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Remedial Investigation Report
**Former Cornell Steamboat Company and
Former L&M Auto Parts Sites**
Kingston, New York

September 2007

Prepared for:
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**REMEDIAL INVESTIGATION REPORT
Former Cornell Steamboat Company and
Former L&M Auto Parts Sites**

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1.0 INTRODUCTION

This document presents the results of the Remedial Investigation conducted to assess environmental conditions at the former Cornell Steamboat Company (Cornell) and the former L&M Auto Parts (L&M) site in Kingston, New York. The RIWP was conducted through the New York State Department of Environmental Conservation's (NYSDEC) Brownfield Cleanup Program (BCP) as promulgated though Title 14 of Article 27 of New York's Environmental Conservation Law. Future use may involve a combination of multi-story residential units with parking or other amenities located at the ground floor level and/or commercial development on the first floor level. Typical development will consist of either a large commercial facility used for boat repair or restoration and live work commercial space. The upper stories might consist of apartments or condominiums with the commercial and recreational facilities located on the ground floor. The intended future use will provide needed services for local residents and is consistent with the City of Kingston's Waterfront Revitalization Plan.

Results of this investigation will be used to evaluate appropriate remedial alternatives through an Alternatives Analysis and Remedial Work Plan that is consistent with the proposed re-use of the property.

2.0 SITE DESCRIPTION

2.1 Site Location and Description

The site is located on East Strand Street in the City of Kingston, Ulster County, New York ([Figure 1](#)). It is located along the Rondout Creek, approximately one-half mile west of the Hudson River. An aerial photograph depicting conditions at the site in 2004 is provided as [Figure 2](#).

The site currently consists of six tax parcels making up approximately 4.19 acres. The tax parcels are identified in the table below.

Table 2.1 – Summary of Tax Parcels

Parcel Address	Acreage	Tax I.D.
108 East Strand Street	1.04	Section 56.43, Block 6, Lot 5
124-134 East Strand Street	0.28	Section 56.43, Block 6, Lot 6
136-198 East Strand Street	2.20	Section 56.36, Block 1, Lot 8
208-216 East Strand Street	0.36	Section 56.36, Block 1, Lot 10
222 East Strand Street	0.23	Section 56.36, Block 1, Lot 11
213-215 East Strand Street	0.08	Section 56.36, Block 12, Lot 6

The above mentioned parcels create the BCP site, with addresses identified as 94-198, 208-222, and 213-215 East Strand Street. The former Cornell property is zoned commercial, other storage, warehouse, and distribution facilities. The former L&M property is zoned industrial, with the exception of the lot located at 213-215 East Strand Street which is zoned as vacant land in a commercial area.



The former Cornell property, 94-122 East Strand Street, contains a large 2-4 story brick building. Two small vacant yards are located on either side of the building; the eastern lot is overgrown with small trees and brush, while the western lot is clear.

The main lot at the former L&M site contains a sheet metal garage and miscellaneous boating parts and equipment. The storage sheds and junk automobiles have been removed. A second lot that was also used to store junk autos has been cleared of all equipment and junk associated with the L&M business. Small amounts of trash and rubbish are scattered about the lot. The third and much smaller L&M lot is located on the north side of East Strand and is overgrown with small trees and brush. The Municipal Waste Water Treatment Plan is also located along the north side of East Strand.

2.2 Site History

The properties have been in industrial use since the mid-1800s. The open area to the west of the brick building was leased to Millens Steel Fabrication for storage of scrap metal, tires, empty paint containers and primer buckets, and other miscellaneous discarded materials.

The most recent use of the L&M property was an automobile junkyard, which began in 1973. Cars brought to the site were parked near the garage, where any useful parts were removed. Specific operational practices for junkyard could not be determined throughout the history of operation. These operations took place on the main lot, and the other lot on the southern side of East Strand Street. The use of the small lot on the northern side of East Strand Street is unknown. Previous owners include Miron Lumber Products, Miron Rapid-Mix Concrete Company, David Gill Lime & Cement Paint, and a railroad repair shop. Sanborn mapping for the years 1887, 1899, 1950, and 1957 is provided in Appendix A.

The Cornell Steamship Building (Cornell) has historically been used for steamship construction repair and maintenance. The Cornell Steamboat Company operated on the facility until the mid 1940's. As part of the operation the facility included a machine shop, a carpenter's shop, a boiler repair shop, lumber storage sheds and a garage. The property was used as a lumber yard and building supply company (Miron) until the mid-1970's. Prior to the current owners' purchase of the property, it has been used as an artist's studio and storage depot.

A historic spills search pertaining to this site was completed as part of the 2005 Phase I Environmental Site Assessment (ESA). The search revealed on the NYSDEC Spill Incidents Database (through FirstSearch Technologies, Inc. and through a FOIL to NYSDEC) that Spill No. 9001860 occurred at the L&M site, and has been closed since June of 1993. No spills have been reported for the former Cornell property. Multiple spills have been reported at adjacent properties. The spills at adjacent properties are all closed with the exception of a 1999 petroleum spill at the City of Kingston Wastewater Treatment Facility located north of the proposed BCP site (across East Strand Street).

2.3 Current Conditions

A portion of the Cornell building is currently being used as a boat-building workshop for students, while the remainder of the ground floor is storage for miscellaneous boat parts and



machinery. The second floor of the Cornell building is currently vacant, with the exception of a part-time office. A large wooden boat is stored on cradles outside the western side of the building, while the eastern side of the property is vacant.

Wrecked cars in the junkyard have been removed from the former L&M Auto Parts property. Currently, the metal shed is used to store boat parts. The facility operated briefly as a Tugboat Museum. A squatter had used the facility for repairs on a small portion of the property to a number of derelict tug boats that were tied up along the bulkhead without formal permission. Currently, there are several boats tied along the shoreline undergoing repair. Miscellaneous boat parts, repair equipment, and machinery are located on the site. There is no activity on the two easternmost parcels.

The site is located within the 100-year flood plain, and occasionally floods. The Rondout Creek is tidal and during certain high water events the property is inundated.

2.4 Site Geology

The surficial topography of the subject site is generally flat, and consists mostly of fill material. The land surrounding the site is also made land. It is generally flat, and is occupied by Strand Street and several commercial and retail buildings along the creek. Across Strand Street to the north, the land surface rises sharply up a limestone and shale outcrop. The Surficial Geologic Map of New York, prepared by Cadwell (1989) describes surficial glacial deposits in the area as "generally confined to floodplains within a valley, oxidized, non-calcareous, fine sand to gravel which in larger valleys may be overlain by silt, subject to frequent flooding." At the western part of the site there may be some Kame Deposits consisting of a coarse to fine gravel and/or sand which is locally firmly cemented with calcareous cement. The Ulster County Soil Survey (1979) depicts the soils at the site as being "cut and fill" land.

Overall, material encountered during the remedial investigation was consistent with the description contained in the Ulster County Soil Survey. Observations of subsurface material support suggestions that the site was historically filled over time to extend and firm up the shoreline toward and along the Rondout Creek. The depths and makeup of fill material are discussed in detail in Section 4.1 of this report. Test pit logs and monitoring well completion and sampling forms are provided in Appendix B.

According to the Geologic Map of New York, Lower Hudson Sheet, prepared by Davis et al. (1970), bedrock in the vicinity of the subject property is the Austin Glen Formation, consisting of interbedded layers of greywacke and shale. The northern edge of the site appears to be at the border of Undifferentiated Lower Devonian and Silurian Rocks, which are described in northern Ulster County as "Port Ewen thru Manlius Limestones, Rondout Dolostone, Binnewater Sandstone, and High Falls Shale." Outcrops observed to the north of the site are consistent with limestone bedrock.

2.5 Site Hydrogeology

Groundwater was typically encountered at depths of 2 to 5 feet below the ground surface. Given regional topography and the immediate proximity of surface water bodies, it is assumed that shallow groundwater flows from northwest to southeast across the site and discharges to



the Rondout Creek. Because the reach of Rondout Creek adjacent to the site is tidally influenced, it is likely that groundwater levels at the site are affected by tides. The tidal influence is further discussed in Section 4.6. Groundwater is not used as a potable water supply in the area. Municipal water is available to the property.

The groundwater portion of the remedial investigation supplemented and expanded upon information obtained during the Phase II ESAs. Current groundwater conditions are discussed in Section 4.2.

3.0 PREVIOUS INVESTIGATIONS

Separate Phase I and II ESAs have been completed for each of the properties:

- Phase I ESA, former Cornell property, The Chazen Companies, November 2001
- Phase I ESA, former L&M property, Fuss & O'Neill of New York, P.C., July 2005
- Limited Phase II ESA with supplemental groundwater investigation, former Cornell property, Fuss & O'Neill of New York, P.C., July 2005
- Limited Phase II ESA, former L&M property, Fuss & O'Neill of New York, P.C., July 2005

An overview of sampling results from the Fuss & O'Neill Limited Phase II ESAs is provided below. Historical sampling locations are identified on Figure 3.

3.1 Historical Soil Sampling

Historical soil analytical results from previous investigations are summarized in Table 1. At the time the Phase II ESA was performed, the Recommended Soil Cleanup Objectives listed in the NYSDEC Technical and Administrative Guidance Memorandum No. 4046 (TAGM 4046) were still in place. Results from the Phase II ESA were compared to the TAGM 4046 standards and guidance values. The investigations documented impacts to soil that are consistent with historical activities at the site, including railroad repair, coal storage, and lumber manufacturing and storage of petroleum products.

Former Cornell Property: Visual observation of samples collected along the eastern edge of the building indicated the potential presence of petroleum-related compounds in the soil, in the vicinity of the building. Low levels of VOCs and SVOCs are present in samples originating from bore holes SB-03, SB-05, and SB-06. The samples were taken from the saturated soil zone and the results indicated a potential for groundwater impacts. Generally, soil analytical data indicated that the highest metals concentrations are present in shallow soil (e.g., 0-0.5 feet) and decrease with depth. Laboratory analytical results showed slightly elevated levels of chromium in SB-01 and lead in SB-10 between 4-8 feet below ground level.

Former L & M Property: Results from the Phase II ESA indicate that surface and sub-surface soils at the site have been impacted by metals, petroleum-related volatile organic compounds (VOCs) and petroleum-related semi-volatile organic compounds (SVOCs) that are indicative of use of the site as a rail yard repair facility and an automobile junk yard. Analytical results suggest that the most significant metal impacts to the site are in surface or near-surface soils. Most of the TAGM exceedances and maximum levels of metals were detected in the surface



samples. Cadmium, chromium and selenium were also identified in deeper soils. Petroleum-related VOC and SVOC impacts were identified in several areas on the site in the vicinity of garage or storage areas. Some of the highest exceedances were observed in soil boring SB-04, which is located adjacent to the oil barge unloading area. Relatively less VOC and SVOC detections were observed in the East and North Parcels. A greater number of SVOC exceedances were observed in the deeper sampling intervals than in shallow soils.

3.2 Historical Groundwater Sampling

The Phase II Environmental Site Assessments also included the sampling of shallow groundwater at ten temporary monitoring wells. Analytical results for groundwater are compared to the NYSDEC Technical and Operational Guidance Series 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (TOGS 1.1.1). Information obtained from the sampling indicated that groundwater at the subject properties was impacted with petroleum compounds. Impacts to groundwater typically associated with industrial or commercial use are based on the historical use of this land and the surrounding properties. Historical groundwater data are summarized in Table 2.

At the former Cornell property, samples from wells MW-1, MW-2, MW-3M MW-4 and MW-6 exceeded TAGM 4046 groundwater cleanup standards for a number of semi-volatile organic compounds including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene.

At the former L&M property, results showed that concentrations of methyl-t-butyl ether were detected in groundwater samples from SB-03 and SB-07 at levels exceeding the TOGS 1.1.1 standard.

3.3 Historical Sediment Sampling

Sampling of sediment within the Rondout Creek was performed at one location along the property shoreline during the L&M Limited Phase II ESA. Samples were analyzed for metals and SVOCs. Arsenic and chromium were detected in sample RS-01 at concentrations that exceeded the TAGM standards. Concentrations of benzo(a)pyrene and dibenzo(a)anthracene were also detected above the soil TAGM levels. Historical sediment sampling results are summarized in Table 3. The results are consistent with impacts associated with recreational boating activity. It is expected that such compounds would be detected throughout the Creek area because of the heavy boat traffic, marinas and historic urban stormwater discharges.

4.0 REMEDIAL INVESTIGATION

The objective of the remedial investigation was to further assess known areas of concern and fully characterize the nature and extent of impacts at the site. The investigation was designed considering results of previous site investigations undertaken by Fuss & O'Neill and others as described in Section 3.0.



4.1 Action Levels

The intended future use of the former L&M and former Cornell properties will likely be commercial in the short-term, and mixed residential and commercial in the long-term. Analytical results for soils presented in the following sections are compared to both restricted residential and commercial Soil Cleanup Objectives (SCOs) as outlined in 6 NYCRR 375-6, Remedial Program Soil Cleanup Objectives. The restricted residential SCOS are more stringent, based on the assumed human exposure pathways associated with that intended use.

Analytical results for groundwater are compared to the NYSDEC Technical and Operational Guidance Series (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (TOGS 1.1.1).

Sediment analytical results are compared to guidance values presented in the NYSDEC's Technical Guidance for Screening Contaminated Sediments (1993, rev. 1999). Screening criteria for metals in sediments are broken into two categories – Lowest Effect Level (LEL) and Severe Effect Level (SEL). The LEL indicates a level of sediment contamination that is tolerated by the majority of benthic organisms, but still may cause toxicity to a few species. The SEL indicates a concentration at which pronounced disturbance of the sediment community can be expected. Results for the analysis of SVOCs are compared to sediment Criteria listed in the guidance document.

4.1.1 Soils Sampling and Analytical Protocols

Samples were collected according to the field sampling plan provided in the investigation work plan, with few exceptions. Samples for metals, VOC, and SVOC analysis were not collected at every location. Analytical results for soils are presented in Table 4. Analysis for RCRA8 metals was performed by EPA Method 6010B for arsenic, barium, cadmium, chromium, lead, selenium, and silver. EPA Method 7471A was used to determine mercury content. Analysis of volatile organics was performed by EPA Method 8260B Target Compound List (TCL) plus Methyl-tert-butyl ether (MTBE). Analysis of semi-volatile organics was performed by EPA Method 8270C modified by the STARS list of compounds. TPH was analyzed per EPA method 418.1. A summary of the soil samples collected and analyses requested is provided in the following table.

Table 4.1.1 – Soil Sample Summary

Sample Location	Sample Depth	Analyses Requested	QA/QC
TP-01	1-3'	Metals, VOC, SVOC	
TP-02	1-3'	SVOC	
TP-03	0-1'	SVOC	SVOC Duplicate, MS/MSD
TP-04	0-1' 3-6'	Metals, VOC, SVOC VOC, SVOC	VOC MS/MSD
TP-05	0-1' 3-6'	Metals VOC, SVOC	



Sample Location	Sample Depth	Analyses Requested	QA/QC
TP-06	0-1' 1-3'	Metals VOC	Metals Duplicate VOC Duplicate
TP-07	0-1'	SVOC	
TP-08	0-1' 1-3' 3-6'	SVOC VOC Metals, SVOC	VOC MS/MSD Metals MS/MSD
TP-09	0-1' 1-3'	VOC SVOC	
TP-10	0-1' 1-3'	Metals, SVOC Metals, VOC	
TP-10A	1-3'	SVOC	
TP-11	0-1'	SVOC	
TP-12	0-1' 1-3'	Metals, SVOC VOC	
TP-13	0-1' 1-3' 3-6' (3-3.8')	Metals, SVOC Metals, VOC SVOC	
TP-14	0-1'	VOC, SVOC	
TP-15	0-1'	SVOC	
TP-16	0-1' 1-3' 3-6'	SVOC VOC Metals	
TP-17	0-1' 1-3'	Metals SVOC	
TP-18	1-3'	SVOC	
TP-19	0-1' 1-3' 3-6'	SVOC, Metals VOC SVOC	
TP-20	0-1'	SVOC	
TP-21	0-1' 1-3' 3-6'	Metals TPH SVOC	
TP-22	0-1' 1-3'	SVOC VOC	VOC Duplicate
TP-23	0-1' 1-3'	Metals, VOC SVOC	
TP-24	0-1' 3-6'	SVOC Metals, SVOC, TPH	
TP-25	0-1'	VOC	
TP-26	0-1'	Metals, SVOC	
TP-27	1-3'	VOC, SVOC	
TP-28	0-1' 3-6'	VOC VOC, SVOC, TPH	
TP-29	0-1'	Metals, SVOC	Metals Duplicate, SVOC Duplicate, MS/MSD
TP-30	0-1' 1-3'	SVOC VOC	



Sample Location	Sample Depth	Analyses Requested	QA/QC
TP-31	3-6'	SVOC	
TP-32	0-1' 1-3'	Metals, VOC SVOC, TPH	Metals MS/MSD TPH Duplicate
TP-33	0-1' 3-6'	SVOC Metals	
TP-35	0-1' 1-3'	Metals SVOC	
TP-36	3-6'	SVOC	
TP-37	3-6'	VOC, SVOC	
TP-38	1-3' 3-6'	VOC, SVOC VOC, SVOC, TPH	

4.1.2 Soils Metals Screening by X-Ray Fluorescence (XRF)

The remedial investigation was conducted per the NYSDEC approved work plan. The investigation was modeled after the USEPA's TRIAD approach. Soil samples were collected and characterized in the field or shortly after collection using a Niton® X-Ray Fluorescence (XRF) metals analyzer. The XRF analysis was performed in accordance with the protocols outlined in the project Quality Assurance Project Plan (QAPP).

The XRF was calibrated to screen for fifteen (15) different metals, five (5) of which correspond to the RCRA 8 metals list of analytes. Those metals include arsenic, chromium, lead, mercury and selenium. A discussion and summary of XRF data, including a comparison of the instrument results to laboratory results on samples that were submitted for laboratory analysis, is provided in Appendix C.

4.1.3 Groundwater Sampling and Analytical Protocols

After the completion of the soils investigation, ten monitoring wells were strategically placed to delineate subsurface petroleum impacts. The RI work plan initially required five monitoring wells. Five additional wells were added to the scope of work based on field observations in test pits and soil borings. Analytical results for groundwater are presented in Table 5. Analysis for RCRA8 metals was performed by EPA Method 6010B for arsenic, barium, cadmium, chromium, lead, selenium, and silver. EPA Method 7471A was used to determine mercury content. Analysis of volatile organics was performed by EPA Method 8260B TCL plus MTBE. Analysis of semi-volatile organics was performed by EPA Method 8270C modified by the STARS list of compounds. Monitoring well sample logs, including purge data, are available in Appendix B. A summary of the samples collected and analyses requested is provided in the following table.

Table 4.1.3 – Groundwater Sample Summary

Monitoring Well	General Location	Analyses Requested	QA/QC
MW-01	South of TP-07 in L&M property	Metals, VOC, SVOC	



Monitoring Well	General Location	Analyses Requested	QA/QC
MW-02	Cornell property, north of impacts seen in Phase II ESA	Metals, VOC, SVOC	
MW-03	Cornell property, south of impacts seen in Phase II ESA	Metals, VOC, SVOC	
MW-04	Northeast corner of metal building on L&M property	Metals, VOC, SVOC	
MW-05	South of impacts seen at TP-28	Metals, VOC, SVOC	
MW-06	Adjacent to TP-21 in center of L&M property	Metals, VOC, SVOC	SVOC duplicate, MS/MSD
MW-07	North edge of L&M property between TP-22 and TP-24	Metals, VOC, SVOC	Metals duplicate, MS/MSD
MW-08	Adjacent to TP-27 on L&M property	Metals, VOC, SVOC	
MW-09	Adjacent to TP-36 on L&M property	Metals, VOC, SVOC	
MW-10	North of impacts seen at TP-28	Metals, VOC, SVOC	VOC duplicate, MS/MSD
N/A		Metals, VOC, SVOC VOC	Equipment blank Trip Blank for each day

4.1.4 Sediment Sampling and Analytical Protocols

Sediment samples were collected at three locations along the Rondout Creek shoreline abutting the site, as shown on [Figure 4](#). One sample was collected in front of the Cornell Building. The second was collected along the central-eastern portion of the L&M shoreline in the vicinity of test pit TP-18. The third was collected from the shoreline of the easternmost L&M parcel, downstream of a former SPDES outfall and in the vicinity of test pit TP-37. Sediment sampling logs are provided in [Appendix B](#). Sediment samples were analyzed for VOCs by Method 8260B, STARS SVOCs by Method 8270C/8021, and the RCRA 8 suite of metals (Total metals) by Method 6010B.

4.1.5 Quality Assurance/Quality Control Procedures

As outlined in the investigation work plan, one duplicate soil sample was collected for every 20 samples collected for each analysis requested. Two duplicate soils samples were obtained. The analytical results of the duplicate samples are provided in [Table 4](#).

Additionally, one matrix spike and matrix spike duplicate sample was collected for every 20 soil samples collected for each analysis requested. Two matrix spike and matrix spike duplicate samples were collected and run. The results of the matrix spike and matrix spike duplicate are contained in the laboratory's quality assurance summary in the analytical narrative preceding the data package discusses the results for these samples.

For groundwater, duplicate samples were collected for each of metals, VOC and SVOC analyses. The duplicate results are provided in [Table 5](#). In addition, matrix spike and matrix spike duplicate samples were also collected for the water samples.

One equipment blank was collected for each type of analysis; however, since dedicated equipment was used to collect groundwater samples, the blank consisted of running de-ionized



water through the poly tubing directly into a sample jar. In addition, a lab-supplied trip blank was included with each sample shipment. Also, a temperature blank accompanied samples to the laboratory to verify that the samples were shipped and received under proper temperature control.

4.2 Soil Vapor Investigation

The Cornell facility is likely to remain in use. Given the historic use of the property and the presence of organic compounds in soil and groundwater surrounding and possibly beneath the site, the NYSDOH has requested that the vapor intrusion potential be assessed. The potential exposure would be inhalation of vapors by site workers and visitors. As of the completion of this report, the soil vapor investigation had not been performed. The vapor intrusion guidance recommends waiting until the heating season has begun to obtain soil vapor samples within a facility. The results of a soil vapor intrusion assessment will be provided to the NYSDEC as a separate addendum to this report.

4.3 Fish and Wildlife Resource Impact Assessment (FWRIA)

A fish and wildlife exposure assessment is required by Section 3.1 of the Draft BCP Program Guidance, and as outlined in NYSDEC's Draft DER-10: Technical Guidance for Site Investigation and Remediation. In this case, the fish and wildlife resources impact analysis (FWRIA) will be completed to verify that site activity has not impacted the Rondout Creek in such a way as to distinguish it as a potential contaminant source that is different than sources associated with the historic and on-going recreational use of the river. It will be completed in order to identify actual or potential impacts to fish and wildlife resources from site contaminants of ecological concern and existing ongoing impacts associated with current use of the river. An FWRIA report will be issued as a separate addendum to this report.

4.4 Off-Site and Human Health Exposure Assessments

Information obtained during the investigation has been used to evaluate the potential contamination of properties adjacent to the subject property as a result of actions on the subject property. The remedial investigation has served as the off-site exposure assessment. The off-site exposure assessment included the collection of soil samples at the site boundaries, placement of monitoring wells such that off-site migration of groundwater could be assessed and monitored, and a review of historic information to determine the extent of site activities.

The potential impacts to future users of the property, based on proposed site development, were also evaluated in the context of the potential exposure pathways and contaminants of concern. The Human Health Exposure Assessment (HHEA) evaluates the potential exposure to site contaminants of concern during redevelopment and reasonably anticipated future use. The HHEA focuses on the contaminants present at the site, and presents an analysis and evaluation of the potential risks and hazards to human health that may exist.

In order to evaluate the potential exposure pathways associated with heavy metals, VOCs, and SVOCs in subsurface soils, it is necessary to understand what exposure pathways are reasonably expected under anticipated future property uses. An exposure pathway consists of five elements: a source of contamination, transport through an environmental medium, a point of



exposure, a route of human exposure, and an exposed population. An exposure pathway occurs when the five elements of an exposure pathway described above link the contaminant source to a receptor population, resulting in exposure. Several pathways will be evaluated in an exposure assessment. A potential exposure pathway exists when one or more of the exposure pathway elements are missing or incomplete. If one or more of the pathway elements is missing, the exposure pathway is considered to be incomplete and therefore, this pathway is eliminated, as exposure/potential exposure to contaminants is not considered to be present.

The results of the FWRIA may affect the exposure assessment; however, please note that the Rondout Creek shoreline is essentially the property boundary. Therefore, impacts to the river are considered off-site impacts and not the responsibility of the Volunteer.

4.5 Tidal Assessment

The Rondout Creek at Kingston is tidally influenced. Therefore, water table elevations and groundwater flow potentials at the site are affected by tidal fluctuations. To assess the effect of tides on the shallow unconsolidated aquifer underlying the site, periodic water level measurements were recorded from the newly installed monitoring wells, and were compared to tidal water fluctuations recorded by the U. S. Coast Guard. The results of this study are further discussed in Section 5.9 of this report.

4.6 Deviations from the RIWP

Test pits TP-01 and TP-02 were completed slightly closer to the Cornell building than proposed due to a large boat on cradles in the center of the parcel. Test pit TP-03 was moved from the south side of the Cornell building to 50 feet east along the shoreline due to access restrictions. Test pit TP-04 was relocated from along East Strand Street approximately 25 feet south due to shallow refusal. Concrete pads were encountered roughly 3 feet below the surface along the street and also along the building on this parcel. Test pit TP-05 was moved to the adjacent L&M parcel to prevent interference with proposed monitoring well MW-02.

Based on the size of the parcel at 213-215 East Strand Street and observations in test pit TP-35, test pit TP-34 was omitted. The VOC and SVOC samples associated with this location in the field sampling plan were moved to test pits TP-28 and TP-05, respectively. This decision was made in the field and approved by the DEC site manager prior to the conclusion of the investigation. Test pit TP-11 was moved west to the corner of the L&M warehouse due to access restrictions.

Buried concrete pads, likely former building slabs, were uncovered along the north side of the parcel between the metal building and test pit TP-13, and along a majority of the shoreline. Test pits along the shoreline were shifted approximately 10-15 feet north of their proposed locations. Also, a gas main cuts across the site, approximately 175 feet east of the metal building.

5.0 INVESTIGATION RESULTS

5.1 Site Soils Investigation



A summary of visual observations of soils within test pits is provided in the table below. These visual observations, combined with laboratory analytical results for analysis of VOCs, SVOCs, TPH and TICs were used to estimate the extent of petroleum impacts present at the site, shown in Figure 4.

Table 5.1 – Summary of Visual/Olfactory Observations

Test Pit Location	Description
TP-1	No odors; low-level SVOC detections
TP-2	No odors; low-level SVOC detections
TP-3	Sheen on groundwater; low-level SVOC detections
TP-4	Slight to moderate sheens; exceedances of SVOC action levels in surficial and subsurface soils
TP-5	No odors; low-level SVOC detections
TP-6	No appreciable odors or sheens; exceedances of SVOC action levels in surficial soils
TP-7	No appreciable odors or sheens; exceedances of SVOC action levels in surficial soils
TP-8	Slight petroleum odors; exceedances of SVOC action levels in surficial soils
TP-9	No appreciable odors or sheens; exceedances of SVOC action levels in soils
TP-10	Moderate odors near surface, sheen on groundwater; low-level SVOC detections
TP-10A	Slight odors and sheen on groundwater; low-level SVOC detections
TP-11	No odors; low-level SVOC detections
TP-12	Slight odors in subsurface; low-level SVOC detections
TP-13	Slight staining and odors; exceedances of SVOC action levels in surficial and subsurface soils
TP-14	No odors; low-level SVOC detections
TP-15	Coal slag, ashy fill is most likely cause for SVOCs exceedances in shallow soils
TP-16	Minimal staining; low-level SVOC detections
TP-17	No odors; low-level SVOC detections
TP-18	No odors; low-level SVOC detections
TP-19	SVOCs in saturated soils; exceedances of SVOC action levels
TP-20	Clean - no odors
TP-21	Sheens; no SVOCs detected, moderately elevated TPH
TP-22	Possible light odors; no exceedances
TP-23	Petroleum odors and staining; exceedances of SVOC action levels
TP-24	Petroleum sheens in saturated soils; low-level SVOC detections in groundwater
TP-25	Sheens in saturated soils
TP-26	Petroleum impacts observed in saturated soils; low-level SVOC detections
TP-27	Petroleum impacts observed in saturated soils; low-level SVOC



Test Pit Location	Description
	detections
TP-28	Petroleum observed in saturated soils; exceedances of SVOC action levels
TP-29	Coal slag, ashy fill is most likely cause for SVOCs in shallow soils
TP-30	Clean - no odors
TP-31	Clean - no odors
TP-32	Coal slag, ashy fill is most likely cause for SVOCs in shallow & subsurface soils
TP-33	Clean - no odors
TP-35	No odors; low-level SVOC detections
TP-36	Petroleum observed in saturated soils; low-level SVOC detections
TP-37	Petroleum observed in saturated soils; exceedances of SVOC action levels
TP-38	Petroleum observed in saturated soils; low-level SVOC detections

5.2 Discussion of Observations

Area West of Cornell Building

Fill material consisting of layers of pulverized brick, ash, anthracite coal and slag mixed with medium to coarse sand and silt was encountered from 1 to 5 feet below ground surface. No odors or obvious impacts were observed and field screening with an Organic Vapor Meter (OVM) did not detect volatile organics. Material presumed to be native was encountered below the fill and consisted of dense brown silty sand.

Area East of Cornell Building

Subsurface soil in this area consists of topsoil and organic material near the surface, underlain by fill material. The fill consists of distinct layers of ash, coal, coarse sand, stone, and broken and pulverized brick. The depth to fill varies across this area, but is greater near the shoreline and consistently reaches depths of 5.5 to 6.0 feet below ground surface. Light staining through the fill was observed in test pits TP-04 and TP-05. Although no appreciable odors were noted, minor sheens were observed on groundwater in test pits TP-03 and TP-04. Field screening with an OVM detected no volatile organics. The staining appears to be due to highly weathered petroleum product.

Area West of the L & M Warehouse

Fill similar to that seen on the Cornell property was noted in test pit TP-07; however, is only present from 0.5 to 2.5 feet below ground surface. Layers of fine sand, silt and clay with minor staining were observed below the fill. Soils at test pits TP-08 and TP-11 consist of layers of stained gravel and coarse sand and stained fine sand. The surficial geology in test pit TP-09 was similar to other areas along the shoreline. Beneath the sub-base is 4-5 feet of fill, with an olive-colored silty clay below 5 feet. No appreciable subsurface odors or groundwater sheens were noted in this area.



Main L & M Parcel

Sampling locations on this parcel were biased toward either edge of the property. The interior portion of the site had been characterized during the preliminary Phase II ESA. The majority of the samples were collected from the center of the parcel due to access limitations at the time of the investigation. There were junk automobiles on both sides of a central roadway.

Unknown historical features on the property resulted in the relocation of some test pits during the RI in the main L&M parcel. To the extent possible, test pits were dug in the same general area as proposed and none were omitted. Unknown to us before the investigation, railroad tracks run across the entire length of the parcel along the northern edge. The tracks surface in the center of the parcel and again at the eastern side where they are visible in East Strand Street. Buried concrete pads, likely former building slabs, were uncovered adjacent to the tracks along the north side of the parcel between the metal building and test pit TP-13, and also along a majority of the shoreline. Also, a gas main cuts across the site, approximately 175 feet east of the metal building.

Three underground storage tanks (USTs) were previously excavated approximately 25 feet from the northeast corner of the metal building. Evidence of petroleum was observed during the tank removal. There is an open spill number associated with this release (NYSDEC Spill No. 0514705). The location of test pits TP-10 and TP-10A were chosen to determine if the tank had leaked. Soils at test pit TP-10 consist of layers of gravel sub-base with railroad ties, gravel, sand, ash and coal fill, and stained coarse sand and gravel. Moderate petroleum odors and sheen on groundwater were noted. Test pit TP-10A was added at the southeast corner of the metal building to delineate odors and staining observed in test pit TP-10. Below 1.5 feet of gravel and stained sand, fill was noted to below 5.5 feet with slight odors and minimal sheen on groundwater.

Test pits TP-12 and TP-13 had shallow refusal; 3.0 feet and 3.8 feet, respectively, due to a previously unknown buried concrete structure(s). Soils above the slabs consist of sub-base, and coarse sand with pulverized brick and coal. Slight petroleum odors were noted at each location. Groundwater was not present at these depths, however soils were moist indicating that groundwater may rise to 3 feet below ground surface during high tides.

Test pits TP-14, TP-15, TP-16, TP-19 and TP-22 exhibited similar surficial geology. Below the sub-base and organics there was fine to medium sand underlain with ash, coal, and crushed brick fill exceeding 5 to 6 feet in depth. Below the saturated zone, the fill is mixed with medium to coarse sand and some silt. No appreciable odors or staining were noted.

Test pit locations TP-17, TP-18 and TP-20 were initially proposed along the Rondout shoreline; however, they were shifted slightly inland due to concrete slabs encountered below the ground surface. Soils throughout this area have similar makeup; sub-base, sand and organics, underlain with brick and rock fill. Test pit TP-17 had shallow refusal at 3.5 feet due to buried railroad tracks; however, test pits TP-18 and TP-20 were dug to 5 feet below surface, where the presumed native silty sand was unearthed. No odors or sheens were noted in this area.

Test pits TP-24 and TP-25 were dug near the center of the east end of the parcel. Both test pits uncovered the sub-base, sand layer, and fill to depths greater than 6 to 7 feet. The fill consisted



of coarse rock and crushed concrete with coarse sand. Sheen was observed on the groundwater and odors indicative of gasoline in TP-24. PID readings were high in TP-24; 511 ppm at 0 to 1 feet, greater than 4000 ppm at 1-3 feet, and 99 ppm for saturated soils at 3-6 feet below ground surface.

In the same area, test pits TP-21, TP-26 and TP-27 exhibited layers of sub-base, medium to coarse sand, brick and ash fill, fine to medium sand, and blast rock below 5 feet. Groundwater in each test pit was observed to have a thick brownish black floating product, and petroleum like odors.

Test pits TP-23 and TP-36 were dug along the Rondout shoreline at the eastern end of the parcel. Test pit TP-36 was added to the investigation as part of the delineation of impacts observed in test pit TP-28. The layers of sub-base, sand, fill, and reworked silty sand were similar along the shoreline, but staining and slight odors were noted in test pit TP-23.

East L&M Parcel

The easternmost edge of the property was investigated with test pits TP-32 and TP-33. Below surficial materials a layer of fill material was observed from approximately 2 to 4 feet below surface, consisting of sand, coal, ash, and pulverized brick. Silty sand and rock presumed to be native material was encountered from 4 feet to extending to past 7.5 feet below ground surface. No odors were noted in this area.

Test pits TP-29, TP-30 and TP-31 were dug around the existing concrete slab on the parcel. Around this slab underlain by a brick foundation, sand was encountered from 1 foot to greater than 8.5 feet below ground surface. No apparent odors or staining were observed.

Test pit TP-28 was dug along the western border of the parcel, along the KOSCO property fence line. Below 2 feet of surficial sand and organics, fill material was heavily impacted with petroleum. Strong odors and a thick brownish black sheen were noted. Based on visual and olfactory observations in test pit TP-28, a petroleum spill was reported to the NYSDEC via the NYS Spills Hotline. The spill was reported on April 24, 2007 for 222 East Strand Street, and assigned Spill No. 0701016. The spill report notes petroleum of unknown volume and source. Additional test pits TP-37 and TP-38 were added along the KOSCO property fence line on the south and north corners, respectively, to delineate impacts seen in test pit TP-28. The surficial geology is similar to that seen in the surrounding test pits. Staining and odors were observed in test pit TP-37 at approximately 4 feet below ground surface. Test pit TP-38 had petroleum odors, and the groundwater had a brownish black sheen floating on it.

213-215 East Strand Street

Test pit TP-35 was completed as proposed on this small corner lot at East Strand and Tompkins Street. No impacts were noted relating to past industrial use; however, some debris associated with household garbage was noted in the surficial 1-2 feet of soil.



5.3 Metals in Soils

A summary of analytical results for the RCRA 8 list of metals in soil is presented in Table 4. All metal exceedances occurred within the top 3 feet of soil; however, most exceedances occurred in surficial soils in the 0 to 1 foot range.

The highest metal concentrations detected are those shown exceeding commercial SCOs. With the exception of a barium exceedance in test pit TP-01 all commercial SCO exceedances consist of elevated arsenic and lead concentrations. The most notable arsenic exceedance occurred on the east side of the former L&M metal building in test pit TP-10. Arsenic was detected at 37.3 ppm in the 0 to 1 foot depth range and at 19.1 ppm in soils at 1 to 3 feet, compared to the commercial SCO of 16 ppm. Lead was detected at 3720 ppm in test pit TP-01, 1 to 3 feet. Soils at 0 to 1 foot in test pit TP-29 contain lead at 2680 ppm. The duplicate sample from this location exhibited a lead concentration of 2350 ppm.

At multiple locations, concentrations of lead, mercury, cadmium and chromium were detected at levels exceeding restricted residential SCOs. Test pits TP-04, TP-06, TP-10 and TP-23 exhibited lead concentration exceeding standards at the 0 to 1 foot depth range. Mercury concentrations exceeded the restricted residential SCO in test pits TP-01 (1 to 3 feet) and TP-06 (0 to 1 feet) in the duplicate sample only. Test pit TP-29 (0 to 1 feet) exhibited levels of cadmium and chromium that exceed the respective restricted residential SCOs.

5.4 Volatile and Semi-Volatile Organic Compounds in Soils

A summary of soil VOC and SVOC analytical results is provided in Table 4. No volatile organics were detected at concentrations that exceeded commercial or restricted residential SCOs, however a number of locations across the site exhibited concentrations of SVOCs exceeding both commercial and restricted residential SCOs. SVOCs exceeding 100,000 ppb were detected in test pit TP-37 (3 to 6 feet). Other notable impacts were encountered in test pits TP-28 and TP-29, where a number of SVOCs exceeded 10,000 ppb. Methyl ethyl ketone (MEK or 2-butanone) was detected at 25 ppb in test pit TP-37 at 3 to 6 feet. Toluene was detected at very low concentrations in test pits TP-27 (1 to 3 feet) and TP-32 (0 to 1 feet); 0.81 ppb and 0.40 ppb, respectively. Trichloroethene (TCE) was detected in test pits TP-22 (1 to 3 feet) and TP-38 (1 to 3 feet) at 0.35 ppb and 1.2 ppb, respectively. However a duplicate sample collected from the same depth in test pit TP-22 did not have any detections of trichloroethene.

5.4.1 Petroleum Hydrocarbons (TPH) and Tentatively Identified Compounds (TICs)

Field observations in test pits and soil borings indicated that petroleum product present in soils was likely significantly degraded or "weathered". During typical laboratory procedures, the instrument analyzes the sample, and compares the result against a library of known chromatographic patterns. Over time, organic compounds in soil or groundwater become oxidized, combined with other chemicals or exist as break-down products. In these cases, petroleum contaminants are not detectable using standard laboratory instrumentation because the chromatographic patterns no longer exactly match. In order to evaluate degraded petroleum impacts in soils, several samples were submitted for analysis of total extractable petroleum hydrocarbons (TPH), which is a general classification of contaminants, and for tentatively identified compounds (TICs), which are characterized based on what the detected the



compound in the sample most closely resembles. These analyses do not identify specific compounds; however, they do provide information as to the presence or absence of petroleum product.

For a number of samples, a library search for tentatively identified compounds (TICs) was requested based on visual observations of petroleum-related impacts during field work. For the samples where TICs were identified, the compounds were generally associated with petroleum products. A summary of TICs present in selected samples is provided in the table below.

Table – Summary of Tentatively Identified Compounds (TICs)

Sample Location	Sample Depth	TICS Identified	Type and Magnitude of TICS
TP-01	1-3'	0 VOC	
TP-03	0-1'	5 SVOC	Petroleum fuels, 160-330 ppb
TP-04	0-1' 3-6'	1 VOC, 23 SVOC 0 VOC, 25 SVOC	Petroleum fuels, 11-3300 ppb Petroleum fuels, 550-1700 ppb
TP-05	3-6'	0 VOC, 1 SVOC	Unknown, 210 ppb
TP-06	0-1' 1-3'	9 SVOC 0 VOC	Petroleum fuels, 1100-3500 ppb
TP-08	1-3'	0 VOC, 0 SVOC	
TP-09	0-1'	0 VOC	
TP-10	0-1' 1-3'	30 SVOC 16 VOC	Petroleum Fuels, 1700-14000 ppb Petroleum Fuels, 6-22 ppb
TP-10A	1-3'	13 SVOC	Unknown hydrocarbons, 180-830 ppb
TP-12	1-3'	20 VOC	Petroleum Fuels, 620-2200 ppb
TP-13	1-3'	0 VOC	
TP-14	0-1'	0 VOC	
TP-16	1-3'	0 VOC	
TP-19	1-3'	0 VOC	
TP-22	1-3'	0 VOC	
TP-23	0-1'	4 VOC	Common gasoline compounds, 6-12 ppb
TP-24	0-1' 3-6'	0 SVOC 0 SVOC	
TP-25	0-1'	0 VOC	
TP-26	0-1'	0 SVOC	
TP-27	1-3'	0 VOC, 21 SVOC	Petroleum fuels, 160-520 ppb
TP-28	0-1' 3-6'	0 VOC 20 VOC, 30 SVOC	Petroleum fuels, 500-24000 ppb
TP-29	0-1'	13 SVOC	Known/Unknown PAHs, 3300-10000 ppb
TP-32	0-1'	0 VOC	
TP-36	3-6'	0 SVOC	



Sample Location	Sample Depth	TICS Identified	Type and Magnitude of TICS
TP-37	3-6'	0 VOC	
TP-38	1-3' 3-6'	0 VOC, 5 SVOC 20 VOC, 22 SVOC	Known/Unknown PAHs, 170-320 ppb Petroleum fuels, 350-4000 ppb

TPH analysis, as well as visual observations, on a sample from 1 to 3 feet in test pit TP-38 indicated petroleum contamination at this location at depths greater than 4 feet below ground surface. In the same area of the site, petroleum-related impacts were verified by a TPH concentration of 1,920 at 3 to 6 feet below ground surface in test pit TP-28.

A TPH result was recorded in test pit TP-32 at 1 to 3 feet (19,100 ppm). A duplicate sample exhibited a TPH concentration of 1,730 ppm. No obvious observations of petroleum-type impacts were noted in test pit TP-32, however a significant amount of coal and asphalt fragments were observed in the sample.

On the east end of the main L&M parcel, petroleum-related impacts were noted at 3 to 4 feet below ground surface in test pits TP-21 and TP-24. However, TPH compounds were generally low from 1 to 3 feet in test pit TP-21 and not detected at 3 to 6 feet in test pit TP-24.

5.5 Groundwater Investigation

A sample from each monitoring well was analyzed for the RCRA8 metals, volatile organic compounds (VOCs) by EPA Method 8260 and for semi-volatile organic compounds (SVOCs) by EPA Method 8270 modified by the STARS list of contaminants. Results were compared to TOGS 1.1.1.

5.6 Metals in Groundwater

Only barium, which was detected in all samples, and lead, which was detected in three out of the eleven samples submitted, were detected above the laboratory reporting limits. These metals were not detected at levels exceeding the standards set forth in NYSDEC's Technical and Operational Guidance Series (TOGS) 1.1.1.

Based on the low levels of metals detected in groundwater across the site, it is not likely that metals detected in surficial soils are leaching to the subsurface and into groundwater.

5.7 Volatile and Semi-Volatile Organic Compounds in Groundwater

The sample from monitoring well MW-01 exhibited low levels of methyl-tert-butyl-ether (MTBE), 2-butanone (MEK), 4-methyl-2-pentanone, and toluene. The sample from monitoring well MW-02 exhibited low-level detections of MEK and 4-methyl-2-pentanone. The sample from monitoring well MW-03 on the Cornell property exhibited low levels of acenaphthene, fluoranthene, fluorene, and pyrene. The values were estimated by the laboratory and were less than 2 ppb for each compound.

One the L&M property, samples had only low level detections of a few VOCs. Monitoring well MW-05 exhibited a low concentration of 2-methyl-2-pentanone. This well also exhibited low



levels of acenaphthene, fluoranthene, fluorene, and phenanthrene. Again, these values were estimated by the laboratory and were less than 2 ppb for each compound.

Samples from wells MW-06 and MW-07 each exhibited detections of MTBE (9.6 ppb in MW-06). A duplicate sample was collected from well MW-06. MEK was detected in the MW-08 sample. Acetone, a common laboratory contaminant, was detected in a number of samples. In two instances, acetone was also detected in the laboratory-supplied blank.

Monitoring well MW-10 was placed on the easternmost L&M parcel in the northwest corner in an effort to delineate impacts seen in test pits TP-38 and TP-28. The groundwater sample from this well had the most VOC detections, although still at low levels. Low levels of the BTEX compounds were detected (2.3 ppb benzene, 1.8 ppb toluene, 3.7 ppb ethylbenzene, and 6.3 ppb total xylenes). The estimated benzene concentration exceeds the TOGS 1.1.1 Groundwater Effluent Limitation of 1.0 ppb. 4-methyl-2-pentanone was also detected in this sample. A duplicate sample collected at monitoring well MW-10 had very similar detections.

5.8 Metals in Sediments

The three sediment samples collected from the Rondout Creek shoreline were analyzed for the RCRA8 list of metals. The results were compared to NYSDEC's Technical Guidance for Screening Contaminated Sediments. The guidance provides a concentration that corresponds to the lowest effect level, and another corresponding to a severe effect level based on toxicity testing of benthic organisms.

Lead was detected at elevated levels in each of the three samples. The concentrations of lead in each sample exceed the lowest effect level provided in the NYSDEC guidance, but do not exceed the severe effect level guidance. The highest lead levels were measured at sample location S-03, along the shoreline of the easternmost L&M parcel (67.2 ppm).

5.9 Volatile and Semi-volatile Organic Compounds in Sediments

Sample S-03 was collected very shallow (0-0.5 ft) due to shoreline conditions. Elevated SVOCs were encountered at this sampling location. It is equally as likely that the elevated SVOC concentrations are due to recreational boating use as from residual constituents emanating from the site.

5.10 Off-Site Assessment

The FWRIA for the Rondout Creek will be provided under separate cover. The Rondout is the offsite receptor. The sediment quality in the Rondout is already significantly compromised due to historic and recreational use of the river.

The off-site exposure assessment included the collection of soil samples at the site boundaries, placement of monitoring wells such that off-site migration of groundwater could be assessed and monitored, and a review of historic information to determine the extent of site activities.

Based on the soils investigation, impacts observed in a number of test pits have the potential to have migrated off-site, and could continue to migrate off-site. Due to the shape of the site,



most test pits were either along the shoreline or along the north property boundary. The test pits dug along the northern edge of the property exhibited petroleum-related impacts. There is a potential off-site source for these impacts (the KOSCO Major Oil Storage Facility (MOSF) is immediately upgradient).

Impacts observed in test pits along the shoreline (i.e. TP-37, TP-23, and TP-06) have the potential to migrate into the Rondout Creek. Elevated SVOCs in sediment sample S-03 indicate that this is a possibility; however, overall sediment quality in the river is low, suggesting other potential sources. Contaminants detected in test pits TP-38, TP-28 and TP-37 are possibly migrating off-site.

Shallow sediments may have been impacted by historic use of the property. Under the current site configuration, contaminants in shallow soils could be transported off-site by overland flow from precipitation or from dust blowing off the site. Large storm events with flooding could also strip contaminated sediments off the site; however, typically flooding events result in the transport of sediment onto the property.

Based on the location of monitoring well MW-10 and the analytical results, it is likely that petroleum related contamination exists upgradient in that area outside the property boundaries. It is unknown at this time whether the release occurred on the subject property or on the adjacent property; however, the current use of the adjacent properties (bulk oil storage) and the appearance of the impacts suggest that the release did not occur on the L&M property.

5.11 Tidal Assessment

Groundwater level data obtained during the remedial investigation study was used to document whether tidal changes in the Rondout Creek are likely to significantly affect groundwater flow within the shallow unconsolidated aquifer underlying the site and provide information on possible contaminant fate and transport mechanisms.

The tide schedule corresponding to the times that water levels were measured are presented in Figure 5. The tide schedule is available on the Division of Ocean and Climate Physics and XTide Server website, part of the Lamont-Doherty Earth Observatory, the Earth Institute at Columbia University.

Although groundwater in each well shows a different response to tidal changes in the Rondout Creek, the same trends are repeated. Most wells, with the exception of monitoring well MW-02, show a clear response to the rise in surface water levels. Monitoring wells MW-06 and MW-07 show a very slight rise in groundwater levels with the rising tide, while well MW-02 does not show a rise in water levels. Monitoring wells MW-05, MW-08, MW-09 and MW-10 were not gauged in the early part of the day because they were installed during the day on May 4th.

The variations in groundwater level changes with a constant rise in tidal waters can be attributed to many physical features observed at the site. The soil and fill matrices below the surface significantly vary across the horizontal and vertical limits of the site. Areas where fill was not observed have silt, sand and clay layers of varying density and depths. On both the former L&M and former Cornell properties, an abundance of subsurface concrete structures were unearthed that may interfere with groundwater fluctuations. In addition, monitoring wells were installed at varying distances from the shoreline.



Measurements suggest that groundwater over the majority of the subject properties is tidally influenced. This conclusion is supported by smearing and range of staining noted in a number of test pits. The lack of groundwater fluctuations measured in monitoring well MW-02 may be attributed to distance from the Creek, or to subsurface conditions.

6.0 CONCLUSIONS

6.1 Metals-Related Impacts

Soils exhibiting concentrations of metals in exceedance of the commercial SCOs were detected in various locations across the site. Exceedances were limited to the top 3 feet of soil, however the majority of exceedances occurred in the 0 to 1 foot range. The primary metals of concern are arsenic and lead. In one location on the west side of the Cornell property, barium was detected above commercial SCOs.

Only low levels of metals were detected in groundwater. Therefore, it is assumed that the concentrated metals in surficial soils are not leaching to groundwater. No samples were analyzed by TCLP.

6.2 Petroleum-Related Impacts

Data collected during this investigation and the Phase II ESA was used to define the extent of petroleum-related impacts at the site. General zones where impacts were evident include the area adjacent to the Cornell building; along the western side of the parcel separated by the KOSCO parcel; and the area east of the metal L&M building. The estimated boundaries of these areas are shown on Figure 4.

Results show that wells MW-03 had low-level hits of multiple SVOCs, similar to analytical results for samples from wells COR-MW01, -02, -03, -04 and -06 during the Phase II ESA. Based on the proximity of well MW-03 to the creek, it is possible that groundwater impacts extend southward to the creek. The northern extent of the impact likely occurs between test pit TP-04 and well MW-02; no compounds were detected in this well. The western impact boundary may be formed by the foundation of the Cornell building. Data from well COR-MW04 shows that groundwater is impacted in the vicinity of the east side of the building. The east end of the impact is likely to extend to the region of test pit TP-05 as soils in this area continue to have minor SVOC impacts. Detections of MTBE and toluene in well MW-01 may be from a different source area. This well is separated from impacts to the west by three large-diameter buried pipes for the City of Kingston Wastewater Treatment Facility outfall. In addition, MTBE was not detected in any wells west of this physical barrier.

Tentatively identified compounds (TICS) for samples in this area (TP-03, -04, -05 and -06) generally consisted of SVOCs at concentrations ranging from 11 to 3,500 ppb which were identified as associated with petroleum fuels. Sanborn mapping, as provided in Appendix A, shows that this property was covered with buildings at one time. Petroleum impacts in the subsurface could be due to former heating oil leaks or releases associated with the industrial



activity. As discussed in the 2005 Supplemental Groundwater Investigation, a petroleum spill at the Kingston Wastewater Treatment Facility in the early 1990s may be partly responsible.

Soil and groundwater adjacent to the KOSCO property exhibit petroleum-related impacts. Based on observations in the field, a spill was called in to the NYSDEC (Spill No. 0701016). Subsurface impacts are likely to extend onto the KOSCO property to the west and to the north under East Strand Street, based on the location of and degree of impacts observed in test pits TP-28 and TP-38. Based on analytical results for soils in test pit TP-37 and groundwater in well MW-05, it is possible that impacts are migrating via groundwater toward the Rondout Creek. The plume extends eastward at least to test pit TP-29 and the foundation in the center of the parcel. Although heavy impacts were not visually observed at TP-29, analytical results show that a number of SVOCs exceed the commercial SCOS. The compounds detected in historical sample LM-SB16 are similar to recent samples collected. Test pits north and south of the foundation are not impacted, suggesting that impacts are in a triangular-shaped plume with the base of the triangle along the KOSCO fence line. TPH concentrations were detected in test pit TP-32 on the east side of the foundation. This sample was collected from a near-surface depth, and the detected TPH concentration is most likely due to the presence of coal and asphalt in the sample.

According to field observations and analytical results, impacts appear to exist starting at depths greater than 3 feet below ground surface. Furthermore, high concentrations of TICS were detected at depths of 3 to 6 feet in test pits TP-28 and TP-38. At more shallow depths (0 to 1 foot), very few or no TICS were detected. These results indicate that the petroleum release did not originate from the ground surface. It is possible that the release occurred below ground surface on the adjacent KOSCO property, although additional testing on that property would be required to confirm this estimate. The KOSCO property is used for transmission of petroleum products to their storage, processing, and distribution facility across the street. The property contains both aboveground and underground pipelines. The only other use of the property is for boat parking by the Kingston police and the marine unit of the local fire department.

Sanborn mapping identifies the building that existed above the foundation as occupied by David Gill Jr. Lime & Cement Paints from sometime between 1887 and 1899 to sometime after 1957. The 1887 Sanborn map shows the building was used for miscellaneous storage, and both the 1887 and 1899 maps show additional warehouses and sheds for lumber and coal storage were located immediately to the east of the building.

In test pit TP-10 no SVOCs were detected in the 0 to 1 foot interval, suggesting that impacts are only to soils at depth. These petroleum impacts are possibly due to the former UST in this area. A significant number of VOCs and SVOCs were identified as TICS in samples from test pits TP-10, TP-10A and TP-12. The TICS are likely to have originated from petroleum fuels.

Similar to test pit TP-10, impacts in test pits TP-22 and TP-24 are limited to soils at depth. Low levels of methyl-tert-butyl-ether were detected in this area (MW-06 and MW-07), suggesting that a gasoline release occurred at one time. This is consistent with the previous use as an automobile junk yard. Historical data at LM-MW07 (immediately adjacent to well MW-06) shows MTBE in this area as well.



Test pits TP-14, TP-17, TP-18, TP-20 and TP-26 lack evidence of petroleum-related impacts, which shows that limited or no petroleum impacts exist along the Rondout shoreline across this portion of the former L&M property. Data from historical LM-SB10 also had no detections of VOCs. This may be due to a lack of releases in this particular area of the site; however, may also be due to fluctuating groundwater patterns flushing out shoreline subsurface soils with tidal changes.



7.0 REFERENCES

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TABLES

**HISTORIC KINGSTON WATERFRONT #1, LLC
HISTORIC KINGSTON WATERFRONT, L&M, LLC**

TABLE 1
SUMMARY OF HISTORICAL SOIL QUALITY DATA: SOIL BORINGS

FORMER CORNELL STEAMBOAT PROPERTY
94-122 East Strand Street, Kingston, NY

FEBRUARY 2005

PARAMETERS	Site ID	FEBRUARY 2005					SB-09	SB-10	TAGM 4046 Recommended Soil Clean-Up Objective
		F&O Sample #	SB-01	SB-03	SB-04	SB-06			
		Sampling Date	2/10/2005	2/10/2005	2/10/2005	2/10/2005			
Depth (feet)	4-8	8-12	4-8	4-8	4-8	4-8	4-8	4-8	0-4
Metals (mg/kg)									
Arsenic	5.7	---	---	---	---	2.9	1.4	7.5	
Boron	ND<0.1	---	---	---	---	ND<2.7	217	300	
Cadmium	ND<1.3	---	---	---	---	ND<1.3	ND<1.2	1	
Chromium	10.7	---	---	---	---	6.3	16.7	10	
Lead	2.09	---	---	---	---	17.4	21.70	SB (200-500)	
Mercury	0.50	---	---	---	---	0.059	1.4	100	
Selenium	ND<2.5	---	---	---	---	ND<2.6	ND<2.4	2	
Silver	ND<2.5	---	---	---	---	ND<2.6	ND<2.4	SB (0.05)	
EPA Method 8270C - Modified STARS (ug/kg)									
Acenaphthene	---	ND<420	ND<410	ND<390	---	---	---	50,000	
Anthracene	---	ND<420	ND<410	ND<390	---	---	---	50,000	
Benz(a)anthracene	---	100*	ND<410	73*	---	---	---	224	
Benz(a)pyrene	---	ND<420	ND<410	ND<390	---	---	---	61	
Benz(b)fluoranthene	---	ND<420	ND<410	ND<390	---	---	---	1,100	
Benz(g,h,i)perylene	---	ND<420	ND<410	ND<390	---	---	---	50,000	
Benz(k)fluoranthene	---	ND<420	ND<410	ND<390	---	---	---	1,100	
Chrysene	---	180*	ND<410	140*	---	---	---	400	
Di-Benz(a,b)anthracene	---	ND<420	ND<410	ND<390	---	---	---	14	
Fluoranthene	---	ND<420	ND<410	ND<390	---	---	---	50,000	
Fluorene	---	ND<420	ND<410	ND<390	---	---	---	50,000	
Indeno(1,2,3-cd)pyrene	---	ND<420	ND<410	ND<390	---	---	---	3,200	
Naphthalene	---	ND<420	ND<410	ND<390	---	---	---	13,000	
Phenanthrene	---	ND<420	ND<410	ND<390	---	---	---	50,000	
Pyrene	---	190*	ND<410	150*	---	---	---	50,000	
EPA Method 8021B - Modified STARS (ug/kg)									
Benzene	ND<1.2	ND<1.3	ND<1.1	ND<1.2	---	---	60		
Ethylbenzene	ND<1.2	ND<1.3	ND<1.1	ND<1.2	---	---	5,500		
Toluene	ND<1.2	ND<1.3	ND<1.1	ND<1.2	---	---	1,500		
<i>o</i> -Xylene	ND<1.2	ND<1.3	ND<1.1	ND<1.2	---	---	1,200		
<i>m</i> -Xylene	ND<1.2	1.5	0.62*	0.76*	---	---	---		
Naphthalene	ND<1.2	ND<1.3	ND<1.1	1.8	---	---	---		
Methyl-tert-butyl-ether (MTBE)	ND<1.2	ND<1.3	ND<1.1	ND<1.2	---	---	---		
Isopropylbenzene	ND<1.2	0.74*	ND<1.1	ND<1.2	---	---	---		
<i>n</i> -Propylbenzene	ND<1.2	ND<1.3	ND<1.1	ND<1.2	---	---	---		
<i>tert</i> -Butylbenzene	ND<1.2	ND<1.3	ND<1.1	ND<1.2	---	---	---		
<i>sec</i> -Butylbenzene	ND<1.2	ND<1.3	ND<1.1	ND<1.2	---	---	---		
1,3,5-Trimethylbenzene	ND<1.2	ND<1.3	ND<1.1	ND<1.2	---	---	---		
<i>n</i> -Isopropylbenzene	ND<1.2	ND<1.3	ND<1.1	ND<1.2	---	---	---		
1,2,4-Trimethylbenzene	ND<1.2	ND<1.3	0.66	---	---	---	---		
<i>n</i> -Butylbenzene	ND<1.2	3.2	ND<1.1	ND<1.2	---	---	---		

Note:

Results in Bold exceed the TAGM 4046 Soil Clean-Up Guidance Value. Because a TCLP analysis was not completed, guidance values from STARS Memo #1 were not considered.

Multiple compounds do not have a TAGM 4046 Clean-up Guidance Value. Because a TCLP analysis was not completed, guidance values from STARS Memo #1 were not considered.

ND = not detected above reported method detection limit.

SB = Site Background

* Indicates an estimated value. This compound meets the identification criteria, but the result is less than the specified detection limit.

** Average background levels in metropolitan or suburban areas or near highways typically range from 200-500 ppm

TABLE 1
SUMMARY OF HISTORICAL SOIL QUALITY DATA: SOIL BORINGS

L&M (GERHORN) AUTO PARTS
136-198, 208-216, 213-215 East Strand Street, Kingston, NY

APRIL 2005

PARAMETERS	Site ID F&O Sample # Sampling Date Depth (feet)	TAGM 4046 Recommended Soil Clean-Up Objective									
		SB-02			SB-07			SB-10			SB-14
		3/16/2005 0'-8'	3/16/2005 0'-8"	3/16/2005 11'-12"	3/16/2005 0'-8"	3/16/2005 0'-8"	3/16/2005 0'-8"	3/16/2005 0'-8"	3/16/2005 0'-8"	3/16/2005 0'-8"	SB-17
Metals	(mg/kg)										
Arsenic	3.7	3.9	ND<2.3				4				7.5
Barium	ND<1.5	76.1	ND<46.8				46.6				300
Cadmium	ND<1.3	ND<1.2	ND<1.2				1.2				1
Chromium	7.4	10.4	8.1				9.1				10
Lead	83.0	14.0	9.6				9.9				SB (200-500)**
Mercury	ND>0.61	ND>0.032	ND>0.059				0.058				100
Selenium	3.3	3.5	ND<2.3				2.8				2
Silver	ND<2.6	ND<2.3	ND<2.3				ND<2.3				SB (0.05)***
EPA Method 8270C - Modified STARS (ug/kg)											
Acenaphthene	ND<400	ND<380	ND<390				ND<410	93.0**			
Anthracene	ND<430	ND<380	ND<390				ND<400	ND<400			
Benz(a)anthracene	ND<430	ND<400	39.0*				ND<400	ND<400			
Benz(c)aliphaticene	ND<430	ND<400	43.0*	190.0*			250.0*	510			
Benz(D)bifluoranthene	ND<430	ND<400	52.0*	ND<390			53.0*	490			
Benz(o,h)perylene	ND<430	ND<400	ND<380	ND<390			ND<410	710.0			
Benz(s)fluoranthene	ND<430	ND<400	ND<380	ND<390			200.0*	180.0*			
Chrysene	ND<430	ND<400	54.0*	ND<390			ND<410	290.0*			
Dibenz(a,h)anthracene	ND<430	ND<400	ND<380	ND<390			100.0*	530			
Fluoranthene	ND<430	71.0*	50.0*	ND<390			ND<410	156.0*			
Fluorene	ND<430	ND<400	51.0*	ND<390			89.0*	150.0			
Indeno(1,2,3-c,d)pyrene	ND<430	ND<400	ND<380	ND<390			ND<410	74.0*			
Naphthalene	200.0*	ND<400	ND<380	ND<390			720.0	150.0*			
Phenanthrene	54.0*	120.0*	150.0*	ND<390			280.0*	950.0			
Pyrene	ND<430	150.0*	140.0*	ND<390			620.0	1300.0			
EPA Method 8021B - Modified STARS (ug/kg)											
Benzene	ND<2.6	ND<0.0*	1.2*	ND<5.9	ND<270	ND<1.2	ND<290	ND<5.8	ND<1.2	ND<5.6	ND<1.1
Ethylbenzene	ND<2.6	ND<290	ND<1.4	ND<5.9	ND<270	ND<1.2	ND<290	ND<5.8	ND<1.2	ND<5.6	ND<1.1
Toluene	1.6*	ND<290	ND<1.4	ND<5.9	ND<270	ND<1.2	ND<290	ND<5.8	ND<1.2	ND<5.6	ND<1.1
<i>o</i> -Xylene	4.0	600	1.9	ND<5.9	390	ND<1.2	210.0*	ND<5.8	ND<1.2	ND<5.6	ND<1.1
<i>m</i> , <i>p</i> -Xylene	4.2	150.0*	2.4	ND<5.9	ND<270	ND<1.2	440	ND<5.8	ND<1.2	ND<5.6	ND<1.1
Naphthalene	6.0	380	27.0	ND<5.9	16000	ND<1.2	1300	ND<5.8	ND<1.2	ND<5.6	1.9
Methyl-tert-butyl-ether (MTBE)	ND<2.6	ND<290	ND<1.4	ND<5.9	ND<270	ND<1.2	ND<290	ND<5.8	ND<1.2	ND<5.6	ND<1.1
Isopropylbenzene	ND<2.6	400	ND<1.4	ND<5.9	ND<270	ND<1.2	ND<290	ND<5.8	ND<1.2	ND<5.6	ND<1.1
n-Propylbenzene	ND<2.6	ND<290	3.2	ND<5.9	ND<270	ND<1.2	190.0*	ND<5.8	ND<1.2	ND<5.6	ND<1.1
tert-Butylbenzene	ND<2.6	ND<290	ND<1.4	ND<5.9	ND<270	ND<1.2	ND<290	ND<5.8	ND<1.2	ND<5.6	ND<1.1
sec-Butylbenzene	ND<2.6	160.0*	11.0	ND<5.9	ND<270	ND<1.2	270.0*	ND<5.8	ND<1.2	ND<5.6	ND<1.1
1,3,5-Tri methylbenzene	5.0	4400	1.8	ND<5.9	640	ND<1.2	ND<290	ND<5.8	ND<1.2	ND<5.6	ND<1.1
<i>p</i> -Isopropyltoluene	ND<2.6	580	3.0	ND<5.9	280	ND<1.2	ND<290	ND<5.8	ND<1.2	ND<5.6	ND<1.1
1,2,4-Tri methylbenzene	5.9	590	11.0	ND<5.9	900	ND<1.2	470	ND<5.8	ND<1.2	ND<5.6	ND<1.1
<i>n</i> -Butylbenzene	8.0	4500	12.0	ND<5.9	1200	ND<1.2	270.0*	ND<5.8	ND<1.2	ND<5.6	ND<1.1

Notes:

Results In Bold exceed the TAGM 4046 Soil Clean-Up Guidance Value.

Multiple compounds do not have a TAGM 4046 Clean-up Guidance Value. Because a TCLP analysis was not completed, guidance values from STARS Memo #1 were not considered.
ND = not detected above reported method detection limit.

SB = Site Background

* Indicates an estimated value. This compound meets the identification criteria, but the result is less than the specified detection limit.

** Average background levels in metropolitan or suburban areas or near highways typically range from 200-500 ppm

*** Average background level of silver in the U.S. is 0.05 mg/kg, as reported by USGS Professional Paper 1270 (1984), and Lindsay (1979)

TABLE 1
SUMMARY OF HISTORICAL SOIL QUALITY DATA: SOIL BORINGS

L&M (GERHORN) AUTO PARTS
 136-198, 208-216, 213-215 East Strand Street, Kingston, NY

APRIL 2005

PARAMETERS	Site ID	SB-14	TAGM 4046
	F&O Sample #	788050316-09 <th>Recommended Soil</th>	Recommended Soil
	Sampling Date	3/16/2005 <th>Clean-Up Objective</th>	Clean-Up Objective
	Depth	0-8'	
EPA Method 8270C: SVOCs (FULL LIST) ($\mu\text{g}/\text{kg}$)			
Acenaphthene	93*	50000	
Acenaphthylene	ND<380	41000	
Anthracene	140*	50000	
Benzo(a)anthracene	510	224	
Benzo (a) pyrene	490	61	
Benzo (b) fluoranthene	710	1100	
Benzo (g,h,i) perylene	180*	50000	
Benzo (k) fluoranthene	290*	1100	
Benzyl alcohol	ND<380	—	
bis (2-chloroethoxy) methane	ND<380	—	
bis (2-chloroethyl) ether	ND<380	—	
bis (2-ethylhexyl) phthalate	ND<380	50000	
4-Bromophenyl phenyl ether	ND<380	—	
Butylbenzylphthalate	ND<380	50000	
Chrysene	530	400	
4-Chloroaniline	ND<380	220	
4-Chloro-3-methyphenol	ND<380	240	
2-Chloronaphthalene	ND<380	—	
4-Chlorophenyl phenyl ether	ND<380	—	
2-Chlorophenol	ND<380	800	
Dibenzofuran	61*	620	
Dibenzo(a,h)anthracene	66*	14	
1,3-Dichlorobenzene	ND<380	—	
1,4-Dichlorobenzene	ND<380	—	
1,2-Dichlorobenzene	ND<380	—	
3,3-Dichlorobenzidine	ND<380	—	
2,4-Dichlorophenol	ND<380	400	
2,4-Dimethylphenol	ND<380	—	
4,6-Dinitro-2-methylphenol	ND<940	—	
2,4-Dinitrophenol	ND<940	200	
2,4-Dinitrotoluene	ND<380	—	
2,6-Dinitrotoluene	ND<380	1000	
Diethylphthalate	ND<380	7100	
Dimethyl phthalate	ND<380	2000	
Di-n-butyl phthalate	ND<380	8100	
Di-n-octyl phthalate	ND<380	50000	
Fluoranthene	1500	50000	
Fluorene	57*	50000	
Hexachlorobenzene	ND<380	410	
Hexachlorobutadiene	ND<380	—	
Hexachlorocyclopentadiene	ND<380	—	
Hexachloroethane	ND<380	—	
Indeno (1,2,3-cd)pyrene	150*	3200	
Isophorone	ND<380	4400	
2-methylnaphthalene	76*	36400	
2-Methylphenol	ND<380	100	
4-Methylphenol	ND<380	900	
Naphthalene	120*	13000	
Nitrobenzene	ND<380	200	
2-Nitroaniline	ND<940	430	
2-Nitrophenol	ND<380	330	
4-Nitrophenol	ND<940	100	
3-Nitroaniline	ND<940	500	
4-Nitroaniline	ND<940	—	
n-Nitrosodimethylamine	ND<380	—	
n-Nitrosodiphenylamine	ND<380	—	
n-Nitroso-di-n-propylamine	ND<380	—	
2,2-oxybis	ND<380	—	
Pentachlorophenol	ND<940	1000	
Phenanthrene	950	50000	
Phenol	ND<380	30	
Pyrene	1300	50000	
1,2,4-Trichlorobenzene	ND<380	—	
2,4,6-Trichlorophenol	ND<380	100	
2,4,5-Trichlorophenol	ND<940	—	

Notes:

Results in bold exceed the TAGM 4046 Recommended Soil Clean-up Guidance Value.

ND = not detected above reported method detection limit.

* Indicates an estimated value. This compound meets the identification criteria, but the result is less than the specified detection limit.

Multiple compounds do not have a TAGM 4046 Clean-up Guidance Value. Because a TCLP analysis was not completed, guidance values from STARS Memo #1 were not considered.

TABLE 1
SUMMARY OF HISTORICAL SOIL QUALITY DATA: SOIL BORINGS

L&M (GERHORN) AUTO PARTS
136-198, 208-216, 213-215 East Strand Street, Kingston, NY

APRIL 2005

PARAMETERS	Site ID	SB-14	TAGM 4046
	F&O Sample #	788050316-09 <th>Recommended Soil</th>	Recommended Soil
	Sampling Date	3/16/2005	Clean-Up Objective
	Depth	0-8'	
EPA Method 8021B: VOCs (FULL LIST) (ug/kg)			
Bromobenzene	ND<5.8	—	
Bromodichloromethane	ND<5.8	—	
Bromoform	ND<5.8	—	
Bromomethane	ND<5.8	—	
n-Butylbenzene	ND<5.8	—	
Carbon Tetrachloride	ND<5.8	600	
Chlorobenzene	ND<5.8	1700	
Chloroethane	ND<5.8	1900	
Chloroform	ND<5.8	300	
Chloromethane	ND<5.8	—	
2-Chlorotoluene	ND<5.8	—	
4-Chlorotoluene	ND<5.8	—	
Dibromochloromethane	ND<5.8	—	
1,2-Dibromo-3-chloropropane	ND<5.8	—	
1,2-Dibromoethane (EDB)	ND<5.8	—	
Dibromomethane	ND<5.8	—	
1,2-Dichlorobenzene	ND<5.8	7900	
1,3-Dichlorobenzene	ND<5.8	1600	
1,4-Dichlorobenzene	ND<5.8	8500	
Dichlorodifluoromethane	ND<5.8	—	
1,1-Dichloroethane	ND<5.8	200	
1,2-Dichloroethane	ND<5.8	100	
1,1-Dichloroethene	ND<5.8	400	
1,2-Dichloroethene (cis)	ND<5.8	—	
1,2-Dichloroethene (trans)	ND<5.8	300	
1,1-Dichloropropene	ND<5.8	—	
1,3-dichloropropene (cis)	ND<5.8	—	
1,3-dichloropropene (trans)	ND<5.8	—	
1,2-dichloropropane	ND<5.8	—	
1,3-dichloropropane	ND<5.8	300	
2,2-dichloropropane	ND<5.8	—	
Ethylbenzene	ND<5.8	5,500	
1,1,2 Trichloro-1,2,2 Trifluoroethane (113 Freon)	ND<5.8	6000	
Hexachlorobutadiene	ND<5.8	—	
Methylene chloride	ND<5.8	100	
Styrene	ND<5.8	—	
Tetrachloroethene	ND<5.8	1400	
1,1,1-Trichloroethane	ND<5.8	800	
1,1,2-Trichloroethane	ND<5.8	—	
1,1,1,2-Tetrachloroethane	ND<5.8	—	
1,1,2,2-Tetrachloroethane	ND<5.8	600	
1,2,3-trichloropropane	ND<5.8	400	
1,2,3-Trichlorobenzene	ND<5.8	—	
1,2,4-trichlorobenzene	ND<5.8	3400	
Toluene	ND<5.8	1,500	
Trichloroethene	ND<5.8	700	
Trichlorofluoromethane	ND<5.8	—	
Vinyl chloride	ND<5.8	200	
o-Xylene	ND<5.8	—	
m/p-Xylene	ND<5.8	1,200	
Naphthalene	ND<5.8	—	
Methyl-tert-butyl-ether (MTBE)	ND<5.8	—	
Isopropylbenzene	ND<5.8	—	
n-Propylbenzene	ND<5.8	—	
tert-Butylbenzene	ND<5.8	—	
sec-Butylbenzene	ND<5.8	—	
1,3,5-Trimethylbenzene	ND<5.8	—	
p-Isopropyltoluene	ND<5.8	—	
1,2,4-Trimethylbenzene	ND<5.8	—	
Benzene	ND<5.8	60	

Notes:

Results in bold exceed the TAGM 4046 Recommended Soil Cleanup Guidance Value.

ND = not detected above reported method detection limit.

Multiple compounds do not have a TAGM 4046 Clean-up Guidance Value. Because a TCLP analysis was not completed, guidance values from STARS Memo #1 were not considered.

TABLE I
SUMMARY OF HISTORICAL SOIL QUALITY DATA: SURFACE SAMPLES
L&M (GERHORN) AUTO PARTS
136-198, 208-216, 213-215 East Strand Street, Kingston, NY

APRIL 2005

PARAMETERS	Site ID	Site 1D	SS1	SS2	SS3	SS4	SS5	SS6	TAGM 4046
		F&O Sample #	788050317-05	788050317-06	788050317-07	788050317-08	788050317-09	788050317-10	Recommended Soil
	Sampling Depth	3/17/2005	3/17/2005	3/17/2005	3/17/2005	3/17/2005	3/17/2005	3/17/2005	Clean-Up Objective (ppm)
Metals	(mg/kg)								
Antimony		10.2	4	6.1	7.7	8.4	12.7	7.5	
Barium		139.0	120.0	147.0	67.7	61.0	89.6	300	
Cadmium		1.1	1.8	7.6	1.6	ND<1.1	ND<1.0	1	
Chromium		31.3	37.4	15.9	11.5	7.7	24.3	10	
Lead		400.0	377.0	130.0	122.0	72.8	381.0	SB (200-500) **	
Mercury		ND<0.052	ND<0.054	ND<0.053	ND<0.054	ND<0.050	ND<0.059	100	
Selenium		3.6	9.1	4.8	ND>2.4	ND>2.1	12.6	2	
Silver		ND<2.1	ND<2.2	ND<2.3	ND<2.4	ND<2.1	ND<2.8	SB (0.05) ***	
EPA Method 8270C - Modified STARS	(ug/kg)								
Acamphathene		ND>3500	ND>400	ND>7000	ND>3000	ND>350	ND>600	50,000	
Anthracene		ND>3500	ND>400	ND>7000	ND>350	ND>350	ND>600	50,000	
Benzo(a)anthracene		ND>3500	ND>400	ND>7000	46*	160*	180*	224	
Benzo(a)pyrene		ND>3500	ND>400	ND>7000	ND>3000	ND>350	200*	61	
Benzo(b)fluoranthene		ND>3500	ND>400	ND>7000	ND>3000	ND>350	310*	1,100	
Benzo(g,h,i)perylene		ND>3500	ND>400	ND>7000	ND>3000	ND>350	320*	50,000	
Benzo(k)fluoranthene		ND>3500	ND>400	ND>7000	ND>3000	ND>350	140*	1,100	
Chrysene		ND>3500	ND>400	ND>7000	54*	87*	260*	400	
Dibenz(a,h)anthracene		ND>3500	ND>400	ND>7000	ND>3000	ND>350	ND>600	14	
Fluoranthene		ND>3500	ND>400	ND>7000	ND>3000	ND>350	290*	50,000	
Fluorene		ND>3500	ND>400	ND>7000	ND>3000	ND>350	ND>600	50,000	
Indeno(1,2,3-cd)pyrene		ND>3500	ND>400	ND>7000	ND>3000	ND>350	220*	3,200	
Naphthalene		ND>3500	1400*	ND>7000	8400	52*	62*	13,000	
Phenanthrene		ND>3500	ND>400	ND>7000	920*	ND>350	180*	50,000	
Pyrene		1300*	1300*	5700*	2400*	1500	1100	50,000	
EPA Method 8021B - Modified STARS	(ug/kg)								
Benzene						ND<3	ND<3	60	
Ethylbenzene						ND<3	ND<3	5,500	
Toluene						ND<3	ND<3	1,500	
c-Xylene						ND<3	ND<3	1,200	
m,p-Xylene						ND<3	ND<3		
Naphthalene						17	1.9	--	
Methyl-tert-butyl-ether (MTBE)						ND<3	ND<3	--	
Isopropylbenzene						2.9*	ND<3	--	
n-Propylbenzene						ND<3	ND<3	--	
tert-Butylbenzene						ND<3	ND<3	--	
sec-Butylbenzene						14	ND<3	--	
1,3,5-Trimethylbenzene						8.1	ND<3	--	
p-Temocymolane						4.7*	ND<3	--	
1,2,4-Trimethylbenzene						13	ND<3	--	
t-Butylbenzene						75	ND<3	--	

Notes:

Multiple compounds do not have a TAGM 4046 Clean-up Guidance Value. Because a TCLP analysis was not completed, guidance values from STARS Memo #1 were not considered.

ND = not detected above reported method detection limit.

SB = Site Background

* Indicates an estimated value.

** Average background levels in metropolitan or suburban areas on near highways typically range from 200-500 ppm.

*** Average background level of silver in the U.S. is 0.05 mg/kg, as reported by USGS Professional Paper 1270 (1984), and Lindsay (1979)

TABLE 1
SUMMARY OF HISTORICAL SOIL QUALITY DATA: SURFACE SAMPLES

L&M (GERHORN) AUTO PARTS
 136-198, 208-216, 213-215 East Strand Street, Kingston, NY

APRIL 2005

PARAMETERS	Site ID	SS5	TAGM 4046
	F&O Sample #	788050317-09	Recommended Soil
	Sampling Date	3/17/2005	Clean-Up Objective
	Depth	1-2 in.	
EPA Method 8021B: VOCs (FULL LIST) (ug/kg)			
Bromobenzene	ND<5.3	—	
Bromodichloromethane	ND<5.3	—	
Bromoform	ND<5.3	—	
Bromomethane	ND<5.3	—	
n-Butylbenzene	75	—	
Carbon Tetrachloride	ND<5.3	600	
Chlorobenzene	ND<5.3	1700	
Chloroethane	ND<5.3	1900	
Chloroform	ND<5.3	300	
Chloromethane	ND<5.3	—	
2-Chlorotoluene	ND<5.3	—	
4-Chlorotoluene	ND<5.3	—	
Dibromochloromethane	ND<5.3	—	
1,2-Dibromo-3-chloropropane	ND<5.3	—	
1,2-Dibromoethane (EDB)	ND<5.3	—	
Dibromomethane	ND<5.3	—	
1,2-Dichlorobenzene	ND<5.3	7900	
1,3-Dichlorobenzene	ND<5.3	1600	
1,4-Dichlorobenzene	ND<5.3	8500	
Dichlorodifluoromethane	ND<5.3	—	
1,1-Dichloroethane	ND<5.3	200	
1,2-Dichloroethane	ND<5.3	100	
1,1-Dichloroethene	ND<5.3	400	
1,2-Dichloroethene (cis)	ND<5.3	—	
1,2-Dichloroethene (trans)	ND<5.3	300	
1,1-Dichloropropene		—	
1,3-dichloropropene (cis)	ND<5.3	—	
1,3-dichloropropene (trans)	ND<5.3	—	
1,2-dichloropropene	ND<5.3	—	
1,3-dichloropropane	ND<5.3	300	
2,2-dichloropropene	ND<5.3	—	
Ethylbenzene	ND<5.3	5,500	
113 Freon (1,1,2 Trichloro-1,2,2 Trifluoroethane)		6000	
Hexachlorobutadiene	ND<5.3	—	
Methylene chloride	ND<5.3	100	
Styrene	ND<5.3	—	
Tetrachloroethene	ND<5.3	1400	
1,1,1-Trichloroethane	ND<5.3	800	
1,1,2-Trichloroethane	ND<5.3	—	
1,1,1,2-Tetrachloroethane	ND<5.3	—	
1,1,2,2-Tetrachloroethane	ND<5.3	600	
1,2,3-trichloropropane	ND<5.3	400	
1,2,3-Trichlorobenzene	ND<5.3	—	
1,2,4-trichlorobenzene	ND<5.3	3400	
Toluene	ND<5.3	1,500	
Trichloroethene	ND<5.3	700	
Trichlorofluoromethane	ND<5.3	—	
Vinyl chloride	ND<5.3	200	
o-Xylene	ND<5.3	—	
m/p-Xylene	ND<5.3	1,200	
Naphthalene	17	—	
Methyl-tert-butyl-ether (MTBE)	2.9*	—	
isopropylbenzene		—	
n-Propylbenzene	12	—	
tert-Butylbenzene	ND<5.3	—	
sec-Butylbenzene	14	—	
1,3,5-Trimethylbenzene	8.1	—	
p-Isopropyltoluene	4.7*	—	
1,2,4-Trimethylbenzene	13	—	
Benzene	ND<5.3	60	

Notes:

Results in bold exceed the TAGM 4046 Recommended Soil Cleanup Guidance Value.

Multiple compounds do not have a TAGM 4046 Clean-up Guidance Value. Because a TCLP analysis was not completed, guidance values from STARS Memo #1 were not considered.

ND = not detected above reported method detection limit.

* Indicates an estimated value. This compound meets the identification criteria, but the result is less than the specified detection limit.

TABLE 1
SUMMARY OF HISTORICAL SOIL QUALITY DATA: SURFACE SAMPLES

L&M (GERHORN) AUTO PARTS
136-198, 208-216, 213-215 East Strand Street, Kingston, NY

APRIL 2005

PARAMETERS	Site ID	SS5	TAGM 4046
	F&O Sample #	788050317-09	Recommended Soil
	Sampling Date	3/17/2005	Clean-Up Objective
	Depth	1-2 in.	
EPA Method 8270C: SVOCs (FULL LIST) (ug/kg)			
Acenaphthene	ND<350	50000	
Acenaphthylene	ND<350	41000	
Anthracene	ND<350	50000	
Benz(a)anthracene	160*	224	
Benzo (a) pyrene	ND<350	61	
Benzo (b) fluoranthene	ND<350	1100	
Benzo (g,h,i) perylene	ND<350	50000	
Benzo (k) fluoranthene	ND<350	1100	
Benzyl alcohol	ND<350	—	
bis (2-chloroethoxy) methane	ND<350	—	
bis (2-chloroethyl) ether	ND<350	—	
bis (2-ethylhexyl) phthalate	1600	50000	
4-Bromophenyl phenyl ether	ND<350	—	
Butylbenzylphthalate	ND<350	50000	
Chrysene	87*	400	
4-Chloroaniline	ND<350	220	
4-Chloro-3-methylphenol	ND<350	240	
2-Chloronaphthalene	ND<350	—	
4-Chlorophenyl phenyl ether	ND<350	—	
2-Chlorophenol	ND<350	800	
Dibenzofuran	ND<350	620	
Dibenzo(a,h)anthracene	ND<350	14	
1,3-Dichlorobenzene	ND<350	—	
1,4-Dichlorobenzene	ND<350	—	
1,2-Dichlorobenzene	ND<350	—	
3,3-Dichlorobenzidine	ND<350	—	
2,4-Dichlorophenol	ND<350	400	
2,4-Dimethylphenol	ND<350	—	
4,6-Dinitro-2-methylphenol	ND<870	—	
2,4-Dinitrophenol	ND<870	200	
2,4-Dimrotoluene	ND<350	—	
2,6-Dimrotoluene	ND<350	1000	
Diethylphthalate	ND<350	7100	
Dimethyl phthalate	ND<350	2000	
Di-n-butyl phthalate	ND<350	8100	
Di-n-octyl phthalate	ND<350	50000	
Fluoranthene	ND<350	50000	
Fluorene	ND<350	50000	
Hexachlorobenzene	ND<350	410	
Hexachlorobutadiene	ND<350	—	
Hexachlorocyclopentadiene	ND<350	—	
Hexachloroethane	ND<350	—	
Indeno (1,2,3-cd)pyrene	ND<350	3200	
Isophorone	ND<350	4400	
2-methylnaphthalene	120*	36400	
2-Methylphenol	ND<350	100	
4-Methylphenol	100*	900	
Naphthalene	52*	13000	
Nitrobenzene	ND<350	200	
2-Nitroaniline	ND<870	430	
2-Nitrophenol	ND<350	330	
4-Nitrophenol	ND<870	100	
3-Nitroaniline	ND<870	500	
4-Nitroaniline	ND<870	—	
n-Nitrosodimethylamine	ND<350	—	
m-Nitrosodiphenylamine	ND<350	—	
n-Nitroso-di-n-propylamine	ND<350	—	
2,2-oxybis	ND<350	—	
Pentachlorophenol	ND<870	1000	
Phenanthrene	ND<350	50000	
Phenol	ND<350	30	
Pyrene	1500	50000	
1,2,4-Trichlorobenzene	ND<350	—	
2,4,6-Trichlorophenol	ND<350	100	
2,4,5-Trichlorophenol	ND<870	—	

Notes:

Results in bold exceed the TAGM 4046 Recommended Soil Cleanup Guidance Value.

Multiple compounds do not have a TAGM 4046 Clean-up Guidance Value. Because a TCLP analysis was not completed, guidance values from STARS Memo #1 were not considered.

ND = not detected above reported method detection limit.

* Indicates an estimated value. This compound meets the identification criteria, but the result is less than the specified detection limit.

* Indicates an estimated value. This compound meets the detection criteria, but the result is less than the specified detection limit.

NR = Not Regulated by the Principal Organic Contaminant (POC) Groundwater Standard according to TOGS 1.1.1.

ND = not detected above reported method detection limit.

Notes:

PARAMETERS	Site ID	MW-5	MW-1	MW-4	MW-2	MW-3	MW-6	TOGS 1.1.1	Ambient GW Quality	Sampling Date	F&O Sample #	3/31/2005	3/31/2005	3/31/2005	3/31/2005	3/31/2005	Guidance Values
		TOGS 1.1.1	TOGS 1.1.1	TOGS 1.1.1	767050331-	767050331-	767050331-	767050331-	767050331-								
EPA Method 8270C: SVOCs (ug/L)																	
Acenaphthene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Acenaphthylene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Anthracene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Benzene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Benzene (a) Pyrene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Benzene (b) Fluoranthene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Benzene (g,h,j) Pyrene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Biphenylphthalate		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Chrysene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Dibenzofuran		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Dibenzo(a,h)anthracene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Diethylphthalate		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Dimethylphthalate		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Di-n-octyl phthalate		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Fluoranthene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Fluorene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Heptachlorobenzene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Indeno (1,2,3-cd)pyrene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Isophoron		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
2-methylnaphthalene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Naphthalene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Nitrobenzene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Nitroaniline		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
2-Nitroaniline		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Nitrobenzene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Phenanthrene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Phenol		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Phenanthrophenol		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Phenanthrene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Pheophytin		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
Pyrene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
2,4,5-Trichlorophenol		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
2,4-Dichlorophenol		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
2,4-Dimethylphenol		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
2,4-Dichlorobenzene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
2,6-Dinitrotoluene		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
2,4-Dimethylphenol		ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]	ND [*]								
2,4-Dimethoxybenzene		ND<sup															

TABLE 2
SUMMARY OF HISTORICAL GROUNDWATER QUALITY DATA
L&M (GERHORN) AUTO PARTS
136-198, 208-216, 213-215 East Strand Street, Kingston, NY

PARAMETERS	APRIL 2005						TOGS 1.1.1 Ambient GW Quality Guidance Values
	EPA Method 8270C - Modified STARS	Site ID	SB-03	SB-04	SB-07	SB-16	
		F&O Sample #	788050316-01	788050317-01	788050317-03	788050317-03	
Sampling Date			3/16/2005	3/17/2005	3/17/2005	3/17/2005	
	(μ g/L)						
Acenaphthene							
Anthracene			ND<11	ND<11	ND<11	ND<11	20
Benz(a)anthracene			ND<11	ND<11	ND<11	ND<11	50
Benz(a)pyrene			ND<11	ND<11	ND<11	ND<11	0.002
Benz(b)fluoranthene			ND<11	ND<11	ND<11	ND<11	NR (std = ND)
Benz(g,h,i)perylene			ND<11	ND<11	ND<11	ND<11	0.002
Benz(k)fluoranthene			ND<11	ND<11	ND<11	ND<11	NR
Chrysene			ND<11	ND<11	ND<11	ND<11	0.002
Dibenz(a,h)anthracene			ND<11	ND<11	ND<11	ND<11	NR
Fluoranthene			ND<11	ND<11	ND<11	ND<11	50
Fluorene			ND<11	ND<11	ND<11	ND<11	50
Indeno(1,2,3-cd)pyrene			ND<11	ND<11	ND<11	ND<11	0.002
Naphthalene			ND<11	ND<11	ND<11	ND<11	10
Phenanthrene			ND<11	ND<11	ND<11	ND<11	50
Pyrene			6.2*	ND<11	ND<11	ND<11	50
 EPA Method 8021B - Modified STARS							
Benzene	(μ g/L)	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	NR (std = 1)
Ethylbenzene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5
Toluene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5
o-Xylene		0.95*	0.62*	1.9	1.9	ND<1.0	5
m,p-Xylene		0.97*	0.75*	1.8	0.65*	ND<1.0	10
Naphthalene		ND<1.0	2.7	0.75*	ND<1.0	ND<1.0	NR (std = 1)
Neethyl-tert-butyl-ether (MTBE)		1.1	ND<1.0	ND<1.0	ND<1.0	ND<1.0	10
Tripropylbenzene		ND<1.0	0.68*	ND<1.0	ND<1.0	ND<1.0	5
tert-Propylbenzene		ND<1.0	0.68*	ND<1.0	ND<1.0	ND<1.0	5
sec-Butylbenzene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5
1,3,5-Trimethylbenzene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5
Propriophyltoluene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5
1,2,4-Trimethylbenzene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5
p-Butylbenzene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5

Notes:

Results in Bold exceed TOGS 1.1.1 Groundwater Clean-Up Guidance Value.

ND = not detected above reported method detection limit.

NR = Not Regulated by the Principal Organic Contaminant (POC) Groundwater Standard according to TOGS 1.1.1.

* Indicates an estimated value. This compound meets the identification criteria, but the result is less than the specified detection limit.

TABLE 3
SUMMARY OF HISTORICAL SEDIMENT QUALITY DATA

L&M (GERHORN) AUTO PARTS
136-198, 208-216, 213-215 East Strand Street, Kingston, NY

APRIL 2005

PARAMETERS	Site ID	RS1
	F&O Sample #	788050317-15
	Sampling Date	3/17/2005
	Depth (feet)	0-3 in.
Metals (mg/kg)		
Arsenic		13.2
Barium		52
Cadmium		ND<1.2
Chromium		16.4
Lead		119
Mercury		0.054
Selenium		5.7
Silver		ND<2.4
EPA Method 8270C - Modified STARS ($\mu\text{g}/\text{kg}$)		
Acenaphthene		ND<390
Anthracene		90*
Benzo(a)anthracene		240*
Benzo(a)pyrene		260*
Benzo(b)flouranthene		350*
Benzo(g,h,i)perylene		160*
Benzo(k)flouranthene		170*
Chrysene		280*
Dibenzo(a,h)anthracene		53*
Flouranthene		ND<390
Flourene		310*
Indeno(1,2,3-cd)pyrene		160*
Naphthalene		ND<390
Phenanthrene		420
Pyrene		1300

Notes:

ND = not detected above reported method detection limit.

SB = Site Background

* Indicates an estimated value. This compound meets the identification criteria, but the result is less than the specified detection limit.

TABLE 4:
SUMMARY OF SOIL ANALYTICAL RESULTS
RCRA8 METALS, mg/kg

		Arsenic (ppm)	Barium (ppm)	Cadmium (ppm)	Chromium m (ppm)	Lead (ppm)	Mercury (ppm)	Selenium (ppm)	Silver (ppm)
Residential Soil Cleanup Objectives	16	400	4.3	180	400	0.81	180	180	
Commercial Soil Cleanup Objectives	16	400	9.3	1500	1000	2.8	1500	1500	
Sample ID	Location								
767070426-02	TP-01 (1-3)	14.5	455	ND < 0.592	12.2	3720	1.64	2.46	ND < 1.18
767070426-03	TP-04 (0-1)	183	140	ND < 0.649	21	718	0.652	14.8	ND < 1.3
767070425-28	TP-05 (0-1)	1.18	2.35	ND < 0.588	1.18	0.588 *NE	0.0353	ND < 1.18	ND < 1.18
767070425-30	TP-06 (0-1)	16.2	150	ND < 0.566	12	924	0.607	3.26	ND < 1.13
767070425-31	TP-06 (0-1)	9.85	105	ND < 0.579	10	356	0.991	2.27	ND < 1.16
767070426-09	TP-08 (3-6)	2.72	23.5	ND < 0.629	8.81	21.6	ND < 0.0419	1.81	ND < 1.26
767070426-10	TP-10 (0-1)	37.3	78.4	ND < 0.59	9.36	633	0.285	8.35	ND < 1.18
767070426-11	TP-10 (1-3)	19.1	78.9	ND < 0.582	9.14	247	0.141	5.25	ND < 1.16
767070426-13	TP-12 (0-1)	9.86	152	0.601	10.6	185	0.751	1.91	ND < 1.17
767070426-15	TP-13 (0-1)	9.58	68.3	1.14	14.7	172	0.294	1.36	ND < 1.17
767070426-16	TP-13 (1-3)	17.8	91.6	ND > 0.615	18.7	234	0.226	3.17	ND > 1.23
767070425-19	TP-16 (3-6)	12.8	312	0.801	13	129	0.627	ND > 1.53	ND > 1.53
767070425-21	TP-17 (0-1)	4.25	61.7	1.46	15.1	338	0.208	1.22	ND > 1.08
767070425-14	TP-19 (0-1)	9.86	99.1	4.04	22.4	400	0.172	ND > 1.13	1.6
767070425-07	TP-21 (0-1)	8.03	61.8	0.712	13.6	115	0.038	2.31	ND > 1.14
767070425-05	TP-23 (0-1)	7.99	122	4.42	24.2	466	0.0734	ND < 1.05	ND < 1.05
767070425-04	TP-24 (3-6)	2.38	79.5	ND < 0.644	5.89	29.3	ND < 0.0429	ND < 1.29	ND < 1.29
767070424-01	TP-26 (0-1)	10.9	85.7	0.847	16.3	78.6 *NE	0.0915	ND < 1.09	ND < 1.09
767070424-09	TP-29 (0-1)	12.7	338	6.5	114	2680	ND < 0.0366	ND < 1.2	ND < 1.2
767070424-11	TP-29 (0-1)	9.81	323	7.6	159	2350	0.164	1.86	ND < 1.17
767070424-05	TP-32 (0-1)	9.67	69.5	0.932	12.6	208 *NE	0.0342	ND < 1.04	ND < 1.04
767070424-04	TP-33 (3-6)	4.21	66.9	ND < 0.54	10.9	6.77 *NE	ND < 0.04	ND < 1.14	ND < 1.14
767070425-01	TP-35 (0-1)	8.13	128	0.85	16.1	399	0.586	2.34	ND < 1.24

Notes:

1. ND = Not detected above the specified reporting limit.
2. mg/kg = milligrams per kilogram, or parts per million (ppm)
3. For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the DEC and DOH rural soil survey, the rural soil background concentration is used as the Track 1 (unrestricted) or Track 2 (restricted) SCO value for this use of the
4. The SCO for chromium is considered to be met if the analysis for the total species, Cr(III) and Cr(VI), is below the specific SCO.
5. This SCO is the lower of the values for mercury (elemental).

 Shading indicates a result that exceeds Commercial Soil Cleanup Objectives

 Shading indicates a result that exceeds Residential Soil Cleanup Objectives

Indicates a duplicate sample

TABLE 4:
SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANICS, µg/kg

Analyte (µg/kg)	Sample ID	7/6/07/04/26-02	7/6/07/04/26-03	7/6/07/04/26-04	7/6/07/04/25-29	7/6/07/04/25-32	7/6/07/04/25-33	7/6/07/04/26-08	7/6/07/04/25-26	7/6/07/04/26-11	Restraint Residential Soil Cleanup Objectives	Commercial Part 375-6 Soil Cleanup Objectives (µg/kg)
Date	Date	4/26/2007	4/26/2007	4/26/2007	4/25/2007	4/25/2007	4/25/2007	4/26/2007	4/25/2007	4/26/2007	Part 375-6 Soil Cleanup Objectives (µg/kg)	
Location	TP-01 (1.3')	TP-04 (0.1')	TP-04 (3.6')	TP-05 (3-6')	TP-05 (1.3')	TP-06 (1-3')	TP-06 (1.3')	TP-08 (1-3')	TP-08 (0-1')	TP-10 (1.3')	TP-10 (1.3')	
1,1,1-Trichloroethane	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	100,000 *	500,000 *	
1,1,2,2-Tetrachloroethane	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	N/A	N/A	
1,1,2-Trichloroethane	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	N/A	N/A	
1,1-Dichloroethane	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	2600	240000	
1,1-Dichloroethene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	100,000 *	500,000 *	
1,2-Dichloroethane	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	3100	30000	
1,2-Dichloropropane	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	N/A	N/A	
2-Butalone (MEK)	ND < 12	ND < 13	ND < 13	ND < 13	ND < 13	ND < 12	ND < 12	ND < 11	ND < 11	ND < 12	100,000 *	
2-Hexanone	ND < 12	ND < 13	ND < 13	ND < 13	ND < 13	ND < 12	ND < 12	ND < 11	ND < 11	N/A	N/A	
4-Methyl-2-pentanone	ND < 12	ND < 13	ND < 13	ND < 13	ND < 12	ND < 12	ND < 11	ND < 11	ND < 12	N/A	N/A	
Acetone	49 B	62B	ND < 25	64 B	41 B	36 B	ND < 23	3.5 B	ND < 23	100,000 *	500,000 *	
Benzene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	4800	44000	
Bromo-dichloromethane	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	N/A	N/A	
Bromoform	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	N/A	N/A	
Bromonethane	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 6.4	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	N/A	N/A	
Carbon Disulfide	ND < 12	ND < 13	ND < 13	ND < 13	ND < 12	ND < 12	ND < 11	ND < 11	ND < 12	N/A	N/A	
Carbon tetrachloride	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	2400	220000	
Chlorobenzene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	100,000 *	500,000 *	
Chloroethane	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	N/A	N/A	
Chloroform	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	49000	350000	
Chloromethane	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	N/A	N/A	
cis-1,2-Dichloroethene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	100,000 *	500,000 *	
cis-1,3-Dichloropropene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	N/A	N/A	
Dibromochloromethane	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	N/A	N/A	
Ethylbenzene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	41000	390000	
m,p-Xylene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	100,000 *	500,000 *	
Methylene chloride	ND < 24	ND < 26	ND < 25	ND < 26	ND < 23	100,000 *	500,000 *					
Methyl tert-butyl ether (MTBE)	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	100,000 *	500,000 *	
o-Xylene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	100,000 *	500,000 *	
Styrene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	N/A	N/A	
Tetrachloroethene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	19000	150000	
Toluene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	100,000 *	500,000 *	
trans-1,2-Dichloroethene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	100,000 *	500,000 *	
trans-,3-Dichloropropene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	N/A	N/A	
Trichloroethene	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	21000	200000	
Vinyl Chloride (VC)	ND < 5.9	ND < 6.5	ND < 6.3	ND < 6.4	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.6	ND < 5.8	900	13000	

TABLE 4:
SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANICS, µg/kg

Analyte (µg/kg)	Sample ID	7/6/07/0426-14	7/6/07/0426-16	7/6/07/0425-24	7/6/07/0425-18	7/6/07/0425-15	7/6/07/0425-12	7/6/07/0425-13	7/6/07/0425-05	7/6/07/0424-16	Restricted Residential Soil Cleanup Objectives (µg/kg)	Commercial Part 375-6 Soil Cleanup Objectives (µg/kg)
	Date	4/26/2007	4/26/2007	4/25/2007	4/25/2007	4/25/2007	4/25/2007	4/25/2007	4/25/2007	4/24/2007	Part 375-6 Soil Cleanup Objectives (µg/kg)	Commercial Part 375-6 Soil Cleanup Objectives (µg/kg)
1,1,1-Trichloroethane	TP-12 (1-3)	TP-13 (1-3)	TP-14 (0-1)	TP-16 (1-3)	TP-19 (1-3)	TP-22 (1-3)	TP-22 (1-3)	TP-23 (0-1)	TP-25 (0-1)	100,000 *	500,000 *	N/A
1,1,2,2-Tetrachloroethane	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	N/A
1,1,2-Trichloroethane	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	N/A
1,1-Dichloroethane	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	240000
1,1-Dichloroethene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	500,000 *
1,2-Dichloroethane	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	3100
1,2-Dichloropropane	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	N/A
2-Buonone (MEK)	ND < 53	ND < 12	ND < 11	ND < 12	ND < 12	ND < 12	ND < 12	ND < 11	ND < 11	ND < 11	ND < 11	100,000 *
2-Hexanone	ND < 53	ND < 12	ND < 11	ND < 12	ND < 12	ND < 12	ND < 12	ND < 11	ND < 11	ND < 11	ND < 11	N/A
4-Methyl-2-pentanone	ND < 53	ND < 12	ND < 11	ND < 12	ND < 12	ND < 12	ND < 12	ND < 11	ND < 11	ND < 11	ND < 11	N/A
Acetone	ND < 110	ND < 25	2.9 [B]	33 B	44 B	3.9 [B]	36 B	45 B	37 B	100,000 *	500,000 *	N/A
Benzene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	44000
Bromodichloromethane	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	N/A
Bromoform	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	N/A
Bromomethane	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	N/A
Carbon Disulfide	ND < 53	ND < 12	ND < 11	ND < 12	ND < 12	ND < 12	ND < 12	ND < 11	ND < 11	ND < 11	ND < 11	N/A
Carbon tetrachloride	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	22000
Chlorobenzene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	500,000 *
Chloroethane	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	N/A
Chloroform	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	350000
Chloromethane	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	N/A
cis-1,2-Dichloroethene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	100,000 *
cis-1,3-Dichloropropene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	N/A
Dibromochloromethane	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	N/A
Ethylbenzene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	41000
m,p-Xylene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	100,000 *
Methylene chloride	ND < 110	ND < 25	0.39]	ND < 24	ND < 23	ND < 23	ND < 23	ND < 21	ND < 22	100,000 *	500,000 *	N/A
Methyl tert-butyl ether (MTBE)	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	500,000 *
o-Xylene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	390000
Syrene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	N/A
Tetrachloroethene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	150000
Toluene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	100,000 *
trans-1,2-Dichloroethene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	100,000 *
trans-1,3-Dichloropropene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	N/A
Trichloroethene	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	210000
Vinyl Chloride (VC)	ND < 27	ND < 6.2	ND < 5.6	ND < 6	ND < 5.8	ND < 5.8	ND < 5.7	ND < 5.3	ND < 5.6	ND < 5.6	ND < 5.6	900
												13000

TABLE 4:
SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANICS, $\mu\text{g}/\text{kg}$

Analyte ($\mu\text{g}/\text{kg}$)	Sample ID	Date	Location	767070424-02	767070424-14	767070424-15	767070424-13	767070424-05	767070426-19	767070426-20	767070426-21	Restricted Residential	Commercial Part 375-6
				4/24/2007	4/24/2007	4/24/2007	4/24/2007	4/24/2007	4/26/2007	4/26/2007	4/26/2007	Part 375-6 Soil Cleanup Objectives	Soil Cleanup Objectives ($\mu\text{g}/\text{kg}$)
1,1,1-Trichloroethane	ND < 6.1	ND < 39	ND < 55	ND < 5.2	ND < 6.8	ND < 6.3	ND < 6.3	ND < 37	100,000 *	500,000 *	N/A	N/A	N/A
1,1,2,2-Tetrachloroethane	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.3	ND < 6.3	ND < 37	N/A	N/A	N/A	N/A	N/A
1,1,2-Trichloroethane	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	N/A	N/A	N/A	N/A	N/A
1,1-Dichloroethane	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.3	ND < 6.3	ND < 37	2600	240,000	N/A	N/A	N/A
1,1-Dichloroethene	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.3	ND < 6.3	ND < 37	100,000 *	500,000 *	N/A	N/A	N/A
1,2-Dichloroethane	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.3	ND < 6.3	ND < 37	3100	30000	N/A	N/A	N/A
1,2-Dichloropropane	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	N/A	N/A	N/A	N/A	N/A
2-Butanone (MEK)	ND < 12	ND < 12	ND < 78	ND < 11	ND < 10	25	ND < 13	ND < 75	100,000 *	500,000 *	N/A	N/A	N/A
2-Hexanone	ND < 12	ND < 12	ND < 78	ND < 11	ND < 10	ND < 14	ND < 13	ND < 75	N/A	N/A	N/A	N/A	N/A
4-Methyl-2-pentanone	ND < 12	ND < 12	ND < 78	ND < 11	ND < 10	ND < 14	ND < 13	ND < 75	N/A	N/A	N/A	N/A	N/A
Acetone	6.4 [B]	42 B	280 B	24 B	3.9 [B]	160 B	3.8 [B]	280 B	100,000 *	500,000 *	N/A	N/A	N/A
Benzene	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	4800	44,000	N/A	N/A	N/A
Bromo-dichloromethane	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	N/A	N/A	N/A	N/A	N/A
Bromoform	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	N/A	N/A	N/A	N/A	N/A
Bromon methane	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	N/A	N/A	N/A	N/A	N/A
Carbon Disulfide	ND < 12	ND < 12	ND < 78	ND < 11	ND < 10	ND < 14	ND < 13	ND < 75	N/A	N/A	N/A	N/A	N/A
Carbon tetrachloride	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	2400	22,000	N/A	N/A	N/A
Chlorobenzene	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	100,000 *	500,000 *	N/A	N/A	N/A
Chloroethane	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	N/A	N/A	N/A	N/A	N/A
Chloroform	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	49000	350000	N/A	N/A	N/A
Chlormethane	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	N/A	N/A	N/A	N/A	N/A
cis-1,2-Dichloroethene	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	100,000 *	500,000 *	N/A	N/A	N/A
cis-1,3-Dichloropropene	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	N/A	N/A	N/A	N/A	N/A
Dibromochloromethane	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	41000	350000	N/A	N/A	N/A
m,p-Xylene	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	100,000 *	500,000 *	N/A	N/A	N/A
Methylene chloride	ND < 5.8	ND < 24	ND < 160	ND < 22	ND < 52	ND < 27	ND < 6.3	ND < 150	100,000 *	500,000 *	N/A	N/A	N/A
Methyl tert-butyl ether (MTBE)	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	100,000 *	500,000 *	N/A	N/A	N/A
o-Xylene	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	100,000 *	500,000 *	N/A	N/A	N/A
Styrene	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	100,000 *	500,000 *	N/A	N/A	N/A
Tetrachloroethene	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	19000	150000	N/A	N/A	N/A
Toluene	0.81 J	ND < 6.1	ND < 39	ND < 5.5	0.4 J	ND < 6.8	ND < 6.3	ND < 37	100,000 *	500,000 *	N/A	N/A	N/A
trans-1,2-Dichloroethene	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	100,000 *	500,000 *	N/A	N/A	N/A
trans-1,3-Dichloropropene	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	21000	200000	N/A	N/A	N/A
Trichloroethene	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	900	13000	N/A	N/A	N/A
Vinyl Chloride (VC)	ND < 5.8	ND < 6.1	ND < 39	ND < 5.5	ND < 5.2	ND < 6.8	ND < 6.3	ND < 37	N/A	N/A	N/A	N/A	N/A

Notes:

1. ND = Not detected above the specified reporting limit.

2. $\mu\text{g}/\text{kg}$ = micrograms per kilogram, or parts per billion (ppb)

3. N/A = not available

Indicates a duplicate sample

4. B = Compound also detected in the associated blank.

* The SCOs for restricted residential were capped at a maximum value of 100 ppm

b The SCOs for commercial use were capped at a maximum value of 500 ppm

TABLE 4:
SUMMARY OF SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANICS, $\mu\text{g}/\text{kg}$

Analyte ($\mu\text{g}/\text{kg}$)	Sample ID	Date	Location	76/07/0426-02	76/07/0426-01	76/07/0426-05	76/07/0426-22	76/07/0426-03	76/07/0426-04	76/07/0425-29	76/07/0425-30	Restricted Residential Soil Cleanup Objectives	Commercial Part 375-6 Soil Cleanup Objectives
				TP-01 (1-3')	TP-02 (1-3')	TP-03 (0-1')	TP-04 (0-1')	TP-04 (0-1')	TP-04 (3-6')	TP-05 (3-6')	TP-06 (0-1')	4/25/2007	4/25/2007
Acenaphthene	ND < 390	ND < 370	43 J	ND < 410	460 J	990 J	ND < 420	810 J	100,000*	100,000*	100,000*	500,000 ^s	500,000 ^s
Anthracene	ND < 390	ND < 370	120 J	50 J	1300 J	1800 J	ND < 420	2000 J	100,000*	100,000*	100,000*	500,000 ^s	500,000 ^s
Benzo(a)anthracene	160 J	64 J	330 J	170 J	4900 J	4300 J	ND < 420	5600 J	1000 ^t	1000 ^t	1000 ^t	5600	5600
Benzo(a)pyrene	160 J	90 J	320 J	170 J	4800 J	4300 J	ND < 420	5200 J	1000 ^t	1000 ^t	1000 ^t	1000 ^t	1000 ^t
Benzo(b)fluoranthene	160 J	82 J	280 J	220 J	4600 J	3500 J	ND < 420	4600 J	1000 ^t	1000 ^t	1000 ^t	5600	5600
Benzo(g,h,i)perylene	140 J	73 J	240 J	130 J	3400 J	2700 J	ND < 420	3100 J	100,000*	100,000*	100,000*	500,000 ^b	500,000 ^b
Benzo(k)fluoranthene	150 J	87 J	260 J	120 J	4200 J	2800 J	ND < 420	3700 J	3900	3900	3900	56000	56000
Indeno(1,2,3-cd)pyrene	130 J	71 J	220 J	100 J	3000 J	2500 J	ND < 420	2800 J	500 ^r	500 ^r	500 ^r	5600	5600
Chrysene	190 J	65 J	340 J	300 J	5400 J	4800 J	ND < 420	5500 J	3900	3900	3900	56000	56000
Dibenz(a,h)anthracene	40 J	25 J	77 J	47 J	1200 J	940 J	ND < 420	1100 J	330 ^e	330 ^e	330 ^e	5600	5600
Fluoranthene	280 J	69 J	800	380 J	11000 J	12000 J	23 J	13000 J	100,000*	100,000*	100,000*	500,000 ^b	500,000 ^b
Fluorene	ND < 390	ND < 370	37 J	ND < 410	520 J	780 J	ND < 420	750 J	100,000*	100,000*	100,000*	500,000 ^b	500,000 ^b
Naphthalene	38 J	ND < 220	30 J	84 J	440 J	750 J	ND < 260	360 J	100,000*	100,000*	100,000*	500,000 ^b	500,000 ^b
Phenanthrene	140 J	ND < 370	450	280 J	6800 J	10000 J	57 J	9000 J	100,000*	100,000*	100,000*	500,000 ^b	500,000 ^b
Pyrene	210 J	65 J	480	250 J	7000 J	7600 J	ND < 420	8600 J	100,000*	100,000*	100,000*	500,000 ^b	500,000 ^b

TABLE 4:
SUMMARY OF SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANICS, $\mu\text{g}/\text{kg}$

Analyte ($\mu\text{g}/\text{kg}$)	Sample ID	767070426-06	767070426-07	767070426-09	767070425-27	767070426-10	767070426-12	767070425-25	767070426-13	Restricted Residential Soil Cleanup Objectives ($\mu\text{g}/\text{kg}$)	Commercial Part 375-6 Soil Cleanup Objectives ($\mu\text{g}/\text{kg}$)
Location	Date	4/26/2007	4/26/2007	4/26/2007	4/25/2007	4/26/2007	4/25/2007	4/26/2007	4/26/2007	100,000*	500,000 ^b
Location	TP-07 (0-1')	TP-08 (0-1')	TP-08 (3-6')	TP-09 (1-3')	TP-10 (0-1')	TP-10A (1-3')	TP-11 (0-1')	TP-11 (0-1')	TP-12 (0-1')	100,000*	500,000 ^b
Acenaphthene	1200 J	ND < 400	ND < 420	540 J	ND < 3900	ND < 430	ND < 350	ND < 390	ND < 390	100,000*	500,000 ^b
Anthracene	2800	110 J	ND < 420	1300	ND < 3900	46 J	29 J	28 J	100,000*	500,000 ^b	500,000 ^b
Benzo(a)anthracene	5600	900	ND < 420	3900	ND < 3900	200 J	78 J	130 J	1000 ^f	1000 ^f	5600
Benzo(a)pyrene	5200	970	ND < 420	3600	ND < 3900	220 J	86 J	130 J	1000 ^f	1000 ^f	1000 ^f
Benzo(b)fluoranthene	4300	1100	ND < 420	3400	ND < 3900	240 J	120 J	120 J	1000 ^f	1000 ^f	5600
Benzo(g,h)perylene	3300	720	ND < 420	2100	ND < 3900	180 J	74 J	96 J	100,000*	500,000 ^b	500,000 ^b
Benzo(k)fluoranthene	4000	710	ND < 420	2700	ND < 3900	170 J	79 J	100 J	3900	3900	56000
Indeno(1,2,3-cd)pyrene	2900	660	ND < 420	1900	ND < 3900	140 J	61 J	76 J	500 ^f	500 ^f	5600
Chrysene	5600	1100	ND < 420	4400	ND < 3900	270 J	100 J	140 J	3900	3900	56000
Dibenzo(a,h)anthracene	1100 J	270 J	ND < 420	730 J	ND < 3900	55 J	ND < 350	ND < 390	330 ^e	330 ^e	5600
Fluoranthene	16000	1700	ND < 420	9600	ND < 3900	440	140 J	270 J	100,000*	500,000 ^b	500,000 ^b
Fluorene	980 J	ND < 400	ND < 420	490 J	ND < 3900	ND < 430	ND < 350	ND < 390	100,000*	100,000*	500,000 ^b
Naphthalene	700 J	200 J	ND < 250	790 J	ND < 2400	230 J	47 J	ND < 230	100,000*	100,000*	500,000 ^b
Phenanthrene	13000	560	ND < 420	6600	1100 J	290 J	61 J	100 J	100,000*	500,000 ^b	500,000 ^b
Pyrene	11000	1200	ND < 420	6300	570 J	270 J	99 J	160 J	100,000*	500,000 ^b	500,000 ^b

TABLE 4:
SUMMARY OF SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANICS, µg/kg

Analyte (µg/kg)	Sample ID	767070426-15	767070426-17	767070425-24	767070425-23	767070425-17	767070425-22	767070425-20	767070425-14	Restricted Residential Soil Cleanup Objectives (µg/kg)	Commercial Part 375-6 Soil Cleanup Objectives (µg/kg)
Location	Date	4/26/2007	4/26/2007	4/25/2007	4/25/2007	4/25/2007	4/25/2007	4/25/2007	4/25/2007	Part 375-6 Soil Cleanup Objectives (µg/kg)	Commercial Part 375-6 Soil Cleanup Objectives (µg/kg)
Acenaphthene	170 J	370 J	ND < 370	340 J	ND < 1900	ND < 3700	ND < 370	ND < 19000	100,000*	500,000 ^b	500,000 ^b
Anthracene	320 J	660 J	ND < 370	460	ND < 1900	ND < 3700	ND < 370	ND < 19000	100,000*	500,000 ^b	500,000 ^b
Benzo(a)anthracene	1700	3200	24 J	2100	280 J	ND < 3700	ND < 370	1400 J	1000 ^f	5600	5600
Benzo(a)Pyrene	1600	3100	ND < 370	2100	280 J	ND < 3700	ND < 370	1900 J	1000 ^f	1000 ^f	1000 ^f
Benzo(b)fluoranthene	1600	3100	ND < 370	1900	320 J	ND < 3700	ND < 370	1500 J	1000 ^f	5600	5600
Benzo(g,h,i)perylene	1000 J	2100 J	ND < 370	1300	370 J	ND < 3700	ND < 370	1600 J	100,000*	500,000 ^b	500,000 ^b
Benzo(k)fluoranthene	1300	2300 J	ND < 370	1600	250 J	ND < 3700	ND < 370	ND < 19000	3900	56000	56000
Indeno(1,2,3-cd)Pyrene	870 J	1700 J	ND < 370	1100	230 J	ND < 3700	ND < 370	1300 J	500 ^f	5600	5600
Chrysene	2100	3800	33 J	2500	320 J	ND < 3700	ND < 370	1500 J	3900	56000	56000
Dibenz(a,h)anthracene	350 J	630 J	ND < 370	440	ND < 1900	ND < 3700	ND < 370	ND < 19000	330 ^e	5600	5600
Fluoranthene	4100	7900	50 J	5300	590 J	210 J	28 J	2400 J	100,000*	500,000 ^b	500,000 ^b
Fluorene	100 J	280 J	ND < 370	210 J	ND < 1900	ND < 3700	ND < 370	ND < 19000	100,000*	500,000 ^b	500,000 ^b
Naphthalene	190 J	1000 J	ND < 220	1300	ND < 1100	ND < 2200	ND < 230	ND < 11000	100,000*	500,000 ^b	500,000 ^b
Phenanthrene	2300	5200	35 J	3200	380 J	ND < 3700	ND < 370	ND < 19000	100,000*	500,000 ^b	500,000 ^b
Pyrene	2900	5300	35 J	3400	430 J	ND < 3700	ND < 370	1600 J	100,000*	500,000 ^b	500,000 ^b

TABLE 4:
SUMMARY OF SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANICS, µg/kg

Analyte (µg/kg)	Sample ID	76/07/0425-16	76/07/0425-10	76/07/0425-09	76/07/0425-11	76/07/0425-06	76/07/0425-03	76/07/0425-04	76/07/0424-01	Restricted Residential Part 375-6 Soil Cleanup Objectives (µg/kg)	Commercial Part 375-6 Soil Cleanup Objectives (µg/kg)
Location	Date	4/25/2007	4/25/2007	4/25/2007	4/25/2007	4/25/2007	4/25/2007	4/25/2007	4/25/2007	TP-24 (0-1)	TP-24 (3-6)
Acenaphthene	ND < 400	ND < 780	ND < 410	ND < 1800	540 J	ND < 10000	ND < 420	ND < 360	100,000 *	100,000 *	500,000 *
Anthracene	160 J	ND < 780	ND < 410	ND < 1800	810	ND < 10000	58 J	ND < 360	100,000 *	100,000 *	500,000 *
Benzo(a)anthracene	1100	ND < 780	ND < 410	ND < 1800	1900	ND < 10000	260 J	ND < 360	1000 f	1000 f	5600
Benzo(a)Pyrene	1200	ND < 780	ND < 410	ND < 1800	1900	ND < 10000	250 J	ND < 360	1000 f	1000 f	1000 f
Benzo(b)fluoranthene	1100	ND < 780	ND < 410	ND < 1800	1600	ND < 10000	250 J	ND < 360	1000 f	1000 f	5600
Benzo(g,h,i)perylene	880	ND < 780	ND < 410	ND < 1800	1300	ND < 10000	200 J	ND < 360	100,000 *	100,000 *	500,000 *
Benzo(k)fluoranthene	970	ND < 780	ND < 410	ND < 1800	1500	ND < 10000	240 J	ND < 360	3900	3900	56000
Indeno(1,2,3-cd)pyrene	760	ND < 780	ND < 410	ND < 1800	1100	ND < 10000	180 J	ND < 360	500 f	500 f	5600
Chrysene	1100	ND < 780	ND < 410	ND < 1800	2100	ND < 10000	340 J	ND < 360	3900	3900	56000
Dibenzo(a,h)anthracene	240 J	ND < 780	ND < 410	ND < 1800	360 J	ND < 10000	69 J	ND < 360	330 e	330 e	5600
Fluoranthene	2300	ND < 780	ND < 410	150 J	6500	ND < 10000	510	ND < 360	100,000 *	100,000 *	500,000 *
Fluorene	ND < 400	ND < 780	ND < 410	ND < 1800	470 J	ND < 10000	ND < 420	ND < 360	100,000 *	100,000 *	500,000 *
Naphthalene	49 J	ND < 470	ND < 250	ND < 1100	550 J	ND < 6200	41 J	ND < 220	100,000 *	100,000 *	500,000 *
Phenanthrene	650	ND < 780	ND < 410	ND < 1800	5900	ND < 10000	290 J	ND < 360	100,000 *	100,000 *	500,000 *
Pyrene	1800	ND < 780	ND < 410	ND < 1800	4200	ND < 10000	320 J	ND < 360	100,000 *	100,000 *	500,000 *

TABLE 4:
SUMMARY OF SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANICS, µg/kg

Analyte (µg/kg)	Sample ID	Date	Location	7/6/07/0424-02	7/6/07/0424-15	7/6/07/0424-09	7/6/07/0424-12	7/6/07/0424-08	7/6/07/0424-06	7/6/07/0424-03	Restricted Residential Soil Cleanup Objectives	Commercial Part 375-6 Soil Cleanup Objectives (µg/kg)
				4/24/2007	4/24/2007	4/24/2007	4/24/2007	4/24/2007	4/24/2007	4/24/2007	Part 375-6 Soil Cleanup Objectives (µg/kg)	
Acenaphthene	28]	TP-27 (1-3)	TP-28 (3-6')	TP-29 (0-1')	TP-29 (0-1')	TP-30 (0-1')	TP-31 (3-6')	TP-32 (1-3')	TP-33 (0-1')	TP-33 (0-1')	100,000*	500,000*
Anthracene	150]	30000]	130000]	400	ND < 370	ND < 390	ND < 13000	ND < 5100	ND < 100,000	ND < 5100	100,000*	500,000*
Benzo(a)anthracene	650	6900	20000	810	ND < 370	ND < 390	ND < 13000	ND < 5100	ND < 1000†	ND < 5100	1000†	5600
Benzo(a)pyrene	510	7100	18000	700	ND < 370	ND < 390	ND < 13000	ND < 5100	ND < 1000†	ND < 5100	1000†	1000†
Benzo(b)fluoranthene	510	6400	14000	540	ND < 370	ND < 390	ND < 13000	ND < 5100	ND < 1000†	ND < 5100	1000†	5600
Benzo(g,h,i)perylene	360]	4300]	11000]	390	ND < 370	ND < 390	ND < 13000	ND < 5100	ND < 100,000*	ND < 5100	100,000*	500,000*
Benzo(k)fluoranthene	500	5100]	13000]	600	ND < 370	ND < 390	ND < 13000	ND < 5100	ND < 3900	ND < 5100	3900	56000
Indeno(1,2,3-cd)pyrene	310]	4000]	10000]	350]	ND < 370	ND < 390	ND < 13000	ND < 5100	ND < 500†	ND < 5100	500†	5600
Chrysene	810	7200	19000	790	ND < 370	ND < 390	ND < 13000	ND < 5100	ND < 3900	ND < 5100	3900	56000
Dibenz(a,h)anthracene	120]	1500]	3500]	140]	ND < 370	ND < 390	ND < 13000	ND < 5100	ND < 330‡	ND < 5100	330‡	5600
Fluoranthene	1800	14000	59000	2300	ND < 370	ND < 390	ND < 13000	ND < 5100	ND < 100,000*	ND < 5100	100,000*	500,000*
Fluorene	50]	2300]	5900]	150]	ND < 370	ND < 390	ND < 13000	ND < 5100	ND < 100,000*	ND < 5100	100,000*	500,000*
Naphthalene	75]	ND < 3100	4000]	43]	ND < 220	ND < 240	ND < 7800	ND < 3100	ND < 100,000*	ND < 3100	100,000*	500,000*
Phenanthrene	770	5200]	53000	1700	ND < 370	ND < 390	ND < 1100]	ND < 5100	ND < 100,000*	ND < 5100	100,000*	500,000*
Pyrene	1100	10000	37000	1400	ND < 370	ND < 390	ND < 1900]	ND < 5100	ND < 100,000*	ND < 5100	100,000*	500,000*

TABLE 4:
SUMMARY OF SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANICS, $\mu\text{g}/\text{kg}$

Analyte ($\mu\text{g}/\text{kg}$)	Sample ID	767070425-02	767070426-18	767070426-19	767070426-20	767070426-21	Restricted Residential Part 375-6 Soil Cleanup Objectives ($\mu\text{g}/\text{kg}$)	Commercial Part 375-6 Soil Cleanup Objectives ($\mu\text{g}/\text{kg}$)
	Date	4/25/2007	4/26/2007	4/26/2007	4/26/2007	4/26/2007	TP-38 (3-6)	TP-38 (1-3)
	Location	TP-35 (1-3)	TP-36 (3-6)	TP-37 (3-6)	TP-38 (1-3)	TP-38 (3-6)		
Acenaphthene	ND < 380	ND < 630	12000 J	74 J	ND < 490	100,000 *	100,000 *	500,000 *
Anthracene	ND < 380	ND < 630	60000	220 J	ND < 490	100,000 *	100,000 *	500,000 *
Benz(a)anthracene	29 J	47 J	95000	650	490	1000 †	1000 †	5600
Benz(a) pyrene	31 J	65 J	69000	600	580	1000 †	1000 †	1000 †
Benz(b) fluoranthene	ND < 380	67 J	49000	510	490	1000 †	1000 †	5600
Benz(g,h,i)perylene	ND < 380	63 J	29000	300 J	420 J	100,000 *	100,000 *	500,000 *
Benz(k) fluoranthene	27 J	49 J	57000	410 J	490 J	3900	3900	56000
Indeno(1,2,3-cd)pyrene	ND < 380	52 J	27000	300 J	390 J	500 †	500 †	5600
Chrysene	35 J	66 J	88000	660	520	3900	3900	56000
Dibenz(a,h) anthracene	ND < 380	ND < 630	12000 J	110 J	160 J	330 ‡	330 ‡	5600
Fluoranthene	70 J	100 J	2100000	1600	790	100,000 *	100,000 *	500,000 *
Fluorene	ND < 380	ND < 630	33000	65 J	ND < 490	100,000 *	100,000 *	500,000 *
Naphthalene	ND < 230	ND < 380	4000 J	28 J	ND < 300	100,000 *	100,000 *	500,000 *
Phenanthrene	35 J	54 J	190000	850	360 J	100,000 *	100,000 *	500,000 *
Pyrene	44 J	74 J	140000	960	670	100,000 *	100,000 *	500,000 *

Notes:

1. ND = Not detected above the specified reporting limit.

 2. $\mu\text{g}/\text{kg}$ = micrograms per kilogram, or parts per billion (ppb)

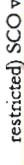
3. J = Value estimated by laboratory

* The SCOs for restricted residential were capped at a maximum value of 100 ppm

‡ The SCOs for commercial use were capped at a maximum value of 500 ppm

* For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.

† For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 (for unrestricted) or Track 2 (for restricted) SCO value for this use of the site.

 Shading indicates a result that exceeds Commercial Soil Cleanup Objectives

 Shading indicates a result that exceeds Restricted Residential Soil Cleanup Objectives



FORMER L&M AND CORNELL BCP SITE
REMEDIAL INVESTIGATION

TABLE 4:
SUMMARY OF SOIL ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS, mg/kg

Location	Depth	Sample ID	Total Petroleum Hydrocarbons (mg/kg)
TP-38	(1-3')	767070426-20	ND < 62.8
TP-32	(1-3')	767070424-06	19100
TP-32	(1-3')	767070424-07	1730
TP-28	(3-6')	767070424-15	1920
TP-24	(3-6')	767070425-04	ND < 64.4
TP-21	(1-3')	767070425-08	173

Notes:

1. ND = Not detected above the specified reporting limit
2. mg/kg = milligrams per kilogram, or parts per million

Indicates a duplicate sample

TABLE 5
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
RCRA8 METALS, µg/L

		Sample ID	767070508-01	767070508-04	767070508-05	767070508-06	767070508-08	767070508-09	767070509-01	767070509-02	767070509-03	767070509-04	767070508-06	TOGS 1.1.1
Analyte (µg/L)	Date	5/8/2007	5/8/2007	5/9/2007	5/8/2007	5/8/2007	5/9/2007	5/9/2007	5/9/2007	5/9/2007	5/9/2007	5/8/2007	5/8/2007	Groundwater Effluent Limitations (µg/L)
Location	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-07	MW-08	MW-09	MW-10	MW-10	MW-10	
Arsenic	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	TOGS 1.1.1
Barium	153	96.7	81.2	43.4	107	226	118	118	80.0	75.5	107	107	2000	
Cadmium	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	10
Chromium	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	100
Lead (Furnace)	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	50
Mercury	ND < 0.20	ND < 0.20	ND < 0.20	ND < 0.20	ND < 0.20	ND < 0.20	ND < 0.20	ND < 0.20	ND < 0.20	ND < 0.20	ND < 0.20	ND < 0.20	ND < 0.20	1.4
Selenium	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	20
Silver	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	100

(duplicate)

Notes:

1. ND = Not detected above the specified reporting limit.
2. µg/L = micrograms per liter, or parts per billion
3. N/A = no guidance value available

TABLE 5
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
SEMIVOLATILE ORGANICS, $\mu\text{g/L}$

Analyte ($\mu\text{g/L}$)	Sample ID	767070508-01	767070508-04	767070508-05	767070508-06	767070508-08	767070508-09	767070508-10	767070508-01	767070508-05	767070508-06	TOGS 1.1.1 Groundwater Effluent Limitations ($\mu\text{g/L}$)
		Date	5/8/2007	5/8/2007	5/9/2007	5/8/2007	5/8/2007	5/9/2007	5/9/2007	5/9/2007	5/8/2007	
	Location	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	MW-10	
Acenaphthene	ND < 10	ND < 9.4	1.4 [j]	ND < 9.4	1.1 [j]	ND < 9.4						
Anthracene	ND < 10	ND < 9.4	N/A									
Benzo(a) anthracene	ND < 10	ND < 9.4	50									
Benzo(a) pyrene	ND < 10	ND < 9.4	0.002									
Benzo(b) fluoranthene	ND < 10	ND < 9.4	ND (0.0)									
Benzo(g,h,i) perylene	ND < 10	ND < 9.4										
Benzo(k) fluoranthene	ND < 10	ND < 9.4	N/A									
Indeno(1,2,3-cd)pyrene	ND < 10	ND < 9.4	0.002									
Chrysene	ND < 10	ND < 9.4	N/A									
Dibenzo(a,h) anthracene	ND < 10	ND < 9.4	N/A									
Fluoranthene	ND < 10	ND < 9.4	0.34 [j]	ND < 9.4	0.48 [j]	ND < 9.4	50					
Fluorene	ND < 10	ND < 9.4	1.6 [j]	ND < 9.4	0.41 [j]	ND < 9.4	50					
Naphthalene	ND < 10	ND < 9.4	10									
Phenanthrene	ND < 10	ND < 9.4	ND < 9.4	ND < 9.4	0.98 [j]	ND < 9.4	50					
Pyrene	ND < 10	ND < 9.4	0.42 [j]	ND < 9.4	50							

Notes:

1. ND = Not detected above the specified reporting limit.
2. $\mu\text{g/kg}$ = micrograms per kilogram, or parts per billion (ppb)
3. j = Value estimated by laboratory
4. Effluent Limitation not available.

(duplicate)

TABLE 5
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANICS, $\mu\text{g/L}$

Analyte ($\mu\text{g/L}$)	Sample ID	767070508-01	767070508-04	767070508-05	767070508-06	767070508-08	767070509-01	767070509-05	767070509-04	767070508-06	767070508-07	TOGS 1:1:1 Groundwater Effluent Limitations ($\mu\text{g/L}$)
Date	5/8/2007	5/8/2007	5/8/2007	5/9/2007	5/8/2007	5/8/2007	5/9/2007	5/9/2007	5/8/2007	5/8/2007	5/8/2007	N/A
Location	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	MW-10	MW-10	ND < 20
Acetone	4.5]	ND < 20	1.9]B	ND < 20	ND < 20	3.1]B	ND < 20	ND < 20				
Benzene	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
Bromodichloromethane	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
Bromoform	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
Bromomethane	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
2-Butanone (MEK)	1.6]	0.66]	ND < 10	2.3]	ND < 20	ND < 20						
Methyl tert-butyl ether (MTBE)	3.0]	ND < 5	9.6	2.1]	ND < 5	ND < 5	ND < 5	ND < 5				
Carbon Disulfide	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 5
Carbon tetrachloride	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
Chlorobenzene	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
Chloroethane	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
Chloroform	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
Chloromethane	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
Dibromochloromethane	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
1,1-Dichloroethane	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
1,2-Dichloroethane	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
1,1-Dichloroethene	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
cis,1,2-Dichloroethene	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
trans-1,2-Dichloroethene	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
1,2-Dichloropropane	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
cis-1,3-Dichloropropene	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
trans-1,3-Dichloropropene	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
Ethylbenzene	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
2-Hexanone	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10	ND < 10
Methylene chloride	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
4-Methyl-2-pentanone	1.0]	1.5]	ND < 10	ND < 10	3.3]	ND < 10	ND < 10	ND < 10	ND < 10	1.1]	1.1]	N/A
Styrene	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
1,1,2,2-Tetrachloroethane	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
Tetrachloroethene	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
Toluene	0.33]	ND < 5	1.8]	1.7]	5							
1,1,1-Trichloroethane	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
1,1,2-Trichloroethane	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
Trichloroethene	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
Vinyl Chloride (VC)	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5
o-Xylene	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	1.5]	1.5]	2
m,p-Xylene	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	ND < 5	4.8]	4.4]	5

Notes:

1. ND = Not detected above the specified reporting limit.

2. $\mu\text{g/L}$ = micrograms per liter, or parts per billion (ppb)

3. N/A = not available

4.] = Compound estimated by laboratory.

5. B = Compound also detected in the associated blank.

6. * = sum of cis- and trans-isomers is not to exceed 0.4 mg/L.

(duplicate)

Result exceeds TOGS 1:1:1 Effluent Limitation

TABLE 6
SUMMARY OF SEDIMENT ANALYTICAL RESULTS
RCRA8 METALS, mg/kg

Analyte (mg/kg)	Sample ID	767070509-01	767070509-02	767070509-03	Lowest Effect Level (mg/kg)	Severe Effect Level (mg/kg)
	Date	5/9/2007	5/9/2007	5/9/2007		
	Location	S-01	S-02	S-03		
Arsenic		1.5	4.1	2.7	6.0	33.0
Barium		32.7	48.5	55.9	N/A	N/A
Cadmium		ND < 0.64	ND < 0.63	ND < 0.61	0.6	9.0
Chromium		8.5	13.2	9.7	26.0	110.0
Lead (Furnace)		31.6	49.5	67.2	31.0	110.0
Mercury		ND < 0.04	0.05	ND < 0.04	0.15	1.3
Selenium		1.9	2.6	ND < 1.2	N/A	N/A
Silver		ND < 1.3	ND < 1.3	ND < 1.2	1.0	2.2

Notes:

1. ND = Not detected above the specified reporting limit.
2. mg/kg = milligrams per kilogram, or parts per million
3. N/A = no guidance value available
4. Guidance values taken from NYSDEC's "Technical Guidance for Screening Contaminated Sediments", 1993, rev. 1999

 Result exceeds Lowest Effect Level

 Result exceeds Severe Effect Level

TABLE 6
SUMMARY OF SEDIMENT ANALYTICAL RESULTS
SEMOVOLATILE ORGANICS, µg/kg

Analyte (µg/kg)	Sample ID	767070509-01	767070509-02	767070509-03	Human Health Bioaccumulation Criteria (µg/gOC)
	Date	5/9/2007	5/9/2007	5/9/2007	
	Location	S-01	S-02	S-03	
Acenaphthene	ND < 420	ND < 870	ND < 1200		N/A
Anthracene	ND < 420	ND < 870	110 J		N/A
Benzo(a) anthracene	ND < 420	ND < 870	390 J		N/A
Benzo(a) pyrene	ND < 420	ND < 870	350 J		1.3
Benzo(b) fluoranthene	ND < 420	ND < 870	290 J		N/A
Benzo(g,h,i) perylene	ND < 420	ND < 870	280 J		N/A
Benzo(k) fluoranthene	ND < 420	ND < 870	310 J		N/A
Indeno(1,2,3-cd) pyrene	ND < 420	ND < 870	230 J		N/A
Chrysene	ND < 420	ND < 870	430 J		N/A
Dibenzo(a,h) anthracene	ND < 420	ND < 870	96 J		N/A
Fluoranthene	ND < 420	ND < 870	790 J		N/A
Fluorene	110 J	ND < 870	ND < 1200		N/A
Naphthalene	ND < 250	ND < 530	ND < 730		N/A
Phenanthrene	80 J	ND < 870	550 J		N/A
Pyrene	86 J	ND < 870	690 J		N/A

Notes:

1. ND = Not detected above the specified reporting limit.
2. µg/kg = micrograms per kilogram, or parts per billion (ppb)
3. J = Value estimated by laboratory

TABLE 6
SUMMARY OF SEDIMENT ANALYTICAL RESULTS
VOLATILE ORGANICS, µg/kg

Analyte (µg/kg)	Sample ID	767070509-01	767070509-02	767070509-03	Human Health Bioaccumulation Criteria (µg/gOC)
	Date	5/9/2007	5/9/2007	5/9/2007	
	Location	S-01	S-02	S-03	
Acetone		ND < 25	4.8 J	ND < 24	N/A
Benzene		ND < 6.4	ND < 6.6	ND < 6.1	0.6
Bromodichloromethane		ND < 6.4	ND < 6.6	ND < 6.1	N/A
Bromoform		ND < 6.4	ND < 6.6	ND < 6.1	N/A
Bromomethane		ND < 6.4	ND < 6.6	ND < 6.1	N/A
2-Butanone (MEK)		ND < 13	ND < 13	ND < 12	N/A
Methyl tert-butyl ether (MTBE)		ND < 6.4	ND < 6.6	ND < 6.1	N/A
Carbon Disulfide		ND < 13	ND < 13	ND < 12	N/A
Carbon tetrachloride		ND < 6.4	ND < 6.6	ND < 6.1	0.6
Chlorobenzene		ND < 6.4	ND < 6.6	ND < 6.1	N/A
Chloroethane		ND < 6.4	ND < 6.6	ND < 6.1	N/A
Chloroform		ND < 6.4	ND < 6.6	ND < 6.1	N/A
Chloromethane		ND < 6.4	ND < 6.6	ND < 6.1	N/A
Dibromochloromethane		ND < 6.4	ND < 6.6	ND < 6.1	N/A
1,1-Dichloroethane		ND < 6.4	ND < 6.6	ND < 6.1	N/A
1,2-Dichloroethane		ND < 6.4	ND < 6.6	ND < 6.1	0.7
1,1-Dichloroethene		ND < 6.4	ND < 6.6	ND < 6.1	N/A
cis-1,2-Dichloroethene		ND < 6.4	ND < 6.6	ND < 6.1	N/A
trans-1,2-Dichloroethene		ND < 6.4	ND < 6.6	ND < 6.1	N/A
1,2-Dichloropropane		ND < 6.4	ND < 6.6	ND < 6.1	N/A
cis-1,3-Dichloropropene		ND < 6.4	ND < 6.6	ND < 6.1	N/A
trans-1,3-Dichloropropene		ND < 6.4	ND < 6.6	ND < 6.1	N/A
Ethylbenzene		ND < 6.4	ND < 6.6	ND < 6.1	N/A
2-Hexanone		ND < 13	ND < 13	ND < 12	N/A
Methylene chloride		2.0 JB	1.6 JB	2.2 JB	N/A
4-Methyl-2-pentanone		ND < 13	ND < 13	ND < 12	N/A
Styrene		ND < 6.4	ND < 6.6	ND < 6.1	N/A
1,1,2,2-Tetrachloroethane		ND < 6.4	ND < 6.6	ND < 6.1	0.6
Tetrachloroethene		ND < 6.4	ND < 6.6	ND < 6.1	N/A
Toluene		ND < 6.4	0.91 J	ND < 6.1	N/A
1,1,1-Trichloroethane		ND < 6.4	ND < 6.6	ND < 6.1	N/A
1,1,2-Trichloroethane		ND < 6.4	ND < 6.6	ND < 6.1	N/A
Trichloroethene		ND < 6.4	ND < 6.6	ND < 6.1	N/A
Vinyl Chloride (VC)		ND < 6.4	ND < 6.6	ND < 6.1	0.07
o-Xylene		ND < 6.4	ND < 6.6	ND < 6.1	N/A
m,p-Xylene		ND < 6.4	ND < 6.6	ND < 6.1	N/A

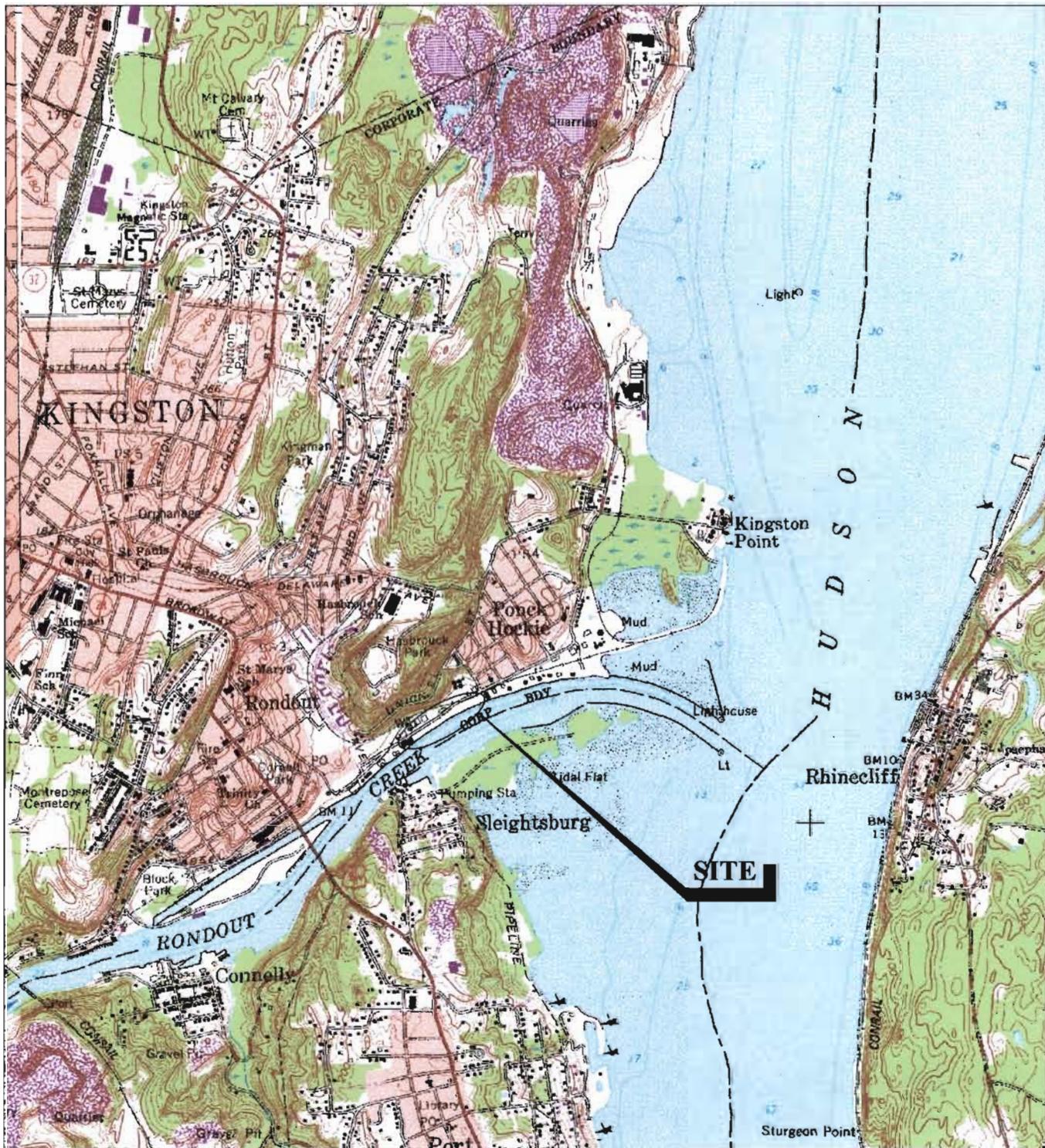
Notes:

1. ND = Not detected above the specified reporting limit.
2. µg/kg = micrograms per kilogram, or parts per billion (ppb)
3. N/A = not available
4. J = Compound estimated by laboratory.
5. B = Compound also detected in the associated blank.



FIGURES

**HISTORIC KINGSTON WATERFRONT #1, LLC
HISTORIC KINGSTON WATERFRONT, L&M, LLC**



MAP REFERENCE

THIS MAP WAS PREPARED FROM THE FOLLOWING 15 MINUTE USGS MAPS:
 Kingston West Quadrangle 1964, Photorevised 1980
 Kingston East Quadrangle 1963, Photorevised 1980

SCALE	
HORZ: 1" = 2000'	VERT: N/A
DATUM:	
HORZ: N/A	
VERT: N/A	
0	1000
2000	
GRAPHIC SCALE	



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HISTORIC KINGSTON WATERFRONT, L&M, LLC
 HISTORIC KINGSTON WATERFRONT, #1, LLC
 USGS LOCATION MAP
 CORNELL-L&M, EAST STRAND STREET

CITY OF KINGSTON

ULSTER COUNTY, NEW YORK

PROJ. No. 20050157.A2H
DATE: JUNE 2007

FIG. 1

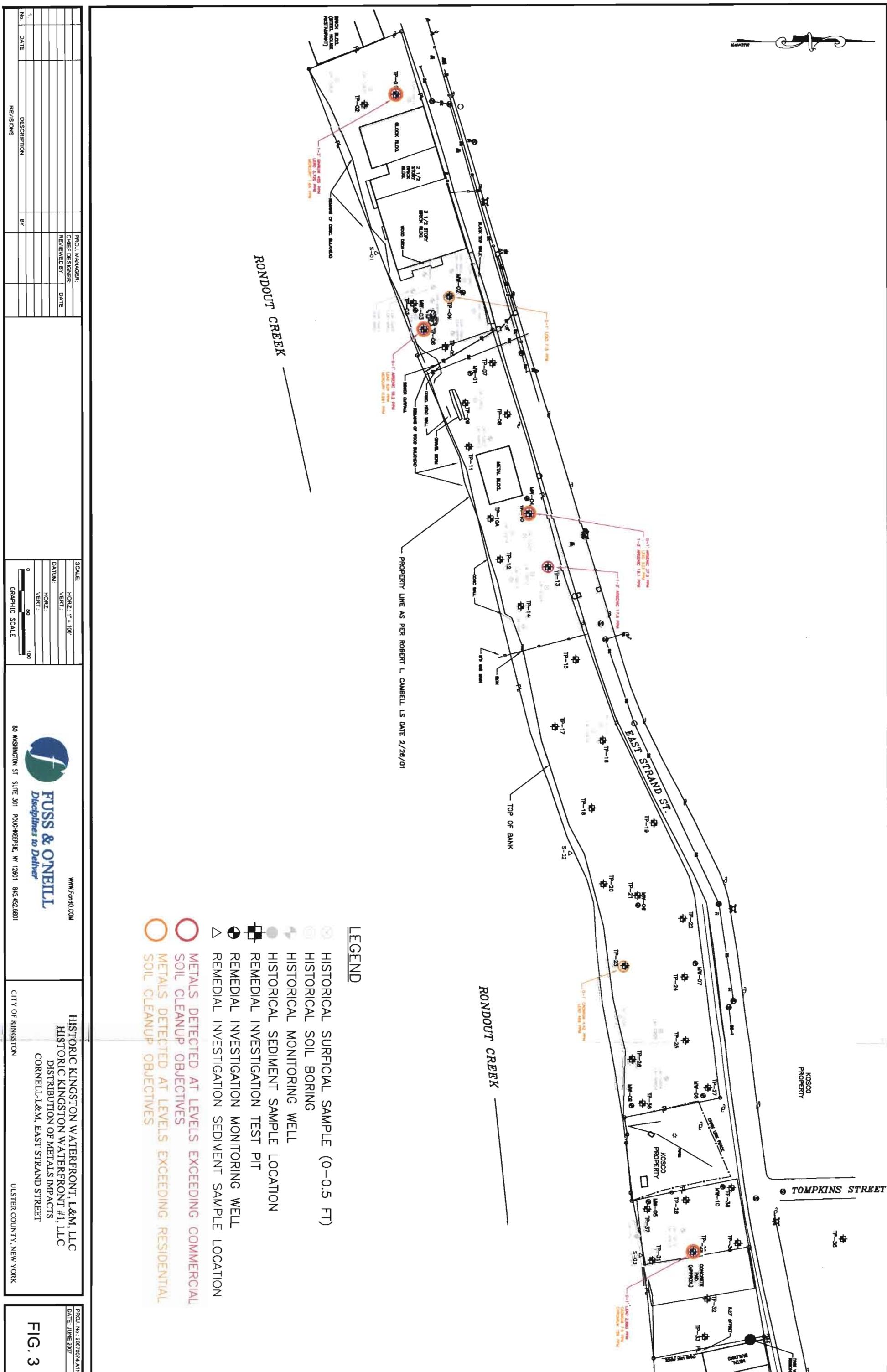
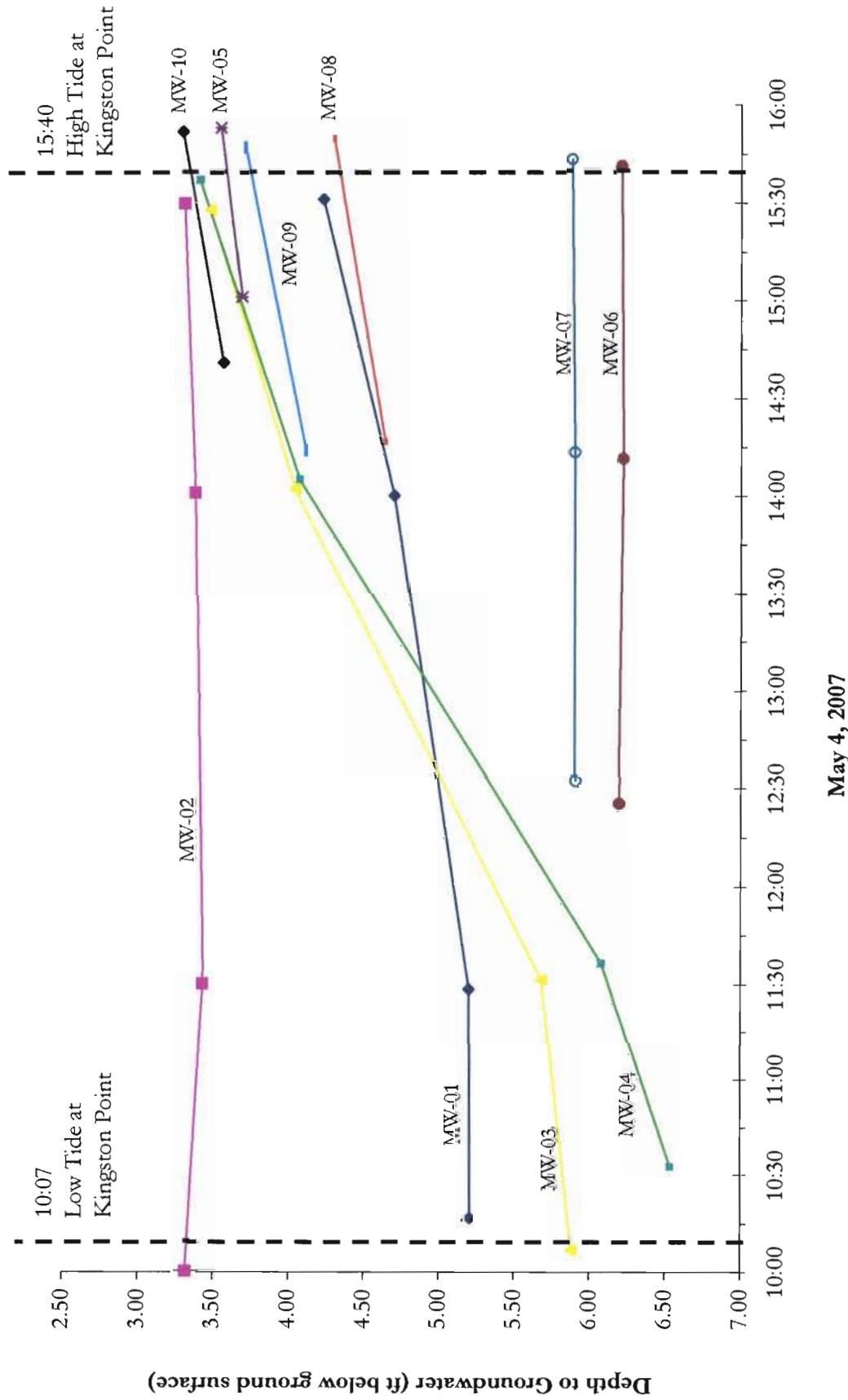


Figure 5:
Tidal Fluctuations in Monitoring Wells





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APPENDIX A

**HISTORIC KINGSTON WATERFRONT #1, LLC
HISTORIC KINGSTON WATERFRONT, L&M, LLC**

SANBORN MAPPING



FIRE INSURANCE MAP ABSTRACT RESEARCH RESULTS

6/08/07

20070074

**114 EAST STRAND ST
KINGSTON, NY 12401**

Listed below, please find the results of our search for historic fire insurance maps, performed in conjunction with your Environmental FirstSearch® report.

State	City	Date	Volume	Street Number(s)
New York	Kingston	1957	none	51, 52, 53, 54
New York	Kingston	1950	none	51, 52, 53, 54
New York	Kingston	1899	none	51, 52, 53, 54
New York	Kingston	1887	none	Index, 31, 32, 33, 34

This abstract is the result of a visual inspection of various Sanborn Map collections. Supporting documentation follows in the Appendix.

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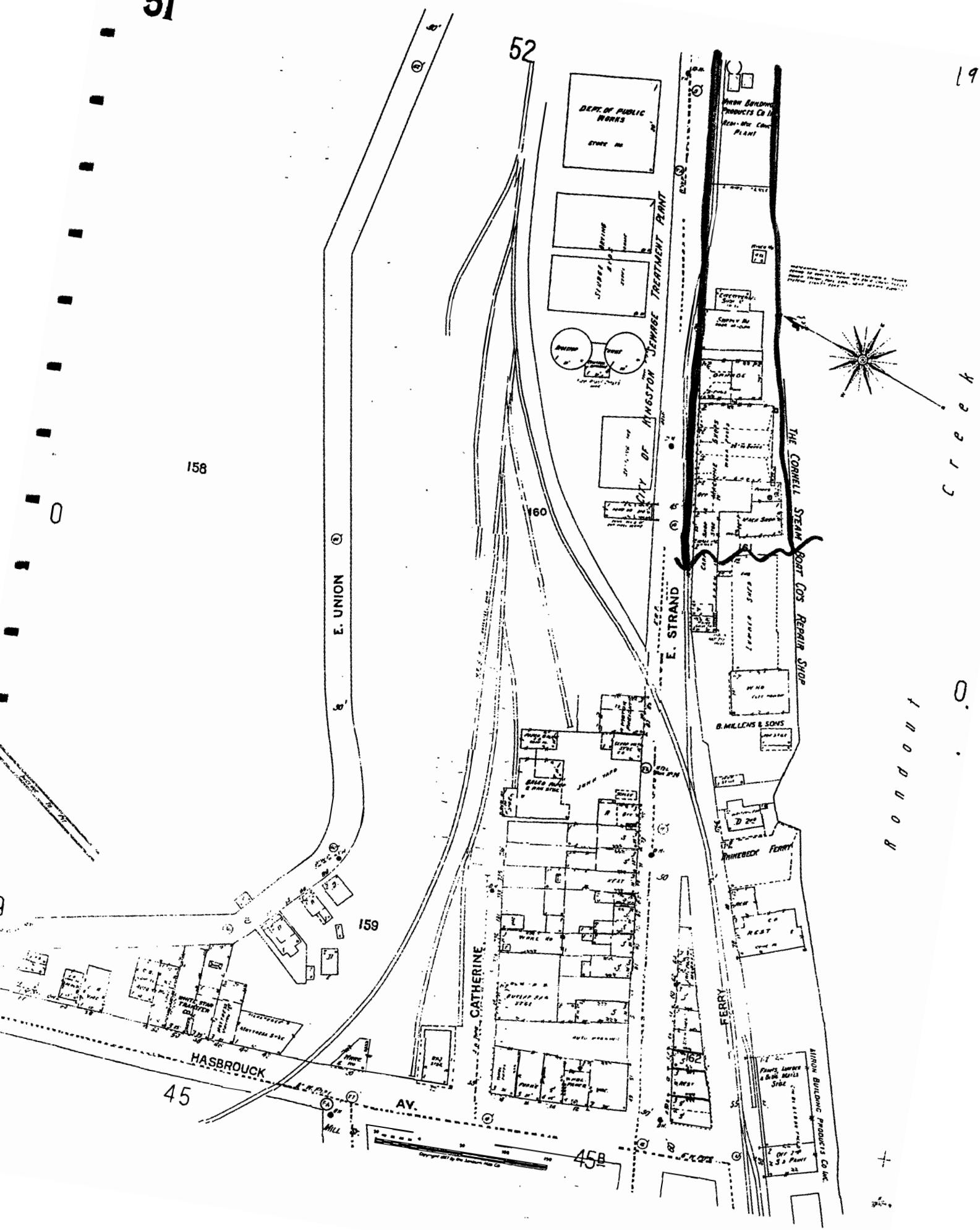
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FirstSearch Technology Corporation

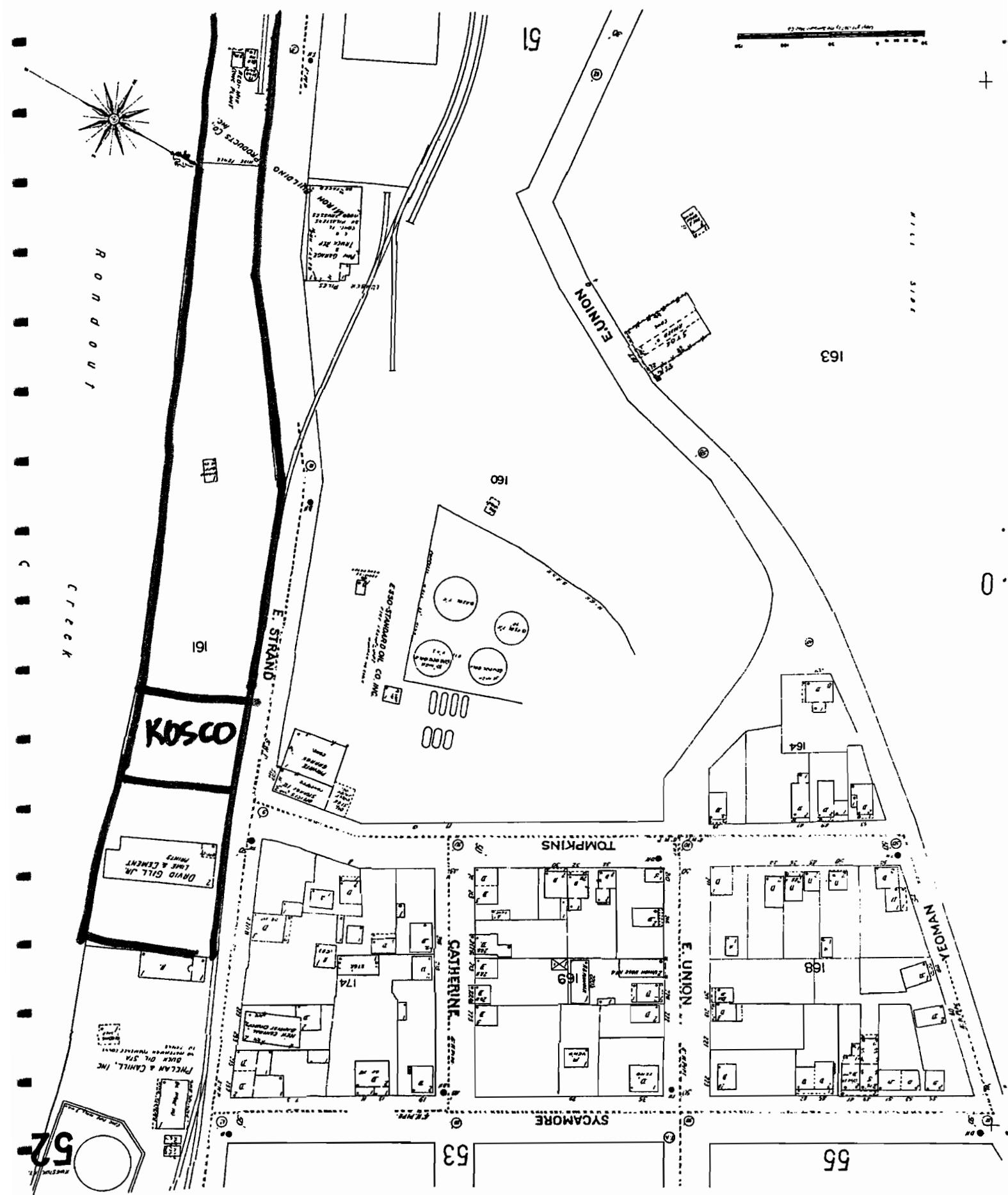
*10 Cottage Street, Norwood, MA 02062
Tel: 781-551-0470 Fax: 781-551-0471*

51

195



1957



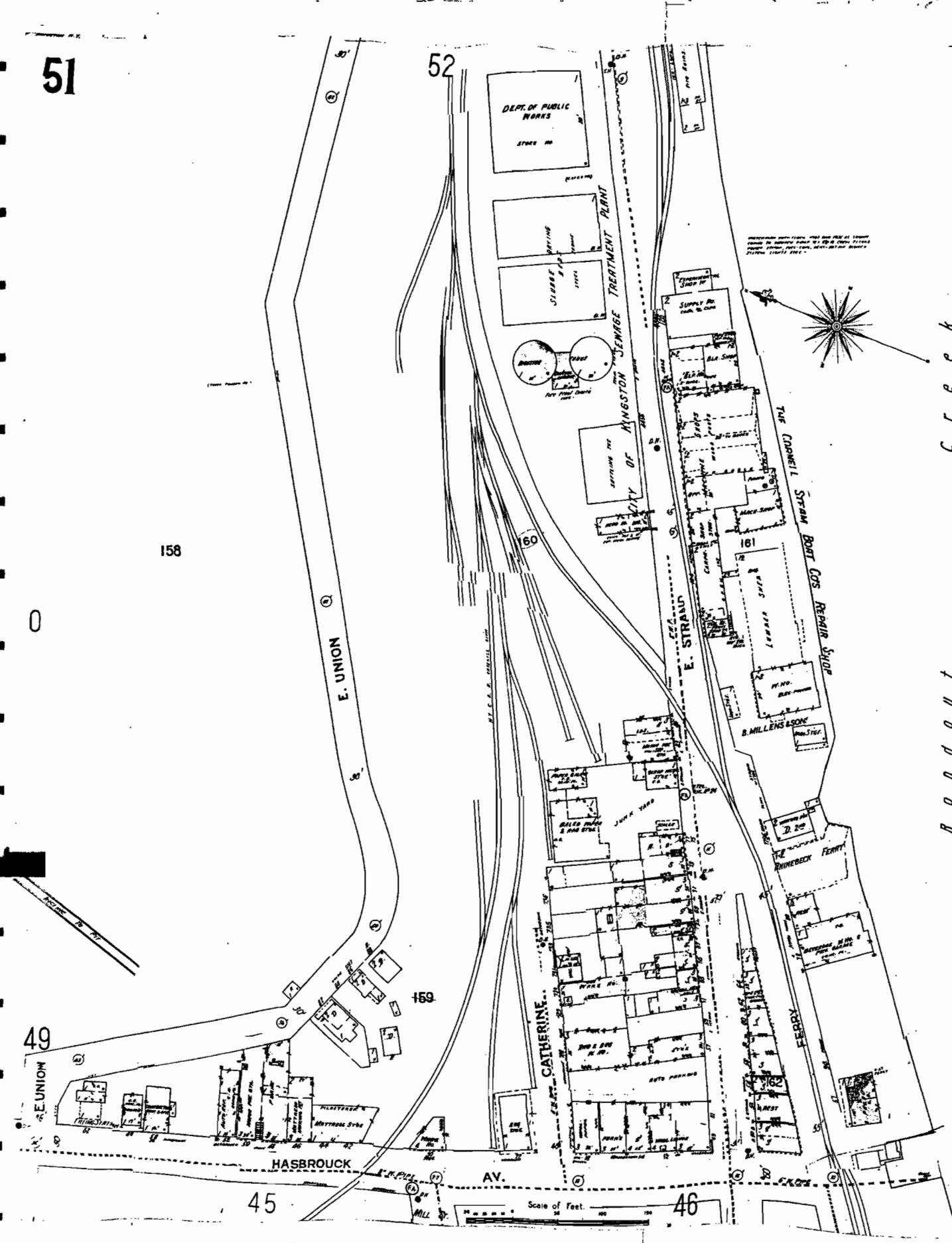
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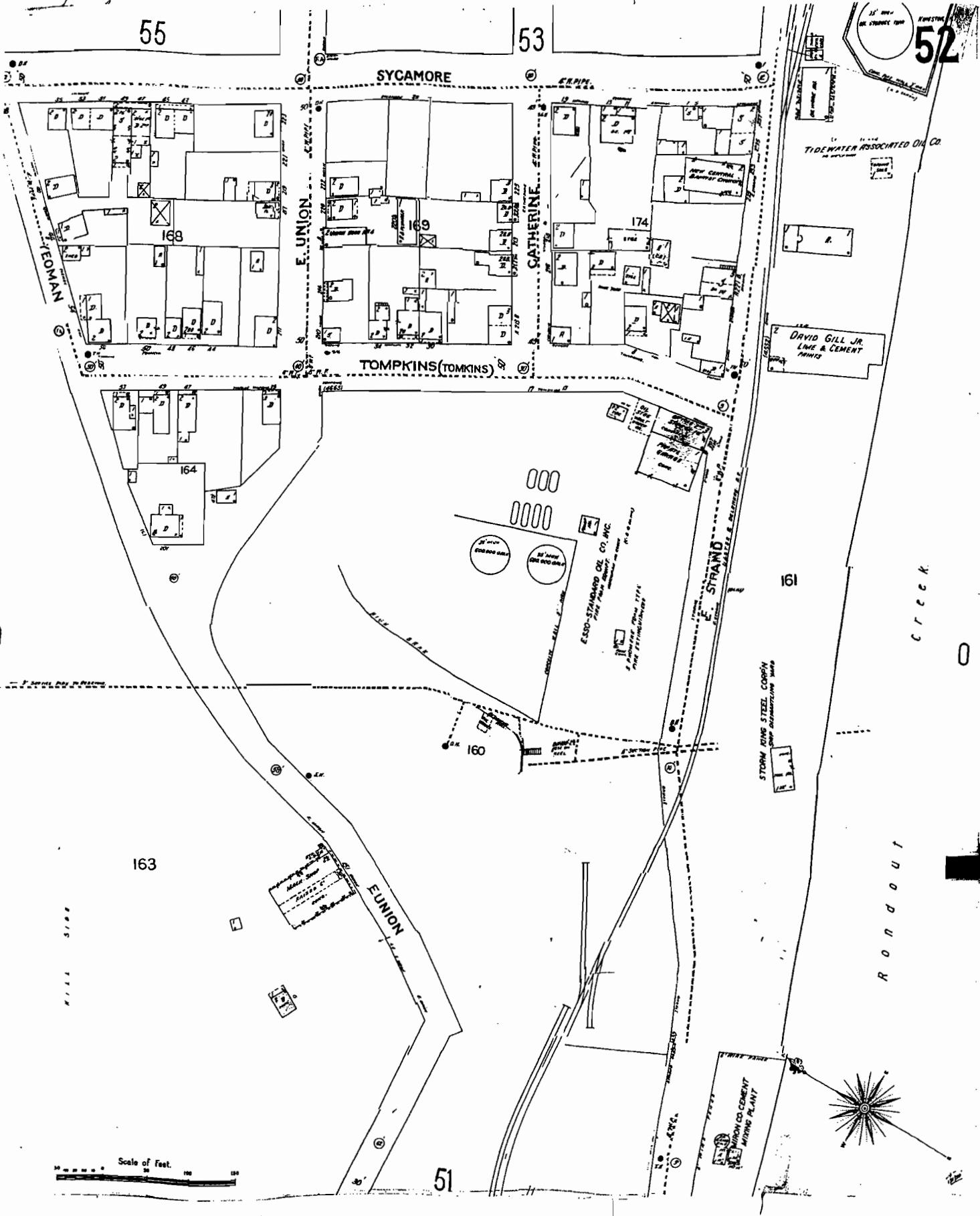
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C r e k

R o n d o u t



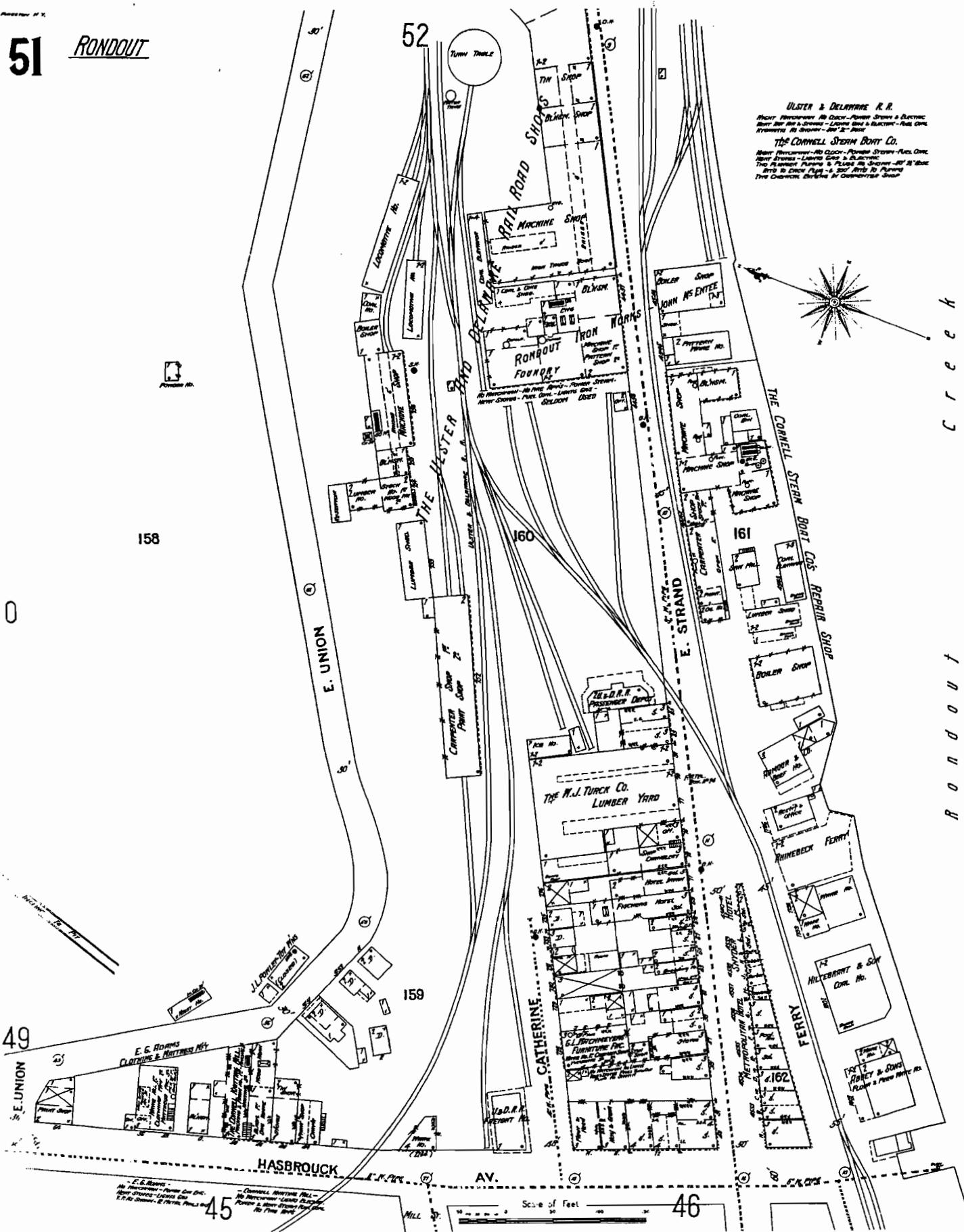
25b1



CS61

51

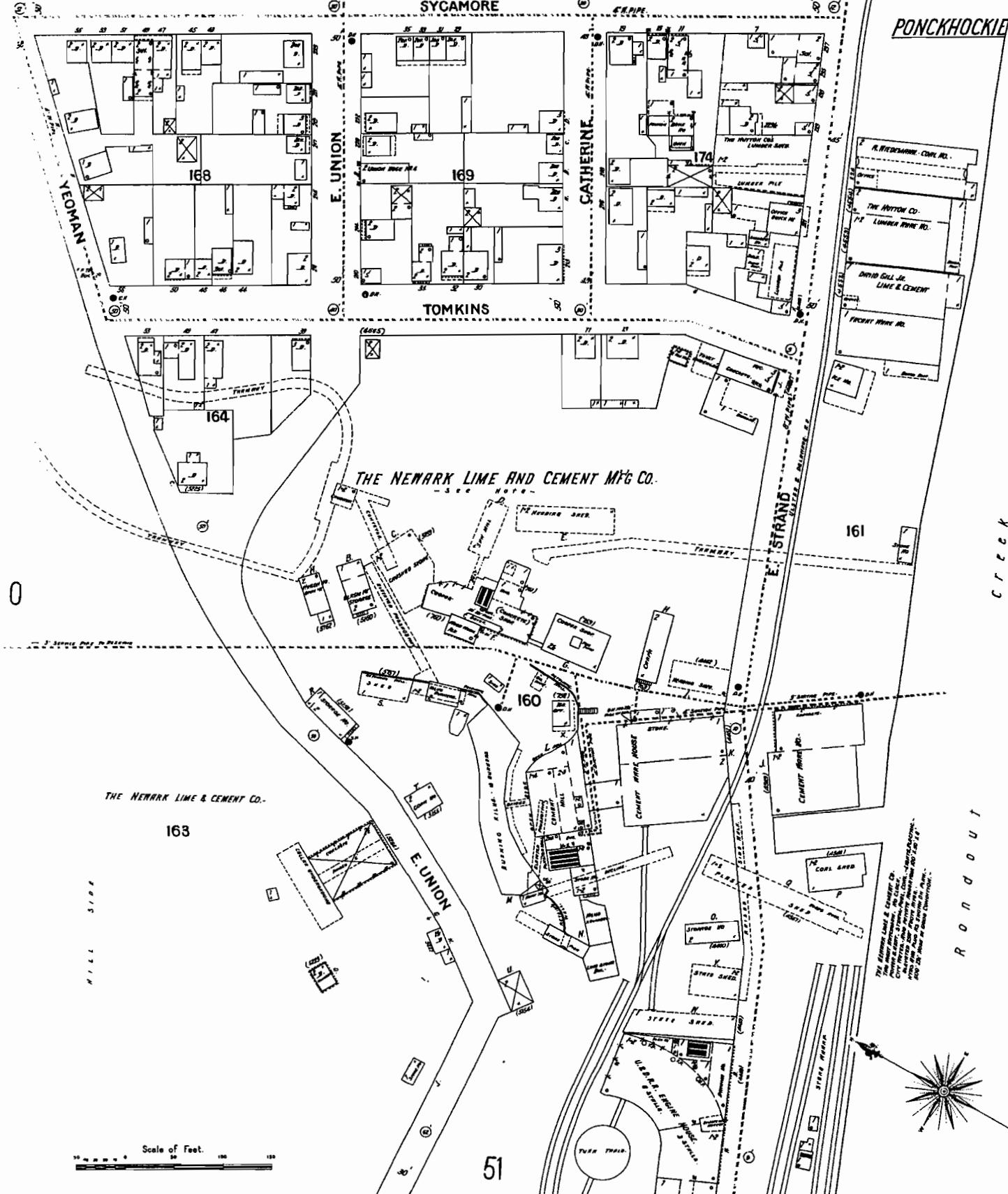
RONDOUT



55

53

52



169

(2373)

Mr. the undersigned Insurance Agents of the City of Kingston, N.Y., have examined the new map of this City made by the Sanborn Map & Publishing Company of New York, and we further, our knowledge is concerned, believe the same to be accurately copied.

Burke, G. W. Peeler,
Agent of Underwriters in the City of Kingston, N.Y.
Geo. C. Brewster, Jr.
Stoddard & Brewster,
6 Water Street, from
Kroft & Barnes
22 Main Street.

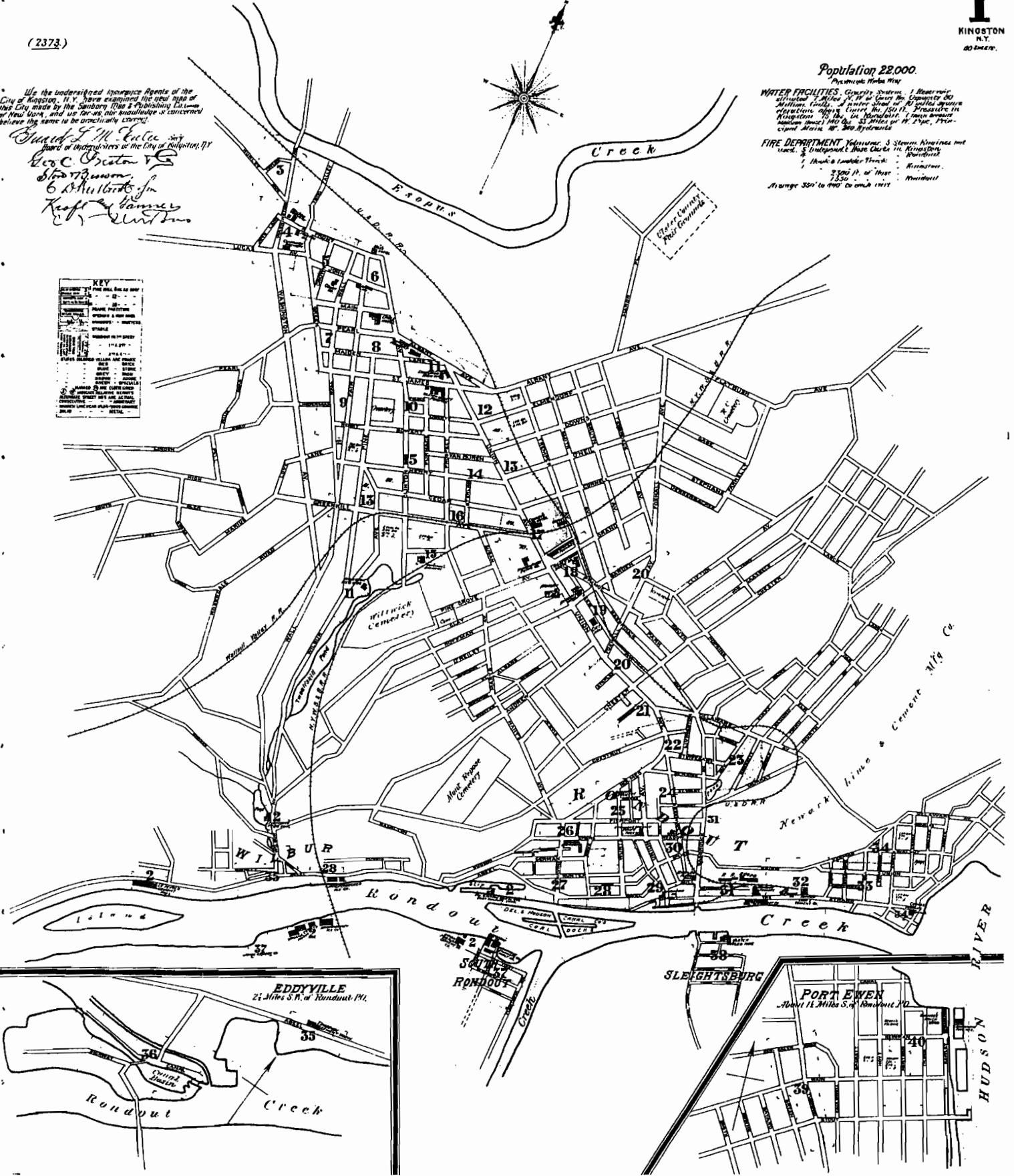


Population 22,000.

Probable Fire Map

WATER FACILITIES - City Water Reservoir, 1 Reservoir, 1.5 Miles S.E. of City. Capacity 60 Million Gallons. A water street of 10 Miles length, 100 ft. wide, 10 ft. deep, 10 ft. high, 10 ft. above ground level. 1 main branch, 100 ft. 50 Miles of P. 2 type, 100 ft. 100 Miles of P. 3 type, 100 ft. 100 Miles of P. 4 type, 100 ft.

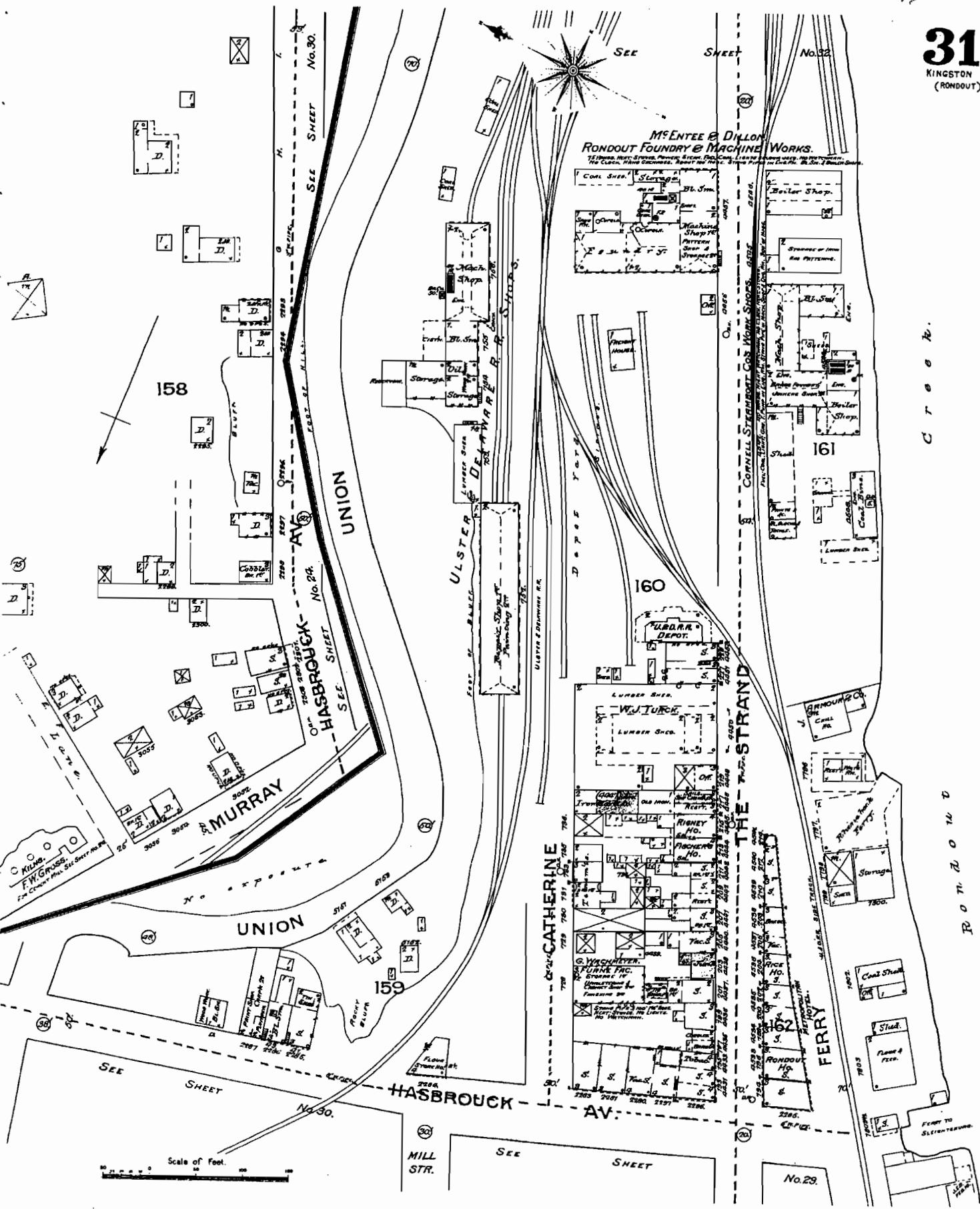
FIRE DEPARTMENT - Volunteer. 3 steam fire engines used. 1 independent hose car in addition to fire department. 1 Hook & Ladder truck. Firehouse. 250 ft. of Hose. 1,500 ft. of Hose. 1,500 ft. of Hose. Strength 350 to 400 to each man.



L 281

C r o o k .

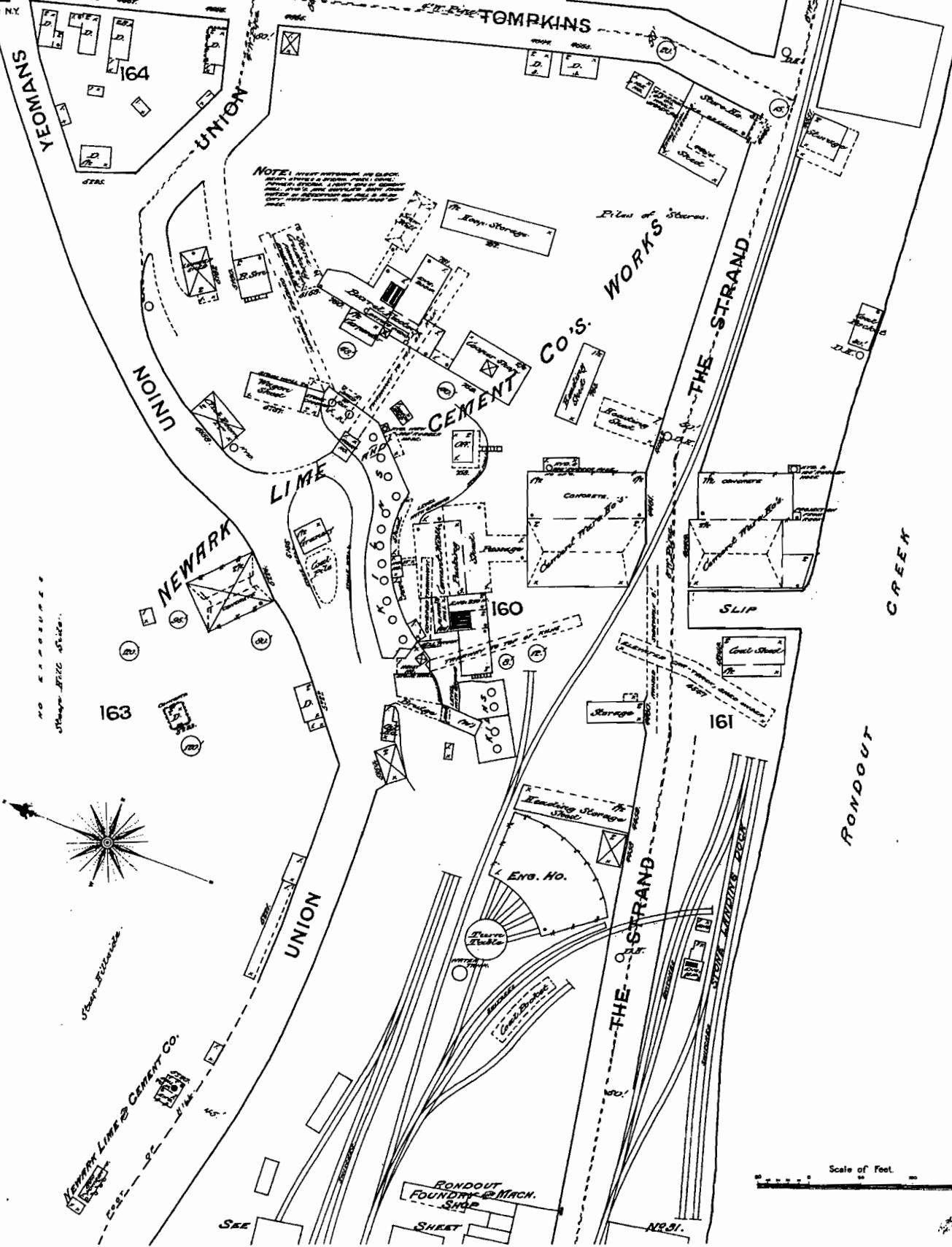
R O M A N O W



32

KINGSTON N.Y.
RONDOOT

SEE SHEET NO. 33.



L881



APPENDIX B

**HISTORIC KINGSTON WATERFRONT # 1, LLC
HISTORIC KINGSTON WATERFRONT, L&M, LLC**

TEST PIT, MONITORING WELL COMPLETION AND SAMPLE LOGS

Test Pit # TP-01

Location: W side of Cornell Bldg - street side

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/26/07
Time:	0847
Sample Prefix:	7670704710 = RFP01
Logged By:	LNG

Contractor:	GAP Excavating
Operator:	Frankie
Backfill:	native



FUSS & O'NEILL
Discipline: to Deliver

SAMPLE NUMBER	DEPTH from - to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-02	0-1	gravel + sand sub base		0-1 0.0 ppm
	1-2.5	loamy, pulv. & white; little c sand		
	2.5-3.5	fill - ash, coal, slag		1-3 0.0 ppm
	3.5-4.5	med. br silt + sand		
	4.5-5	blk/dk br coal + slag		3-5 0.1 ppm
	5-7	med. br - gray silt/sand/cly - dense wd.		
	-			
	-	* no odors		
	-			
	-			
	-			
	-			

APPROX. SURFACE ELE. (FT-MSL)	6'
DIMENSIONS OF PIT:	12x4'
TOTAL DEPTH	7'
DEPTH TO BEDROCK	+
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	surficial
DEPTH TO WATER	6'
WERE PHOTOS TAKEN?	yes
METHOD OF SAMPLE COLLECTION	q, ab

TEST PIT SKETCH:

-02

1-3

VOC, SVOC, metals

COMMENTS:

Test Pit # TP-02
 Location: W side of Cornell Bldg - River side

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/26/07
Time:	0815
Sample Prefix:	767070426 - RI-TPO2
Logged By:	LWG

Contractor: GAP Excavating
 Operator: Frankie
 Backfill: native



SAMPLE NUMBER	DEPTH TIME	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-01	0 - 1.5 0836	gravel sub base, little c sand		0-1 0.0 ppm
	1.5 - 2.5	brick - full & pulverized		
	2.5 - 4	fill - ash, coal, slag, rock		1-3 0.0 ppm
	4 - 6	med br silt + sand, portions blk/grey (hydric?)		
	-	* no odors		7-8 0.0 ppm
	-			
	-			
	-			
	-			
	-			
	-			
	-			

APPROX. SURFACE ELE. (FT-MSL)	<u>6'</u>
DIMENSIONS OF PIT:	<u>14 X 4'</u>
TOTAL DEPTH	<u>6'</u>
DEPTH TO BEDROCK	<u>—</u>
DEPTH TO MOTTLING	<u>N/A</u>
DEPTH TO ROOTS	<u>surficial</u>
DEPTH TO WATER	<u>6'</u>
WERE PHOTOS TAKEN?	<u>yes (2)</u>
METHOD OF SAMPLE COLLECTION	<u>grab</u>

TEST PIT SKETCH:

-01 1-3 SVOC

COMMENTS:

Test Pit # R1-TP-3

Location: _____

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	10/26/07
Time:	10:00
Sample Prefix:	767070426 - R1-TP03
Logged By:	LMC

Contractor: GAP Excavating
 Operator: Frankie
 Backfill: nature



SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-05	10:05	0 - 1.5	med br f-m sand organic		
		1.5 - 2	roots, dk br f-m sand + organic layer, little rock	0-1	0.0 ppm
		2 - 4.5	fill - ash sand (med br), coal. Little silt clay in some places		
		4.5 -		1-3	0.3 ppm
		-	* minor sheen on GW		
		-	✓ no odor	3-6	2.3 ppm
		-			
		-			
		-			
		-			
		-			
		-			
		-			

APPROX. SURFACE ELE. (FT-MSL)	4.5'
DIMENSIONS OF PIT:	12 x 4
TOTAL DEPTH	4.5'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	2'
DEPTH TO WATER	4'
WERE PHOTOS TAKEN?	yes
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-05 0-1 SVOC, SVOC MS(MSD)

* run SVOC duplicate here too. W, extra volume

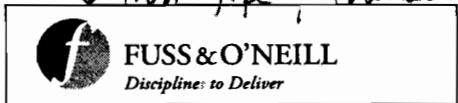
COMMENTS:

Test Pit # RI-TP-4

Location: center of E. Cornell Parcel - moved from al org bldc
blc of 6" iron pipe = foundations.

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/26/07
Time:	0935
Sample Prefix:	7670-0426- RI-TP04

Contractor:	GAP Excavating
Operator:	Frankie
Backfill:	native



Logged By:

SAMPLE NUMBER	TIME	DEPTH from - to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-03	0937	0 - 0.7	med br in sand, organics		0-1 0.0 ppm
		0.7 - 2	fill - ash, coal, slag, ash stained orange		
-04	0938	2 - 3	fill - brick, ash, slag, trace roots		1-3 0.0 ppm
		3 - 4.5	med br sand + silt, stained. coal + ash @ bottom.		
		-			3-6 0.3 ppm
		-	refusal @ 4.5 - likely a		
		-	conc. pad.		
		-			
		*	3-6' samples are actually 3-4.5'		
		-			
		-			

APPROX. SURFACE ELE. (FT-MSL)	4'
DIMENSIONS OF PIT:	10'x4'
TOTAL DEPTH	4.5'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	3'
DEPTH TO WATER	3.2'
WERE PHOTOS TAKEN?	YES (2)
METHOD OF SAMPLE COLLECTION	quad

TEST PIT SKETCH:

-03 0-1 VOC, SVOC, metals
 -04 3-6 VOC, SVOC, VOC MS/MSD

COMMENTS:

* GW had a minor sheen - no appreciable odors.

Test Pit # R1-TP-5
 Location: Edge of trees on Cornell

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/25/07
Time:	1420
Sample Prefix:	767070425 - R1-TP05
Logged By:	LMB

Contractor: GAP Excavating
 Operator: Frankie
 Backfill: natural



(P1D)

0-1
0.2 ppm
1-3
0.3 ppm
3-6
0.6 ppm

SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-28	1422	0 - 1.4	topsoil - org silt/SA, nts, br-lt f-m gravel, dry		
		1.4 - 2.0	limestone kiln ash/clay (pult), dry - moist		
-29	1424	2.0 - 4.0	br f-m SA w/silt some bl-stain fill mat w/brick frag, stones, slag etc / lg tree root		
		4.0 - 6.5	br f SA / SI, sat, pockets of bl-stain		
		-	No obv. odors / sheens		
		-	water @ 6.0 - 6.5		
		-			
		-			
		-			
		-			
		-			
		-			

APPROX. SURFACE ELE. (FT-MSL)	5'
DIMENSIONS OF PIT:	10 x 4'
TOTAL DEPTH	6.3'
DEPTH TO BEDROCK	N/A
DEPTH TO MOTTLING	
DEPTH TO ROOTS	2'
DEPTH TO WATER	6'
WERE PHOTOS TAKEN?	yes
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-28 0-1 metals
 -29 3-6 VOC, SVOC, TP-H
 ↑
 orig. from
 TP-34.

COMMENTS:

Test Pit # RI - TP - 6

Location: _____

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/25/07
Time:	14:50
Sample Prefix:	767070125
Logged By:	RET/LMG

Contractor:	GAP Excavating
Operator:	GAP frankie
Backfill:	natural



767070125-34 - TP-06()

SAMPLE NUMBER	DEPTH TIME	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-30	0 - 1.0 1450	topsoil / grases	0-1	0.0 ppm
	1.0 - 1.7	concrete pad	1-3	0.1 ppm
-31	1.7 - 2.4	→ kiln ash / slag, cinders, br SA br - ilic br - dk gr f - m SA, 1.1t organic / roots	3-6	0.8 ppm
	2.4 - 6.0	→ contains some bricks, gravel / stone frags = fill		
-32	6.0 - 6.5 1450	SA A saturated - water @ 6.5		
	-			
-33	1450	-		
	-			
-34	1450	-		
	-			
	-			
	-			

APPROX. SURFACE ELE. (FT-MSL)	4.5
DIMENSIONS OF PIT:	14' x 5'
TOTAL DEPTH	6.5
DEPTH TO BEDROCK	N/A
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	N/A
DEPTH TO WATER	6.5
WERE PHOTOS TAKEN?	YES
METHOD OF SAMPLE COLLECTION	AR

COMMENTS:

TEST PIT SKETCH:

- 30 0-1 metals, SVOC
- 31 0-1 metals dup.
- 32 1-3 VOC
- 33 1-3 VOC dup
- 34 3-6 TPH

Test Pit # RI -TP -7
 Location: NE corner of L&M

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/26/07
Time:	1029
Sample Prefix:	76707A426 - RI
Logged By:	LMG

Contractor: GAP Excavating
 Operator: Frankie
 Backfill: native



SAMPLE NUMBER	DEPTH from - to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-06	0 - 0.5	gravel sub base		0-1 6.7 ppm
	0.5 - 1.2	fill- ash: coal, orange ash/brick mix		
	1.2 - 2	black organic layer fm sand, roots	1-3	0.0 ppm
	2 - 2.5	fill- ash, coal, slag		
	2.5 - 4.5	lt. br fm sand, light staining	3-6	1.0 ppm
	4.5 - 4.8	dense clay; black on top; olive on bottom		
	4.8 - 5.25	fine silt med brown to water (5'), dr. gray @ bottom		
	-			
	-			
	-			
	-			

APPROX. SURFACE ELE. (FT-MSL)	6.5'
DIMENSIONS OF PIT:	12x4'
TOTAL DEPTH	5.25'
DEPTH TO BEDROCK	1'
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	3'
DEPTH TO WATER	5'
WERE PHOTOS TAKEN?	YES
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-06 0-1 SVOC
 (moved from 3-6)

COMMENTS:

- No noticeable sheen on GW
- no odors

Test Pit # RI-TP-8

Location: _____

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/26/07
Time:	1045
Sample Prefix:	767670426 - RI-TP08
Logged By:	LNG

Contractor:	GAP Excavating
Operator:	Frankie
Backfill:	nature



SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-07	1048	0 - 1	organics, gravel sub base, placed gravel		0-1 103 ppm
		1 - 3	gravel (fine), c sand, some staining, Roots, 1" pvc line		
-08	1049	3 - 4	lt br m-s sand thin layer rippled stained dk fr. on bottom		1-3 0.8 ppm
		4 - 7	med br/olive + sand/silt/clay.		
-09	1051	"			3-6' 11.4 ppm
		"			
		"			
		"			
		"			
		"			
		"			
		"			
		"			

APPROX. SURFACE ELE. (FT-MSL)	5'
DIMENSIONS OF PIT:	12x4!
TOTAL DEPTH	7'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	2'
DEPTH TO WATER	4.5'
WERE PHOTOS TAKEN?	YES
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-07	0-1	SVOC
-08	1-3	VOC, VOC MS/MSD
-09	3-6	SVOC, metals, metals MS/MSD

COMMENTS:

* slight pet. odors

Test Pit # RI-TP-9

Test Pit # K-17-1
Location: W side of Ltrn, immed. W of conc. structure

Project Name:	L&M Remedial Investigation
Project Number:	20070974.A1N
Date:	4/25/07
Time:	1330
Sample Prefix:	767070425 -
Logged By:	LMG

Contractor: GAP Excavating
Operator: Frankie
Backfill: natural



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Discipline to Deliver

SAMPLE NUMBER	TIME
------------------	------

APPROX. SURFACE ELE. (FT-MSL)	5'
DIMENSIONS OF PIT:	10'-x-6'
TOTAL DEPTH	7'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	4 1/2'
DEPTH TO ROOTS	3'
DEPTH TO WATER	6.5'
WERE PHOTOS TAKEN?	yes
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-26 0-1 VOC
-27 1-3 SVOC, TPH

COMMENTS:

Test Pit # RI-TP-10
Location: NE corner of 6m bldg

Project Name: L&M Remedial Investigation
Project Number: 20070074.A1N
Date: 4/26/07
Time: 12:57
Sample Prefix: 767070426 - RT-
Logged By: LMB

Contractor: GAP Excavating
Operator: Frankie
Backfill: native



FUSS & O'NEILL

Disciplines to Deliver

Disciplines to Deliver

APPROX. SURFACE ELE. (FT-MSL)	5.5'
DIMENSIONS OF PIT:	8x5'
TOTAL DEPTH	4.5'
DEPTH TO BEDROCK	—
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	N/A
DEPTH TO WATER	4'
WERE PHOTOS TAKEN?	yes
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-10	0-1	SVOC, metals
-11	1-3	VOC, metals JPH added, 1-3'

COMMENTS:

- Moderate odors near the surface (0.5-2')
 - Skewer on Water

Test Pit # TP-10A
Location: SE corner of L&M bldg

EXTRA

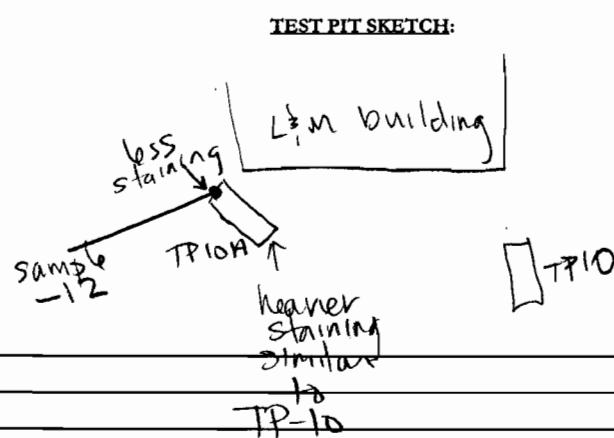
Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/26/07
Time:	1325
Sample Prefix:	767070426 -- RI-TP10A
Logged By:	VMG

Contractor: GAP Excavating
Operator: Frankie
Backfill: nature



SAMPLE NUMBER	TIME	DEPTH from - to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-12	1332	0 - 0.2	gravel (1" dia)		0-1 0.1 ppm
		0.2 - 1.5	med br f-m sand, minor staining		
		1.5 - 5.5	fill; 1.5-2.5 brick, c. sand, metal pieces 2.5-3 organic layer - blk sand + silt 3-5.5 stained med br sand + silt w/ gravel + ash mixed		1-3 0.2 ppm
		-			
		-			3-6 0.5 ppm (calibrated)
		-	- shear on GW (minimal)		
		-	- Very slight odors		
		-			
		-			
		-			
		-			
		-			

APPROX. SURFACE ELE. (FT-MSL)	5'
DIMENSIONS OF PIT:	16 X 4'
TOTAL DEPTH	5.5
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	2.5
DEPTH TO WATER	4.5
WERE PHOTOS TAKEN?	yes
METHOD OF SAMPLE COLLECTION	grab



COMMENTS:

TP-10

Test Pit # RI-TP-11
 Location: W side of blue shed

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/25
Time:	1330
Sample Prefix:	767070425-25
Logged By:	LMG

Contractor: GAP Excavating
 Operator: Frankie
 Backfill: native



FUSS & O'NEILL
Discipline: to Deliver

SAMPLE NUMBER	DEPTH from - to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-25	0 - 2.0	lt br - lt gr f-c SA, w/ subbase gr dry, loose, lt ts/oreg	0-1	32.2 ppm
	2.0 - 3.0	bl-stained f-c SA (staining may be partially organic)	1-3	0.3 ppm
	3.0 - 4.5	likely some pulv slag/cinders(coal) lt ol br f-c SA, lt-trac ST, lt clay nst-wet	3-6	0.6 ppm
	-	warter at 4.5 ft bgs, no odors no obvious sheen		
	-			
	-			
	-			
	-			
	-			

APPROX. SURFACE ELE. (FT-MSL)	5'
DIMENSIONS OF PIT:	
TOTAL DEPTH	4.5'
DEPTH TO BEDROCK	NA
DEPTH TO MOTTLING	NA
DEPTH TO ROOTS	NA
DEPTH TO WATER	4.5
WERE PHOTOS TAKEN?	NO
METHOD OF SAMPLE COLLECTION	G-R

TEST PIT SKETCH:

-25 0-1 SVOC

COMMENTS:

Test Pit # R1-TP-12

Location: _____

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/26/07
Time:	1348
Sample Prefix:	767070426 - R1-TP12
Logged By:	LNG

Contractor:	GAP Excavating
Operator:	Frankie
Backfill:	native



D-1'
SVOC
metals

-1-3'
VOC
TPH

SAMPLE NUMBER	DEPTH TIME	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-13	1353	0 - 0.1 gravel sub base		0-1 0.1 ppm
		0.1 - 2 med br fill sand (f-m) some gravel, little brick (crushed)		
-14	1355	2 - 3 dk br fill f-m sand, roots @ 2'		1-3 102 ppm
		"		
		refusal @ 3' - concrete pad		
		" * conc. pad spans length of shoreline - to center of L&M property		
		"		
		- slight odor @ bottom		
		"		
		"		
		"		

APPROX. SURFACE ELE. (FT-MSL)	5'
DIMENSIONS OF PIT:	10x4
TOTAL DEPTH	3'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	2'
DEPTH TO WATER	-
WERE PHOTOS TAKEN?	yes
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-13 0-1 metals, SVOC
 -14 1-3 VOC, TPH

COMMENTS:

Test Pit # R1-TR-13

Location: _____

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/26/07
Time:	14:14
Sample Prefix:	761070426 - R1-TP13
Logged By:	LMB

Contractor: GAP Excavating
Operator: Frankie
Backfill: native



SAMPLE NUMBER	DEPTH TIME	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
0-1' SVOC metals	-15 1420	0-0.5 gravel sub base		D-1 0.7 ppm
		0.5-2' lt-med br sand, some staining trace roots, trace gravel		
1-3' VOC metals	-16 1421	2-3.8' med-dk gr c sand; some polarized and w/ moist.	1-3 0.9 ppm	
3-6' SVOC	-17 1422	refusal @ 3.8' - conc. pad.	3-6 1.0 ppm	
↑				
Sample actually	-	very slight odor		
3.0-3.8'	-			
	-			
	-			
	-			
	-			
	-			

APPROX. SURFACE ELE. (FT-MSL)	5'
DIMENSIONS OF PIT:	15' x 4'
TOTAL DEPTH	3.8'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	1'
DEPTH TO WATER	-
WERE PHOTOS TAKEN?	YES
METHOD OF SAMPLE COLLECTION	gravel

TEST PIT SKETCH:

1st Attempt: hit Rails $\frac{1}{3}$ conc. pad 0.5 ft bg;
2nd Attempt: 10' West.

-15	0-1	SVOC, metals
-16	1-3	VOC, metals
-17	3-6	SVOC

COMMENTS:

Test Pit # R1-TP-14

Location: _____

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/25/07
Time:	1300
Sample Prefix:	767070425 - RI-TP14
Logged By:	LMB

Contractor:	GAP Excavating
Operator:	Frankie Native
Backfill:	Native



SAMPLE NUMBER	DEPTH TIME	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-24	1305 0 - 0.2	silt/sand/organics, subbase		0-1 16.7 ppm
		med br m-c sand/organics		
	1.2 - 3.5	fri sand, layers of ash + coal all coal @ bottom, orange sand	1-3	1.5 ppm
	-	GW @ 3', black from coal.	3-6	2.8 ppm
	-	no odors		
	-			
	-			
	-			
	-			
	-			
	-			

APPROX. SURFACE ELE. (FT-MSL)	4.5
DIMENSIONS OF PIT:	8 x 4
TOTAL DEPTH	3.5
DEPTH TO BEDROCK	NA
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	1'
DEPTH TO WATER	3'
WERE PHOTOS TAKEN?	Yes
METHOD OF SAMPLE COLLECTION	grabs

TEST PIT SKETCH:

-24 0-1 SVOC, VOC

COMMENTS:

Test Pit # RI-TP-15

Location: _____

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/25/07
Time:	1240
Sample Prefix:	767070425 - RI-TP15
Logged By:	LMSG

Contractor:	GAP Excavating
Operator:	Frankie
Backfill:	Natural



FUSS & O'NEILL
Discipline: to Deliver

SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-23	1245	0 - 0.7	f sand, organics, some metal pieces		0-1'
		0.7 - 2.6	f-m brown sand, roots, moist		0-1' 0.0 ppm
		2.6 - 3.7	coal, ash, slag little sand *FILE*		
		3.7 - 5	dk br /blk stained sand+ clay, ash + coal		1-3' 0.0 ppm
		-			
		-			3-6' 0.0 ppm
		-			
		-			
		-			
		-			
		-			
		-			
		-			

APPROX. SURFACE ELE. (FT-MSL)	5'
DIMENSIONS OF PIT:	10 x 5'
TOTAL DEPTH	5'
DEPTH TO BEDROCK	—
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	3'
DEPTH TO WATER	4.6'
WERE PHOTOS TAKEN?	Yes
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-23 0-1 SVOC

COMMENTS:

Test Pit # R1-TP-16

Location: _____

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/25/07
Time:	1043
Sample Prefix:	767070425-
Logged By:	LMG

Contractor:	GAP
Operator:	FRANKIE
Backfill:	NATIVE



- RI-TP16

SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-17	1046	0 - 0.6	large coke sub base		0-1 0.0 ppm
		0.6 - 1.4	med- dk br f-m sand, roots		
-18	1047	1.4 - 2.9	brick- full + pulverized, roots		1-3 0.0 ppm
		2.9 - 3.2	ash, stained soil, coal		
-19	1048	3.2 - 5	med br silt + sand, rock		3-6 0.0 ppm
		-			
		-	no odors, minimal staining		
		-			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROS. SURFACE ELE. (FT-MSL)	7
DIMENSIONS OF PIT:	8 x 3
TOTAL DEPTH	5
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	4'
DEPTH TO WATER	4.5'
WERE PHOTOS TAKEN?	yes
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-17 0-1 SVOC
 -18 1-3 VOC
 -19 3-6 metals

COMMENTS:

Test Pit # RI-TP-17

Location: along River, moved to Ctr of site 10' (conc. pad)

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/29/07
Time:	12:15
Sample Prefix:	767070425 -
Logged By:	LMG

Contractor:	GAP
Operator:	Frankie
Backfill:	native



- RI-TP17

6-1'
metals

1-3'
SVOC

SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-21	1217	0 - 0.6	sub base (1") and asphalt		0-1 0 ppm
		0.6 - 1	lt br f-m sand, some rock		
-22	1218	1 - 3.5	med br sand, fill: rock, brick, unten concrete		1-3 0.0 ppm
		"	* @ 3.5' - old RR track w/ wooden ties (smells like creosote). Pier w/ concrete footing on S. side of pit., ⇒ refusal @ 3.5'	3-6	0 ppm
		"			
		"			
		"			
		"			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	7'
DIMENSIONS OF PIT:	8' x 5'
TOTAL DEPTH	3.5'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	none
DEPTH TO WATER	-
WERE PHOTOS TAKEN?	yes (2)
METHOD OF SAMPLE COLLECTION	grabs

Photo #s

1st try - conc. pad @ 2'
2nd try

-21 0-1 metals
-22 1-3 SVOC

COMMENTS:

Test Pit # RI-TP-18

Location: near tree along River-Ctr of site. \Rightarrow moved to roadway b/c conc. pad

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/25/0
Time:	11:10
Sample Prefix:	767070425 - RI-TP18
Logged By:	LMG

Contractor:	GAP
Operator:	Frankie
Backfill:	Natural

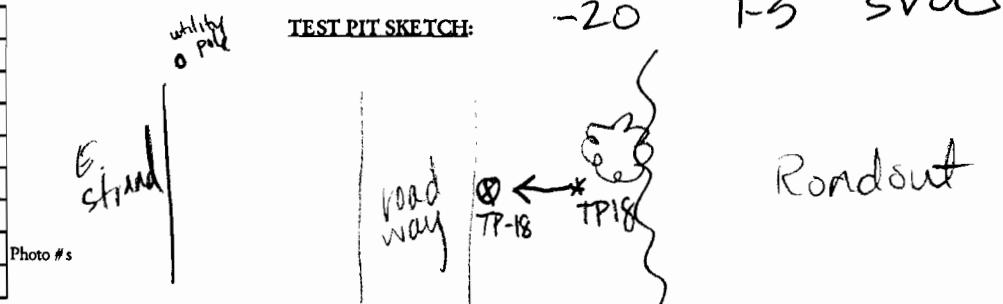


SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-20	11:16	0" - 1"	Grav subbase		0'-1' 0.0 ppm
		1" - 1.3"	lt br f. n SA, roots, dry		
		1.3" - 4.5"	bricks, lg rocks, rr ballast, dry, loose	1-3	0.0 ppm
		4.5" - 5.0"	SAA sat		
		-		3 to 5'	0.0 ppm
		-			
		-			
		-			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)
DIMENSIONS OF PIT:
TOTAL DEPTH 4.5' - 5.0'
DEPTH TO BEDROCK NA
DEPTH TO MOTTLING NA
DEPTH TO ROOTS NA
DEPTH TO WATER 4.5' - 5.0'
WERE PHOTOS TAKEN? YES
METHOD OF SAMPLE COLLECTION G-R



COMMENTS: void spaces - lots of brick, rr ballast.

Test Pit # RI-TP-19

Location: _____

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/29/07
Time:	10:13
Sample Prefix:	767070425 -- RI-TP19
Logged By:	LMG

Contractor:	BAP
Operator:	Frankie
Backfill:	native



SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-14	10/7	0 - 1	sub base, organics, large roots some staining	0-1	0 ppm
		1 - 2	brick, m-c sand, roots		
-15	10/8	2 - 4.5	fill; c sand, brick ash, coal	1-3	
		4.5 - 5	blk organic silt f sand, roots		
-16	10/9	5 - 6.5	med br m-f sand, staining ash + coal @ bottom	3-6	0 ppm
		--			
		--			
		--			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	7.5'
DIMENSIONS OF PIT:	10x5'
TOTAL DEPTH	6.5'
DEPTH TO BEDROCK	6.5'
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	5'
DEPTH TO WATER	6'
WERE PHOTOS TAKEN?	yes (1)
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

- 14 0-1 SVOC, metals
- 15 1-3 VOC
- 16 3-6 SVOC

COMMENTS:

No odor.

Test Pit # R1-TP-20

Location: _____

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/25
Time:	09:32
Sample Prefix:	767070425 -
Logged By:	LMG

Contractor:	GAP
Operator:	Frankie
Backfill:	native



- R1-TP20

SVOC,
0-1'

SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
- 10	09:35	6-0.6	br f-m sand, organics		0-1 0 ppm
		0.6-2.8	coarse gravel (RR gravel)		
		0.8-1.5	med br f sand, roots		1-3 6 ppm
		1.5-3	brick - full + crushed		
		3-4.7	med br sand, silt, roots, rock		3-6 0 ppm
		-			
		-			
		-			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	6.5
DIMENSIONS OF PIT:	8x3
TOTAL DEPTH	4.7
DEPTH TO BEDROCK	—
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	4'
DEPTH TO WATER	4.5
WERE PHOTOS TAKEN?	NO
METHOD OF SAMPLE COLLECTION	grnd

TEST PIT SKETCH:

Photo #'s

COMMENTS:

Test Pit # RI-TP-21

Location: _____

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/25
Time:	0910
Sample Prefix:	767070426 - RI-TP21
Logged By:	LMG

Contractor:	CHP
Operator:	FRANKIE
Backfill:	NATIVE



SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-07	0915	0 - 1	gravel sub soil		0-1 68.3 ppm
		1 - 2.1	crushed brick		
-08	0917	2.1 - 3.2	fill - rock, ash, coal c sand stained		1-3 0 ppm
		3.2 - 4	stained c-m sand med br		
-09	0918	4 - 5.5	med br m sand - staining		3-6 2.0 ppm (saturated)
		5.5 - 7	pet. waste oil soaked sand. ext. tars.		
		-			
		-	GW @ 7' - heavy dk br sheen		

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	7'
DIMENSIONS OF PIT:	7' x 4'
TOTAL DEPTH	7'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	N/A
DEPTH TO WATER	7'
WERE PHOTOS TAKEN?	YES
METHOD OF SAMPLE COLLECTION	grav

TEST PIT SKETCH:

-07	0-1	metals
-08	1-3	TPIT
-09	3-6	SVOC

Photo #s

COMMENTS:

heavy staining
strong odor

Test Pit # RI-TP-22

Location: _____

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/25
Time:	0950
Sample Prefix:	767070425 -
Logged By:	LMG

Contractor: GPR
Operator: Franchise
Backfill: native



-RI-TP22

SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-11	0952	0 - 1.5	dk br sand, organics, metal parts		0-1 65.7 ppm
		0.5 - 1	med br f sand, silt, STAINING		
-12	0952	1. - 2	brick, some c sand, stained		1-3 0.9 ppm
		2 - 3.5	ash, coal, slag		
-13	0952	3.5 - 5.5	fill - med br c sand, rock, slag		3-6 (saturated) 0.5 ppm
		5.5 - 6.5	ash, slag, coal		
		-			
		-			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	8.5'
DIMENSIONS OF PIT:	12x4'
TOTAL DEPTH	6.5'
DEPTH TO BEDROCK	—
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	surface
DEPTH TO WATER	6'
WERE PHOTOS TAKEN?	YES
METHOD OF SAMPLE COLLECTION	Hand

Photo #'s

TEST PIT SKETCH:

-11 0-1 SVOC
 -12 1-3 VOC, VOC MS/MSI
 -13 1-3 VOC dup.

COMMENTS:

moderate odors- gasoline?

Test Pit # RI - TP-23

Location: along R on E central part of L+M

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/25/07
Time:	0845
Sample Prefix:	767070425 - RI-TP23
Logged By:	LMG

Contractor:	GAP
Operator:	FRANKIE
Backfill:	NATIVE



0-1'
VOCs
metals

1-3'
SVOC

SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-05	0850	0 - 0.5	subsize gravel, sand broken glass, asphalt layer		0-1 10ppm
		0.5 - 2.6	red br & m sand, bricks, stone		
-06	0852	2.6 - 3.8	block stained sand - All		1-3 345
		3.8 - 4.4	ash, slag fill		
		4.4 - 6.5	lt br + reworked native wet sand + sand mod dense		3-6 105 ppm
		-			
		-			
		-			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	7'
DIMENSIONS OF PIT:	12' x 5'
TOTAL DEPTH	6.5
DEPTH TO BEDROCK	NA
DEPTH TO MOTTLING	NA
DEPTH TO ROOTS	surface
DEPTH TO WATER	0'
WERE PHOTOS TAKEN?	YES
METHOD OF SAMPLE COLLECTION	SHovel

Photo #s

TEST PIT SKETCH:

-05 0-1 VOC, metals
 -06 1-3 SVOC

COMMENTS:

Slight odors.

Test Pit # RI-TP-24

Location: along E. strand, E. side of L+M.

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/25/07
Time:	0816
Sample Prefix:	767070425 - RI-TP24
Logged By:	LMG

Contractor: GAP
Operator: Frankie
Backfill: native



SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-03	0827	0 - 0.5	gravel subsoil, some m-c sand fine gravel. 2" asphalt ~4"		0-1 511 ppm
		0.5 - 3	silt + sand with minor staining		
-04	0828	3 - 4	black organic layer limestone kiln ash slag on s. side, 3"		1-3 4000 ppm (ceiling)
		4 - 6	rock, c sand br/gray fill, heavy staining, little ash		
		-			3-6 99 ppm (very saturated)
		-	oil/gas odors emitting, (2) 3' (gasoline)		
		-	sheen on water		
		-			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	8.5'
DIMENSIONS OF PIT:	4' x 12'
TOTAL DEPTH	6'
DEPTH TO BEDROCK	1'
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	4'
DEPTH TO WATER	5.6'
WERE PHOTOS TAKEN?	yes
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-03 0-1 SVOC
-04 3-6 metals, SVOC

Photo #s: 003

COMMENTS:

Test Pit # RI-TP-#5
 Location: ctr of site; E side of L+M

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/24/07
Time:	1315
Sample Prefix:	761070424 - R-TP25
Logged By:	LMG

Contractor: GAPP
 Operator: Franklin
 Backfill: Native



SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-16	1315	0 - 0.5	rock, sand sub base		
		0.5 - 1.5	packed med br f-m sand little staining		
		1.5 - 4	dk br f sand trace roots		
		4 - 7	fill - rock, c sand *possible minor sheen on water		
		--			
		--	no odors; minor stains		
		--			
		--			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	7'
DIMENSIONS OF PIT:	12' x 4'
TOTAL DEPTH	7'
DEPTH TO BEDROCK	—
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	3'
DEPTH TO WATER	7'
WERE PHOTOS TAKEN?	NO
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-16 0-1 VOC

Photo #'s

COMMENTS:

Test Pit # RI -TP-26

Location: _____

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/24
Time:	11:50 AM
Sample Prefix:	767070424-01 - RI-TP26 (0-1)
Logged By:	LMG

Contractor:	GAP
Operator:	Frankie
Backfill:	NATIVE



SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-01	11:55	0 - 1'	pulverized stone /sub base		PID 0.0 ppm
(² layers SVOCs)	(0-1.0)	1' - 2'	dc brown organic fm sand, tree roots		
		2 - 2.8'	med brown fm sand, little silt		
	2.8 - 4'	Ash material			
	4' - 6.5'	rock fill w/ little sand/clay, med brown			
	"	water has black sheen			
	"	mod odor			
	"				

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	6' FT AMSL
DIMENSIONS OF PIT:	10' x 3'
TOTAL DEPTH	6.5'
DEPTH TO BEDROCK	?
DEPTH TO MOTTLING	NA
DEPTH TO ROOTS	2'
DEPTH TO WATER	6.5'
WERE PHOTOS TAKEN?	NO
METHOD OF SAMPLE COLLECTION	grub

TEST PIT SKETCH:

Sample (ID) Analyses Depth
 -01 SVOCs, Metals 0-1

COMMENTS:

Test Pit # RI-TP-27
Location: NE corner of L&M

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/24/07
Time:	12:14
Sample Prefix:	76707041A-02 - RI-TP27(1-3)
Logged By:	LMG

Contractor: GAP
Operator: Frankie
Backfill: native



SAMPLE NUMBER	TIME	DEPTH from .. to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-02	1215	0 - 1	med br f-m sand, organics		
(2 jars) VOCs SVOCs	(1-3)	1 - 1.5	pulverized brick ^(70%) same as above		
		1.5 - 2	Ash, pulv. slag + cinders		
		2 - 2.6	med/lt br c sand fill		
		2.6 - 4.2	med/dk brown c sand, rock fill		
		4.2 - 5'	dk br striped c-m sand, rock		
		-	water @ 4.2' - dk br - black sheen. slight - mod. odors		
		-			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	7' from S.
DIMENSIONS OF PIT:	10' x 4'
TOTAL DEPTH	5'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	surface
DEPTH TO WATER	4.2'
WERE PHOTOS TAKEN?	no
METHOD OF SAMPLE COLLECTION	grab

Photo #'s

TEST PIT SKETCH:

Sample Depth Analyses
ID -02 1-3 SVOC / VOC

COMMENTS:

① NE corner of property along KASCO pipeline

Test Pit # RI-TP-28
 Location: N side of rectangular parcel

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/24/07
Time:	1440
Sample Prefix:	767070424-
Logged By:	LMG

Contractor:	GAP
Operator:	Frankie
Backfill:	natural



SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-14	1445	0 - 2	med br f-m sand, organics		
		2 - 3	ash, med br sand - fill some metal debris		
-15	1447	3 - 5	stained sand fill, some metal. heavy impacts	PID 56.1 ppm	
		-			
		-			
		-			
		-			
		-			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	
DIMENSIONS OF PIT:	12' x 4'
TOTAL DEPTH	5'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	2'
DEPTH TO WATER	4.5'
WERE PHOTOS TAKEN?	no
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-14 6-1 VOC
 -15 3-6 SVOC, VOC

Photo #'s

COMMENTS:

- heavy petroleum impacts 3.5 - 5'
- br/bk sheen on water (thick)
- strong odor

Test Pit # RI-TP-29

Location: center of rectangular parcel

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/24/07
Time:	1355
Sample Prefix:	767070424 - RI-TP29
Logged By:	LMG

Contractor:	GAP
Operator:	Frankie
Backfill:	nature



SAMPLE NUMBER	TIME	DEPTH from .. to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-09 (0-1)	1357	0-1	gravel, sand sub base organics		
		1-7	med br sand (f-m) no rocks		
		"	* pit caved in immediately * water pouring out @ 3.5'		
-10 (0-1)		"			
-11 (0-1)		"			
		"			
		"			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	6'
DIMENSIONS OF PIT:	8' x 5'
TOTAL DEPTH	7' (collapsed to 5.5')
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	surficial
DEPTH TO WATER	3.5'
WERE PHOTOS TAKEN?	no
METHOD OF SAMPLE COLLECTION	grab

Photo #'s

TEST PIT SKETCH:

- 09 (0-1) SVOC, Met (2)
- 10 (0-1) SVOC Dup (1)
- 11 (0-1) Met Dup (1)
- 09 (0-1) SVOC ms/MSD (2)

COMMENTS:

E edge of pit is foundation wall- ends
@ ~4' hgs.

Test Pit # RI-TP-30
 Location: N side of rectangular parcel

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/24/07
Time:	1417
Sample Prefix:	767070424 - RI-TP 30
Logged By:	LMG

Contractor: GAP
 Operator: Franklin
 Backfill: native



FUSS & O'NEILL
Discipline to Deliver

SAMPLE NUMBER	TIME	DEPTH from .. to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
SVOCs (6-1) (1 jar)	-12	1422	0-1' f-m brown sand, organics * on W side - 4"-6" is lens of white ash or pulv stone		
		"	1-6.5' f-m med br sand		
VOCs (1-3) (1 jar)	-13	1425	6.5-7' layer of gr-bl clay-dense		
		"	no odor or staining		
		"	E edge has foundation wall		
		"			
		"			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	6'
DIMENSIONS OF PIT:	12' x 4'
TOTAL DEPTH	7'
DEPTH TO BEDROCK	7'
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	shallow
DEPTH TO WATER	6.5'
WERE PHOTOS TAKEN?	no
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-12 (0-1) SVOC
 -13 (1-3) VOC

Photo #s

COMMENTS:

Test Pit # RI-TP-31
Location: S side of rectangular parcel

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/24/07
Time:	1330
Sample Prefix:	767070424-08-RI-TP31
Logged By:	LMG

Contractor: GAP
Operator: Frankie
Backfill: native



SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-08	1335	0 - 1	gravel, sand sub base		0-1 0.0 ppm
(actually on 3-4 @ 2 ft)	:	1 - 8.5	med br sand (f-m) roots to 2' bgs		1-3' 0.0 ppm
(AN interval)		--			3-6' 0.0 ppm
		--			
		--	no odors or staining		
		--			
		--			
		--			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	16'
DIMENSIONS OF PIT:	10' X 3'
TOTAL DEPTH	8.5'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	surface
DEPTH TO WATER standing water	8'
WERE PHOTOS TAKEN?	no
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-08 S-6 SVOC

; sapling @ 3.5'
Photo #s

COMMENTS:

Test Pit # RI-TP-32 (adj to MW-05)
 Location: center of rectangular parcel, @ E side of slab

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/24
Time:	1305
Sample Prefix:	767670424 - RI-TP 32
Logged By:	LMG

Contractor: GAP
 Operator: ~~Praymore~~
 Backfill: native



SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-05	1315	0 - 2	gravel sub base		
		2 - 2.5	pulverized coal fill		
-06	1317	2.5 - 3.5	ash, pulv coal, fill, metal pieces		1-3' 1.1 ppm
		3.5 - 4	black coal/ash fill		
-07	1319	4 - 7.5	med br m-c sand, nck		3-6' 0.3 ppm
		--	7.5 - water - no obv. shear		
		--			
		--			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	6'
DIMENSIONS OF PIT:	12' x 3'
TOTAL DEPTH	7.5'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	surficial
DEPTH TO WATER	7.5'
WERE PHOTOS TAKEN?	no
METHOD OF SAMPLE COLLECTION	grab

Photo #'s

Depth TEST PIT SKETCH:
 0-1 Sample -05 - VOCs, Met, Met MS/MSD
 1-3 -06 SVOCs, TPH (2 jars) (1 jar)
 1-3 -07 TPH Duplicate (1 jar)

COMMENTS:

W side of pit - brick wall (foundation) under slab.

Test Pit # R1-TP-33

Location: E side of rectangular parcel

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/24
Time:	12:45
Sample Prefix:	767070424 - R1-TP33 (depth)
Logged By:	LMG

Contractor:	GAP
Operator:	Frankie
Backfill:	natural



SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-03	12:45	0 - 0.8'	dk-med br f-m sand, organics		
-04	12:48	0.8 - 1.3'	med br f sand, fill		
		1.3 - 2'	dk br f sand, cral & ash, little roots, staining		
		2 - 3.5'	Ash, little pulverized brick, little roots		
		3.5 - 5'	med br f sand, little silt, rock (fill)		
		-	*water running in @ 4.7'		
		-			
		-			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	6'
DIMENSIONS OF PIT:	8' x 3'
TOTAL DEPTH	5'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	surface
DEPTH TO WATER	4.7'
WERE PHOTOS TAKEN?	no
METHOD OF SAMPLE COLLECTION	grab

Photo #'s

TEST PIT SKETCH:

<u>ID</u> -03 -04	<u>Sample</u> <u>Depth</u> 0-1 3-6	<u>Analytes</u> <u>SVOC</u> <u>Metals</u>
-------------------------	---	---

COMMENTS: * stain on surface - appears surficial

* no odors, no obvious sheen

* brick foundation wall @ E side of pit

Test Pit # RI - TP-35
 Location: small parcel @ Tompkins St.

Project Name:	Former L&M Auto Site
Project Number:	20070074.A1N
Date:	4/25
Time:	0750
Sample Prefix:	761070425 - RI-TP35
Logged By:	LMG

Contractor: GAP
 Operator: FRANKIE
 Backfill: native



SAMPLE NUMBER	TIME	DEPTH from .. to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-01	0755	0 - 1.5	red br f-m sand, silt, organics little household debris		
		1.5 - 3.5	lt br f sand, silt		
-02	0757	3.5 - 5	hydric clay, smeared gray/red		
		-			
		-	water @ 4.5'		
		-			
		-			
		-			

General Test pit Description

	Native Soil	Clean Fill (i.e. brick concrete, asphalt)	Dimension lumber	Metals	Tires	Other
Description						
Percentage						

APPROX. SURFACE ELE. (FT-MSL)	
DIMENSIONS OF PIT:	8' x 3'
TOTAL DEPTH	5'
DEPTH TO BEDROCK	n/a
DEPTH TO MOTTLING	n/a
DEPTH TO ROOTS	1'
DEPTH TO WATER	4.5'
WERE PHOTOS TAKEN?	yes (?)
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-01 0-1 metals
 -02 1-3 SVOC

Photo #'s 001, 002

COMMENTS:

Note: TP-34 has been cut; 2 samples re-located
 VOCs (34) → TP 28
 SVOC (36) → TP 05

EXTRA

Test Pit # RI-TP-3b

Location: SE corner of main L&M parcel; along KOSCO fence

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/26/07
Time:	1450
Sample Prefix:	767070426 - RI-TP36
Logged By:	WNG

Contractor:	GAP Excavating
Operator:	Frankie
Backfill:	nature



FUSS & O'NEILL

Discipline: to Deliver

SAMPLE NUMBER	TIME	DEPTH from -- to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
- 18	1455	0 - 1	c sand / organics, gravel		0-1 0.9
		1 - 1.5	dk br f-m sand, roots		
		1.5 - 3	fill - ash coal, galvanized coal, slag, crushed brick	1-3	1.1 ppm
		3 - 5.5	reworked silt/f. sand, rock		
		-		3-6	0.0 ppm
		-	* no shear on GW		
		-	* very slight odor @ ~2'		
		-			
		-	* sample collected @ GW interface		
		-			
		-			

APPROX. SURFACE ELE. (FT-MSL)	6'
DIMENSIONS OF PIT:	10 x 4'
TOTAL DEPTH	5.5'
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	n/a
DEPTH TO ROOTS	1.5'
DEPTH TO WATER	5'
WERE PHOTOS TAKEN?	yes (1)
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

- 14 3-6 SVOC

COMMENTS:

Test Pit # RI-TP-37
 Location: W side of small L&M parcel along FOSCO fence EXTRA

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/26/07
Time:	1512
Sample Prefix:	787070426- RI-TP37
Logged By:	LMG

Contractor: GAP Excavating
 Operator: ~~Frankie~~
 Backfill: NATIVE



SAMPLE NUMBER	TIME	DEPTH from - to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-19	1517	0 - 1	med br f-m sand, organics		0-6 0.7 ppm
		1 - 2	crushed kiln slag or ash (off-white)		
		2 - 3.5	fill - gravel, crushed brick, ash, coal, slag	1-3	0.6 ppm
		3.5 - 7.5	med-lt brown f sand + silt. no apparent impacts.		
		-			3-6 0.6 ppm
		-	* heavy staining @ ~4'; more prominent on N side of pit. slight Moderate odor.		
		-			
		-			
		-			
		-			
		-			

APPROX. SURFACE ELE. (FT-MSL)	5.5'
DIMENSIONS OF PIT:	12 x 5'
TOTAL DEPTH	7.5'
DEPTH TO BEDROCK	—
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	2.5'
DEPTH TO WATER	5.5'
WERE PHOTOS TAKEN?	YES
METHOD OF SAMPLE COLLECTION	grab

TEST PIT SKETCH:

-19 3-6 VOC, SVOC

COMMENTS:

12': 1' concrete balls buried. Likely broken footings for docks.

Test Pit # TP-38
 Location: NW Small C&M parcel - along KOSCO fence

(EXTRA)

Project Name:	L&M Remedial Investigation
Project Number:	20070074.A1N
Date:	4/26/07
Time:	15:35
Sample Prefix:	767070426- -- RI-TP38
Logged By:	LMG

Contractor:	GAP Excavating
Operator:	Frankie Native
Backfill:	

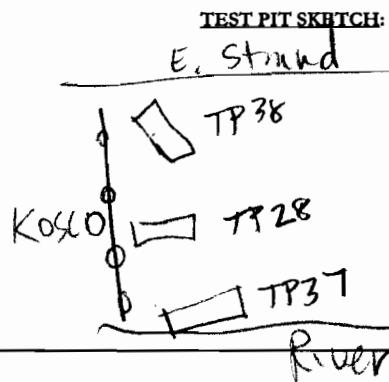


FUSS & O'NEILL
Discipline to Deliver

SAMPLE NUMBER	DEPTH from - to	SOIL DESCRIPTION	USCS CODE	FIELD TESTING
-20	0 - 1.5	dk br topsoil w/ organics		0-1 24 ppm
	1.5 - 3	fill - crushed coal + slag, ash, sand, fine gravel		
-21	3 - 4.5	rock, litt b & sand + silt	1-3	1.0 ppm
	-	GW has thick dk/dk br sheen	3-6	142 ppm
	-	Moderate - strong odor similar to TP-28.		
	-			
	-			
	-			
	-			
	-			
	-			
	-			
	-			

APPROX. SURFACE ELE. (FT-MSL)	6.5
DIMENSIONS OF PIT:	10x4
TOTAL DEPTH	4.5
DEPTH TO BEDROCK	-
DEPTH TO MOTTLING	N/A
DEPTH TO ROOTS	2
DEPTH TO WATER	4
WERE PHOTOS TAKEN?	Yes
METHOD OF SAMPLE COLLECTION	grab

COMMENTS:



-20 VOC, SVOC
 -21 VOC, SVOC

MONITORING WELL COMPLETION REPORT
GENERAL INFORMATION

GENERAL INFORMATION

Project Name: L&M/Cornell RI
 Project Location: East Strand Street, Kingston, NY
 F&O Engineer/Geologist: LMG
 Date of Completion: 5/04/2007
 Boring Location: near TP-04 09:50
 Drilling Contractor: Todd Syska, Inc.
 Drilling Method: GeoProbe

WELL CONSTRUCTION

Well Casing/Riser Sump (below screen)
 Diameter: 1 in. Diameter: 1 in.
 Type: PVC Type: N/A
 Stick-up: 2.92 ft. Length: _____ in.

Screen Intervals

Screen Interval: 2-17' ft Diameter: 1 in. Slot Size: 0.010 in.
 Description: PVC / Other: PVC
 Type: Perforated / Slotted / Wire-Wrap / Other: _____

ANNULAR FILL

Surface Seal (Approximate volumes if available)
 Interval: 0-1' ft. Tremied: Y / N Volume: <1 bags
 Description: Concrete / Other: bentonite pellets
Backfill
 Interval: N/A ft. Tremied: Y / N Volume: _____ bags
 Description: Bentonite Grout / Fill / Other: _____

Lower Seal
 Interval: N/A ft. Tremied: Y / N Volume: _____ bags
 Description: Bentonite / Bentonite Pellets / Grout / Other: _____

Filter
 Interval: 12-1' ft. Tremied: Y / N Volume: <1 bags
 Description: Sand Filter (type: W.G. #0) / Other: sand pack, settled w/ metal rod

Lower Backfill
 Interval: _____ ft. Tremied: Y / N Volume: _____ bags
 Description: Bentonite Grout / Fill / Other: _____

Site ID (Boring/Well ID): MW-02 MW-01
 Project No.: 20070074.A3N
 Ground Surface Elevation: 54 ~6.5'
 Permit #: N/A
 E1 Top of Steel Casing: N/A
 E1 Top of PVC Casing: 22 ~9.42
 Measuring Point: TPS / PVC
 Well Cover (see codes): _____

MONITORING WELL COMPLETION REPORT
GENERAL INFORMATION

GENERAL INFORMATION

Project Name: L&M/Cornell RI
 Project Location: East Strand Street, Kingston, NY
 F&O Engineer/Geologist: LMG
 Date of Completion: 5/04/2007 09:20
 Boring Location: near TP-06 04
 Drilling Contractor: Todd Syska, Inc.
 Drilling Method: GeoProbe

WELL CONSTRUCTION

Well Casing/Riser Sump (below screen)
 Diameter: 1 in. Diameter: 1 in.
 Type: PVC Type: N/A
 Stick-up: 2-71 ft. Length: _____ in.

Screen Intervals

Screen Interval: 2-12' ft Diameter: 1 in. Slot Size: 0.010 in.

Description: PVC / Other: PVC
 Type: Perforated / Slotted / Wire-Wrap / Other: X

ANNULAR FILL

Surface Seal (Approximate volumes if available)
 Interval: 0-1 ft. Tremied: Y / N Volume: <1 bags

Description: Concrete / Other: bentonite pellets

Backfill

Interval: N/A ft. Tremied: Y / N Volume: _____ bags

Description: Bentonite Grout / Fill / Other: _____

Lower Seal

Interval: N/A ft. Tremied: Y / N Volume: _____ bags

Description: Bentonite / Bentonite Pellets / Grout / Other: _____

Filter

Interval: SAND PACK 12-1' ft. Tremied: Y / N Volume: <1 bags

Description: Sand Filter (type: W.G. #1) / Other: *Sand worked w/ rod to minimize blank spaces.

Lower Backfill

Interval: N/A ft. Tremied: Y / N Volume: _____ bags

Description: Bentonite Grout / Fill / Other: _____

* 17' from sidewalk along E. strand (L)

MONITORING WELL COMPLETION REPORT
GENERAL INFORMATION

GENERAL INFORMATION

Project Name: L&M/Cornell RI
 Project Location: East Strand Street, Kingston, NY
 F&O Engineer/Geologist: LMG
 Date of Completion: 5/04/2007 08:50
 Boring Location: near TP 03 03
 Drilling Contractor: Todd Syska, Inc.
 Drilling Method: GeoProbe

Site ID (Boring/Well ID): MW-03
 Project No.: 20070074.A3N
 Ground Surface Elevation: ~ 3.5'
 Permit #: N/A
 EI Top of Steel Casing: N/A
 EI Top of PVC Casing: ~ 6.83'
 Measuring Point: TPS / PVC
 Well Cover (see codes): _____

WELL CONSTRUCTION

Well Casing/Riser Sump (below screen)
 Diameter: 1 in. Diameter: N/A in.
 Type: PVC Type: _____
 Stick-up: 3.33 ft. Length: N/A in.

Protective Casing
 Diameter: N/A in. Type: _____
 Stick-up: — ft Depth to Bottom: — ft
 Seal Material: —

Screen Intervals

Screen Interval: 2-12' ft Diameter: 1 in. Slot Size: 0.010 in.

Description: PVC / Other: PVC
 Type: Perforated / Slotted / Wire-Wrap / Other: _____

ANNULAR FILL

Surface Seal (Approximate volumes if available)
 Interval: 0-1' ft. Tremied: Y / N Volume: 2 bags
 Description: Concrete / Other: bentonite pellets

Backfill
 Interval: N/A ft. Tremied: Y / N Volume: _____ bags

Description: Bentonite Grout / Fill / Other: _____

Lower Seal
 Interval: N/A ft. Tremied: Y / N Volume: 25 bags
 Description: Bentonite / Bentonite Pellets / Grout / Other: _____

Filter
 Interval: 12-1' ft. Tremied: Y / N Volume: 2 bags
 Description: Sand Filter (type: N.G. #0) / Other: sand settled w/ metal rod

Lower Backfill
 Interval: N/A ft. Tremied: Y / N Volume: _____ bags
 Description: Bentonite Grout / Fill / Other: _____

16' from river bank (L)

MONITORING WELL COMPLETION REPORT
GENERAL INFORMATION

GENERAL INFORMATIONProject Name: L&M/Cornell RISite ID (Boring/Well ID): MW-04Project Location: East Strand Street, Kingston, NYProject No.: 20070074.A1NF&O Engineer/Geologist: LMGGround Surface Elevation: ~ 5.5 ftDate of Completion: 5/04/2007 10:15Permit #: N/ABoring Location: near TP-10 - immed. WestE1 Top of Steel Casing: N/ADrilling Contractor: Todd Syska, Inc.E1 Top of PVC Casing: ~ 8.44'Drilling Method: GeoProbeMeasuring Point: TPS / PVC**WELL CONSTRUCTION** * refusal @ 7.5' - unknown hit.

Well Cover (see codes): _____

Well Casing/Riser Sump (below screen)Protective CasingDiameter: 1 in. Diameter: 1 in.Diameter: N/A in. Type: N/AType: PVC Type: N/A

Stick-up: _____ ft Depth to Bottom: _____ ft

Stick-up: 2.94 ft Length: _____ in.

Seal Material: _____

Screen IntervalsScreen Interval: 2.5-7.5 ft Diameter: 1 in.Slot Size: 0.010 in.Description: PVC / Other: PVCType: Perforated / Slotted / Wire-Wrap / Other: -**ANNULAR FILL**Surface Seal

(Approximate volumes if available)

Interval: 0-1 ft Tremied: Y / NVolume: 2 bagsDescription: Concrete / Other: bentonite pelletBackfillInterval: N/A ft Tremied: Y / NVolume: 2 bags

Description: Bentonite Grout / Fill / Other: _____

Lower SealInterval: N/A ft Tremied: Y / N

Volume: _____ bags

Description: Bentonite / Bentonite Pellets / Grout / Other: _____

FilterInterval: 7.5-1 ft Tremied: Y / NVolume: 2 bagsDescription: Sand Filter (type: M.G. #0) / Other: sand settled in, metal md.Lower Backfill

Interval: _____ ft Tremied: Y / N

Volume: _____ bags

Description: Bentonite Grout / Fill / Other: _____

* @ Installation! only ~ 6-8" water, but it is absolute low tide, and given material production should be sufficient.

MONITORING WELL COMPLETION REPORT
GENERAL INFORMATION

GENERAL INFORMATIONProject Name: L&M/Cornell RISite ID (Boring/Well ID): MW-05Project Location: East Strand Street, Kingston, NYProject No.: 20070074.AINF&O Engineer/Geologist: LMGGround Surface Elevation: 5.5 ft - check thisDate of Completion: 5/04/2007 14:50Permit #: N/ABoring Location: near TP-10A TP-37 (immed. west)E1 Top of Steel Casing: N/ADrilling Contractor: Todd Syska, Inc.E1 Top of PVC Casing: ~ 8.34 (check)Drilling Method: GeoProbeMeasuring Point: TPS / PVC
Well Cover (see codes):**WELL CONSTRUCTION**Well Casing/RiserDiameter: 1 in.Sump (below screen)Diameter: 1 in.Protective CasingType: PVCType: N/ADiameter: N/A in. Type: -Stick-up: 2.84 ft.Length: - in.Stick-up: - ft Depth to Bottom: - ftScreen IntervalsScreen Interval: 2-17' ft Diameter: 1 in. Slot Size: 0.010 in.Description: PVC / Other: PVCType: Perforated / Slotted / Wire-Wrap / Other: -**ANNULAR FILL**Surface Seal

(Approximate volumes if available)

Interval: 0-1' ft. Tremied: Y N Volume: - bagsDescription: Concrete / Other: bentonite pelletsBackfillInterval: N/A ft. Tremied: Y / N Volume: - bagsDescription: Bentonite Grout / Fill / Other: -Lower SealInterval: N/A ft. Tremied: Y / N Volume: - bagsDescription: Bentonite / Bentonite Pellets / Grout / Other: -FilterInterval: 12-1' ft. Tremied: Y N Volume: - bagsDescription: Sand Filter (type: N-6 #0) / Other: -Lower BackfillInterval: N/A ft. Tremied: Y / N Volume: - bagsDescription: Bentonite Grout / Fill / Other: -

* Relocated to rect. parcel SW corner of my fence.
 *** STRONG odors in well

MONITORING WELL COMPLETION REPORT
GENERAL INFORMATION

GENERAL INFORMATION

Project Name: L&M/Cornell RI
 Project Location: East Strand Street, Kingston, NY
 F&O Engineer/Geologist: LMG
 Date of Completion: 5/04/2007 12:00
 Boring Location: near TP-21 -- immed. east.
 Drilling Contractor: Todd Syska, Inc.
 Drilling Method: GeoProbe

WELL CONSTRUCTION

Well Casing/Riser Sump (below screen)
 Diameter: 1 in. Diameter: 1 in.
 Type: PVC Type: N/A
 Stick-up: 2.58 ft. Length: _____ in.

Site ID (Boring/Well ID): MW-06
 Project No.: 20070074.A1N
 Ground Surface Elevation: ~8 ft
 Permit #: N/A
 E1 Top of Steel Casing: N/A
 E1 Top of PVC Casing: ~ 10.58'
 Measuring Point: TPS / PVC
Well Cover (see codes):

Protective Casing
 Diameter: N/A in. Type: N/A
 Stick-up: _____ ft Depth to Bottom: _____ ft
 Seal Material: _____

Screen Intervals

Screen Interval: 2-12' ft Diameter: 1 in. Slot Size: 0.010 in.
 Description: PVC Other: PVC
 Type: Perforated / Slotted / Wire-Wrap / Other: _____

ANNULAR FILL

Surface Seal (Approximate volumes if available)
 Interval: 0-1' ft. Tremied: Y / N Volume: < 1 bags

Description: Concrete / Other bentonite pellets

Backfill

Interval: N/A ft. Tremied: Y / N Volume: _____ bags

Description: Bentonite Grout / Fill / Other: _____

Lower Seal

Interval: N/A ft. Tremied: Y / N Volume: _____ bags

Description: Bentonite / Bentonite Pellets / Grout / Other: _____

Filter

Interval: 12-1' ft. Tremied: Y / N Volume: < 1 bags

Description: Sand Filter (type: N.G. #D) / Other: sand settled w/ metal rod

Lower Backfill

Interval: N/A ft. Tremied: Y / N Volume: _____ bags

Description: Bentonite Grout / Fill / Other: _____

MONITORING WELL COMPLETION REPORT
GENERAL INFORMATION

GENERAL INFORMATIONProject Name: L&M/Cornell RIProject Location: East Strand Street, Kingston, NYF&O Engineer/Geologist: LMGDate of Completion: 5/04/2007 12:15Boring Location: near TP-24 - on street sideDrilling Contractor: Todd Syska, Inc.Drilling Method: GeoProbe**WELL CONSTRUCTION**Well Casing/RiserDiameter: 1 in.Sump (below screen)Diameter: 1 in.Type: PVCType: N/AStick-up: 2.63 ft.

Length: _____ in.

Protective CasingDiameter: N/A in. Type: —Stick-up: — ft Depth to Bottom: — ftSeal Material: —Screen IntervalsScreen Interval: 2-12' ft Diameter: 1 in. Slot Size: 0.010 in.Description: PVC / Other: PVC

Type: Perforated / Slotted / Wire-Wrap / Other: _____

ANNULAR FILLSurface Seal

(Approximate volumes if available)

Interval: 0-1' ft Tremied: Y / N Volume: ~1 bag bagsDescription: Concrete / Other: bentonite pelletsBackfillInterval: N/A ft Tremied: Y / N Volume: _____ bags

Description: Bentonite Grout / Fill / Other: _____

Lower SealInterval: N/A ft Tremied: Y / N Volume: _____ bags

Description: Bentonite / Bentonite Pellets / Grout / Other: _____

FilterInterval: 12-1' ft Tremied: Y / N Volume: _____ bagsDescription: Sand Filter (type: N.G. #0) / Other: ScreenLower BackfillInterval: N/A ft Tremied: Y / N Volume: _____ bags

Description: Bentonite Grout / Fill / Other: _____

MONITORING WELL COMPLETION REPORT
GENERAL INFORMATION

GENERAL INFORMATIONProject Name: L&M/Cornell RISite ID (Boring/Well ID): MW-08Project Location: East Strand Street, Kingston, NYProject No.: 20070074.A1NF&O Engineer/Geologist: LMGGround Surface Elevation: ~ 6.5 ftDate of Completion: 5/04/2007 ~ 1325Permit #: N/ABoring Location: near TP-27 - immed. south (across tracks)EI Top of Steel Casing: N/ADrilling Contractor: Todd Syska, Inc.EI Top of PVC Casing: ~ 9.19 ftDrilling Method: GeoProbeMeasuring Point: TPS / PVCWell Cover (see codes): None**WELL CONSTRUCTION**Well Casing/RiserSump (below screen)Protective CasingDiameter: 1 in.Diameter: 1 in.Diameter: N/A in.Type: Type: PVCType: N/AStick-up: ftDepth to Bottom: ftStick-up: 2.69 ft.Length: in.Seal Material: Screen IntervalsScreen Interval: 2-12' ft Diameter: 1 in. Slot Size: 0.010 in.Description: PVC Other: PVCType: Perforated / Slotted / Wire-Wrap / Other: **ANNULAR FILL**Surface Seal

(Approximate volumes if available)

Interval: 0-1' ft. Tremied: Y / N Volume: ~ 1 bagsDescription: Concrete / Other: bentonite pelletsBackfillInterval: N/A ft. Tremied: Y / N Volume: bagsDescription: Bentonite Grout / Fill / Other: Lower SealInterval: N/A ft. Tremied: Y / N Volume: bagsDescription: Bentonite / Bentonite Pellets / Grout / Other: FilterInterval: 12-1' ft. Tremied: Y / N Volume: ~ 1 bagsDescription: Sand Filter (type: NG #0) / Other: Lower BackfillInterval: N/A ft. Tremied: Y / N Volume: bagsDescription: Bentonite Grout / Fill / Other:

MONITORING WELL COMPLETION REPORT
GENERAL INFORMATION

GENERAL INFORMATIONProject Name: L&M/Cornell RISite ID (Boring/Well ID): MW-09Project Location: East Strand Street, Kingston, NYProject No.: 20070074.AINF&O Engineer/Geologist: LMGGround Surface Elevation: ~6 ftDate of Completion: 5/04/2007 12:55Permit #: N/ABoring Location: near TP-36EI Top of Steel Casing: N/ADrilling Contractor: Todd Syska, Inc.EI Top of PVC Casing: ~ 8.20 ftDrilling Method: GeoProbeMeasuring Point: TPS / PVC

Well Cover (see codes): _____

WELL CONSTRUCTIONWell Casing/RiserDiameter: 1 in.Sump (below screen)Diameter: 1 in.Protective CasingType: PVCType: N/ADiameter: N/A in. Type: _____Stick-up: 260 ft.

Length: _____ in.

Stick-up: - ft Depth to Bottom: - ft

Seal Material: _____

Screen IntervalsScreen Interval: 2-12'Diameter: 1 in. Slot Size: 0.010 in.Description: PVC / Other: PVCType: Perforated / Slotted / Wire-Wrap / Other: _____**ANNULAR FILL**Surface Seal

(Approximate volumes if available)

Interval: 0-1' ft.Tremied: Y / NVolume: ~1 bagsDescription: Concrete / Other: BentoniteBackfillInterval: N/A ft.

Tremied: Y / N

Volume: _____ bags

Description: Bentonite Grout / Fill / Other: _____

Lower SealInterval: N/A ft.

Tremied: Y / N

Volume: _____ bags

Description: Bentonite / Bentonite Pellets / Grout / Other: _____

FilterInterval: 12-1' ft.Tremied: Y / NVolume: ~1 bagsDescription: Sand Filter (type: W.G. #0) / Other: _____Lower BackfillInterval: N/A ft.

Tremied: Y / N

Volume: _____ bags

Description: Bentonite Grout / Fill / Other: _____

⇒ noted impacts on equipment
when pulled out of ground.

* odors coming from well.

MONITORING WELL COMPLETION REPORT
GENERAL INFORMATION

GENERAL INFORMATIONProject Name: L&M/Cornell RISite ID (Boring/Well ID): MW-10Project Location: East Strand Street, Kingston, NYProject No.: 20070074.A1NF&O Engineer/Geologist: LMGGround Surface Elevation: ~6 ftDate of Completion: 5/04/2007 14:28Permit #: N/ABoring Location: near TP-38 - Immed. NEI Top of Steel Casing: N/ADrilling Contractor: Todd Syska, Inc.EI Top of PVC Casing: ~ 8.74'Drilling Method: GeoProbeMeasuring Point: TPS / PVC

Well Cover (see codes): _____

WELL CONSTRUCTIONWell Casing/RiserDiameter: 1 in.Sump (below screen)Diameter: 1 in.Protective CasingDiameter: N/A in. Type: _____Type: PVCType: N/AStick-up: — ft Depth to Bottom: — ftStick-up: 2.74 ft.Length: — in.

Seal Material: _____

Screen IntervalsScreen Interval: 2-12' ft Diameter: 1 in. Slot Size: 0.010 in.Description: PVC / Other: PVCType: Perforated / Slotted / Wire-Wrap / Other: _____**ANNULAR FILL**Surface Seal

(Approximate volumes if available)

Interval: 0-1 ft. Tremied: Y / N Volume: ~1 bagsDescription: Concrete / Other: Bentonite?BackfillInterval: N/A ft. Tremied: Y / N Volume: _____ bags

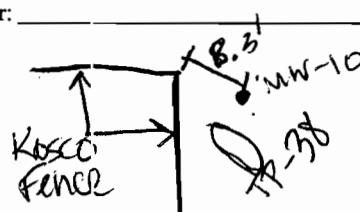
Description: Bentonite Grout / Fill / Other: _____

Lower SealInterval: N/A ft. Tremied: Y / N Volume: _____ bags

Description: Bentonite / Bentonite Pellets / Grout / Other: _____

FilterInterval: 12-1' ft. Tremied: Y / N Volume: ~1 bagsDescription: Sand Filter (type: W.G. #0) / Other: _____Lower BackfillInterval: N/A ft. Tremied: Y / N Volume: _____ bags

Description: Bentonite Grout / Fill / Other: _____



* STRONG ODORS
IN WELL

Monitoring Well Development Log

Client/Project Name: L&M/Cornell RI

Project Location: Kingston, NY

PROJECT #: 2000074.A3N

WELL ID#: MW-01



FUSS & O'NEILL
Disciplines to Deliver

Elevation Data

Date: 5/8/07	Time: 0900	Well Diameter (inches): 1
Water Level PVC	Depth (feet) + Correction = True Depth (bgs)	Sampler: LMG
7.13	- 2.92 = 4.11	Measuring Device ID#: SOLINST WL TAPE-NY
Water Level TPS	+ =	Weather: sunny 70°F
Bottom of Well	+ =	

Comments:

Well Condition Checklist

[circle appropriate item(s); cross out if not applicable]

General Condition:	Good / Needs Repair	Is well plumb?: Y / N
Protective Steel:	OK / Cracked / Leaking / Bent / Loose / None	Lock: Good / Broken / None
Well # Visible?:	Y / N	Rust around cap?: Y / N
Well Cap:	Good / Broken / None	PVC Riser: Good / Damaged / None
Evidence of rain water between steel and PVC:	Y / N	Concrete collar: OK / Cracked / Leaking / None
Evidence of ponding around well:	Y / N	Other Evidence: Rodents / Insects / None
Gopher-type holes around collar?:	Y / N	Curb Box: Curb Box Gasket: Y / N (key is: Hex / Pent / Other)
Comments: WELL INSTALLED 5/04/2007		OK / Replace / Other

Purge Data

Start Time	Stop Time	Volume Purged (gallons / Liters)	Purge Device Used	Turbidity (NTU)	Comments
0905	0916	0.8	Geo-pump NY	262	medium pump setting
0924		1.2		887	
0931		1.7		109.4	
0936		1.9		30.4	
0939		2.1		17.2	
0942		2.2		25.2	
0945		2.3		12.0	
0947		2.35		10.10	↓
0951		2.6		7.94	
					* continued on Sample Log

Monitoring Well Development Log

Client/Project Name: L&M/Cornell RI

Project Location: Kingston, NY

PROJECT #: 2000074.A3N

WELL ID#: MW-02



FUSS & O'NEILL
Disciplines to Deliver

Elevation Data

Date: 5/14/07	Time: 1053	Well Diameter (inches): 1
	Depth (feet)	+ Correction = True Depth (bgs)
Water Level PVC	6.10	- 2.71 = 3.39
Water Level TPS		+ =
Bottom of Well		+ =

Comments: well installed 5/14/07

Well Condition Checklist

[circle appropriate item(s); cross out if not applicable]

General Condition:	Good / Needs Repair	Is well plumb?:	Y / N
Protective Steel:	OK / Cracked / Leaking / Bent / Loose / None	Lock:	Good / Broken / None
Well # Visible?:	Y / N	Rust around cap?:	Y / N
Well Cap:	Good / Broken / None	PVC Riser:	Good / Damaged / None
Evidence of rain water between steel and PVC:	Y / N	Concrete collar:	OK / Cracked / Leaking / None
Evidence of ponding around well?:	Y / N	Other Evidence:	Rodents / Insects / None
Gopher-type holes around collar?:	Y / N	Curb Box:	Y / N (key is: Hex/Pent/Other)
		Curb Box Gasket:	OK / Replace / Other

Comments: WELL INSTALLED 5/04/2007

Purge Data

Start Time	Stop Time	Volume Purged (gallons / Liters)	Purge Device Used	Turbidity (NTU)	Comments
1050	1100	0.5	GEOPUMP-NY	58.0	medium pump rate
1105		0.8		13.1	
1110		1.3		10.16	
1116		1.9		9.38	
1120		2.3		10.64	
1125		3.0		12.8	
		~ 16 well volumes			
					* continued on sample log

Monitoring Well Development Log

Client/Project Name: L&M/Cornell RI	
Project Location: Kingston, NY	 FUSS & O'NEILL <i>Disciplines to Deliver</i>
PROJECT #: 2000074.A3N	
WELL ID#: MW-03	

Elevation Data

Date: 5/8/07	Time: 1159	Well Diameter (inches): 1	
	Depth (feet)	+ Correction	= True Depth (bgs)
Water Level PVC	8.88	- 3.33	= 5.55
Water Level TPS		+	=
Bottom of Well		+	=

Comments:

Well Condition Checklist

[circle appropriate item(s); cross out if not applicable]

General Condition:	Good / Needs Repair	Is well plumb?:	Y/N
Protective Steel:	OK / Cracked / Leaking / Bent / Loose / None	Lock:	Good / Broken / None
Well # Visible?:	N/A	Rust around cap?:	Y/N
Well Cap:	Good / Broken / None	PVC Riser:	Good / Damaged / None
Evidence of rain water between steel and PVC?:	Y/N	Concrete collar:	OK / Cracked / Leaking / None
Evidence of ponding around well?:	Y/N	Other Evidence:	Rodents / Insects / None
Gopher-type holes around collar?:	Y/N	Curb Box:	Y/N key is: Hex/Pent/Other
Curb Box Gasket:			

Comments: WELL INSTALLED 5/04/2007

total

Purge Data

Start Time	Stop Time	Volume Purged (gallons/ Liters)	Purge Device Used	Turbidity (NTU)	Comments
1200	1205	0.8	Geo-pump	10.56	<i>medium pump rate</i>
1210	2.0			8.51	
1215	2.7			7.72	
1220	3.3			7.88	
<i>* continued on sample log</i>					

Monitoring Well Development Log

Client/Project Name: L&M/Cornell RI

Project Location: Kingston, NY

PROJECT #: 2000074.A1N

WELL ID#: MW-04



FUSS & O'NEILL
Disciplines to Deliver

Elevation Data

Date: 5/8/07	Time: 12:00	Well Diameter (inches): 1
	Depth (feet)	+ Correction
Water Level PVC	8.36	+ 2.94 =
Water Level TPS		+ =
Bottom of Well		+ =

Sampler: LMG

Measuring Device ID#: SOLINST WL TAPE-NY

Weather: sunny, 80°F

Comments:

Well Condition Checklist

[circle appropriate item(s); cross out if not applicable]

General Condition:	Good / Needs Repair	Is well plumb?:	Y / N
Protective Steel:	OK / Cracked / Leaking / Bent / Loose / None	Lock:	Good / Broken / None
Well # Visible?	Y / N	Rust around cap?:	Y / N
Well Cap:	Good / Broken / None	PVC Riser:	Good / Damaged / None
Evidence of rain water between steel and PVC:	Y / N	Concrete collar:	OK / Cracked / Leaking / None
Evidence of ponding around well?:	Y / N	Other Evidence:	Rodents / Insects / None
Gopher-type holes around collar?:	Y / N	Curb Box:	Y / N (key is: Hex/Pent/Other)
		Curb Box Gasket:	OK / Replace / Other

Comments: WELL INSTALLED 5/04/2007

Purge Data

Start Time	Stop Time	Volume Purged (gallons / Liters)	Purge Device Used	Turbidity (NTU)	Comments
12:00	12:10	0.2	6.0 Pump - NY	42.8	slow... pump rate
	12:15	0.5		8.53	
	12:20	1.0		7.62	
	12:25	1.4		7.25	
	12:30	1.6		7.75	
	12:35	2.0		7.75	
	12:40	2.3		7.05	
	12:45	2.5		6.73	
	12:50	2.6		6.44	
	12:55	2.7		6.55	
	13:00	2.9		6.50	
	13:05	3.0		6.66	

Monitoring Well Development Log

Client/Project Name: L&M/Cornell RI
Project Location: Kingston, NY
PROJECT #: 2000074.A1N
WELL ID#: MW-05



FUSS & O'NEILL
Discipline to Deliver

Elevation Data

Date: 5/8/07	Time: 1503	Well Diameter (inches): 1
	Depth (feet)	+ Correction = True Depth
Water Level PVC	8.58	+ 2.84 = 5.74
Water Level TPS		=
Bottom of Well		=

Comments:

Well Condition Checklist

[circle appropriate item(s); cross out if not applicable]

General Condition:	Good / Needs Repair	Is well plumb?: <input checked="" type="checkbox"/> N
Protective Steel:	OK / Cracked / Leaking / Bent / Loose / None	Lock: <input checked="" type="checkbox"/> Good / Broken / None
Well # Visible?:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Rust around cap?: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N
Well Cap:	Good / Broken / None	PVC Riser: <input checked="" type="checkbox"/> Good / Damaged / None
Evidence of rain water between steel and PVC?:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Concrete collar: <input checked="" type="checkbox"/> OK / Cracked / Leaking / None
Evidence of ponding around well?:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Other Evidence: <input checked="" type="checkbox"/> Rodents / Insects / None
Gopher-type holes around collar?:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Curb Box: <input checked="" type="checkbox"/> Curb Box Gasket: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N (key is: Hex/Pent/Other) OK / Replace / Other _____

Comments: WELL INSTALLED 5/04/2007

Purge Data

Start Time	Stop Time	Volume Purged (gallons / Liters)	Purge Device Used	Turbidity (NTU)	Comments
1503	1511	1.9	GEOPUMP-NY	357	
	1517	2.2		93.0	
	1522	2.7		102.6	
	1517	3.1		35.3	
	1532	3.4		18.3	

Monitoring Well Development Log

Client/Project Name: L&M/Cornell RI

Project Location: Kingston, NY

PROJECT #: 2000074.A1N

WELL ID#: MW-06



FUSS & O'NEILL
Disciplines to Deliver

Elevation Data

Date: 5/8/07	Time: 1620	Well Diameter (inches): 1
	Depth (feet)	+ Correction = True Depth (bgs)
Water Level PVC	8.91	- 2.58 = 5.33
Water Level TPS		+ =
Bottom of Well		+ =

Comments:

Well Condition Checklist

[circle appropriate item(s); cross out if not applicable]

General Condition: Good / Needs Repair
 Protective Steel: OK / Cracked / Leaking / Bent / Loose / None
 Well # Visible?: Y / N
 Well Cap: Good / Broken / None
 Evidence of rain water between steel and PVC?: Y / N
 Evidence of ponding around well?: Y / N
 Gopher-type holes around collar?: Y / N
 Is well plumbed?: Y / N
 Lock: Good / Broken / None
 Rust around cap?: Y / N
 PVC Riser: Good / Damaged / None
 Concrete collar: OK / Cracked / Leaking / None
 Other Evidence: Rodents / Insects / None
 Curb Box: Y / N (key is: Hex/Pent/Other)
 Curb Box Gasket: OK / Replace / Other

Purge Data

Monitoring Well Development Log

Client/Project Name: L&M/Cornell RI

Project Location: Kingston, NY

PROJECT #: 2000074.A1N

WELL ID#: MW-07



FUSS & O'NEILL
Disciplines to Deliver

Elevation Data

Date: 5/9/07	Time: 0837	Well Diameter (inches): 1
	Depth (feet)	+ Correction = True Depth
Water Level PVC	8.12	+ 2.63 = 5.49
Water Level TPS		+ =
Bottom of Well		+ =

Comments:

Well Condition Checklist

[circle appropriate item(s); cross out if not applicable]

General Condition: Good / Needs Repair
Protective Steel: OK / Cracked / Leaking / Bent / Loose / None
Well # Visible?: Y / N
Well Cap: Good / Broken / None
Evidence of rain water between steel and PVC?: Y / N
Evidence of ponding around well?: Y / N
Gopher-type holes around collar?: Y / N

Is well plumb?: Y / N
Lock: Good / Broken / None
Rust around cap?: Y / N
PVC Riser: Good / Damaged / None
Concrete collar: OK / Cracked / Leaking / None
Other Evidence: Rodents / Insects / None
Curb Box: Y / N (key is: Hex/Pent/Other)
Curb Box Gasket: OK / Replace / Other

Comments: WELL INSTALLED 5/04/2007

Purge Data

Monitoring Well Development Log

Client/Project Name: L&M/Cornell RI

Project Location: Kingston, NY

PROJECT #: 2000074.A1N

WELL ID#: MW-08



FUSS & O'NEILL
Disciplines to Deliver

Elevation Data

Date: 5/9/07	Time: 1045	Well Diameter (inches): 1
	Depth (feet)	+ Correction = True Depth
Water Level PVC	7.80	- 2.69 = 5.11
Water Level TPS		+ =
Bottom of Well		+ =

Comments:

Well Condition Checklist

[circle appropriate item(s); cross out if not applicable]

General Condition:	Good / Needs Repair	Is well plumb?:	Y N
Protective Steel:	OK / Cracked / Leaking / Bent / Loose / None	Lock:	Good / Broken / None
Well # Visible?	Y N	Rust around cap?:	Y N
Well Cap:	Good / Broken / None	PVC Riser:	Good / Damaged / None
Evidence of rain water between steel and PVC?:	Y / N	Concrete collar:	OK / Cracked / Leaking / None
Evidence of ponding around well?:	Y / N	Other Evidence:	Rodents / Insects / None
Gopher-type holes around collar?:	Y / N	Curb Box:	Y / N (key is: Hex/Pent/Other)
		Curb Box Gasket:	OK / Replace / Other _____
Comments: WELL INSTALLED 5/04/2007			

Purge Data

Monitoring Well Development Log

Client/Project Name: L&M/Cornell RI

Project Location: Kingston, NY

PROJECT #: 2000074.AIN

WELL ID#: MW-09



FUSS & O'NEILL
Disciplines to Deliver

Elevation Data

Date: 5/9/07	Time: 0928	Well Diameter (inches): 1
	Depth (feet)	+ Correction = True Depth
Water Level PVC	6.66	- 2.60 = 4.06
Water Level TPS		+ =
Bottom of Well		+ =

Comments:

Well Condition Checklist

[circle appropriate item(s); cross out if not applicable]

General Condition: Good / Needs Repair
Protective Steel: OK / Cracked / Leaking / Bent / Loose / None
Well # Visible?: Y N
Well Cap: Good / Broken / None
Evidence of rain water between steel and PVC: Y / N
Evidence of ponding around well?: Y / N
Gopher-type holes around collar?: Y / N

Is well plumb?: Y / N
Lock: Good / Broken / None
Rust around cap?: Y / N
PVC Riser: Good / Damaged / None
Concrete collar: OK / Cracked / Leaking / None
Other Evidence: Rodents / Insects / None
Curb Box: Y / N (key is: Hex/Pent/Other)
Curb Box Gasket: OK / Replace / Other

Comments: WELL INSTALLED 5/04/2007

Total

Purge Data

Monitoring Well Development Log

Client/Project Name: L&M/Cornell RI

Project Location: Kingston, NY

PROJECT #: 2000074.A1N

WELL ID#: MW-10



FUSS & O'NEILL
Disciplines to Deliver

Elevation Data

Date: 5/6/07	Time: 1355	Well Diameter (inches): 1	
	Depth (feet)	+ Correction	= True Depth
Water Level PVC	7.11	→ 2.74	= 4.37
Water Level TPS		+	=
Bottom of Well		+	=

Comments:

Well Condition Checklist

[circle appropriate item(s); cross out if not applicable]

General Condition:	Good / Needs Repair	Is well plumb?:	Y / N
Protective Steel:	OK / Cracked / Leaking / Bent / Loose / None	Lock:	Good / Broken / None
Well # Visible?:	Y / N	Rust around cap?:	Y / N
Well Cap:	Good / Broken / None	PVC Riser:	Good / Damaged / None
Evidence of rain water between steel and PVC?:	Y / N	Concrete collar:	OK / Cracked / Leaking / None
Evidence of ponding around well?:	Y / N	Other Evidence:	Rodents / Insects / None
Gopher-type holes around collar?:	Y / N	Curb Box:	Y / N (key is: Hex/Pent/Other)
		Curb Box Gasket:	OK / Replace / Other

Comments: WELL INSTALLED 5/04/2007

Purge Data

Start Time	Stop Time	Volume Purged (gallons / liters)	Purge Device Used	Turbidity (NTU)	Comments
1355	1400	0.7	GEOPUMP-NY	662	medium pump rate
	1405	1.3		62.4	
	1410	1.8		25.0	
	1415	2.2		32.5	
	1420	2.8		21.3	
	1425	3.6		168	→ new battery pump rate v. high for 10 seconds; stirred up well.
	1432	4.2 *		14.4	

*continued on sample log sheet

Monitoring Well Sample Log

Low Flow Sampling

Client/Project Name :L&M/Cornell RI		 FUSS & O'NEILL of New York, PC
Project Location: Kingston, NY	PROJECT #: 20070074.A3N	
Sample#: 7670705_08 - 01	WELL ID: MW-01	

Purge Data Sample Data *see development log*

Date:	Container	Quantity	Preservative
Start time: 0905	VOA	2	HCl, Ice
Stop time: 1015	1L Amber	1	Ice
Pump Rate: (ml/m)	500mL Pl	X 1	Ice
Total time purged: 1 hr 10 min			
Sampler: LMG			
Volume Purged: 3.4 <i>lit gal</i>			
Purge Device: Dedicated / Nondedicated			
Device Type: Bladder / Peristaltic / Submersible			
Weather: Sunny 75°F			
Appearance: clear, possible slight shear			
Well Yield: High / Moderate / Low / Dry			
Comments: bubbles in tubing			
	Metals eq. blank		

Field Parameter Data

Instrument ID#:

Water Level (ft)	Time	Turbidity (ntu)	Dissolved Oxygen (mg/L)	pH	Temp. (deg C)	Specific Conductivity (µS/cm)	ORP(mV)
7.13	1003	13.1	10.47	7.51	13.61	553	35.6
↑	1007	10.88	10.47	7.39	13.62	556	40.8
measured	1014	20.00	10.49	7.48	13.58	559	30.1
pre or to development							
sampling							
9.25 — after sampling							

Well Condition Checklist

(circle appropriate item(s), cross out if not applicable)

General Condition: <input checked="" type="checkbox"/> Good / Needs Repair	Is well plumb?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Protective Steel: <input checked="" type="checkbox"/> OK / Cracked / Leaking / Bent / Loose / <input type="checkbox"/> None	Lock: <input checked="" type="checkbox"/> Good / <input type="checkbox"/> Broken / <input type="checkbox"/> None
Well # Visible?: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Rust around cap: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Well Cap: <input checked="" type="checkbox"/> Good / <input type="checkbox"/> Broken / <input type="checkbox"/> None	PVC Riser: <input checked="" type="checkbox"/> Good / Damaged / <input type="checkbox"/> None
Evidence of rain water between steel and PVC?: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Concrete collar: <input checked="" type="checkbox"/> OK / Cracked / Leaking / <input type="checkbox"/> None
Evidence of ponding around well?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Other evidence of: Rodents / Insects / <input type="checkbox"/> None
Gopher type holes around collar?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Curb Box: <input checked="" type="checkbox"/> N / Y (key is: Hex / Pent / Other)
Comments: Installed 5/04/2007	

Monitoring Well Sample Log

Low Flow Sampling

Client/Project Name :L&M/Cornell RI		 FUSS & O'NEILL of New York, PC
Project Location: Kingston, NY	PROJECT #: 20070074.A3N	
Sample#: 7670705_08 - 04	WELL ID: MW-02	

Purge Data Sample Data

Date:	Container	Quantity	Preservative
5/8/07	VOA	2	HCl, Ice
Start time: 1053 Stop time: 1125 Sample time: 1130	1L Amber	1	Ice
Pump Rate: (ml/m)	500mL PI	1	Ice
Total time purged: 32 min			
Volume Purged: 4,3 gal			
Purge Device: Dedicated / Nondedicated			
Device Type: Bladder / Peristaltic / Submersible			
Appearance: clear, no sheen			
Well Yield: High / Moderate / Low / Dry			
Comments:	VOA blank		

Field Parameter Data

Instrument ID#:

Water Level (ft)	Time	Turbidity (ntu)	Dissolved Oxygen (mg/L)	pH	Temp. (deg C)	Specific Conductivity (uS/cm)	ORP(mV)
6.10	1130	19.8	0.84	7.46	11.33	499	171.7
↓	1135	38.8	0.39	7.09	10.73	489	169.5
prior to development and sampling	1140	15.5	0.48	7.66	11.16	494	158.5
(6.21 post sampling)							

Well Condition Checklist

(circle appropriate item(s), cross out if not applicable)

General Condition: Good / Needs Repair
Protective Steel: OK / Cracked / Leaking / Bent / Loose / None
Well # Visible?: Y / N
Well Cap: Good / Broken / None
Evidence of rain water between steel and PVC?: Y / N
Evidence of ponding around well?: Y / N
Gopher type holes around collar?: Y / N
Comments: Installed 5/04/2007

Is well plumb?: Y / N
Lock: Good / Broken / None
Rust around cap: Y / N
PVC Riser: Good / Damaged / None
Concrete collar: OK / Cracked / Leaking / None
Other evidence of: Rodents / Insects / None
Curb Box: N / Y (key is: Hex / Pent / Other)

Monitoring Well Sample Log

Low Flow Sampling

Client/Project Name :L&M/Cornell RI		 FUSS & O'NEILL of New York, PC
Project Location: Kingston, NY	PROJECT #: 20070074.A3N	
Sample#: 7670705_08 - 05	WELL ID: MW-03	

Purge Data Sample Data (well development)

Date:	Container	Quantity	Preservative
Start time: 1200	VOA	2	HCl, Ice
Stop time: 1235			
Sample time: 1235			
Pump Rate: _____ (ml/m)	1L Amber	1	Ice
Total time purged: 35 min	500mL Pl	1	Ice
Volume Purged: 4.8 (lit) gal			
Purge Device: Dedicated / Nondedicated			
Device Type: Bladder / Peristaltic / Submersible			
Appearance: Clean, no sheen			
Well Yield: High / Moderate / Low / Dry			
Comments: well installed 5/4/07	SVOC eq- blank		

Field Parameter Data

Instrument ID#:

Water Level (ft)	Time	Turbidity (ntu)	Dissolved Oxygen (mg/L)	pH	Temp. (deg C)	Specific Conductivity (uS/cm)	ORP(mV)
8.86	1225	7.96	1.26	7.53	8.78	327	222.9
(prior to development and sampling)	1230	7.47	1.10	7.32	9.28	328	231.6
	1235	5.91	1.23	7.30	9.38	332	230.0
9.17							
post-sampling							

Well Condition Checklist

(circle appropriate item(s), cross out if not applicable)

General Condition: Good / Needs Repair
Protective Steel: OK/Cracked/Leaking/Bent/Loose/ **None**
Well # Visible?: **Y** / N
Well Cap: Good / Broken / None
Evidence of rain water between steel and PVC?: Y / **N**
Evidence of ponding around well?: Y / **N**
Gopher type holes around collar?: Y / **N**
Comments: Installed 5/04/2007

Is well plumb?: **Y** / N
Lock: Good / Broken / **None**
Rust around cap: Y / **N**
PVC Riser: Good / Damaged / None
Concrete collar: OK / Cracked / Leaking / **None**
Other evidence of: Rodents / Insects / **None**
Curb Box: **N** / Y (key is: Hex / Pent / Other)

Monitoring Well Sample Log

Low Flow Sampling

Client/Project Name :L&M/Cornell RI		 FUSS & O'NEILL of New York, PC
Project Location: Kingston, NY	PROJECT #: 20070074.A1N	
Sample#: 7670705_09 - 06	WELL ID: MW-04	

Purge Data Sample Data

Date:	Container	Quantity	Preservative
Start time: 5/9/2007	VOA	2	HCl, Ice
Stop time: 13:40	1L Amber	1	Ice
Sample time: 13:45	500mL Pl	1	Ice
Pump Rate: (ml/m)			
Total time purged:			
Volume Purged: 3.5 gal			
Purge Device: Dedicated / Nondedicated			
Device Type: Bladder / Peristaltic / Submersible			
Weather: sunny			
Appearance: clean			
Well Yield: High / Moderate / Low / Dry			
Comments:			

Field Parameter Data

Instrument ID#:

Water Level (ft)	Time	Turbidity (ntu)	Dissolved Oxygen (mg/L)	pH	Temp. (deg C)	Specific Conductivity (uS/cm)	ORP(mV)
8.36	13:10	7.93	6.66	7.72	16.15	310	256.0
↑ prior to development	13:35	13.1	7.23	7.62	19.01	324	258.0
13:48	8.71	7.98	7.58	17.71	313	263.7	
purging							
9.32							
after sampling							

Well Condition Checklist

(circle appropriate item(s), cross out if not applicable)

General Condition: <input checked="" type="checkbox"/> Good / <input type="checkbox"/> Needs Repair	Is well plumb?: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N
Protective Steel: OK / Cracked / Leaking / Bent / Loose / <input checked="" type="checkbox"/> None	Lock: Good / Broken / <input checked="" type="checkbox"/> None
Well # Visible?: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Rust around cap: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N
Well Cap: <input checked="" type="checkbox"/> Good / <input type="checkbox"/> Broken / <input type="checkbox"/> None	PVC Riser: <input checked="" type="checkbox"/> Good / Damaged / <input type="checkbox"/> None
Evidence of rain water between steel and PVC?: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Concrete collar: OK / Cracked / Leaking / <input checked="" type="checkbox"/> None
Evidence of ponding around well?: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Other evidence of: Rodents / Insects / <input checked="" type="checkbox"/> None
Gopher type holes around collar?: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Curb Box: <input checked="" type="checkbox"/> N / <input type="checkbox"/> Y (key is: Hex / Pent / Other)
Comments: Installed 5/04/2007	

Monitoring Well Sample Log

Low Flow Sampling

Client/Project Name :L&M/Cornell RI		 FUSS & O'NEILL of New York, PC
Project Location: Kingston, NY	PROJECT #: 20070074.A1N	
Sample#: 7670705_08 - 08	WELL ID: MW-05	

Purge Data Sample Data

Date:	Container	Quantity	Preservative
Start time: 1503	VOA	2	HCl, Ice
Pump Rate: (ml/m)	1L Amber	1	Ice
Total time purged: 42 min	500mL Pl	1	Ice
Volume Purged: 4.9 (ml)			
Purge Device: Dedicated / Nondedicated			
Device Type: Bladder / Peristaltic / Submersible			
Appearance: sm. silk pieces, slight sheen, slight odor			
Well Yield: High / Moderate / Low / Dry (pet.)			
Comments:			

Field Parameter Data

Instrument ID#: YSI 600 NY

Water Level (ft)	Time	Turbidity (ntu)	Dissolved Oxygen (mg/L)	pH	Temp. (deg C)	Specific Conductivity (uS/cm)	ORP(mV)
8.58	1535	96.0	0.47	7.55	11.69	420	97.2
prior to development	1540	61.4	0.29	7.42	11.10	410	10.8
and sampling	1545	33.8	0.24	7.41	10.82	412	-18.7
7.89							
post sampling							

Well Condition Checklist

(circle appropriate item(s), cross out if not applicable)

General Condition: <input checked="" type="radio"/> Good / <input type="radio"/> Needs Repair	Is well plumb? <input checked="" type="radio"/> Y / <input type="radio"/> N
Protective Steel: OK / Cracked / Leaking / Bent / Loose / <input checked="" type="radio"/> None	Lock: Good / Broken / <input checked="" type="radio"/> None
Well # Visible? : <input checked="" type="radio"/> Y / <input type="radio"/> N	Rust around cap? <input checked="" type="radio"/> Y / <input checked="" type="radio"/> N
Well Cap: <input checked="" type="radio"/> Good / <input type="radio"/> Broken / <input type="radio"/> None	PVC Riser: <input checked="" type="radio"/> Good / <input type="radio"/> Damaged / <input type="radio"/> None
Evidence of rain water between steel and PVC? : Y <input checked="" type="radio"/> N	Concrete collar: OK / Cracked / Leaking <input checked="" type="radio"/> None
Evidence of ponding around well? : Y <input checked="" type="radio"/> N	Other evidence of: Rodents / Insects / <input checked="" type="radio"/> None
Gopher type holes around collar? : Y <input checked="" type="radio"/> N	Curb Box: <input checked="" type="radio"/> N / Y (key is: Hex / Pent / Other)
Comments: Installed 5/04/2007	

Monitoring Well Sample Log

Low Flow Sampling

Client/Project Name :L&M/Cornell RI

*Project Location:
Kingston, NY*

PROJECT #: 20070074.A1N

Sample#: 7670705_08 - 09

WELL ID: MW-06



FUSS & O'NEILL
of New York, PC

-10 (SVOC dup) @ 1657

Purge Data Sample Data

<i>Date:</i> 5/8/07	<i>Container</i>	<i>Quantity</i>	<i>Preservative</i>
<i>Start time:</i> 1626	<i>VOA</i>	2	HCl, Ice
<i>Pump Rate:</i> _____ (ml/m)	<i>1L Amber</i>	4	Ice
<i>Total time purged:</i> 30 min	<i>500mL Pl</i>	1	Ice
<i>Volume Purged:</i> 4.9 (lit) gal			
<i>Purge Device:</i> Dedicated / Nondedicated			
<i>Device Type:</i> Bladder / Peristaltic / Submersible			
<i>Appearance:</i> mod. cloudy			
<i>Well Yield:</i> High / Moderate / Low / Dry			
<i>Comments:</i>			<i>SVOC Dup & MS/MSD</i>

Field Parameter Data

Instrument ID#:

<i>Water Level (ft)</i>	<i>Time</i>	<i>Turbidity (ntu)</i>	<i>Dissolved Oxygen (mg/L)</i>	<i>pH</i>	<i>Temp. (deg C)</i>	<i>Specific Conductivity (uS/cm)</i>	<i>ORP(mV)</i>
8.91	1645	99.9	0.42	7.34	12.27	579	62.4
prior to down hole and sampling	1650	117	0.25	7.19	12.61	570	-44.8
	1655	67.1	0.19	7.22	11.99	567	-88.6
9.01'							
not sampling							

Well Condition Checklist

[circle appropriate item(s), cross out if not applicable]

General Condition: Good / Needs Repair
Protective Steel: OK / Cracked / Leaking / Bent / Loose / None
Well # Visible?: Y / N
Well Cap: Good / Broken / None
Evidence of rain water between steel and PVC?: Y / N
Evidence of ponding around well?: Y / N
Gopher type holes around collar?: Y / N
Comments: Installed 5/04/2007

Is well plumb?: Y / N
Lock: Good / Broken / None
Rust around cap?: Y / N
PVC Riser: Good / Damaged / None
Concrete collar: OK / Cracked / Leaking / None
Other evidence of: Rodents / Insects / None
Curb Box: N / Y (key is: Hex / Pent / Other)

Monitoring Well Sample Log

Low Flow Sampling

Client/Project Name :L&M/Cornell RI

Project Location:
Kingston, NY

PROJECT #: 20070074.A1N

Sample#: 767070509-01

WELL ID: MW-07



FUSS & O'NEILL
of New York, PC

-02 (metals dup @0912)

Purge Data Sample Data

Date:	Container	Quantity	Preservative
Start time: 0837	VOA	2 ✓	HCl, Ice
Stop time: 0910			
Pump Rate: _____ (ml/m)	1L Amber	1 ✓	Ice
Total time purged: _____	500mL Pl	4 ✓	Ice
Volume Purged: (14) gal			
Purge Device: Dedicated / Nondedicated			
Device Type: Bladder / Peristaltic / Submersible			
Appearance: clear, no noticeable odor			
Well Yield: High / Moderate / Low / Dry			
Comments:			Metals dup & MS/MSD

Field Parameter Data

Instrument ID#:

Water Level (ft)	Time	Turbidity (ntu)	Dissolved Oxygen (mg/L)	pH	Temp. (deg C)	Specific Conductivity (uS/cm)	ORP(mV)
8.12	0900	6.85	0.94	7.65	12.12	503	282.4
prior to development	0905	7.27	0.57	7.48	12.26	504	279.9
and sampling	0908	6.66	0.54	7.45	12.28	503	277.3
8.32							
post sampling							

Well Condition Checklist

(circle appropriate item(s), cross out if not applicable)

<p>General Condition: Good / Needs Repair Protective Steel: OK/Cracked/Leaking/Bent/Loose/ None Well # Visible?: Y / N Well Cap: Good / Broken / None Evidence of rain water between steel and PVC?: Y / N Evidence of ponding around well?: Y / N Gopher type holes around collar?: Y / N Comments: Installed 5/04/2007</p>	<p>Is well plumb?: Y / N Lock: Good / Broken / None Rust around cap: Y / N PVC Riser: Good / Damaged / None Concrete collar: OK / Cracked / Leaking / None Other evidence of: Rodents / Insects / None Curb Box: N Y (key is: Hex / Pent / Other)</p>
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Monitoring Well Sample Log

Low Flow Sampling

Client/Project Name:	LJ M Cornell RI	
Project Location:	Kingston NY	PROJECT #: 20070074 AIN
Sample#:	WELL ID:	MN-08



FUSS & O'NEILL
of New York, PC

767070507-05

Purge Data Sample Data

Date:	Start time:	Stop time:	Sample time:	Container	Quantity	Preservative
5/9/07	10:45	11:30	11:30	VOA	2	HCl, Icc
				1L Amber	1	Icp
				500ml plastic	1	Ice

Field Parameter Data

Instrument ID#

Water Level (ft)	Time	Turbidity (ntu)	Dissolved Oxygen (mg/L)	pH	Temp. (deg C)	Specific Conductivity (uS/cm)	ORP(mV)
7.60	11:15	20.3	1.38	6.90	13.44	321	38.7
7.60	11:20	26.3	0.50	7.43	13.22	316	54.0
Development & Sampling	11:25	12.5	0.67	7.29	13.13	315	59.9
7.91							
post Sampling							

Well Condition Checklist

(circle appropriate item(s), cross out if not applicable)

General Condition: Good / Needs Repair
 Protective Steel: OK / Cracked / Leaking / Bent / Loose / None
 Well # Visible?: Y / N
 Well Cap: Good / Broken / None
 Evidence of rain water between steel and PVC?: Y / N
 Evidence of ponding around well?: Y / N
 Gopher type holes around collar?: Y / N
 Comments:

Is well plumb?: Y / N
 Lock: Good / Broken None
 Rust around cap: Y / N
 PVC Riser: Good / Damaged / None
 Concrete collar: OK / Cracked / Leaking None
 Other evidence of: Rodents / Insects / None
 Curb Box: N / Y (key is: Hex / Pent / Other)

Monitoring Well Sample Log

Low Flow Sampling

Client/Project Name : L&M/Cornell RI

Project Location:
Kingston, NY

PROJECT #: 20070074.A1N

Sample#: 7670705_09-04

WELL ID: MW-09



FUSS & O'NEILL
of New York, PC

Purge Data Sample Data

Date:	Container	Quantity	Preservative
Start time: 0926	VOA	2	HCl, Ice
Pump Rate: _____ (ml/m)	1L Amber	1	Ice
Total time purged: 47 min	500mL Pl	1	Ice
Volume Purged: 3.7 (lit) 90			
Purge Device: Dedicated / Nondedicated			
Device Type: Bladder / Peristaltic / Submersible			
Appearance: clear w, silt chunks, sheen, odor(gas)			
Well Yield: High / Moderate / Low / Dry			
Comments:			

Field Parameter Data

Instrument ID#:

Water Level (ft)	Time	Turbidity (ntu)	Dissolved Oxygen (mg/L)	pH	Temp. (deg C)	Specific Conductivity (uS/cm)	ORP(mV)
6.66	1005	121	5.89	7.65	15.08	264	260.4
prior to development and sampling	1010	54.1	5.94	7.76	14.64	261	280.5
	1015	37.3	5.85	7.41	14.49	261	280.1
7.27'							
post sampling							

Well Condition Checklist

(circle appropriate item(s), cross out if not applicable)

General Condition: Good / Needs Repair
Protective Steel: OK / Cracked / Leaking / Bent / Loose / None
Well # Visible?: Y / N
Well Cap: Good / Broken / None
Evidence of rain water between steel and PVC?: Y / N
Evidence of ponding around well?: Y / N
Gopher type holes around collar?: Y / N
Comments: Installed 5/04/2007

Is well plumb?: Y / N
Lock: Good / Broken / None
Rust around cap: Y / N
PVC Riser: Good / Damaged / None
Concrete collar: OK / Cracked / Leaking / None
Other evidence of: Rodents / Insects / None
Curb Box: N / Y (key is: Hex / Pent / Other)

Monitoring Well Sample Log

Low Flow Sampling

Client/Project Name :L&M/Cornell RI

*Project Location:
Kingston, NY*

PROJECT #: 20070074.A1N

Sample#: 7670705_08 - 06

WELL ID: MW-10



FUSS & O'NEILL
of New York, PC

Purge Data

Sample Data

Date:	Container	Quantity	Preservative
Start time: 1355	VOA	8	HCl, Ice
Stop time: 1446	1L Amber	1	Ice
Pump Rate: _____ (ml/m)	500mL PI	1	Ice
Total time purged: 51 min			
Volume Purged: _____ (ltr) gal			
Purge Device: Dedicated / Nondedicated			
Device Type: Bladder / Peristaltic / Submersible			
Appearance: Clear, slight sheen			
Well Yield: High / Moderate / Low / Dry			
Comments: well installed 5/4/07			
			VOC disp & MS/MSD (-06)

Field Parameter Data

Instrument ID#:

Water Level (ft)	Time	Turbidity (ntu)	Dissolved Oxygen (mg/L)	pH	Temp. (deg C)	Specific Conductivity (uS/cm)	ORP(mV)
7.11	1437	13.5	0.42	7.68	11.26	480	104.1
prior to development and sampling	1441	9.71	0.24	7.26	10.83	476	86.1
	1446	8.95	0.19	7.34	10.75	478	30.7

Well Condition Checklist

(circle appropriate item(s), cross out if not applicable)

General Condition: Good / Needs Repair
Protective Steel: OK / Cracked / Leaking / Bent / Loose / None
Well # Visible?: Y / N
Well Cap: Good / Broken / None
Evidence of rain water between steel and PVC?: Y / N
Evidence of ponding around well?: Y / N
Gopher type holes around collar?: Y / N
Comments: Installed 5/04/2007

Is well plumb?: Y / N
Lock: Good / Broken / None
Rust around cap: Y / N
PVC Riser: Good / Damaged / None
Concrete collar: OK / Cracked / Leaking / None
Other evidence of: Rodents / Insects / None
Curb Box: N / Y (key is: Hex / Pent / Other)

Trip Blank Field Data

Client/Project Name: L&M/Cornell RI	PROJECT #:	 FUSS & O'NEILL of New York, PC
Project Location: Kingston, NY	20070074.A1N	
Sample#: 767070504- 28-03	Well ID Trip Blank	

Sample Data	Container	Quantity	Preservative
Date: 5/04/2007 Time: 1040 Sampler: LMG Weather: Sunny 75°F	VOA	2	HCl
Blank Water Supplied By: (Lab) F&O / Other _____			
Comments:			

Comments: VOA only

Equipment Blank Field Data

Client/Project Name: L&M/Cornell RI Project Location: Kingston, NY	PROJECT #: 20070074.A1N	 FUSS & O'NEILL of New York, PC
Sample#: 767070504-08-02	Well ID Equip Blank	

Sample Data	Container	Quantity	Preservative
Date: 5/04/2007 Time: 1035 Sampler: LMG Weather: sunny 75° F	VOA	2	HCl, ice
Blank Water Supplied By: Lab / F&O / Other			
Equipment Used: Bailer / Filter / Pump / Other			
Filtered in Field? No / @ Vehicle			
Method of Filtration: Pressure / Vacuum / Syringe / N/A			
Pump ID #: GED-NH			
Filter: Disposable / Other N/A			
Appearance: clear, no sheen (DI water)			
Comments:			

* - Organic-free DI water used in these containers.

Comments:

Equipment Blank Field Data

Client/Project Name: L&M/Cornell RI	PROJECT #:	 FUSS & O'NEILL of New York, PC
Project Location: Kingston, NY	20070074.A1N	
Sample#: 767070504-08-02	<u>Well ID</u> Equip Blank	

Sample Data	Container	Quantity	Preservative
Date: 5/04/2007 Time: 10:35 Sampler: LMG Weather: sunny 75°F	1 L Amber	1	ice
Blank Water Supplied By: Lab / F&O / Other			
Equipment Used: Bailer / Filter / Pump / Other			
Filtered in Field? No @ Vehicle			
Method of Filtration: Pressure / Vacuum / Syringe / N/A			
Pump ID #: GEO-NY			
Filter: Disposable / Other N/A			
Appearance: DI water			
Comments:			

* - Organic-free DI water used in these containers.

Comments:

Equipment Blank Field Data

Client/Project Name: L&M/Cornell RI	PROJECT #:	 FUSS & O'NEILL of New York, PC
Project Location: Kingston, NY	20070074.A3N	
Sample#: 767070504-08-02	Well ID Equip Blank	

Sample Data	Container	Quantity	Preservative
Date: 5/04/2007 Time: 1035 Sampler: LMG Weather: Sunny 75°F	500mL Pl	1	ice
Blank Water Supplied By: Lab / F&O / Other			
Equipment Used: Bailer / Filter / Pump / Other			
Filtered in Field? No @ Vehicle			
Method of Filtration: Pressure / Vacuum / Syringe / N/A Pump ID #: GEO NT			
Filter: Disposable / Other N/A			
Appearance: <i>DI water</i>			
Comments:			

* - Organic-free DI water used in these containers.

Comments:

Trip Blank Field Data

Client/Project Name: U M Cornell RI	PROJECT #: 20070074.AIN	 FUSS & O'NEILL of New York, PC
Project Location: Kingston NY	<u>Well ID</u> Trip Blank	
Sample#: 767070509-03		

Sample Data	Container	Quantity	Preservative
Date: 5/9/07 Sampler: LMG	Voa	2	HCl
Blank Water Supplied By: Lab / F&O / Other			
Comments:			

Comments:

Sediment Sampling Field Data

Client/Project Name: L&M/Cornell RI		 FUSS & O'NEILL of New York, PC
Project Location: Kingston, NY	PROJECT#:20070074.A3N	
Sample#: <u>7670705</u> - <u>A-01</u>	Sampling Location S-01	

Sample Location Info

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Sample Data

		Container	Quantity	Preservative
Date:	<u>5/9/07</u>	4oz glass	<u>A3</u>	ice
Sampler:	<u>LMG-GAT</u>			
Time:	<u>13:20</u>			
Weather:	<u>sunny 80s °F</u>			
Sampling Device:	Auger / Core Sampler / <u>Shovel</u> / Ponar Dredge			
Eckman Dredge / Other	<u> </u>			
Field decon:	<u>Yes</u> / No / Dedicated			
Type of Sample:	<u>Grab</u> / Composite / Other			
Sample Depth:	<u>0-1 ft</u>			

Comments:

Sediment Sampling Field Data

Client/Project Name: L&M/Cornell RI		 FUSS & O'NEILL of New York, PC
Project Location: Kingston, NY	PROJECT#: 20070074.A1N	
Sample#: 7670705 - 02	Sampling Location S-02	

Sample Location Info

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Sample Data	Container	Quantity	Preservative
Date: 5/9/07	4oz glass	43	ice
Sampler: EMG/GAT			
Time: 13:25			
Weather: 80° F sunny			
Sampling Device: Auger / Core Sampler / Shovel / Ponar Dredge			
Eckman Dredge / Other			
Field decon: Yes / No / Dedicated			
Type of Sample: Grab / Composite / Other			
Sample Depth: 0-1 ft			

Comments:

Sediment Sampling Field Data

Client/Project Name: L&M/Cornell RI		 FUSS & O'NEILL of New York, PC
Project Location: Kingston, NY	PROJECT#: 20070074.A1N	
Sample #: 7880705A-03 7670705 -	Sampling Location S-03	

Sample Location Info

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Sample Data	Container	Quantity	Preservative
Date: <u>5/9/07</u>	<u>4oz glass</u>	<u>43</u>	<u>ice</u>
Sampler: <u>EMG GAT</u>			
Time: <u>14:15</u>			
Weather: <u>80s°F Sunny</u>			
Sampling Device: Auger / Core Sampler <input checked="" type="checkbox"/> Shovel / Ponar Dredge			
Eckman Dredge / Other _____			
Field decon: <input checked="" type="checkbox"/> Yes / No / Dedicated			
Type of Sample: <input checked="" type="checkbox"/> Grab / Composite / Other _____			
Sample Depth: <u>0-1 ft</u>			

Comments: Located above bulkheads near shore

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/24/07

Weather: Sunny, 75°F

PROJECT #: 20070074AIN



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
Sample # : 767070424- 01 Sample Location: TP-26 (0-1')	G 4oz	2	Ice
Sampler: LMG Time: 11:55 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: sub base Sample Depth: 0-1' PetroFLAG / CVM 0.0 ppm			
Sample # : 767070424- 02 Sample Location: TP-27 (1-3')	G 4oz	2	Ice
Sampler: LMG Time: 12:15 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: fill Sample Depth: 0-1-3' PetroFLAG / CVM —			
Sample # : 767070424- 03 Sample Location: TP33 (0-1')	G 4oz	1	Ice
Sampler: LMG Time: 12:45 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: fill f-m sand, organics Sample Depth: 0-1' PetroFLAG / CVM —			
Sample # : 767070424- 04 Sample Location: TP33 (3-6')	G 4oz	1	Ice
Sampler: LMG Time: 12:48 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: f sand / silt, rock Sample Depth: 3-6' PetroFLAG / CVM —			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/24/07

Weather: sunny 75°F

PROJECT #:

20070074.AW



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
Sample #: 767070424- 05 Sample Location: TP32(0-1)	G 4oz	4	Ice
Sampler: LMG Time: 13:15 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: sub base Sample Depth: 0-1' PetroFLAG / QVM		metals MS/MSD	
Sample #: 767070424- 06 Sample Location: TP32 (1-3)	G 4oz	2	Ice
Sampler: LMG Time: 13:17 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel sub base, coal ash fill Sample Depth: 1-3' PetroFLAG / QVM 1.1 ppm			
Sample #: 767070424- 07 Sample Location: TP 32(1-3)	G 4oz	1	Ice
Sampler: LMG Time: 13:19 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel, sub base, coal ash fill Sample Depth: 1-3' PetroFLAG / QVM 1.1 ppm		TPH duplicate	
Sample #: 767070424- 08 Sample Location: TP 31 (3-6)	G 4oz	1	Ice
Sampler: LMG Time: 13:35 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: br s-m sand Sample Depth: 3-6' PetroFLAG / QVM 0.0 ppm			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/24/07

Weather: sunny 75°F

PROJECT #: 20070074.AIN



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
767070424- 09			
Sample Location: TP 29 (0-1)			
Sampler: LMG Time: 13:57 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel subbase, organics Sample Depth: 0-1' PetroFLAG / QVM -	G 4oz	4 SVOC MS/MSD	Ice
767070424- 10			
Sample Location: TP 29 (0-1)			
Sampler: LMG Time: 13:57 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel subbase, organics Sample Depth: 0-1' PetroFLAG / QVM -	G 4oz	1 SVOC dwp.	Ice
767070424- 11			
Sample Location: TP 29 (0-1)			
Sampler: LMG Time: _____ Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel subbase, organics Sample Depth: 0-1' PetroFLAG / QVM -	G 4oz	1 metals dwp.	Ice
767070424- 12			
Sample Location: TP 30 (0-1')			
Sampler: LMG Time: 14:22 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: f-m br sand, organics, ash Sample Depth: 0-1' PetroFLAG / QVM -	G 4oz	1	Ice

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/24/07

Weather: sunny 75°F

PROJECT #: 20070074.AN



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
767070424- 13 Sample Location: TP 30 (1-3')	G 4oz	1	Ice
Sampler: LMG Time: 14:25 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: f-m br sand Sample Depth: 1-3' PetroFLAG / OVM —			
767070424- 14 Sample Location: 14:45 ↑	G 4oz	1	Ice
Sampler: LMG Time: TP 28 (0-1') ↓ Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: b; f-m sand, organics Sample Depth: 0-1' PetroFLAG / OVM —			
767070424- 15 Sample Location: TP 28 (3-6')	G 4oz	2	Ice
Sampler: LMG Time: 14:47 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: stained sand, fill, strong odor, visible pet. impacts Sample Depth: 3-6' PetroFLAG / OVM 54.1 ppm			
767070424- 16 Sample Location: TP 25 (0-1')	G 4oz	1	Ice
Sampler: LMG Time: 15:15 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel sub base Sample Depth: 0-1' PetroFLAG / OVM —			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI Project Location: Kingston, NY Date: 4/25/07	PROJECT #: 2D670074AIN	 FUSS & O'NEILL <i>Disciplines to Deliver</i>
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Sample # : 767070425- 01	Container	Quantity	Preservative
Sample Location: TP35 (0-1')			
Sampler: LMG Time: 07:55 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: br + m sand, organics, household debris Sample Depth: 0-1' PetroFLAG / <input checked="" type="checkbox"/> VMP	G 4oz	1	Ice
Sample # : 767070425- 02	Container	Quantity	Preservative
Sample Location: TP35 (1-3)			
Sampler: LMG Time: 07:57 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: lt. gr + sand, silt Sample Depth: 1-3' PetroFLAG / <input checked="" type="checkbox"/> VMP	G 4oz	1	Ice
Sample # : 767070425- 03	Container	Quantity	Preservative
Sample Location: TP24 (0-1')			
Sampler: LMG Time: 08:27 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel subbase, c. sand, asphalt Sample Depth: 0-1' PetroFLAG / <input checked="" type="checkbox"/> VMP 511 ppm	G 4oz	1	Ice
Sample # : 767070425- 04	Container	Quantity	Preservative
Sample Location: TP24 (3-6')			
Sampler: LMG Time: 08:28 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel subbase, c. sand, asphalt Sample Depth: 3-6' PetroFLAG / <input checked="" type="checkbox"/> VMP 511 ppm, saturated	G 4oz	2	Ice

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/25/07 Weather: P. Cloudy, ~50F

PROJECT #: 20070074. A1 N



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
Sample #: 767070425- 05 Sample Location: TP23 (0-1)	G 4oz	2	Ice
Sampler: LMG Time: 08:50 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop/ Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel subbase, sand, ash Sample Depth: 0-1' PetroFLAG / OVM 1.6 ppm			
Sample #: 767070425- 06 Sample Location: TP 23 (1-3)	G 4oz	1	Ice
Sampler: LMG Time: 08:52 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop/ Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: sand, brick, fill Sample Depth: 1-3' PetroFLAG / OVM 345 ppm			
Sample #: 767070425- 07 Sample Location: TP21 (0-1)	G 4oz	1	Ice
Sampler: LMG Time: 09:15 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop/ Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel subbase Sample Depth: 0-1' PetroFLAG / OVM 68.3 ppm			
Sample #: 767070425- 08 Sample Location: TP 21 (1-3)	G 4oz	1	Ice
Sampler: LMG Time: 09:17 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop/ Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: crushed brick Sample Depth: 1-3' PetroFLAG / OVM 0.0 ppm			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/25/07 Weather: P. Cloudy, ~50F

PROJECT #: 20070074.A1N



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
Sample #: 767070425- 09 Sample Location: TP21(3-6)	G 4oz	1	Ice
Sampler: LMG Time: 09:18 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: stained f-m sand Sample Depth: 3-6 PetroFLAG / OVM 2.0 ppm			
Sample #: 767070425- 10 Sample Location: TP20 (0-1')	G 4oz	1	Ice
Sampler: LMG Time: 09:35 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: f. sand, organics, RR gravel Sample Depth: 0-1 PetroFLAG / OVM 0 ppm			
Sample #: 767070425- 11 Sample Location: TP22 (0-1)	G 4oz	1	Ice
Sampler: LMG Time: 09:52 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: sand, organics, metal parts, Sample Depth: 0-1 PetroFLAG / OVM 65.7 ppm Staining			
Sample #: 767070425- 12 Sample Location: TP22 (1-3)	G 4oz	3	Ice
Sampler: LMG Time: 09:52 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: fill Sample Depth: 1-3 PetroFLAG / OVM 0.9 ppm			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/25/07 Weather: P. Cloudy, ~50F

PROJECT #: 26070674.AIN



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
767070425- 13 Sample Location: TP22 (1-3')	G 4oz	1	Ice
Sampler: LMG Time: 0952 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: fill Sample Depth: 1-3' PetroFLAG / OVM 0.9 ppm		VOC dup.	
767070425- 14 Sample Location: TP19(0-1)	G 4oz	2	Ice
Sampler: LMG Time: 10:17 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel subbase, organics, brick staining Sample Depth: 0-1' PetroFLAG / OVM 0.0 ppm			
767070425- 15 Sample Location: TP19 (1-3')	G 4oz	1	Ice
Sampler: LMG Time: 10:18 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: brick, sand, fill Sample Depth: 1-3' PetroFLAG / OVM 0.0 ppm			
767070425- 16 Sample Location: TP19(3-6')	G 4oz	1	Ice
Sampler: LMG Time: 10:19 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: blk org. silt, fill @ bottom Sample Depth: 3-6' PetroFLAG / OVM 0.0 ppm			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/25/07 Weather: P. Cloudy, ~50F

PROJECT #: 20070074.ALN



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
Sample #: 767070425- 17 Sample Location: TP16 (0-1)	G 4oz	1	Ice
Sampler: LMG Time: 10:46 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop/ Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel substrate, dk br sand Sample Depth: 0-1' PetroFLAG / OVM 0.0 ppm			
Sample #: 767070425- 18 Sample Location: TP16(1-3)	G 4oz	1	Ice
Sampler: LMG Time: 10:47 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop/ Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: F11 Sample Depth: 1-3' PetroFLAG / OVM 0.0 ppm			
Sample #: 767070425- 19 Sample Location: TP16 (3-6)	G 4oz	1	Ice
Sampler: LMG Time: 10:48 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop/ Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: br, silt and sand, rock Sample Depth: 3-6' PetroFLAG / OVM 0.0 ppm			
Sample #: 767070425- 20 Sample Location: TP18 (1-3)	G 4oz	1	Ice
Sampler: LMG Time: 11:15 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop/ Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: f-m sand, brick, RR rocks Sample Depth: 1-3' PetroFLAG / OVM -			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/25/07 Weather: P. Cloudy, ~50F

PROJECT #: 200700744. AIN



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
Sample #: 767070425- 21 Sample Location: TP 17 (0-1)	G 4oz	1	Ice
Sampler: LMG Time: 12:17 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel subbase, asphalt Sample Depth: 0-1 PetroFLAG / OVM —			
Sample #: 767070425- 22 Sample Location: TP 17 (1-3)	G 4oz	1	Ice
Sampler: LMG Time: 12:18 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: fill Sample Depth: 1-3 PetroFLAG / OVM —			
Sample #: 767070425- 23 Sample Location: TP 19 (0-1)	G 4oz	1	Ice
Sampler: LMG Time: 12:45 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: sand, organics, metal debris Sample Depth: 0-1 PetroFLAG / OVM 0.0 ppm			
Sample #: 767070425- 24 Sample Location: TP 14 (0-1)	G 4oz	2	Ice
Sampler: LMG Time: 13:05 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: subbase, m-c sand, organics Sample Depth: 0-1 PetroFLAG / OVM 16.7 ppm			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/25/07 Weather: P. Cloudy, ~50F

PROJECT #: 200700744.AIN



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
767070425- 25 Sample Location: TP11 (0-1)	G 4oz	1	Ice
Sampler: LMG Time: 13:33 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel sub base, sand Sample Depth: 0-1 PetroFLAG / OVM 32.2 ppm			
767070425- 26 Sample Location: TP09 (0-1)	G 4oz	1	Ice
Sampler: LMG Time: 13:55 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel sub base, RR metal pieces Sample Depth: 0-1 PetroFLAG / OVM 4.0 ppm			
767070425- 27 Sample Location: TP09 (1-3)	G 4oz	2	Ice
Sampler: LMG Time: 13:56 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: fill with RR ties Sample Depth: 1-3 PetroFLAG / OVM 6.2 ppm			
767070425- 28 Sample Location: TP05 (0-1)	G 4oz	1	Ice
Sampler: LMG Time: 14:22 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: top soil Sample Depth: 0-1 PetroFLAG / OVM 0.2 ppm			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/25/07 Weather: P. Cloudy, ~50F

PROJECT #: 20070574.ALN



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
✓ Sample #: 767070425- 29 Sample Location: TP05 (3-6)	G 4oz	3	Ice
Sampler: LMG Time: 14:24 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: sand + silt, fill, pockets blue staining Sample Depth: 3-6 PetroFLAG / QVM 0.6 ppm			
✓ Sample #: 767070425- 30 Sample Location: 14:50 TP06 (0-1)	G 4oz	2	Ice
Sampler: LMG Time: 14:50 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: topsoil Sample Depth: 0-1 PetroFLAG / QVM 0.0 ppm			
✓ Sample #: 767070425- 31 Sample Location: TP06 (0-1)	G 4oz	1	Ice
Sampler: LMG Time: 14:50 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: topsoil Sample Depth: 0-1 PetroFLAG / QVM 0.0 ppm		metals dup.	
✓ Sample #: 767070425- 32 Sample Location: TP06 (1-3)	G 4oz	1	Ice
Sampler: LMG Time: 14:51 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: concrete pad, fill underneath Sample Depth: 1-3 PetroFLAG / QVM 6.1 ppm			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/25/07

Weather: P. Cloudy, ~50F

PROJECT #: 20070074 ALN



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
Sample #: 767070425- 33 Sample Location: TP 06 (1-3)	G 4oz	1 VOC drip.	Ice
Sampler: LMG Time: 14:52 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: concrete pad, fill underneath Sample Depth: 1-3 PetroFLAG / OVM 6.1 ppm			
Sample #: 767070425- 34 Sample Location: TP 06 (3-6)	G 4oz	1	Ice
Sampler: LMG Time: 14:53 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: bricks, gravel, stone frags Sample Depth: 3-6 PetroFLAG / OVM 0.0 ppm (saturated)		+ no analyses requested - TP + moved to 767070424-06.	
Sample #: 767070425- Sample Location:	G 4oz		Ice
Sampler: LMG Time: Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: Sample Depth: PetroFLAG / OVM			
Sample #: 767070425- Sample Location:	G 4oz		Ice
Sampler: LMG Time: Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: Sample Depth: PetroFLAG / OVM			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI Project Location: Kingston, NY Date: 4/26/07	PROJECT #: 20070074AIN	 FUSS & O'NEILL <i>Disciplines to Deliver</i>
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Sample #:	Container	Quantity	Preservative
✓ Sample #: 767070426- 01 Sample Location: TP02 (1-3)	G 4oz	1	Ice
Sampler: LMG Time: 08:30 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: fill - brick Sample Depth: 1-3 PetroFLAG / OVM 0.0 ppm			
✓ Sample #: 767070426- 02 Sample Location: TP01 (1-3)	G 4oz	3	Ice
Sampler: LMG Time: 08:50 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: fill Sample Depth: 1-3 PetroFLAG / OVM 0.0 ppm			
✓ Sample #: 767070426- 03 Sample Location: TP04 (0-1)	G 4oz	3	Ice
Sampler: LMG Time: 09:37 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: br m sand, organics Sample Depth: 0-1 PetroFLAG / OVM 0.0 ppm			
✓ Sample #: 767070426- 04 Sample Location: TP04(3-6)	G 4oz	4	Ice VOC MS/MSD
Sampler: LMG Time: 09:38 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: stained sand & silt, fill Sample Depth: 3-6 PetroFLAG / OVM 0.3 ppm			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI Project Location: Kingston, NY Date: 4/26/07	PROJECT #: 20070074A/N	 FUSS & O'NEILL <i>Disciplines to Deliver</i>
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✓ Sample #: 767070426- 05 Sample Location: TP03(0-1)	Container	Quantity	Preservative
Sampler: LMG Time: 10:05 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: top soil Sample Depth: 0-1 PetroFLAG / OVM 0.2 ppm	G 4oz	3	Ice
SVOC MS/MSD			
Sample #: 767070426- 06 Sample Location: TP07 (0-1)	Container	Quantity	Preservative
Sampler: LMG Time: 10:28 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel sub base, fill Sample Depth: 0-1 PetroFLAG / OVM 6.7 ppm	G 4oz	1	Ice
Sample #: 767070426- 07 Sample Location: TP08 (0-1)	Container	Quantity	Preservative
Sampler: LMG Time: 10:48 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: packed sub base Sample Depth: 0-1 PetroFLAG / OVM 103 ppm	G 4oz	1	Ice
Sample #: 767070426- 08 Sample Location: TP08 (1-3)	Container	Quantity	Preservative
Sampler: LMG Time: 10:49 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: f. gravel, c. sand, 1" pvc line Sample Depth: 1-3 PetroFLAG / OVM 0.8 ppm	G 4oz	3	Ice
SVOC MS/MSD			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/26/07 Weather: M. Sunny, ~60F

PROJECT #:

2007074 A1 N



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Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
Sample #: 767070426- 09 Sample Location: TP08 (3-6)	G 4oz	4	Ice
Sampler: LMG Time: 10:51 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: red br/olive sand/silt Sample Depth: 3-6 PetroFLAG / OVM 11.4 ppm			
Sample #: 767070426- 10 Sample Location: TP10(0-1)	G 4oz	2	Ice
Sampler: LMG Time: 11:01 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel sub base, RR ties Sample Depth: 0-1 PetroFLAG / OVM 4.0 ppm		metals MS/MSD	
Sample #: 767070426- 11 Sample Location: TP10(1-3)	G 4oz	2	Ice
Sampler: LMG Time: 13:03 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel & fill Sample Depth: 1-3 PetroFLAG / OVM 0.0 ppm			
Sample #: 767070426- 12 Sample Location: TP10 A (1-3)	G 4oz	1	Ice
Sampler: LMG Time: 13:32 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: fill Sample Depth: 1-3 PetroFLAG / OVM 0.2 ppm			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/26/07 Weather: M. Sunny, ~60F

PROJECT #: 20070574A1N



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
767070426- 13 Sample Location: TP12 (0-1)	G 4oz	2	Ice
Sampler: LMG Time: 13:53 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: sub base fill Sample Depth: 0-1 PetroFLAG / OVM 0.1 ppm			
767070426- 14 Sample Location: TP12 (1-3)	G 4oz	2	Ice
Sampler: LMG Time: 13:55 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: fill, organic layer Sample Depth: 1-3 PetroFLAG / OVM 102 ppm			
767070426- 15 Sample Location: TP13 (0-1)	G 4oz	2	Ice
Sampler: LMG Time: 14:20 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: gravel subbase Sample Depth: 0-1 PetroFLAG / OVM 0.7 ppm			
767070426- 16 Sample Location: TP13 (1-3)	G 4oz	2	Ice
Sampler: LMG Time: 14:21 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: sand and fill Sample Depth: 1-3 PetroFLAG / OVM 0.9 ppm			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/26/07 Weather: M. Sunny, ~60F

PROJECT #: 20070074A-N



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
Sample #: 767070426- 17 Sample Location: TP 13 (3-3.8)	G 4oz	1	Ice
Sampler: LMG Time: 14:22 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: sand and fill Sample Depth: 3-3.8 PetroFLAG / QVM 1.0 ppm			
Sample #: 767070426- 18 Sample Location: TP 36 (3-6)	G 4oz	1	Ice
Sampler: LMG Time: 14:55 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: reworked silt + f. sand, rock Sample Depth: 3-6 PetroFLAG / QVM 0.9 ppm			
Sample #: 767070426- 19 Sample Location: TP 37(3-6)	G 4oz	2	Ice
Sampler: LMG Time: 15:17 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: med. br sand + silt Sample Depth: 3-6 PetroFLAG / QVM 0.7 ppm			
Sample #: 767070426- 20 Sample Location: TP 38 (1-3)	G 4oz	2	Ice
Sampler: LMG Time: 15:39 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other Generic Soil Description: fill Sample Depth: 1-3 PetroFLAG / QVM 1.0 ppm			

Soil Sampling Field Data

Client/Project Name: L&M/Cornell RI
 Project Location: Kingston, NY
 Date: 4/26/07 Weather: M. Sunny, ~60F

PROJECT #: 20070074AIN



FUSS & O'NEILL
Disciplines to Deliver

Sample #:	Container	Quantity	Preservative
Sample #: 767070426-21 Sample Location: TP38 (3-6)	G 4oz	2	Ice

Sampler: LMG Time: 15:45
 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other _____
 Field decon: Yes / No / Dedicated
 Type of Sample: Grab / Composite / Other _____
 Generic Soil Description: rock, little silt sand, silt
 Sample Depth: 3-6
 PetroFLAG / OVM 142 ppm

Sample #:	Container	Quantity	Preservative
Sample #: 767070426-22 Sample Location: TP03 (0-1)	G 4oz	3	Ice

Sampler: LMG Time: 10:05
 Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other _____
 Field decon: Yes / No / Dedicated
 Type of Sample: Grab / Composite / Other _____
 Generic Soil Description: medium sand, organic
 Sample Depth: 0-1
 PetroFLAG / OVM 6.0 ppm

Sample #:	Container	Quantity	Preservative
Sample Location: Sampler: LMG Time: Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other _____ Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other _____ Generic Soil Description: Sample Depth: PetroFLAG / OVM _____	G 4oz		Ice

Sample #:	Container	Quantity	Preservative
Sample Location: Sampler: LMG Time: Sampling Device: Auger / Geoprobe / Core Sampler / Shovel / Split Spoon / Scoop / Other _____ Field decon: Yes / No / Dedicated Type of Sample: Grab / Composite / Other _____ Generic Soil Description: Sample Depth: PetroFLAG / OVM _____	G 4oz		Ice



APPENDIX C

HISTORIC KINGSTON WATERFRONT # 1, LLC
HISTORIC KINGSTON WATERFRONT, L&M, LLC

SUMMARY OF X-RAY FLUORESCENCE DATA

APPENDIX C – SUMMARY OF XRF DATA

The XRF results and associated errors are presented in Table C-7. A comparison of the laboratory and XRF results is presented in a tabular format in Table C-8 and in graphical format in Figures C-1 through C-5.

XRF data usability was evaluated by comparing XRF results to laboratory results graphically. The data usability summary report (DUSR) confirms that the laboratory data is of good quality. A summary of data usability is provided in the table below:

Analyte	Number of XRF Runs	No. of Comparisons where Lab Data Fell within XRF Data Range	% Usable Data
Arsenic	21	14	67%
Chromium	21	16	76%
Lead	21	13	62%
Mercury	21	16	76%
Selenium	21	17	81%

Arsenic: Correlation of arsenic data between the XRF and laboratory data was generally strong. Figure 5A depicts a comparison of the data. The general magnitude of arsenic in a sample is detected rather well by the XRF. In addition, the estimated error ranges are tighter suggesting that the data provided by the instrument is more reliable, and suits the magnitude of the actual results. The XRF would serve as a useful field instrument during remedial activities for the screening of arsenic.

Chromium & Selenium: The chromium and selenium results had the most instances where the laboratory result was similar to the XRF reading and fell within the XRF's estimated error range, as depicted in Figures 5B and 5E, respectively. However, this may be due to the exceptionally wide error ranges estimated by the XRF for these particular metals. The error ranges estimated were broad in comparison to the magnitude of the results. For this reason, the XRF serves well as a screening tool for chromium and selenium in the field; however, the instrument may not be capable of providing laboratory-quality data for these and other metals.

Lead: In comparison to the magnitude of lead concentrations read by the XRF, the approximated error associated with those readings was minimal. For this reason, the percentage of usable lead data presented in the table above is misleading. Although less of the laboratory data fell within the XRF's estimated error range, the results were generally similar as depicted in Figure 5C. The XRF data appears to follow laboratory data trends well, and therefore appears to be reliable. Similar to arsenic, the XRF would serve as a useful field instrument during remedial activities for the screening of lead.

Mercury: The comparison of data provided in Figure 5D suggests that the XRF instrument is not ideal for screening mercury concentrations in the types of soil encountered at the subject site. One sample (at test pit TP-17) had an XRF result similar to the laboratory data;

however, the error range was estimated at approximately 8 times the actual result ($0.52 \pm 4.23 \text{ ppm}$).

The instrument manufacturer suggests an analysis time of at least 2 minutes. In practice, soil samples were prepared for the XRF were allowed to remain in the instrument for approximately 3-4 minutes per sample. Analysis time was added to account for the non-homogeneous nature of soils being analyzed. The final result recorded by the XRF is accompanied by an estimated plus or minus error value. The 21 samples specified in the RIWP for metals analysis by an ELAP certified laboratory were used to understand and verify the results obtained using the XRF analyzer.

TABLE C-1
 METALS RESULTS - XRF ANALYZER (mg/kg)

Test Pit	Depth	Pb	Pb Error	Se	Se Error	As	As Error	Hg	Hg Error	Cr	Cr Error
TP01	0-1	24.3	6.7	6.8	4.5	11.6	5.7	-0.3	4.5	20.3	66.8
	1-3	1209.4	20.0	1.6	3.7	19.0	15.9	0.4	3.6	70.3	53.0
	3-6	461.2	13.3	3.9	3.5	-2.5	10.4	-1.7	3.5	33.0	48.5
TP02	0-1	238.4	13.7	8.7	5.4	10.4	11.1	3.8	5.5	139.3	92.4
	1-3	229.5	12.3	3.9	4.6	19.4	10.0	-2.5	4.7	123.7	74.0
	3-6	27.0	4.9	1.7	3.1	3.6	4.0	0.5	3.2	-4.1	44.3
TP03	0-1	193.0	9.6	2.2	3.6	11.8	7.8	-2.1	3.7	-33.3	52.3
	1-3	597.3	13.9	4.1	3.3	36.4	11.3	-1.3	3.2	-51.4	48.6
	3-6	618.9	15.1	8.3	3.8	51.5	12.3	2.2	3.8	39.3	57.3
TP04	0-1	545.7	15.9	7.8	4.2	127.2	13.8	2.7	4.2	17.2	67.5
	1-3	756.7	20.4	7.5	4.9	203.9	18.1	0.5	4.9	-23.8	93.5
	3-6	382.0	14.0	6.6	4.3	22.6	11.4	1.4	4.3	44.4	71.5
TP05	0-1	585.1	18.1	4.0	4.7	21.9	14.5	5.9	4.9	24.5	72.9
	1-3	130.4	8.6	1.1	3.7	4.1	6.9	-4.1	3.7	-3.7	52.2
	3-6	136.4	8.0	1.9	3.3	2.0	6.4	-2.6	3.3	32.5	49.3
TP06	0-1	354.9	13.6	0.7	4.1	26.0	11.0	-0.2	4.3	-22.9	61.1
	1-3	1468.0	22.4	1.6	3.7	54.9	17.9	1.8	3.7	64.8	52.8
	3-6	505.3	14.6	4.7	3.8	-5.2	11.4	5.7	3.9	46.5	57.3
TP07	0-1	163.6	9.2	0.4	3.6	7.5	7.4	0.7	3.8	32.4	54.5
	1-3	485.0	12.7	3.1	3.2	30.5	10.3	-2.8	3.2	-37.8	47.9
	3-6	366.6	14.2	3.8	4.4	22.8	11.5	-0.1	4.5	82.1	75.1
TP08	0-1	202.5	10.1	4.6	3.8	18.5	8.3	-1.2	3.9	6.5	58.5
	1-3	164.0	8.0	1.1	3.1	9.5	6.5	-3.5	3.2	-41.0	46.6
	3-6	6.9	5.0	5.8	3.7	3.5	4.2	-2.6	3.6	55.4	52.9
TP09	0-1	1261.3	21.8	-0.2	4.0	66.0	17.6	2.0	4.1	77.2	62.8
	1-3	505.3	16.0	4.2	4.3	39.2	13.0	3.3	4.4	33.1	64.0
	3-6	42.9	6.5	3.1	3.8	4.0	5.3	1.7	4.0	10.7	55.8
TP10	0-1	337.1	9.4	4.3	2.7	24.5	7.7	-4.9	2.5	-40.1	37.7
	1-3	191.7	8.3	6.6	3.1	17.8	6.8	-3.5	3.0	-12.5	43.8
	3-6	535.7	14.2	7.3	3.7	35.2	11.5	0.4	3.6	53.2	52.5
TP10A	0-1	500.2	14.5	4.8	3.9	20.5	11.6	-1.0	3.9	31.5	56.2
	1-3	929.9	21.0	7.4	4.5	62.9	17.0	-2.4	4.4	61.1	68.7
	3-6	359.4	10.6	3.0	3.0	12.4	8.5	-3.2	2.9	4.0	44.0
TP11	0-1	64.3	7.9	1.3	4.3	9.7	6.6	1.0	4.5	42.2	65.2
	1-3	1773.3	27.4	2.7	4.4	87.1	22.0	0.9	4.3	82.4	66.9
	3-6	5.5	4.8	3.5	3.5	6.4	4.1	-2.7	3.6	61.8	52.2
TP12	0-1	145.8	9.1	4.3	3.9	3.9	7.3	-1.4	3.9	-8.9	55.2
	1-3	254.1	11.0	6.8	3.8	24.4	9.0	-2.3	3.7	18.0	56.5
TP13	0-1	178.3	9.7	4.3	3.8	10.1	7.8	-2.3	3.8	47.1	58.6
	1-3	258.6	10.7	5.6	3.7	12.1	8.7	-7.4	3.6	19.3	56.6
	3-3.8	176.9	8.3	2.2	3.1	13.8	6.8	-6.6	3.0	-35.9	45.7
TP14	0-1	39.6	6.6	3.7	3.9	5.8	5.4	-1.6	4.0	10.7	57.0
	1-3	677.1	16.2	4.8	3.8	17.9	12.9	4.0	3.8	12.4	53.8
	3-6	105.0	6.2	0.9	2.8	24.5	5.4	-1.8	2.8	-6.6	40.6
TP15	0-1	89.8	7.3	0.5	3.5	6.6	6.0	2.0	3.7	53.2	54.2
	1-3	46.5	6.4	3.1	3.7	4.0	5.3	2.5	3.9	-15.3	52.0
	3-6	89.3	6.8	0.0	3.2	5.0	5.6	-0.4	3.4	10.6	47.1
TP16	0-1	251.0	12.2	3.6	4.4	25.0	10.0	-0.5	4.5	89.6	70.3
	1-3	133.9	9.3	5.8	4.1	16.5	7.7	-1.9	4.1	2.3	58.0
	3-6	92.0	7.5	2.3	3.6	14.3	6.3	-1.2	3.7	7.3	51.4
TP17	0-1	168.4	10.1	4.1	4.1	-6.6	7.9	0.5	4.2	88.0	62.8
	1-3	192.0	10.9	4.1	4.3	30.7	9.1	0.8	4.4	100.9	65.2

TABLE C-1
 METALS RESULTS - XRF ANALYZER (mg/kg)

Test Pit	Depth	Pb	Pb Error	Se	Se Error	As	As Error	Hg	Hg Error	Cr	Cr Error
TP18	0-1	31.0	6.3	6.2	4.1	7.0	5.3	-0.4	4.1	48.9	60.1
	1-3	528.2	15.8	4.4	4.1	22.1	12.6	0.1	4.2	-5.4	57.4
	3-6	1102.8	21.1	2.3	4.0	26.9	16.7	4.1	4.1	17.3	55.7
TP19	0-1	444.0	15.9	-0.1	4.6	39.9	13.0	2.6	4.9	50.4	76.9
	1-3	489.3	14.5	4.6	4.0	14.9	11.6	3.1	4.1	24.5	59.7
	3-6	1112.9	20.6	6.1	4.0	17.9	16.3	1.1	3.8	21.7	52.6
TP20	0-1	144.4	8.9	4.6	3.9	13.4	7.3	-1.9	4.0	64.8	61.0
	1-3	48.5	7.2	2.6	4.2	9.3	6.1	4.5	4.5	737.2	90.0
	3-6	781.6	19.6	11.3	4.7	31.7	15.7	2.8	4.5	79.2	68.1
TP21	0-1	131.4	9.5	5.6	4.3	15.2	7.9	-1.9	4.3	96.3	67.0
	1-3	36.8	7.0	7.4	4.4	9.3	5.9	2.2	4.5	128.0	69.6
	3-6	10.6	4.9	3.4	3.5	4.7	4.1	3.6	3.7	95.6	53.5
TP22	0-1	288.8	14.1	4.5	5.0	22.8	11.5	4.6	5.3	87.3	80.5
	1-3	14.6	6.3	2.1	4.4	7.3	5.4	-0.3	4.6	66.7	69.5
	3-6	45.2	6.2	7.5	3.7	7.2	5.1	-1.7	3.6	21.7	52.2
TP23	0-1	608.2	19.4	3.8	5.1	40.5	15.8	1.9	5.2	163.5	85.9
	1-3	39.5	6.1	6.8	3.8	9.2	5.1	1.1	3.8	92.1	58.8
	3-6	156.5	8.8	5.2	3.6	13.2	7.2	-3.9	3.5	9.2	51.1
TP24	0-1	355.9	15.6	-0.1	4.9	36.7	12.9	-1.0	5.2	70.4	77.7
	1-3	78.6	7.9	4.5	4.1	11.4	6.6	1.9	4.3	7.2	61.3
	3-6	50.5	4.9	0.8	2.7	6.6	4.1	-2.9	2.7	-14.4	36.5
TP25	0-1	187.4	10.8	6.1	4.4	26.4	9.0	-1.7	4.5	103.1	70.6
	1-3	40.1	7.3	6.5	4.5	5.8	6.1	-5.9	4.5	61.9	68.9
	3-6	185.5	7.8	3.4	3.1	12.4	6.3	-0.7	3.2	48.5	46.4
TP26	0-1	61.2	8.1	5.2	4.5	6.1	6.6	-1.7	4.6	40.8	68.2
	1-3	84.3	6.9	2.2	3.4	0.2	5.5	-6.7	3.3	15.6	47.6
	3-6	122.4	7.6	6.5	3.4	4.0	6.1	-5.4	3.3	53.1	48.5
TP27	0-1	931.8	21.7	5.0	4.7	28.2	17.3	-5.6	4.5	-14.5	68.4
	1-3	124.4	8.3	4.3	3.7	13.0	6.8	-4.9	3.6	28.0	55.1
	3-6	106.2	7.4	7.3	3.5	11.0	6.1	-4.6	3.4	-2.3	49.4
TP28	0-1	236.4	10.6	3.1	3.8	12.3	8.5	0.7	3.9	44.0	56.5
	1-3	430.6	12.6	-0.3	3.3	21.3	10.2	-2.2	3.4	17.9	49.1
	3-6	192.6	9.1	3.8	3.5	14.5	7.4	0.0	3.6	27.5	53.3
TP29	0-1	1567.6	28.3	4.4	4.9	27.1	22.4	-1.1	4.8	107.8	73.8
	1-3	15.5	5.6	1.6	3.8	-0.4	4.6	-4.4	3.9	19.2	55.8
	3-6	28.5	6.0	2.5	3.8	3.3	4.9	-4.3	3.8	63.7	56.4
TP30	0-1	1088.8	21.4	-1.1	4.0	-50.3	16.4	-2.0	4.0	30.5	56.8
	1-3	45.9	6.4	2.4	3.7	4.1	5.3	-0.4	3.8	11.1	53.7
	3-6	15.8	5.7	3.7	3.9	5.4	4.8	0.4	4.0	29.2	58.4
TP31	0-1	402.0	14.2	2.7	4.1	14.4	11.4	-1.4	4.2	1.8	62.6
	1-3	24.4	5.5	3.3	3.5	3.7	4.5	-0.9	3.6	16.7	51.3
	3-6	20.6	5.5	2.0	3.7	4.1	4.6	-0.6	3.8	50.9	55.2
TP32	0-1	238.6	13.4	1.3	5.0	20.7	11.0	-3.1	5.1	1.5	76.0
	1-3	2750.4	36.1	0.4	5.0	121.7	28.9	-2.8	4.8	299.1	77.9
	3-6	144.5	10.1	-2.8	4.3	10.2	8.3	-0.3	4.7	35.9	67.5
TP33	0-1	142.3	9.0	4.9	3.9	11.9	7.3	-6.9	3.8	-4.2	55.6
	1-3	616.0	15.2	3.2	3.6	-0.7	11.9	-2.3	3.6	36.9	52.0
	3-6	8.7	4.5	1.5	3.2	4.8	3.8	-2.6	3.3	51.8	48.3
TP35	0-1	313.3	11.9	5.5	3.8	10.7	9.5	-2.4	3.8	71.7	57.2
	1-3	142.4	8.9	3.7	3.9	4.0	7.2	-2.3	3.9	11.8	56.8
	3-6	9.6	5.7	7.7	4.1	9.1	4.9	-3.8	4.1	28.4	59.3

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 TABLE C-2:
 COMPARISON OF LABORATORY AND XRF DATA (mg/kg)

Sample Location	Result Origin	Arsenic	Chromium	Lead	Mercury	Selenium
TP-01 (1-3*)	Lab	14.50	12.20	3720.00	1.64	2.46
	XRF	19.02	70.26	1209.42	0.39	1.56
	XRF Error	15.85	52.98	20.04	3.62	3.65
TP-04 (0-1*)	Lab	183.00	21.00	718.00	0.65	14.80
	XRF	127.24	17.20	545.65	2.69	7.82
	XRF Error	13.84	67.52	15.92	4.19	4.22
TP-05 (0-1*)	Lab	1.18	1.18	0.59	0.04	ND
	XRF	21.94	24.45	585.13	5.87	4.01
	XRF Error	14.54	72.86	18.14	4.92	4.73
TP-06 (0-1*)	Lab	16.20	12.00	924.00	0.61	3.26
	XRF	25.96	-22.92	354.94	-0.19	0.71
	XRF Error	11.04	61.06	13.55	4.25	4.11
TP08 (3-6)	Lab	2.72	8.81	21.60	ND <0.0419	1.81
	XRF	3.54	55.39	6.87	-2.59	5.78
	XRF Error	4.16	52.85	4.98	3.63	3.66
TP10 (0-1*)	Lab	37.30	9.36	633.00	0.29	8.35
	XRF	24.46	-40.05	337.09	-4.92	4.25
	XRF Error	7.68	37.68	9.43	2.51	2.66
TP10 (1-3*)	Lab	19.10	9.14	247.00	0.14	5.25
	XRF	17.84	-12.49	191.73	-3.52	6.62
	XRF Error	6.84	43.75	8.34	2.96	3.09
TP12 (1-3*)	Lab	9.86	10.60	185.00	0.75	1.91
	XRF	24.41	18.03	254.05	-2.30	6.78
	XRF Error	9.00	56.54	10.95	3.74	3.82
TP13 (0-1*)	Lab	9.58	14.70	172.00	0.29	1.36
	XRF	10.14	47.14	178.25	-2.30	4.26
	XRF Error	7.83	58.55	9.66	3.82	3.81
TP13 (1-3*)	Lab	17.80	18.70	234.00	0.23	3.17
	XRF	12.05	19.27	258.60	-7.37	5.62
	XRF Error	8.65	56.59	10.72	3.55	3.70
TP16 (3-6)	Lab	12.80	13.00	129.00	0.63	ND >1.53
	XRF	14.31	7.34	92.02	-1.15	2.30
	XRF Error	6.29	51.38	7.53	3.71	3.62
TP17 (0-1*)	Lab	4.25	15.10	338.00	0.21	1.22
	XRF	-6.59	87.99	168.38	0.52	4.05
	XRF Error	7.87	62.77	10.05	4.23	4.13
TP19 (0-1*)	Lab	9.86	22.40	400.00	0.17	ND >1.13
	XRF	39.88	50.44	444.03	2.55	-0.11
	XRF Error	13.04	76.94	15.87	4.93	4.60
TP21 (0-1*)	Lab	8.03	13.60	115.00	0.04	2.31
	XRF	15.18	96.25	131.35	-1.91	5.58
	XRF Error	7.86	67.00	9.51	4.34	4.31
TP23 (0-1*)	Lab	7.99	24.20	466.00	0.07	ND <1.05
	XRF	40.53	163.46	608.24	1.85	3.84
	XRF Error	15.77	85.93	19.42	5.23	5.08
TP24 (3-6)	Lab	2.38	5.89	29.30	ND <0.0429	ND <1.29
	XRF	6.55	-14.44	50.50	-2.88	0.82
	XRF Error	4.07	36.51	4.90	2.68	2.65
TP26 (0-1*)	Lab	10.90	16.30	78.6 *NE	0.09	ND <1.09
	XRF	6.10	40.75	61.15	-1.68	5.19
	XRF Error	6.62	68.17	8.05	4.60	4.53
TP29 (0-1*)	Lab	12.70	114.00	2680.00	ND <0.0366	ND <1.2
	XRF	27.08	107.77	1567.61	-1.12	4.40
	XRF Error	22.37	73.81	28.27	4.81	4.93
TP32 (0-1*)	Lab	9.67	12.60	208 *NE	0.03	ND <1.04
	XRF	20.71	1.52	238.63	-3.07	1.25
	XRF Error	10.95	75.96	13.36	5.14	4.97
TP33 (3-6)	Lab	4.21	10.90	6.77 *NE	ND <0.04	ND <1.14
	XRF	4.82	51.78	8.73	-2.56	1.54
	XRF Error	3.81	48.30	4.49	3.28	3.20
TP35 (0-1*)	Lab	8.13	16.10	399.00	0.59	2.34
	XRF	10.65	71.65	313.32	-2.42	5.49
	XRF Error	9.54	57.24	11.91	3.79	3.83

Soil Cleanup Objectives:

	Rest. Residential	Commercial
Arsenic	16	16
Chromium	110	400
Lead	400	1000
Mercury	0.81	2.8
Selenium	180	1500

Notes:

1. ND = Not detected above the specified reporting limit
2. mg/kg = milligrams per kilogram, or parts per million
3. * = Indicates that the duplicate analysis is not within the control limits
4. N = Indicates that the spiked sample recovery is not within control limits
5. E = Used when the reported value is estimated because of the presence of interference

██████████ Result exceeds Commercial SCO
 ██████████ Result exceeds Rest. Residential SCC

Figure C-1: Laboratory Data vs. XRF Data
Arsenic

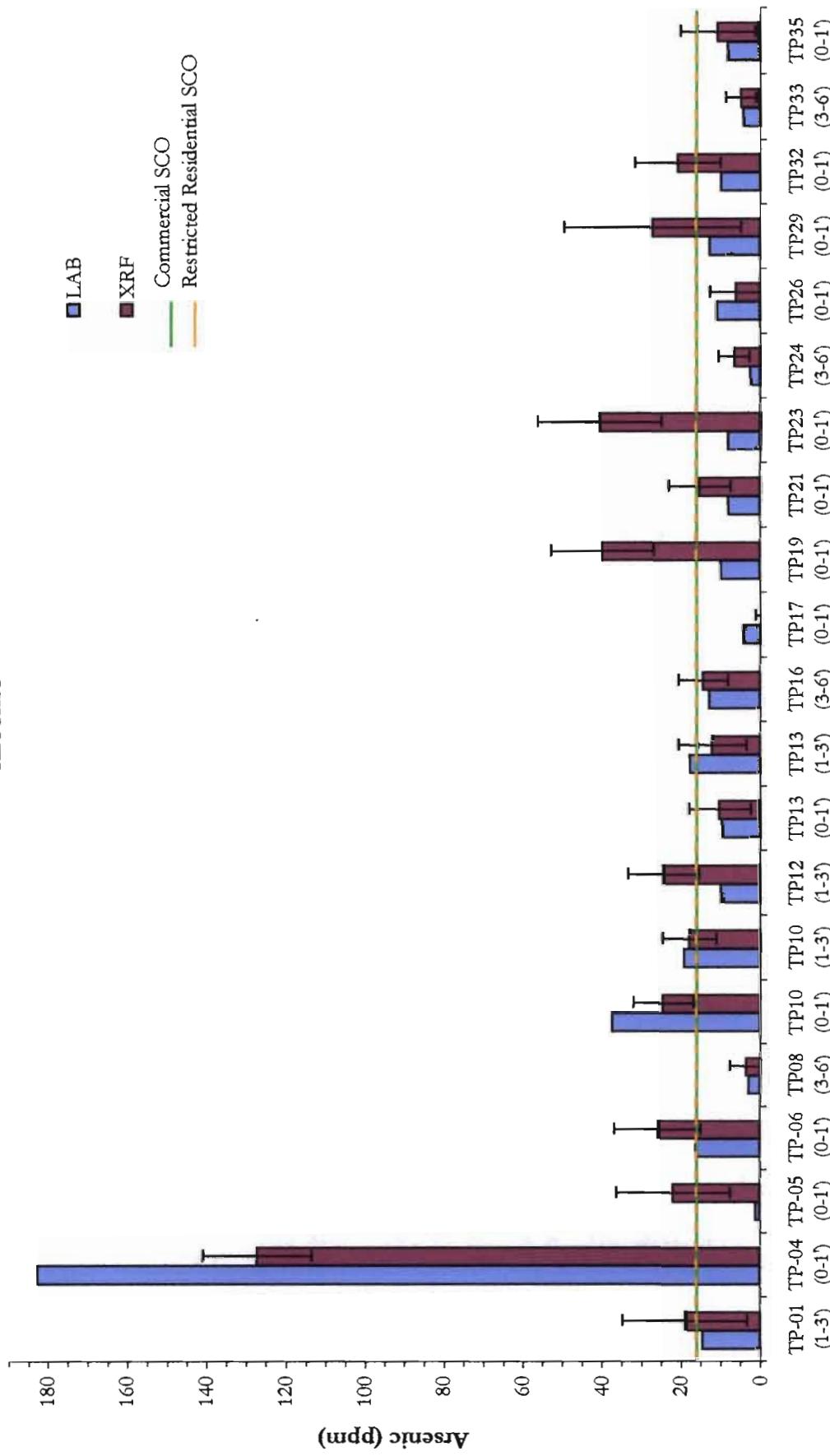


Figure C-2: Laboratory Data vs. XRF Data
Chromium

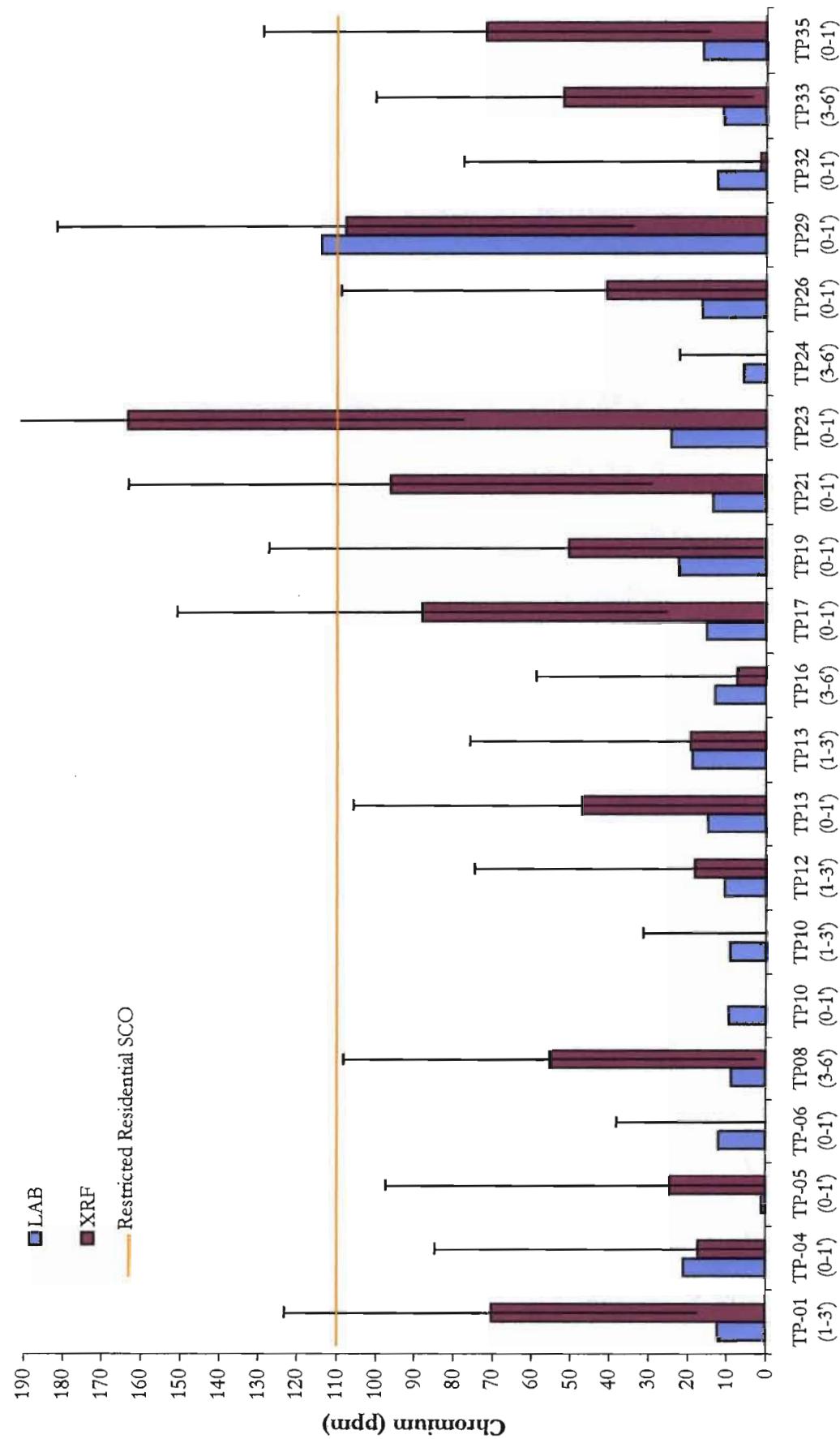


Figure C-3: Laboratory Data vs. XRF Data
Lead

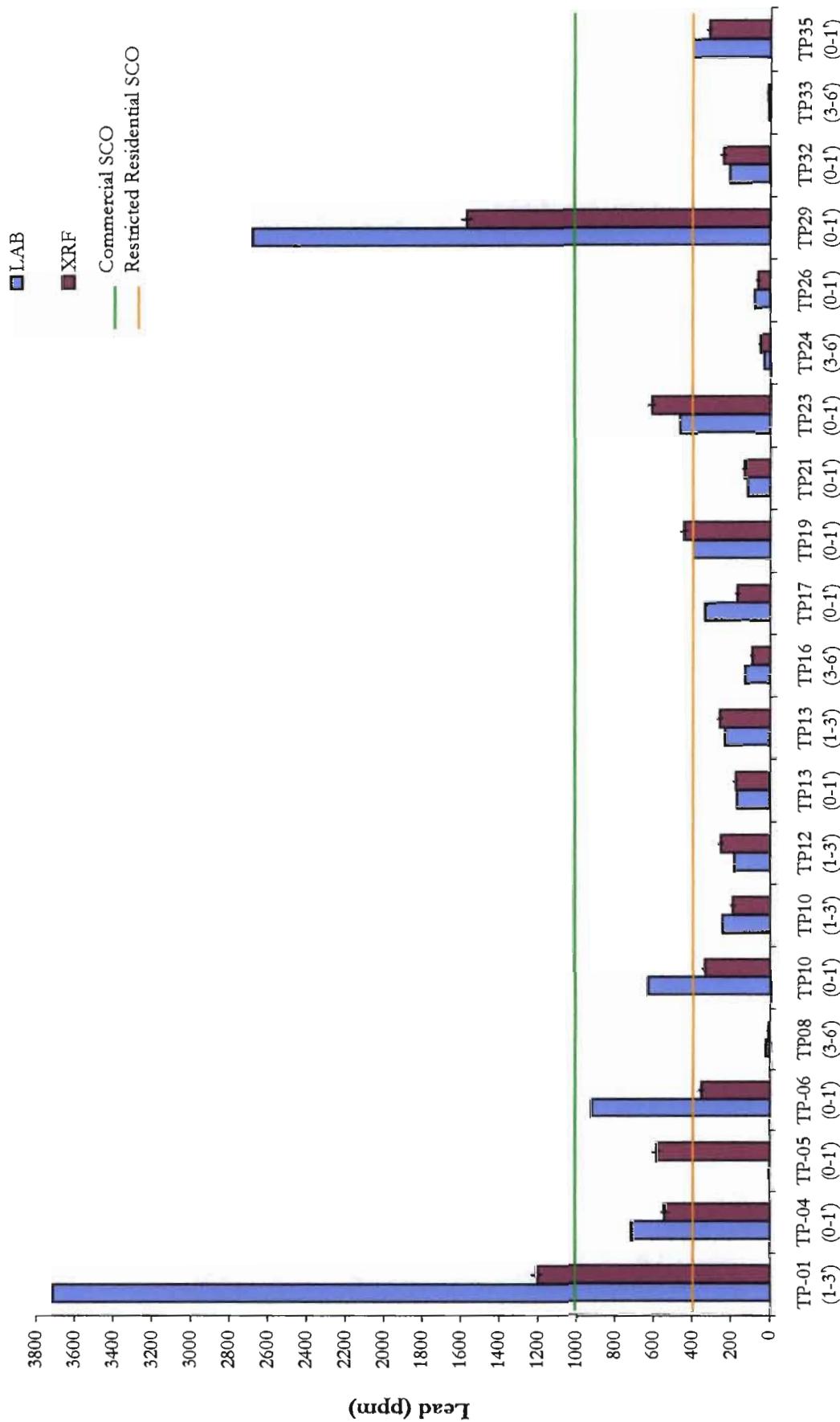


Figure C-4: Laboratory Data vs. XRF Data
Mercury

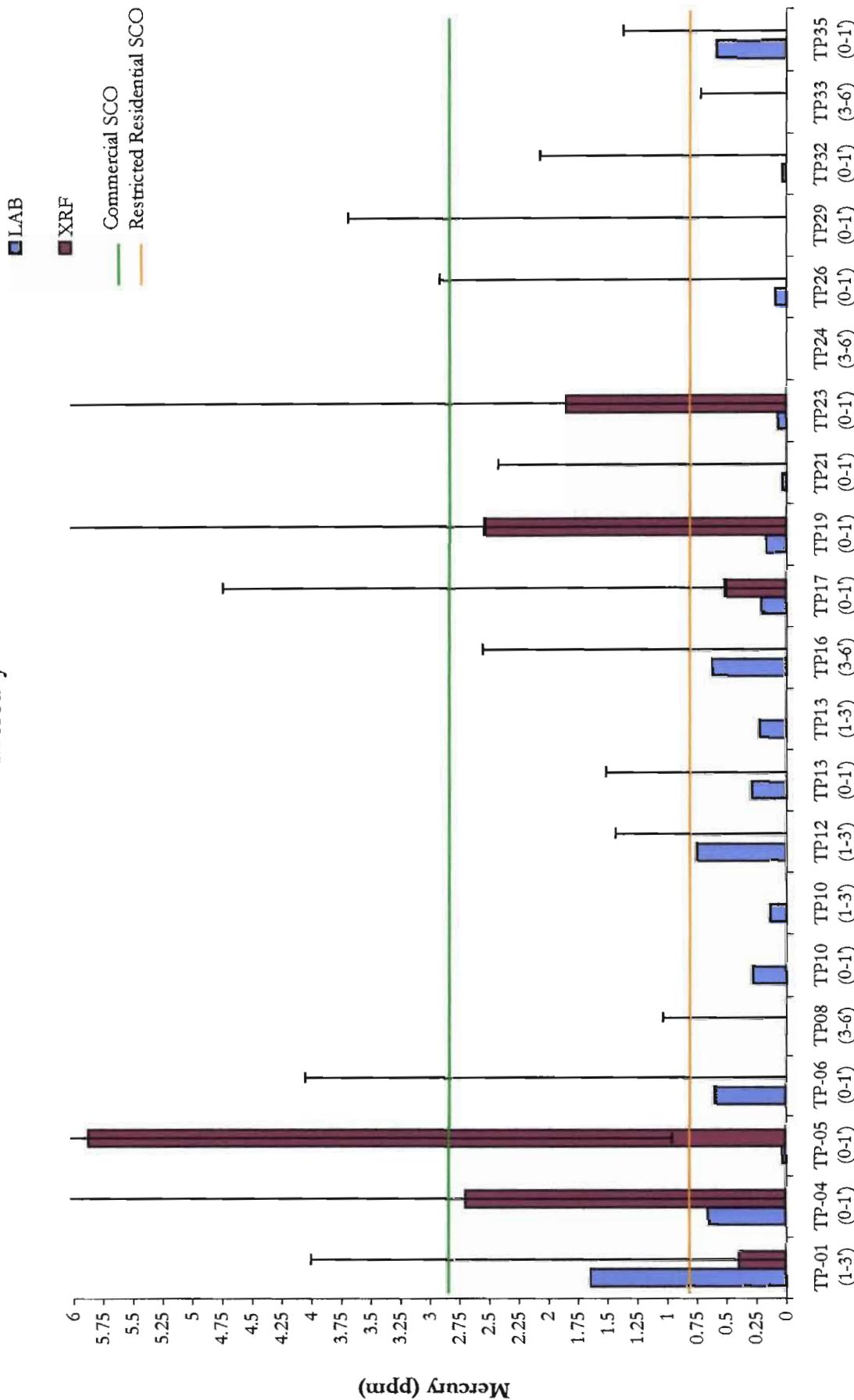


Figure C-5: Laboratory Data vs. XRF Data
Selenium

