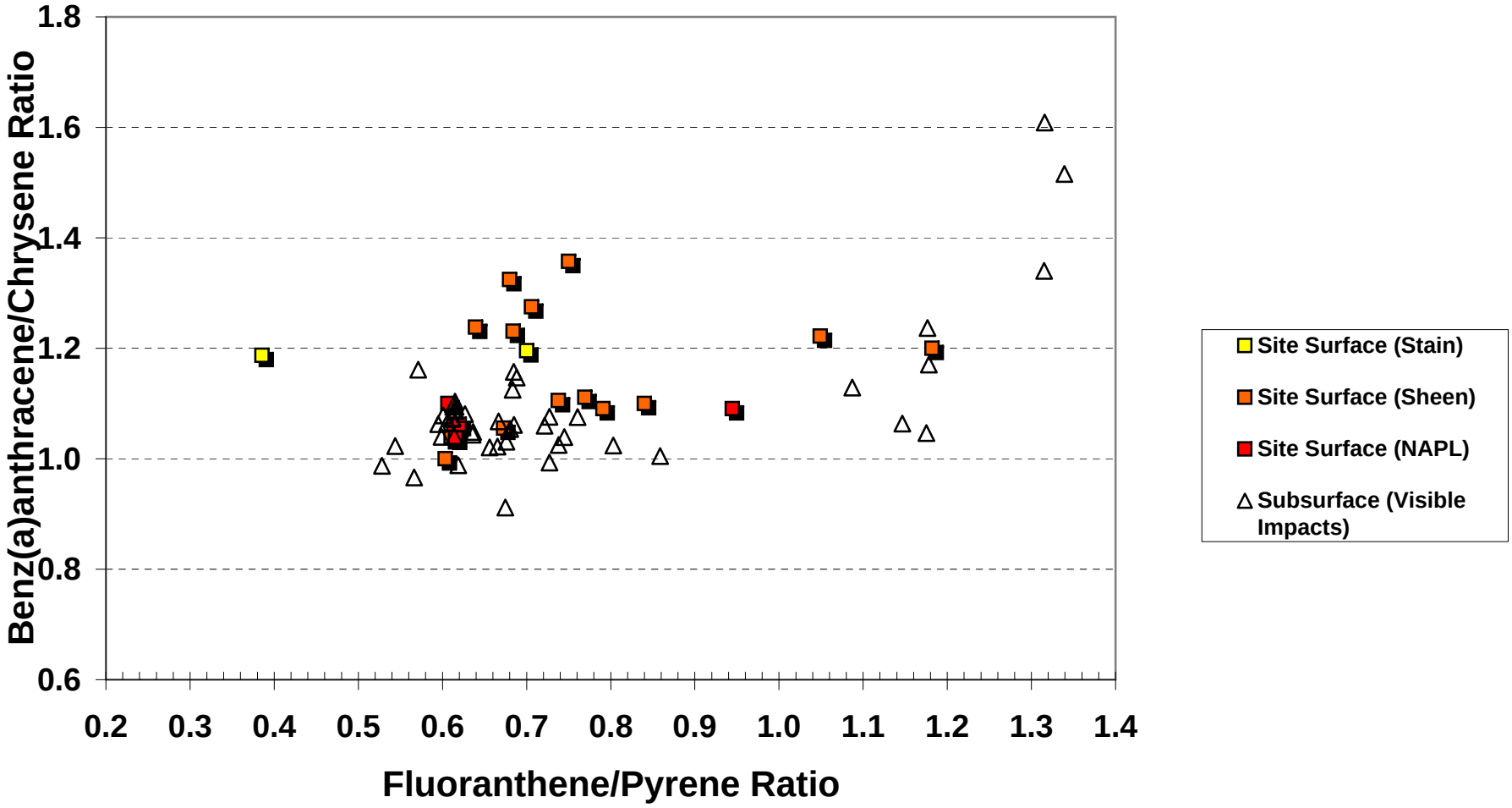


Figure 5-20 Comparison of Data from Locations with Visible Impacts and Background Locations

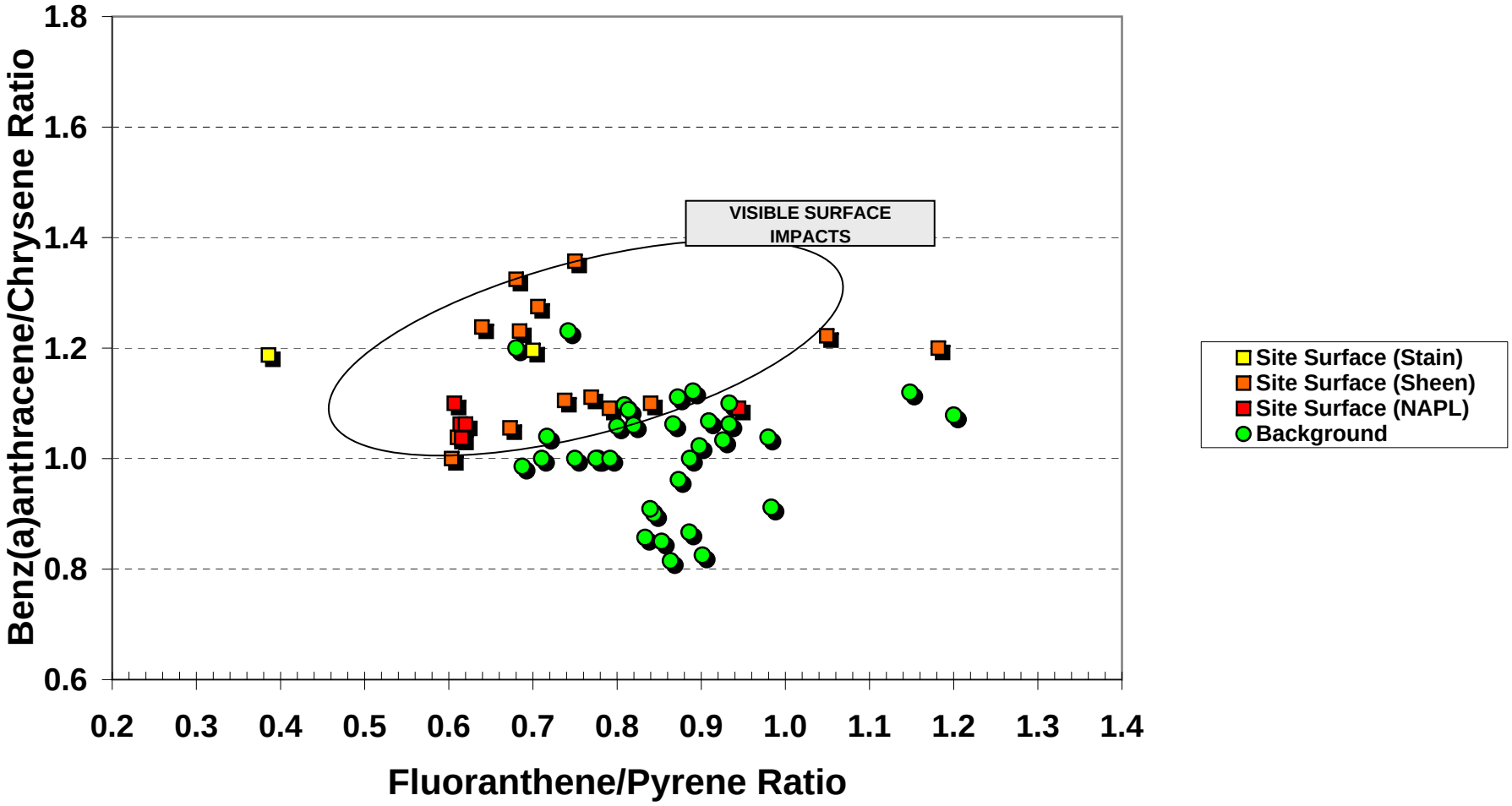
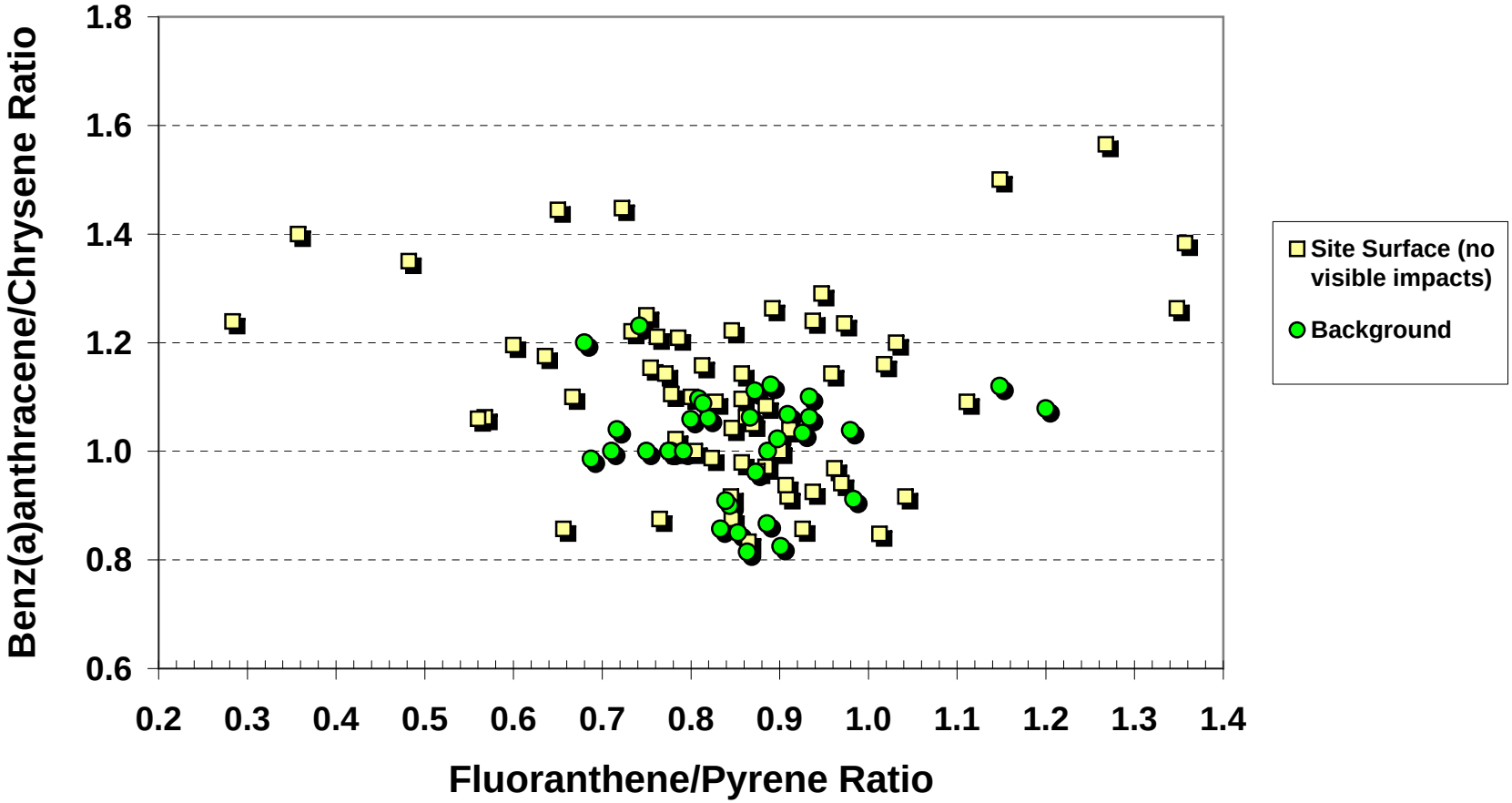
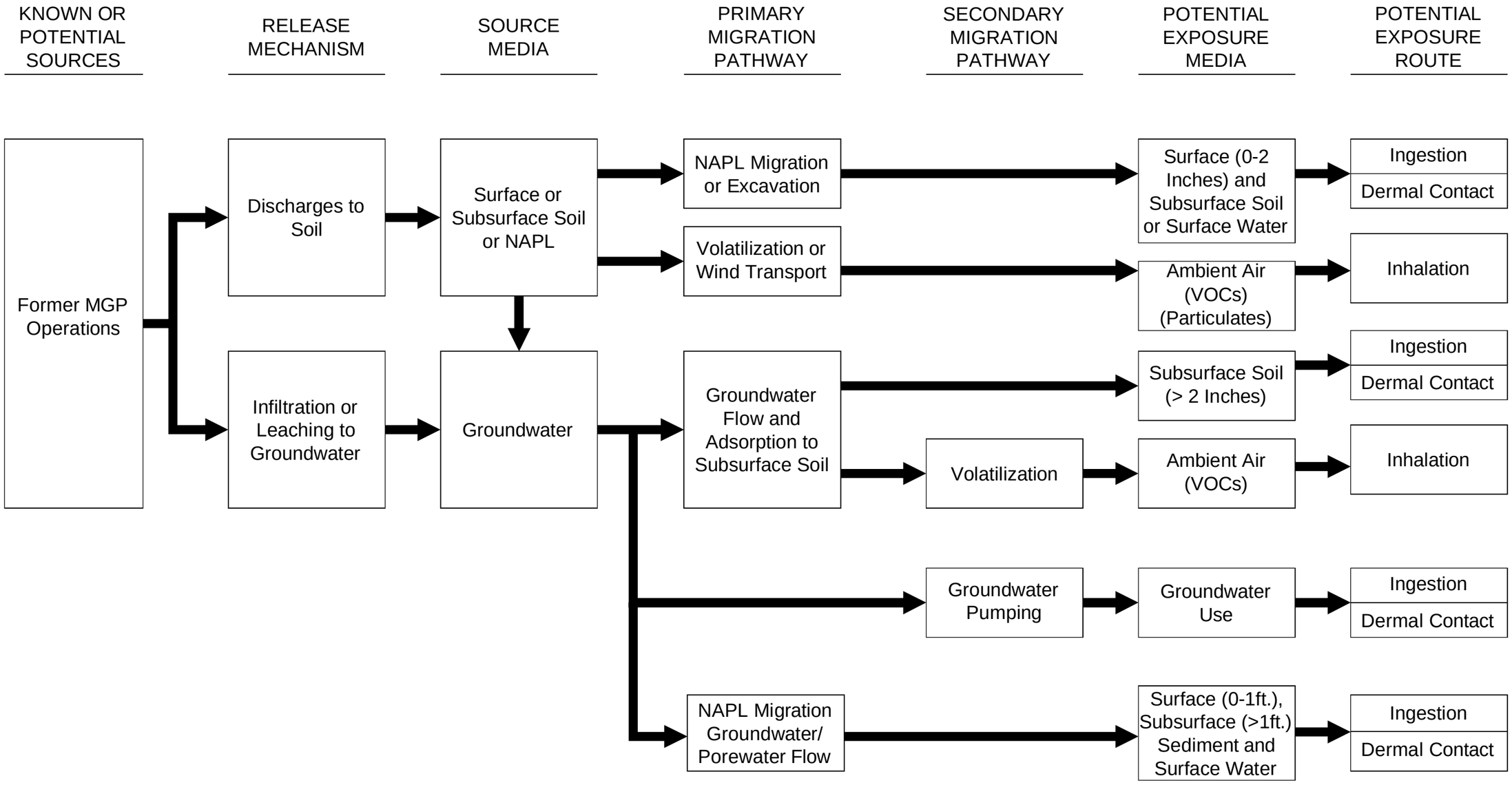


Figure 5-21 Comparison of Data from Surface Locations with No Visible Impacts and Background Locations





Note:
Table 6-1 provides summary information regarding the potential receptor groups identified for the investigation for the areas adjacent to Peter Cooper Village.

AECOM

CONSOLIDATED EDISON OF NEW YORK INC. FORMER EAST 21ST STREET WORKS 01869-170-829			**OU2 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT**
DATE: 07/09/09	DRWN: BcV/W-MA		FIGURE 6-1

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\CONCEPT-MODEL.dwg Layout: ANSI_B1-LJ User: VershonB Plotted: Jul 09, 2009 - 2:57pm Xref's:

AECOM

CONSOLIDATED EDISON OF NEW YORK INC.
FORMER EAST 21ST STREET WORKS
01869-170-829

GENERALIZED COVER MAP

DATE: 07/09/09 | DRWN: BcV/W-MA | **FIGURE 7-1**

File: F:\PROJECTS\Consolidated Edison NY\Peter Cooper Village\01869\CADD\OU2-2009\GEN-COVER-MAP.dwg Layout: ANSI_B(-LJ User: VershonB Plotted: Jul 09, 2009 - 3:00pm Xref's:

Appendices on Compact Disk

Appendix A – Historic Site Maps
Appendix B – Boring and Well Construction Logs
Appendix C – January to March Quarterly Monitoring Report Stuyvesant Cove Park
Appendix D – Department of the Army (DOA) Nationwide Permit 6 and Spill Response Plan
Appendix E – Ocean Surveys, Inc. Hydrographic and Geophysical Surveys Report and Navigation Report
Appendix F – Well Development Forms
Appendix G – Groundwater Sampling Forms
Appendix H – Tidal Survey Data
Appendix I – Aquifer Conductivity Data
Appendix J – Investigation-Derived Waste Manifests
Appendix K – Bulkhead Research Information
Appendix L – OU2 RI Analytical Summary Tables and Data Usability Reports (1 of 2) – CD3
Appendix L – OU2 RI Analytical Summary Tables and Data Usability Reports (2 of 2) – CD2
Appendix N – PTS Reports of Geotechnical and Physical Property Analyses
Appendix O – Background Sediment Statistical Evaluation