



Long Island Rail Road

**Delineation Phase II
Site Assessment Investigation Report
Rockville Centre Substation: Site No. V00401-1**

October 2007



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

FILE COPY



Long Island Rail Road

October 30, 2007

Robert DeCandia, Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A
625 Broadway, 11th Floor
Albany, NY 12233-7015

Re: LIRR Rockville Centre Substation (NYSDEC VCA No. V00401-1)
Delineation Phase II Site assessment Investigation Report

Dear Mr. DeCandia:

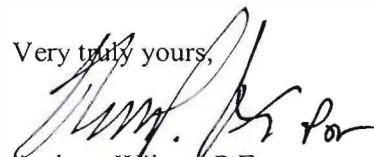
Enclosed please find three (3) copies of the draft Final Report entitled:

*"Delineation Phase II
Site Assessment Investigation Report for
LIRR Rockville Centre Substation
(NYSDEC VCA No. V00401-1)"*

Please be advised that the LIRR will be decommissioning and demolishing the Rockville Centre Substation in October of 2008, and soil removal activities are scheduled to be undertaken shortly thereafter. As we have discussed in the past, the LIRR is eager to remediate this site to allow for construction of a new substation building at the Rockville Centre Substation, which, in turn, will improve service to our customers. With this in mind, we request that the New York State Department of Environmental Conservation (NYSDEC) review the enclosed report as soon as possible so that we may proceed with the site remediation. The LIRR is available to meet, at your convenience, to review any comment or concern the NYSDEC may have.

Please do not hesitate to contact me at (718) 558-3620 if you have any questions. Thank you in advance for your assistance and cooperation in this matter.

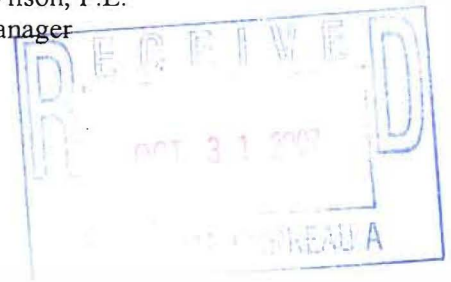
Very truly yours,


Andrew Wilson, P.E.
Project Manager

AW/PSM/csf

cc: Case Attorney (NYSDEC)
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◆ 2229\MISC07LTR-21



**METROPOLITAN TRANSPORTATION AUTHORITY
LONG ISLAND RAIL ROAD**

**DELINEATION PHASE II SITE ASSESSMENT
FOR
ROCKVILLE CENTRE SUBSTATION
(V00401-1)**

INVESTIGATION REPORT

Prepared for:

**METROPOLITAN TRANSPORTATION AUTHORITY
LONG ISLAND RAIL ROAD**

Prepared by:

**DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
WOODBURY, NEW YORK 11797**

OCTOBER 2007

LONG ISLAND RAIL ROAD DELINEATION PHASE II SITE ASSESSMENT FOR ROCKVILLE CENTRE SUBSTATION INVESTIGATION REPORT

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Section 1

1.0 INTRODUCTION

This Investigation Report presents the results of the Delineation Phase II Site Assessment, conducted at the Long Island Rail Road (LIRR) Rockville Centre Substation and was completed in accordance with fully executed Voluntary Cleanup Agreement No. V00401-1.

The objectives of the Delineation Phase II Site Assessment included the following:

- Define the nature and extent of impacts to surface and subsurface soil;
- Determine if site-related contaminants have impacted groundwater quality;
- Identify potential impacts to human health and/or the environment associated with site-related contaminants; and
- Obtain sufficient data to determine the need for remedial action and to evaluate remedial alternatives that may be implemented as a final long-term remedy for the site.

Field activities and sampling procedures associated with the Delineation Phase II Site Assessment at the Rockville Centre Substation were completed in accordance with the NYSDEC-approved "Investigation Work Plan," dated June 2005.

The following subsections provide relevant project background information, including detailed descriptions of the Rockville Centre Substation site, as well as a summary of the findings of prior investigation work.

1.1 Project Background

The LIRR designed, constructed and operated substations from the early 1930s through 1951 that utilized mercury rectifiers. These rectifiers allowed the LIRR to receive 60-cycle, alternating current (AC) from local utilities and convert it to direct current (DC) for use as a source of electric power for its locomotives and electric passenger car fleet. The LIRR identified

20 substations located throughout Queens, Nassau and Suffolk Counties that once utilized mercury containing rectifiers, including the Rockville Centre Substation.

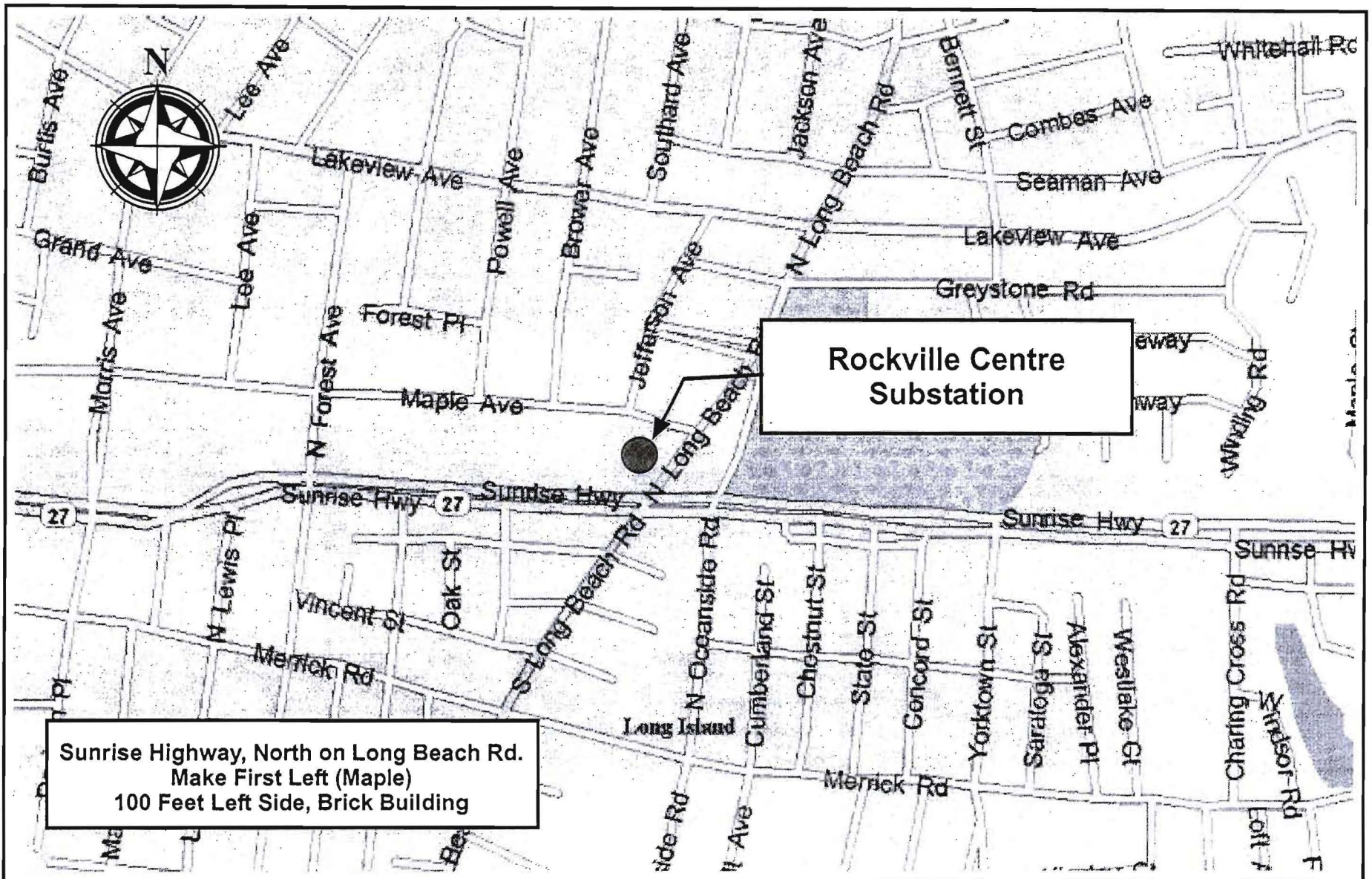
It is believed that during the early 1980s, the mercury rectifiers were taken out of service and physically removed from these LIRR substations and replaced with non-mercury containing solid state equipment. However, due to uncertainties surrounding the work practices that may have been employed when managing the operation and maintenance of these mercury rectifiers, the LIRR believed it necessary to conduct environmental assessments at these 20 electric substations to determine the potential effects that may have occurred to the surrounding environment.

In 1999, the LIRR conducted environmental assessments at the 20 electric substations previously utilizing mercury-containing rectifiers. The results of these assessments were documented in a report prepared by Dvirka and Bartilucci Consulting Engineers (D&B), entitled, "Site Assessment of 20 Substations for Mercury Contamination," dated December 2000. Based on the findings of that report, mercury was identified in soil at all 20 substations, including the Rockville Centre Substation, at concentrations above the New York State Department of Environmental Conservation's (NYSDEC's) recommended cleanup objectives (TAGM 4046). In order to further delineate and remediate impacted soil at the 20 substations, the LIRR has agreed to undertake and complete Delineation Phase II Site Assessments under the NYSDEC Voluntary Cleanup Program (VCP). In support of this VCP, the LIRR elected to conduct Delineation Phase II Site Assessment activities at the Rockville Centre Substation.

The report discusses the data gathered as part of the Initial Site Assessment and Delineation Phase II Site Assessment activities at the Rockville Centre Substation.

1.2 Site Description

The Rockville Centre substation is located in Rockville Centre, Nassau County, New York (see Figure 1-1). The substation consists of an approximately 2,500 square foot two-story brick building, as shown on Figure 1-2. An approximately 2,100 square foot transformer yard is



KRB/2229 (LIRR)site maps.cdr(03/29/04)

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

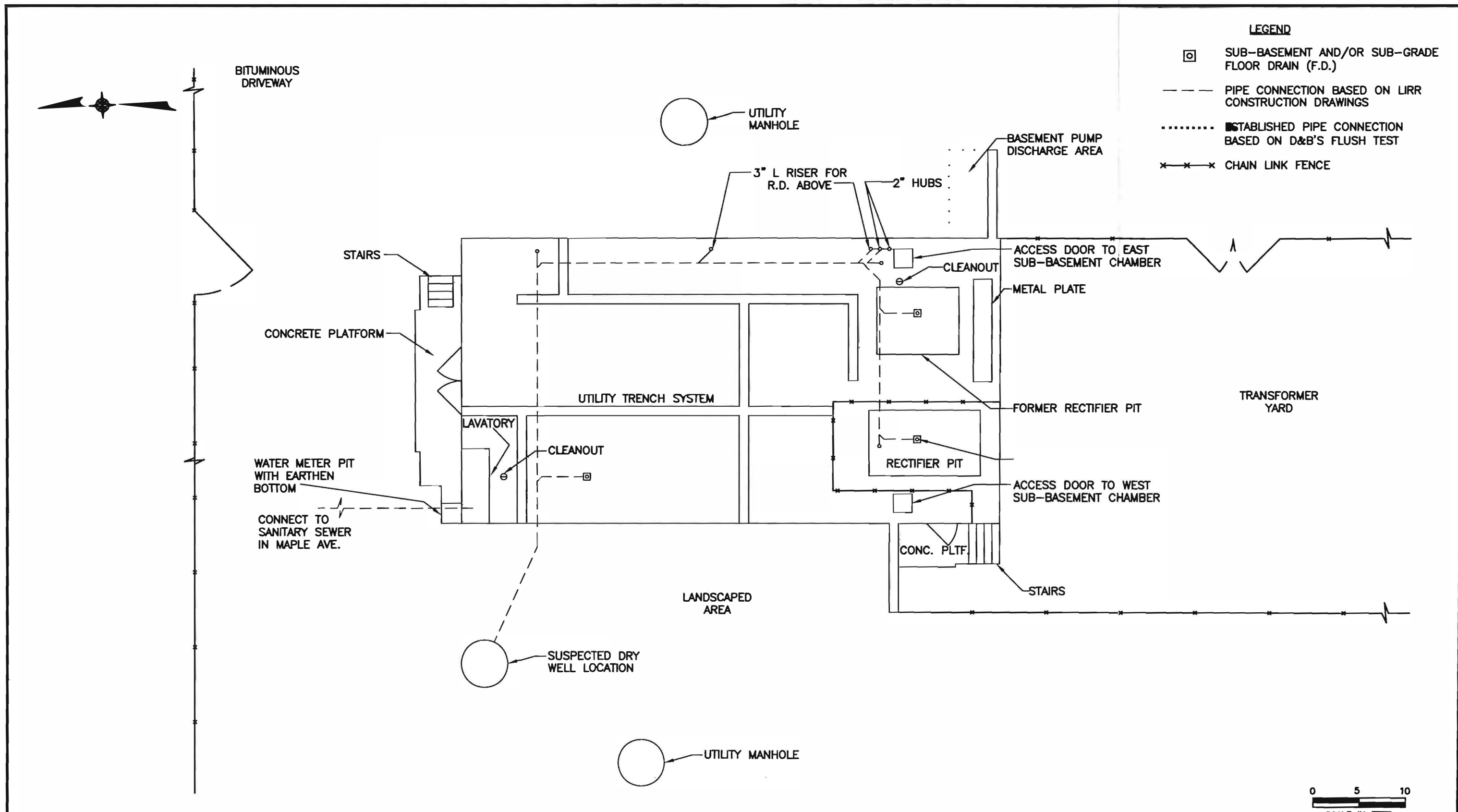
LONG ISLAND RAIL ROAD
 DELINEATION PHASE II SITE ASSESSMENT

SITE LOCATION MAP
ROCKVILLE CENTRE SUBSTATION (V00401-1)

NOT TO SCALE

FIGURE 1-1

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SOURCE: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS AND D&B's FIELD OBSERVATIONS



LONG ISLAND RAIL ROAD
DELINEATION PHASE II SITE ASSESSMENT
SITE PLAN
ROCKVILLE CENTRE SUBSTATION (V00401-1)

FIGURE 1-2

located adjacent to the substation to the south and is enclosed by a chain-linked fence. The substation building and transformer yard is presently utilized to convert alternating current to direct current for the LIRR-Babylon branch. The areas surrounding the substation and the transformer yard are currently utilized as vehicular parking areas.

The Rockville Centre substation is equipped with a basement, sanitary facilities, water service and a utility trench system. The interior of the substation consists of an active solid-state rectifier located over a pit leading to the basement that once serviced a mercury-containing rectifier enclosed by a chain-linked fence. In addition, the substation is equipped with a second pit leading to the basement that is covered with a steel plate which was utilized in conjunction with a second mercury-containing rectifier that has since been removed from the substation. Located in the southeast portion of the basement is a sump pump, which is utilized for flood prevention and discharges outside the east wall of the building to a 4-foot by 10-foot parcel of land in the southeast exterior corner of the substation building. In addition, there is a water meter pit with an earthen bottom that is located off the northwest corner of the substation and is covered with a steel plate.

Based on the results of the Delineation Phase II Site Investigation, the depth to groundwater at this site is approximately 20 feet below grade.

1.3 Summary of Prior Investigations

The LIRR completed an initial environmental site assessment of the Rockville Centre Substation in 1999, as documented in the report entitled, "Site Assessment of 20 Substations for Mercury Contamination," dated December 2000. Investigation methods utilized during this Initial Investigation included a site inspection, mercury vapor measurements, a geophysical survey, an exploratory excavation and drainage determinations. In addition, samples of various environmental media were collected at the site for laboratory analysis. These media included surface soil, subsurface soil and concrete cores. Analytical data from the Initial Investigation is presented in Appendix A of this report. Below is a summary of the findings of the Initial Investigation of the Rockville Centre Substation. Additional details on the Initial Investigation of

the Rockville Centre Substation are presented in the previously referenced report "Site Assessment of 20 Substations for Mercury Contamination." Note that the findings of the 1999 investigation were used as the basis for developing the investigation scope of work for the Delineation Phase II Site Assessment investigation.

Drainage Determination

D&B identified the presence and location of three floor drains located in the substation basement. Based on the available LIRR construction drawings, the three floor drains are connected to a dry well located to the west of the substation. Excavation activities were conducted by D&B to locate the dry well and confirm the connection with the interior floor drains. The excavation showed no evidence of a dry well or a discharge pipe exiting from the west wall of the substation building. D&B also excavated a small depression located approximately 10 feet north of the former dry well location in an attempt to locate the dry well. This excavation did not indicate the presence of a dry well or discharge pipe.

Sampling and Analysis

The following subsections describe the findings associated with subsurface soil, surface soil and concrete coring activities. All samples were analyzed for mercury. Samples collected during this phase of the investigation were compared to the TAGM 4046 Recommended Soil Cleanup Objectives (RSCOs), however, as of December 2006, the NYSDEC has mandated new cleanup objectives, and as such, all data will be reevaluated and compared to the newly implemented 6NYCRR Subpart 375 Soil Cleanup Objectives (SCOs) for industrial sites. Sample Locations are included on Figure 2-1. Results for the mercury analysis are provided in Appendix A.

Surface Soil

Five surface soil samples were collected. Four of the collected surface soil samples exhibited detectable concentrations of mercury in exceedance of the SCO for mercury of 5.7

mg/kg, ranging from 16.3 mg/kg to a maximum of 50.8 mg/kg. The maximum concentration of mercury was detected in RCSS-02, collected adjacent to the northwest of the concrete platform to the north of the substation building.

Subsurface Soil

Sixteen subsurface soil samples were collected. Two of the collected subsurface soil samples exhibited detectable concentrations of mercury in exceedance of the SCO for mercury of 5.7 mg/kg, ranging from 10.7 mg/kg to a maximum of 15.9 mg/kg. The maximum concentration of mercury was detected in RCSB-04 (0 to 2 feet), collected inside the substation building, in the rectifier pit.

Concrete

One concrete core sample was collected from the interior of the substation building. Concrete core sample RCCC-01 did not exhibit detectable concentrations of mercury in exceedance of the SCO for mercury of 5.7 mg/kg.

Section 2

2.0 INVESTIGATION METHODS

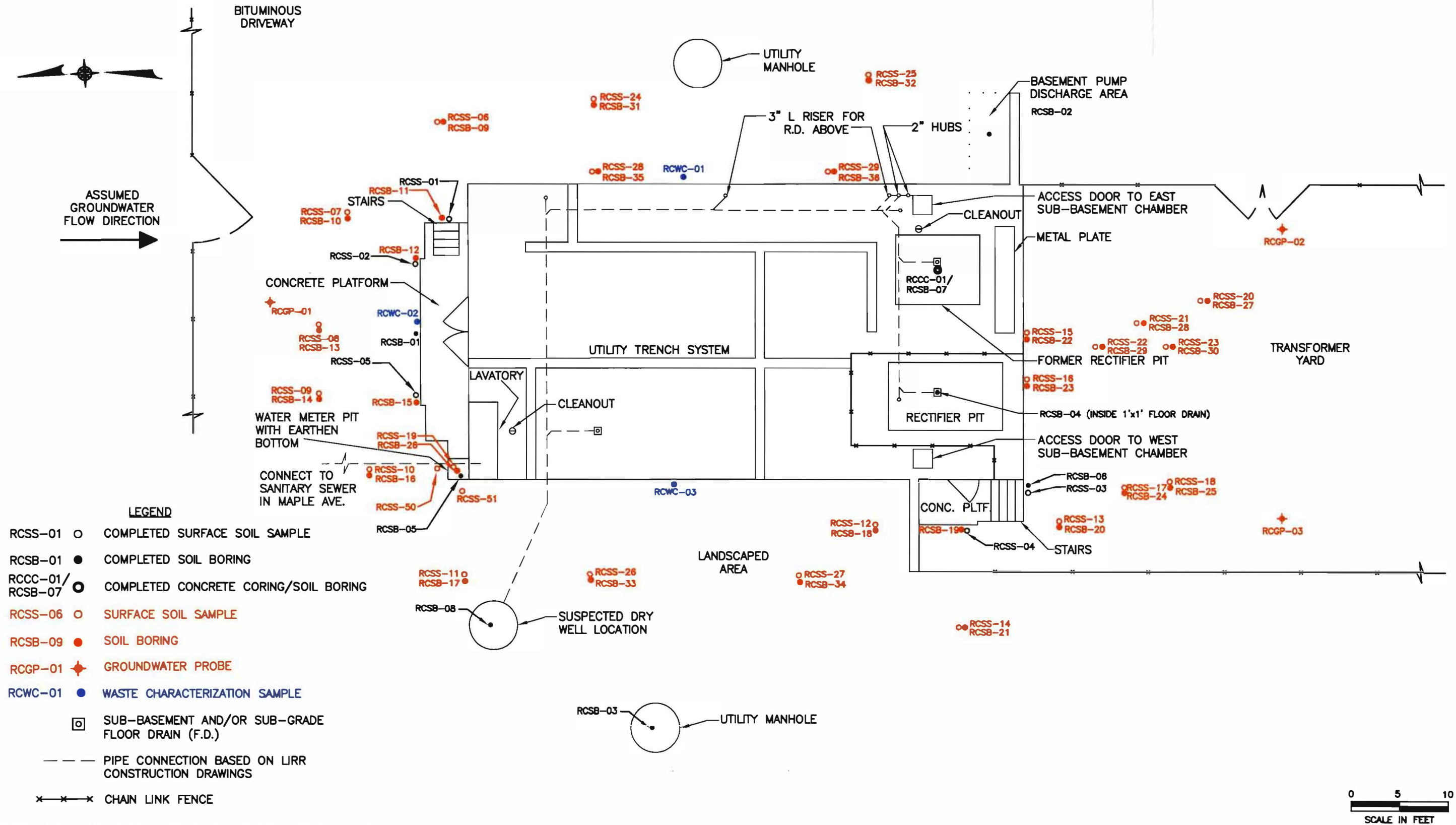
2.1 Introduction

This section provides a description of the field activities conducted at the Rockville Centre Substation site as part of the Delineation Phase II Site Assessment. In November of 2005, the initial scope of work was completed in accordance with the New York State Department of Environmental Conservation (NYSDEC) approved Work Plan, dated June 2005. Based on the results of the November 2005 sampling, D&B provided the LIRR and the NYSDEC with an initial assessment as to the nature and extent of contamination along with recommendations for additional sampling and analysis. This additional data was needed to sufficiently define the identified elevated mercury and PCB concentrations in site soil and to develop an appropriate remedial plan for the substation. Based on this additionally recommended sampling and further requests for investigation by the NYSDEC, additional sampling and investigation was conducted between March and October 2007.

Sample locations associated with the Delineation Phase II Site Assessment are shown on Figure 2-1. Figure 2-2 shows the locations of the additional delineation points completed based on the results of the November 2005 investigation. In addition, sampling and analysis summaries for the above listed investigation phases are provided in Table 2-1. Laboratory data generated as part of the Delineation Phase II Site Assessment is included in Appendix B.

2.2 Surface Soil Sampling

A total of 45 surface soil samples were collected at the Rockville Centre Substation as part of the Delineation Phase II Site Assessment. Surface soil samples were collected from a depth of 0 to 2 inches bgs. All samples were collected utilizing a dedicated polyethylene scoop and placed into laboratory-supplied glass bottles. Filled sample bottles were then placed into an ice-filled cooler for subsequent shipment. All samples were screened utilizing a mercury vapor analyzer (MVA) for the presence of mercury vapor and a photoionization detector (PID) for the presence of volatile organic compounds (VOCs). In areas of the substation property where the



- LEGEND**
- RCSS-01 ○ COMPLETED SURFACE SOIL SAMPLE
 - RCSB-01 ● COMPLETED SOIL BORING
 - RCCC-01/
RCSB-07 ○ COMPLETED CONCRETE CORING/SOIL BORING
 - RCSS-06 ○ SURFACE SOIL SAMPLE
 - RCSB-09 ● SOIL BORING
 - RCGP-01 ◆ GROUNDWATER PROBE
 - RCWC-01 ● WASTE CHARACTERIZATION SAMPLE
 - SUB-BASEMENT AND/OR SUB-GRADE FLOOR DRAIN (F.D.)
 - PIPE CONNECTION BASED ON LIRR CONSTRUCTION DRAWINGS
 - CHAIN LINK FENCE

SOURCE: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS AND D&B's FIELD OBSERVATIONS



LONG ISLAND RAIL ROAD
DELINEATION PHASE II SITE ASSESSMENT
SAMPLE LOCATION MAP
ROCKVILLE CENTRE SUBSTATION (V00401-1)

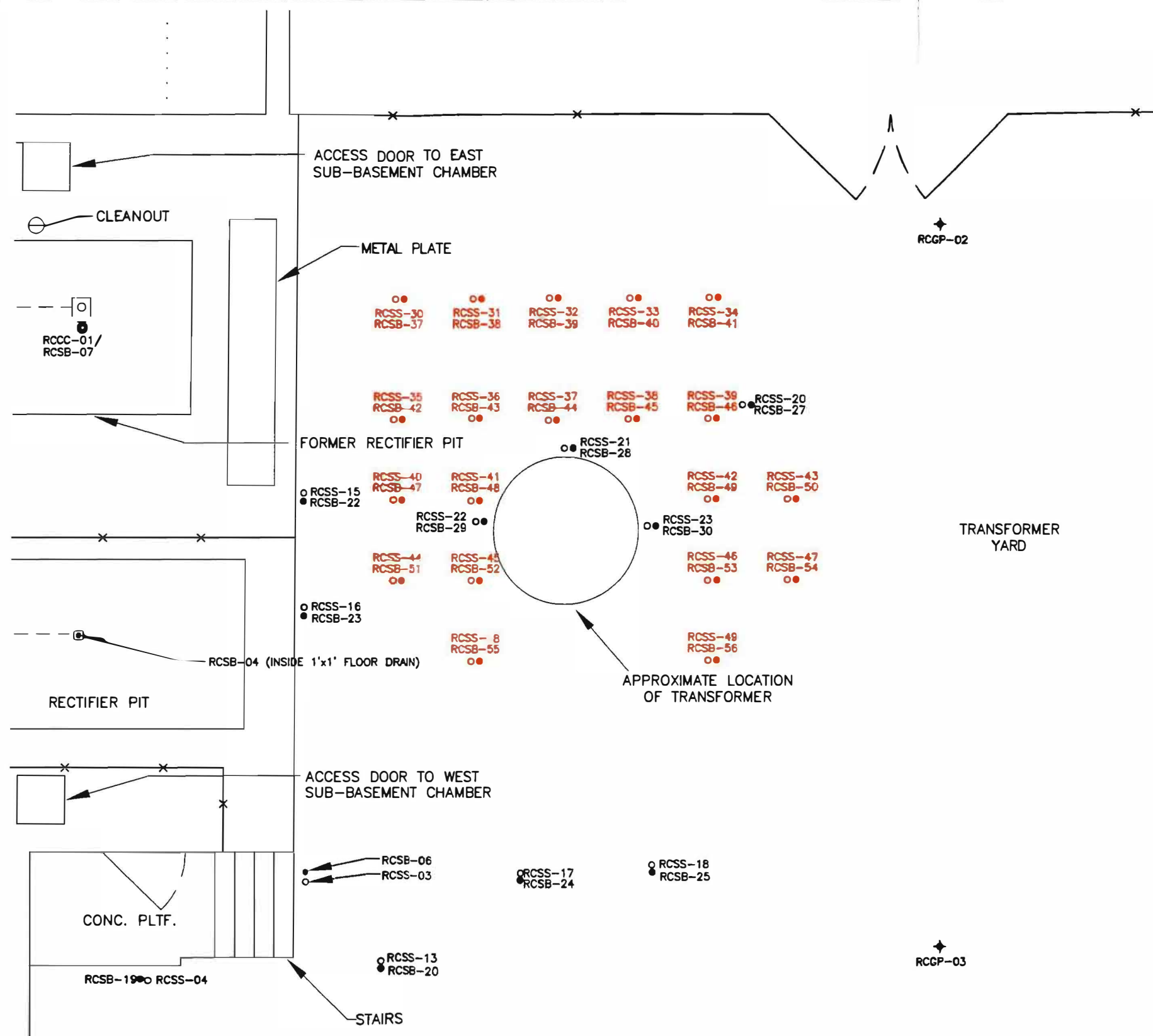
FIGURE 2-1

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- LEGEND**
- RCSS-03 ○ COMPLETED SURFACE SOIL SAMPLE
 - RCSB-06 ● COMPLETED SOIL BORING
 - RCCC-01/
RCSB-07 ○ COMPLETED CONCRETE CORING/SOIL BORING
 - RCSS-30 ○ SURFACE SOIL SAMPLE
 - RCSB-37 ● SOIL BORING
 - RCGP-02 ◆ COMPLETED GROUNDWATER PROBE
 - SUB-BASEMENT AND/OR SUB-GRADE FLOOR DRAIN (F.D.)
 - PIPE CONNECTION BASED ON LIRR CONSTRUCTION DRAWINGS
 - ××× CHAIN LINK FENCE

ASSUMED
GROUNDWATER
FLOW DIRECTION
→



SOURCE: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS AND D&B's FIELD OBSERVATIONS

LONG ISLAND RAIL ROAD
DELINEATION PHASE II SITE ASSESSMENT

**ADDITIONAL DELINEATION SAMPLE LOCATION MAP
ROCKVILLE CENTRE SUBSTATION (V00401-1)**

Table 2-1

**LONG ISLAND RAILROAD
DELINEATION PHASE II SITE ASSESSMENT - SEVENTEEN SUBSTATIONS
ROCKVILLE CENTRE (V00401-1) SUMMARY OF COMPLETED WORK**

Location	Sample Designation	SURFACE SOIL SAMPLES**	SOIL PROBES/BORINGS			GROUNDWATER PROBES		Recommended Analyses								Comments
			No. of Probes	No. of Samples	Soil Sampling Interval	No. of Probes	Approximate Total Depth of Probes	Mercury	RCRA Metals	TAL Metals	PCBs	VOCs	SVOCs	USEPA UIC Constituents *	USEPA UIC Constituents *	
North Side of Substation	RCSS-06 through 11 RCSB-09 through 17	6	9	18	2-6' bgs Cont.	-	-	24	-	-	-	-	-	-	-	No deviations from original scope.
Southwest Corner of Substation	RCSS-12 through 14 RCSB-18 through 21	3	4	4	2-4' bgs Cont.	-	-	7	-	-	-	-	-	-	-	No deviations from original scope.
	RCSS-15 through 18 RCSB-22 through 25	4	4	8	2-6' bgs Cont.	-	-	12	-	-	6	-	-	-	-	Surface soil samples RCSS-15 and 16 and subsurface soil samples RCSB-22 and 23 were re-run for PCBs analysis, due to relatively high PCB concentrations detected in some surrounding surface soil samples.
Water Meter Pit	RCSS-19 RCSB-26	1	1	1	2-4' bpb Cont.	-	-	2	-	-	-	-	-	-	-	No deviations from original scope.
	RCSS-50 and 51	2	-	-	-	-	-	2	-	-	-	-	-	-	-	RCSS-50 and 51 were added, as per the NYSDEC, in order to further delineate the perimeter of the water meter pit, located to the northwest of the substation building.
Roof Drains	RCSS-28 & 29 RCSB-35 & 36	2	2	2	2-4' bgs Cont.	-	-	4	-	-	-	-	-	-	-	Two roof drains were observed and samples were collected for mercury analysis.
Groundwater	RCGP-01 through 03	-	-	-	-	3	19'	-	-	6***	-	3	-	-	-	RCGP-01 was moved east approximately 2 feet, due to site conditions.
Transformers	RCSS-20 through 23 RCSB-27 through 30	4	4	8	0-4' bgs Cont.	-	-	-	12	-	12	-	12	-	-	No deviations from original scope.
	RCSS-30 through 49 RCSB-37 through 56	20	20	20	1-2' bgs.	-	-	-	-	-	40	-	-	-	-	No deviations from original scope.
Potential Releases	RCSS-24 through 27 RCSB-31 through 34	4	4	4	2-4' bgs Cont.	-	-	8	-	-	-	-	-	-	-	RCSS-24 and RCSB-31 were moved northwest approximately 2 feet due to utility obstructions.
Dry Well and Rectifier Drains/Piping	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A geophysical exploration was conducted in order to locate a dry depicted on LIRR construction drawings as being located off the northwest corner of the substation building. The results of the investigations did not indicate anomalous below grade structure indicative of a dry-well structure or drainage piping. A dye and flush test was performed on the three rectifier drains. The discharge point of the drains could not be verified due to apparent clogged pipes.
Lavatory	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A dye and flush test was performed on the lavatory. It was established that the discharge point of the lavatory is the sewer system located in the center of Maple Ave., north of the substation building.
Waste Characterization	RCWC-01 through 03	3	3	3	2-4' bgs	-	-	-	-	-	-	-	-	-	6	Waste characterization samples were collected in the footprint of where the proposed replacement substation building is to be installed.
		49	51	68	-	3	-	59	12	6	58	3	12	-	6	Total

NOTES:

bgs: below ground surface.

bpb: below pit bottom.

Cont.: Continuous 2-foot soil sampling

-: Not Applicable

* USEPA UIC Constituents include VOCs by Method 8260b, RCRA Metals including Mercury by Methods 6010b/7471a, SVOCs by Method 8270c, PCBs by Method 8082, and TPHs by Method 8015b.

** Surface soil samples to be collected at 0-2" interval.

*** Filtered and Unfiltered Samples

ground surface was covered with railroad ballast, this material was removed prior to collecting the surface soil sample, and returned when sampling was completed.

2.3 Subsurface Soil Sampling

A total of 64 subsurface soil samples were collected at the Rockville Centre Substation as part of the Delineation Phase II Site Assessment. All subsurface soil borings were hand-cleared to a depth of five feet below ground surface in order to avoid impacting any underground utilities. Subsurface soil samples less than five feet below ground surface were collected using a decontaminated hand auger, and subsurface soil borings more than five feet below ground surface were collected using a direct push (Geoprobe[®]) sampling technique with a decontaminated probe sampler. The samples were screened for mercury, utilizing an MVA, and for VOCs, utilizing a PID; inspected for staining, discoloration; checked for odors; and logged by a geologist in a dedicated field book. Boring logs are included in Appendix C.

Before commencement of soil probing, all "down-hole" probing equipment (i.e., macro-core samplers, probe rods, etc.) was decontaminated using a steam cleaner/pressure washer and/or Alconox and water prior to use on a daily basis. Soil probe samplers were also decontaminated between each use by thoroughly washing with Alconox and water, using a brush to remove particulate matter or surface film, followed by a thorough rinsing with tap water.

During soil probe installation, an MVA and a PID were used to monitor mercury vapor and VOCs, respectively, in the breathing zone and at the probe holes and boreholes. The PID was calibrated on at least a daily basis, using isobutylene gas at a concentration of 100 parts per million (ppm) in air.

Upon completion of soil probes, recovered sample material that was not retained for laboratory analysis was returned to the borehole from which it came. The remainder of the borehole was filled with clean sand, bentonite pellets and/or concrete, when appropriate. All probe holes were restored at grade with the same material that was originally in place.

2.4 Groundwater Probe Installations and Sampling

Three groundwater probes, consisting of one probe upgradient of the substation building, and two probes downgradient of the substation building were advanced and groundwater samples were collected from these locations. These samples were collected by driving decontaminated probe rods to the designated sample depth and inserting dedicated polyethylene tubing and a decontaminated stainless steel check valve into the rod assembly. The check valve and tubing were then manually oscillated to purge approximately two to three gallons of groundwater prior to sample collection. Each groundwater sample, upon retrieval, was analyzed in the field for pH, conductivity, dissolved oxygen, turbidity, and temperature. Groundwater samples were then collected from the tubing/check valve assembly into laboratory-supplied glass bottles. Any evidence of odors, sheens or the presence of free product was noted. All observations and results were logged in the project field books.

Upon completion, each probe hole was backfilled with clean sand and/or bentonite pellets, as appropriate. All probe holes were restored at grade with the same material that was originally in place.

2.5 Below Grade Structures and Underground Injection Control (UIC) Features

Several below grade structures were investigated for Underground Injection Control (UIC) applicability as part of the Initial Site Investigation and the Delineation Phase II Assessment. These structures included a water meter pit located adjacent to the northwest corner of the substation building, a dry well and associated rectifier piping suspected to be located to the west of the substation building, three floor drains located within the substation building and the substation lavatory. The investigations were conducted as follows:

Water Meter Pit

The water meter pit located adjacent to the northwest corner of the substation building was visually inspected for the presence of a solid bottom and discharge piping during the Initial

Investigation. Two soil samples were collected from this structure during the Delineation Phase II Assessment.

Dry Well

The investigation of the dry well and associated rectifier piping suspected to be located to the west of the substation building was initiated during the Initial Investigation with an investigative excavation. The dry well was not located during the investigation, however, one subsurface soil boring was advanced in a location corresponding to where the dry well is depicted on LIRR construction diagrams, and samples were collected in this location for mercury analysis. The investigation was continued as part of the Phase II Assessment, with a geophysical investigation utilizing an Electromagnetic (EM) survey and a Ground Penetrating Radar (GPR) survey.

Floor Drains

Three floor drains identified in the initial investigation were further investigated through flush testing as part of the Phase II Assessment in October of 2007. Results of the flush test are discussed in Section 3.4.

Lavatory

The substation lavatory was investigated through flush testing as part of the Phase II Assessment in October of 2007. Results of the flush test are discussed in Section 3.4.

2.6 Air Sampling

As discussed above, a Jerome Mercury Vapor analyzer was used to scan all surface and subsurface soil samples for the presence of mercury vapor. The mercury vapor results for subsurface soil are summarized on the boring logs provided in Appendix C.

Section 3

3.0 FINDINGS

The findings from the Initial Site Assessment, conducted in 1999, were the basis for the sample locations chosen for the "Delineation Phase II Site Assessment," completed in November of 2005, and further delineation and investigation activities completed between March and October of 2007.

Soil sample results are compared to the New York State Department of Environmental Conservation (NYSDEC) 6NYCRR Subpart 375 Soil Cleanup Objectives (SCOs) for industrial sites. Groundwater sample results are compared to the Class GA Groundwater Standards/Guidance Values listed in NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1. Analytical results from the Delineation Phase II Site Assessment are summarized in Appendix B. Boring logs from the advancement of subsurface soil borings are provided in Appendix C. A concentration map (Figure 3-1) illustrating the site-wide mercury and PCB concentration levels at the Rockville Centre Substation was constructed based on the Initial Site Assessment and the preliminary Delineation Phase II Investigation data. Figure 3-2 depicts the additional Phase II Assessment sample locations located to the south of the substation building, where the greatest PCB concentrations were detected.

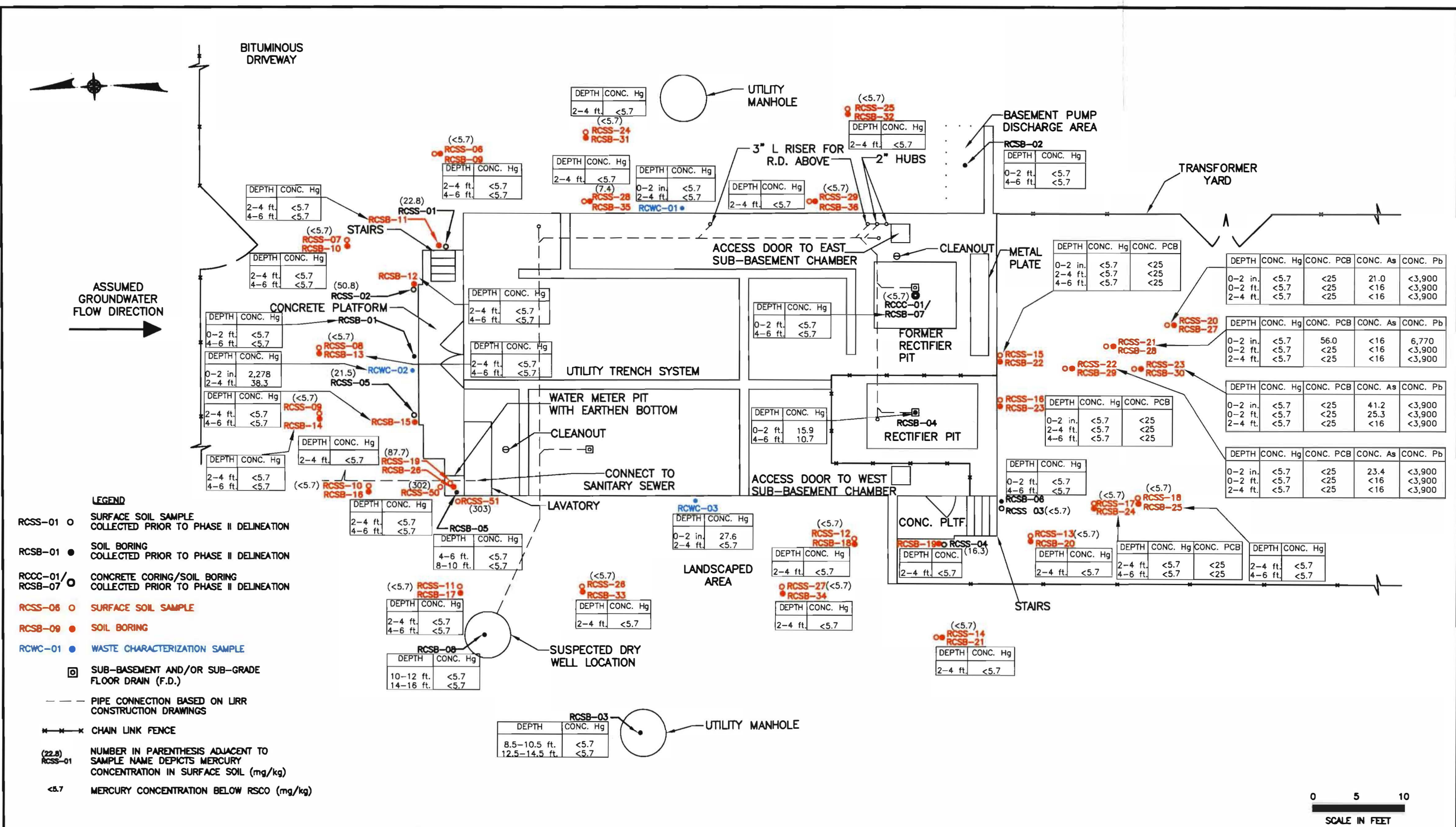
Below is a discussion of the evaluation of data generated as part of the Delineation Phase II Site Assessment at the Rockville Centre Substation.

3.1 Surface Soil

Metals

A total of 25 surface soil samples were collected, with three samples exhibiting mercury concentrations in exceedance of its SCO of 5.7 mg/kg. All mercury concentration data associated with the surface soil samples collected as part of the Delineation Phase II Site Investigation at the Rockville Centre Substation are summarized in Table 1, included in Appendix B. Mercury concentrations exceeding the SCO for mercury of 5.7 mg/kg ranged from

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SOURCE: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS AND D&B's FIELD OBSERVATIONS

a minimum of 7.4 mg/kg to a maximum of 303 mg/kg. The greatest mercury concentrations were detected to the north and west of the water meter pit, located adjacent to the northwest corner of the substation building. Two of the collected samples exhibited mercury at concentrations of greater than 300 mg/kg, including:

- RCSS-50, at 302 mg/kg, located approximately 1-foot north of the water meter pit, adjacent to the northwest corner of the substation building.
- RCSS-51, at 303 mg/kg, located approximately 1-foot west of the water meter pit, adjacent to the northwest corner of the substation building.

Note that, as detailed in Section 3.5, three surface soil samples were collected for waste characterization analysis, with one sample collected from the east, west and north sides of the substation building, respectively. Among several other analytes, total mercury was selected for laboratory analysis, exhibiting concentrations ranging from 27.6 mg/kg to 2,278 mg/kg, detected in surface soil samples RCWC-02 and RCWC-03, respectively. The greatest mercury concentration was detected in surface waste sample RCWC-02, collected adjacent to the north of the concrete platform, north of the substation building.

In addition to mercury, four surface soil samples were analyzed for Resource Conservation and Recovery Act (RCRA) metals. All RCRA metals data associated with the surface soil samples collected at the Rockville Centre Substation are summarized in Table 2, included in Appendix B. Arsenic was detected at concentrations exceeding its SCO of 16.0 mg/kg in three of the four collected samples, with concentrations ranging from 21.0 mg/kg to a maximum of 41.2 mg/kg. The maximum concentration was detected in surface soil sample RCSS-23, located approximately 15 feet south of the substation building. Lead was detected at a concentration exceeding its SCO of 3,900 mg/kg in surface soil sample RCSS-21, at a concentration of 6,770 mg/kg. RCSS-21 is located approximately 13 feet south of the substation building. There were no other exceedances of the SCOs detected for RCRA metals in the surface soil samples.

Semivolatile Organics

Four surface soil samples were analyzed for semivolatile organic compounds (SVOCs). All SVOC data associated with the surface soil samples collected at the Rockville Centre Substation are summarized in Table 3, included in Appendix B. Benzo(a)pyrene was detected at a concentration exceeding its SCO of 1.1 mg/kg in surface soil sample RCSS-22, at a concentration of 1.9 mg/kg. RCSS-22 is located approximately 8 feet south of the substation building. No other SVOC was detected at concentrations exceeding its respective SCO.

PCBs

Twenty-six surface soil samples were analyzed for polychlorinated biphenyls (PCBs) analysis, with one of the collected samples exhibiting detectable concentrations of total PCBs in exceedance of the SCO for total PCBs of 25.0 mg/kg: RCSS-21, at a concentration of 56.0 mg/kg, located approximately 13 feet south of the substation building. All PCB concentration data associated with the surface soil samples collected at the Rockville Centre Substation are summarized in Table 4, included in Appendix B.

3.2 Subsurface Soil

Metals

Forty-five subsurface soil samples were analyzed for mercury. Mercury was not detected above its SCO of 5.7 mg/kg in any of the subsurface soil samples collected at the Rockville center Substation. All mercury data associated with the subsurface soil samples collected at the Rockville Centre Substation are summarized in Table 5, included in Appendix B.

In addition to mercury, eight subsurface soil samples were also analyzed for RCRA metals. All RCRA metals data associated with the subsurface soil samples collected at the Rockville Centre Substation are summarized in Table 6, included in Appendix B. Arsenic was detected at a concentration exceeding its SCO of 16.0 mg/kg in subsurface soil sample RCSB-30

(0 to 2 feet), at a concentration of 25.3 mg/kg. RCSB-30 is located approximately 15 feet south of the substation building. There were no other exceedances of the SCOs detected for RCRA metals in the subsurface soil samples.

Semivolatile Organics

Eight subsurface soil samples were analyzed for SVOCs. All SVOC data associated with the subsurface soil samples collected at the Rockville Centre Substation are summarized in Table 7, included in Appendix B. Benzo(b)fluoranthene, fluoranthene, phenanthrene and pyrene were detected in one or more of the collected subsurface soil samples. However, no SVOC was detected at concentrations exceeding its respective industrial SCO.

PCBs

Thirty-four subsurface soil samples were analyzed for polychlorinated biphenyls (PCBs) analysis. PCBs were not detected above the SCO for total PCBs of 25.0 mg/kg in any of the subsurface soil samples collected at the Rockville Center Substation. All PCB concentration data associated with the subsurface soil samples collected at the Rockville Centre Substation are summarized in Table 8, included in Appendix B.

3.3 Groundwater

A total of three groundwater samples were collected for chemical analysis from the site using a peristaltic pump and Geoprobe groundwater sampling equipment. All samples were analyzed for TAL Metals (including mercury) and VOCs. Due to the turbid nature of the groundwater samples, all samples collected for metals analysis included filtered and unfiltered samples.

Metals

Mercury was not detected in any of the filtered or unfiltered groundwater samples collected (RCGP-01, RCGP-02 and RCGP-03). All metals data associated with the groundwater samples collected at the Rockville Centre Substation are summarized in Table 9, included in Appendix B.

Three metals including iron, manganese and sodium were detected above their respective Class GA Standards in one or more unfiltered sample. However, these same metals were either not detected, or detected at much lower concentrations in the filtered samples. Due to the generally high turbidity of the groundwater samples collected using Geoprobe equipment, the metals data associated with the unfiltered samples will be biased high. Therefore, the filtered samples will more closely represent true metal concentrations in groundwater. In filtered groundwater probe RCGP-01, sodium exceeded its Class GA Standard. In filtered groundwater probe RCGP-02, iron exceeded its Class GA Standard. In filtered groundwater probe RCGP-03, iron and sodium exceeded their respective Class GA Standards. Although iron and sodium were above their respective Class GA Standards in one or more filtered samples, these are not considered contaminants of concern.

Volatile Organics

VOCs were not detected at concentrations above NYSDEC Class GA Standards. All VOC data associated with the groundwater samples collected at the Rockville Centre Substation are summarized in Table 10, included in Appendix B.

3.4 Below Grade Structures and Underground Injection Control (UIC) Features

As described in Section 2.5, several below grade structures were investigated for Underground Injection Control (UIC) applicability as part of the Initial Site Investigation and the Delineation Phase II Assessment. These structures included a water meter pit located adjacent to the northwest corner of the substation building, a dry well and associated rectifier piping

suspected to be located to the west of the substation building, three floor drains located within the substation building and the substation lavatory. The results from these investigations are as follows:

Water Meter Pit

The water meter pit located adjacent to the northwest corner of the substation building was not designed as a drainage structure, and as such, its primary function is not to accept fluids. Therefore, this is not UIC structure. However, surface soil sample RCSS-19 and subsurface soil sample RCSB-16 (2 to 4 feet) were collected from this structure, and analyzed for mercury. Mercury was detected at a concentration exceeding its SCO of 5.7 mg/kg in surface soil sample RCSS-19, at a concentration of 87.7 mg/kg. All data associated with the surface soil sample collected from the water meter pit is summarized in Table 1, included in Appendix B, and all data associated with the subsurface soil sample collected from the water meter pit is summarized in Table 5, included in Appendix B.

Dry Well

The inspection of the dry well and associated rectifier piping suspected to be located to the west of the substation building was initiated during the Initial Investigation with an investigative excavation. The dry well was not located during the excavation, however, one subsurface soil boring (RCSB-08) was advanced in a location corresponding to where the dry well is depicted on LIRR construction diagrams, where samples were collected from 10 to 12 and 14 to 16 feet below ground surface for mercury analysis. Mercury was not detected in either sample. All data associated with the subsurface soil samples collected in association with the dry well are summarized in Appendix A. The investigation of the dry well and associated rectifier piping was continued as part of the Phase II Assessment, with a geophysical investigation utilizing an Electromagnetic (EM) survey and a Ground Penetrating Radar (GPR) survey. The survey did not indicate the presence of subsurface anomalies consistent with a dry well structure or associated piping on any side of the substation building. Based on the results of the investigations detailed above, it was concluded that the dry well and the piping depicted on LIRR

construction drawings was removed and the rectifier piping was then connected to the sewer, along with the lavatory discharge piping. Therefore, further sampling associated with the dry well was not conducted.

Floor Drains

According to LIRR construction drawings the three floor drains located in the substation building discharge to the dry well located off the northwest corner of the substation building. As described above, an excavation and geophysical survey was performed in order to locate this dry well and associated rectifier piping, and no evidence of either of these structures was found in either investigation. In order to further investigate the drainage point of these three floor drains, a dye and flush test was performed on each drain. The results of the dye and flush test indicated that the two southern floor drains were connected to each other. It was also established that the northernmost floor drain was connected to the cleanout located approximately 7 feet to its north. However, a connection between the southern two drains and the northern drain and cleanout could not be made. It is probable that there is a blockage in the drainpipe somewhere between the north and south halves of the substation building. In addition, the discharge point of the cleanout could not be established, as it appeared to be blocked as well. However, it appeared that the cleanout extended to the northeast, and not to the west, where LIRR construction drawings indicate that the drainage pipe from these three floor drains extends. Please note that as the area surrounding the west, north and east sides of the substation building was investigated for the presence of an underground dry well structure utilizing EM and GPR, and the results did not indicate anomalies indicative of a dry well structure, it is possible that the rectifier piping extends to the sewer system.

In addition, please note that, during the August 1999 sampling round, concrete cores were removed from the bottom of the southern drain structures (located beneath the former mercury rectifiers) and subsurface soil samples were collected through the drain bottoms. Mercury concentrations of 15.9 mg/kg and 10.7 mg/kg were detected in the southwest floor drain in the substation building, at 0 to 2 and 4 to 6 feet below ground surface, respectively, exceeding the SCO of 5.7 mg/kg.

Lavatory

The substation lavatory was investigated through dye and flush testing as part of the Phase II Assessment. Through visual inspection of a manhole located in the center of Maple Avenue, it was confirmed through dye and flush testing that the substation lavatory discharges to the sewer system running beneath Maple Avenue. Sediment was not observed in the manhole, and as a result, samples were not collected from the manhole structure.

3.5 Waste Characterization

In order to “pre-characterize” site soil at the Rockville Centre Substation prior to the undertaking of excavation activities associated with site reconstruction, a total of six soil samples were collected for waste characterization as part of the March 2007 sampling event. Sample locations were chosen in the field based on areas of proposed excavation activities, and are depicted on Figure 2-1. All waste characterization samples were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals (including mercury), TCLP SVOCs, TCLP VOCs, RCRA waste characteristics (ignitability, reactivity, etc.), RCRA metals, total PCBs and TCL pesticides/herbicides and have been compared to RCRA hazardous waste criteria and the SCOs, where appropriate. All waste characterization data are presented in Tables 11 through 15, included in Appendix B. Several metals were detected, including barium, cadmium, chromium, lead, selenium and silver. However, no exceedances of the RCRA waste criteria were detected for any sample collected. Of the RCRA metals analyzed as part of the waste characterization samples, arsenic was detected above its SCO of 16.0 mg/kg in two surface waste samples, at a concentration ranging from 18.1 mg/kg to a maximum of 19.6 mg/kg, detected in surface waste sample RCWC-02 (S). RCWC-02 (S) is located adjacent to the north of the concrete platform to the north of the substation building. Mercury was detected above its SCO of 5.7 mg/kg in two surface waste samples, RCWC-02 (S) and RCWC-03 (S), at a concentration ranging from 27.6 mg/kg to a maximum of 2,278 mg/kg, detected in surface waste sample RCWC-02 (S). Mercury was also detected above its SCO of 5.7 mg/kg in one subsurface waste sample, RCWC-02 (2 to 4

feet), at a concentration of 38.3 mg/kg. None of the waste characterization samples exhibited exceedance of the SCOs for PCBs, pesticides or herbicides.

3.6 Data Usability Summary Report (DUSR)

Surface soil, subsurface soil, groundwater and waste characterization samples were collected as part of the Delineation Phase II Site Assessment at the LIRR Rockville Centre Substation, completed in September of 2005 and between March and October of 2007. The soil samples were primarily analyzed for mercury. Several of the soil samples were analyzed for PCBs, RCRA metals and SVOCs. The groundwater samples were analyzed for TAL metals and VOCs. Six waste characterization samples were analyzed for TCLP metals (including mercury), TCLP SVOCs, TCLP VOCs, RCRA waste characteristics (ignitability, reactivity, etc.), RCRA metals, PCBs and TCL pesticides/herbicides.

Chemtech and Mitkem, subcontractors to Dvirka and Bartilucci Consulting Engineers (D&B), analyzed all samples in accordance with the USEPA SW-846 methods as stipulated in the work plan. The data packages submitted by the analytical laboratories have been reviewed by Ms. Robbin Petrella, D&B's Quality Assurance/Quality Control Officer. Ms. Petrella meets the NYSDEC requirements of a data validator as listed in the Draft DER-10 Technical Guidance for Site Investigation and Remediation, and her resume is included in Appendix D.

The data packages have been reviewed for completeness and compliance with NYSDEC QA/QC requirements, as well as the requirements for development of Data Usability Summary Reports as listed in Appendix 2B of the Draft DER-10 Technical Guidance for Site Investigations and Remediation dated December 2002. Each data package was reviewed for the following:

- Was a NYSDEC Category B deliverable data package submitted?
- Have all holding times been met?
- Does all QA/QC data fall within QA/QC limits and specifications?

- Were appropriate methods followed?
- Does the raw data conform to that reported on the data summary sheets?
- Have the correct data qualifiers been utilized?

NYSDEC ASP Category B deliverable data packages have been submitted for all sample delivery groups (SDG). The findings of the data review process are summarized below.

All samples were analyzed within the method-specified holding times. All surrogate recoveries, internal standard area counts and spike recoveries were within QC limits. Initial and continuing calibrations were analyzed at the method specified frequency.

Several soil samples were reanalyzed at secondary dilutions due to the concentrations of mercury exceeding the instrument's calibration range. The results from the diluted analysis have been included on the data summary tables. Due to the elevated concentrations of mercury in the samples collected in March 2007, the majority of the samples were initially analyzed at a dilution. The sample results have been qualified with a "D" on the Data Summary Tables. A list of Data Qualifiers and Qualified data summary sheets are contained in Appendix B.

Several of the soil samples were required reanalysis of the PCB fraction due to compound concentrations exceeding the instrument calibration range. The requests for the affected aroclor have been taken from the diluted analysis and have been qualified "D" on the data summary tables.

No other problems were found with the sample results. All results have been deemed valid and usable, as qualified above, for environmental assessment purposes.

Section 4

Table 4-1

VEGETATIVE SPECIES OBSERVED AT AND AROUND THE
ROCKVILLE CENTRE SUBSTATION

<u>Common Name</u>	<u>Scientific Name</u>
<i>Herbaceous Plants</i>	
Common ragweed	Ambrosia artemisiifolia
Common lambsquarters	Chenopodium album
Daisy	Chrysanthemum sp.
Chickory	Cichorium intybus
Crown vetch	Coronilla varia
Crabgrass	Digitaria sp.
Butter and eggs	Linaria vulgaris
Yellow woodsorrel	Oxalis stricta
Fall panicum	Panicum dichotomiflorum
Common reed grass	Phragmites communis
Ground cherry	Physalis heterophylla
Pokeweed	Phytolacca americana
Broadleaf plantain	Plantago major
Smartweed, Knotweed	Polygonum sp.
Nightshade	Solanum dulcamara
Common goldenrod	Solidago juncea
Early flowering goldenrod	Solidago nemoralis
Stiff goldenrod	Solidago rigida
Common mullein	Verbascum thapsus
Vetch	Vicia sp.
<i>Shrubs and Vines</i>	
Japanese honeysuckle	Lonicera japonica
Virginia creeper	Parthenocissus quinquefolia
Poison ivy	Rhus radicans
Multiflora rose	Rosa multiflora
Catbrier	Smilax rotundifolia
<i>Trees</i>	
Red maple	Acer rubrum
Flowering dogwood	Cornus florida
White pine	Pinus strobus
Black cherry	Prunus serotina
White oak	Quercus alba
Black oak	Quercus velutina
Black locust	Robinia pseudoacacia

4.1.2 Wetlands

There are no wetlands located on the Rockville Centre Substation property.

4.1.3 Mammals

The Rockville Centre Substation is somewhat isolated from large tracts of undeveloped land due to its location within residential and commercial areas. This isolation limits the species of mammals that would inhabit the site to those that are tolerant of human presence and with limited home ranges. It is likely that only small mammals inhabit the area because of the numerous manmade barriers which would act as deterrents and prohibit movement. The only mammal observed during the field survey was the gray squirrel (Sciurus carolinensis). In addition, runways and scats were observed that would indicate the presence of Norway rats (Rattus norvegicus), white-footed mice (Peromyscus leucopus), house mouse (Mus musculus), cottontail rabbits (Sylvilagus floridanus), and raccoons (Procyon lotor). Probable mammal inhabitants are listed in Table 4-2.

4.1.4 Birds

Birds were present and actively feeding, on and around the substation property, in the underbrush. Several ground foraging birds observed on and around the substation property, include: finches (Carpodacus sp.), mockingbirds (Mimus polyglottus), starlings (Sturnus vulgaris) and American robins (Turdus migratorius). Although no hawk species were observed, the opportunities for several species to rest and feed near the Substation were present. Table 4-3 contains a list of birds common to the area that possibly inhabit the site and/or surrounding areas.

4.1.5 Reptiles and Amphibians

Reptiles or amphibians were not observed at the Rockville Centre Substation site. The property, however, does contain construction materials that would offer cover to snakes common

Table 4-2

**MAMMALS POSSIBLY INHABITING
THE ROCKVILLE CENTRE SUBSTATION SITE**

<u>Common Name</u>	<u>Scientific Name</u>
Eastern chipmunk	Tamias striatus
Gray Squirrel	Sciurus carolinensis
Cottontail rabbit	Sylvilagus floridanus
White-footed mouse	Peromyscus leucopus
House mouse	Mus musculus
Norway rat	Rattus norvegicus
Raccoon	Procyon lotor

Table 4-3

**AVIFAUNA POSSIBLY INHABITING
THE ROCKVILLE CENTRE SUBSTATION AREA**

<u>Common Name</u>	<u>Scientific Name</u>
Canada goose	<i>Branta canadensis</i>
Mallard	<i>Anas platyrhynchos</i>
Black duck	<i>Anas rubripes</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Kestrel	<i>Falco sparverius</i>
Killdeer	<i>Charadrius vociferus</i>
Herring gull	<i>Larus argentatus</i>
Great black-backed gull	<i>Larus marinus</i>
Mourning dove	<i>Zenaida macroura</i>
Eastern kingbird	<i>Tyrannus tyrannus</i>
American crow	<i>Corvus brachyrhynchos</i>
Blue jay	<i>Cyanocitta cristata</i>
Black-capped chickadee	<i>Parus atricapillus</i>
Tufted titmouse	<i>Parus bicolor</i>
White-breasted nuthatch	<i>Sitta carolinensis</i>
Red-breasted nuthatch	<i>Sitta canadensis</i>
Brown creeper	<i>Certhia americana</i>
House wren	<i>Troglodytes aedon</i>
Winter wren	<i>Troglodytes troglodytes</i>
Carolina wren	<i>Thryothorus ludovicianus</i>
Gray catbird	<i>Dumetella carolinensis</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Eastern bluebird	<i>Stalia sialis</i>
American robin	<i>Turdus migratorius</i>
Wood thrush	<i>Hyocichla mustelina</i>
Cedar waxwing	<i>Bonbycilla cedrorum</i>
Solitary vireo	<i>Vireo solitarius</i>
Yellow warbler	<i>Dendroica petechia</i>
Ovenbird	<i>Seirus aurocapillus</i>
Common yellowthroat	<i>Geothlypis trichas</i>
Common grackle	<i>Quiscalus quiscula</i>
European starling	<i>Sturnus vulgaris</i>
House sparrow	<i>Passer domesticus</i>
Northern cardinal	<i>Cardinalis cardinalis</i>
Brown-headed cowbird	<i>Molothrus ater</i>
House finch	<i>Carpodacus mexicanus</i>
Purple finch	<i>Carpodacus purpureus</i>
American goldfinch	<i>Carduelis tristis</i>
Chipping sparrow	<i>Spizella passerina</i>
Field sparrow	<i>Spizella pusilla</i>
Song sparrow	<i>Melospiza melodia</i>
White-throated sparrow	<i>Zonotrichia albicollis</i>

to the area. Low vegetation likely provides habitat for common toad species. Table 4-4 contains a list of reptiles and amphibians common to the area that possibly inhabit the site and/or surrounding areas.

4.1.6 Rare Species and Critical Habitats

Based on a review of the New York Natural Heritage files maintained at the NYSDEC Wildlife Resources Center, there are no rare species or critical habitats known to occur on or adjacent to the Rockville Centre Substation. In addition, except for occasional transient individuals, no federally listed or proposed endangered, or threatened species exist within a 2-mile radius of the site according to the U.S. Department of the Interior, Fish and Wildlife Service. Table 4-5 provides a list of all federally listed and proposed threatened or endangered species in New York State.

4.1.7 Biological Associations Found in the Project Vicinity

The area within a 2.5-mile radius surrounding the Rockville Centre Substation is centrally located within residentially/commercially developed areas with no environmentally sensitive habitats in the immediate area. A typical association of cover types with common dominant species is presented in Table 4-6. The biological associations observed are common for the evaluated areas.

4.1.8 Observations of Stress Potentially Related to Site Contaminants

Other than physically disturbed areas, there were no indications of visibly stressed vegetation that could be attributed to contaminants. Past disturbance and the localized nature of the contaminants in question, containment of overland runoff from ecologically sensitive areas, and retainment of overland runoff to on-site recharge and/or municipal storm/sanitary systems has minimized impacts on any local water bodies or other environmentally sensitive areas. The data generated from soil samples collected at the Rockville Centre Substation has shown that mercury contamination was detected adjacent to the north, north east and northwest of the

Table 4-4

**REPTILES AND AMPHIBIANS POSSIBLY INHABITING
THE ROCKVILLE CENTRE SUBSTATION SITE**

<u>Common Name</u>	<u>Scientific Name</u>
Box turtle	<i>Terrapene carolina</i>
Eastern garter snake	<i>Thamnophis sirtalis</i>
Eastern ribbon snake	<i>Thamnophis sauritis</i>
Fowler's toad	<i>Bufo woodhousei fowleri</i>

Table 4-5

**FEDERALLY LISTED OR PROPOSED THREATENED OR
ENDANGERED SPECIES IN NEW YORK STATE**

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Distribution</u>
<i>Fishes</i>			
Sturgeon, shortnose	Asipenser brevirostrum	E	Hudson River and other Atlantic coastal rivers
<i>Reptiles</i>			
Turtle, Northern bog	Clemmys muhlenbergii	T	Albany, Columbia, Dutchess, Genesee, Orange, Oswego, Putnam, Seneca, Ulster, Wayne, and Westchester Counties
Turtle, green	Chelonia mydas	T	Oceanic summer visitor coastal waters
Turtle, hawksbill	Eretmochelys imbricata	E	Oceanic summer visitor coastal waters
Turtle, leatherback	Dermochelys coriacea	E	Oceanic summer visitor coastal waters
Turtle, loggerhead	Caretta caretta	T	Oceanic summer visitor coastal waters
Turtle, Kemp's ridley	Lepidochelys kempii	E	Oceanic summer visitor coastal waters
<i>Birds</i>			
Eagle, bald	Haliaeetus leucocephalus	T	Entire state
Plover, piping	Charadrius melodus	E	Great Lakes Watershed
		T	Remainder of coastal New York
Curlew, Eskimo	Numenius borealis	E	Oceanic
Tern, roseate	Sterna dougallii dougallii	E	Southeastern coastal portions of state
<i>Mammals</i>			
Bat, Indiana	Myotis sodalis	E	Entire State
Whale, finback	Balaenoptera physalus	E	Oceanic

Table 4-5 (continued)

**FEDERALLY LISTED OR PROPOSED THREATENED OR
ENDANGERED SPECIES IN NEW YORK STATE**

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Distribution</u>
Whale, humpback	Megaptera novaeangliae	E	Oceanic
Whale, right	Eubalaena glacialis	E	Oceanic
Puma, Eastern	Puma concolor cougar	E	Entire State
Wolf, Gray	Canis lupus	E	Entire State
Lynx, Canada	Lynx canadensis	T	Entire State
<i>Mollusks</i>			
Snail, Chittenango ovate amber	Succinea chittenangoensis	T	Madison County
Mussel, dwarf wedge	Alasmidonta heterodon	E	Orange County - lower Neversink River
<i>Insects</i>			
Butterfly, Karner blue	Lycaeides melissa samuelis	E	Albany, Saratoga, Warren, and Schenectady Counties
Tiger beetle, Northeastern beach	Cicindela dorsalis dorsalis	T	Entire State
Beetle, American Burying	Nicrophorus americanus	E	Entire State
<i>Plants</i>			
Monkshood, northern wild	Aconitum noveboracense	T	Ulster, Sullivan, and Delaware Counties
Pogonia, small whorled	Isotria medeoloides	T	Entire State
Swamp pink	Helonias bullata	T	Staten Island - presumed extirpated
Gerardia, sandplain	Agalinis acuta	E	Nassau and Suffolk Counties
Fern, American hart's-tongue	Asplenium scolopendrium var. Americana	T	Onondaga and Madison Counties

Table 4-5 (continued)

**FEDERALLY LISTED OR PROPOSED THREATENED OR
ENDANGERED SPECIES IN NEW YORK STATE**

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Distribution</u>
Orchid, estern prairie fringed	Platanthera leucophea	T	Not relocated in New York
Bulrush, northeastern	Scirpus ancistrochaetus	E	Not relocated in New York
Roseroot, Leedy's	Sedum integrifolium ssp. Leedyi	T	West shore of Seneca Lake
Amaranth, seabeach	Amaranthus pumilus	T	Atlantic coastal plain beaches
Chaffseed, American	Schwalbea americana	E	Nassau and Suffolk Counties

Table 4-6

**FLORAL AND FAUNAL ASSOCIATIONS OBSERVED WITHIN
2.5 MILES OF THE ROCKVILLE CENTRE SUBSTATION SITE**

<u>Species</u>	<u>Grassland/ Field</u>	<u>Forested/ Grassland/ Field</u>	<u>Forested</u>	<u>Freshwater Wetlands/ Ponds</u>	<u>Estuarine Wetlands</u>	<u>Cultivated Lawn</u>
<i>Plants</i>						
Common ragweed	X	X				
Daisy	X	X				
Crown vetch	X	X		X		
Fescue						X
Goldenrod	X	X		X		
Virginia creeper		X	X			X
Multiflora rose	X	X		X		
Red maple			X			X
Flowering Dogwood		X	X			X
Black locust		X	X			X
<i>Animals</i>						
Striped bass					X	
Gray Squirrel		X	X			X
Mice/voles/shrews	X	X	X	X		X
Black Duck					X	
Hawks	X	X	X	X		
Finches		X	X			X
Sparrows	X	X	X			X
Northern spring peeper				X		
Eastern garter snake	X	X		X		

substation building, and PCB contamination is limited to the center of the transformer yard, south of the substation building. Data gathered as part of various other investigations at LIRR substation sites where mercury and PCB contamination has been detected support a limited migration of mercury and PCB contamination. No contamination has been detected beyond the substation footprints for any of the areas under review.

4.1.9 Habitat Values of Vegetative Zones Within the Project Site

The assessment of habitat values provides for assessments of primary functions, such as food chain production, specialized habitat and hydrologic interactions. As part of the analysis, cultural values concerning recreation, aesthetics or other special features must be taken into consideration.

The information gathered during the survey conducted in February 2006 can provide for a hierarchy of habitat values for the cover types found at the Rockville Centre Substation. It should be noted that this approach is highly subjective. Those functions assumed to be valuable in relative efficiency or importance are ranked as 3 (high), 2 (moderate), 1 (low) or 0 (non-existent). Specific factors and brief descriptions, which were utilized in the habitat value analysis of the site's qualitative evaluation, are as follows:

- Nutrient Transport Function - Transport of nutrients in detrital-based food chains is strongly dependent on the hydrologic characteristics of the particular ecosystem. For example, wetlands located in lower lying areas export more detrital material than do the higher marsh areas infrequently affected by creek/river overflow. Similarly, detrital transport in the riverine systems is dependent on the river flow regime, especially during periods of peak discharge. In contrast, very little detrital material is exported from isolated ponds and marshes, except during periods of episodic overflow resulting from exceptionally high precipitation.
- Food Chain Support - This function refers to the secondary productivity values of consumer species that a particular ecosystem can support. Secondary productivity is an overall measure of the efficiency of the habitat in terms of nutrient transfer to higher trophic levels.

- Hydroperiod - This factor refers to the frequency of inundation either by river flow runoff or direct precipitation. Areas of good hydrologic linkage help maintain a regular interchange of nutrients and other materials necessary to support diverse flora and fauna.
- Elevational Location - Hydrologic relationships will progressively deteriorate as the depth of flooding decreases. The weakest hydrologic linkages exist in those areas physically isolated from other areas in the system.
- Cultural Evaluation - This particular factor is difficult to assess in detail because of the number of socio-economic considerations, which may be involved. Hence, the evaluation in relation to local residential, commercial, or industrial development is largely left to the professional judgement of the project personnel on a specific case-by-case basis.
- Recreation - Recreation is a vital personal and social need, which provides opportunity for self-expression, physical exercise, and a change of pace from normal or routine activities. Outdoor recreation is a major leisure activity and is growing in national importance with a trend towards a higher standard of living. A significant portion of the total recreational output is water based or water related. As such, greater weight is given to those types of habitats.
- Socio-Economic - This factor pertains to benefits, which can be attributed directly to renewable resources, recreational enjoyment, or other features associated with a particular habitat.
- Aesthetics - Selected types of habitats are distinctive landscape features, which can please the aesthetic sense through the intrinsic appreciation of natural beauty. Wetlands, or any other type of natural landscape, can also be offensive if their features have been adversely modified by incompatible human activities. Aesthetic value can be largely determined by the degree of visual diversity and contrast between the physical elements, such as landforms, water bodies, vegetation types and land use types.
- Food Chain Production - This factor determines the growth of vegetation in a habitat and influences the populations and secondary productivity of animals that feed on the plants, or that feed at high trophic levels in the community.
- Primary Productivity - Primary productivity is a measure of the stored food potential of the vegetation in excess of that used by the plants in metabolism. This determination provides an overall measure of the energy input directly available to the consumer species. It should be noted that the possible range of productivity values, both within and between particular environments, is extremely variable and dependent on a number of local conditions. For the present analysis, literature values for primary productivity as a function of biomass were utilized.

- Water Purification Factor - Through a variety of physical, biological, and chemical processes, some habitats function to naturally purify water by removing organic and mineral particulate matter from runoff and/or rivers and streams. For example, wetlands may be significant in minimizing some of the harmful effects of pollutants introduced into natural ecological systems by the activities of man. Thus, wetlands, especially when part of riverine or estuarine systems, can be an integral part of water quality and pollution control objectives.

Based upon the above factors, a qualitative analysis of the habitat values of the vegetative and aquatic communities are presented in Table 4-7. Based upon these results, the habitat surrounding the Rockville Centre Substation is a moderately low value habitat. Habitat value is limited by the residential and commercial development surrounding the substation, the lack of wetlands or other environmentally sensitive areas, lack of open undeveloped area, and the lack of recreational opportunities because of the constraints associated with an active electrical substation.

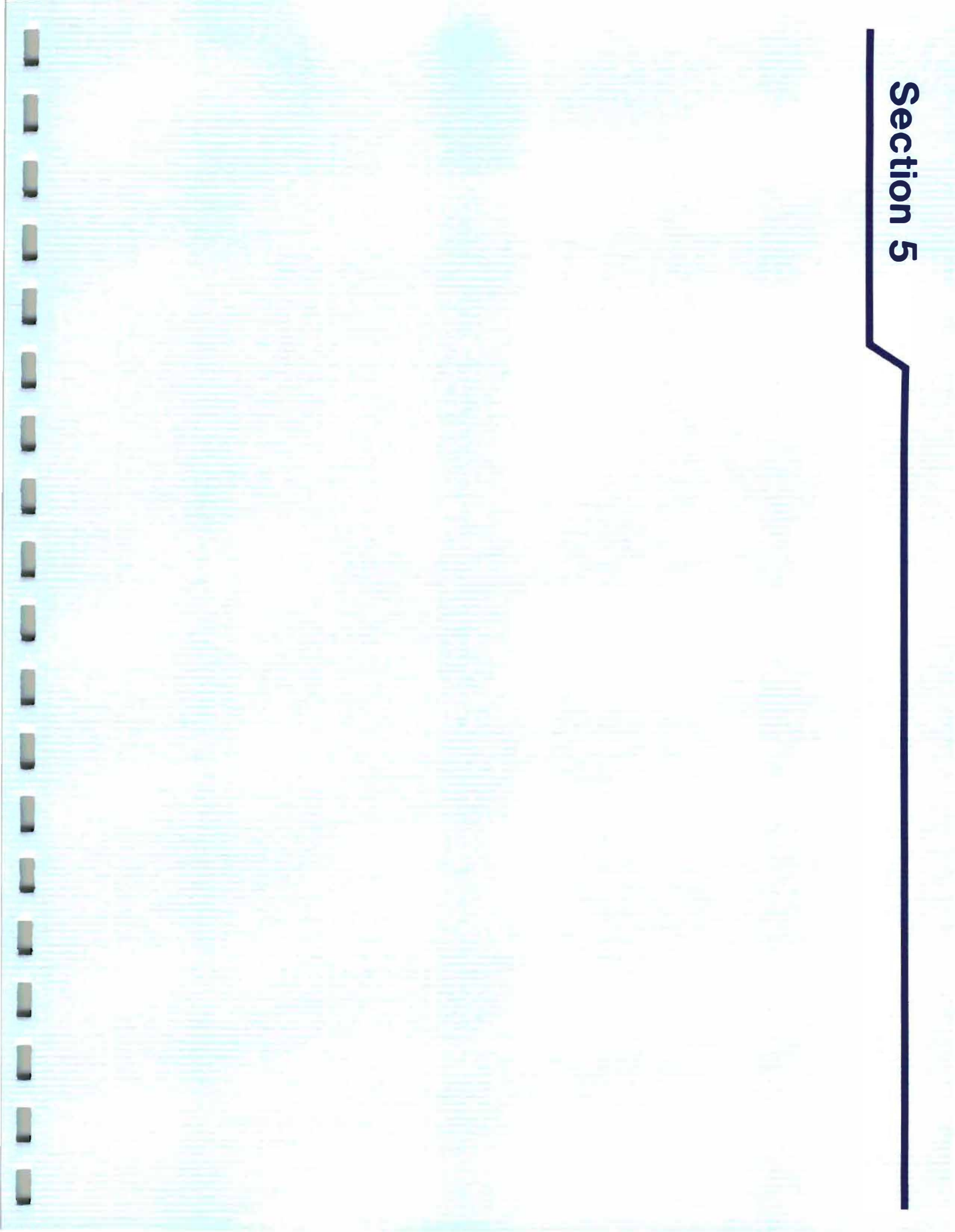
The one potential environmental impact associated with the substation would be contamination of local groundwater. As described in Section 4.1.8, soil sampling has demonstrated that the primary contaminants involved (mercury and PCBs), exhibit a limited migration and are concentrated to less than a few feet vertically and horizontally from the believed point of discharge. Furthermore, groundwater sampling at the Rockville Centre Substation site has demonstrated that groundwater has not been affected by the presence of mercury in on-site soils. Remediation through removal of contaminated soils should be accomplished with no demonstrated impact to local flora, fauna and associated habitats.

Table 4-7

**QUALITATIVE HABITAT VALUE ANALYSIS WITHIN
THE ROCKVILLE CENTRE SUBSTATION SITE**

<u>Evaluation Factor</u>	<u>Relative Efficiency</u>
Food Chain Production	1
Primary Productivity	1
Nutrient Transport	0
Food Chain Support	1
Hydroperiod	1
Elevational Location	1
Cultural Location	2
Recreation	0
Socio-Economic	3
Aesthetics	1
Water Purification Factor	1
<i>Totals</i>	<i>12</i>

Section 5



5.0 QUALITATIVE EXPOSURE ASSESSMENT

5.1 Introduction

The purpose of this exposure assessment is to determine how and when an individual might be exposed to contaminants of potential concern (COPCs) associated with the LIRR Rockville Centre Substation. A COPC is any chemical detected above the NYSDEC cleanup guidelines in a medium, which could produce adverse health effects under the right conditions of dose and exposure. For exposure to occur, there must be a complete “pathway of exposure” where a person can come into contact with contaminants of potential concern. For a pathway to be complete, there must be: 1) a source or medium containing the COPC; 2) a location where human contact could take place (i.e., an exposure point); and 3) a feasible means for the COPC to enter into the person’s body. In the case of the LIRR substations, there would be two types of potential receptors, with personnel who work at the facilities considered on-site receptors and individuals who may live or be in close proximity to the substation properties considered off-site receptors. The person who could come into contact with the COPC at an exposure point is called a “receptor.” The ways in which the COPC can enter the body are called “routes of exposure.” Ingestion (by mouth), dermal (contact with skin) and inhalation (breathing into the lungs) are the routes of exposure considered in this and other human health risk assessments. Consistent with the New York State Department of Health (NYSDOH) and other regulatory agencies, this assessment considers both current and potential future exposures.

As with any exposure assessment, this assessment is not intended to predict disease outcome, but rather, is meant to be used as a tool to make decisions regarding the need for remediation or the institution of precautionary measures, such as limiting the affected area to nonresidential land uses. Given the available information and keeping the purpose of the assessment in mind, the following evaluation for the Rockville Centre Substation is qualitative in nature.

5.2 Properties, Fate and Transport of COPCs at the Rockville Centre Substation

Based on the results of the completed investigations of the Rockville Centre Substation, the primary COPCs are mercury (Hg) and polychlorinated biphenyls (PCBs) and, to a lesser extent, arsenic and lead. The following is a summary of the fate and transport properties of mercury and PCBs in surface and shallow subsurface soil.

Mercury

The mercury (Hg) found at the Rockville Centre substation is assumed to have entered the soil in the form of liquid elemental mercury that was utilized in mercury-containing rectifiers. Elemental mercury (Hg^0) is a heavy, silver-white metal with a specific gravity approximately 13.5 times that of water and is the only metal to exist in the liquid phase at room temperature. Hg^0 has a relatively high vapor pressure and is the most volatile of all metals. Overall, however, it is considered only slightly volatile when compared to most liquids. Hg^0 volatilizes into a colorless, odorless and tasteless gas.

Mercury is a naturally occurring element that has been distributed throughout the environment by natural processes. Mercury exists in three possible oxidation states: elemental mercury (Hg^0), mercurous (Hg^{1+}), and mercuric (Hg^{2+} or $\text{Hg}[\text{II}]$). Atmospheric deposition to the surface from anthropogenic and natural air emissions is considered a major source of mercury in the environment and is primarily in the form of $\text{Hg}(\text{II})$, either during precipitation events or adsorbed onto airborne particulates. The mercurous and mercuric forms of mercury will complex and form numerous organic and inorganic compounds. $\text{Hg}(\text{II})$ is commonly found as mercuric sulfide (HgS), a stable inorganic species that is essentially insoluble in water and is therefore considered a major long term sink for mercury in soils. Moderately soluble forms of $\text{Hg}(\text{II})$, such as mercuric chloride (HgCl_2), can potentially contaminate surface soil and groundwater. Both the mercurous and mercuric forms of mercury will adsorb to clay minerals, oxides and organic matter and tend not to leach. Methylmercury (MeHg) is the most widespread organic form of mercury in the environment and is formed from the methylation of inorganic mercury by bacteria in aquatic environments. Methylation is generally negligible in terrestrial soils.

Liquid elemental mercury has a tendency to form globules or beads and therefore is generally not uniformly distributed among soil particles. It will sink under the force of gravity and split up into available pore spaces. Despite this fact, Hg^0 is only slightly soluble in water and, therefore, is unlikely to leach into groundwater via infiltrating precipitation. In fact, spills of liquid mercury to shallow subsurface soil have been found to be persistent in this environment. Elemental mercury is assumed to be removed from unsaturated soil primarily through its potential to volatilize to the soil vapor and the outside air. Although liquid mercury is volatile, the process is not rapid and globules of Hg^0 may persist for a long time before completely volatilizing. In addition, mercury globules can become coated with a stable layer of insoluble HgS , especially in anaerobic conditions, and can remain inert for a long time. Mercury vapor released to the outdoor air will dissipate rapidly into the atmosphere.

PCBs

PCBs are colorless viscous fluids that are highly insoluble in water. PCBs were manufactured in the United States between 1929 and 1977 and were primarily used in electrical transformers and capacitors as dielectric fluid. PCBs manufactured as dielectric fluids were sold under several trade names, including: Aroclor, Askarel, Pyroclor, Sanotherm and Pyranol. Askarel is also a generic name used for nonflammable dielectric fluids containing PCBs. PCBs have also been used in a variety of other applications, such as: heat transfer and hydraulic fluids, dye carriers in carbonless copy paper, plasticizers in paints, adhesives and chalking compounds, and fillers in investment casting wax. PCBs are currently being inadvertently produced as byproducts during the manufacture of certain organic chemicals. PCBs may be formed when chlorine, carbon, elevated temperatures or catalysts are present together in a process stream. Due to their wide use and stable nature, PCBs are one of the most widely distributed environmental contaminants and can be found primarily in soil and surface water sediments. PCBs have been shown to bio-accumulate in living organisms.

PCBs are highly immobile in the soil/ groundwater environment because of their high affinity for sorption to soil and their very low solubility. The tendency of PCBs for adsorption

increases with the degree of chlorination and with the organic content of the soil. Because of their insoluble nature, PCBs are not typically found in groundwater at significant concentrations. Furthermore, being immobile in most environments, PCBs are typically found in shallow soil in close proximity to where the contaminant was initially released. PCBs do not readily volatilize when exposed to the atmosphere and, therefore, exposure of PCBs in soil through the inhalation of vapors is not considered a significant concern.

5.3 General Substation Conditions

This section briefly describes the current and future conditions of the Rockville Centre Substation. The Rockville Centre Substation is actively used by the LIRR to convert alternating current (AC) to direct current (DC) for use in powering the LIRR's electric train fleet. As discussed in Section 1.1, the substation has been used for this purpose since 1948.

The substations are only accessible by authorized LIRR personnel and their subcontractors. In addition, the Rockville Centre substation is not occupied by LIRR personnel on a continuous or full-time basis. Under normal operating conditions, access to the substation property only occurs when equipment requires monitoring, maintenance or repair. The substation building is locked at all times and all associated outside electrical equipment (i.e., transformers) are secured by a locked fence. In addition, the property surrounding the substation is fenced and locked, preventing public access to the property. The areas to the north, northeast and northwest of the Rockville Centre Substation are covered by a maintained lawn, and the area to the south of the substation building, in the transformer yard, is covered with approximately two inches of crushed stone.

The Rockville Centre substation is serviced by public water and on-site groundwater is not used for any purpose.

As part of the LIRR's overall system upgrade in response to increased ridership, the Rockville Centre Substation will be decommissioned in the summer of 2008. As part of this decommissioning, all electrical transformers and equipment will be removed from the site and

the existing substation building will be demolished. A new substation building will be constructed in the footprint of the existing substation building, which will include an eight-foot deep basement. After installation of the new substation building, the LIRR will not be disturbing or excavating in the Rockville Centre Substation property for the foreseeable future.

While elevated mercury concentrations in soil have been documented to the north, northeast and northwest of the Rockville Centre Substation and PCB concentrations in soil have been documented in the center of the transformer yard to the south of the substation building, the LIRR maintains strict control over conducting soil excavation activities within LIRR properties known to contain contaminants in order to avoid the excavation and handling of contaminated soil without undertaking appropriate health and safety measures. Provided as Appendix E is the LIRR Procedure/Instruction EE03-001, which defines the procedures that must be undertaken prior to conducting excavation activities at LIRR properties.

5.4 Surface and Subsurface Soil

Elevated concentrations of mercury were detected in surface and shallow subsurface soil to the north, northeast and northwest of the Rockville Centre Substation. The highest mercury concentrations were detected in surface soil located adjacent to the concrete platform to the north of the substation building, with a maximum mercury concentration of 2,278 mg/kg. Elevated concentrations of PCBs were detected in surface soil to the south of the Rockville Centre Substation. The highest PCB concentrations were detected in surface soil located to the south of the substation building, with a maximum total PCB concentration of 56.0 mg/kg. The highest arsenic and lead concentrations were detected in surface soil located south of the substation building, with maximum concentrations of 41.2 mg/kg and 6,770 mg/kg, respectively. However, as the areas to the north, northeast and northwest of the Rockville Centre Substation are covered by a maintained lawn, and the area to the south of the substation building, in the transformer yard is covered with approximately two inches of crushed stone, direct exposure to mercury, PCB, arsenic and lead contamination of LIRR workers (on-site receptors) who are required to periodically enter the site for equipment maintenance and repair is highly unlikely. LIRR workers and subcontractors could be potentially exposed to this contaminant source during

excavation activities as the result of dermal contact and inhalation of windblown dust. However, the LIRR has in place procedures to avoid the excavation and handling of contaminated soil without undertaking appropriate health and safety measures. In addition, as described above, the Rockville Centre Substation property is secured on all sides, eliminating the potential of trespassers entering the site.

5.5 Groundwater

As discussed in Section 3.3, groundwater has not been adversely impacted by the presence of mercury in on-site soil. In addition, on-site groundwater is not used as a potable water source or for any other uses. Therefore, groundwater is not considered a potential exposure pathway.

5.6 Air

VOCs were not detected in site soil. As a result, inhalation of contaminants released to the air through volatilization of contaminants from surface soil and subsurface soil does not represent a potential exposure pathway for on-site or off-site receptors. However, as discussed above, inhalation of windblown dust of surface soil does represent a potential for exposure to off-site receptors. While volatilization of mercury present in the surface and subsurface soil can occur, this process occurs at a very slow rate and inhalation of mercury vapor from on-site sources is not expected to be a significant exposure pathway.

5.7 Future Use of Rockville Centre Substation

As discussed in Section 5.3, the LIRR will be decommissioning and demolishing the Rockville Centre Substation as part of their overall system upgrade, in the summer of 2008. In addition to the excavation of site soil as part of the installation of the new substation building, the LIRR intends to remediate the most significant mercury contamination by excavation and off-site disposal. Therefore this planned site redevelopment will remove the most significant soil

contamination, and as a result future exposure to mercury, PCB, arsenic and lead contamination at the Rockville Centre Substation site is not expected.

Section 6

6.0 CONCLUSIONS AND RECOMMENDATIONS

This section presents a discussion of the conclusions and recommendations associated with the investigation of the Rockville Centre Substation. It is important to note that the conclusions and recommendations presented take into consideration the completed Fish and Wildlife Resources Impact Analysis presented in Section 4.0, the findings of the Qualitative Human Health Exposure Assessment presented in Section 5.0, as well as the intended future use of the Rockville Centre Substation site.

Note that, upon receiving NYSDEC approval of the recommendations for site remediation presented in this investigation report, the LIRR intends to quickly proceed with development of a Remedial Action Work Plan (RAWP) that will detail the selected remedial technologies that will be used to remediate the Rockville Centre Substation.

6.1 Nature and Extent of Contamination

Mercury was detected in surface and subsurface soil at the Rockville Centre Substation. Mercury concentrations in exceedance of the SCO for mercury of 5.7 mg/kg have been identified in surface soil collected in areas surrounding the substation building, with the greatest mercury concentrations detected adjacent to the concrete platform, north of the substation building at concentrations of up to 2,278 mg/kg. PCBs were detected in surface soil at the Rockville Centre Substation. Total PCB concentrations in one surface soil sample (RCSS-21) collected in the center of the transformer yard located to the south of the substation building have been identified in exceedance of the SCO for total PCBs of 25.0 mg/kg, at a concentration of 56.0 mg/kg. Note that RCSS-21, collected in the center of the transformer yard, also exhibited a lead concentration of 6,770 mg/kg, exceeding the SCO for lead of 3,900 mg/kg. Arsenic was detected in surface and subsurface soil at the Rockville Centre Substation. Concentrations of arsenic in exceedance of the SCO for arsenic of 16.0 mg/kg have been identified in surface soil collected in the transformer yard ranging in concentration from 21.0 mg/kg to 41.2 mg/kg, with the greatest arsenic concentration detected in surface soil sample RCSS-23, located in the center of the transformer yard. Arsenic has also been detected in exceedance of its SCO at a concentration of

25.3 mg/kg in subsurface soil sample RCSB-30 (0 to 2 feet), located in the center of the transformer yard.

Groundwater has not been impacted by the presence of mercury, arsenic and lead in on-site soil.

The substation property, including the areas exhibiting mercury, PCB, lead and arsenic contamination, is located within a large fenced in area. In addition, as the areas to the north, northeast and northwest of the Rockville Centre Substation are covered by a maintained lawn, and the transformer yard to the south of the substation building is covered with approximately two inches of crushed stone, direct exposure to mercury, PCB, arsenic and lead contamination of LIRR workers (on-site receptors) who are required to periodically enter the site for equipment maintenance and repair is highly unlikely. LIRR workers and subcontractors could be potentially exposed to this contaminant source during excavation activities as the result of dermal contact and inhalation of windblown dust. However, as discussed in Section 5.4, the LIRR has in place procedures to avoid the excavation and handling of contaminated soil without undertaking appropriate health and safety measures. In addition, as described above, the Rockville Centre Substation property is secured on all sides, eliminating the potential of trespassers entering the site.

6.2 Recommendations

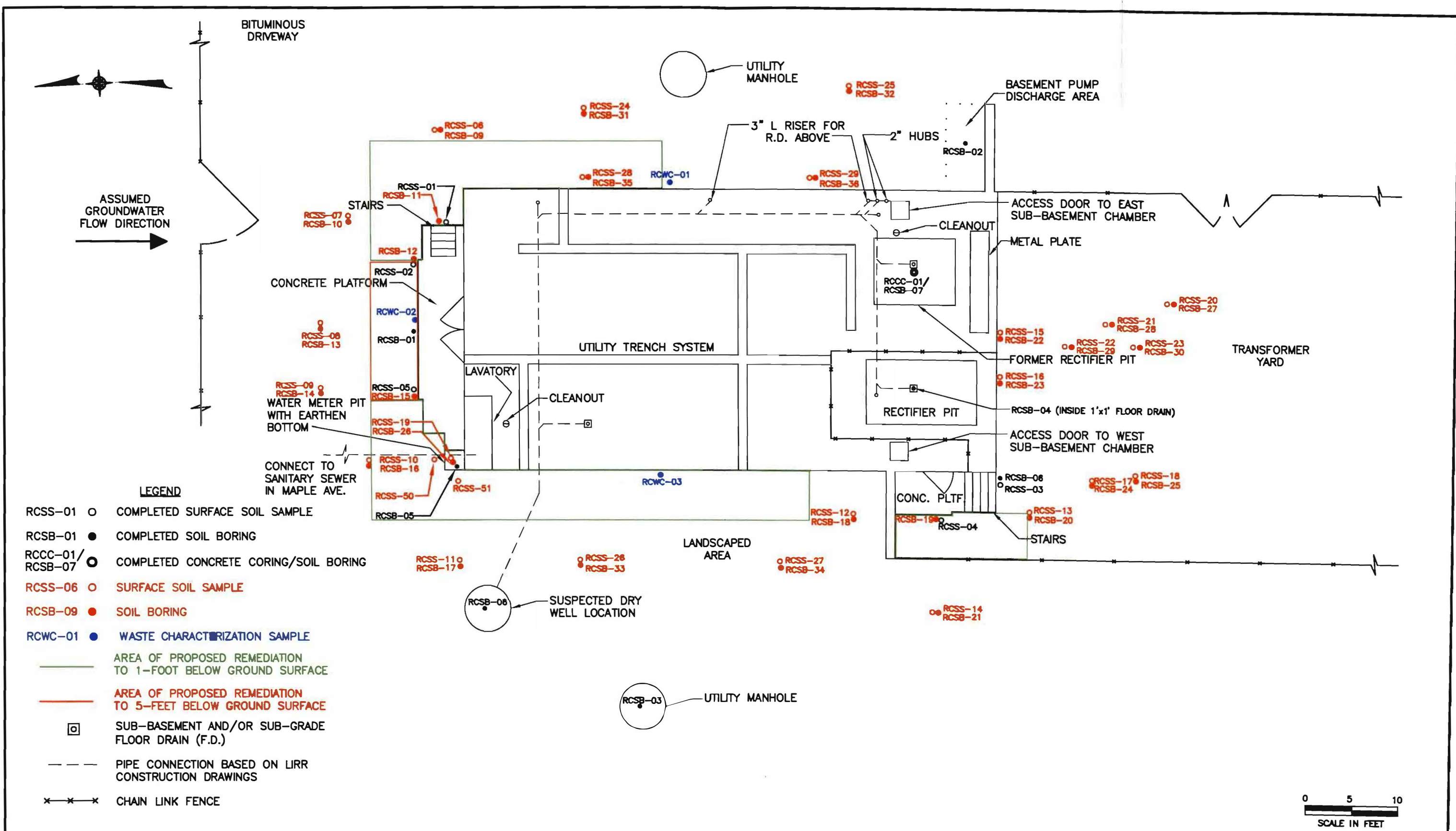
The LIRR plans to decommission and demolish the existing substation building by the fall of 2008 and replace it with a new substation building as part of the planned site redevelopment, included in the overall system upgrade. The LIRR intends to remediate the most significant mercury, PCB, lead and arsenic contamination by excavation and off-site disposal. Therefore, this planned site remediation will remove the most significant soil contamination, and as a result, future exposure to mercury, PCB, arsenic and lead contamination at the Rockville Centre Substation site is not expected.

In order to remediate the highest mercury concentrations detected in the Rockville Centre Substation, the LIRR proposes to excavate soil surrounding the substation building to a depth ranging from 1-foot to 5 feet below ground surface (bgs), as depicted on Figure 6-1. Due to the irregular distribution of mercury in the soil, the excavation area has been divided into four separate excavation areas. Three of the four proposed excavation areas are located to the north, east and west of the substation building and are proposed to be excavated to a depth of 1-foot below ground surface. The proposed 1-foot excavations are approximately 589 square feet in total area, and will require the excavation of approximately 22 cubic yards of soil. The fourth proposed excavation area, located to the north of the substation building, is proposed to be excavated to a depth of 5 feet below ground surface. The proposed 5-foot excavation is approximately 75 square feet in area, and will require the excavation of approximately 14 cubic yards of soil. These areas are approximately 664 square feet in total area, and will require the excavation of a combined total of approximately 36 cubic yards of soil. After removal of the soil, post excavation samples will be collected for mercury analysis in order to document the effectiveness of the remediation and any residual mercury remaining. After excavation, the remediated areas will be backfilled with clean fill.

In order to remediate the highest PCB, arsenic and lead concentrations detected in the Rockville Centre Substation, the LIRR proposes to excavate soil to the south of the substation building to a depth ranging from 1 to 3 feet bgs, as depicted on Figure 6-2. This excavation area is approximately 310 square feet in total area and will require the excavation of approximately 15 cubic yards of soil. After removal of the soil, post excavation samples will be collected for PCB, arsenic and lead analysis in order to document the effectiveness of the remediation and any residual PCB, arsenic and lead remaining. After excavation, the remediated areas will be backfilled with clean fill.

Due to a mercury concentration of 87.7 mg/kg detected in the surface soil of the water meter pit located at the northwest corner of the substation building, the LIRR recommends that

F:\229\229\REPORT\229-FIG 6-1.mxd, LOCATION, 1/11/2007 4:35:10 P.M. DBU



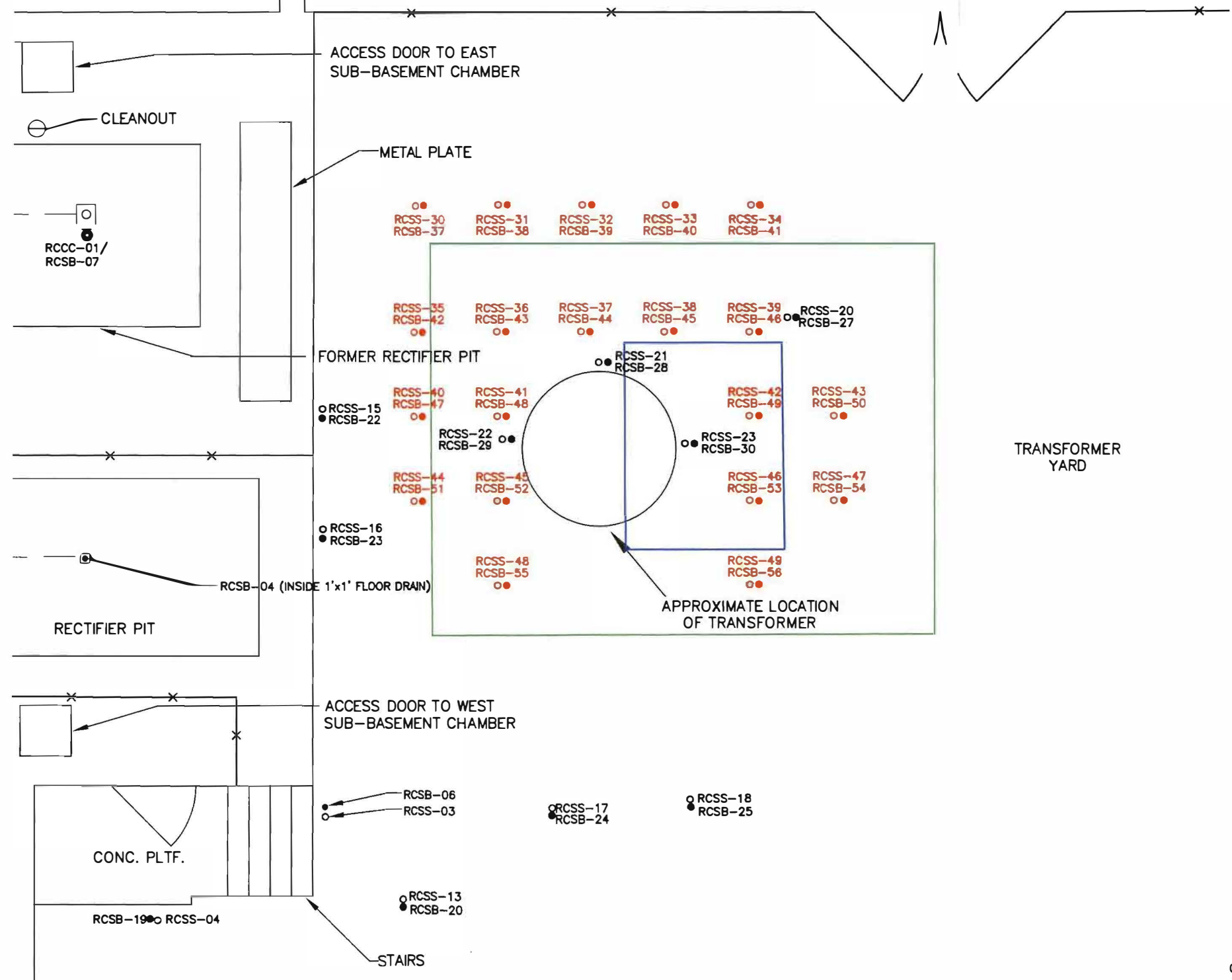
LONG ISLAND RAIL ROAD
DELINEATION PHASE II SITE ASSESSMENT
PROPOSED REMEDIATION AREAS
ROCKVILLE CENTRE SUBSTATION (V00401-1)

I:\14\CA\work\2229\REPORT\2229-FIG 5-21B.dwg, LOCATION, 09/07/07 11:31:18 AM, CMefford



ASSUMED
GROUNDWATER
FLOW DIRECTION
→

- LEGEND**
- RCSS-03 ○ COMPLETED SURFACE SOIL SAMPLE
 - RCSB-06 ● COMPLETED SOIL BORING
 - RCCC-01/
RCSB-07 ● COMPLETED CONCRETE CORING/SOIL BORING
 - RCSS-30 ○ SURFACE SOIL SAMPLE
 - RCSB-37 ● SOIL BORING
 - AREA OF PROPOSED REMEDIATION
TO 1-FOOT BELOW GROUND SURFACE
 - AREA OF PROPOSED REMEDIATION
TO 3-FOET BELOW GROUND SURFACE
 - SUB-BASEMENT AND/OR SUB-GRADE
FLOOR DRAIN (F.D.)
 - PIPE CONNECTION BASED ON LIRR
CONSTRUCTION DRAWINGS
 - × × × CHAIN LINK FENCE



SOURCE: AVAILABLE LONG ISLAND RAIL ROAD CONSTRUCTION DRAWINGS AND D&B's FIELD OBSERVATIONS

LONG ISLAND RAIL ROAD
DELINITION PHASE II SITE ASSESSMENT

PROPOSED REMEDIATION AREA (SOUTH OF SUBSTATION)
ROCKVILLE CENTRE SUBSTATION (V00401-1)

soil be removed from this structure to a depth of 2 feet below the pit bottom. It is anticipated that approximately 8 cubic feet of soil will be removed from this structure via guzzler extraction, prior to the demolition of the substation building. As subsurface soil samples were previously collected and documented at concentrations below the SCOs at a depth of 2 to 4 feet below the pit bottom in this structure, the LIRR feels post excavation sampling is not warranted. Upon completion of the soil removal, the water meter pit will not be backfilled, as this structure will be removed as part of the building demolition.

In order to remediate the elevated mercury concentrations detected in the southwest floor drain, the LIRR recommends that the soil beneath this structure be removed to a depth of 8 feet below the drain bottom, via guzzler extraction, prior to the demolition of the substation building. It is anticipated that approximately 8 cubic feet of soil will be removed from beneath this structure. Upon completion of the soil removal, an end point sample will be collected, and clean fill will be backfilled into the excavation. Due to this structure's function as a drain, the end point sample will be collected for UIC parameter analysis. The LIRR will attempt to remove the maximum amount of contaminated soil as is feasible without undermining the substation foundation.

In addition, if the dry well and associated rectifier drain piping are encountered upon removal of the substation building, these structures will be investigated for UIC applicability and contaminant concentration and subsequently closed in accordance with the applicable Nassau County Department of Health (NCDOH) regulations.

As discussed previously, upon approval of the recommendations described above, the LIRR intends to quickly proceed with the development of a RAWP that will fully detail the methods and procedures that will be employed by the LIRR in order to execute the above recommendations and to allow the LIRR to meet the planned schedule for the Rockville Centre Substation redevelopment. It is anticipated that the remediation of the Rockville Centre Substation will be conducted in conjunction or immediately following the substation decommissioning.

Appendix A

TABLE D-5B

**LONG ISLAND RAIL ROAD SUBSTATION INVESTIGATION
SURFACE SOIL SAMPLING RESULTS - ROCKVILLE CENTRE-S07
MERCURY**

LOCATION	East of Northeast Concrete Steps	East of North Concrete Platform	South of Southwest Concrete Steps	West of Southwest Concrete Platform	West of North Concrete Platform			
SAMPLE ID	RCSS-01	RCSS-02	RCSS-03	RCSS-04	RCSS-05		Instrument Detection Limits	Eastern USA Background Levels⁽¹⁾
SAMPLE DEPTH (in.)	0-6	0-6	0-6	0-6	0-6			
DATE OF COLLECTION	7/27/99	7/27/99	7/27/99	7/27/99	7/27/99			
PERCENT SOLIDS	80	75	84	83	88			
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)		(ug/L)	(mg/kg)
Mercury	22.8	50.8	4.3	16.3	21.5		0.1	0.001 - 0.2

NOTES:

⁽¹⁾ Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

TABLE D-5A

**LONG ISLAND RAIL ROAD SUBSTATION INVESTIGATION
SOIL BORING SAMPLING RESULTS - ROCKVILLE CENTRE-S07
MERCURY**

LOCATION	North of North Concrete Platform		Southeast Exterior Corner of Substation		Northwest Utility Manhole			
SAMPLE ID	RCSB-01	RCSB-01	RCSB-02	RCSB-02	RCSB-03	RCSB-03	Instrument	Eastern USA
SAMPLE DEPTH (ft.)	0-2	4-6	0-2	4-6	8.5-10.5	12.5-14.5	Detection	Background
DATE OF COLLECTION	7/27/99	7/27/99	7/27/99	8/2/99	7/27/99	7/27/99	Limits	Levels ⁽¹⁾
PERCENT SOLIDS	81	98	74	83	92	95		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	1.4	0.049 U	0.081 B	0.050 U	0.19	0.046 U	0.1	0.001 - 0.2

NOTES:

⁽¹⁾ Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

QUALIFIERS:

U: Constituent analyzed for but not detected.

B: Constituent concentration is less than the CRDL, but greater than the IDL.

TABLE D-5A (continued)

LONG ISLAND RAIL ROAD SUBSTATION INVESTIGATION
SOIL BORING SAMPLING RESULTS - ROCKVILLE CENTRE-S07
MERCURY

LOCATION	West Rectifier Pit		Northwest Water Meter Pit		South of Southwest Concrete Steps			
SAMPLE ID	RCSB-04	RCSB-04	RCSB-05	RCSB-05	RCSB-06	RCSB-06	Instrument	Eastern USA
SAMPLE DEPTH (ft.)	0-2	4-6	4-6	8-10	0-2	4-6	Detection	Background
DATE OF COLLECTION	8/2/99	8/2/99	8/2/99	8/2/99	8/2/99	8/2/99	Limits	Levels ⁽¹⁾
PERCENT SOLIDS	90	87	88	96	88	88		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	15.9	10.7	0.057 B	1.2	1.4	0.17	0.1	0.001 - 0.2

NOTES:

⁽¹⁾ Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

QUALIFIERS:

B: Constituent concentration is less than the CRDL, but greater than the IDL.

TABLE D-5A (continued)

LONG ISLAND RAIL ROAD SUBSTATION INVESTIGATION
SOIL BORING SAMPLING RESULTS - ROCKVILLE CENTRE-S07
MERCURY

LOCATION	East Rectifier Pit		Northwest Suspect Dry Well Location					
SAMPLE ID	RCSB-07	RCSB-07	RCSB-08	RCSB-08	RCFB-01	RCFB-02	Instrument	Eastern USA
SAMPLE DEPTH (ft.)	0-2	4-6	10-12	14-16	----	----	Detection	Background
DATE OF COLLECTION	8/2/99	8/2/99	8/2/99	8/2/99	7/27/99	7/27/99	Limits	Levels ⁽¹⁾
PERCENT SOLIDS	88	98	93	85	----	----		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(ug/L)	(ug/L)	(mg/kg)
Mercury	0.047 U	0.041 U	0.043 U	0.051 U	0.15 U	0.16 U	0.1	0.001 - 0.2

NOTES:

⁽¹⁾ Background level for mercury provided in NYSDEC TAGM 4046 Appendix A.

----: Not applicable.

QUALIFIERS:

U: Constituent analyzed for but not detected.

TABLE D-5C

**LONG ISLAND RAIL ROAD SUBSTATION INVESTIGATION
CONCRETE CORE SAMPLING RESULTS - ROCKVILLE CENTRE-S07
MERCURY**

LOCATION	East Rectifier Pit						
SAMPLE ID	RCCC-01	RCFB-03					Instrument
DATE OF COLLECTION	8/2/99	8/2/99					Detection
PERCENT SOLIDS	97	----					Limits
UNITS	(mg/kg)	(ug/L)					(ug/L)
Mercury	3.5	0.10 U					0.1

NOTES:

----: Not applicable.

QUALIFIERS:

U: Constituent analyzed for but not detected.

Appendix B

APPENDIX B

**DATA QUALIFIERS/
DELINEATION PHASE II ANALYTICAL DATA**

Data Flag/Qualifiers:

- U Not Detected. This compound was analyzed-for but not detected. For Organics analysis the reporting limit (lowest standard concentration) is the value listed. For Inorganics analysis, the value listed is the detection limit. For Inorganics analyzed using SW-846 methods, the detection limit is the Method Detection Limit, for Inorganics analyzed using EPA CLP and NY ASP CLP methods, the detection limit is the Instrument Detection Limit.
- J For Organics analysis, this flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
 - estimated concentration for Tentatively Identified Compound
- B For Organic analyses, this flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.
- D For Organics analysis, this flag indicates the compound concentration was obtained from a diluted analysis
- E For Organics analysis, this flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.
- P This flag is used for Pesticides/PCB/Herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for Primary and Confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The lower of the two values is reported in the Analysis Report.
- A Used to flag Semivolatile Organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.
- N Used to flag results for Volatile and Semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.
- * For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

Page: 1 of 6
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-06 RCSS-06 11/29/2005	RCSS-07 RCSS-07 11/29/2005	RCSS-08 RCSS-08 11/29/2005	RCSS-09 RCSS-09 11/29/2005	RCSS-10 RCSS-10 11/29/2005
Mercury	(mg/kg)	5.7	0.067UD	0.066UD	0.066UD	0.063BD	0.117D

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 1

Page: 3 of 6

SAMPLE TYPE: Soil

CONSTITUENT

SITE

SAMPLE ID

DATE _____

6NYCRR Part 375

Industrial Use

SCOs

5.7

RCSS-16

RCSS-16

11/30/2005

0.926

RCSS-17

RCSS-17

11/30/2005

0.071U

RCSS-18

RCSS-18

11/30/2005

0.089BJ

RCSS-19

RCSS-19

11/29/2005

[87.700]D

RCSS-20

RCSS-20

12/01/2005

0.066U

Mercury

(mg/kg)

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 1
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SURFACE SOIL SAMPLE RESULTS
MERCURY

Page: 5 of 6
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-26 RCSS-26 11/29/2005	RCSS-27 RCSS-27 11/29/2005	RCSS-28 RCSS-28 11/30/2005	RCSS-29 RCSS-29 11/30/2005	RCSS-50 RCSS-50 03/05/2007
Mercury	(mg/kg)	5.7	0.196D	0.257D	[7.4]D	0.910D	[302]D

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 2
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SURFACE SOIL SAMPLE RESULTS
RCRA METALS less MERCURY

Page: 1 of 1
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-20 RCSS-20 12/01/2005	RCSS-21 RCSS-21 12/01/2005	RCSS-22 RCSS-22 12/01/2005	RCSS-23 RCSS-23 12/01/2005
Arsenic	(mg/kg)	16	[21.0]	13.8	[23.4]	[41.2]
Barium	(mg/kg)	10000	151	259	157	110
Cadmium	(mg/kg)	60	0.037U	0.040U	6.930	0.161B
Chromium	(mg/kg)	6800	24.7	36.6	45.7	22.7
Lead	(mg/kg)	3900	144	[6770]	2390	202
Selenium	(mg/kg)	6800	2.080	2.170	2.420	2.110
Silver	(mg/kg)	6800	1.910	2.130	6.950	

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 3
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 1 of 4
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-20 RCSS-20 12/01/2005	RCSS-21 RCSS-21 12/01/2005	RCSS-22 RCSS-22 12/01/2005	RCSS-23 RCSS-23 12/01/2005
2,2-oxyblis (1-chloropropane)	(ug/kg)		60U	1600U	360U	140U
2,4,5-Trichlorophenol	(ug/kg)		57U	1500U	340U	120U
2,4,6-Trichlorophenol	(ug/kg)		55U	1500U	330U	120U
2,4-Dichlorophenol	(ug/kg)		69U	1900U	410U	150U
2,4-Dimethylphenol	(ug/kg)		59U	1600U	2100J	140U
2,4-Dinitrophenol	(ug/kg)		320U	8700U	1900U	720U
2,4-Dinitrotoluene	(ug/kg)		55U	1500U	330U	120U
2,6-Dinitrotoluene	(ug/kg)		53U	1400U	310U	120U
2-Chloronaphthalene	(ug/kg)		62U	1700U	370U	140U
2-Chlorophenol	(ug/kg)		60U	1600U	350U	140U
2-Methylnaphthalene	(ug/kg)		63U	1700U	370U	140U
3,3-Dichlorobenzidine	(ug/kg)		64U	1700U	380U	140U
4,6-Dinitro-o-cresol	(ug/kg)		73U	2000U	430U	160U
4-Bromofluorobenzene	(ug/kg)		56U	1500U	330U	120U
4-Chlorophenyl phenyl ether	(ug/kg)		59U	1600U	350U	140U
Acenaphthene	(ug/kg)	1000000	67U	1800U	400U	140U
Acenaphthylene	(ug/kg)	1000000	61U	1600U	360U	140U
Acetophenone	(ug/kg)		55U	1500U	330U	110J
Anthracene	(ug/kg)	1000000	56U	1500U	1100J	120U
Atrazine	(ug/kg)		71J	1500U	340U	120U
Benzaldehyde	(ug/kg)		77U	2100U	460U	160U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO			

TABLE 3
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 3 of 4
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-20 RCSS-20 12/01/2005	RCSS-21 RCSS-21 12/01/2005	RCSS-22 RCSS-22 12/01/2005	RCSS-23 RCSS-23 12/01/2005
Hexachlorobenzene	(ug/kg)	12000	60U	1600U	360U	140U
Hexachlorobutadiene	(ug/kg)		58U	1600U	340U	140U
Hexachlorocyclopentadiene	(ug/kg)		60U	1600U	350U	140U
Hexachloroethane	(ug/kg)		64U	1700U	380U	140U
Indeno(1,2,3-cd)pyrene	(ug/kg)	11000	47U	1300U	280U	110U
Isophorone	(ug/kg)		56U	1500U	330U	120U
m-Nitroaniline	(ug/kg)		49U	1300U	290U	110U
Naphthalene	(ug/kg)	1000000	64U	1700U	710J	140U
Nitrobenzene	(ug/kg)		82U	2200U	490U	170U
N-Nitrosodiphenylamine	(ug/kg)		62U	1700U	370U	140U
N-Nitrosodipropylamine	(ug/kg)		62U	1700U	370U	140U
o-Cresol	(ug/kg)	1000000	62U	1700U	1100J	140U
o-Nitroaniline	(ug/kg)		47U	1300U	280U	110U
o-Nitrophenol	(ug/kg)		58U	1600U	340U	140U
p-Chloroaniline	(ug/kg)		45U	1200U	260U	90U
p-Chloro-m-cresol	(ug/kg)		52U	1400U	310U	110U
PCP	(ug/kg)	55000	87U	2300U	510U	190U
p-Cresol	(ug/kg)	1000000	59U	1600U	570U	140U
Phenanthrene	(ug/kg)	1000000	60U	1600U	440U	140U
Phenol	(ug/kg)	1000000	57U	1500U	340U	120U
p-Nitroaniline	(ug/kg)		64U	1700U	380U	140U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO			

Page: 1 of 6
Date: 05/30/2007

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-15 RCSS-15 11/30/2005	RCSS-16 RCSS-16 11/30/2005	RCSS-20 RCSS-20 12/01/2005	RCSS-21 RCSS-21 12/01/2005	RCSS-22 RCSS-22 12/01/2005
Aroclor 1016	(ug/kg)		3.0U	3.4U	2.9U	3.1U	3.4U
Aroclor 1221	(ug/kg)		4.7U	5.2U	4.4U	4.8U	5.3U
Aroclor 1232	(ug/kg)		7.1U	7.8U	6.6U	7.2U	7.9U
Aroclor 1242	(ug/kg)		6.3U	7.0U	5.9U	6.4U	7.0U
Aroclor 1248	(ug/kg)		3.1U	3.4U	2.9U	3.1U	3.4U
Aroclor 1254	(ug/kg)		2.0U	2.2U	1.9U	2.0U	2.2U
Aroclor 1260	(ug/kg)		620D	1000D	58	56000D	17000D
Total PCBs (surface soil)	(ug/kg)	25000	620	1000	58	[56000]	17000

ug/kg: microgram/kilogram
 SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

 []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

Page: 3 of 6
Date: 05/30/2007

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-34 RCSS-34 03/05/2007	RCSS-35 RCSS-35 03/05/2007	RCSS-36 RCSS-36 03/05/2007	RCSS-37 RCSS-37 03/05/2007	RCSS-38 RCSS-38 03/05/2007
Aroclor 1016	(ug/kg)		2.9U	5.7U	2.9U	2.8U	2.9U
Aroclor 1221	(ug/kg)		4.4U	8.9U	4.4U	4.4U	4.4U
Aroclor 1232	(ug/kg)		6.6U	13U	6.6U	6.6U	6.6U
Aroclor 1242	(ug/kg)		5.9U	12U	5.9U	5.8U	5.9U
Aroclor 1248	(ug/kg)		2.9U	5.7U	2.9U	2.8U	2.9U
Aroclor 1254	(ug/kg)		1.9U	3.7U	1.9U	1.8U	1.9U
Aroclor 1260	(ug/kg)		140	640	350	1400D	5000D
Total PCBs (surface soil)	(ug/kg)	25000	140	640	350	1400	5000

ug/kg: microgram/kilogram
 SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

 []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

Page: 5 of 6
Date: 05/30/2007

[illegible]

Page: 1 of 9
Date: 05/30/2007

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-09 RCSB-09(2-4) 11/29/2005	RCSB-09 RCSB-09(4-6) 11/29/2005	RCSB-10 RCSB-10(2-4) 11/29/2005	RCSB-10 RCSB-10(4-6) 11/29/2005	RCSB-11 RCSB-11(2-4) 11/29/2005
Mercury	(mg/kg)	5.7	0.062UD	0.061UD	0.065UD	0.061UD	0.127D

mg/kg: milligram/kilogram
SCO: Soll Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 5
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
MERCURY

Page: 3 of 9
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-14 RCSB-14(2-4) 11/29/2005	RCSB-14 RCSB-14(4-6) 11/29/2005	RCSB-15 RCSB-15(2-4) 11/29/2005	RCSB-15 RCSB-15(4-6) 11/29/2005	RCSB-16 RCSB-16(2-4) 11/29/2005
Mercury	(mg/kg)	5.7	0.065UD	0.059UD	0.131D	0.061UD	0.066UD

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 5
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
MERCURY

Page: 5 of 9
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-20 RCSB-20(2-4) 11/30/2005	RCSB-21 RCSB-21(2-4) 11/30/2005	RCSB-22 RCSB-22(2-4) 11/30/2005	RCSB-22 RCSB-22(4-6) 11/30/2005	RCSB-23 RCSB-23(2-4) 11/30/2005
Mercury	(mg/kg)	5.7	0.460	0.068UD	0.067U	0.068U	0.064U

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 5
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
MERCURY

Page: 7 of 9
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-26 RCSB-26(2-4) 11/29/2005	RCSB-27 RCSB-27(0-2) 12/01/2005	RCSB-27 RCSB-27(2-4) 12/01/2005	RCSB-28 RCSB-28(0-2) 12/01/2005	RCSB-28 RCSB-28(2-4) 12/01/2005
Mercury	(mg/kg)	5.7	0.825D	0.062U	0.063U	0.066U	0.063U

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 5

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Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE	6NYCRR Part 375	RCSB-32	RCSB-33	RCSB-34	RCSB-35	RCSB-36
	SAMPLE ID	Industrial Use	RCSB-32(2-4)	RCSB-33(2-4)	RCSB-34(2-4)	RCSB-35(2-4)	RCSB-36(2-4)
	DATE	SCOs	11/30/2005	11/30/2005	11/30/2005	11/30/2005	11/30/2005
Mercury	(mg/kg)	5.7	0.065UD	0.065UD	0.068UD	0.105BD	0.066UD

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

Page: 1 of 2
Date: 05/30/2007

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-27 RCSB-27(0-2) 12/01/2005	RCSB-27 RCSB-27(2-4) 12/01/2005	RCSB-28 RCSB-28(0-2) 12/01/2005	RCSB-28 RCSB-28(2-4) 12/01/2005	RCSB-29 RCSB-29(0-2) 12/01/2005
Arsenic	(mg/kg)	16	3.600	3.250	6.020	2.760	4.430
Barium	(mg/kg)	10000	24.0	18.2B	48.0	20.5B	38.1
Cadmium	(mg/kg)	60	0.036U	0.036U	0.037U	0.036U	0.039U
Chromium	(mg/kg)	6800	8.390	7.730	10.7	9.110	12.5
Lead	(mg/kg)	3900	21.1	7.310	50.5	9.400	16.2
Selenium	(mg/kg)	6800	0.938B	1.370	1.150	0.836B	1.040B
Silver	(mg/kg)	6800	0.446B	0.347B	0.175B	0.360B	0.092U

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 7
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 1 of 8
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-27 RCSB-27(0-2) 12/01/2005	RCSB-27 RCSB-27(2-4) 12/01/2005	RCSB-28 RCSB-28(0-2) 12/01/2005	RCSB-28 RCSB-28(2-4) 12/01/2005	RCSB-29 RCSB-29(0-2) 12/01/2005
2,2-oxybis (1-chloropropane)	(ug/kg)		58U	57U	60U	58U	61U
2,4,5-Trichlorophenol	(ug/kg)		55U	54U	57U	55U	58U
2,4,6-Trichlorophenol	(ug/kg)		53U	52U	55U	53U	56U
2,4-Dichlorophenol	(ug/kg)		67U	65U	69U	66U	71U
2,4-Dimethylphenol	(ug/kg)		57U	56U	59U	57U	61U
2,4-Dinitrophenol	(ug/kg)		310U	300U	320U	310U	330U
2,4-Dinitrotoluene	(ug/kg)		53U	52U	55U	53U	56U
2,6-Dinitrotoluene	(ug/kg)		51U	50U	53U	51U	54U
2-Chloronaphthalene	(ug/kg)		60U	59U	62U	59U	63U
2-Chlorophenol	(ug/kg)		58U	56U	59U	57U	61U
2-Methylnaphthalene	(ug/kg)		60U	59U	62U	60U	64U
3,3-Dichlorobenzidine	(ug/kg)		62U	61U	64U	61U	65U
4,6-Dinitro-o-cresol	(ug/kg)		70U	69U	72U	70U	74U
4-Bromofluorobenzene	(ug/kg)		54U	53U	56U	54U	57U
4-Chlorophenyl phenyl ether	(ug/kg)		57U	56U	59U	57U	60U
Acenaphthene	(ug/kg)	1000000	64U	63U	66U	64U	68U
Acenaphthylene	(ug/kg)	1000000	59U	57U	60U	58U	62U
Acetophenone	(ug/kg)		53U	52U	54U	52U	56U
Anthracene	(ug/kg)	1000000	54U	53U	56U	54U	58U
Atrazine	(ug/kg)		55U	54U	57U	55U	58U
Benzaldehyde	(ug/kg)		74U	73U	76U	74U	78U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO				

TABLE 7
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 3 of 8
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-27 RCSB-27(0-2) 12/01/2005	RCSB-27 RCSB-27(2-4) 12/01/2005	RCSB-28 RCSB-28(0-2) 12/01/2005	RCSB-28 RCSB-28(2-4) 12/01/2005	RCSB-29 RCSB-29(0-2) 12/01/2005
Hexachlorobenzene	(ug/kg)	12000	58U	57U	59U	57U	61U
Hexachlorobutadiene	(ug/kg)		56U	54U	57U	55U	59U
Hexachlorocyclopentadiene	(ug/kg)		58U	56U	59U	57U	61U
Hexachloroethane	(ug/kg)		61U	60U	63U	61U	65U
Indeno(1,2,3-cd)pyrene	(ug/kg)	11000	46U	45U	47U	46U	48U
Isophorone	(ug/kg)		54U	53U	56U	54U	57U
m-Nitroaniline	(ug/kg)		47U	46U	48U	47U	50U
Naphthalene	(ug/kg)	1000000	62U	60U	64U	61U	65U
Nitrobenzene	(ug/kg)		79U	77U	81U	78U	83U
N-Nitrosodiphenylamine	(ug/kg)		59U	58U	61U	59U	63U
N-Nitrosodipropylamine	(ug/kg)		60U	59U	62U	59U	63U
o-Cresol	(ug/kg)	1000000	60U	59U	62U	60U	63U
o-Nitroaniline	(ug/kg)		46U	45U	47U	46U	48U
o-Nitrophenol	(ug/kg)		56U	54U	57U	55U	59U
p-Chloroaniline	(ug/kg)		43U	42U	44U	43U	45U
p-Chloro-m-cresol	(ug/kg)		50U	49U	51U	50U	53U
PCP	(ug/kg)	55000	84U	82U	86U	83U	88U
p-Cresol	(ug/kg)	1000000	57U	56U	59U	57U	60U
Phenanthrene	(ug/kg)	1000000	58U	56U	69J	57U	61U
Phenol	(ug/kg)	1000000	55U	54U	56U	54U	58U
p-Nitroaniline	(ug/kg)		62U	60U	64U	61U	65U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO				

TABLE 7
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 5 of 8
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-29 RCSB-29(2-4) 12/01/2005	RCSB-30 RCSB-30(0-2) 12/01/2005	RCSB-30 RCSB-30(2-4) 12/01/2005
2,2-oxybis (1-chloropropane)	(ug/kg)		59U	120U	62U
2,4,5-Trichlorophenol	(ug/kg)		56U	120U	59U
2,4,6-Trichlorophenol	(ug/kg)		54U	110U	57U
2,4-Dichlorophenol	(ug/kg)		68U	140U	72U
2,4-Dimethylphenol	(ug/kg)		58U	120U	61U
2,4-Dinitrophenol	(ug/kg)		310U	640U	330U
2,4-Dinitrotoluene	(ug/kg)		54U	110U	57U
2,6-Dinitrotoluene	(ug/kg)		52U	110U	55U
2-Chloronaphthalene	(ug/kg)		61U	130U	64U
2-Chlorophenol	(ug/kg)		59U	120U	62U
2-Methylnaphthalene	(ug/kg)		61U	130U	65U
3,3-Dichlorobenzidine	(ug/kg)		63U	130U	66U
4,6-Dinitro-o-cresol	(ug/kg)		71U	150U	75U
4-Bromofluorobenzene	(ug/kg)		55U	110U	58U
4-Chlorophenyl phenyl ether	(ug/kg)		58U	120U	61U
Acenaphthene	(ug/kg)	1000000	66U	140U	69U
Acenaphthylene	(ug/kg)	1000000	60U	130U	63U
Acetophenone	(ug/kg)		54U	110U	57U
Anthracene	(ug/kg)	1000000	55U	110U	58U
Atrazine	(ug/kg)		56U	120U	59U
Benzaldehyde	(ug/kg)		76U	160U	79U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO		

TABLE 7
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 7 of 8
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-29 RCSB-29(2-4) 12/01/2005	RCSB-30 RCSB-30(0-2) 12/01/2005	RCSB-30 RCSB-30(2-4) 12/01/2005
Hexachlorobenzene	(ug/kg)	12000	59U	120U	62U
Hexachlorobutadiene	(ug/kg)		57U	120U	60U
Hexachlorocyclopentadiene	(ug/kg)		59U	120U	62U
Hexachloroethane	(ug/kg)		63U	130U	66U
Indeno(1,2,3-cd)pyrene	(ug/kg)	11000	47U	90U	49U
Isophorone	(ug/kg)		55U	110U	58U
m-Nitroaniline	(ug/kg)		48U	100U	50U
Naphthalene	(ug/kg)	1000000	63U	130U	66U
Nitrobenzene	(ug/kg)		80U	170U	84U
N-Nitrosodiphenylamine	(ug/kg)		61U	130U	64U
N-Nitrosodipropylamine	(ug/kg)		61U	130U	64U
o-Cresol	(ug/kg)	1000000	61U	130U	64U
o-Nitroaniline	(ug/kg)		47U	90U	49U
o-Nitrophenol	(ug/kg)		57U	120U	60U
p-Chloroaniline	(ug/kg)		44U	90U	46U
p-Chloro-m-cresol	(ug/kg)		51U	110U	53U
PCP	(ug/kg)	55000	85U	170U	90U
p-Cresol	(ug/kg)	1000000	58U	120U	61U
Phenanthrene	(ug/kg)	1000000	59U	120U	62U
Phenol	(ug/kg)	1000000	56U	120U	59U
p-Nitroaniline	(ug/kg)		63U	130U	66U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO		

TABLE 8
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

Page: 1 of 7
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-22 RCSB-22(2-4) 11/30/2005	RCSB-22 RCSB-22(4-6) 11/30/2005	RCSB-23 RCSB-23(2-4) 11/30/2005	RCSB-23 RCSB-23(4-6) 11/30/2005	RCSB-24 RCSB-24(2-4) 11/30/2005
Aroclor 1016	(ug/kg)		3.0U	2.8U	2.9U	2.9U	2.9U
Aroclor 1221	(ug/kg)		4.6U	4.3U	4.4U	4.4U	4.4U
Aroclor 1232	(ug/kg)		6.9U	6.4U	6.6U	6.6U	6.6U
Aroclor 1242	(ug/kg)		6.1U	5.7U	5.9U	5.9U	5.9U
Aroclor 1248	(ug/kg)		3.0U	2.8U	2.9U	2.9U	2.9U
Aroclor 1254	(ug/kg)		1.9U	1.8U	1.9U	59	1.9U
Aroclor 1260	(ug/kg)		28	24	40	4.7U	40
Total PCBs (subsurface soil)	(ug/kg)	25000	28	24	40	59	40

ug/kg: microgram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

Page: 1 of 6
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-06 RCSS-06 11/29/2005	RCSS-07 RCSS-07 11/29/2005	RCSS-08 RCSS-08 11/29/2005	RCSS-09 RCSS-09 11/29/2005	RCSS-10 RCSS-10 11/29/2005
Mercury	(mg/kg)	5.7	0.067UD	0.066UD	0.066UD	0.063BD	0.117D
mg/kg: milligram/kilogram SCO: Soil Cleanup Objective Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO							

Page: 2 of 6
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-11 RCSS-11 11/29/2005	RCSS-12 RCSS-12 11/29/2005	RCSS-13 RCSS-13 11/30/2005	RCSS-14 RCSS-14 11/29/2005	RCSS-15 RCSS-15 11/30/2005
Mercury	(mg/kg)	5.7	0.185D	0.266D	0.247D	0.106BD	0.675

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 1

LONG ISLAND RAILROAD

Date: 05/30/2007

SAMPLE TYPE: Soil

CONSTITUENT

SITE
SAMPLE ID
DATE

6NYCRR Part 375
Industrial Use
SCOs

RCSS-16
RCSS-16
11/30/2005

RCSS-17
RCSS-17
11/30/2005

RCSS-18
RCSS-18
11/30/2005

RCSS-19
RCSS-19
11/29/2005

RCSS-20
RCSS-20
12/01/2005

Mercury

(mg/kg)

5.7

0.926

0.071U

0.089BJ

[87.700]D

0.066U

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

Page: 4 of 6
Date: 05/30/2007

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-21 RCSS-21 12/01/2005	RCSS-22 RCSS-22 12/01/2005	RCSS-23 RCSS-23 12/01/2005	RCSS-24 RCSS-24 11/30/2005	RCSS-25 RCSS-25 11/29/2005
Mercury	(mg/kg)	5.7	0.247	1.1	0.066U	3.2D	0.182D

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

Page: 5 of 6
Date: 05/30/2007

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-26 RCSS-26 11/29/2005	RCSS-27 RCSS-27 11/29/2005	RCSS-28 RCSS-28 11/30/2005	RCSS-29 RCSS-29 11/30/2005	RCSS-50 RCSS-50 03/05/2007
Mercury	(mg/kg)	5.7	0.196D	0.257D	[7.4]D	0.910D	[302]D

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 1
 LONG ISLAND RAILROAD
 DELINEATION PHASE II SITE INVESTIGATION
 ROCKVILLE CENTRE SUBSTATION
 SURFACE SOIL SAMPLE RESULTS
 MERCURY

Page: 6 of 6
 Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
 SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-51 RCSS-51 03/05/2007
Mercury	(mg/kg)	5.7	[303]D
mg/kg: milligram/kilogram SCO: Soil Cleanup Objective Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO			

TABLE 2
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SURFACE SOIL SAMPLE RESULTS
RCRA METALS less MERCURY

Page: 1 of 1
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-20 RCSS-20 12/01/2005	RCSS-21 RCSS-21 12/01/2005	RCSS-22 RCSS-22 12/01/2005	RCSS-23 RCSS-23 12/01/2005
Arsenic	(mg/kg)	16	[21.0]	13.8	[23.4]	[41.2]
Barium	(mg/kg)	10000	151	259	157	110
Cadmium	(mg/kg)	60	0.037U	0.040U	6.930	0.161B
Chromium	(mg/kg)	6800	24.7	36.6	45.7	22.7
Lead	(mg/kg)	3900	144	[6770]	2390	202
Selenium	(mg/kg)	6800	2.080	2.170	2.420	2.110
Silver	(mg/kg)	6800	1.910	2.130	6.950	

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 3
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 1 of 4
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-20 RCSS-20 12/01/2005	RCSS-21 RCSS-21 12/01/2005	RCSS-22 RCSS-22 12/01/2005	RCSS-23 RCSS-23 12/01/2005
2,2-oxybis (1-chloropropane)	(ug/kg)		60U	1600U	360U	140U
2,4,5-Trichlorophenol	(ug/kg)		57U	1500U	340U	120U
2,4,6-Trichlorophenol	(ug/kg)		55U	1500U	330U	120U
2,4-Dichlorophenol	(ug/kg)		69U	1900U	410U	150U
2,4-Dimethylphenol	(ug/kg)		59U	1600U	2100J	140U
2,4-Dinitrophenol	(ug/kg)		320U	8700U	1900U	720U
2,4-Dinitrotoluene	(ug/kg)		55U	1500U	330U	120U
2,6-Dinitrotoluene	(ug/kg)		53U	1400U	310U	120U
2-Chloronaphthalene	(ug/kg)		62U	1700U	370U	140U
2-Chlorophenol	(ug/kg)		60U	1600U	350U	140U
2-Methylnaphthalene	(ug/kg)		63U	1700U	370U	140U
3,3-Dichlorobenzidine	(ug/kg)		64U	1700U	380U	140U
4,6-Dinitro-o-cresol	(ug/kg)		73U	2000U	430U	160U
4-Bromofluorobenzene	(ug/kg)		56U	1500U	330U	120U
4-Chlorophenyl phenyl ether	(ug/kg)		59U	1600U	350U	140U
Acenaphthene	(ug/kg)	1000000	67U	1800U	400U	140U
Acenaphthylene	(ug/kg)	1000000	61U	1600U	360U	140U
Acetophenone	(ug/kg)		55U	1500U	330U	110J
Anthracene	(ug/kg)	1000000	56U	1500U	1100J	120U
Atrazine	(ug/kg)		71J	1500U	340U	120U
Benzaldehyde	(ug/kg)		77U	2100U	460U	160U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO			

TABLE 3
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-20 RCSS-20 12/01/2005	RCSS-21 RCSS-21 12/01/2005	RCSS-22 RCSS-22 12/01/2005	RCSS-23 RCSS-23 12/01/2005
Benzo(a)anthracene	(ug/kg)	11000	52U	1400U	2100J	110U
Benzo(a)pyrene	(ug/kg)	1100	60U	1600U	[1900]J	140U
Benzo(b)fluoranthene	(ug/kg)	11000	240J	6200J	2800	91U
Benzo(ghi)perylene	(ug/kg)	1000000	62U	1700U	580J	140U
Benzo(k)fluoranthene	(ug/kg)	110000	82U	2200U	490U	170U
Biphenyl	(ug/kg)		62U	1700U	370U	140U
Bis(2-chloroethoxy)methane	(ug/kg)		62U	1700U	370U	140U
Bis(2-chloroethyl)ether	(ug/kg)		59U	1600U	350U	140U
Bis(2-ethylhexyl)phthalate (BEHP)	(ug/kg)		72U	1900U	1000J	150U
Butyl benzyl phthalate	(ug/kg)		60U	1600U	360U	140U
Caprolactam	(ug/kg)		60U	1600U	360U	140U
Carbazole	(ug/kg)		57U	1500U	620J	120U
Chrysene	(ug/kg)	110000	67U	1800U	2200	140U
Dibenzo(a,h)anthracene	(ug/kg)	1100	47U	1300U	280U	110U
Dibenzofuran	(ug/kg)	1000000	62U	1700U	370U	140U
Diethyl phthalate	(ug/kg)		65U	1700U	380U	140U
Dimethyl phthalate	(ug/kg)		60U	1600U	360U	140U
Di-n-butyl phthalate	(ug/kg)		120J	1500U	1600J	120U
Di-n-octyl phthalate	(ug/kg)		64U	1700U	380U	140U
Fluoranthene	(ug/kg)	1000000	81J	1500U	3800	120U
Fluorene	(ug/kg)	1000000	63U	1700U	500J	140U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO			

TABLE 3
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 3 of 4
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-20 RCSS-20 12/01/2005	RCSS-21 RCSS-21 12/01/2005	RCSS-22 RCSS-22 12/01/2005	RCSS-23 RCSS-23 12/01/2005
Hexachlorobenzene	(ug/kg)	12000	60U	1600U	360U	140U
Hexachlorobutadiene	(ug/kg)		58U	1600U	340U	140U
Hexachlorocyclopentadiene	(ug/kg)		60U	1600U	350U	140U
Hexachloroethane	(ug/kg)		64U	1700U	380U	140U
Indeno(1,2,3-cd)pyrene	(ug/kg)	11000	47U	1300U	280U	110U
Isophorone	(ug/kg)		56U	1500U	330U	120U
m-Nitroaniline	(ug/kg)		49U	1300U	290U	110U
Naphthalene	(ug/kg)	1000000	64U	1700U	710J	140U
Nitrobenzene	(ug/kg)		82U	2200U	490U	170U
N-Nitrosodiphenylamine	(ug/kg)		62U	1700U	370U	140U
N-Nitrosodipropylamine	(ug/kg)		62U	1700U	370U	140U
o-Cresol	(ug/kg)	1000000	62U	1700U	1100J	140U
o-Nitroaniline	(ug/kg)		47U	1300U	280U	110U
o-Nitrophenol	(ug/kg)		58U	1600U	340U	140U
p-Chloroaniline	(ug/kg)		45U	1200U	260U	90U
p-Chloro-m-cresol	(ug/kg)		52U	1400U	310U	110U
PCP	(ug/kg)	55000	87U	2300U	510U	190U
p-Cresol	(ug/kg)	1000000	59U	1600U	570U	140U
Phenanthrene	(ug/kg)	1000000	60U	1600U	440U	140U
Phenol	(ug/kg)	1000000	57U	1500U	340U	120U
p-Nitroaniline	(ug/kg)		64U	1700U	380U	140U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO			

Page: 4 of 4
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-20 RCSS-20 12/01/2005	RCSS-21 RCSS-21 12/01/2005	RCSS-22 RCSS-22 12/01/2005	RCSS-23 RCSS-23 12/01/2005
p-Nitrophenol	(ug/kg)		46U	1300U	280U	97U
Pyrene	(ug/kg)	1000000	78J	1800U	5500	140U

ug/kg: microgram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[J]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 4
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SURFACE SOIL SAMPLE RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

Page: 1 of 6
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-15 RCSS-15 11/30/2005	RCSS-16 RCSS-16 11/30/2005	RCSS-20 RCSS-20 12/01/2005	RCSS-21 RCSS-21 12/01/2005	RCSS-22 RCSS-22 12/01/2005
Aroclor 1016	(ug/kg)		3.0U	3.4U	2.9U	3.1U	3.4U
Aroclor 1221	(ug/kg)		4.7U	5.2U	4.4U	4.8U	5.3U
Aroclor 1232	(ug/kg)		7.1U	7.8U	6.6U	7.2U	7.9U
Aroclor 1242	(ug/kg)		6.3U	7.0U	5.9U	6.4U	7.0U
Aroclor 1248	(ug/kg)		3.1U	3.4U	2.9U	3.1U	3.4U
Aroclor 1254	(ug/kg)		2.0U	2.2U	1.9U	2.0U	2.2U
Aroclor 1260	(ug/kg)		620D	1000D	58	56000D	17000D
Total PCBs (surface soil)	(ug/kg)	25000	620	1000	58	[56000]	17000

ug/kg: microgram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 4
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SURFACE SOIL SAMPLE RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-23 RCSS-23 12/01/2005	RCSS-30 RCSS-30 03/05/2007	RCSS-31 RCSS-31 03/05/2007	RCSS-32 RCSS-32 03/05/2007	RCSS-33 RCSS-33 03/05/2007
Aroclor 1016	(ug/kg)		2.9U	2.9U	2.9U	2.9U	3.0U
Aroclor 1221	(ug/kg)		4.5U	4.5U	4.5U	4.6U	4.7U
Aroclor 1232	(ug/kg)		6.7U	6.8U	6.7U	6.8U	7.0U
Aroclor 1242	(ug/kg)		6.0U	6.0U	6.0U	6.1U	6.2U
Aroclor 1248	(ug/kg)		2.9U	2.9U	2.9U	2.9U	3.0U
Aroclor 1254	(ug/kg)		1.9U	1.9U	1.9U	1.9U	2.0U
Aroclor 1260	(ug/kg)		2000D	92	260	90	81
Total PCBs (surface soil)	(ug/kg)	25000	2000	92	260	90	81

ug/kg: microgram/kilogram
 SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

 []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

Page: 3 of 6
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-34 RCSS-34 03/05/2007	RCSS-35 RCSS-35 03/05/2007	RCSS-36 RCSS-36 03/05/2007	RCSS-37 RCSS-37 03/05/2007	RCSS-38 RCSS-38 03/05/2007
Aroclor 1016	(ug/kg)		2.9U	5.7U	2.9U	2.8U	2.9U
Aroclor 1221	(ug/kg)		4.4U	8.9U	4.4U	4.4U	4.4U
Aroclor 1232	(ug/kg)		6.6U	13U	6.6U	6.6U	6.6U
Aroclor 1242	(ug/kg)		5.9U	12U	5.9U	5.8U	5.9U
Aroclor 1248	(ug/kg)		2.9U	5.7U	2.9U	2.8U	2.9U
Aroclor 1254	(ug/kg)		1.9U	3.7U	1.9U	1.8U	1.9U
Aroclor 1260	(ug/kg)		140	640	350	1400D	5000D
Total PCBs (surface soil)	(ug/kg)	25000	140	640	350	1400	5000

ug/kg: microgram/kilogram
 SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

 [: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-39 RCSS-39 03/05/2007	RCSS-40 RCSS-40 03/05/2007	RCSS-41 RCSS-41 03/05/2007	RCSS-42 RCSS-42 03/05/2007	RCSS-43 RCSS-43 03/05/2007
Aroclor 1016	(ug/kg)		3.0U	29U	3.1U	2.8U	3.0U
Aroclor 1221	(ug/kg)		4.7U	46U	4.9U	4.4U	4.7U
Aroclor 1232	(ug/kg)		7.0U	68U	7.3U	6.6U	7.0U
Aroclor 1242	(ug/kg)		6.2U	61U	6.5U	5.8U	6.2U
Aroclor 1248	(ug/kg)		3.0U	29U	3.1U	2.8U	3.0U
Aroclor 1254	(ug/kg)		2.0U	19U	2.0U	1.9U	2.0U
Aroclor 1260	(ug/kg)		770D	1600	8000D	630D	5.0U
Total PCBs (surface soil)	(ug/kg)	25000	770	1600	8000	630	0

ug/kg: microgram/kilogram
 SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

 []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

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Date: 05/30/2007

[illegible]

TABLE 4
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SURFACE SOIL SAMPLE RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

Page: 6 of 6
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSS-49 RCSS-49 03/05/2007
Aroclor 1016	(ug/kg)		3.1U
Aroclor 1221	(ug/kg)		4.7U
Aroclor 1232	(ug/kg)		7.1U
Aroclor 1242	(ug/kg)		6.3U
Aroclor 1248	(ug/kg)		3.1U
Aroclor 1254	(ug/kg)		2.0U
Aroclor 1260	(ug/kg)		360
Total PCBs (surface soil)	(ug/kg)	25000	360
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO			

TABLE 5
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
MERCURY

Page: 1 of 9
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-09 RCSB-09(2-4) 11/29/2005	RCSB-09 RCSB-09(4-6) 11/29/2005	RCSB-10 RCSB-10(2-4) 11/29/2005	RCSB-10 RCSB-10(4-6) 11/29/2005	RCSB-11 RCSB-11(2-4) 11/29/2005
Mercury	(mg/kg)	5.7	0.062UD	0.061UD	0.065UD	0.061UD	0.127D

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

Page: 2 of 9
Date: 05/30/2007

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-11 RCSB-11(4-6) 11/29/2005	RCSB-12 RCSB-12(2-4) 11/29/2005	RCSB-12 RCSB-12(4-6) 11/29/2005	RCSB-13 RCSB-13(2-4) 11/29/2005	RCSB-13 RCSB-13(4-6) 11/29/2005
Mercury	(mg/kg)	5.7	0.061UD	0.066UD	0.103BD	0.063UD	0.060UD

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

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Date: 05/30/2007

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-14 RCSB-14(2-4) 11/29/2005	RCSB-14 RCSB-14(4-6) 11/29/2005	RCSB-15 RCSB-15(2-4) 11/29/2005	RCSB-15 RCSB-15(4-6) 11/29/2005	RCSB-16 RCSB-16(2-4) 11/29/2005
Mercury	(mg/kg)	5.7	0.065UD	0.059UD	0.131D	0.061UD	0.066UD
mg/kg: milligram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO				

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Date: 05/30/2007

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-16 RCSB-16(4-6) 11/29/2005	RCSB-17 RCSB-17(2-4) 11/30/2005	RCSB-17 RCSB-17(4-6) 11/30/2005	RCSB-18 RCSB-18(2-4) 11/30/2005	RCSB-19 RCSB-19(2-4) 11/30/2005
Mercury	(mg/kg)	5.7	0.063UD	0.066UD	0.060UD	0.075UD	0.067UD

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

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Date: 05/30/2007

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-20 RCSB-20(2-4) 11/30/2005	RCSB-21 RCSB-21(2-4) 11/30/2005	RCSB-22 RCSB-22(2-4) 11/30/2005	RCSB-22 RCSB-22(4-6) 11/30/2005	RCSB-23 RCSB-23(2-4) 11/30/2005
Mercury	(mg/kg)	5.7	0.460	0.068UD	0.067U	0.068U	0.064U
mg/kg: milligram/kilogram SCO: Soil Cleanup Objective							
Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO							

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Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-23 RCSB-23(4-6) 11/30/2005	RCSB-24 RCSB-24(2-4) 11/30/2005	RCSB-24 RCSB-24(4-6) 11/30/2005	RCSB-25 RCSB-25(2-4) 11/30/2005	RCSB-25 RCSB-25(4-6) 11/30/2005
Mercury	(mg/kg)	5.7	0.070U	0.062U	0.067U	0.066U	0.066U
mg/kg: milligram/kilogram SCO: Soil Cleanup Objective Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO							

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Date: 05/30/2007

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-26 RCSB-26(2-4) 11/29/2005	RCSB-27 RCSB-27(0-2) 12/01/2005	RCSB-27 RCSB-27(2-4) 12/01/2005	RCSB-28 RCSB-28(0-2) 12/01/2005	RCSB-28 RCSB-28(2-4) 12/01/2005
Mercury	(mg/kg)	5.7	0.825D	0.062U	0.063U	0.066U	0.063U
mg/kg: milligram/kilogram SCO: Soil Cleanup Objective							
Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO							

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Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-29 RCSB-29(0-2) 12/01/2005	RCSB-29 RCSB-29(2-4) 12/01/2005	RCSB-30 RCSB-30(0-2) 12/01/2005	RCSB-30 RCSB-30(2-4) 12/01/2005	RCSB-31 RCSB-31(2-4) 11/30/2005
Mercury	(mg/kg)	5.7	0.068U	0.065U	0.066U	0.068U	0.074UD

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 5
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
MERCURY

Page: 9 of 9
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-32 RCSB-32(2-4) 11/30/2005	RCSB-33 RCSB-33(2-4) 11/30/2005	RCSB-34 RCSB-34(2-4) 11/30/2005	RCSB-35 RCSB-35(2-4) 11/30/2005	RCSB-36 RCSB-36(2-4) 11/30/2005
Mercury	(mg/kg)	5.7	0.065UD	0.065UD	0.068UD	0.105BD	0.066UD

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

Page: 1 of 2
Date: 05/30/2007

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-27 RCSB-27(0-2) 12/01/2005	RCSB-27 RCSB-27(2-4) 12/01/2005	RCSB-28 RCSB-28(0-2) 12/01/2005	RCSB-28 RCSB-28(2-4) 12/01/2005	RCSB-29 RCSB-29(0-2) 12/01/2005
Arsenic	(mg/kg)	16	3.600	3.250	6.020	2.760	4.430
Barium	(mg/kg)	10000	24.0	18.2B	48.0	20.5B	38.1
Cadmium	(mg/kg)	60	0.036U	0.036U	0.037U	0.036U	0.039U
Chromium	(mg/kg)	6800	8.390	7.730	10.7	9.110	12.5
Lead	(mg/kg)	3900	21.1	7.310	50.5	9.400	16.2
Selenium	(mg/kg)	6800	0.938B	1.370	1.150	0.836B	1.040B
Silver	(mg/kg)	6800	0.446B	0.347B	0.175B	0.360B	0.092U

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers
[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 6
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
RCRA METALS less MERCURY

Page: 2 of 2
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-29 RCSB-29(2-4) 12/01/2005	RCSB-30 RCSB-30(0-2) 12/01/2005	RCSB-30 RCSB-30(2-4) 12/01/2005
Arsenic	(mg/kg)	16	4.460	[25.3]	1.650
Barium	(mg/kg)	10000	36.5	71	13.4B
Cadmium	(mg/kg)	60	0.130B	0.127B	0.038U
Chromium	(mg/kg)	6800	10.4	13.5	4.670
Lead	(mg/kg)	3900	18.3	132	4.500
Selenium	(mg/kg)	6800	0.769B	1.48	0.613B
Silver	(mg/kg)	6800	0.528B		0.091U
mg/kg: milligram/kilogram SCO: Soil Cleanup Objective Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO					

TABLE 7
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 1 of 8
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-27 RCSB-27(0-2) 12/01/2005	RCSB-27 RCSB-27(2-4) 12/01/2005	RCSB-28 RCSB-28(0-2) 12/01/2005	RCSB-28 RCSB-28(2-4) 12/01/2005	RCSB-29 RCSB-29(0-2) 12/01/2005
2,2-oxyblis (1-chloropropane)	(ug/kg)		58U	57U	60U	58U	61U
2,4,5-Trichlorophenol	(ug/kg)		55U	54U	57U	55U	58U
2,4,6-Trichlorophenol	(ug/kg)		53U	52U	55U	53U	56U
2,4-Dichlorophenol	(ug/kg)		67U	65U	69U	66U	71U
2,4-Dimethylphenol	(ug/kg)		57U	56U	59U	57U	61U
2,4-Dinitrophenol	(ug/kg)		310U	300U	320U	310U	330U
2,4-Dinitrotoluene	(ug/kg)		53U	52U	55U	53U	56U
2,6-Dinitrotoluene	(ug/kg)		51U	50U	53U	51U	54U
2-Chloronaphthalene	(ug/kg)		60U	59U	62U	59U	63U
2-Chlorophenol	(ug/kg)		58U	56U	59U	57U	61U
2-Methylnaphthalene	(ug/kg)		60U	59U	62U	60U	64U
3,3-Dichlorobenzidline	(ug/kg)		62U	61U	64U	61U	65U
4,6-Dinitro-o-cresol	(ug/kg)		70U	69U	72U	70U	74U
4-Bromofluorobenzene	(ug/kg)		54U	53U	56U	54U	57U
4-Chlorophenyl phenyl ether	(ug/kg)		57U	56U	59U	57U	60U
Acenaphthene	(ug/kg)	1000000	64U	63U	66U	64U	68U
Acenaphthylene	(ug/kg)	1000000	59U	57U	60U	58U	62U
Acetophenone	(ug/kg)		53U	52U	54U	52U	56U
Anthracene	(ug/kg)	1000000	54U	53U	56U	54U	58U
Atrazine	(ug/kg)		55U	54U	57U	55U	58U
Benzaldehyde	(ug/kg)		74U	73U	76U	74U	78U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO				

TABLE 7
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 2 of 8
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 : Industrial Use SCOs	RCSB-27 RCSB-27(0-2) 12/01/2005	RCSB-27 RCSB-27(2-4) 12/01/2005	RCSB-28 RCSB-28(0-2) 12/01/2005	RCSB-28 RCSB-28(2-4) 12/01/2005	RCSB-29 RCSB-29(0-2) 12/01/2005
Benzo(a)anthracene	(ug/kg)	11000	51U	50U	52U	50U	53U
Benzo(a)pyrene	(ug/kg)	1100	58U	57U	59U	57U	61U
Benzo(b)fluoranthene	(ug/kg)	11000	210J	200J	230J	200J	42U
Benzo(ghi)perylene	(ug/kg)	1000000	60U	59U	61U	59U	63U
Benzo(k)fluoranthene	(ug/kg)	110000	79U	78U	82U	79U	84U
Biphenyl	(ug/kg)		59U	58U	61U	59U	63U
Bis(2-chloroethoxy)methane	(ug/kg)		59U	58U	61U	59U	63U
Bis(2-chloroethyl)ether	(ug/kg)		57U	56U	59U	57U	60U
Bis(2-ethylhexyl)phthalate (BEHP)	(ug/kg)		69U	68U	71U	69U	73U
Butyl benzyl phthalate	(ug/kg)		58U	57U	60U	58U	62U
Caprolactam	(ug/kg)		58U	57U	60U	58U	61U
Carbazole	(ug/kg)		55U	54U	57U	55U	58U
Chrysene	(ug/kg)	110000	65U	64U	67U	64U	68U
Dibenzo(a,h)anthracene	(ug/kg)	1100	45U	44U	47U	45U	48U
Dibenzofuran	(ug/kg)	1000000	60U	59U	61U	59U	63U
Diethyl phthalate	(ug/kg)		62U	61U	64U	62U	66U
Dimethyl phthalate	(ug/kg)		58U	57U	60U	58U	61U
Di-n-butyl phthalate	(ug/kg)		55U	54U	57U	55U	58U
Di-n-octyl phthalate	(ug/kg)		61U	60U	63U	61U	65U
Fluoranthene	(ug/kg)	1000000	54U	53U	87J	53U	57U
Fluorene	(ug/kg)	1000000	61U	60U	63U	60U	64U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO				

TABLE 7
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 3 of 8
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-27 RCSB-27(0-2) 12/01/2005	RCSB-27 RCSB-27(2-4) 12/01/2005	RCSB-28 RCSB-28(0-2) 12/01/2005	RCSB-28 RCSB-28(2-4) 12/01/2005	RCSB-29 RCSB-29(0-2) 12/01/2005
Hexachlorobenzene	(ug/kg)	12000	58U	57U	59U	57U	61U
Hexachlorobutadiene	(ug/kg)		56U	54U	57U	55U	59U
Hexachlorocyclopentadiene	(ug/kg)		58U	56U	59U	57U	61U
Hexachloroethane	(ug/kg)		61U	60U	63U	61U	65U
Indeno(1,2,3-cd)pyrene	(ug/kg)	11000	46U	45U	47U	46U	48U
Isophorone	(ug/kg)		54U	53U	56U	54U	57U
m-Nitroaniline	(ug/kg)		47U	46U	48U	47U	50U
Naphthalene	(ug/kg)	1000000	62U	60U	64U	61U	65U
Nitrobenzene	(ug/kg)		79U	77U	81U	78U	83U
N-Nitrosodiphenylamine	(ug/kg)		59U	58U	61U	59U	63U
N-Nitrosodipropylamine	(ug/kg)		60U	59U	62U	59U	63U
o-Cresol	(ug/kg)	1000000	60U	59U	62U	60U	63U
o-Nitroaniline	(ug/kg)		46U	45U	47U	46U	48U
o-Nitrophenol	(ug/kg)		56U	54U	57U	55U	59U
p-Chloroaniline	(ug/kg)		43U	42U	44U	43U	45U
p-Chloro-m-cresol	(ug/kg)		50U	49U	51U	50U	53U
PCP	(ug/kg)	55000	84U	82U	86U	83U	88U
p-Cresol	(ug/kg)	1000000	57U	56U	59U	57U	60U
Phenanthrene	(ug/kg)	1000000	58U	56U	69J	57U	61U
Phenol	(ug/kg)	1000000	55U	54U	56U	54U	58U
p-Nitroaniline	(ug/kg)		62U	60U	64U	61U	65U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO				

Page: 4 of 8
Date: 05/30/2007

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-27 RCSB-27(0-2) 12/01/2005	RCSB-27 RCSB-27(2-4) 12/01/2005	RCSB-28 RCSB-28(0-2) 12/01/2005	RCSB-28 RCSB-28(2-4) 12/01/2005	RCSB-29 RCSB-29(0-2) 12/01/2005
p-Nitrophenol	(ug/kg)		45U	44U	46U	44U	47U
Pyrene	(ug/kg)	1000000	64U	63U	71J	63U	67U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO							

TABLE 7
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 5 of 8
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-29 RCSB-29(2-4) 12/01/2005	RCSB-30 RCSB-30(0-2) 12/01/2005	RCSB-30 RCSB-30(2-4) 12/01/2005
2,2-oxybis (1-chloropropane)	(ug/kg)		59U	120U	62U
2,4,5-Trichlorophenol	(ug/kg)		56U	120U	59U
2,4,6-Trichlorophenol	(ug/kg)		54U	110U	57U
2,4-Dichlorophenol	(ug/kg)		68U	140U	72U
2,4-Dimethylphenol	(ug/kg)		58U	120U	61U
2,4-Dinitrophenol	(ug/kg)		310U	640U	330U
2,4-Dinitrotoluene	(ug/kg)		54U	110U	57U
2,6-Dinitrotoluene	(ug/kg)		52U	110U	55U
2-Chloronaphthalene	(ug/kg)		61U	130U	64U
2-Chlorophenol	(ug/kg)		59U	120U	62U
2-Methylnaphthalene	(ug/kg)		61U	130U	65U
3,3-Dichlorobenzidine	(ug/kg)		63U	130U	66U
4,6-Dinitro-o-cresol	(ug/kg)		71U	150U	75U
4-Bromofluorobenzene	(ug/kg)		55U	110U	58U
4-Chlorophenyl phenyl ether	(ug/kg)		58U	120U	61U
Acenaphthene	(ug/kg)	1000000	66U	140U	69U
Acenaphthylene	(ug/kg)	1000000	60U	130U	63U
Acetophenone	(ug/kg)		54U	110U	57U
Anthracene	(ug/kg)	1000000	55U	110U	58U
Atrazine	(ug/kg)		56U	120U	59U
Benzaldehyde	(ug/kg)		76U	160U	79U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO		

TABLE 7
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 6 of 8
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-29 RCSB-29(2-4) 12/01/2005	RCSB-30 RCSB-30(0-2) 12/01/2005	RCSB-30 RCSB-30(2-4) 12/01/2005
Benzo(a)anthracene	(ug/kg)	11000	51U	110U	54U
Benzo(a)pyrene	(ug/kg)	1100	59U	120U	62U
Benzo(b)fluoranthene	(ug/kg)	11000	220J	82U	43U
Benzo(ghi)perylene	(ug/kg)	1000000	61U	130U	64U
Benzo(k)fluoranthene	(ug/kg)	110000	81U	170U	85U
Biphenyl	(ug/kg)		61U	130U	64U
Bis(2-chloroethoxy)methane	(ug/kg)		60U	130U	64U
Bis(2-chloroethyl)ether	(ug/kg)		58U	120U	61U
Bis(2-ethylhexyl)phthalate (BEHP)	(ug/kg)		71U	150U	74U
Butyl benzyl phthalate	(ug/kg)		59U	120U	63U
Caprolactam	(ug/kg)		59U	120U	62U
Carbazole	(ug/kg)		56U	120U	59U
Chrysene	(ug/kg)	110000	66U	140U	69U
Dibenzo(a,h)anthracene	(ug/kg)	1100	46U	90U	49U
Dibenzofuran	(ug/kg)	1000000	61U	130U	64U
Diethyl phthalate	(ug/kg)		64U	130U	67U
Dimethyl phthalate	(ug/kg)		59U	120U	62U
Di-n-butyl phthalate	(ug/kg)		56U	120U	59U
Di-n-octyl phthalate	(ug/kg)		63U	130U	66U
Fluoranthene	(ug/kg)	1000000	60J	110U	58U
Fluorene	(ug/kg)	1000000	62U	130U	65U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO		

TABLE 7
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 7 of 8
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-29 RCSB-29(2-4) 12/01/2005	RCSB-30 RCSB-30(0-2) 12/01/2005	RCSB-30 RCSB-30(2-4) 12/01/2005
Hexachlorobenzene	(ug/kg)	12000	59U	120U	62U
Hexachlorobutadiene	(ug/kg)		57U	120U	60U
Hexachlorocyclopentadiene	(ug/kg)		59U	120U	62U
Hexachloroethane	(ug/kg)		63U	130U	66U
Indeno(1,2,3-cd)pyrene	(ug/kg)	11000	47U	90U	49U
Isophorone	(ug/kg)		55U	110U	58U
m-Nitroaniline	(ug/kg)		48U	100U	50U
Naphthalene	(ug/kg)	1000000	63U	130U	66U
Nitrobenzene	(ug/kg)		80U	170U	84U
N-Nitrosodiphenylamine	(ug/kg)		61U	130U	64U
N-Nitrosodipropylamine	(ug/kg)		61U	130U	64U
o-Cresol	(ug/kg)	1000000	61U	130U	64U
o-Nitroaniline	(ug/kg)		47U	90U	49U
o-Nitrophenol	(ug/kg)		57U	120U	60U
p-Chloroaniline	(ug/kg)		44U	90U	46U
p-Chloro-m-cresol	(ug/kg)		51U	110U	53U
PCP	(ug/kg)	55000	85U	170U	90U
p-Cresol	(ug/kg)	1000000	58U	120U	61U
Phenanthrene	(ug/kg)	1000000	59U	120U	62U
Phenol	(ug/kg)	1000000	56U	120U	59U
p-Nitroaniline	(ug/kg)		63U	130U	66U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO		

TABLE 7
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

Page: 8 of 8
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-29 RCSB-29(2-4) 12/01/2005	RCSB-30 RCSB-30(0-2) 12/01/2005	RCSB-30 RCSB-30(2-4) 12/01/2005
p-Nitrophenol	(ug/kg)		46U	90U	48U
Pyrene	(ug/kg)	1000000	65U	140U	68U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO					

TABLE 8
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
SUBSURFACE SOIL SAMPLE RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-22 RCSB-22(2-4) 11/30/2005	RCSB-22 RCSB-22(4-6) 11/30/2005	RCSB-23 RCSB-23(2-4) 11/30/2005	RCSB-23 RCSB-23(4-6) 11/30/2005	RCSB-24 RCSB-24(2-4) 11/30/2005
Aroclor 1016	(ug/kg)		3.0U	2.8U	2.9U	2.9U	2.9U
Aroclor 1221	(ug/kg)		4.6U	4.3U	4.4U	4.4U	4.4U
Aroclor 1232	(ug/kg)		6.9U	6.4U	6.6U	6.6U	6.6U
Aroclor 1242	(ug/kg)		6.1U	5.7U	5.9U	5.9U	5.9U
Aroclor 1248	(ug/kg)		3.0U	2.8U	2.9U	2.9U	2.9U
Aroclor 1254	(ug/kg)		1.9U	1.8U	1.9U	59	1.9U
Aroclor 1260	(ug/kg)		28	24	40	4.7U	40
Total PCBs (subsurface soil)	(ug/kg)	25000	28	24	40	59	40

ug/kg: microgram/kilogram
 SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

 []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-24 RCSB-24(4-6) 11/30/2005	RCSB-27 RCSB-27(0-2) 12/01/2005	RCSB-27 RCSB-27(2-4) 12/01/2005	RCSB-28 RCSB-28(0-2) 12/01/2005	RCSB-28 4CSB-28(2-4) 12/01/2005
Aroclor 1016	(ug/kg)		2.9U	2.8U	2.7U	2.8U	2.7U
Aroclor 1221	(ug/kg)		4.5U	4.3U	4.2U	4.4U	4.2U
Aroclor 1232	(ug/kg)		6.8U	6.4U	6.3U	6.6U	6.3U
Aroclor 1242	(ug/kg)		6.0U	5.7U	5.6U	5.9U	5.6U
Aroclor 1248	(ug/kg)		2.9U	2.8U	2.7U	2.9U	2.7U
Aroclor 1254	(ug/kg)		59	1.8U	1.8U	1.9U	1.8U
Aroclor 1260	(ug/kg)		4.9U	4.6U	4.5U	1000D	89
Total PCBs (subsurface soil)	(ug/kg)	25000	59	0	0	1000	89
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO							

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Date: 05/30/2007

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-29 RCSB-29(0-2) 12/01/2005	RCSB-29 RCSB-29(2-4) 12/01/2005	RCSB-30 RCSB-30(0-2) 12/01/2005	RCSB-30 RCSB-30(2-4) 12/01/2005	RCSB-37 RCSB-37(1-2) 03/05/2007
Aroclor 1016	(ug/kg)		2.9U	2.8U	3.0U	3.0U	2.8U
Aroclor 1221	(ug/kg)		4.5U	4.4U	4.6U	4.6U	4.4U
Aroclor 1232	(ug/kg)		6.8U	6.6U	6.9U	6.9U	6.5U
Aroclor 1242	(ug/kg)		6.0U	5.9U	6.1U	6.1U	5.8U
Aroclor 1248	(ug/kg)		2.9U	2.8U	3.0U	3.0U	2.8U
Aroclor 1254	(ug/kg)		1.9U	1.9U	1.9U	1.9U	1.8U
Aroclor 1260	(ug/kg)		270	77	600D	170	4.7U
Total PCBs (subsurface soil)	(ug/kg)	25000	270	77	600	170	0

ug/kg: microgram/kilogram
 SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

 []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-38 RCSB-38(1-2) 03/05/2007	RCSB-39 RCSB-39(1-2) 03/05/2007	RCSB-40 RCSB-40(1-2) 03/05/2007	RCSB-41 RCSB-41(1-2) 03/05/2007	RCSB-42 RCSB-42(1-2) 03/05/2007
Aroclor 1016	(ug/kg)		2.9U	2.9U	2.8U	2.8U	2.7U
Aroclor 1221	(ug/kg)		4.5U	4.5U	4.4U	4.4U	4.3U
Aroclor 1232	(ug/kg)		6.8U	6.7U	6.6U	6.5U	6.4U
Aroclor 1242	(ug/kg)		6.0U	6.0U	5.8U	5.8U	5.7U
Aroclor 1248	(ug/kg)		2.9U	2.9U	2.8U	2.8U	2.8U
Aroclor 1254	(ug/kg)		1.9U	1.9U	1.8U	37	1.8U
Aroclor 1260	(ug/kg)		4.8U	4.8U	4.7U	4.7U	4.6U
Total PCBs (subsurface soil)	(ug/kg)	25000	0	0	0	37	0

ug/kg: microgram/kilogram
 SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

 []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-43 RCSB-43(1-2) 03/05/2007	RCSB-44 RCSB-44(1-2) 03/05/2007	RCSB-45 RCSB-45(1-2) 03/05/2007	RCSB-46 RCSB-46(1-2) 03/05/2007	RCSB-47 RCSB-47 03/05/2007
Aroclor 1016	(ug/kg)		2.9U	2.8U	2.9U	2.9U	2.8U
Aroclor 1221	(ug/kg)		4.4U	4.4U	4.5U	4.5U	4.3U
Aroclor 1232	(ug/kg)		6.6U	6.5U	6.7U	6.7U	6.4U
Aroclor 1242	(ug/kg)		5.9U	5.8U	5.9U	6.0U	5.7U
Aroclor 1248	(ug/kg)		2.9U	2.8U	2.9U	2.9U	2.8U
Aroclor 1254	(ug/kg)		1.9U	1.8U	1.9U	1.9U	1.8U
Aroclor 1260	(ug/kg)		4.8U	4.7U	4.8U	4.8U	4.6U
Total PCBs (subsurface soil)	(ug/kg)	25000	0	0	0	0	0

Qualifiers defined in Appendix B: Data Flag/Qualifiers

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-48 RCSB-48(1-2) 03/05/2007	RCSB-49 RCSB-49(1-2) 03/05/2007	RCSB-50 RCSB-50(1-2) 03/05/2007	RCSB-51 RCSB-51(1-2) 03/05/2007	RCSB-52 RCSB-52(1-2) 03/05/2007
Aroclor 1016	(ug/kg)		2.9U	2.9U	2.8U	2.8U	2.8U
Aroclor 1221	(ug/kg)		4.4U	4.4U	4.4U	4.4U	4.3U
Aroclor 1232	(ug/kg)		6.6U	6.6U	6.6U	6.6U	6.5U
Aroclor 1242	(ug/kg)		5.9U	5.9U	5.8U	5.8U	5.8U
Aroclor 1248	(ug/kg)		2.9U	2.9U	2.8U	2.8U	2.8U
Aroclor 1254	(ug/kg)		1.9U	1.9U	1.8U	1.9U	1.8U
Aroclor 1260	(ug/kg)		95	4.8U	4.7U	60	4.6U
Total PCBs (subsurface soil)	(ug/kg)	25000	95	0	0	60	0

ug/kg: microgram/kilogram
 SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

 []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

Page: 7 of 7
Date: 05/30/2007

PERIOD: From 11/29/2005 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCSB-53 RCSB-53(1-2) 03/05/2007	RCSB-54 RCSB-54(1-2) 03/05/2007	RCSB-55 RCSB-55(1-2) 03/05/2007	RCSB-56 RCSB-56(1-2) 03/05/2007
Aroclor 1016	(ug/kg)		2.9U	2.8U	2.7U	2.7U
Aroclor 1221	(ug/kg)		4.5U	4.4U	4.2U	4.2U
Aroclor 1232	(ug/kg)		6.7U	6.6U	6.3U	6.2U
Aroclor 1242	(ug/kg)		5.9U	5.8U	5.6U	5.5U
Aroclor 1248	(ug/kg)		2.9U	2.8U	2.7U	2.7U
Aroclor 1254	(ug/kg)		1.9U	1.8U	1.8U	1.8U
Aroclor 1260	(ug/kg)		81	4.7U	4.5U	4.5U
Total PCBs (subsurface soil)	(ug/kg)	25000	81	0	0	0

ug/kg: microgram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 9
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTER SUBSTATION
GROUNDWATER PROBE SAMPLE RESULTS
TARGET ANALYTE LIST (TAL) METALS

Page: 1 of 4
Date: 05/30/2007

PERIOD: From 11/30/2005 thru 12/02/2005 - Inclusive

SAMPLE TYPE: Water

CONSTITUENT	SITE SAMPLE ID DATE	NYSDEC SCG	RCGP-01 RCGP-1 11/30/2005	RCGP-01 RCGP-01F 11/30/2005	RCGP-02 RCGP-02 12/01/2005	RCGP-02 RCGP-02F 12/01/2005	RCGP-03 RCGP-03 12/01/2005
Aluminum	(ug/l)		5210	128B	5770	168B	532
Antimony	(ug/l)	3	3.170U	3.170U	3.170U	3.170U	3.170U
Arsenic	(ug/l)	25	7.790B	3.320U	6.070B	3.320U	3.320U
Barium	(ug/l)	1000	29.6B	5.070B	111B	69.6B	31.0B
Beryllium	(ug/l)	3	0.580B	0.300B	0.730B	0.380B	0.410B
Cadmium	(ug/l)	5	0.327U	0.327U	0.327U	0.410B	0.327U
Calcium	(ug/l)		34800	29500	8530	6640	30300
Chromium	(ug/l)	50	28.0	0.343U	25.3	0.860B	3.000B
Cobalt	(ug/l)		14.2B	3.750B	11.5B	3.620B	3.040B
Copper	(ug/l)	200	29.8	5.730B	27.6	4.170B	4.860B
Iron	(ug/l)	300	[16700]	296	[11900]	[559]	[1620]
Lead	(ug/l)	25	15.0	2.440B	10.0	2.670B	3.020B
Magnesium	(ug/l)	35000	4520B	3140B	3590B	1630B	4130B
Manganese	(ug/l)	300	[574]	124	227	55.4	86.6
Mercury	(ug/l)	0.7	0.0300U	0.0300U	0.0300U	0.0300U	0.0300U
Nickel	(ug/l)	100	1.560U	1.560U	1.560U	1.560U	1.560U
Potassium	(ug/l)		5860	4290B	19300	18400	8460
Selenium	(ug/l)	10	3.650B	3.410B	3.040U	3.040U	3.040U
Silver	(ug/l)	50	1.640U	1.640U	1.640U	1.640U	1.640U
Sodium	(ug/l)	20000	[66500]	[56000]	1780B	1520B	[34700]

ug/l: micrograms/liter

NYSDEC SCG: NYSDEC Class GA Groundwater Standards

Qualifiers defined in Appendix B: Data Flag/Qualifiers

[]: Value exceeds NYSDEC Class GA Groundwater Standards

Page: 2 of 4
Date: 05/30/2007

PERIOD: From 11/30/2005 thru 12/02/2005 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE SAMPLE ID DATE	NYSDEC SCG	RCGP-01 RCGP-1 11/30/2005	RCGP-01 RCGP-01F 11/30/2005	RCGP-02 RCGP-02 12/01/2005	RCGP-02 RCGP-02F 12/01/2005	RCGP-03 RCGP-03 12/01/2005
Thallium	(ug/l)	0.5	3.050U	3.050U	3.050U	3.050U	3.050U
Vanadium	(ug/l)		19.8B	0.701U	17.0B	0.701U	0.701U
Zinc	(ug/l)	2000	45.3	17.7B	121	58.0	43.3

ug/l: micrograms/liter

NYSDEC SCG: NYSDEC Class GA Groundwater Standards

Qualifiers defined in Appendix B: Data Flag/Qualifiers

[]: Value exceeds NYSDEC Class GA Groundwater Standards

TABLE 9
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTER SUBSTATION
GROUNDWATER PROBE SAMPLE RESULTS
TARGET ANALYTE LIST (TAL) METALS

Page: 3 of 4
Date: 05/30/2007

PERIOD: From 11/30/2005 thru 12/02/2005 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE SAMPLE ID DATE	NYSDEC SCG	RCGP-03 RCGP-03F 12/02/2005
Aluminum	(ug/l)		81.9B
Antimony	(ug/l)	3	3.170U
Arsenic	(ug/l)	25	3.320U
Barium	(ug/l)	1000	25.8B
Beryllium	(ug/l)	3	0.360B
Cadmium	(ug/l)	5	0.327U
Calcium	(ug/l)		27900
Chromium	(ug/l)	50	0.500B
Cobalt	(ug/l)		2.400B
Copper	(ug/l)	200	3.640U
Iron	(ug/l)	300	[439]
Lead	(ug/l)	25	2.650B
Magnesium	(ug/l)	35000	3740B
Manganese	(ug/l)	300	55.0
Mercury	(ug/l)	0.7	0.0300U
Nickel	(ug/l)	100	1.560U
Potassium	(ug/l)		7590
Selenium	(ug/l)	10	3.760B
Silver	(ug/l)	50	1.640U
Sodium	(ug/l)	20000	[31600]
Thallium	(ug/l)	0.5	3.050U

ug/l: micrograms/liter
NYSDEC SCG: NYSDEC Class GA Groundwater Standards

Qualifiers defined in Appendix B: Data Flag/Qualifiers

[]: Value exceeds NYSDEC Class GA Groundwater Standards

TABLE 9
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTER SUBSTATION
GROUNDWATER PROBE SAMPLE RESULTS
TARGET ANALYTE LIST (TAL) METALS

PERIOD: From 11/30/2005 thru 12/02/2005 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE SAMPLE ID DATE	NYSDEC SCG	RCGP-03 RCGP-03F 12/02/2005
Vanadium	(ug/l)		0.701U
Zinc	(ug/l)	2000	34.0
ug/l: micrograms/liter NYSDEC SCG: NYSDEC Class GA Groundwater Standards Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds NYSDEC Class GA Groundwater Standards			

TABLE 10
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTER SUBSTATION
GROUNDWATER PROBE SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS

Page: 1 of 3
Date: 05/30/2007

PERIOD: From 11/30/2005 thru 12/02/2005 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE SAMPLE ID DATE	NYSDEC SCG	RCGP-01 RCGP-1 11/30/2005	RCGP-02 RCGP-02 12/01/2005	RCGP-03 RCGP-03 12/01/2005
1,1,1-Trichloroethane	(ug/l)	5	0.32U	0.32U	0.32U
1,1,2,2-Tetrachloroethane	(ug/l)	5	0.30U	0.30U	0.30U
1,1,2-Trichloroethane	(ug/l)	1	0.41U	0.41U	0.41U
1,1-Dichloroethane	(ug/l)	5	0.38U	0.38U	0.38U
1,1-Dichloroethylene	(ug/l)	5	0.42U	0.42U	0.42U
1,2,4-Trichlorobenzene	(ug/l)	5	0.46U	0.46U	0.46U
1,2-Dichloroethane	(ug/l)	0.6	0.34U	0.34U	0.34U
1,2-Dichloropropane	(ug/l)	1	0.40U	0.40U	0.40U
2-Hexanone	(ug/l)	50	1.7U	1.7U	1.7U
Acetone	(ug/l)	50	2.3U	2.3U	2.3U
Benzene	(ug/l)	1.0	0.39U	0.39U	0.39U
Benzene, 1-methylethyl-	(ug/l)	5	0.44U	0.44U	0.44U
Bromodichloromethane	(ug/l)	50	0.33U	0.33U	0.33U
Bromoform	(ug/l)	50	0.32U	0.32U	0.32U
Carbon disulfide	(ug/l)		0.40U	0.40U	0.40U
Carbon tetrachloride	(ug/l)	5	1.1U	1.1U	1.1U
Chlorobenzene	(ug/l)	5	0.47U	0.47U	0.47U
Chloroethane	(ug/l)	5	0.83U	0.83U	0.83U
Chloroform	(ug/l)	7	0.33U	0.33U	0.33U
cis-1,2-Dichloroethylene	(ug/l)	5	0.29U	0.29U	0.29U
cis-1,3-Dichloropropene	(ug/l)	0.4	0.36U	0.36U	0.36U
ug/l: micrograms/liter NYSDEC SCG: NYSDEC Class GA Groundwater Standards			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds NYSDEC Class GA Groundwater Standards		

TABLE 10
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTER SUBSTATION
GROUNDWATER PROBE SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS

Page: 2 of 3
Date: 05/30/2007

PERIOD: From 11/30/2005 thru 12/02/2005 - Inclusive

SAMPLE TYPE: Water

CONSTITUENT	SITE SAMPLE ID DATE	NYSDEC SCG	RCGP-01 RCGP-1 11/30/2005	RCGP-02 RCGP-02 12/01/2005	RCGP-03 RCGP-03 12/01/2005
Cyclohexane	(ug/l)		0.36U	0.36U	0.36U
1,2-Dibromo-3-chloropropane	(ug/l)	0.04	0.38U	0.38U	0.38U
Dibromochloromethane	(ug/l)	50	0.26U	0.26U	0.26U
Dichlorodifluoromethane	(ug/l)	5	0.17U	0.17U	0.17U
1,2-Dibromoethane	(ug/l)	0.0006	0.32U	0.32U	0.32U
trans-1,2-Dichloroethylene	(ug/l)	5	0.40U	0.40U	0.40U
Ethylbenzene	(ug/l)	5	0.45U	0.45U	0.45U
Freon 113	(ug/l)		1.3U	1.3U	1.3U
1,3-Dichlorobenzene	(ug/l)	3	0.50U	0.50U	0.50U
Methyl Acetate	(ug/l)		0.20U	0.20U	0.20U
Methyl bromide	(ug/l)	5	0.41U	0.41U	0.41U
Methyl chloride	(ug/l)	5	0.34U	0.34U	0.34U
Methyl ethyl ketone	(ug/l)	50	1.1U	1.1U	1.1U
Methyl isobutylketone (MIBK)	(ug/l)		1.6U	1.6U	1.6U
Methylcyclohexane	(ug/l)		0.34U	0.34U	0.34U
Methylene chloride	(ug/l)	5	0.43U	0.43U	0.43U
Methyltert-butylether	(ug/l)	10	0.28U	0.28U	0.28U
1,2-Dichlorobenzene	(ug/l)	3	0.44U	0.44U	0.44U
o-Xylene	(ug/l)		0.46U	0.46U	0.46U
1,4-Dichlorobenzene	(ug/l)	3	0.54U	0.54U	0.54U
p-Xylene	(ug/l)		1.2U	1.2U	1.2U
ug/l: micrograms/liter NYSDEC SCG: NYSDEC Class GA Groundwater Standards			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds NYSDEC Class GA Groundwater Standards		

TABLE 10
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTER SUBSTATION
GROUNDWATER PROBE SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS

Page: 3 of 3
Date: 05/30/2007

PERIOD: From 11/30/2005 thru 12/02/2005 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE SAMPLE ID DATE	NYSDEC SCG	RCGP-01 RCGP-1 11/30/2005	RCGP-02 RCGP-02 12/01/2005	RCGP-03 RCGP-03 12/01/2005
Styrene	(ug/l)	5	0.41U	0.41U	0.41U
Tetrachloroethylene	(ug/l)	5	0.48U	0.48U	0.48U
Toluene	(ug/l)	5	0.36U	0.36U	0.36U
Trans-1,3-Dichloropropene	(ug/l)	0.4	0.32U	0.32U	0.32U
Trichloroethylene	(ug/l)	5	0.46U	0.46U	0.46U
Trichlorofluoromethane	(ug/l)	5	0.22U	0.22U	0.22U
Vinyl chloride	(ug/l)	2	0.33U	0.33U	0.33U
ug/l: micrograms/liter NYSDEC SCG: NYSDEC Class GA Groundwater Standards Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds NYSDEC Class GA Groundwater Standards					

TABLE 11
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
WASTE CHARACTERIZATION SOIL SAMPLE RESULTS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) PARAMETERS

Page: 1 of 4
Date: 05/30/2007

PERIOD: From 03/05/2007 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	US-TCLP/C	RCWC-01 RCWC-01(S) 03/05/2007	RCWC-01 RCWC-01(2-4) 03/05/2007	RCWC-02 RCWC-02(S) 03/05/2007	RCWC-02 RCWC-02(2-4) 03/05/2007	RCWC-03 RCWC-03(S) 03/05/2007
1,1-Dichloroethylene ()	(ug/l)	700	2.1U	2.1U	2.1U	2.1U	2.1U
1,2-Dichloroethane ()	(ug/l)	500	1.7U	1.7U	1.7U	1.7U	1.7U
2,4,5-Trichlorophenol ()	(ug/l)	400000	1.7U	1.7U	1.7U	1.7U	1.7U
2,4,6-Trichlorophenol ()	(ug/l)	2000	1.6U	1.6U	1.6U	1.6U	1.6U
2,4-D ()	(ug/l)	10000	1.670U	1.670U	1.670U	1.670U	1.670U
2,4-Dinitrotoluene ()	(ug/l)	130	1.7U	1.7U	1.7U	1.7U	1.7U
Arsenic ()	(ug/l)	5000	31.0U	31.0U	31.0U	31.0U	31.0U
Barium ()	(ug/l)	100000	345J	349J	762	288J	298J
Benzene ()	(ug/l)	500	1.9U	1.9U	1.9U	1.9U	1.9U
Cadmium ()	(ug/l)	1000	13.0J	9.000U	23.4J	9.000U	16.8J
Carbon tetrachloride ()	(ug/l)	500	5.7U	5.7U	5.7U	5.7U	5.7U
Chlordane ()	(ug/l)	30	0.2734U	0.2734U	0.2734U	0.2734U	0.2734U
Chlorobenzene ()	(ug/l)	100000	2.3U	2.3U	2.3U	2.3U	2.3U
Chloroform ()	(ug/l)	6000	1.7U	1.7U	1.7U	1.7U	1.7U
Chromium ()	(ug/l)	5000	10.0J	6.000U	11.0J	6.000U	18.3J
Endrin ()	(ug/l)	20	0.0099U	0.0099U	0.0099U	0.0099U	0.0099U
Heptachlor ()	(ug/l)	8.0	0.0324U	0.0324U	0.0324U	0.0324U	0.0324U
Heptachlor epoxide ()	(ug/l)	8.0	0.0173U	0.0173U	0.0173U	0.0173U	0.0173U
Hexachlorobenzene ()	(ug/l)	130	1.8U	1.8U	1.8U	1.8U	1.8U
Hexachlorobutadiene ()	(ug/l)	500	1.9U	1.9U	1.9U	1.9U	1.9U
Hexachloroethane ()	(ug/l)	3000	1.7U	1.7U	1.7U	1.7U	1.7U
ug/l: microgram/liter USTCLP/C: TCLP Regulatory Levels			Qualifiers defined in Appendix B: Data Flag/Qualifiers				

TABLE 11
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
WASTE CHARACTERIZATION SOIL SAMPLE RESULTS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) PARAMETERS

PERIOD: From 03/05/2007 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	US-TCLP/C	RCWC-01 RCWC-01(S) 03/05/2007	RCWC-01 RCWC-01(2-4) 03/05/2007	RCWC-02 RCWC-02(S) 03/05/2007	RCWC-02 RCWC-02(2-4) 03/05/2007	RCWC-03 RCWC-03(S) 03/05/2007
Lead ()	(ug/l)	5000	89.3	74.5	854	96.5	65.2
Lindane ()	(ug/l)	400	0.0101U	0.0101U	0.0101U	0.0101U	0.0101U
Mercury ()	(ug/l)	200	1.0849999U	1.0849999U	1.0849999U	1.0849999U	1.0849999U
Methoxychlor ()	(ug/l)	10000	0.0102U	0.0102U	0.0102U	0.0102U	0.0102U
Methyl ethyl ketone ()	(ug/l)	200000	5.7U	5.7U	5.7U	5.7U	5.7U
Nitrobenzene ()	(ug/l)	2000	2.2U	2.2U	2.2U	2.2U	2.2U
2-Methylphenol ()	(ug/l)	200000	2.1U	2.1U	2.1U	2.1U	2.1U
Pentachlorophenol ()	(ug/l)	100000	2.3U	2.3U	2.3U	2.3U	2.3U
4-Methylphenol ()	(ug/l)	200000	1.9U	1.9U	1.9U	1.9U	1.9U
1,4-Dichlorobenzene ()	(ug/l)	7500	1.7U	1.7U	1.7U	1.7U	1.7U
Pyridine ()	(ug/l)	5000	1.4U	1.4U	1.4U	1.4U	1.4U
Selenium ()	(ug/l)	1000	21.0U	26.6J	21.0U	21.0U	21.0U
Silver ()	(ug/l)	5000	6.000U	6.000U	6.000U	6.000U	16.5J
Silvex ()	(ug/l)	1000	1.670U	1.670U	1.670U	1.670U	1.670U
Tetrachloroethylene ()	(ug/l)	700	2.4U	2.4U	2.4U	2.4U	2.4U
Toxaphene ()	(ug/l)	500	0.1286U	0.1286U	0.1286U	0.1286U	0.1286U
Trichloroethylene ()	(ug/l)	500	2.3U	2.3U	2.3U	2.3U	2.3U
Vinyl chloride ()	(ug/l)	200	1.6U	1.6U	1.6U	1.6U	1.6U
ug/l: microgram/liter USTCLP/C: TCLP Regulatory Levels			Qualifiers defined in Appendix B: Data Flag/Qualifiers				

TABLE 11
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
WASTE CHARACTERIZATION SOIL SAMPLE RESULTS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) PARAMETERS

Page: 3 of 4
Date: 05/30/2007

PERIOD: From 03/05/2007 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	US-TCLP/C	RCWC-03 RCWC-03(2-4) 03/05/2007
1,1-Dichloroethylene ()	(ug/l)	700	2.1U
1,2-Dichloroethane ()	(ug/l)	500	1.7U
2,4,5-Trichlorophenol ()	(ug/l)	400000	1.7U
2,4,6-Trichlorophenol ()	(ug/l)	2000	1.6U
2,4-D ()	(ug/l)	10000	1.670U
2,4-Dinitrotoluene ()	(ug/l)	130	1.7U
Arsenic ()	(ug/l)	5000	31.0U
Barium ()	(ug/l)	100000	310J
Benzene ()	(ug/l)	500	1.9U
Cadmium ()	(ug/l)	1000	9.000U
Carbon tetrachloride ()	(ug/l)	500	5.7U
Chlordane ()	(ug/l)	30	0.2734U
Chlorobenzene ()	(ug/l)	100000	2.3U
Chloroform ()	(ug/l)	6000	1.7U
Chromium ()	(ug/l)	5000	10.7J
Endrin ()	(ug/l)	20	0.0099U
Heptachlor ()	(ug/l)	8.0	0.0324U
Heptachlor epoxide ()	(ug/l)	8.0	0.0173U
Hexachlorobenzene ()	(ug/l)	130	1.8U
Hexachlorobutadiene ()	(ug/l)	500	1.9U
Hexachloroethane ()	(ug/l)	3000	1.7U
ug/l: microgram/liter USTCLP/C: TCLP Regulatory Levels			Qualifiers defined in Appendix B: Data Flag/Qualifiers

TABLE 11
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
WASTE CHARACTERIZATION SOIL SAMPLE RESULTS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) PARAMETERS

Page: 4 of 4
Date: 05/30/2007

PERIOD: From 03/05/2007 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	US-TCLP/C	RCWC-03 RCWC-03(2-4) 03/05/2007
Lead ()	(ug/l)	5000	34.2J
Lindane ()	(ug/l)	400	0.0101U
Mercury ()	(ug/l)	200	1.0849999U
Methoxychlor ()	(ug/l)	10000	0.0102U
Methyl ethyl ketone ()	(ug/l)	200000	5.7U
Nitrobenzene ()	(ug/l)	2000	2.2U
2-Methylphenol ()	(ug/l)	200000	2.1U
Pentachlorophenol ()	(ug/l)	100000	2.3U
4-Methylphenol ()	(ug/l)	200000	1.9U
1,4-Dichlorobenzene ()	(ug/l)	7500	1.7U
Pyridine ()	(ug/l)	5000	1.4U
Selenium ()	(ug/l)	1000	21.0U
Silver ()	(ug/l)	5000	6.000U
Silvex ()	(ug/l)	1000	1.670U
Tetrachloroethylene ()	(ug/l)	700	2.4U
Toxaphene ()	(ug/l)	500	0.1286U
Trichloroethylene ()	(ug/l)	500	2.3U
Vinyl chloride ()	(ug/l)	200	1.6U
ug/l: microgram/liter USTCLP/C: TCLP Regulatory Levels Qualifiers defined in Appendix B: Data Flag/Qualifiers			

TABLE 12

Page: 1 of 1

SAMPLE TYPE: Soil

[illegible]

TABLE 13
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
WASTE CHARACTERIZATION SOIL SAMPLE RESULTS
RCRA METALS

Page: 1 of 2
Date: 05/30/2007

PERIOD: From 03/05/2007 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCWC-01 RCWC-01(S) 03/05/2007	RCWC-01 RCWC-01(2-4) 03/05/2007	RCWC-02 RCWC-02(S) 03/05/2007	RCWC-02 RCWC-02(2-4) 03/05/2007	RCWC-03 RCWC-03(S) 03/05/2007
Arsenic	(mg/kg)	16	[18.1]	3.650	[19.6]	2.150	11.7
Barium	(mg/kg)	10000	64.3	28.5	228	13.4	49.4
Cadmium	(mg/kg)	60	1.010	0.228J	6.000	0.065U	0.989
Chromium	(mg/kg)	6800	15.2	10.5	35.5	10.2	20.6
Lead	(mg/kg)	3900	230	18.9	1480	19.3	176
Mercury	(mg/kg)	5.7	0.040UD	0.049JD	[2278.87]	[38.300]D	[27.600]D
Selenium	(mg/kg)	6800	0.538J	0.559J	0.952J	0.194U	0.846J
Silver	(mg/kg)	6800	0.392J	0.229J	40.4	0.194U	0.879

mg/kg: milligram/kilogram
SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

[]: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 13
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
WASTE CHARACTERIZATION SOIL SAMPLE RESULTS
RCRA METALS

PERIOD: From 03/05/2007 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCWC-03 RCWC-03(2-4) 03/05/2007
Arsenic	(mg/kg)	16	3.360
Barium	(mg/kg)	10000	31.6
Cadmium	(mg/kg)	60	0.264J
Chromium	(mg/kg)	6800	11.3
Lead	(mg/kg)	3900	17.8
Mercury	(mg/kg)	5.7	0.056JD
Selenium	(mg/kg)	6800	0.203U
Silver	(mg/kg)	6800	0.298J
mg/kg: milligram/kilogram SCO: Soil Cleanup Objective Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO			

TABLE 14
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
WASTE CHARACTERIZATION SOIL SAMPLE RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

Page: 1 of 2
Date: 05/30/2007

PERIOD: From 03/05/2007 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCWC-01 RCWC-01(S) 03/05/2007	RCWC-01 RCWC-01(2-4) 03/05/2007	RCWC-02 RCWC-02(S) 03/05/2007	RCWC-02 RCWC-02(2-4) 03/05/2007	RCWC-03 RCWC-03(S) 03/05/2007
Aroclor 1016	(ug/kg)		3.0U	2.8U	3.1U	2.7U	3.1U
Aroclor 1221	(ug/kg)		4.7U	4.3U	4.8U	4.2U	4.9U
Aroclor 1232	(ug/kg)		7.0U	6.5U	7.2U	6.3U	7.3U
Aroclor 1242	(ug/kg)		6.3U	5.7U	6.4U	5.6U	6.5U
Aroclor 1248	(ug/kg)		3.0U	2.8U	3.1U	2.7U	3.2U
Aroclor 1254	(ug/kg)		2.0U	1.8U	1400D	1.8U	2.1U
Aroclor 1260	(ug/kg)		5.0U	4.6U	5.1U	4.5U	5.2U
Total PCBs (subsurface soil)	(ug/kg)	25000	0	0	1400	0	0

ug/kg: microgram/kilogram
 SCO: Soil Cleanup Objective

Qualifiers defined in Appendix B: Data Flag/Qualifiers

 []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 14
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
WASTE CHARACTERIZATION SOIL SAMPLE RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

Page: 2 of 2
Date: 05/30/2007

PERIOD: From 03/05/2007 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCWC-03 RCWC-03(2-4) 03/05/2007
Aroclor 1016	(ug/kg)		2.8U
Aroclor 1221	(ug/kg)		4.4U
Aroclor 1232	(ug/kg)		6.6U
Aroclor 1242	(ug/kg)		5.9U
Aroclor 1248	(ug/kg)		2.9U
Aroclor 1254	(ug/kg)		1.9U
Aroclor 1260	(ug/kg)		4.7U
Total PCBs (subsurface soil)	(ug/kg)	25000	0
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO			

TABLE 15
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
WASTE CHARACTERIZATION SOIL SAMPLE RESULTS
PESTICIDES AND HERBICIDES

Page: 1 of 4
Date: 05/30/2007

PERIOD: From 03/05/2007 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCWC-01 RCWC-01(S) 03/05/2007	RCWC-01 RCWC-01(2-4) 03/05/2007	RCWC-02 RCWC-02(S) 03/05/2007	RCWC-02 RCWC-02(2-4) 03/05/2007	RCWC-03 RCWC-03(S) 03/05/2007
2,4,5-T	(ug/kg)		42.3U	38.7U	43.0U	36.9U	43.4U
2,4-D	(ug/kg)		42.3U	38.7U	43.0U	36.9U	43.4U
2,4-DB	(ug/kg)		42.3U	38.7U	43.0U	36.9U	43.4U
4,4-DDD	(ug/kg)	180000	0.85U	0.76U	0.86U	0.75U	0.86U
4,4-DDE	(ug/kg)	120000	0.95U	0.86U	0.97U	0.84U	0.97U
4,4-DDT	(ug/kg)	94000	0.87U	0.79U	0.89U	0.77U	3.9P
Aldrin	(ug/kg)	1400	1.5U	1.3U	1.5U	1.3U	1.5U
alpha-BHC	(ug/kg)	6800	0.77U	0.70U	0.79U	0.68U	0.79U
alpha-Chlordane	(ug/kg)		1.0U	0.91U	1.0U	0.89U	1.0U
beta-BHC	(ug/kg)	14000	1.1U	0.95U	1.1U	0.93U	1.1U
delta-BHC	(ug/kg)	1000000	2.0U	1.8U	2.0U	1.7U	2.0U
Dicamba	(ug/kg)		42.3U	38.7U	43.0U	36.9U	43.4U
Dichlorprop	(ug/kg)		42.3U	38.7U	43.0U	36.9U	43.4U
Dieldrin	(ug/kg)	2800	0.99U	0.90U	1.0U	0.88U	1.0U
Dinoseb	(ug/kg)		42.3U	38.7U	43.0U	36.9U	43.4U
Endosulfan I	(ug/kg)	920000	1.1U	0.96U	1.1U	0.94U	1.1U
Endosulfan II	(ug/kg)	920000	1.1U	1.0U	1.2U	1.0U	1.2U
Endosulfan sulfate	(ug/kg)	920000	1.3U	1.2U	1.3U	1.1U	1.3U
Endrin	(ug/kg)	410000	1.0U	0.93U	1.0U	0.91U	1.0U
Endrin aldehyde	(ug/kg)		1.2U	1.1U	1.2U	1.1U	1.2U
Endrin ketone	(ug/kg)		0.99U	0.90U	1.0U	0.88U	1.0U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO				

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCWC-01 RCWC-01(S) 03/05/2007	RCWC-01 RCWC-01(2-4) 03/05/2007	RCWC-02 RCWC-02(S) 03/05/2007	RCWC-02 RCWC-02(2-4) 03/05/2007	RCWC-03 RCWC-03(S) 03/05/2007
gamma-Chlordane	(ug/kg)		1.1U	0.95U	1.1U	0.93U	1.1U
Heptachlor	(ug/kg)	29000	1.1U	1.0U	1.1U	0.99U	1.1U
Heptachlor epoxide	(ug/kg)		1.3U	1.2U	1.3U	1.1U	1.3U
Lindane	(ug/kg)	23000	0.87U	0.78U	0.88U	0.77U	0.89U
Methoxychlor	(ug/kg)		1.0U	0.94U	1.1U	0.92U	1.1U
Silvex	(ug/kg)	1000000	42.3U	38.7U	43.0U	36.9U	43.4U
Toxaphene	(ug/kg)		4.3U	3.9U	4.4U	3.8U	4.4U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO							

TABLE 15
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
WASTE CHARACTERIZATION SOIL SAMPLE RESULTS
PESTICIDES AND HERBICIDES

Page: 3 of 4
Date: 05/30/2007

PERIOD: From 03/05/2007 thru 03/05/2007 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCWC-03 RCWC-03(2-4) 03/05/2007
2,4,5-T	(ug/kg)		38.6U
2,4-D	(ug/kg)		38.6U
2,4-DB	(ug/kg)		38.6U
4,4-DDD	(ug/kg)	180000	0.77U
4,4-DDE	(ug/kg)	120000	0.87U
4,4-DDT	(ug/kg)	94000	0.79U
Aldrin	(ug/kg)	1400	1.4U
alpha-BHC	(ug/kg)	6800	0.70U
alpha-Chlordane	(ug/kg)		0.92U
beta-BHC	(ug/kg)	14000	0.96U
delta-BHC	(ug/kg)	1000000	1.8U
Dicamba	(ug/kg)		38.6U
Dichlorprop	(ug/kg)		38.6U
Dieldrin	(ug/kg)	2800	0.91U
Dinoseb	(ug/kg)		38.6U
Endosulfan I	(ug/kg)	920000	0.97U
Endosulfan II	(ug/kg)	920000	1.0U
Endosulfan sulfate	(ug/kg)	920000	1.2U
Endrin	(ug/kg)	410000	0.94U
Endrin aldehyde	(ug/kg)		1.1U
Endrin ketone	(ug/kg)		0.91U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective			Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO

TABLE 15
LONG ISLAND RAILROAD
DELINEATION PHASE II SITE INVESTIGATION
ROCKVILLE CENTRE SUBSTATION
WASTE CHARACTERIZATION SOIL SAMPLE RESULTS
PESTICIDES AND HERBICIDES

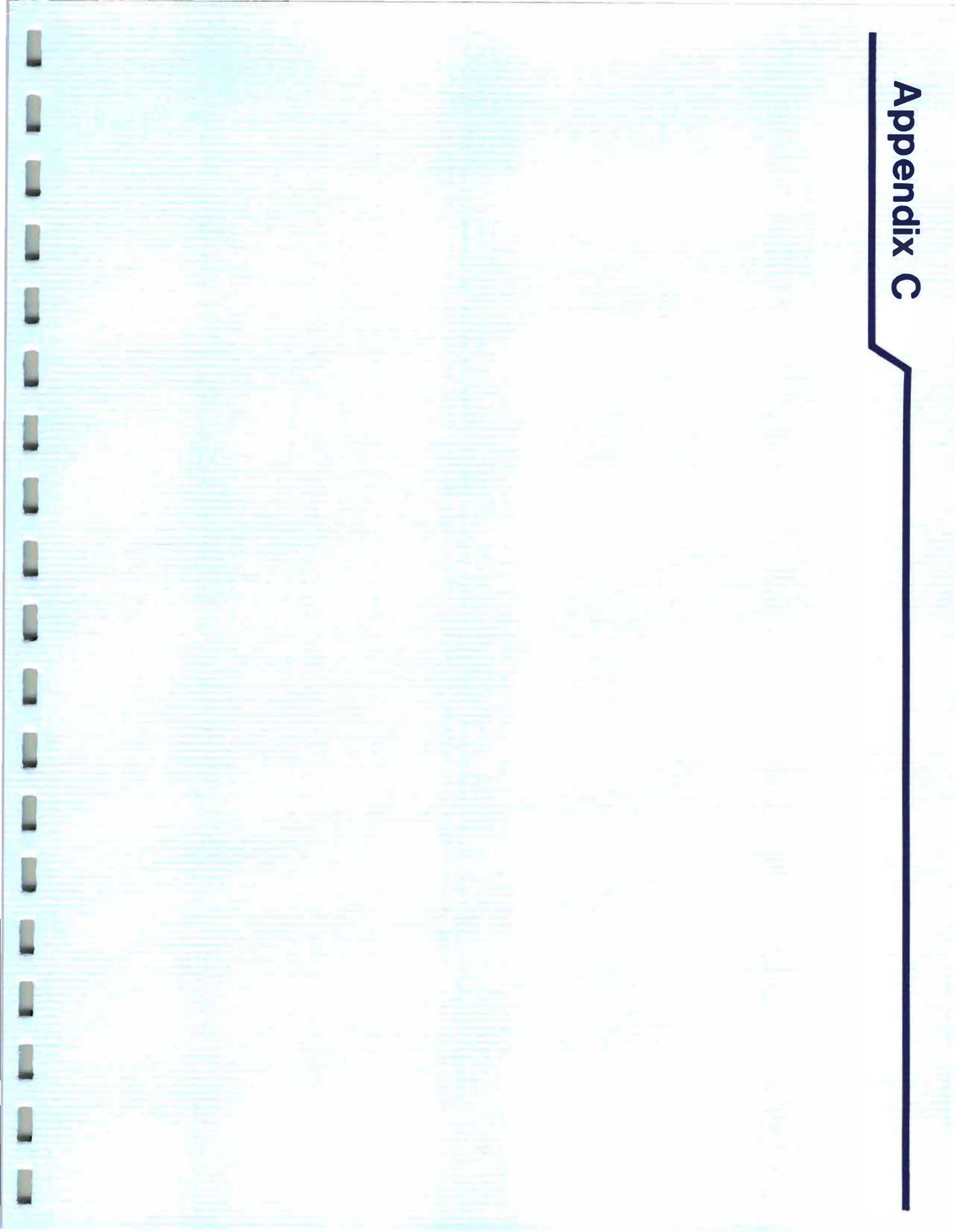
Page: 4 of 4
Date: 05/30/2007

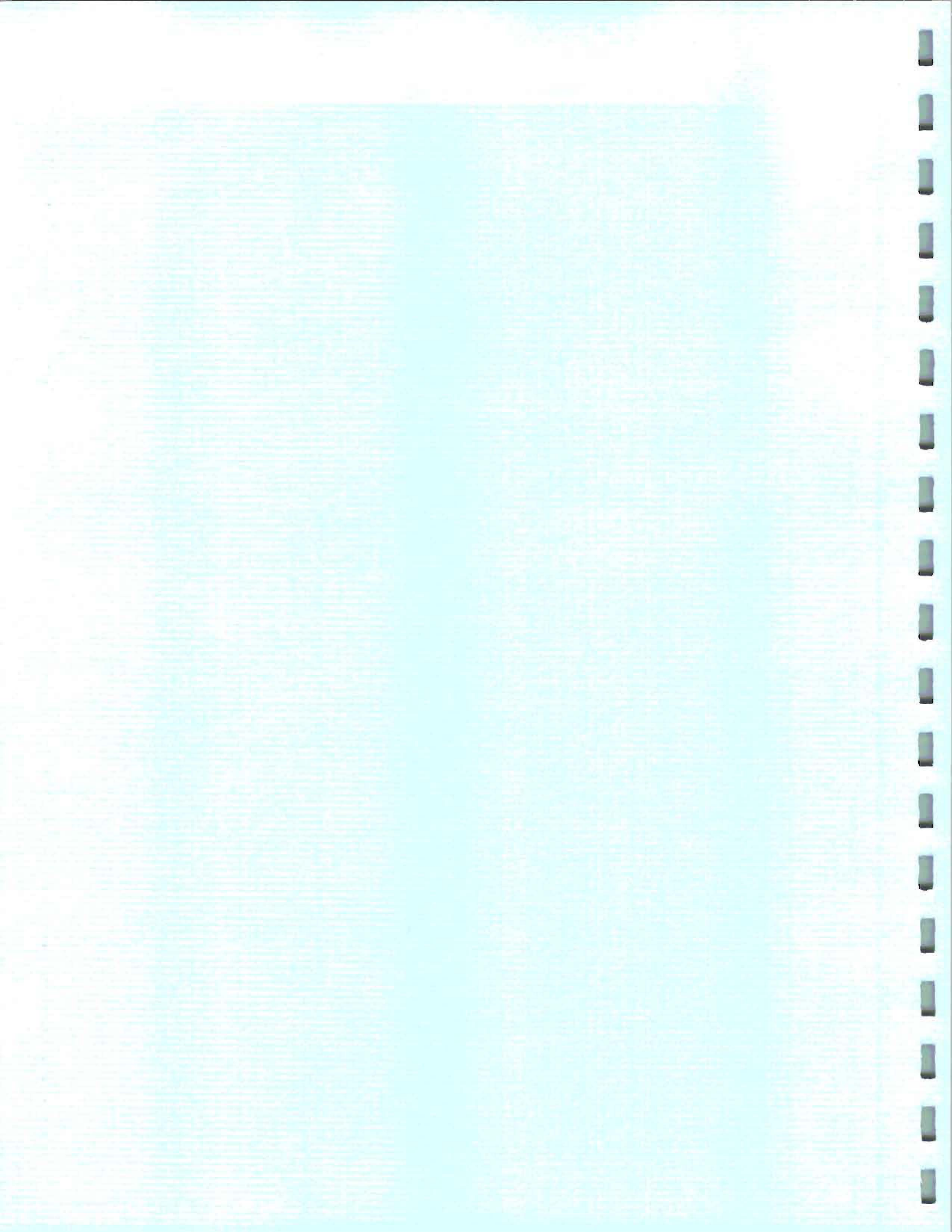
PERIOD: From 03/05/2007 thru 03/05/2007 - Inclusive

SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE	6NYCRR Part 375 Industrial Use SCOs	RCWC-03 RCWC-03(2-4) 03/05/2007
gamma-Chlordane	(ug/kg)		0.96U
Heptachlor	(ug/kg)	29000	1.0U
Heptachlor epoxide	(ug/kg)		1.2U
Lindane	(ug/kg)	23000	0.79U
Methoxychlor	(ug/kg)		0.95U
Silvex	(ug/kg)	1000000	38.6U
Toxaphene	(ug/kg)		3.9U
ug/kg: microgram/kilogram SCO: Soil Cleanup Objective Qualifiers defined in Appendix B: Data Flag/Qualifiers []: Value exceeds 6 NYCRR Part 375 Industrial Use SCO			

Appendix C





APPENDIX C

DELINEATION PHASE II BORING LOGS



Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-09
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/29/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/29/05

Boring Completion Depth: 6'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Brown, fine silty SAND, some medium sand and fine to medium gravel, loose.	
2' - 4'	1	HA	24	0.000	0.0	Brown, fine clayey SAND, some medium sand and fine gravel, loose	
4' - 6'	2	GP	24	0.000	0.0	Orange-brown, fine to medium SAND, some fine to medium gravel, and clay, loose.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Samples for mercury analysis were collected at 2'-4' and 4'-6'.



Project No.: 2229
Project Name: Long Island Railroad
 Rockville Centre Substation

Boring No.: RCSB-10
Sheet 1 **of** 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/29/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/29/05

Boring Completion Depth: 6'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	0-4" asphalt. 4"-2' Brown, silty CLAY and fine SAND, some medium sand and fine gravel.	
2' - 4'	1	HA	24	0.000	0.0	Orange-brown, fine SAND, some fine gravel and clay.	
4' - 6'	2	HA	24	0.000	0.0	Orange-brown, fine SAND, little medium sand and fine gravel.	

Sample Types:
 SS = Split Spoon
 HA = Hand Auger
 GP = Geoprobe Sampler
 CC = Concrete Core

NOTES:
 Samples for mercury analysis were collected at 2'-4' and 4'-6'.



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Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-11
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 11/29 /2005

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 11/29/2005

Boring Completion Depth: 6'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Brown, fine to medium silty SAND, little fine to medium gravel and clay.	
2' - 4'	1	HA	24	0.000	0.0	Brown, fine to medium SAND and CLAY, some fine to medium gravel.	
4' - 6'	2	HA	24	0.000	0.0	Orange-brown, medium SAND and fine to medium GRAVEL, some fine sand.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Samples for mercury analysis were collected from 2'-4' and 4'-6'.



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Bartilucci**
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Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-12
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 11/29/05

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 11/29/05

Boring Completion Depth: 6'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Dark brown, silty fine to medium SAND, some fine to medium gravel, loose.	
2' - 4'	1	HA	24	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel.	
4' - 6'	2	HA	24	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel.	
Sample Types: SS = Split Spoon HA = Hand Auger GP = Geoprobe Sampler CC = Concrete Core						NOTES: Samples for mercury analysis were collected at 2'-4' and 4'-6'.	



Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-13
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 11/29/05

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 11/29/05

Boring Completion Depth: 6'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Brown, fine to medium SAND, little fine to medium gravel, loose.	
2' - 4'	1	HA	24	0.000	0.0	Orange-brown, fine SAND, little medium sand and fine to medium gravel and clay.	
4' - 6'	2	HA	24	0.000	0.0	Orange-brown, fine SAND, little medium sand and fine to medium gravel.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Samples for mercury analysis were collected at 2'-4' and 4'-6'.



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Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-14
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/29/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/29/05

Boring Completion Depth: 6'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	0-4" Asphalt. 4" to 2' Brown, fine to medium SAND, little fine to medium gravel, loose.	
2' - 4'	1	HA	24	0.000	0.0	Orange-brown fine to medium SAND, little clay and fine to medium gravel, loose.	
4' - 6'	2	HA	24	0.000	0.0	Orange-brown, fine SAND, and fine gravel, little medium gravel.	

Sample Types:

SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:

Samples for mercury analysis were collected at 2'-4' and 4'-6'.



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Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-15
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/29 /2005

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/29/2005

Boring Completion Depth: 6 feet
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Dark brown, fine to medium silty SAND, little fine to medium gravel and clay.	
2' - 4'	1	HA	24	0.000	0.0	Brown, fine to medium SAND and CLAY, some fine to medium gravel.	
4' - 6'	2	HA	24	0.000	0.0	Orange-brown, medium SAND and fine to medium GRAVEL, some fine sand.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Samples for mercury analysis were collected from 2'-4' and 4'-6'.



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Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-16
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/29/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/29/05

Boring Completion Depth: 6'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	0-4" Asphalt. 4"-2' Dark brown, silty fine to medium SAND, some fine to medium gravel, tight.	
2' - 4'	1	HA	24	0.000	0.0	Brown, clayey fine SAND, some fine gravel, little medium gravel.	
4' - 6'	2	HA	24	0.000	0.0	Brown, fine SAND, some fine gravel, little medium gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Samples for mercury analysis were collected at 2'-4' and 4'-6'.



Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-17
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/30/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/30/05

Boring Completion Depth: 6'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.003	Dark brown, silty fine to medium SAND, little fine to coarse gravel, loose.	
2' - 4'	1	HA	24	0.000	0.0	Orange-brown, fine to medium SAND, some clay and fine gravel and medium gravel.	
4' - 6'	2	HA	24	0.000	0.0	Orange-brown, fine to medium SAND, some clay and fine gravel and medium gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Samples for mercury analysis were collected at 2'-4' and 4'-6'.



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Project No.: 2229

Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-18

Sheet 1 of 1

By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 11/30/05

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 11/30/05

Boring Completion Depth: 4'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Brown, fine to medium silty SAND, some fine to medium gravel, tight.	
2' - 4'	1	HA	24	0.000	0.0	Orange-brown, fine to clayey SAND, little medium sand and fine to medium gravel.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Samples for mercury analysis were collected at 2'-4'.



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Project No.: 2229

Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-19

Sheet 1 **of** 1

By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 11/30/05

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 11/30/05

Boring Completion Depth: 4'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0" - 8"	0	HA	8	0.000	0.0	Dark brown, fine to medium SAND, some fine to medium gravel and slag.	
8" - 2'	0	HA	16	0.000	0.0	Brown, fine to medium CLAY and SAND, little fine to medium gravel.	
2' - 4'	1	HA	24	0.000	0.0	Brown, fine to medium CLAY and SAND, little fine to medium gravel.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Samples for mercury analysis were collected at 2'-4'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-20
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/30/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/30/05

Boring Completion Depth: 4'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.003	0.0	Brown-dark brown, clayey silty fine to medium SAND, little fine to medium gravel and slag.	
2' - 4'	1	HA	24	0.000	0.0	Brown, fine to medium SAND, some clay and fine gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Samples for mercury analysis were collected at 2'-4'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-21
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 11/30/05

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 11/30/05

Boring Completion Depth: 4'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Dark brown, clayey silty fine SAND, some medium sand and fine to medium gravel.	
2' - 4'	1	HA	24	0.000	0.0	Brown, fine SAND and CLAY, little fine to medium gravel.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Samples for mercury analysis were collected at 2'-4'.

 Dvirka and Bartilucci CONSULTING ENGINEERS					Project No.: 2229 Project Name: Long Island Railroad Rockville Centre Substation		Boring No.: RCSB-22 Sheet <u>1</u> of <u>1</u> By: Stephen Tauss	
Drilling Contractor: L.A.W.E.S. Driller: --- Drill Rig: Geoprobe Date Started: 11/30/05					Geologist: Stephen Tauss Drilling Method: --- Drive Hammer Weight: NA Date Completed: 11/30/05		Boring Completion Depth: 6' Ground Surface Elevation: --- Boring Diameter: ---	
Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS	
	No.	Type	Rec. (inches)					
0" - 6"	0	HA	6	0.000	0.0	Blackish-brown, fine to medium SAND and SLAG, some fine to medium gravel.		
6" - 2'	0	HA	18	0.000	0.0	Brown, fine to medium SAND, some fine to medium gravel and clay.		
2' - 4'	1	HA	24	0.000	0.0	Brown, fine to medium SAND, some fine to medium gravel and clay.		
4' - 6'	2	HA	24	0.000	0.0	Brown, fine to medium SAND, some fine to medium gravel and clay.		
Sample Types: SS = Split Spoon HA = Hand Auger GP = Geoprobe Sampler CC = Concrete Core						NOTES: Samples for mercury analysis were collected at 2'-4' and 4'-6'.		



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-23
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/30/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/30/05

Boring Completion Depth: 6'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0" - 6"	0	HA	6	0.000	0.0	Blackish-brown, fine to medium SAND and SLAG, some fine to medium gravel.	
6" - 2'	0	HA	18	0.000	0.0	Brown, fine to medium SAND, some fine to medium gravel and clay.	
2' - 4'	1	HA	24	0.000	0.0	Brown, fine to medium SAND, some fine to medium gravel and clay.	
4' - 6'	2	HA	24	0.000	0.0	Brown, fine to medium SAND, some fine to medium gravel and clay.	

Sample Types:

SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:

Samples for mercury analysis were collected at 2'-4' and 4'-6'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-24
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 11/30/05

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 11/30/05

Boring Completion Depth: 6'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Dark brown, silty fine to medium SAND, little clay and fine gravel.	
2' - 4'	1	HA	24	0.000	0.0	Brown, clayey fine SAND, some fine to medium gravel.	
4' - 6'	2	HA	24	0.000	0.0	Brown, fine to medium SAND, little fine to medium gravel, loose.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Samples for mercury analysis were collected at 2'-4' and 4'-6'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-25
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 11/30/05

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 11/30/05

Boring Completion Depth: 6'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Dark brown, silty fine to medium SAND, little clay and fine gravel.	
2' - 4'	1	HA	24	0.000	0.0	Brown, clayey fine SAND, some fine to medium gravel.	
4' - 6'	2	HA	24	0.000	0.0	Brown, fine to medium SAND, little fine to medium gravel, loose.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Samples for mercury analysis were collected at 2'-4' and 4'-6'.



**Dvirka
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Bartilucci**
CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-26
Sheet 1 **of** 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/29/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/29/05

Boring Completion Depth: 4'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Brown-tan fine to medium SAND, some fine to medium gravel, loose.	
2' - 4'	1	HA	24	0.000	0.0	Brown-tan fine to medium SAND, some fine to medium gravel, loose.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Samples for mercury analysis were collected at 2'-4'.



**Dvirka
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Bartilucci**
CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-27
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 12/1/05

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 12/1/05

Boring Completion Depth: 4'

Ground Surface Elevation: ---

Boring Diameter: --

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0" - 5"	0	HA	5	0.000	0.0	Dark brown, silty fine to medium SAND, some clay and slag and fine gravel.	
5" - 2'	0	HA	19	0.000	0.0	Brown, clayey fine SAND, some medium sand and fine to medium gravel.	
2' - 4'	1	HA	24	0.000	0.0	Dark brown, fine to medium SAND, little fine to medium gravel.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Samples for mercury analysis were collected at 2'-4'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-28
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 12/1/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 12/1/05

Boring Completion Depth: 4'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0" - 2"	0	HA	2	0.000	0.0	Dark brown, silty fine to medium SAND, some slag and fine to medium gravel.	
2" - 2'	0	HA	22	0.000	0.0	Brown, clayey fine to medium SAND, some fine to medium gravel, tight.	
2' - 4'	1	HA	24	0.000	0.0	Orange-brown, fine to medium SAND, some fine to medium gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Samples for mercury analysis were collected at 2'-4'.



Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-29
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 12/1/05

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 12/1/05

Boring Completion Depth: 4'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0" - 6"	0	HA	6	0.000	0.0	Dark brown, fine to medium SAND, some slag and fine gravel.	
6" - 2'	0	HA	18	0.000	0.0	Brown, fine to medium SAND, some fine to medium gravel.	
2' - 4'	3	HA	24	0.000	0.0	Brown-gray, clayey fine to medium SAND, some fine gravel, slight hydrocarbon odor.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Samples for mercury analysis were collected at 2'-4'.



Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-30
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 12/1/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 12/1/05

Boring Completion Depth: 4'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	0	HA	12	0.000	0.0	Orange-dark brown, silty fine to medium SAND, some slag and fine gravel.	
1' - 2'	0	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, some fine gravel.	
2' - 4'	1	HA	24	0.000	0.0	Brown, clayey fine to medium SAND, some fine gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Samples for mercury analysis were collected at 2'-4'.



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Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-31
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/30/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/30/05

Boring Completion Depth: 4'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Brown, silty fine SAND, some fine to medium gravel.	
2' - 4'	1	HA	24	0.000	0.0	Orange-brown, clayey fine SAND, some medium sand and fine to medium gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Samples for mercury analysis were collected at 2'-4'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-32
Sheet 1 **of** 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/30/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/30/05

Boring Completion Depth: 4'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Dark brown-brown, silty fine SAND, little clay and fine to medium gravel.	
2' - 4'	1	HA	24	0.000	0.0	Brown, fine to medium SAND, some fine to medium gravel, loose.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Samples for mercury analysis were collected at 2'-4'.



Project No.: 2229
Project Name: Long Island Railroad
 Rockville Centre Substation

Boring No.: RCSB-33
Sheet 1 **of** 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/30/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/30/05

Boring Completion Depth: 4'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Dark brown silty fine to medium SAND, some fine to medium gravel and clay.	
2' - 4'	1	HA	24	0.000	0.0	Brown, fine to medium SAND, some fine to medium gravel, loose.	

Sample Types:
 SS = Split Spoon
 HA = Hand Auger
 GP = Geoprobe Sampler
 CC = Concrete Core

NOTES:
 Samples for mercury analysis were collected at 2'-4'.



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Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-34
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/30/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/30/05

Boring Completion Depth: 4'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Brown, silty clayey fine SAND, some medium sand and fine to medium gravel, tight.	
2' - 4'	1	HA	24	0.000	0.0	Brown, clayey fine to medium SAND, and fine to medium gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Samples for mercury analysis were collected at 2'-4'.



Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-35
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 11/30/05

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 11/30/05

Boring Completion Depth: 4'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Dark brown, silty fine SAND, some clay and medium sand, little fine gravel.	
2' - 4'	1	HA	24	0.000	0.0	Brown, CLAY, and fine sand.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Samples for mercury analysis were collected at 2'-4'.



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Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-36
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 11/30/05

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 11/30/05

Boring Completion Depth: 4'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	0	HA	24	0.000	0.0	Brown-dark brown, silty clayey fine to medium SAND, some fine gravel.	
2' - 4'	1	HA	24	0.000	0.0	Brown, fine SAND and CLAY, little fine gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Samples for mercury analysis were collected at 2'-4'.



Project No.: 2229
Project Name: Long Island Railroad
 Rockville Centre Substation

Boring No.: RCSB-37
Sheet 1 **of** 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Dark brown, clayey fine to medium SAND, some fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
 Sample for lab analysis collected at 1' - 2'.



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Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-38
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Dark brown, clayey fine to medium SAND, some fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel, loose, moist.	
Sample Types: SS = Split Spoon HA = Hand Auger GP = Geoprobe Sampler CC = Concrete Core						NOTES: Sample for lab analysis collected at 1' - 2'.	



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Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-39
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: 1NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Dark brown, clayey fine to medium SAND, some fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Sample for lab analysis collected at 1' - 2'.



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Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-40
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Brown to dark brown, silty fine to medium SAND, little fine to medium gravel and slag.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Sample for lab analysis collected at 1' - 2'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-41
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Brown to dark brown, silty fine to medium SAND, little fine to medium gravel and slag.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Sample for lab analysis collected at 1' - 2'.



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Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-42
Sheet 1 **of** 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Brown to dark brown, clayey fine to medium SAND, little fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel.	
Sample Types: SS = Split Spoon HA = Hand Auger GP = Geoprobe Sampler CC = Concrete Core						NOTES: Sample for lab analysis collected at 1' - 2'.	



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-43
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Brown to dark brown, clayey fine to medium SAND, little fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Sample for lab analysis collected at 1' - 2'.



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Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-44
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Dark brown, clayey fine to medium SAND, some fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel, loose, moist.	
Sample Types: SS = Split Spoon HA = Hand Auger GP = Geoprobe Sampler CC = Concrete Core					NOTES: Sample for lab analysis collected at 1' - 2'.		



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-45
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Brown to dark brown, silty fine to medium SAND, little fine to medium gravel and slag.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Sample for lab analysis collected at 1' - 2'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-46
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Brown to dark brown, silty fine to medium SAND, little fine to medium gravel and slag.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Sample for lab analysis collected at 1' - 2'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-47
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Brown to dark brown, silty fine to medium SAND, little clay and fine to medium gravel, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, fine to medium SAND and CLAY, fine to medium gravel, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Sample for lab analysis collected at 1' - 2'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-48
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Brown to dark brown, clayey fine to medium SAND, little fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel.	
Sample Types: SS = Split Spoon HA = Hand Auger GP = Geoprobe Sampler CC = Concrete Core						NOTES: Sample for lab analysis collected at 1' - 2'.	



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-49
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Dark brown, clayey silty fine to medium SAND, little fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Sample for lab analysis collected at 1' - 2'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-50
Sheet 1 **of** 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Dark brown, clayey silty fine to medium SAND, little fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel, loose, moist.	
Sample Types: SS = Split Spoon HA = Hand Auger GP = Geoprobe Sampler CC = Concrete Core						NOTES: Sample for lab analysis collected at 1' - 2'.	



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-51
Sheet 1 **of** 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Brown to dark brown, clayey fine to medium SAND, little fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Sample for lab analysis collected at 1' - 2'.



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and
Bartilucci**
CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-52
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, some fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, silty fine to medium SAND.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Sample for lab analysis collected at 1' - 2'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-53
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 3/5/07

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 3/5/07

Boring Completion Depth: 2'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Dark brown, clayey silty fine to medium SAND, little fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel, loose, moist.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Sample for lab analysis collected at 1' - 2'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-54
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Dark brown, clayey silty fine to medium SAND, little fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, little fine to medium gravel, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Sample for lab analysis collected at 1' - 2'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-55
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 3/5/07

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 3/5/07

Boring Completion Depth: 2'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Brown, clayey fine to medium SAND, some fine to medium gravel and slag, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, silty fine to medium SAND.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Sample for lab analysis collected at 1' - 2'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCSB-56
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.
Driller: ---
Drill Rig: Geoprobe
Date Started: 3/5/07

Geologist: Stephen Tauss
Drilling Method: ---
Drive Hammer Weight: NA
Date Completed: 3/5/07

Boring Completion Depth: 2'
Ground Surface Elevation: ---
Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 1'	1	HA	12	0.000	0.0	Brown to dark brown, silty fine to medium SAND, little clay and fine to medium gravel, loose, moist.	
1' - 2'	2	HA	12	0.000	0.0	Brown, fine to medium SAND and CLAY, fine to medium gravel, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
CC = Concrete Core

NOTES:
Sample for lab analysis collected at 1' - 2'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCWC-01
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 3/5/07

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 3/5/07

Boring Completion Depth: 4'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	1	HA	24	0.000	0.0	Dark brown, clayey and silty fine to coarse SAND, little fine to medium gravel.	
2' - 4'	2	HA	24	0.000	0.0	Brown, fine to medium SAND, some fine to medium gravel and clay.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Sample for lab analysis collected at 2' - 4'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCWC-02
Sheet 1 of 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 3/5/07

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 3/5/07

Boring Completion Depth: 4'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	1	HA	24	0.000	0.0	Dark brown, clayey and silty fine to coarse SAND, little fine to medium gravel.	
2' - 4'	2	HA	24	0.000	0.0	Brown, fine to medium SAND, some fine to medium gravel and clay.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Sample for lab analysis collected at 2' - 4'.



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CONSULTING ENGINEERS

Project No.: 2229
Project Name: Long Island Railroad
Rockville Centre Substation

Boring No.: RCWC-03
Sheet 1 **of** 1
By: Stephen Tauss

Drilling Contractor: L.A.W.E.S.

Driller: ---

Drill Rig: Geoprobe

Date Started: 3/5/07

Geologist: Stephen Tauss

Drilling Method: ---

Drive Hammer Weight: NA

Date Completed: 3/5/07

Boring Completion Depth: 4'

Ground Surface Elevation: ---

Boring Diameter: ---

Depth (ft.)	Soil Sample			Mercury Vapor (mg/m ³)	Photo- ionization Detector (ppm)	Sample Description	USCS
	No.	Type	Rec. (inches)				
0' - 2'	1	HA	24	0.000	0.0	Dark brown, clayey and silty fine to coarse SAND, little fine to medium gravel.	
2' - 4'	2	HA	24	0.000	0.0	Brown, fine to medium SAND, some fine to medium gravel and clay.	

Sample Types:

SS = Split Spoon

HA = Hand Auger

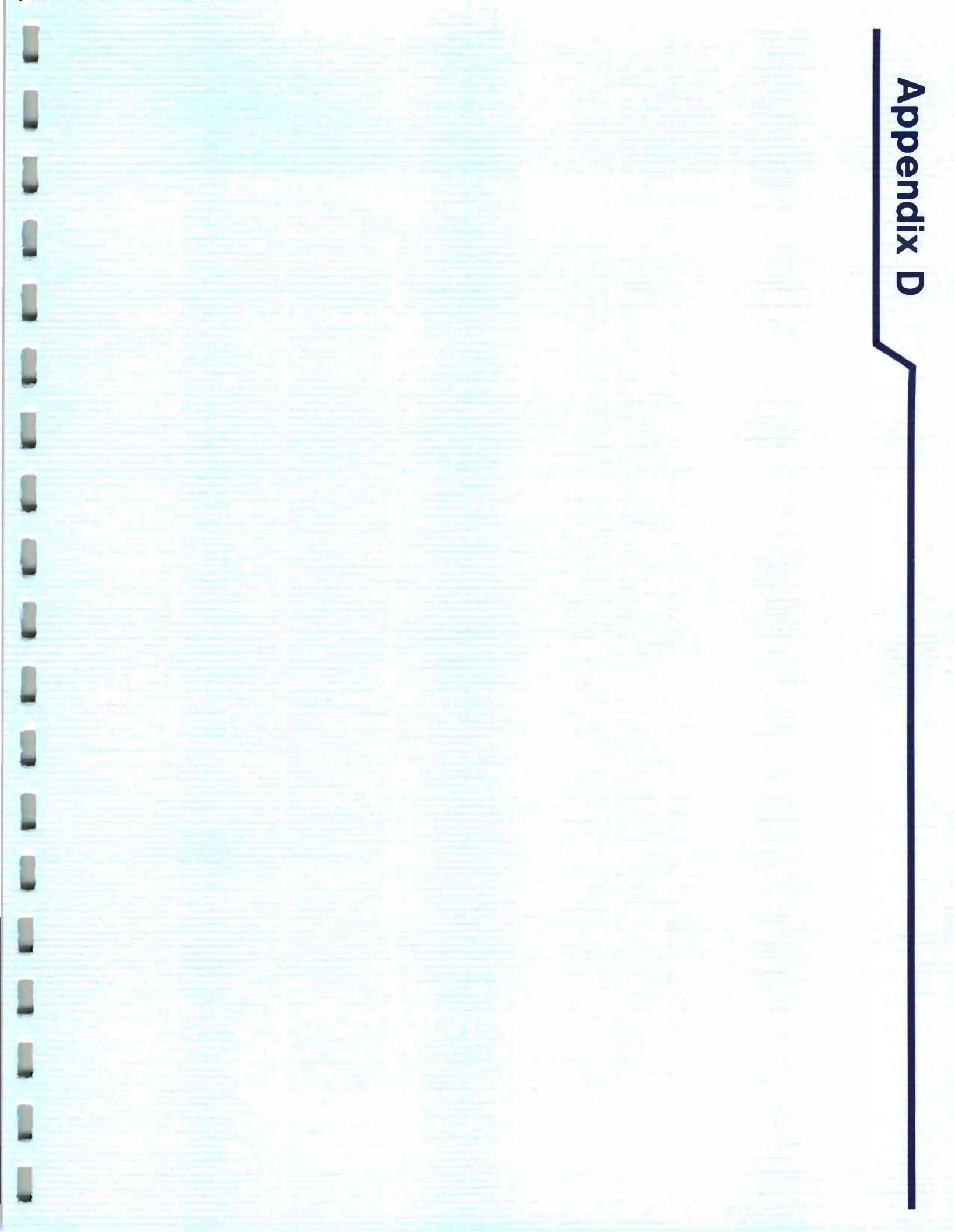
GP = Geoprobe Sampler

CC = Concrete Core

NOTES:

Sample for lab analysis collected at 2' - 4'.

Appendix D



APPENDIX D

DATA VALIDATOR RESUME

ROBBIN A. PETRELLA

QUALITY ASSURANCE OFFICER

EDUCATION

SUNY at Buffalo, B.S. (Chemical Engineering) - 1986

PROFESSIONAL EXPERIENCE

Ms. Petrella's professional quality assurance/quality control (QA/QC) experience spans 18 years. During this time, she served as a Sample and Data Analyst for two large environmental laboratories. Ms. Petrella was responsible, as Data Review Group Leader, for supervision of data validation and QA/QC coordination between the laboratory and its clients. Her technical experience includes both the analysis and review of environmental samples using numerous protocols, including those developed by the United States Environmental Protection Agency (USEPA), New York State Department of Environmental Conservation (NYSDEC), and New Jersey Department of Environmental Protection (NJDEP).

Since joining the firm, Ms. Petrella has been responsible for preparing Quality Assurance/Quality Control Plans and Waste Analysis Plans for a number of large private sector clients. These include Chemical Waste Disposal Corporation, the International Business Machines Corporation and Northrop Grumman Corporation. She also has prepared overall QA/QC programs for Northrop Grumman's on-site laboratories.

Ms. Petrella has prepared QA/QC Plans and data validation/usability reports for remedial investigation and feasibility studies conducted at numerous New York State Registry Sites, including those in the Towns of Cheektowaga, Schodack, and North Tonawanda, as well as the Villages of Croton-on-Hudson and Brentwood, New York. These tasks involved evaluation of the laboratory data to determine compliance with NYSDEC Analytical Services Protocols (ASP), as well as to determine the usability of the data particularly if it was not consistent with ASP requirements.

Ms. Petrella has assisted in the preparation and performance of air sampling programs for remedial investigation/feasibility studies (RI/FS) conducted at landfill/Superfund sites in Walkill, New York and East Northport, New York. She has also performed water supply sampling for an RI/FS in Rensselaer County, New York, and a surface and subsurface water and soil sampling program as part of an RI/FS in Elmira, New York.

Ms. Petrella has acted as the QA/QC officer, and prepared and performed field audits for Superfund site investigations in Tonawanda, New York; Owego, New York; Brookhaven, New York; and Hornell, New York, and for a major railroad facility in New York City. She also has assisted in the preparation of laboratory contracts for analytical services for hazardous waste studies in Schodack, New York; Jamaica, New York; and the New York State Superfund Standby contract.

Ms. Petrella is responsible for performing laboratory audits on all laboratories having contracts with the firm as part of the New York State Superfund Program. She has been certified by the USEPA in both organic and inorganic data validation by successfully completing courses authorized by the USEPA. These certifications have also been accepted by the NYSDEC.

Ms. Petrella is responsible for the data validation of all data packages from ongoing hydrogeologic investigation and landfill closure investigations in Brookhaven and Hauppauge, New York. She also is responsible

ROBBIN A. PETRELLA

for validation of all data collected during field investigations for a large aerospace corporation, a major utility on Long Island, and manufactured gas plants across Long Island.

Ms. Petrella has acted as Project Manager for a standby project with the NYSDEC and a groundwater treatment project located in New Jersey.

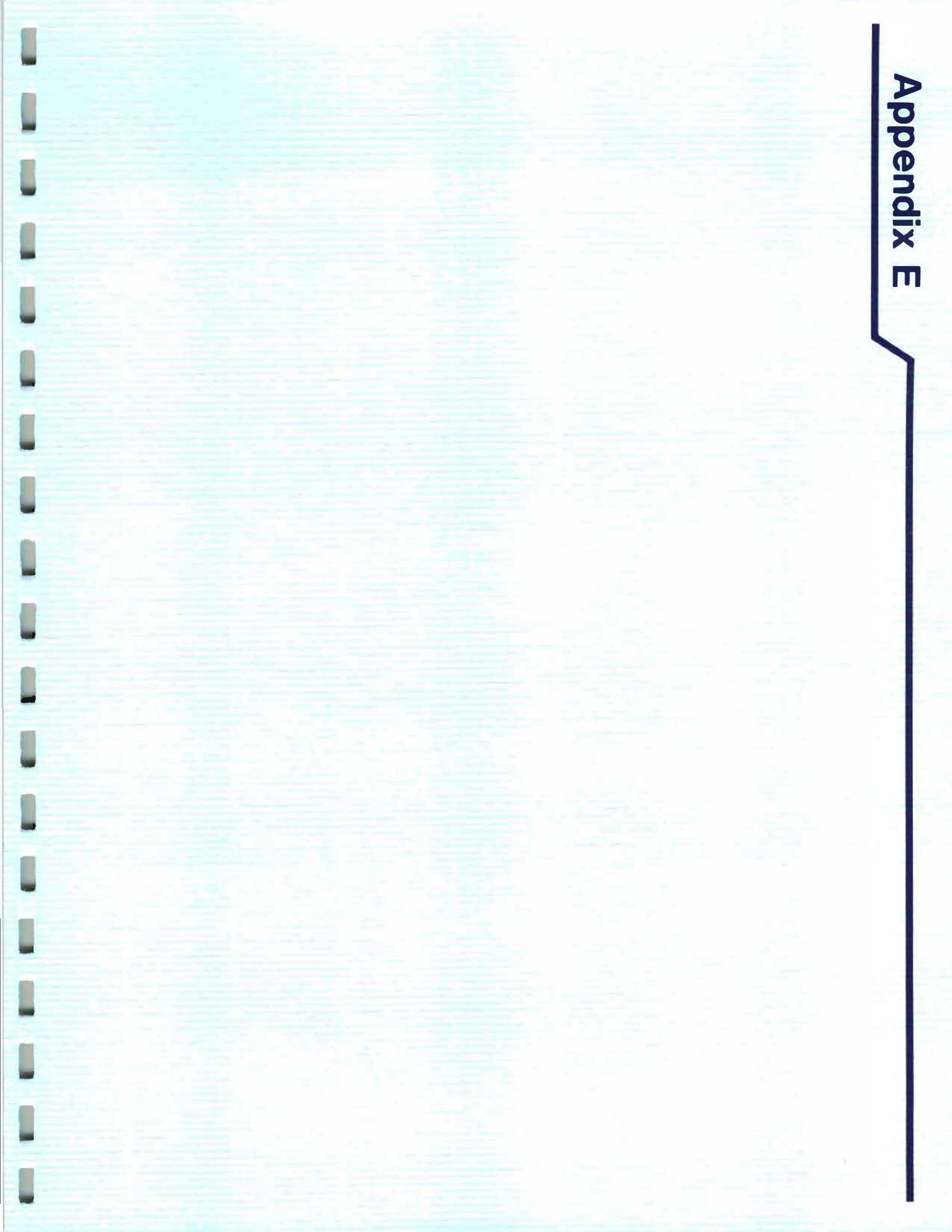
Ms. Petrella has been instrumental in the design and implementation of the firm's GISKey Database system. In that role, she is responsible for the maintenance of the system and training of personnel in its use. She also is responsible for all updates to the GISKey program and communicates on a regular basis with the GISKey vendors with regard to system improvements and network administration. Currently, there are seven ongoing projects that use GISKey, five of which are MGP sites. Ms. Petrella is responsible for entering and reporting of all chemistry data from GISKey.

Ms. Petrella also has conducted indoor and outdoor air sampling programs as part of MGP site field investigations. She has conducted interviews with homeowners as part of the air sampling program. She also is responsible for data validation of all the data from the air sampling programs.

Ms. Petrella has performed multimedia compliance audits for several hospitals in both New York and New Jersey. She also has prepared audit reports and EPA disclosure reports based on the compliance audits.

Ms. Petrella presently is the Quality Assurance/Quality Control officer for the firm and responsible for reviewing all work relating to Quality Assurance/Quality Control for hazardous waste, hazardous substance, manufactured gas plant and solid waste projects undertaken by the firm. She also is responsible for preparation and maintenance of the Corporate Quality Assurance Manual, and for inventory and maintenance of the firm's field/sampling and monitoring equipment. As the QA/QC Officer, she reports directly to the Principal-in-Charge of the Environmental Remediation Division.

Appendix E



APPENDIX E

LIRR PROCEDURE/INSTRUCTION EE03-001



Procedure/Instruction: EE03-001

EXCAVATING SOILS AT RAILROAD LOCATIONS

Effective DATE: August 11, 2003

A. Introduction:

At existing railroad shops, yards, substations, right-of-ways and other locations, past operations may have resulted in the chance of soils containing very low levels of chemical substances. Examples may include; trace levels of metals around old painted structures, oils and greases around train yards and repair locations, greasy or sooty compounds left from coal ash ("clinker").

This Procedure/Instruction has been prepared to eliminate any risk that may be posed to LIRR workers who must dig in these locations. It is to be applied on a case by case basis, with any questions referred to Department Management and System Safety.

B. Required Steps/Actions:

1. The first step of any LIRR excavation, regarding the soil composition and possible presence of contaminants, is to review the current System Safety Environmental Audit Map. This map includes all LIRR sites with documented soil contaminants. If your site appears on the map in red it may have soil concerns that could affect your project, contact System Safety before proceeding. If your site is not shown or is shown in black (does not have soil concerns) proceed to Step 2 as follows;
2. When digging at an existing railroad facility, the recommended procedures include:
 - a. Wherever possible excavate with mechanical means, such as backhoes, ditch-witches or excavators.
 - b. Wash facilities must be available for use by workers at the end of the task, before breaks, before meals, or at the end-of-shift. For field operations, wet-wipes are acceptable for fulfilling this requirement.
 - c. Where hand digging must be used, workers must be instructed to brush soil from clothing and shoes. Disposable coveralls, shoe coverings and gloves should be made available upon workers request. Work clothing should be laundered.
 - d. All equipment should be cleaned before leaving the worksite. The preferred method is hosing down with water, removing any clumps of dirt and soil. If water is not available, equipment should be brushed clean of any dirt and soil using a broom or stiff brush. Disposable items can be placed in the trash, no special disposal is necessary.
3. Where evidence of soil contamination is found, such as an odor, a stain or visible contaminant, the soil feels greasy, or results from laboratory analysis indicate a contaminant;
 - a. Stop any excavation work or only excavate by mechanical means and
 - b. Immediately Contact System Safety (information below) to assess the situation.

C. Regulations or Policy References: LIRR Corporate Environmental Policy; Section IV, B, 5

D. System Safety Contacts:	Environmental Engineer;	718-558-3252
	Environmental Field Engineer;	718-558-3081

E. Forms & Attachments: None.

4.0 ROCKVILLE CENTRE SUBSTATION - FISH AND WILDLIFE RESOURCES IMPACT ANALYSIS

4.1 Ecology

This section provides a habitat-based assessment of the Rockville Centre Substation. This assessment conforms to the guidelines contained in Step IIA of the NYSDEC Technical and Administrative Guidance Memorandum entitled, "A Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (October, 1994)." The purpose of this section is to provide a description of the existing ecology of the site, including specific descriptions of major habitat types with associated wildlife populations, the identification of other significant on-site wildlife resources and provide an evaluation of potential impacts to these resources. The information contained in this section was obtained during the Delineation Phase II Site Assessment and supplemented with data from outside sources, including the NYSDEC, U.S. Fish and Wildlife Service, and New York State Historic Preservation Officer. The field survey for this assessment was conducted during February of 2006.

4.1.1 Major Habitat Types

The Rockville Center Substation is located on the south side of Maple Avenue just west of the intersection with North Long Beach Road. The railroad tracks are on an elevated embankment to the south of the substation with Sunrise Highway further south. Commercial establishments border the east and west sides of the substation yard. The yard is maintained lawn with some ornamental shrubs near the front of the building facing Maple Avenue. The transformer yard is covered with approximately two inches of bluestone. Drainage is directed to the local road storm water system or recharges on location. The site is level before the steep rise to the railroad track bed.

A list of vegetative species observed at the Rockville Centre Substation site is provided in Table 4-1.

APPENDIX A

**EXISTING INITIAL SITE ASSESSMENT
ANALYTICAL DATA**