Long Island Rail Road
Contract No. 5973-8-5

Delineation Phase II
Site Assessment Remedial Action Work Plan
Island Park Substation: Site No. V-00392-1

October 2014

DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
A DIVISION OF D&B ENGINEERS AND ARCHITECTS, P.C.

METROPOLITAN TRANSPORTATION AUTHORITY
LONG ISLAND RAIL ROAD

DELINEATION PHASE II SITE ASSESSMENT
FOR
ISLAND PARK SUBSTATION

REMEDIAL ACTION WORK PLAN

Prepared for:

METROPOLITAN TRANSPORTATION AUTHORITY
LONG ISLAND RAIL ROAD

Prepared by:

DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
WOODBURY, NEW YORK

OCTOBER 2014

CERTIFICATIONS

I, Brian Veith, certify that I am currently a New York State registered professional engineer licensed by the State of New York. I certify that this Remedial Action Work Plan (RAWP) was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the New York State Department Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10) and 6NYCRR Part 375.

NYS Professional Engineer #	Date	Signature
	10/24/2014	Brian Veith

LONG ISLAND RAIL ROAD
DELINEATION PHASE II SITE ASSESSMENT FOR
ISLAND PARK SUBSTATION
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1.0 INTRODUCTION

The Long Island Rail Road (LIRR) has entered into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (NYSDEC) in order to investigate and remediate potential mercury contamination associated with the operation and subsequent decommissioning and removal of mercury-containing rectifiers at the Island Park Substation.

In 1999, the LIRR conducted environmental assessments at 20 of its electric substations which were identified as having previously utilized mercury-containing rectifiers. Among the substations investigated was the Island Park Substation, at which mercury was detected at concentrations above NYSDEC recommended cleanup objectives in soil at the facility. Following the Initial Site Assessment in 1999, several additional site investigations and remedial excavation activities were completed at the site, as detailed in Section 1.3. This Remedial Action Work Plan (RAWP) has been prepared by Dvirka and Bartilucci Consulting Engineers (D&B), under contract with the LIRR, to address the residual mercury contamination identified in several areas of the Island Park Substation.

Note that all soil samples collected previous to 2006 had been compared to the TAGM 4046 Recommended Soil Cleanup Objectives (RSCOs). All soil samples collected subsequent to 2006 have been compared to the NYCRR Subpart 375 Industrial Use Soil Cleanup Objectives (SCOs). In addition, as detailed in the Supplemental Investigation Findings document provided in Appendix A, the previously collected soil sample data has been reevaluated utilizing the Industrial SCOs for the purposes of this RAWP.

As an agency under the Metropolitan Transportation Authority (MTA), the LIRR operates under the auspices of the Public Authorities Law. Section 1266, paragraph 11 of this law exempts the LIRR from the requirements of the State Environmental Quality Review Act (SEQRA) for projects, "which will not change in a material respect the general character of such prior transportation use." With this in mind, the LIRR is proceeding with the remediation of contaminated soil at the Island Park Substation without SEQRA evaluation.

1.1 Project Background

The LIRR initiated the operation of electric substations with mercury rectifiers from approximately the early 1930's through 1951. The 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. Based on a detailed review of its operating records, the LIRR identified 20 substations located throughout Queens, Nassau and Suffolk Counties (including the Island Park Substation) that once utilized mercury containing rectifiers.

It is believed that during the early 1980's, 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, maintenance and decommissioning 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.

As described above, in 1999, the LIRR conducted environmental assessments at 20 of its electric substations, which previously utilized mercury-containing rectifiers. The results of these assessments were documented in a report prepared by 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 Island Park Substation, at concentrations above NYSDEC recommended cleanup objectives. In order to further delineate and remediate impacted soil at the 20 substations, the LIRR agreed to undertake and complete Delineation Phase II Site Assessments under the NYSDEC's VCP. In support of this VCP, the LIRR completed Delineation Phase II Site Assessment activities at the Island Park Substation by January 2003. In addition, a Supplemental Investigation was completed at the site in July 2010. Section 1.3 provides a summary of key findings associated with these investigations.

1.2 Site Description

The Island Park Substation site is located in Island Park, Nassau County, New York (see Figure 1-1). Note that the substation building was demolished in November 2011 as part of an overall substation redevelopment project. The former substation consisted of an approximately 1,800 square-foot one-story brick building shown on Figure 1-2. An approximately 3,000 square-foot transformer yard was located adjacent to the substation to the northeast and was enclosed by a chain-link fence. Note that, a new solid-state transformer-equipped substation building has been installed to the east of the former Island Park substation building, which is presently utilized to convert alternating current to direct current for the LIRR-Long Beach branch. The areas surrounding the substation and the transformer yard are currently utilized for vehicular parking.

The Island Park substation was equipped with a basement, sanitary facilities, water service and a utility trench system. The interior of the substation consisted of two active solid-state rectifiers located over two separate pits leading to the basement that once serviced mercury-containing rectifiers. In addition, a water meter pit with an earthen bottom (which was covered with a steel plate) was located off the southwest corner of the substation.

Based on the results of the Delineation Phase II Site Assessment, the depth to groundwater at this site is approximately 10 feet below ground surface.

1.3 Summary of Prior Investigations

The LIRR completed several investigation phases at the Island Park Substation, including:

- An Initial Site Assessment, as documented in the report entitled, "Site Assessment of 20 Substations for Mercury Contamination," dated December 2000;

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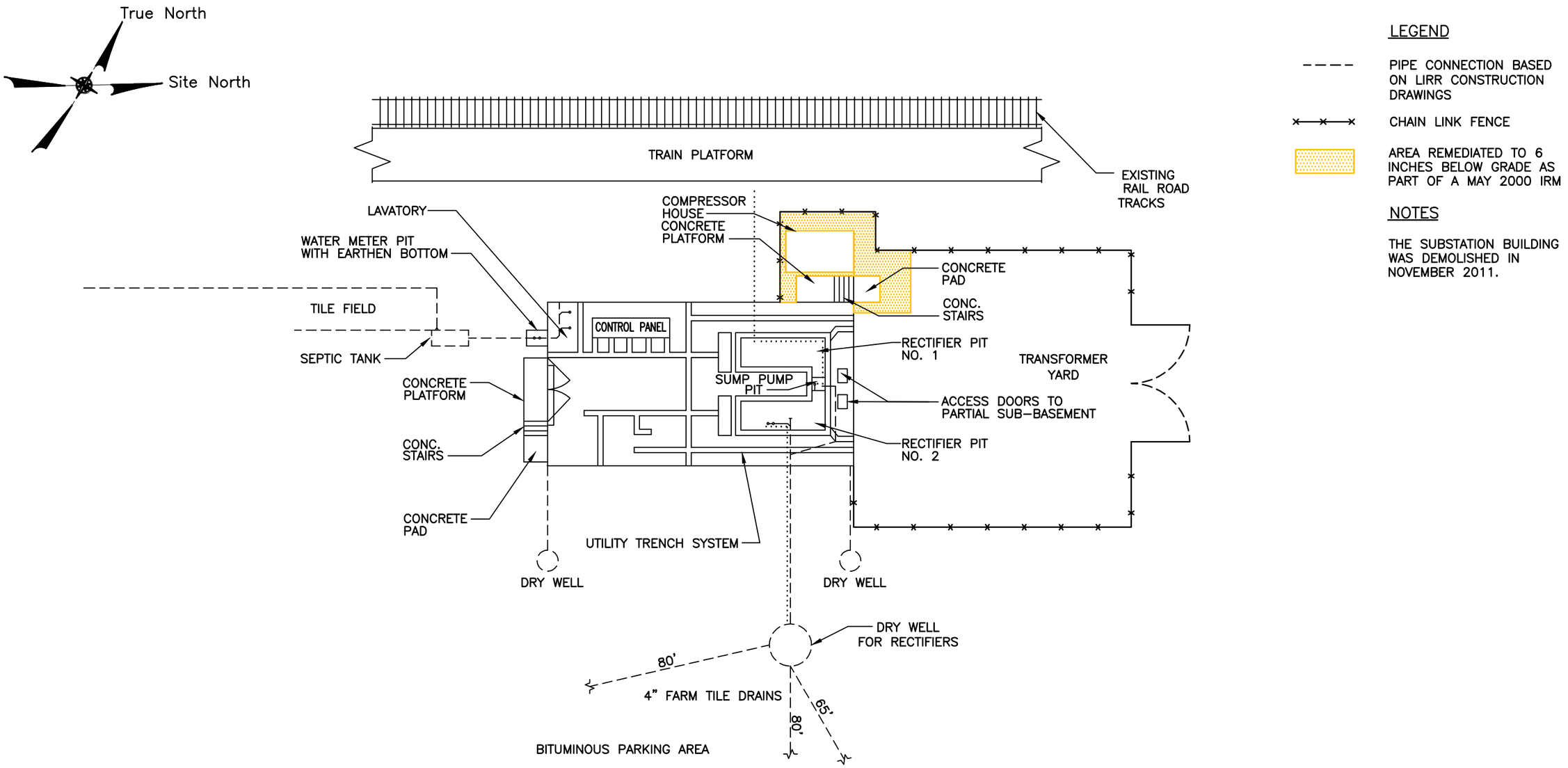
SITE LOCATION MAP
ISLAND PARK SUBSTATION (V00392-1)

NOT TO SCALE

FIGURE 1-1

2737-07 - Site Location Map.indd (08/14/12)



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REMEDIAL ACTION WORK PLAN

SITE PLAN
ISLAND PARK SUBSTATION (V00392-1)

FIGURE 1-2

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- A Delineation Phase II Site Assessment, as documented in the "Delineation Phase II Site Assessment Report," dated February 2006; and
- A Supplemental Investigation Findings document, provided in Appendix A of this RAWP.

All data associated with these investigations has been compared to the Industrial SCOs, and is summarized in the Supplemental Investigation Findings document appended to this RAWP. Slightly to moderately elevated concentrations of mercury were detected in surface and subsurface soil in limited areas to the north, south and west of the former substation building. The greatest mercury concentrations were detected in surface soil located adjacent to the concrete platform on the west side of the former substation building, with a maximum mercury concentration of 35.4 mg/kg; however, as described below, this area was remediated during a May 2000 IRM.

Based on the elevated mercury concentrations detected during the Initial Site Assessment, an Interim Remedial Measure (IRM) was completed at the Island Park Substation in May 2000, during which soil containing the greatest mercury concentrations during the Initial Site Assessment, in targeted locations, was remediated. As documented in the Interim Remedial Measures Report, dated January 2001, the IRM activities at the site consisted of the removal of approximately 6 inches (approximately 10 cubic yards) of mercury-impacted soil from the northwestern corner of the substation building, adjacent to the concrete platform and steps, and replacement of this soil with poly-sheeting overlain by approximately 6 inches of crushed stone. Prior to backfilling, three endpoint soil samples were collected for mercury analysis and were compared to the TAGM SCOs. Mercury concentrations ranged from 0.65 mg/kg to a maximum of 4.3 mg/kg, detected to the east of the concrete steps on the northwest of the substation building.

In addition, following the Delineation Phase II Site Assessment, a Construction Excavation Investigation was completed at the site in January 2003. The Construction Excavation Investigation was completed in the southern and eastern portions of the substation property and adjacent off-site (though still LIRR-owned) areas to identify any mercury-impacted soil within the proposed areas of soil excavation to be completed as part of a future LIRR

substation facilities upgrade project. Twelve soil probes were advanced as part of the Construction Excavation Investigation and a total of 87 subsurface soil samples were collected from the 12 soil probes. All samples were analyzed for RCRA metals, SVOCs, and PCBs and were compared to the TAGM SCOs. Based on the results of the Construction Excavation Investigation and as part of a LIRR substation facilities upgrade project, approximately 1,826 tons of soil were removed from the southern and eastern portions of the substation property and adjacent off-site (though still LIRR-owned) areas. The results of these excavation activities were documented in the Construction Excavation Completion Report, dated September 2004.

Note that a mercury vapor evaluation, consistent with the NYSDOH's Soil Vapor Intrusion Guidance (SVIG), was completed at the site in July 1999. The mercury vapor evaluation consisted of a 48-point mercury vapor survey, with 30 mercury vapor sample locations collected from within the former substation building and 18 mercury vapor sample locations collected from the exterior of the former substation building. All mercury vapor samples were collected with a Jerome 431X mercury vapor analyzer (MVA) and have been re-evaluated and compared to the Public Employee Safety and Health (PESH) 8-hour time-weighted average (TWA) concentration of 0.050 mg/m^3. The results from the mercury vapor survey are provided in Appendix B. Mercury vapor was not detected in any of the 48 mercury vapor samples. As such, no further mercury vapor investigation or action regarding any future planned structure to be installed at the site is warranted.

1.4 Summary of Environmental Conditions at the Site

This section briefly describes the current and future conditions of the Island Park Substation. As described in Section 1.2, the Island Park Substation was decommissioned and demolished in November 2011 and no longer provides power to the LIRR infrastructure. A new solid-state transformer-equipped substation has been installed to the east of the former substation building, which is presently utilized to convert alternating current obtained from the local electrical provider, Long Island Power Authority (LIPA).

As detailed above, slightly to moderately elevated concentrations of mercury were detected in surface and subsurface soil in limited areas to the north, south and west of the former substation building. However, 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. In addition, the Island Park Substation property is secured with a locked, chain-link fence, limiting the potential of trespassers entering the site.

The substation property is bounded by track to the west and commercial areas and parking lots to the north, east and south. The areas immediately surrounding the former substation building are partially covered by crushed stone and asphalt. The substation is not occupied by LIRR personnel on a continuous or full-time basis. The Island Park Substation has been decommissioned and demolished, and is not used by the LIRR for any purpose. As described above, a new substation building including solid-state transformers has already been installed to the east of the former substation property. The substation property is fenced on all sides, limiting public access to the property. The new substation building is locked at all times and all associated outside electric equipment (i.e., transformers) are secured by a locked fence. The substation property is only accessible by authorized LIRR personnel and their subcontractors. Under normal operating conditions, access to the substation property only occurs when equipment requires monitoring, maintenance or repair.

As described above, the majority of the areas where mercury concentrations were detected in exceedance of its SCO are covered with crushed stone. However, direct contact exposure to mercury contamination of LIRR workers (on-site receptors) who are required to periodically enter the site is possible in limited areas. LIRR workers and subcontractors and the public (off-site receptors) could potentially be 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.

The Island Park Substation is serviced by public water and on-site groundwater is not used for any purpose.

Based on the results of the various investigation and remediation activities detailed in Section 1.3, one area adjacent to the northwest and two areas adjacent to the south and southwest of the former substation building require remediation. Due to the irregular distribution of mercury in site soil, the remedial areas have been divided into three areas with excavations ranging from 1 to 8 feet below ground surface. Remedial areas are depicted on Drawing 1. The northwestern excavation area includes one large 1-foot excavation area and the southwestern areas include one 1-foot excavation and one 8-foot excavation.

As previously recommended in the February 2006 Delineation Phase II Site Assessment Investigation Report, the LIRR intends to close and remediate soil associated with the septic tank located to the south of the former substation building. The septic tank, its contents and any associated piping uncovered during the septic tank removal will be removed and properly disposed of. In addition, any soil surrounding the septic tank exhibiting staining and/or elevated PID readings will be removed and properly disposed of. Following removal, the septic tank excavation area will be backfilled with clean fill.

In addition, note that it was previously recommended in the February 2006 Delineation Phase II Site Assessment Investigation Report to further investigate the sump pump pit located within the substation building. However, as the Industrial SCOs are now being utilized to screen all site-wide and below grade structure soil samples, this structure no longer warrants further investigation.

The areas requiring remediation, as well as the septic tank, are depicted on Drawing 1 in a "conceptual fashion." Specific details regarding the soil excavation and UIC closure will be included in the plans and specifications prepared for implementation of the remedy.

1.5 Contemplated Use of the Site

As part of the LIRR's overall system upgrade in response to increased ridership, the Island Park Substation was demolished in November 2011. Note that a new prefabricated substation building has been constructed to the east of the former substation building. Following soil remediation, an asphalt parking lot will be installed overlying the former substation property. The remediation of contaminated soil on-site will consist of excavation and replacement with clean fill. Therefore, the planned remediation and substation property redevelopment will remove the vast majority of elevated mercury concentrations and effectively cap any residual mercury contamination. As a result, future exposure to mercury contamination at the Island Park Substation site is not expected. Following site redevelopment, the LIRR will not be disturbing or excavating at the Island Park Substation for the foreseeable future.

All remedial excavation activities will be overseen by a LIRR representative and will be completed in accordance with the Contractor's Construction Health and Safety Plan (CHASP) as detailed in Section 5.0. In addition, full-time air monitoring will be performed by the remedial contractor in accordance with the CHASP and the Community Air Monitoring Plan (CAMP), as detailed in the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan (CAMP) provided in Appendix C. Specific details regarding remedial activities will be included in the plans and specifications.

Institutional controls in the form of a deed restriction and/or environmental easement will be implemented to maintain the industrial nature of the property.

2.0 REMEDIAL ACTION SELECTION

The purpose of this section is to provide an engineering evaluation of the selected remedial alternative to address the surface and subsurface soil contamination in the remedial areas outlined above. In addition, the septic tank located to the south of the former substation building will be closed in accordance with all USEPA UIC regulations. The goal of this evaluation is to demonstrate how the selected remedy would meet the remedial goals and remedial action objectives presented in NYSDEC's DER-10 Section 4.1(c)2 and NYCRR Part 375 Section 1.10(c), as detailed below.

2.1 Remedial Goals and Remedial Action Objectives

Per the requirements outlined in NYSDEC's DER-10 Section 4.1(c)2, remedial action objectives (RAOs) are goals developed for the protection of human health and the environment and a definition of these objectives requires an assessment of the media of concern, migration pathways, exposure routes and potential receptors. Typically, remedial goals are established based on standards, criteria and guidelines (SCGs) to protect human health and the environment. SCGs for the site, which were developed in the Site Assessment Investigation Report, include New York Codes, Rules and Regulations Title 6 (6 NYCRR), Part 375 Environmental Remediation Programs. Within Part 375, SCOs for Industrial Use are presented. These SCOs have been utilized to define areas requiring remediation, and are typically applied to a site based on the current, intended and reasonably anticipated future use of the site. Site-specific cleanup levels were not necessary to implement at the site.

As the Site is utilized for industrial purposes, contamination on-site was delineated utilizing the Industrial SCOs. In general, mercury was detected at concentrations slightly in exceedance of the Industrial SCO of 5.7 mg/kg in surface and subsurface soil to the northwest and southwest of the former substation building. The greatest mercury concentrations were detected in surface soil located adjacent to the concrete platform on the west side of the former substation building, with a maximum mercury concentration of 35.4 mg/kg; however, note this area was remediated during the May 2000 IRM. The Site is surrounded by an asphalt parking

area, in a mixed industrial/commercial use area. It should be noted that groundwater sampling at the Site did not identify contaminant concentrations in groundwater which would warrant remedial actions.

Elevated mercury concentrations have been detected in surface and subsurface soil to the northwest and southwest of the former substation building. However, 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. In addition, the Island Park Substation property is secured with a locked, chain-link fence limiting the potential of trespassers entering the site. The substation property is only accessible by authorized LIRR personnel and their subcontractors. In addition, the 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.

As described above, the areas where mercury concentrations were detected in exceedance of its Industrial SCO have been covered with crushed stone, limiting actual or potential receptor exposure and contaminant mobility. However, direct contact exposure to mercury contamination of LIRR workers (on-site receptors) who are required to periodically enter the site for equipment maintenance and repair is possible in limited uncovered areas. LIRR workers and subcontractors and the public (off-site receptors) could potentially be exposed to this contaminant source during excavation activities as the result of dermal contact and inhalation of windblown dust.

Based on the nature of the contaminants associated with the site, the RAOs of this RAWP include the following:

RAOs for Public Health Protection

- Mitigate ingestion/direct contact with contaminated soil and dust.
- Mitigate inhalation of or exposure to contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Mitigate migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impact from bioaccumulation through the terrestrial food chain.

2.2 Summary of Remedy

The approximate locations and limits of areas requiring remediation are depicted on Drawing 1, provided in a map pocket at the end of this section. The three proposed excavation areas are approximately 996 square feet in total area and will require the removal of approximately 68 cubic yards of soil.

As shown on Drawing 1, provided at the end of this section, the areas to be excavated include the following:

- One area to the northwest of the former substation building will be excavated to a depth of 1 foot below ground surface. This area is approximately 710 square feet in area and will require the removal of approximately 27 cubic yards of soil.
- One area to the southwest of the former substation building will be excavated to a depth of 1 foot below ground surface. This area is approximately 168 square feet in area and will require the removal of approximately 6 cubic yards of soil.
- One area to the south of the former substation building will be excavated to a depth of 8 feet below ground surface. This area is approximately 118 square feet in area and will require the removal of approximately 35 cubic yards of soil.

As detailed in the Supplemental Investigation Findings document provided in Appendix A, if the suspected basement drain pipe is encountered while performing the soil excavation in the 1-foot excavation area to the northwest of the former substation building, this structure will be located and investigated, and sampled for UIC parameters (VOCs, SVOCs,

RCRA metals, PCBs and TPHs). This structure will then be closed in accordance with all USEPA regulations and the basement drain pipe will be capped with a concrete plug.

As part of site remediation, a total of approximately 68 cubic yards of soil will be excavated and removed from the former substation property and properly disposed of off-site.

In addition, the LIRR intends to close and remediate soil associated with the septic tank located to the south of the former substation building. The septic tank, its contents and any associated piping located within the limits of the septic tank excavation will be removed and properly disposed. In addition, soil surrounding the septic tank exhibiting staining and/or elevated PID readings will be removed and properly disposed. Following the septic tank excavation, this area will be backfilled with clean fill meeting the requirements the Commercial SCOs, at a minimum.

Endpoint samples (IPEP-01 through IPEP-11) will be collected from the excavation areas to determine the characteristics of the remaining soil prior to site restoration. In addition, one endpoint soil sample (IPST-01) will be collected from the septic tank excavation. Endpoint samples (IPEP-12 through IPEP-15) will also be collected from the area of the former substation building. The proposed location of each endpoint sample is shown on Drawing 1. Endpoint samples IPEP-01 through IPEP-15 will be analyzed for mercury. In addition to mercury, endpoint soil sample EPST-01 will be analyzed for UIC parameters (VOCs, SVOCs, RCRA metals, PCBs and TPHs).

All endpoint samples will be compared to the Industrial SCOs. Endpoint sample results will be provided to the NYSDEC and the New York State Department of Health (NYSDOH) for review. Based on the results of the endpoint sampling, determination will be made between LIRR and NYSDEC with regard to the need for additional excavation.

Generation of dust during the implementation of the remedy will be monitored by utilizing a digital dust monitor and, if necessary, dust controls will be implemented in accordance with the CHASP.

In addition, institutional controls in the form of a deed restriction and/or environmental easement will be implemented to maintain the industrial nature of the property.

2.3 Evaluation of Remedy

The following discussion presents the engineering evaluation of the remedy against the remedial goals, remedial action objectives and remedy selection criteria. In accordance with the NYSDEC draft VCP Guide, the following discussion evaluates the remedy against the factors presented in 6 NYCRR 375-1.10(c), with the exception of cost effectiveness and community acceptance, which will be evaluated by the NYSDEC.

Protection of Human Health and the Environment

As described above, implementation of the remedy will include mitigation of the potential for the direct exposure to contaminated soil through the excavation and off-site transportation and disposal of soil exceeding the Part 375 SCOs for Industrial Use. The remedy will meet the RAOs for the site through the removal of contaminated soil and mitigating potential impacts to human health through removal of the potential for exposure through ingestion, direct contact and/or inhalation. The remedy will also meet the RAOs through the implementation of a CHASP that will provide protection of on-site workers and surrounding community during implementation of the remedy. This RAWP also provides information on proper management of contaminated soil and generated waste to mitigate impacts to the surrounding community during implementation of the remedy. Therefore, this remedy will provide for the protection of human health and the environment.

Standards, Criteria and Guidance

The selected remedy will comply with applicable regulatory SCGs developed for the site. Applicable regulatory SCGs are considered minimum performance specifications for the remedy. The following is a list of major SCGs that apply to the site:

- 6 NYCRR Part 364 - Waste Transporter Permits
- 6 NYCRR Part 370 - Hazardous Waste Management Systems
- 6 NYCRR Part 375 - Environmental Remediation Programs
- 6 NYCRR Part 376 - Land Disposal Restrictions
- 29 CFR Part 1910.120 - Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard
- 29 CFR Part 1926 - Safety and Health Regulations for Consideration
- TAGM 4031 - Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites
- NYSDOH Generic CAMP
- USEPA 40 CFR – UIC Regulation Program
- NYSDEC draft VCP Guide - May 2002

As described above, since the remedy will remove the soil exhibiting contaminants above the Part 375 SCOs for Industrial Use and will be implemented in accordance with the above standards and guidelines, the remedy will meet the SCGs for the site.

Short-term Effectiveness and Impacts

Evaluation of short-term effectiveness and impacts includes defining potential health and environmental risks likely to exist during implementation of the remedy and the ability to control the risks during implementation. Excavation and off-site disposal of soil exhibiting exceedances of the applicable SCOs from the surface and subsurface of the site will pose a low risk to health and the environment. Generation of dust during excavation will be monitored and controlled through dust suppression techniques, if necessary. Based on the volume of soil requiring excavation and off-site disposal, it is anticipated that the remedy will be completed in approximately 1 week. Remedial activities will only occur during normal business hours and noise levels will be maintained to meet local noise ordinances.

Since the property is fenced at the Island Park Substation, the remedial areas are only accessible by authorized LIRR personnel and its subcontractors. Access to the site is limited and, therefore, impacts to the community from these areas during implementation of the remedy would be negligible. Impacts to the on-site workers would include exposure to contaminated soil, vapors and dust; however, these impacts would be minimized through the implementation of the CHASP. Implementation of appropriate storm water management, soil erosion and sediment control techniques during construction will be designed to minimize the potential for migration of contaminated soil off-site. In addition, vehicles used to transport contaminated soil will be tarped before departing the site and equipment contacting contaminated soil would be properly decontaminated as per the CHASP, prior to moving off-site, also minimizing the potential for off-site migration of contaminated soil and impacts to the community.

Long-term Effectiveness and Permanence

Excavation and off-site disposal of soil exceeding the Part 375 SCOs for Industrial Use will be a long-term permanent and effective remedy for the site. The potential for exposure to this contaminated soil at the site in the future will be eliminated. Although it is anticipated that the majority of the soil exceeding the Part 375 SCOs for Industrial Use will be removed from the site, the results of endpoint sampling will be evaluated to determine the need for additional excavation. Following remediation, the former substation property will be covered with an asphalt parking lot, effectively capping any residual mercury contamination. In addition, institutional controls in the form of a deed restriction and/or environmental easement will be implemented to maintain the industrial nature of the property.

Reduction of Toxicity, Mobility or Volume

Removal of the identified and delineated contaminated soil from the site and subsequent covering of the site with asphalt will effectively reduce the toxicity, mobility and volume of contamination at the site. The contaminated soil will be disposed of at a permitted off-site disposal facility, which would minimize the potential for mobility of the contaminants.

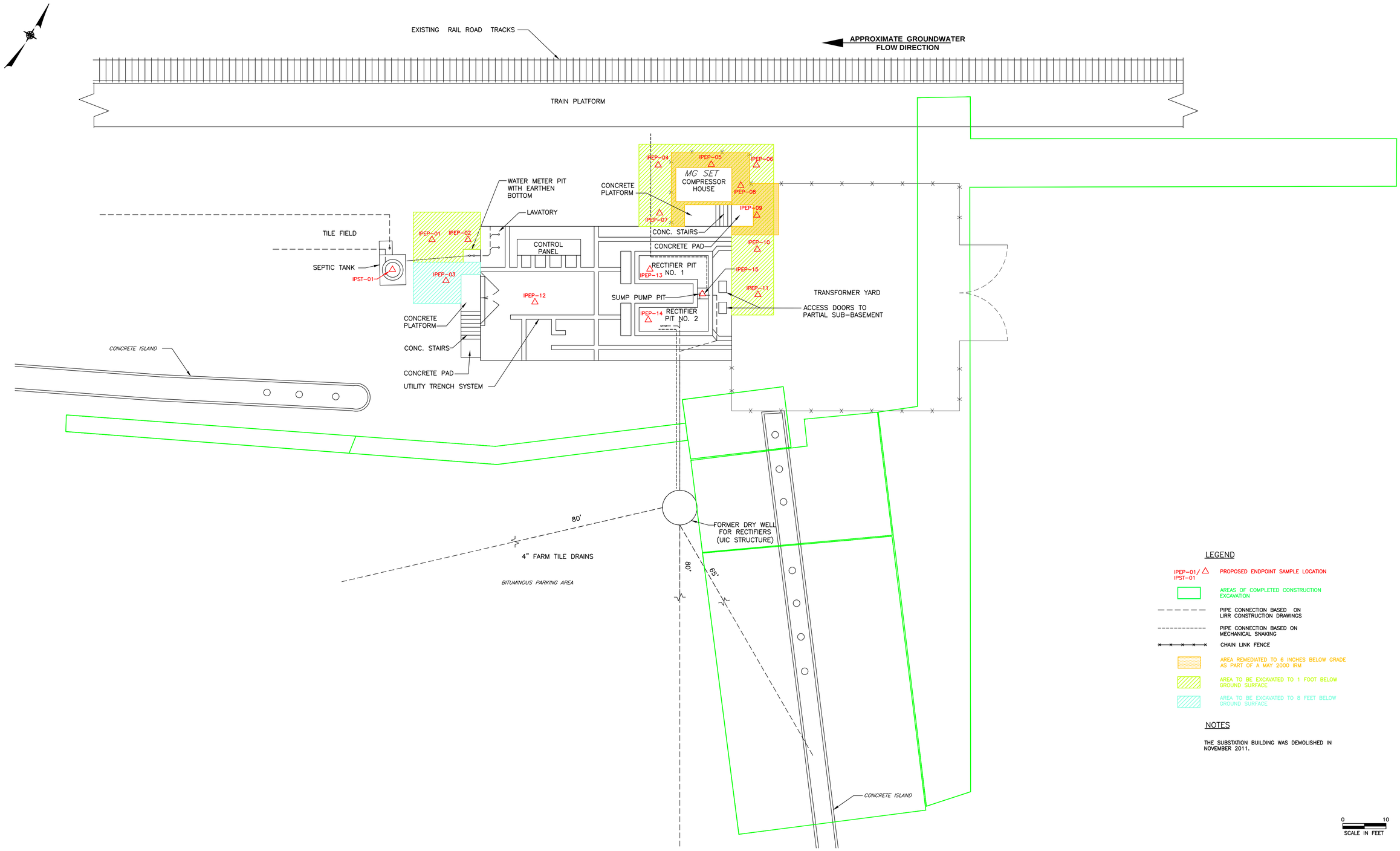
Implementability

Excavation and off-site disposal of contaminated soil at the site can be completed with standard equipment. All necessary labor, equipment and supplies are readily available. This remedy will require coordination with the NYSDEC, which is not expected to impact implementation.

Land Use

The current, intended and reasonably anticipated future use of the site will continue to be for industrial purposes as a LIRR substation and the surrounding areas will continue to be utilized as a parking area and for industrial/commercial purposes by industrial/commercial businesses.

As described above, the excavation and disposal of soil exceeding the Part 375 SCOs for Industrial sites and replacement with clean fill meeting the requirements of Commercial SCOs, at a minimum, meets the objectives of the remedial goals, remedial action objectives and remedy selection criteria, as defined in the draft VCP Guide and NYSDEC's 6NYCRR Part 375 Program.



LEGEND

- IPEP-01 / IPST-01 — PROPOSED ENDPOINT SAMPLE LOCATION
- AREAS OF COMPLETED CONSTRUCTION EXCAVATION
- PIPE CONNECTION BASED ON LIRR CONSTRUCTION DRAWINGS
- PIPE CONNECTION BASED ON MECHANICAL SNAKING
- CHAIN LINK FENCE
- AREA REMEDIATED TO 6 INCHES BELOW GRADE AS PART OF A MAY 2000 IRM
- AREA TO BE EXCAVATED TO 1 FOOT BELOW GROUND SURFACE
- AREA TO BE EXCAVATED TO 8 FEET BELOW GROUND SURFACE

NOTES

THE SUBSTATION BUILDING WAS DEMOLISHED IN NOVEMBER 2011.

0 10
SCALE IN FEET

NO.	DATE	REVISION	INT.

PROJECT ENGINEER: T.F.
DRAWN BY: L.V.G.
DESIGNED BY: A.A.
CHECKED BY: T.F.

DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
A DIVISION OF D&B ENGINEERS AND ARCHITECTS, P.C.

LONG ISLAND RAILROAD

NASSAU COUNTY NEW YORK

PROPOSED AREAS OF REMEDIATION ENDPOINT SAMPLE LOCATION MAP

ISLAND PARK SUBSTATION

PROJECT NO. 2737
DATE: DECEMBER 2012
SCALE: 1" = 10'
DRAWING NO. 1

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3.0 REMEDIAL CONSTRUCTION

As detailed in Section 2.0, the LIRR has identified three areas at the Island Park Substation requiring remediation and one UIC structure (a septic tank) requiring proper closure. This section describes the activities to be undertaken to complete the implementation of the remedy. Specific details regarding soil excavation will be included in the plans and specifications prepared for the implementation of the remedy.

Endpoint soil samples will be collected from each remedial excavation to ensure that remediation has been successfully completed. In addition, once remedial and site redevelopment activities are completed, the LIRR will not be disturbing or excavating soil at the Island Park Substation for the foreseeable future. As a result, future exposure to residual contamination, if any, is not expected.

3.1 Mobilization

Site mobilization activities by the remediation contractor will occur prior to initiation of site remediation. Staging areas for construction equipment and excavated material storage and handling, decontamination areas and temporary facilities will be established in the area of the existing substation as directed by the LIRR.

Equipment and personnel decontamination facilities will be described in detail in the CHASP to be provided by the contractor. All equipment exposed to contaminated soil will be decontaminated on-site in accordance with the CHASP and removed at the conclusion of remedial activities.

All personnel and visitors will be required to sign in and sign out upon arrival and departure. Personnel and visitors entering the site will be required to have 40-hour HAZWOPER training and participate in a medical surveillance program.

Prior to the initiation of the remedial activities, utilities will be identified and located by the contractor in coordination with the LIRR in accordance with local and state requirements.

3.2 Excavation and Material Handling

The approximate areas of surface and subsurface soil to be excavated as part of the remedial measures presented as part of this RAWP are presented in Drawing 1. The actual limits of the areas to be remediated will be staked and marked by a land surveyor in the field prior to excavation.

Air monitoring will be performed by the remedial contractor throughout the duration of the work and will dictate actions required to control emissions. A detailed air monitoring program including action levels will be included in the CHASP. If dust is generated during implementation of the remedy at levels that exceed minimum action levels, standard dust suppression techniques will be employed. Standard dust suppression techniques that may be employed during excavation activities, as well as any other material handling activities include:

- Application of wetting agents to soil, stockpiles, buckets and equipment; and
- Covering/tarping of containers, excavations and stockpiles.

If dust suppression techniques do not lower the particulate concentrations to an acceptable level, work will be suspended until acceptable corrective measures are implemented. As part of the CHASP, the contractor will prepare a CAMP prior to mobilization. The contractor will be responsible for implementing the CAMP. The plan will comply with the requirements of the NYSDOH Generic CAMP, provided in Appendix C.

3.3 Soil Characterization

As detailed in Section 1.3, site soil was characterized as part of the several investigation phases completed at the site. All soil samples were analyzed for mercury; however, several soil

samples were also analyzed for SVOCs, RCRA metals and PCBs. The results of the site-wide sampling are provided in Appendix D for reference purposes only.

The remedial contractor will be required to collect and analyze waste characterization samples from the areas to be excavated prior to performance of the remedial work. The samples shall conform to the requirements of the permitted off-site LIRR-approved disposal facility.

3.4 Waste Transportation and Disposal

As discussed above, prior to the off-site transportation of the excavated material, the remedial contractor will need to obtain confirmation from the disposal facility that the contaminated soil will be accepted at the facility. Permitted transporters approved by the LIRR will transport the soil to permitted off-site LIRR-approved disposal facilities. All trucks will have functional intact tarps to cover their loads.

The LIRR will be the generator of record. Soil will not be transported for disposal without prior approval from the LIRR. Documentation of transportation and disposal of all material will be maintained in the project files.

3.5 Endpoint Sampling

Upon reaching the final excavation depth, samples will be collected by the contractor from the base of the excavation to determine the characteristics of the remaining soil prior to site restoration. Drawing 1, provided in a map pocket at the end of Section 2.0, provides the proposed location of each endpoint sample location (IPEP-01 through IPEP-15 and IPST-01). Although the draft NYSDEC VCP Guide does not provide guidance regarding endpoint sampling, the NYSDEC Draft DER-10 Technical Guidance recommends sampling from the bottom of the excavation every 900 square feet. As all excavation areas are less than 900 square feet, a minimum of one endpoint sample for each area would be required for each of these areas. However, in order to minimize the total amount of extra soil that would need to be removed in

the event that the endpoint samples exceed their respective SCOs, additional endpoint samples have been proposed.

Endpoint samples IPEP-01 through IPEP-15 will be analyzed for mercury. In addition to mercury, endpoint sample IPST-01 to be collected from the septic tank excavation area, will also be analyzed for VOCs, SVOCs, RCRA metals, PCBs and TPHs. All endpoint soil samples will be compared to the Industrial SCOs. Expedited 2-day turnaround analysis will be performed to determine the characteristics of remaining soil prior to completion of site redevelopment and site restoration. The actual need for additional remediation will be determined by the LIRR in consultation with the NYSDEC. When available, the LIRR will transmit the data to the NYSDEC for review, along with a sample location map. The NYSDEC will be available for a conference call with the LIRR to discuss the provided data and to determine if additional remediation is necessary within 1 day of receipt of the endpoint sample analysis data. Field sampling procedures and quality assurance protocols will be conducted in accordance with the Quality Assurance/Quality Control (QA/QC) Plan prepared by the remedial contractor.

3.6 Underground Injection Control Closure

As detailed above, one septic tank located to the south of the former Island Park Substation will be closed as part of the planned remediation of the existing substation property. The closure procedures utilized to close the septic tank will be performed in accordance with all USEPA UIC regulations.

The contents of the septic tank, if present, will be pumped out and contained within Department of Transportation (DOT)-approved 55-gallon drums and/or a pump truck. The septic tank and any associated piping located within the limits of the septic tank excavation will then be removed and properly disposed. In addition, soil surrounding the septic tank exhibiting staining and/or elevated PID readings will be removed and properly disposed. Following the septic tank removal, one endpoint will be collected from the excavation, as detailed above. The septic tank excavation will then be backfilled with clean fill meeting the requirements the Commercial SCOs, at a minimum.

All waste generated as part of the above-described remediation/closure activities will be characterized as per all NYSDEC regulations and disposed off-site by the remedial contractor at a State-regulated disposal facility.

3.7 Backfill

Backfill material utilized during the remediation of the Island Park Substation will be obtained from an off-site source, as approved by the LIRR. The fill will consist of clean sand meeting the requirements of the Commercial SCOs, at a minimum, containing no organic material, rubbish or debris and being capable of being compacted to a relative compaction of 90 percent.

The fill material will be accompanied by a Certificate of Clean Fill certifying that the area from which the fill originated was never used for industrial purposes and that the fill is free of contaminants. Details regarding backfill requirements will be included in the plans and specifications. The Certificate of Clean Fill will be submitted with the name of the supplier, the source of fill, and the history of the location where the fill was obtained for approval by the LIRR prior to use of the fill. Upon receipt, the LIRR will review the information provided regarding the backfill and will determine the acceptability of the material and its source. A copy of the Certificate of Clean Fill will be submitted to the NYSDEC in the Final Engineering Report.

3.8 Site Restoration

The excavated areas will be backfilled with clean sand as detailed in Section 3.7. Areas outside the excavation area disturbed during implementation of the remedy will be restored as necessary to coincide with site redevelopment. Following completion of all remedial activities, an asphalt parking lot will be installed over the site.

3.9 Erosion Controls

Storm water management, soil erosion and sediment control will be performed in accordance with New York State Guidelines for Urban Erosion and Sediment Controls. The contractor will be responsible for preventing off-site migration of storm water during implementation of the remedy.

If it will be necessary to stockpile contaminated soil, it will be placed on bermed plastic liners and covered with plastic tarps to prevent erosion. Stockpiles of clean fill will also be placed on bermed liners and covered. Liners will be secured in place with stakes and/or concrete.

4.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

A Construction QA/QC Plan will be prepared by the contractor for review by the LIRR and review and acceptance by the NYSDEC. The plan will identify procedures to be utilized to ensure the quality of the work performed meets the objectives of this RAWP. The QA/QC plan will include, at a minimum, the following:

- A description of the quality control organization including a chart showing the lines of authority;
- The names, qualifications, duties and responsibilities of each person assigned a QC function;
- Procedures for scheduling and managing submittals including those from subcontractors;
- The location, number and type of each sample to be collected and analysis to be performed for all samples to be collected, including waste characterization and endpoint sampling requirements;
- Description of sample collection methods for each sample matrix including sample containers, sample custody, sample packaging, storage and shipping procedures;
- The analytical protocols to be utilized;
- Quality control methods and procedures for each specific test to be used during construction;
- The name, address and qualifications of each proposed testing laboratory and the intended project-specific function;
- A description of all instrumentation and equipment to be used for testing on-site, as well as operating and calibration procedures;
- Reporting procedures for quality assurance activities including proposed reporting formats; and
- Method for notification of changes.

The contractor will be responsible for implementing the QA/QC plan.

5.0 HEALTH AND SAFETY

The remedial contractor will prepare a CHASP. Site personnel performing remedial work will be required to read and comply with the requirements of the CHASP.

The CHASP will be submitted to LIRR and NYSDEC for review and acceptance prior to initiation of the project and associated remedial activities. The CHASP will be required to address all the appropriate federal, state and local regulatory requirements necessary to undertake and successfully complete implementation of the remedy. The CHASP will be prepared in accordance with 29 CFR 1910.129 and will include the following items:

- Health and safety organization, including résumés of personnel responsible for health and safety;
- Project site description and hazard assessment;
- Training requirements;
- Medical surveillance requirements;
- Project site control procedures;
- Standard operating procedures and engineering controls;
- Personnel protective equipment requirements;
- Personnel hygiene and decontamination protocols;
- Equipment decontamination procedures;
- Air monitoring requirements;
- Emergency equipment/first aid requirements;
- Emergency responses/contingency procedures;
- Heat and cold stress procedures;
- Record keeping requirements; and
- Community protection plan.

The contractor will be responsible for ensuring that the CHASP and all work associated with the implementation of the remedy is performed in accordance with safe working practices including all Occupational Safety and Health Administration (OSHA) requirements. All site personnel will be trained and certified in the proper use of personal protective equipment and will have knowledge and understanding of construction standards. Certifications regarding training and expertise will be required prior to the start of work.

As part of the CHASP, the remedial contractor will prepare a CAMP prior to mobilization. The remedial contractor will be responsible for implementing the CAMP. The plan will comply with the requirements of the NYSDOH Generic CAMP included as Appendix C.

6.0 REPORTING AND DOCUMENTATION

The remedial contractor will be required to prepare progress reports each week during implementation of the remedy. Each report will include information pertaining to the work completed during the week, the anticipated schedule for the following weeks and a description of any problems encountered which will impact project progress and their resolution. Progress reports will be available for regulatory agency review.

Throughout implementation of the remedy, records will be maintained by the remedial contractor and engineer performing construction inspection to document activities completed on-site. Records that will be maintained include the following:

- Daily field activity reports
- Visitor sign-in/sign-out logs
- Construction photographs
- Instrument calibration logs
- Waste manifests/bills of lading and disposal facility receipts
- Waste characterization sampling results and waste treatment/ disposal facility prequalification forms
- Chain-of-custody forms
- Air monitoring forms
- Contractor submittals
- Measurements of material quantities for progress payments
- Incident/accident reports
- Meeting minutes
- Endpoint sampling results

Following completion of the remedy, and in accordance with the draft VCP Guide, within 90 days of completion of the remedy, a Final Engineering Report (FER) will be prepared. This report will include the following:

- Description of remedial actions performed;
- Deviations from the RAWP, if any;
- Copies of records maintained during the remediation;
- Problems encountered during construction and their resolution;

- A discussion on the quantification and listing of soil removed from the site;
- Detailed "as-built" drawings showing limits of the excavation and the locations of documentation samples;
- Copies of the Certificates of Clean Fill;
- Copies of records documenting off-site disposal of soil; and
- Endpoint sampling results.

Also in accordance with the draft VCP Guide and NYSDEC's DER-10 Guidance document, the FER will include a certification by a Professional Engineer registered in New York State, stating that the work was implemented and construction activities were completed in substantial conformance with this RAWP.

In addition, the FER will include a Site Management Plan (SMP) that will include, but not be limited to, the following components:

- An institutional and engineering control (IC/EC) plan that will include a description of all ICs and ECs for the site and the requirements necessary to ensure these controls remain in-place and effective.
- A monitoring plan describing the measures for monitoring the effectiveness of the selected site remedy.
- A soil management plan detailing the procedures for the safe implementation of any future excavation and handling of excavated soil at the site.
- A site management reporting plan detailing the necessary components and required frequency of periodic review report preparation for the site.

7.0 PROJECT MANAGEMENT

7.1 Key Participants and Responsibilities

Key participants involved in the remediation of the LIRR Island Park Substation site under the VCP include the following:

Key Participants	Primary Responsibilities
Volunteer: Long Island Rail Road	Oversee planning, implementation and reporting for remedial construction in accordance with approved RAWP, including procuring and directing contractors and consultants for design, remedial construction and site development in accordance with approved RAWP.
Regulatory Agencies: New York State Department of Environmental Conservation and New York State Department of Health	Regulatory oversight.
Remedial Engineer: Dvirka and Bartilucci Consulting Engineers	Construction inspection, record keeping, reporting and preparation of the Final Engineering Report.
Remedial Contractor: [to be determined]	Furnish labor, material, supplies, etc. for remedial construction in accordance with approved plans.

7.2 Project Communication and Management

Throughout the project, project meetings will be held to discuss work progress, plan upcoming activities for the week and discuss any unanticipated site conditions encountered. The remedial contractor's superintendent, as well as LIRR's Project Manager, will be required to attend the project meetings. Representatives of NYSDEC and NYSDOH will be made aware of the schedule for project meetings. Following an initial pre-construction meeting, project meetings will be held once per week at the site during the remediation.

During remedial construction, D&B will provide full-time on-site inspection of the work, engage in day-to-day communications with the remedial contractor's superintendent and maintain records and prepare reports as described in Section 6.0.

8.0 PROJECT SCHEDULE AND KEY MILESTONES

A preliminary schedule for implementation of the remedy is provided below. Key milestones are identified in order to monitor work progress. Upon the LIRR's approval of the remedial schedule, a dated schedule of remedial activities will be provided to the NYSDEC prior to the initiation of remedial activities.

Schedule Milestone	**Estimated Days to Completion from Submittal of Draft Remedial Action Work Plan**
• Submittal of Draft RAWP for NYSDEC Review	0
• Receive Comments from NYSDEC	20
• Submittal of Final RAWP	35
• Complete Preparation of Specifications for Remedial Contractor	50
• NYSDEC to issue Fact Sheet	50
• Solicitation/Selection of Contractor	110
• Mobilization	140
• Completion of Remedial Measures	170
• Submit Remediation Report to NYSDEC	250

APPENDIX A

SUPPLEMENTAL INVESTIGATION FINDINGS

1.0 INTRODUCTION AND BACKGROUND

As detailed in the February 2006 Delineation Phase II Site Assessment Investigation Report for the Manhasset, Massapequa and Island Park Substations, two phases of investigations were completed at the Island Park Substation: an Initial Site Assessment completed in 1999, and a Delineation Phase II Site Assessment completed in 2003. All data generated as part of these investigations were summarized in the NYSDEC-approved report entitled Delineation Phase II Site Assessment Investigation Report for the Manhasset, Massapequa and Island Park Substations, dated February 2006. In accordance with the recommendation presented in the 2006 report and the NYSDEC-approved Supplemental Investigation Scope of Work letter, dated April 9, 2010, the following supplemental sampling activities were performed on July 2, 2010 at the Island Park Substation:

- Surface Soil Sampling - In order to further investigate the horizontal extent of mercury contamination detected in the surface soil sample collected from completed soil boring location IPSB-13 (12.9 mg/kg), collected approximately 5 feet south of the substation building, the LIRR collected one additional surface soil sample (IPSS-07) from 0 to 2 inches below ground surface. As depicted on Drawing 1, provided at the end of this document, surface soil sample IPSS-07 was collected approximately 10 feet northwest of soil boring location IPSB-13.

- Basement Drain Pipe Investigation – In accordance with the NYSDEC-approved Supplemental Investigation Scope of Work letter, a geophysical survey consisting of a ground penetrating radar (GPR) survey and an electromagnetic (EM) survey, was performed in order to locate the discharge point of a basement drain pipe, previously identified in a 1999 electrified pipe tracing investigation to exit the west of the substation building. The area of investigation is depicted on Drawing 1, provided at the end of this document.

Note that, all previously completed soil analysis, presented in the February 2006 Delineation Phase II Site Assessment Investigation Report for the Manhasset, Massapequa and Island Park Substations, had been compared to the TAGM 4046 Recommended Soil Cleanup Objectives (RSCOs). However, as approved by the New York State Department of Environmental Conservation (NYSDEC), all existing analytical data specific to the Island Park Substation has been re-evaluated utilizing the NYCRR Subpart 375 Industrial Soil Cleanup Objectives (SCOs) for Industrial sites.

This report presents the existing data re-evaluation, the results of the Supplemental Investigation described above, followed by recommendations for site remediation.

Note, this document does not re-evaluate the sample data associated with the completed new substation building Construction Excavation Investigation, as these excavations have been completed and are summarized in the February 2006 Delineation Phase II Site Assessment Investigation Report for the Manhasset, Massapequa and Island Park Substations. In addition, this document does not include a re-evaluation of the sample data associated with samples collected from the below grade and underground injection control (UIC) structures, as the mercury concentrations detected in these structures did not warrant further evaluation.

2.0 SUMMARY OF EXISTING AND SUPPLEMENTAL INVESTIGATION FINDINGS

Sampling and Analysis

The following subsection provides a summary of the findings associated with all surface and subsurface soil samples collected for mercury analysis from the Island Park Substation during the 1999 Initial Site Assessment, the 2003 Delineation Phase II Site Assessment and the 2010 Supplemental Investigation. As stated above, all existing site soil analytical data pertaining to the 1999 and 2003 investigation phases have been re-evaluated and compared to the Industrial SCOs. Sample locations and site-wide mercury concentrations are depicted on Drawing 1, provided at the end of this document. Analytical results for the mercury analyses are provided in Attachment A.

Surface Soil

A total of 17 surface soil samples were collected for mercury analysis as part of the Initial Site Assessment, the Delineation Phase II Site Assessment and the Supplemental Investigation. Of the 17 surface soil samples analyzed for mercury, five samples exhibited detectable concentrations of mercury in exceedance of the Industrial SCO for mercury of 5.7 mg/kg, ranging in concentration from 10.8 mg/kg to a maximum concentration of 35.4 mg/kg. The

maximum concentration of mercury was detected in IPSS-02, collected adjacent to the west side of the concrete platform on the west side of the substation building. In addition, note surface soil sample IPSS-07, collected as part of the Supplemental Investigation exhibited a detectable mercury concentration of 0.341 mg/kg, well below the Industrial SCO of 5.7 mg/kg.

Subsurface Soil

A total of 39 subsurface soil samples were collected for mercury analysis as part of the Initial Site Assessment and the Delineation Phase II Site Assessment. Note, subsurface soil samples were not collected as part of the Supplemental Investigation. Of the 39 subsurface soil samples analyzed for mercury, one sample exhibited a detectable concentration of mercury in exceedance of the Industrial SCO for mercury of 5.7 mg/kg: subsurface soil sample IPSB-04A (6 to 8 feet), located adjacent to the concrete platform on the south side of the substation building, exhibited a mercury concentration of 11.3 mg/kg.

Basement Drain Pipe Investigation

As described above, a geophysical survey was performed during the Supplemental Investigation in order to locate the discharge point of a basement drain pipe, previously identified in a 1999 electrified pipe tracing investigation to exit the west of the substation building. No evidence of the previously identified pipe or any basement pipe drainage structure was identified during the geophysical survey.

3.0 CONCLUSIONS AND RECOMMENDATIONS

This subsection presents a discussion of the conclusions and recommendations associated with the completed investigation of the Island Park Substation. Note that, as described above, the conclusions and recommendations presented below are based on the completed Supplemental Investigation and the above re-evaluation of all existing Initial Site Assessment and Delineation Phase II Site Assessment mercury concentration data.

The Remedial Action Work Plan (RAWP), to which this document is appended, fully details the methods and procedures that will be employed by the LIRR in order to execute the below recommendations that will be used to remediate the Island Park Substation.

Nature and Extent of Contamination

As stated above, mercury was detected in surface and subsurface soil at the Island Park Substation. Slightly to moderately elevated concentrations of mercury were detected in surface and subsurface soil in limited areas to the north, south and west of the substation building. The greatest mercury concentrations were detected in surface soil located adjacent to the concrete platform on the west side of the substation building, with a maximum mercury concentration of 35.4 mg/kg.

The substation property is bounded by track to the west and commercial areas and parking lots to the north, east and south. The substation property is fenced on all sides, limiting public access to the property. The areas immediately surrounding the substation building are partially covered by crushed stone and asphalt. Therefore, direct exposure to mercury contamination of LIRR workers and contractors (on-site receptors), who are required to periodically enter the site for equipment maintenance and repair, and the public (off-site receptors) is possible through dermal contact and the inhalation of windblown dust. However, the areas where the greatest mercury concentrations were detected are generally covered with approximately 2 inches of crushed stone/clinker and/or asphalt, limiting this exposure potential. LIRR workers, contractors and the public could be potentially exposed to the site soil 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, limiting this exposure potential. The LIRR Procedure/Instruction EE03-001, which defines the procedures that must be undertaken prior to conducting excavation activities at LIRR properties, is provided in Attachment B.

Recommendations

As part of the LIRR's overall system upgrade in response to increased ridership, the Island Park Substation will be decommissioned as part of the next LIRR Capital Program. Note that a new substation building has been constructed to the northeast of the existing substation building. The existing substation building will be decommissioned and demolished. Following decommissioning of the existing substation building, the LIRR intends to remediate the limited areas of mercury contamination identified at the site by excavation and off-site disposal. Therefore, the planned decommissioning of the Island Park Substation and remediation of soil will remove the vast majority of elevated mercury concentrations, and as a result, future exposure to mercury contamination at the Island Park Substation site is not expected. In addition, following the substation building demolition and substation property remediation, an asphalt parking lot will be installed overlying the former substation property. As a result, any remaining contamination in site soil will be effectively capped. Following site redevelopment, the LIRR will not be disturbing or excavating at the Island Park Substation for the foreseeable future.

Due to the fact that no buildings are planned to be constructed within the limits of the substation property, a mercury vapor survey is not warranted to be completed following site redevelopment.

Provided below are specific recommendations with regard to site remediation; however, note that the RAWP, to which this document is appended, fully details the methods and procedures that will be employed by the LIRR in order to execute the below recommendations that will be used to remediate the Island Park Substation. In addition, the RAWP includes provisions for a Community Air Monitoring Plan (CAMP) to be included in the Contractor Health and Safety Plan (CHASP) to be submitted by the remedial contractor to the LIRR and the NYSDEC for review and approval. Note that, as is stated in the RAWP, the CAMP will comply with the requirements of the New York State Department of Health (NYSDOH) Generic CAMP, which is also be included in the RAWP.

Site Soil

In order to remediate the highest mercury concentrations detected in site soil at the Island Park Substation, the LIRR proposes to excavate soil to the north, south and west of the substation building to a depth ranging from 1 to 8 feet below ground surface, as depicted on Drawing 2, provided at the end of this document.

Due to the irregular distribution of mercury in site soil, the remedial excavations of soil exhibiting elevated mercury concentrations have been divided into two 1-foot excavation areas and one 8-foot excavation area. The proposed 1-foot excavations are approximately 878 square feet in total area, and will require the excavation of approximately 33 cubic yards of soil. The proposed 8-foot excavation is approximately 118 square feet in total area, and will require the excavation of approximately 35 cubic yards of soil.

These areas are approximately 996 square feet in total area, and will require the excavation of a combined total of approximately 68 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 meeting the requirements of the Industrial SCOs, at a minimum.

Basement Drain Pipe

As described above, a geophysical survey was performed during the Supplemental Investigation in order to locate the discharge point of a basement drain pipe, previously identified in a 1999 electrified pipe tracing investigation to exit the west of the substation building. No evidence of the previously identified pipe or any basement pipe drainage structure was identified during the Supplemental Investigation geophysical survey. However, in order to ensure the absence of the basement drainage pipe, this area will be further investigated during completion of the 1-foot excavation in this area. In the event that the basement drainage pipe is identified during completion of the northwestern 1-foot excavation, the basement drainage pipe

will be tracked to its discharge structure. If identified, the discharge structure will be sampled as follows: one sample will be collected from the bottom surface of the discharge structure and one sample will be collected from 2 to 4 feet below the bottom surface of the discharge structure. All samples collected from the discharge structure will be analyzed for Underground Injection Control (UIC) parameters and, as TAGM has been rescinded by the NYSDEC, all soil samples will be compared to the Industrial SCOs. The discharge structure and discharge piping will then be removed and properly disposed of. In addition, any associated soil exhibiting staining, elevated photoionzation detector (PID) readings and/or end point samples exceedances, if warranted to be collected, will be removed and properly disposed of. The discharge structure area will then be backfilled with clean fill.

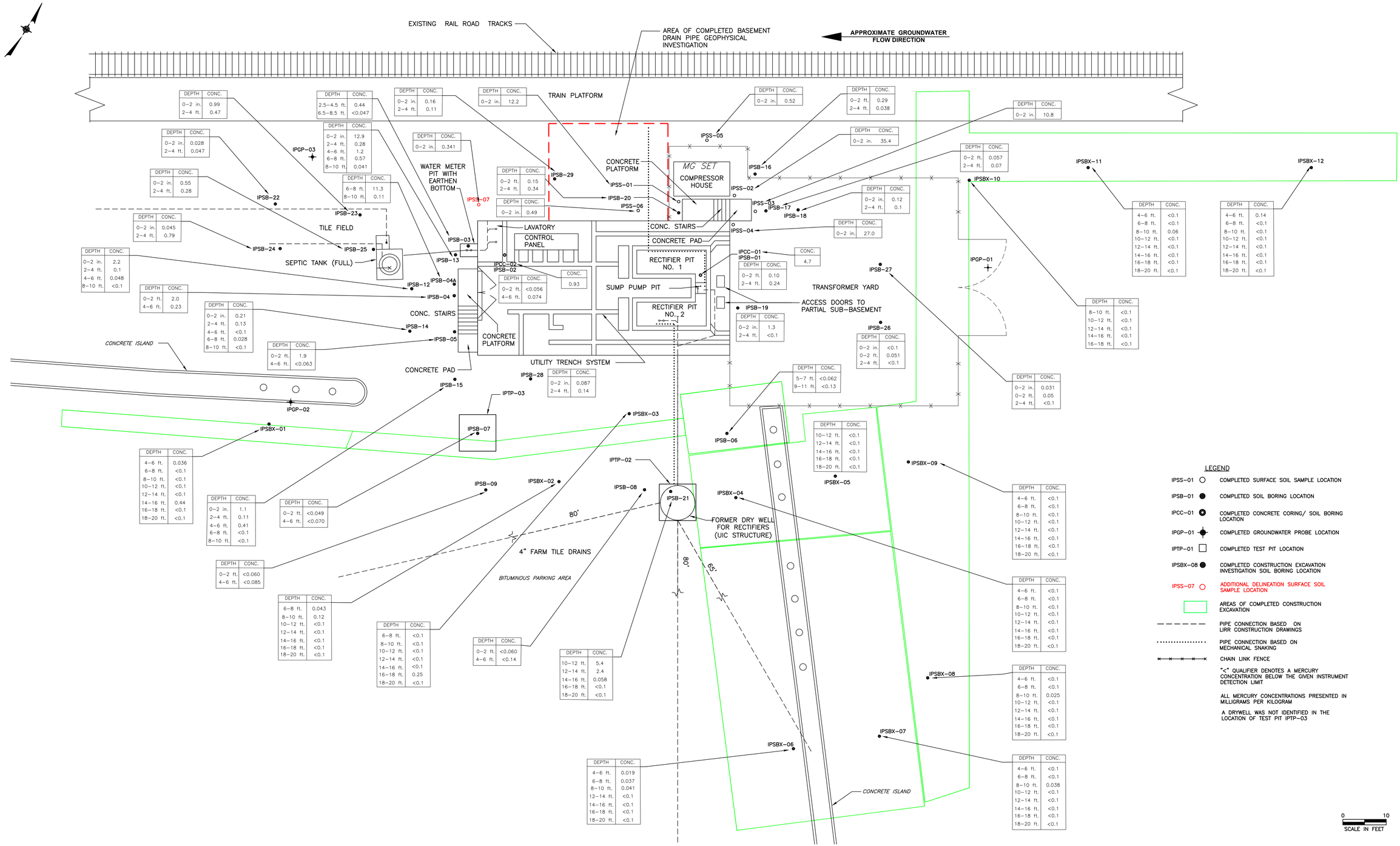
If the basement drainage pipe is not encountered during the 1-foot excavation, no further actions will be taken at this time. However, in the event that the basement drainage pipe is encountered during demolition of the substation building, the pipe will be tracked to its drainage structure and the above-detailed actions will be taken.

Septic Tank

As previously recommended in the February 2006 Delineation Phase II Site Assessment Investigation Report for the Manhasset, Massapequa and Island Park Substations, the LIRR intends to close and remediate soil associated with the septic tank located approximately 17 feet south of the substation building. The septic tank, its contents and associated piping will be removed and properly disposed of. In addition, soil surrounding the septic tank exhibiting staining and/or elevated PID readings will be removed and properly disposed of and the septic tank excavation area will be backfilled with clean fill.

In addition, note that it was previously recommended in the February 2006 Delineation Phase II Site Assessment Investigation Report for the Manhasset, Massapequa and Island Park Substations to further investigate the sump pump pit located within the substation building. However, as the Industrial SCOs are now being utilized to screen all site and below grade structure soil samples, this structure no longer warrants further investigation.

In addition, to the above-described site remediation, and in order to further protect the community and LIRR employees, the LIRR has elected to file a Declaration of Covenant and Restrictions for the Island Park Substation property, which will be provided in an upcoming Site Management Plan.



DEPTH	CONC.
0–2 in.	0.99
2–4 ft.	0.47

DEPTH	CONC.
0–2 in.	0.028
2–4 ft.	0.047

DEPTH	CONC.
0–2 in.	0.55
2–4 ft.	0.28

DEPTH	CONC.
0–2 in.	0.045
2–4 ft.	0.79

DEPTH	CONC.
0–2 in.	2.2
2–4 ft.	0.1
4–6 ft.	0.048
8–10 ft.	<0.1

DEPTH	CONC.
0–2 ft.	2.0
4–6 ft.	0.23

DEPTH	CONC.
0–2 in.	0.21
2–4 ft.	0.13
4–6 ft.	<0.1
6–8 ft.	0.028
8–10 ft.	<0.1

DEPTH	CONC.
0–2 ft.	1.9
4–6 ft.	<0.063

DEPTH	CONC.
4–6 ft.	0.036
6–8 ft.	<0.1
8–10 ft.	<0.1
10–12 ft.	<0.1
12–14 ft.	<0.1
14–16 ft.	0.44
16–18 ft.	<0.1
18–20 ft.	<0.1

DEPTH	CONC.
0–2 in.	1.1
2–4 ft.	0.11
4–6 ft.	0.41
6–8 ft.	<0.1
8–10 ft.	<0.1

DEPTH	CONC.
0–2 ft.	<0.049
4–6 ft.	<0.070

DEPTH	CONC.
0–2 ft.	<0.060
4–6 ft.	<0.085

DEPTH	CONC.
6–8 ft.	0.043
8–10 ft.	0.12
10–12 ft.	<0.1
12–14 ft.	<0.1
14–16 ft.	<0.1
16–18 ft.	<0.1
18–20 ft.	<0.1

DEPTH	CONC.
2.5–4.5 ft.	0.44
6.5–8.5 ft.	<0.047

DEPTH	CONC.
0–2 in.	12.9
2–4 ft.	0.28
4–6 ft.	1.2
6–8 ft.	0.57
8–10 ft.	0.041

DEPTH	CONC.
6–8 ft.	11.3
8–10 ft.	0.11

DEPTH	CONC.
0–2 in.	0.49

DEPTH	CONC.
0–2 in.	0.16
2–4 ft.	0.11

DEPTH	CONC.
0–2 in.	0.341

DEPTH	CONC.
0–2 ft.	0.15
2–4 ft.	0.34

DEPTH	CONC.
0–2 ft.	<0.056
4–6 ft.	0.074

CONC.
0.93

DEPTH	CONC.
0–2 in.	0.087
2–4 ft.	0.14

DEPTH	CONC.
6–8 ft.	<0.1
8–10 ft.	<0.1
10–12 ft.	<0.1
12–14 ft.	<0.1
14–16 ft.	<0.1
16–18 ft.	0.25
18–20 ft.	<0.1

DEPTH	CONC.
0–2 ft.	<0.060
4–6 ft.	<0.14

DEPTH	CONC.
10–12 ft.	5.4
12–14 ft.	2.4
14–16 ft.	0.058
16–18 ft.	<0.1
18–20 ft.	<0.1

DEPTH	CONC.
0–2 in.	12.2

DEPTH	CONC.
0–2 in.	0.52

DEPTH	CONC.
0–2 ft.	0.29
2–4 ft.	0.038

DEPTH	CONC.
0–2 in.	35.4

DEPTH	CONC.
0–2 in.	10.8

DEPTH	CONC.
0–2 ft.	0.057
2–4 ft.	0.07

DEPTH	CONC.
0–2 in.	0.12
2–4 ft.	0.1

DEPTH	CONC.
0–2 in.	27.0

CONC.
4.7

DEPTH	CONC.
0–2 ft.	0.10
2–4 ft.	0.24

DEPTH	CONC.
0–2 in.	1.3
2–4 ft.	<0.1

DEPTH	CONC.
0–2 in.	<0.1
0–2 ft.	0.051
2–4 ft.	<0.1

DEPTH	CONC.
5–7 ft.	<0.062
9–11 ft.	<0.13

DEPTH	CONC.
10–12 ft.	<0.1
12–14 ft.	<0.1
14–16 ft.	<0.1
16–18 ft.	<0.1
18–20 ft.	<0.1

DEPTH	CONC.
0–2 in.	0.031
0–2 ft.	0.05
2–4 ft.	<0.1

DEPTH	CONC.
4–6 ft.	<0.1
6–8 ft.	<0.1
8–10 ft.	<0.1
10–12 ft.	<0.1
12–14 ft.	<0.1
14–16 ft.	<0.1
16–18 ft.	<0.1
18–20 ft.	<0.1

DEPTH	CONC.
4–6 ft.	<0.1
6–8 ft.	<0.1
8–10 ft.	<0.1
10–12 ft.	<0.1
12–14 ft.	<0.1
14–16 ft.	<0.1
16–18 ft.	<0.1
18–20 ft.	<0.1

DEPTH	CONC.
4–6 ft.	<0.1
6–8 ft.	<0.1
8–10 ft.	0.025
10–12 ft.	<0.1
12–14 ft.	<0.1
14–16 ft.	<0.1
16–18 ft.	<0.1
18–20 ft.	<0.1

DEPTH	CONC.
4–6 ft.	<0.1
6–8 ft.	<0.1
8–10 ft.	0.038
10–12 ft.	<0.1
12–14 ft.	<0.1
14–16 ft.	<0.1
16–18 ft.	<0.1
18–20 ft.	<0.1

DEPTH	CONC.
4–6 ft.	0.019
6–8 ft.	0.037
8–10 ft.	0.041
12–14 ft.	<0.1
14–16 ft.	<0.1
16–18 ft.	<0.1
18–20 ft.	<0.1

DEPTH	CONC.
4–6 ft.	<0.1
6–8 ft.	<0.1
8–10 ft.	0.06
10–12 ft.	<0.1
12–14 ft.	<0.1
14–16 ft.	<0.1
16–18 ft.	<0.1
18–20 ft.	<0.1

DEPTH	CONC.
4–6 ft.	0.14
6–8 ft.	<0.1
8–10 ft.	<0.1
10–12 ft.	<0.1
12–14 ft.	<0.1
14–16 ft.	<0.1
16–18 ft.	<0.1
18–20 ft.	<0.1

LEGEND

- IPSS–01 ○ COMPLETED SURFACE SOIL SAMPLE LOCATION
- IPSB–01 ● COMPLETED SOIL BORING LOCATION
- IPCC–01 ◘ COMPLETED CONCRETE CORING/ SOIL BORING LOCATION
- IPGP–01 ✦ COMPLETED GROUNDWATER PROBE LOCATION
- IPTP–01 □ COMPLETED TEST PIT LOCATION
- IPSBX–08 ● COMPLETED CONSTRUCTION EXCAVATION INVESTIGATION SOIL BORING LOCATION
- IPSS–07 ○ ADDITIONAL DELINEATION SURFACE SOIL SAMPLE LOCATION
- AREAS OF COMPLETED CONSTRUCTION EXCAVATION
- PIPE CONNECTION BASED ON LIRR CONSTRUCTION DRAWINGS
- PIPE CONNECTION BASED ON MECHANICAL SNAKING
- CHAIN LINK FENCE

"<" QUALIFIER DENOTES A MERCURY CONCENTRATION BELOW THE GIVEN INSTRUMENT DETECTION LIMIT

ALL MERCURY CONCENTRATIONS PRESENTED IN MILLIGRAMS PER KILOGRAM

A DRYWELL WAS NOT IDENTIFIED IN THE LOCATION OF TEST PIT IPTP–03

NO.	DATE	REVISION	INT.

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW.

PROJECT ENGINEER:	DRAWN BY:
T.F.	L.V.G.
DESIGNED BY:	CHECKED BY:
A.A.	T.F.

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

LONG ISLAND RAILROAD

NASSAU COUNTY — NEW YORK

MERCURY CONCENTRATION MAP

ISLAND PARK SUBSTATION

PROJECT NO.	DRAWING NO.
2737	1
DATE: AUGUST 2010	
SCALE: 1" = 10'	

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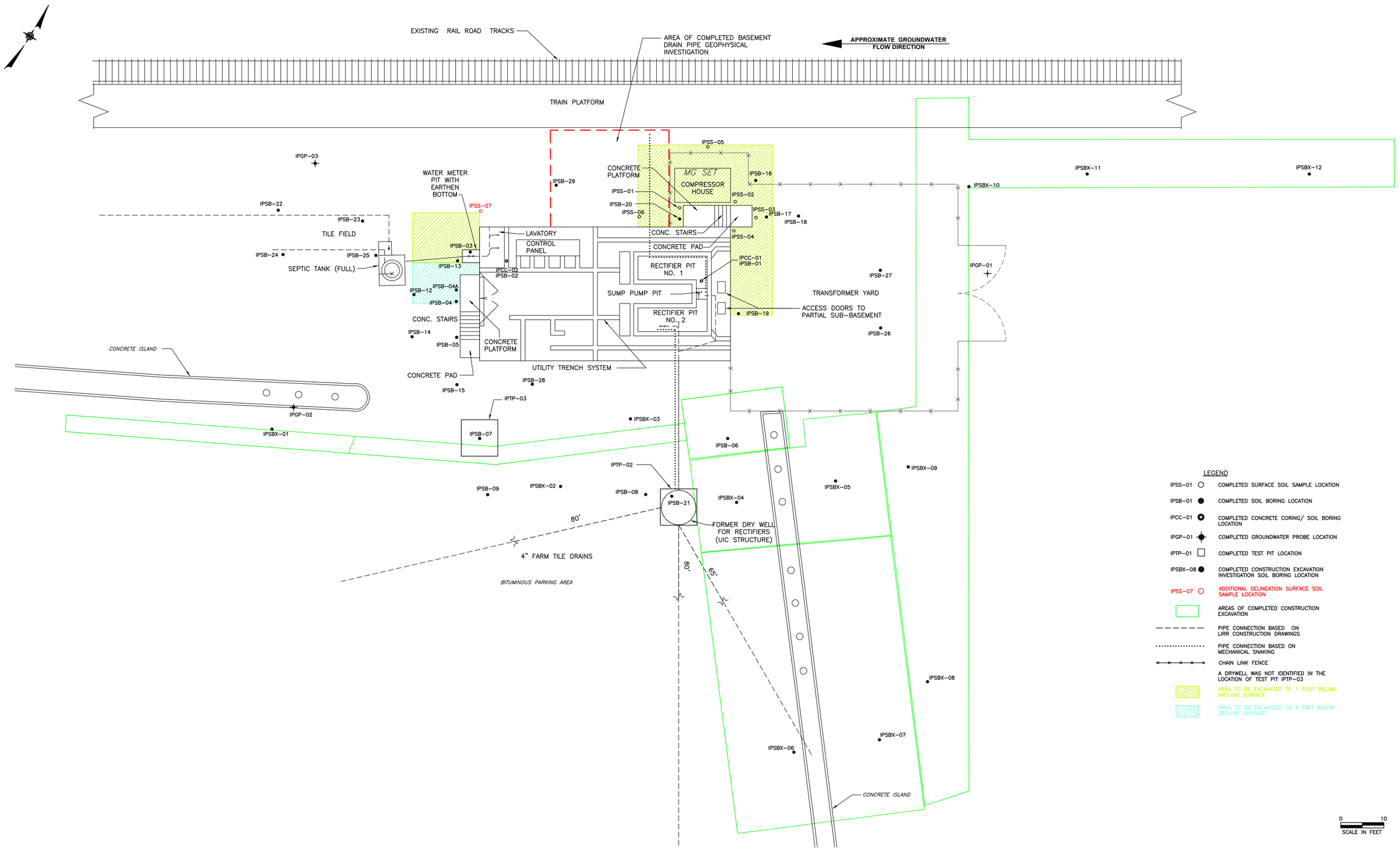

LEGEND

IPSS-01 ○	COMPLETED SURFACE SOIL SAMPLE LOCATION
IPSB-01 ●	COMPLETED SOIL BORING LOCATION
IPCC-01 ◉	COMPLETED CONCRETE CORING/ SOIL BORING LOCATION
IPGP-01 ✦	COMPLETED GROUNDWATER PROBE LOCATION
IPTP-01 □	COMPLETED TEST PIT LOCATION
IPSBX-08 ●	COMPLETED CONSTRUCTION EXCAVATION INVESTIGATION SOIL BORING LOCATION
IPSS-07 ○	ADDITIONAL DELINEATION SURFACE SOIL SAMPLE LOCATION
	AREAS OF COMPLETED CONSTRUCTION EXCAVATION
	PIPE CONNECTION BASED ON LIRR CONSTRUCTION DRAWINGS
	PIPE CONNECTION BASED ON MECHANICAL SNAKING
	CHAIN LINK FENCE
	A DRYWELL WAS NOT IDENTIFIED IN THE LOCATION OF TEST PIT IPTP-03
	AREA TO BE EXCAVATED TO 1 FOOT BELOW GROUND SURFACE
	AREA TO BE EXCAVATED TO 8 FEET BELOW GROUND SURFACE

0 10
SCALE IN FEET

NO.	DATE	REVISION	INT.

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PROJECT ENGINEER:	DRAWN BY:
T.F.	L.V.G.
DESIGNED BY:	CHECKED BY:
A.A.	T.F.

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

LONG ISLAND RAILROAD

NASSAU COUNTY NEW YORK

PROPOSED AREAS OF REMEDIATION MAP

ISLAND PARK SUBSTATION

PROJECT NO.	DRAWING NO.
2737	2
DATE: AUGUST 2010	
SCALE: 1" = 10'	

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ATTACHMENT A

ANALYTICAL DATA

TABLE 1
LONG ISLAND RAILROAD
ISLAND PARK SUBSTATION
SURFACE SOIL SAMPLING RESULTS
MERCURY

Sample ID	IPSS-01 (0 to 6 in. bgs)	IPSS-02 (0 to 6 in. bgs)	IPSS-03 (0 to 6 in. bgs)	IPSS-04 (0 to 6 in. bgs)	IPSS-05 (0 to 2 in. bgs)	IPSS-06 (0 to 2 in. bgs)	IPSS-07 (0 to 2 in. bgs)	IPSB-12 (0 to 2 in. bgs)	NYSDEC 6 NYCRR Part 375 Industrial Use Soil Cleanup Objectives (SCOs)
Sampling Date	8/10/1999	8/10/1999	8/10/1999	8/10/1999	1/28/2003	1/28/2003	7/2/2010	1/27/2003	
Matrix	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Mercury	**12.2**	**35.4**	**10.8**	**27.0**	0.52	0.49	0.341	2.20	5.7

Sample ID	IPSB-13 (0 to 2 in. bgs)	IPSB-14 (0 to 2 in. bgs)	IPSB-15 (0 to 2 in. bgs)	IPSB-18 (0 to 2 in. bgs)	IPSB-19 (0 to 2 in. bgs)	IPSB-26 (0 to 2 in. bgs)	IPSB-27 (0 to 2 in. bgs)	IPSB-28 (0 to 2 in. bgs)	NYSDEC 6 NYCRR Part 375 Industrial Use Soil Cleanup Objectives (SCOs)
Sampling Date	1/29/2003	1/29/2003	1/29/2003	1/30/2003	1/27/2003	1/30/2003	1/30/2003	1/30/2003	
Matrix	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Mercury	**12.9**	0.21	1.1	1.3	1.3	U	0.031 B	0.087 B	5.7

Sample ID	IPSB-29 (0 to 2 in. bgs)	NYSDEC 6 NYCRR Part 375 Industrial Use Soil Cleanup Objectives (SCOs)
Sampling Date	1/28/2003	
Matrix	Solid	
Units	mg/kg	mg/kg
Mercury	0.16	5.7

Notes:
U: The compound was not detected
B: Concentration is less than the contract required detection limit
in: Inches
bgs: Below ground surface

Notes:
Bold: Value exceeds Industrial Use Soil Cleanup Objectives

TABLE 2
LONG ISLAND RAILROAD
ISLAND PARK SUBSTATION
SUBSURFACE SOIL SAMPLING RESULTS
MERCURY

Sample ID	IPSB-04 (0 to 2 ft. bgs)	IPSB-04 (4 to 6 ft. bgs)	IPSB-04A (6 to 8 ft. bgs)	IPSB-04A (8 to 10 ft. bgs)	IPSB-05 (0 to 2 ft. bgs)	IPSB-05 (4 to 6 ft. bgs)	IPSB-08 (5 to 7 ft. bgs)	IPSB-08 (9 to 11 ft. bgs)	NYSDEC 6 NYCRR Part 375 Industrial Use Soil Cleanup Objectives (SCOs)
Sampling Date	8/10/1999	8/10/1999	1/29/2003	1/29/2003	8/10/1999	8/10/1999	10/5/1999	10/5/1999	
Matrix	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Mercury	2.0	0.23	11.3	0.11 B	1.9	U	U	U	5.7

Sample ID	IPSB-09 (5 to 7 ft. bgs)	IPSB-09 (9 to 11 ft. bgs)	IPSB-12 (2 to 4 ft. bgs)	IPSB-12 (4 to 6 ft. bgs)	IPSB-12 (8 to 10 ft. bgs)	IPSB-13 (2 to 4 ft. bgs)	IPSB-13 (4 to 6 ft. bgs)	IPSB-13 (6 to 8 ft. bgs)	NYSDEC 6 NYCRR Part 375 Industrial Use Soil Cleanup Objectives (SCOs)
Sampling Date	10/5/1999	10/5/1999	1/27/2003	1/27/2003	1/27/2003	1/29/2003	1/29/2003	1/29/2003	
Matrix	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Mercury	U	U	0.1 B	0.048 B	U	0.28	1.2	0.57	5.7

Sample ID	IPSB-13 (8 to 10 ft. bgs)	IPSB-14 (2 to 4 ft. bgs)	IPSB-14 (4 to 6 ft. bgs)	IPSB-14 (6 to 8 ft. bgs)	IPSB-14 (8 to 10 ft. bgs)	IPSB-15 (2 to 4 ft. bgs)	IPSB-15 (4 to 6 ft. bgs)	IPSB-15 (6 to 8 ft. bgs)	NYSDEC 6 NYCRR Part 375 Industrial Use Soil Cleanup Objectives (SCOs)
Sampling Date	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	
Matrix	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Mercury	0.041	0.13	U	0.028 B	U	0.11	0.41	U	5.7

Notes:
U: The compound was not detected
B: Concentration is less than the contract required detection limit
in: Inches
bgs: Below ground surface

Notes:
[ ]: Value exceeds Industrial Use Soil Cleanup Objectives

TABLE 2 (cont)
LONG ISLAND RAILROAD
ISLAND PARK SUBSTATION
SUBSURFACE SOIL SAMPLING RESULTS
MERCURY

Sample ID Sampling Date Matrix Units	**IPSB-15** **(8 to 10 ft. bgs)** 1/29/2003 Solid mg/kg	**IPSB-16** **(0 to 2 ft. bgs)** 1/30/2003 Solid mg/kg	**IPSB-16** **(2 to 4 ft. bgs)** 1/30/2003 Solid mg/kg	**IPSB-17** **(0 to 2 ft. bgs)** 1/28/2003 Solid mg/kg	**IPSB-17** **(2 to 4 ft. bgs)** 1/28/2003 Solid mg/kg	**IPSB-18** **(2 to 4 ft. bgs)** 1/30/2003 Solid mg/kg	**IPSB-19** **(2 to 4 ft. bgs)** 1/27/2003 Solid mg/kg	**IPSB-20** **(0 to 2 ft. bgs)** 1/27/2003 Solid mg/kg	**NYSDEC 6 NYCRR Part 375 Industrial Use Soil Cleanup Objectives (SCOs) mg/kg**
Mercury	U	0.29	0.038 B	0.057 B	0.07 B	0.1 B	U	0.15	5.7

Sample ID Sampling Date Matrix Units	**IPSB-20** **(2 to 4 ft. bgs)** 1/27/2003 Solid mg/kg	**IPSB-26** **(0 to 2 ft. bgs)** 1/30/2003 Solid mg/kg	**IPSB-26** **(2 to 4 ft. bgs)** 1/30/2003 Solid mg/kg	**IPSB-27** **(0 to 2 ft. bgs)** 1/30/2003 Solid mg/kg	**IPSB-27** **(2 to 4 ft. bgs)** 1/30/2003 Solid mg/kg	**IPSB-28** **(2 to 4 ft. bgs)** 1/30/2003 Solid mg/kg	**IPSB-29** **(2 to 4 ft. bgs)** 1/28/2003 Solid mg/kg		**NYSDEC 6 NYCRR Part 375 Industrial Use Soil Cleanup Objectives (SCOs) mg/kg**
Mercury	0.34	0.051 B	U	0.05 B	U	0.14	0.11		5.7

Notes:
U: The compound was not detected
B: Concentration is less than the contract required detection limit
in: Inches
bgs: Below ground surface

Notes:
: Value exceeds Industrial Use Soil Cleanup Objectives

ATTACHMENT B

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 contaminates, is to review the current System Safety Environmental Audit Map. This map includes all LIRR sites with documented soil contaminates. 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.

APPENDIX B

MERCURY VAPOR SURVEY RESULTS

TABLE 1

LONG ISLAND RAIL ROAD SUBSTATION INVESTIGATION
MERCURY VAPOR SURVEY RESULTS - ISLAND PARK

(August 6, 1999)

Measurement I.D.	MVA (mg/m^3)
IPMV-01	0.000
IPMV-02	0.000
IPMV-03	0.000
IPMV-04	0.000
IPMV-05	0.000
IPMV-06	0.000
IPMV-07	0.000
IPMV-08	0.000
IPMV-09	0.000
IPMV-10	0.000
IPMV-11	0.000
IPMV-12	0.000
IPMV-13	0.000
IPMV-14	0.000
IPMV-15	0.000
IPMV-16	0.000
IPMV-17	0.000
IPMV-18	0.000
IPMV-19	0.000
IPMV-20	0.000
IPMV-21	0.000
IPMV-22	0.000
IPMV-23	0.000
IPMV-24	0.000
IPMV-25	0.000
IPMV-26	0.000
IPMV-27	0.000
IPMV-28	0.000
IPMV-29	0.000
IPMV-30	0.000
IPMV-31	0.000
IPMV-32	0.000
IPMV-33	0.000
IPMV-34	0.000
IPMV-35	0.000
IPMV-36	0.000
IPMV-37	0.000
IPMV-38	0.000
IPMV-39	0.000
IPMV-40	0.000
IPMV-41	0.000
IPMV-42	0.000
IPMV-43	0.000
IPMV-44	0.000
IPMV-45	0.000
IPMV-46	0.000
IPMV-47	0.000
IPMV-48	0.000

Notes:
MVA: Mercury vapor analyzer
Mg/m^3 Hg: Milligrams per meter cubed
Instrument detection limit is 0.003 mg/m3

APPENDIX C

NEW YORK STATE DEPARTMENT OF HEALTH
GENERIC COMMUNITY AIR MONITORING PLAN

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

APPENDIX D

SOIL SAMPLING
ANALYTICAL RESULTS

TABLE 7B

LONG ISLAND RAIL ROAD SUBSTATION INVESTIGATION
SURFACE SOIL SAMPLING RESULTS - ISLAND PARK-L03
MERCURY

LOCATION	West of Rear Concrete Platform	Northwest of Rear Concrete Steps\Pad	Northeast of Rear Concrete Steps\Pad	East of Rear Concrete Steps\Pad		
SAMPLE ID	**IPSS-01**	**IPSS-02**	**IPSS-03**	**IPSS-04**	**Instrument Detection Limits**	**Eastern USA Background Levels[(1)]**
SAMPLE DEPTH (in.)	**0-6**	**0-6**	**0-6**	**0-6**		
DATE OF COLLECTION	8/10/1999	8/10/1999	8/10/1999	8/10/1999		
PERCENT SOLIDS	88	84	87	85		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	12.2	35.4	10.8	27	0.1	0.001 - 0.2

NOTES:

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

TABLE 7A

LONG ISLAND RAIL ROAD SUBSTATION INVESTIGATION
SOIL BORING SAMPLING RESULTS - ISLAND PARK-L03
MERCURY

LOCATION	North Rectifier Pit		West Corner Utility Trench		Exterior Water Meter Pit			
SAMPLE ID	**IPSB-01**	**IPSB-01**	**IPSB-02**	**IPSB-02**	**IPSB-03**	**IPSB-03**	**Instrument Detection Limits**	**Eastern USA Background Levels[(1)]**
SAMPLE DEPTH (ft.)	**0-2**	**2-4**	**0-2**	**4-6**	**2.5-4.5**	**8.5-10.5**		
DATE OF COLLECTION	10/4/1999	10/4/1999	10/4/1999	10/4/1999	8/10/1999	8/10/1999		
PERCENT SOLIDS	80	78	89	85	82	95		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	0.10 B	0.24	0.056 U	0.074 B	0.44	0.047 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 7A (Continued)

LONG ISLAND RAIL ROAD SUBSTATION INVESTIGATION
SOIL BORING SAMPLING RESULTS - ISLAND PARK-L03
MERCURY

LOCATION	Southwest Front-Entrance Concrete Platform		Southwest Front-Entrance Concrete Platform		East Dry Well			
SAMPLE ID	**IPSB-04**	**IPSB-04**	**IPSB-05**	**IPSB-05**	**IPSB-06**	**IPSB-06**	**Instrument Detection Limits**	**Eastern USA Background Levels[(1)]**
SAMPLE DEPTH (ft.)	**0-2**	**4-6**	**0-2**	**4-6**	**5-7**	**9-11**		
DATE OF COLLECTION	8/10/1999	8/10/1999	8/10/1999	8/10/1999	10/5/1999	10/5/1999		
PERCENT SOLIDS	92	84	84	75	81	36		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(mg/kg)
Mercury	2	0.23	1.9	0.063 U	0.062 U	0.13 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.

TABLE 7A (Continued)

LONG ISLAND RAIL ROAD SUBSTATION INVESTIGATION
SOIL BORING SAMPLING RESULTS - ISLAND PARK-L03
MERCURY

LOCATION	Western Dry Well		West of Dry Well For Rectifiers		South of West Dry Well				
SAMPLE ID	**IPSB-07**	**IPSB-07**	**IPSB-08**	**IPSB-08**	**IPSB-09**	**IPSB-09**	**IPFB-01**	**Instrument Detection Limits**	**Eastern USA Background Levels[(1)]**
SAMPLE DEPTH (ft.)	**5-7**	**9-11**	**5-7**	**9-11**	**5-7**	**9-11**			
DATE OF COLLECTION	10/5/1999	10/5/1999	10/5/1999	10/5/1999	10/5/1999	10/5/1999	10/8/1999		
PERCENT SOLIDS	82	68	83	36	80	51	----		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(ug/L)	(mg/kg)
Mercury	0.049 U	0.070 U	0.060 U	0.14 U	0.060 U	0.085 U	0.17 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 7C

LONG ISLAND RAIL ROAD SUBSTATION INVESTIGATION
CONCRETE CORE SAMPLING RESULTS - ISLAND PARK-LO3
MERCURY

LOCATION	**North Rectifier Pit**	**West Corner Utility Trench**			
SAMPLE ID	**IPCC-01**	**IPCC-02**	**IPFB-02**	**Instrument Detection Limits**	**Eastern USA Background Levels[(1)]**
DATE OF COLLECTION	10/4/1999	10/4/1999	10/4/1999		
PERCENT SOLIDS	97	94	----		
UNITS	(mg/kg)	(mg/kg)	(ug/L)	(ug/L)	(mg/kg)
Mercury	4.7	0.93	0.16 B	0.1	0.001 - 0.2

NOTES:

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

----: Not applicable.

QUALIFIERS:

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

TABLE 32

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
DELINEATION PHASE 2 SITE ASSESSMENT

SURFACE SOIL - MERCURY AND RCRA METALS

AREA OF CONCERN	South Side of Substation				Northwest Corner of Substn.	West Side of Substation		INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup Objective
SAMPLE ID	IPSB-12	IPSB-13	IPSB-14	IPSB-15	IPSB-18	IPSS-05	IPSS-06		
SAMPLE DEPTH (IN)	(0 - 2)	(0 - 2)	(0 - 2)	(0 - 2)	(0 - 2)	(0-2)	(0-2)		
DATE OF COLLECTION	1/27/2003	1/29/2003	1/29/2003	1/29/2003	1/30/2003	1/28/2003	1/28/2003		
PERCENT SOLIDS	95.0	94.0	92.0	90.0	84.0	90.0	93.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	mg/kg
Mercury	2.2	12.9	0.21	1.1	0.12 B	0.52	0.49	0.1	0.1

AREA OF CONCERN	Transformers			Potential Releases				INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup Objective
SAMPLE ID	IPSB-19	IPSB-26	IPSB-27	IPSB-28	IPSB-29				
SAMPLE DEPTH (IN)	(0 - 2)	(0-2)	(0-2)	(0-2)	(0-2)				
DATE OF COLLECTION	1/27/2003	1/30/2003	1/30/2003	1/30/2003	1/28/2003				
PERCENT SOLIDS	92.0	87.0	83.0	94.0	85.0				
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)			(ug/l)	(mg/kg)
Arsenic	NA	4	3.6	2.4	7.6			3.0	7.5 or SB
Barium	NA	17	15.6	23.6	79.3			3.0	300 or SB
Cadmium	NA	0.2 B	U	U	0.93			2.0	10*
Chromium	NA	9.2	8.5	4.2	14.8			3.0	50*
Lead	NA	7.9	11	42.9	60.5			1.0	SB**
Mercury	1.3	U	0.031 B	0.087 B	0.16			0.1	0.1
Selenium	NA	U	U	0.47 B	U			8.0	2 or SB
Silver	NA	U	U	U	1 B			2.0	SB

QUALIFIERS:
U: Constituent analyzed for but not detected.
B: Constituent concentration is less than the CRDL, but greater than the IDL.

Notes:
SB: Site Background
*: As per proposed 4/95 NSDEC TAGM
**: Average background levels in metropolitan or surburban areas or near highways range from 200-500 ppm.
: Result exceeds NYSDEC TAGM recommended Soil Cleanup Objective

TABLE 33

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
DELINEATION PHASE 2 SITE ASSESSMENT

SURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

AREA OF CONCERN	Transformers		Potential Releases			
SAMPLE ID	IPSB-26	IPSB-27	IPSB-28	IPSB-29		
SAMPLE DEPTH (IN)	(0-2)	(0-2)	(0-2)	(0-2)	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup Objective
DATE OF COLLECTION	1/30/2003	1/30/2003	1/30/2003	1/28/2003		
DILUTION FACTOR	1	1	1	1		
PERCENT SOLIDS	87.0	83.0	94.0	85.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/Kg)	(ug/Kg)
Phenol	U	U	U	U	330	30
bis(2-Chloroethyl)ether	U	U	U	U	330	--
2-Chlorophenol	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	330	--
1,4-Dichlorobenzene	U	U	U	U	330	--
1,2-Dichlorobenzene	U	U	U	U	330	--
2-Methylphenol	U	U	U	U	330	100
2,2'-oxybis (1-chloropropane)	U	U	U	U	330	--
4-Methylphenol	U	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	330	--
Hexachloroethane	U	U	U	U	330	--
Nitrobenzene	U	U	U	U	330	200
Isophorone	U	U	U	U	330	4,400
2-Nitrophenol	U	U	U	U	330	330
2,4-Dimethylphenol	U	U	U	U	330	--
2,4-Dichlorophenol	U	U	U	U	330	400
1,2,4-Trichlorobenzene	U	U	U	U	330	--
Naphthalene	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	330	220
bis(2-Chloroethoxy)methane	U	U	U	U	330	--
Hexachlorobutadiene	U	U	U	U	330	--
4-Chloro-3-methylphenol	U	U	U	U	330	240
2-Methylnaphthalene	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	330	--
2,4,6-Trichlorophenol	U	U	U	U	330	--
2,4,5-Trichlorophenol	U	U	U	U	660	100
2-Chloronaphthalene	U	U	U	U	330	--
2-Nitroaniline	U	U	U	U	660	430
Dimethylphthalate	U	U	U	U	330	2,000
Acenaphthylene	U	67 J	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	330	1,000
3-Nitroaniline	U	U	U	U	660	500
Acenaphthene	U	200 J	U	U	330	50,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

TABLE 33 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
DELINEATION PHASE 2 SITE ASSESSMENT

SURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

AREA OF CONCERN	Transformers		Potential Releases			
SAMPLE ID	IPSB-26	IPSB-27	IPSB-28	IPSB-29		
SAMPLE DEPTH (IN)	(0-2)	(0-2)	(0-2)	(0-2)	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup Objective
DATE OF COLLECTION	1/30/2003	1/30/2003	1/30/2003	1/28/2003		
DILUTION FACTOR	1	1	1	1		
PERCENT SOLIDS	87.0	83.0	94.0	85.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/Kg)	(ug/Kg)
2,4-Dinitrophenol	U	U	U	U	660	200
4-Nitrophenol	U	U	U	U	660	100
Dibenzofuran	U	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	330	--
Diethylphthalate	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	330	--
Fluorene	U	160 J	U	U	330	50,000
4-Nitroaniline	U	U	U	U	330	--
4,6-Dinitro-2-methylphenol	U	U	U	U	330	--
N-Nitrosodiphenylamine	U	U	U	U	330	--
4-Bromophenyl-phenylether	U	U	U	U	330	--
Hexachlorobenzene	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	660	1,000
Phenanthrene	U	2900	37 J	150 J	330	50,000
Anthracene	U	840	U	U	330	50,000
Carbazole	U	U	U	U	330	--
Di-n-butylphthalate	U	U	U	U	330	8,100
Fluoranthene	U	5300	52 J	200 J	330	50,000
Pyrene	U	9200 D	50 J	210 J	330	50,000
Butylbenzylphthalate	U	U	U	U	330	50,000
3,3'-Dichlorobenzidine	U	U	U	U	330	--
Benzo(a)anthracene	U	5200	U	97 J	330	224
Chrysene	U	6200	38 J	110 J	330	400
bis(2-Ethylhexyl)phthalate	U	U	U	540	330	50,000
Di-n-octylphthalate	U	U	U	U	330	50,000
Benzo(b)fluoranthene	U	5000	U	130 J	330	1,100
Benzo(k)fluoranthene	U	1800	U	66 J	330	1,100
Benzo(a)pyrene	U	3800	U	92 J	330	61
Indeno(1,2,3-cd)pyrene	U	800	U	64 J	330	3,200
Dibenz(a,h)anthracene	U	350 J	U	U	330	14
Benzo(g,h,i)perylene	U	750	U	67 J	330	50,000
Total PAHs	0	42,567	177	1,186	--	100,000
Total CaPAHs	0	23,150	38	559	--	10,000
Total SVOCs	0	42,567	177	1,726	--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
[ ] : Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 34

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
DELINEATION PHASE 2 SITE ASSESSMENT

SURFACE SOIL - POLYCHLORINATED BIPHENYLS (PCBs)

AREA OF CONCERN	**Transformers**		**Potential Releases**			
SAMPLE ID	**IPSB-26**	**IPSB-27**	**IPSB-28**	**IPSB-29**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (IN)	(0-2)	(0-2)	(0-2)	(0-2)		
DATE OF COLLECTION	1/30/2003	1/30/2003	1/30/2003	1/28/2003		
DILUTION FACTOR	1	1	1	1		
PERCENT SOLIDS	87.0	83.0	94.0	85.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor- 1016	U	U	U	U	34	----
Aroclor- 1221	U	U	U	U	34	----
Aroclor- 1232	U	U	U	U	34	----
Aroclor- 1242	U	U	U	U	34	----
Aroclor- 1248	U	U	U	U	34	----
Aroclor- 1254	U	U	U	U	34	----
Aroclor- 1260	U	U	U	U	34	----
TOTAL PCBs	0	0	0	0	--	1,000/10,000*

QUALIFIERS:
U: Compound analyzed for but not detected.

NOTES:
-- : Not applicable.
* : According to NYSDEC TAGM 4046 Recommended Soil Cleanup Objectives, 1,000 ug/kg is utilized for surface soil [0-2' below ground surface (bgs)] and 10,000 ug/kg is utilized for subsurface soil (soil deeper than 2' bgs).

TABLE 35

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
DELINEATION PHASE 2 SITE ASSESSMENT

SUBSURFACE SOIL - MERCURY AND RCRA METALS

AREA OF CONCERN	South Side of Substation								INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Appendix A Comparison Criteria
SAMPLE ID	IPSB-04A	IPSB-12	IPSB-12	IPSB-12	IPSB-13	IPSB-13	IPSB-14	IPSB-14		
SAMPLE DEPTH (FT)	(6 - 8)	(2 - 4)	(4 - 6)	(8 - 10)	(2 - 4)	(4 - 6)	(2 - 4)	(4 - 6)		
DATE OF COLLECTION	1/29/2003	1/27/2003	1/27/2003	1/27/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003		
PERCENT SOLIDS	73.0	85.0	57.0	91.0	89.0	87.0	84.0	83.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	mg/kg
Mercury	11.3	0.1 B	0.048 B	U	0.28	1.2	0.13	U	0.1	0.1

AREA OF CONCERN	South Side of Substation						Northwest Corner of Substn.		INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Appendix A Comparison Criteria
SAMPLE ID	IPSB-14	IPSB-14	IPSB-15	IPSB-15	IPSB-15	IPSB-15	IPSB-16	IPSB-16		
SAMPLE DEPTH (FT)	(6 - 8)	(8 - 10)	(2 - 4)	(4 - 6)	(6 - 8)	(8 - 10)	(0 - 2)	(2 - 4)		
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/30/2003	1/30/2003		
PERCENT SOLIDS	63.0	60.0	86.0	84.0	76.0	75.0	86.0	86.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	mg/kg
Mercury	0.028 B	U	0.11	0.41	U	U	0.29	0.038 B	0.1	0.1

AREA OF CONCERN	Northwest Corner of Substation								INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Appendix A Comparison Criteria
SAMPLE ID	IPSB-17	IPSB-17	IPSB-18	IPSB-20						
SAMPLE DEPTH (FT)	(0 - 2)	(2 - 4)	(2 - 4)	(0 - 2)						
DATE OF COLLECTION	1/28/2003	1/28/2003	1/30/2003	1/27/2003						
PERCENT SOLIDS	88.0	78.0	85.0	91.0						
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)					(ug/l)	mg/kg
Mercury	0.057 B	0.07 B	0.1 B	0.15					0.1	0.1

QUALIFIERS:
U: Constituent analyzed for but not detected.
B: Constituent concentration is less than the CRDL, but greater than the IDL.

Notes:
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 35 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
DELINEATION PHASE 2 SITE ASSESSMENT

SUBSURFACE SOIL - MERCURY AND RCRA METALS

AREA OF CONCERN	South Side of Substation			NW Corner of Substn.	Transformers				INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup Objective
SAMPLE ID	IPSB-04A	IPSB-13	IPSB-13	IPSB-20	IPSB-19	IPSB-26	IPSB-26	IPSB-27		
SAMPLE DEPTH (FT)	(8-10)	(6-8)	(8-10)	(2-4)	(2 - 4)	(0-2)	(2-4)	(0-2)		
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/27/2003	1/27/2003	1/30/2003	1/30/2003	1/30/2003		
PERCENT SOLIDS	84.0	82.0	74.0	87.0	82.0	94.0	76.0	89.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(mg/kg)
Arsenic	4.3	3.8	5.7	4.1	NA	3.1	1.3	3.7	3.0	7.5 or SB
Barium	17.5	21.9	9.4 B	15.7	NA	28.2	6.2 B	26.4	3.0	300 or SB
Cadmium	0.097 B	0.091 B	0.24 B	0.33	NA	1.2	U	0.85	2.0	10*
Chromium	13.4	8.7	8.2	9.2	NA	5.7	5.7	6.7	3.0	50*
Lead	29.3	13.6	19	15.7	NA	18.2	2 B	12.7	1.0	SB**
Mercury	0.11 B	0.57	0.041	0.34	U	0.051 B	U	0.05 B	0.1	0.1
Selenium	U	U	U	U	NA	U	U	U	8.0	2 or SB
Silver	U	U	U	0.64 B	NA	U	U	U	2.0	SB

AREA OF CONCERN	Transformers	Potential Releases							INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup Objective
SAMPLE ID	IPSB-27	IPSB-28	IPSB-29							
SAMPLE DEPTH (FT)	(2-4)	(2-4)	(2-4)							
DATE OF COLLECTION	1/30/2003	1/30/2003	1/28/2003							
PERCENT SOLIDS	73.0	85.0	87.0							
UNITS	(mg/kg)	(mg/kg)	(mg/kg)						(ug/l)	(mg/kg)
Arsenic	3.9	6.6	11.8						3.0	7.5 or SB
Barium	7.4 B	32.7	70.7						3.0	300 or SB
Cadmium	U	U	0.53						2.0	10*
Chromium	8.4	14.2	7						3.0	50*
Lead	3.9	24.7	47.3						1.0	SB**
Mercury	U	0.14	0.11						0.1	0.1
Selenium	U	U	U						8.0	2 or SB
Silver	U	U	0.93 B						2.0	SB

QUALIFIERS:
U: Constituent analyzed for but not detected.
B: Constituent concentration is less than the CRDL, but greater than the IDL.

Notes:
SB: Site Background
*: As per proposed 4/95 NSDEC TAGM
**: Average background levels in metropolitan or surburban areas or near highways range from 200-500 ppm.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 36

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
DELINEATION PHASE 2 SITE ASSESSMENT

SUBSURFACE SOIL - VOLATILE ORGANIC COMPOUNDS (VOCs)

AREA OF CONCERN	South Side of Substation				
SAMPLE ID	IPSB-04A	IPSB-13	IPSB-13		
SAMPLE DEPTH (FT)	(8-10)	(6-8)	(8-10)	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003		
DILUTION FACTOR	57	250	57		
PERCENT SOLIDS	84.0	82.0	74.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/Kg)	(ug/Kg)
Dichlorodifluoromethane	U	U	U	5	--
Chloromethane	U	U	U	5	--
Vinyl Chloride	U	U	U	5	200
Bromomethane	U	U	U	5	--
Chloroethane	U	U	U	5	1900
Trichlorofluoromethane	U	U	U	5	--
1,1-Dichloroethene	U	U	U	5	400
Acetone	U	U	210 J	5	200
Idomethane	U	U	U	5	--
Carbone Disulfide	U	U	U	5	2700
Methylene Chloride	260 J	260 J	120 J	5	100
trans-1,2-Dichloroethene	U	U	U	5	300
Methyl tert-butyl ether	U	U	U	5	--
1,1-Dichloroethane	U	U	U	5	200
Vinyl acetate	U	U	U	5	--
2-Butanone	U	U	U	5	300
cis-1,2-Dichloroethene	U	U	U	5	--
2,2-Dichloropropane	U	U	U	5	--
Bromochloromethane	U	U	U	5	--
Chloroform	U	U	U	5	300
1,1,1-Trichloroethane	U	U	U	5	800
1,1-Dichloropropene	U	U	U	5	--
Carbon Tetrachloride	U	U	U	5	600
1,2-Dichloroethane	U	U	U	5	100
Benzene	U	U	U	5	60
Trichloroethene	U	U	U	5	700
1,2-Dichloropropane	U	U	U	5	--
Dibromomethane	U	U	U	5	--
Bromodichloromethane	U	U	U	5	--
cis-1,3-Dichloropropane	U	U	U	5	--
4-Methyl-2-pentanone	U	U	U	5	1000
Toluene	U	U	U	5	1500
trans-1,3-Dichloropropene	U	U	U	5	--
1,1,2-Trichloroethane	U	U	U	5	--

QUALIFIERS:

U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:

--: Not applicable.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 36 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
DELINEATION PHASE 2 SITE ASSESSMENT

SUBSURFACE SOIL - VOLATILE ORGANIC COMPOUNDS (VOCs)

AREA OF CONCERN	South Side of Substation				
SAMPLE ID	IPSB-04A	IPSB-13	IPSB-13		
SAMPLE DEPTH (FT)	(8-10)	(6-8)	(8-10)	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003		
DILUTION FACTOR	57	250	57		
PERCENT SOLIDS	84.0	82.0	74.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/Kg)	(ug/Kg)
1,3-Dichloropropane	U	U	U	5	300
Tetrachloroethene	U	U	U	5	1400
2-Hexanone	U	U	U	5	--
Dibromochloromethane	U	U	U	5	--
1,2-Dibromoethane	U	U	U	5	--
Chlorobenzene	U	U	U	5	1700
1,1,1,2-Tetrachloroethane	U	U	U	5	--
Ethylbenzene	U	U	U	5	5500
m,p-Xylene	U	U	U	5	--
o-Xylene	U	U	U	5	--
Xylene (total)	U	U	U	5	1200
Styrene	U	U	U	5	--
Bromoform	U	U	U	5	--
Isopropylbenzene	U	U	U	5	--
1,1,2,2-Tetrachloroethane	U	U	U	5	600
Bromobenzene	U	U	U	5	--
1,2,3-Trichloropropane	U	U	U	5	400
n-Propylbenzene	U	U	U	5	--
2-Chlorotoluene	U	U	U	5	--
1,3,5-Trimethylbenzene	U	U	U	5	--
4-Chlorotoluene	U	U	U	5	--
tert-Butylbenzene	U	U	U	5	--
1,2,4-Trimethylbenzene	U	U	U	5	--
sec-Butylbenzene	U	U	U	5	--
4-Isopropyltoluene	U	U	U	5	--
1,3-Dichlorobenzene	U	U	U	5	1600
1,4-Dichlorobenzene	U	U	U	5	8500
n-Butylbenzene	U	U	U	5	--
1,2-Dichlorobenzene	U	U	U	5	7900
1,2-Dibromo-3-chloropropane	U	U	U	5	--
1,2,4-Trichlorobenzene	U	U	U	5	3400
Hexachlorobutadiene	U	U	U	5	--
Naphthalene	1600	50000	15000 D	5	13000
1,2,3-Trichlorobenzene	U	U	U	5	--
Totals VOCs	1,860	50,260	15,330	--	--

QUALIFIERS:

U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:

--: Not applicable.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 37

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
DELINEATION PHASE 2 SITE ASSESSMENT

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

AREA OF CONCERN	South Side of Substation			Transformers					
SAMPLE ID	IPSB-04A	IPSB-13	IPSB-13	IPSB-26	IPSB-26	IPSB-27	IPSB-27	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(8-10)	(6-8)	(8-10)	(0-2)	(2-4)	(0-2)	(2-4)		
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/30/2003	1/30/2003	1/30/2003	1/30/2003		
DILUTION FACTOR	1	5	2	1	1	1	1		
PERCENT SOLIDS	84.0	82.0	74.0	94.0	76.0	89.0	73.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/Kg)	(ug/Kg)
Phenol	U	U	U	U	U	U	U	330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U	330	--
2-Chlorophenol	U	U	U	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U	330	--
1,4-Dichlorobenzene	U	U	U	U	U	U	U	330	--
1,2-Dichlorobenzene	U	U	U	U	U	U	U	330	--
2-Methylphenol	U	U	U	U	U	U	U	330	100
2,2-oxybis (1-chloropropane)	U	U	U	U	U	U	U	330	--
4-Methylphenol	U	U	U	U	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	330	--
Hexachloroethane	U	U	U	U	U	U	U	330	--
Nitrobenzene	U	U	U	U	U	U	U	330	200
Isophorone	U	U	U	U	U	U	U	330	4,400
2-Nitrophenol	U	U	U	U	U	U	U	330	330
2,4-Dimethylphenol	U	U	U	U	U	U	U	330	--
2,4-Dichlorophenol	U	U	U	U	U	U	U	330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	330	--
Naphthalene	3000	27000	9900	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	U	330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U	330	--
Hexachlorobutadiene	U	U	U	U	U	U	U	330	--
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	330	240
2-Methylnaphthalene	190 J	7600	1600	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	330	--
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	330	--
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	660	100
2-Chloronaphthalene	U	U	U	U	U	U	U	330	--
2-Nitroaniline	U	U	U	U	U	U	U	660	430
Dimethylphthalate	U	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	U	330	1,000
3-Nitroaniline	U	U	U	U	U	U	U	660	500
Acenaphthene	450	6700	3700	U	U	U	U	330	50,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

NOTES:
-- : Not applicable.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 37 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
DELINEATION PHASE 2 SITE ASSESSMENT

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

AREA OF CONCERN	South Side of Substation			Transformers					
SAMPLE ID	IPSB-04A	IPSB-13	IPSB-13	IPSB-26	IPSB-26	IPSB-27	IPSB-27		
SAMPLE DEPTH (FT)	(8-10)	(6-8)	(8-10)	(0-2)	(2-4)	(0-2)	(2-4)	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/30/2003	1/30/2003	1/30/2003	1/30/2003		
DILUTION FACTOR	1	5	2	1	1	1	1		
PERCENT SOLIDS	84.0	82.0	74.0	94.0	76.0	100.0	100.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/Kg)	(ug/Kg)
2,4-Dinitrophenol	U	U	U	U	U	U	U	660	200
4-Nitrophenol	U	U	U	U	U	U	U	660	100
Dibenzofuran	53 J	6000	2500	U	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	U	330	--
Diethylphthalate	U	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	330	--
Fluorene	240 J	6900	4200	U	U	U	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	U	330	--
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	330	--
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	330	--
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	330	--
Hexachlorobenzene	U	U	U	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	U	U	U	660	1,000
Phenanthrene	300 J	17000	11000	270 J	200 J	560	U	330	50,000
Anthracene	80 J	4900	3300	84 J	47 J	170 J	U	330	50,000
Carbazole	U	810 J	520 J	U	U	U	U	330	--
Di-n-butylphthalate	U	U	U	U	U	U	U	330	8,100
Fluoranthene	170 J	5400	5900	530	210 J	1200	U	330	50,000
Pyrene	160 J	5100	5400	830	320 J	2100	U	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	U	330	50,000
3,3-Dichlorobenzidine	U	U	U	U	U	U	U	330	--
Benzo(a)anthracene	56 J	1200 J	920	510	180 J	1200	U	330	224
Chrysene	61 J	1300 J	910	560	210 J	1400	U	330	400
bis(2-Ethylhexyl)phthalate	U	U	U	U	U	U	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	60 J	840 J	530 J	370	140 J	990	U	330	1,100
Benzo(k)fluoranthene	U	360 J	260 J	160 J	51 J	370	U	330	1,100
Benzo(a)pyrene	44 J	580 J	350 J	350	130 J	920	U	330	61
Indeno(1,2,3-cd)pyrene	U	U	100 J	140 J	51 J	280 J	U	330	3,200
Dibenz(a,h)anthracene	U	U	U	56 J	U	120 J	U	330	14
Benzo(g,h,i)perylene	U	U	95 J	150 J	58 J	280 J	U	330	50,000
Total PAHs	4,864	90,880	50,665	4,010	1,597	9,590	0	--	100,000
Total CaPAHs	221	4,280	3,070	2,146	762	5,280	0	--	10,000
Total SVOCs	4,864	91,690	51,185	4,010	1,597	9,590	0	--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

NOTES:
-- : Not applicable.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 37 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
DELINEATION PHASE 2 SITE ASSESSMENT

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

AREA OF CONCERN	**Potential Releases**								
SAMPLE ID	**IPSB-28**	**IPSB-29**							
SAMPLE DEPTH (FT)	(2-4)	(2-4)							
DATE OF COLLECTION	1/30/2003	1/28/2003							
DILUTION FACTOR	1	1							
PERCENT SOLIDS	85.0	87.0							
UNITS	(ug/kg)	(ug/kg)						**LABORATORY QUANTITATION LIMITS** (ug/Kg)	**NYSDEC TAGM Recommended Soil Cleanup Objective** (ug/Kg)
Phenol	U	U						330	30
bis(2-Chloroethyl)ether	U	U						330	--
2-Chlorophenol	U	U						330	800
1,3-Dichlorobenzene	U	U						330	--
1,4-Dichlorobenzene	U	U						330	--
1,2-Dichlorobenzene	U	U						330	--
2-Methylphenol	U	U						330	100
2,2-oxybis (1-chloropropane)	U	U						330	--
4-Methylphenol	U	U						330	900
N-Nitroso-di-n-propylamine	U	U						330	--
Hexachloroethane	U	U						330	--
Nitrobenzene	U	U						330	200
Isophorone	U	U						330	4,400
2-Nitrophenol	U	U						330	330
2,4-Dimethylphenol	U	U						330	--
2,4-Dichlorophenol	U	U						330	400
1,2,4-Trichlorobenzene	U	U						330	--
Naphthalene	U	390						330	13,000
4-Chloroaniline	U	U						330	220
bis(2-Chloroethoxy)methane	U	U						330	--
Hexachlorobutadiene	U	U						330	--
4-Chloro-3-methylphenol	U	U						330	240
2-Methylnaphthalene	U	540						330	36,400
Hexachlorocyclopentadiene	U	U						330	--
2,4,6-Trichlorophenol	U	U						330	--
2,4,5-Trichlorophenol	U	U						660	100
2-Chloronaphthalene	U	U						330	--
2-Nitroaniline	U	U						660	430
Dimethylphthalate	U	U						330	2,000
Acenaphthylene	U	U						330	41,000
2,6-Dinitrotoluene	U	U						330	1,000
3-Nitroaniline	U	U						660	500
Acenaphthene	U	210 J						330	50,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

NOTES:
-- : Not applicable.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 37 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
DELINEATION PHASE 2 SITE ASSESSMENT

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

AREA OF CONCERN	Potential Releases								
SAMPLE ID	IPSB-28	IPSB-29							
SAMPLE DEPTH (FT)	(2-4)	(2-4)							
DATE OF COLLECTION	1/30/2003	1/28/2003							
DILUTION FACTOR	1	1							
PERCENT SOLIDS	100.0	87.0							
UNITS	(ug/kg)	(ug/kg)						LABORATORY QUANTITATION LIMITS (ug/Kg)	NYSDEC TAGM Recommended Soil Cleanup Objective (ug/Kg)
2,4-Dinitrophenol	U	U						660	200
4-Nitrophenol	U	U						660	100
Dibenzofuran	U	220 J						330	6,200
2,4-Dinitrotoluene	U	U						330	--
Diethylphthalate	U	U						330	7,100
4-Chlorophenyl-phenylether	U	U						330	--
Fluorene	U	150 J						330	50,000
4-Nitroaniline	U	U						330	--
4,6-Dinitro-2-methylphenol	U	U						330	--
N-Nitrosodiphenylamine	U	U						330	--
4-Bromophenyl-phenylether	U	U						330	--
Hexachlorobenzene	U	U						330	410
Pentachlorophenol	U	U						660	1,000
Phenanthrene	320 J	1500						330	50,000
Anthracene	60 J	280 J						330	50,000
Carbazole	39 J	150 J						330	--
Di-n-butylphthalate	U	U						330	8,100
Fluoranthene	530	1500						330	50,000
Pyrene	500	1200						330	50,000
Butylbenzylphthalate	U	U						330	50,000
3,3-Dichlorobenzidine	U	U						330	--
Benzo(a)anthracene	260 J	690						330	224
Chrysene	360 J	740						330	400
bis(2-Ethylhexyl)phthalate	U	U						330	50,000
Di-n-octylphthalate	U	U						330	50,000
Benzo(b)fluoranthene	300 J	930						330	1,100
Benzo(k)fluoranthene	160 J	380						330	1,100
Benzo(a)pyrene	220 J	590						330	61
Indeno(1,2,3-cd)pyrene	120 J	260 J						330	3,200
Dibenz(a,h)anthracene	U	73 J						330	14
Benzo(g,h,i)perylene	110 J	260 J						330	50,000
Total PAHs	2,940	9,913						--	100,000
Total CaPAHs	1,420	3,663						--	10,000
Total SVOCs	2,979	10,063						--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

NOTES:
-- : Not applicable.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 38

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
DELINEATION PHASE 2 SITE ASSESSMENT

SUBSURFACE SOIL - POLYCHLORINATED BIPHENYLS (PCBs)

AREA OF CONCERN	South Side of Substation			Transformers				Potential Releases	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup Objective
SAMPLE ID	IPSB-04A	IPSB-13	IPSB-13	IPSB-26	IPSB-26	IPSB-27	IPSB-27	IPSB-28		
SAMPLE DEPTH (FT)	(8-10)	(6-8)	(8-10)	(0-2)	(2-4)	(0-2)	(2-4)	(2-4)		
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/30/2003	1/30/2003	1/30/2003	1/30/2003	1/30/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	84.0	82.0	74.0	94.0	76.0	89.0	73.0	85.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor- 1016	U	U	U	U	U	U	U	U	34	----
Aroclor- 1221	U	U	U	U	U	U	U	U	34	----
Aroclor- 1232	U	U	U	U	U	U	U	U	34	----
Aroclor- 1242	U	U	U	U	U	U	U	U	34	----
Aroclor- 1248	U	U	U	U	U	U	U	U	34	----
Aroclor- 1254	U	U	U	U	U	U	U	U	34	----
Aroclor- 1260	U	U	U	U	U	U	U	U	34	----
TOTAL PCBs	0	0	0	0	0	0	0	0	--	1,000/10,000*

AREA OF CONCERN	Potential Releases								LABORATORY QUANTITATION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup Objective
SAMPLE ID	IPSB-29									
SAMPLE DEPTH (FT)	(2-4)									
DATE OF COLLECTION	1/28/2003									
DILUTION FACTOR	1									
PERCENT SOLIDS	87.0									
UNITS	(ug/kg)								(ug/kg)	(ug/kg)
Aroclor- 1016	U								34	----
Aroclor- 1221	U								34	----
Aroclor- 1232	U								34	----
Aroclor- 1242	U								34	----
Aroclor- 1248	U								34	----
Aroclor- 1254	U								34	----
Aroclor- 1260	U								34	----
TOTAL PCBs	0								--	1,000/10,000*

QUALIFIERS:
U: Compound analyzed for but not detected.

NOTES:
-- : Not applicable.
* : According to NYSDEC TAGM 4046 Recommended Soil Cleanup Objective, 1,000 ug/kg is utilized for surface soil [0'-2' below ground surface (bgs)] and 10,000 ug/kg is utilized for subsurface soil (soil deeper than 2' bgs).

TABLE 39

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
UNDERGROUND INJECTION CONTROL INVESTIGATION

SUBSURFACE AND SURFACE SOIL - RCRA METALS

SUBSURFACE SOIL

UIC STRUCTURE	Rectifier Dry Well					Tile Field		INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup
SAMPLE ID	IPSB-21	IPSB-21	IPSB-21	IPSB-21	IPSB-21	IPSB-22	IPSB-23		
SAMPLE DEPTH (FT)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(2-4)	(2-4)		
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003		
PERCENT SOLIDS	32.0	33.0	48.0	89.0	85.0	89.0	73.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(mg/kg)
Arsenic	8.9	17.6	16.3	2.5	2.4	2.9	3.9	3.0	7.5 or SB
Barium	35.7	81.8	27.2	1.9 B	1.4 B	28.2	27.8	3.0	300 or SB
Cadmium	0.5 B	0.48 B	0.36 B	U	U	0.098 B	0.18 B	2.0	10*
Chromium	34.7	39	37.1	4.6	3.3	7.3	8.4	3.0	50*
Lead	20.6	31.6	12	1.8 B	1.3 B	38.1	42.9	1.0	SB**
Mercury	5.4	2.4	0.058 B	U	U	0.047 B	0.47	0.1	0.1
Selenium	U	U	U	U	U	U	U	8.0	2 or SB
Silver	U	U	U	U	U	U	U	2.0	SB

SUBSURFACE SOIL

UIC STRUCTURE	Tile Field							INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup
SAMPLE ID	IPSB-24	IPSB-25							
SAMPLE DEPTH (FT)	(2-4)	(2-4)							
DATE OF COLLECTION	1/29/2003	1/29/2003							
PERCENT SOLIDS	83.0	77.0							
UNITS	(mg/kg)	(mg/kg)						(ug/l)	(mg/kg)
Arsenic	7.3	27.3						3.0	7.5 or SB
Barium	130	148						3.0	300 or SB
Cadmium	0.48	0.49						2.0	10*
Chromium	11.5	9.4						3.0	50*
Lead	478	174						1.0	SB**
Mercury	0.79	0.28						0.1	0.1
Selenium	U	U						8.0	2 or SB
Silver	U	U						2.0	SB

SURFACE SOIL

UIC STRUCTURE	Tile Field							INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup
SAMPLE ID	IPSB-22	IPSB-23	IPSB-24	IPSB-25					
SAMPLE DEPTH (IN)	(0-2)	(0-2)	(0-2)	(0-2)					
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/29/2003					
PERCENT SOLIDS	87.0	90.0	89.0	85.0					
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)				(ug/l)	(mg/kg)
Arsenic	5.2	8.5	3.8	5				3.0	7.5 or SB
Barium	231	86	27.2	38.2				3.0	300 or SB
Cadmium	0.16 B	0.39	0.11 B	0.2 B				2.0	10*
Chromium	8.8	9.2	8.4	7.7				3.0	50*
Lead	4.4	116	36.3	48.8				1.0	SB**
Mercury	0.028 B	0.99	0.045 B	0.55				0.1	0.1
Selenium	U	U	U	U				8.0	2 or SB
Silver	U	U	U	U				2.0	SB

QUALIFIERS:
U: Constituent analyzed for but not detected.
B: Constituent concentration is less than the CRDL, but greater than the IDL.

Notes:
SB: Site Background
*: As per proposed 4/95 NSDEC TAGM
**: Average background levels in metropolitan or surburban areas or near highways range from 200-500 ppm.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 40

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
UNDERGROUND INJECTION CONTROL INVESTIGATION

SURFACE AND SUBSURFACE SOIL - VOLATILE ORGANIC COMPOUNDS (VOCs)

	SURFACE SOIL				*SUBSURFACE SOIL*				
UIC STRUCTURE	**Tile Field**								
SAMPLE ID	**IPSB-22**	**IPSB-23**	**IPSB-24**	**IPSB-25**	**IPSB-22**	**IPSB-23**	**IPSB-24**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH	(0-2 IN)	(0-2 IN)	(0-2 IN)	(0-2 IN)	(2-4 FT)	(2-4 FT)	(2-4 FT)		
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003		
DILUTION FACTOR	1	1	1	1	1	1	1		
PERCENT SOLIDS	87.0	90.0	89.0	85.0	89.0	73.0	83.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/Kg)	(ug/Kg)
Dichlorodifluoromethane	U	U	U	U	U	U	U	5	--
Chloromethane	U	U	U	U	U	U	U	5	--
Vinyl Chloride	U	U	U	U	U	U	U	5	200
Bromomethane	U	U	U	U	U	U	U	5	--
Chloroethane	U	U	U	U	U	U	U	5	1900
Trichlorofluoromethane	U	U	U	U	U	U	U	5	--
1,1-Dichloroethene	U	U	U	U	U	U	U	5	400
Acetone	6	39	57	7	25	100	35	5	200
Idomethane	U	U	U	U	U	U	U	5	--
Carbone Disulfide	U	2 J	3 J	U	2 J	4 J	5 J	5	2700
Methylene Chloride	27 B	33	15	50 B	23 B	140	21	5	100
trans-1,2-Dichloroethene	U	U	U	U	U	U	U	5	300
Methyl tert-butyl ether	U	U	U	U	U	U	U	5	--
1,1-Dichloroethane	U	U	U	U	U	U	U	5	200
Vinyl acetate	U	U	U	U	U	U	U	5	--
2-Butanone	U	5 J	9	U	U	9	6	5	300
cis-1,2-Dichloroethene	U	U	U	U	U	U	U	5	--
2,2-Dichloropropane	U	U	U	U	U	U	U	5	--
Bromochloromethane	U	U	U	U	U	U	U	5	--
Chloroform	U	U	U	U	U	U	U	5	300
1,1,1-Trichloroethane	U	U	U	U	U	U	U	5	800
1,1-Dichloropropene	U	U	U	U	U	U	U	5	--
Carbon Tetrachloride	U	U	U	U	U	U	U	5	600
1,2-Dichloroethane	U	U	U	U	U	U	U	5	100
Benzene	U	5 J	U	U	U	U	U	5	60
Trichloroethene	U	U	U	U	U	U	U	5	700
1,2-Dichloropropane	U	U	U	U	U	U	U	5	--
Dibromomethane	U	U	U	U	U	U	U	5	--
Bromodichloromethane	U	U	U	U	U	U	U	5	--
cis-1,3-Dichloropropane	U	U	U	U	U	U	U	5	--
4-Methyl-2-pentanone	U	U	U	U	U	U	U	5	1000
Toluene	6	9	1 J	3 J	U	2 J	4 J	5	1500
trans-1,3-Dichloropropene	U	U	U	U	U	U	U	5	--
1,1,2-Trichloroethane	U	U	U	U	U	U	U	5	--

QUALIFIERS:

U: Compound analyzed for but not detected.

J: Compound found at a concentration below the detection limit.

B: Compound was also detected in the associated Method Blank.

NOTES:

--: Not applicable.

: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 40 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
UNDERGROUND INJECTION CONTROL INVESTIGATION

SURFACE AND SUBSURFACE SOIL - VOLATILE ORGANIC COMPOUNDS (VOCs)

	SURFACE SOIL				*SUBSURFACE SOIL*				
UIC STRUCTURE	**Tile Field**								
SAMPLE ID	**IPSB-22**	**IPSB-23**	**IPSB-24**	**IPSB-25**	**IPSB-22**	**IPSB-23**	**IPSB-24**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH	(0-2 IN)	(0-2 IN)	(0-2 IN)	(0-2 IN)	(2-4 FT)	(2-4 FT)	(2-4 FT)		
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003		
DILUTION FACTOR	1	1	1	1	1	1	1		
PERCENT SOLIDS	87.0	90.0	89.0	85.0	89.0	73.0	83.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/Kg)	(ug/Kg)
1,3-Dichloropropane	U	U	U	U	U	U	U	5	300
Tetrachloroethene	U	U	U	U	U	U	U	5	1400
2-Hexanone	U	U	U	U	U	U	U	5	--
Dibromochloromethane	U	U	U	U	U	U	U	5	--
1,2-Dibromoethane	U	U	U	U	U	U	U	5	--
Chlorobenzene	U	U	U	U	U	U	U	5	1700
1,1,1,2-Tetrachloroethane	U	U	U	U	U	U	U	5	--
Ethylbenzene	U	1 J	U	U	U	U	2 J	5	5500
m,p-Xylene	3 J	3 J	U	U	U	2 J	2 J	5	--
o-Xylene	2 J	2 J	U	U	U	U	U	5	--
Xylene (total)	5 J	6	U	U	U	2 J	2 J	5	1200
Styrene	U	U	U	U	U	U	10	5	--
Bromoform	U	U	U	U	U	U	U	5	--
Isopropylbenzene	U	U	U	U	U	U	U	5	--
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	5	600
Bromobenzene	U	U	U	U	U	U	U	5	--
1,2,3-Trichloropropane	U	U	U	U	U	U	U	5	400
n-Propylbenzene	U	U	U	U	U	U	U	5	--
2-Chlorotoluene	U	U	U	U	U	U	U	5	--
1,3,5-Trimethylbenzene	1 J	U	U	3 J	U	U	3 J	5	--
4-Chlorotoluene	U	U	U	U	U	U	U	5	--
tert-Butylbenzene	U	U	U	U	U	U	U	5	--
1,2,4-Trimethylbenzene	3 J	2 J	2 J	7	1 J	2 J	5 J	5	--
sec-Butylbenzene	U	U	U	U	U	U	2 J	5	--
4-Isopropyltoluene	U	U	U	U	U	U	U	5	--
1,3-Dichlorobenzene	U	U	U	U	U	U	U	5	1600
1,4-Dichlorobenzene	U	U	U	U	U	U	U	5	8500
n-Butylbenzene	1 J	U	U	U	U	U	1 J	5	--
1,2-Dichlorobenzene	1 J	U	U	U	U	U	U	5	7900
1,2-Dibromo-3-chloropropane	U	U	U	U	U	U	U	5	--
1,2,4-Trichlorobenzene	2 J	U	U	U	U	U	U	5	3400
Hexachlorobutadiene	U	U	U	U	U	U	U	5	--
Naphthalene	7	11	8	25	160	7	160	5	13000
1,2,3-Trichlorobenzene	3 J	U	U	U	U	U	U	5	--
Totals VOCs	67	118	95	95	211	268	258	--	--

QUALIFIERS:

U: Compound analyzed for but not detected.

J: Compound found at a concentration below the detection limit.

B: Compound was also detected in the associated Method Blank.

NOTES:

--: Not applicable.

: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 40 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
UNDERGROUND INJECTION CONTROL INVESTIGATION

SURFACE AND SUBSURFACE SOIL - VOLATILE ORGANIC COMPOUNDS (VOCs)

	SUBSURFACE SOIL								
UIC STRUCTURE	**Tile Field**	**Rectifier Dry well**							
SAMPLE ID	**IPSB-25**	**IPSB-21**	**IPSB-21**	**IPSB-21**	**IPSB-21**	**IPSB-21**			
SAMPLE DEPTH	(2-4 FT)	(10-12 FT)	(12-14 FT)	(14-16 FT)	(16-18 FT)	(18-20 FT)		**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003			
DILUTION FACTOR	1	1	1	1	1	1			
PERCENT SOLIDS	77.0	32.0	33.0	48.0	89.0	85.0			
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		(ug/Kg)	(ug/Kg)
Dichlorodifluoromethane	U	U	U	U	U	U		5	--
Chloromethane	U	U	U	U	U	U		5	--
Vinyl Chloride	U	U	U	U	U	U		5	200
Bromomethane	U	U	U	U	U	U		5	--
Chloroethane	U	U	U	U	U	U		5	1900
Trichlorofluoromethane	U	U	U	U	U	U		5	--
1,1-Dichloroethene	U	U	U	U	U	U		5	400
Acetone	17	130	240	280	31	55		5	200
Idomethane	U	U	U	U	U	U		5	--
Carbone Disulfide	U	18	18	28	7	31		5	2700
Methylene Chloride	15 B	45 B	110	110	3 J	38		5	100
trans-1,2-Dichloroethene	U	U	U	U	U	U		5	300
Methyl tert-butyl ether	U	U	U	U	U	U		5	--
1,1-Dichloroethane	U	3 J	5 J	U	U	U		5	200
Vinyl acetate	U	U	U	U	U	U		5	--
2-Butanone	U	24	31	9 J	U	4 J		5	300
cis-1,2-Dichloroethene	U	U	U	U	U	U		5	--
2,2-Dichloropropane	U	U	U	U	U	U		5	--
Bromochloromethane	U	U	U	U	U	U		5	--
Chloroform	U	U	U	U	U	U		5	300
1,1,1-Trichloroethane	U	U	U	U	U	U		5	800
1,1-Dichloropropene	U	U	U	U	U	U		5	--
Carbon Tetrachloride	U	U	U	U	U	U		5	600
1,2-Dichloroethane	U	U	U	U	U	U		5	100
Benzene	U	U	U	U	U	U		5	60
Trichloroethene	U	U	U	U	3 J	U		5	700
1,2-Dichloropropane	U	U	U	U	U	U		5	--
Dibromomethane	U	U	U	U	U	U		5	--
Bromodichloromethane	U	U	U	U	U	U		5	--
cis-1,3-Dichloropropane	U	U	U	U	U	U		5	--
4-Methyl-2-pentanone	U	U	U	U	U	U		5	1000
Toluene	U	14 J	U	9 J	U	U		5	1500
trans-1,3-Dichloropropene	U	U	U	U	U	U		5	--
1,1,2-Trichloroethane	U	U	U	U	U	U		5	--

QUALIFIERS:

U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
B: Compound was also detected in the associated Method Blank.
D: Compound concentration was obtained from a diluted analysis.

NOTES:

--: Not applicable.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 40 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
UNDERGROUND INJECTION CONTROL INVESTIGATION

SURFACE AND SUBSURFACE SOIL - VOLATILE ORGANIC COMPOUNDS (VOCs)

	SUBSURFACE SOIL								
UIC STRUCTURE	**Tile Field**	**Rectifier Dry well**							
SAMPLE ID	**IPSB-25**	**IPSB-21**	**IPSB-21**	**IPSB-21**	**IPSB-21**	**IPSB-21**			
SAMPLE DEPTH	(2-4 FT)	(10-12 FT)	(12-14 FT)	(14-16 FT)	(16-18 FT)	(18-20 FT)		**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003			
DILUTION FACTOR	1	1	1	1	1	1			
PERCENT SOLIDS	77.0	32.0	33.0	48.0	89.0	85.0			
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		(ug/Kg)	(ug/Kg)
1,3-Dichloropropane	U	U	U	U	U	U		5	300
Tetrachloroethene	U	U	U	U	U	U		5	1400
2-Hexanone	U	U	U	U	U	U		5	--
Dibromochloromethane	U	U	U	U	U	U		5	--
1,2-Dibromoethane	U	U	U	U	U	U		5	--
Chlorobenzene	U	U	U	U	U	U		5	1700
1,1,1,2-Tetrachloroethane	U	U	U	U	U	U		5	--
Ethylbenzene	U	10 J	6 J	10 J	U	U		5	5500
m,p-Xylene	U	U	U	U	U	U		5	--
o-Xylene	U	U	U	U	U	U		5	--
Xylene (total)	U	U	U	U	U	U		5	1200
Styrene	U	U	U	U	U	U		5	--
Bromoform	U	U	U	U	U	U		5	--
Isopropylbenzene	U	U	U	U	U	U		5	--
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U		5	600
Bromobenzene	U	U	U	U	U	U		5	--
1,2,3-Trichloropropane	U	U	U	U	U	U		5	400
n-Propylbenzene	U	U	U	U	U	U		5	--
2-Chlorotoluene	U	U	U	U	U	U		5	--
1,3,5-Trimethylbenzene	U	U	U	U	U	U		5	--
4-Chlorotoluene	U	U	U	U	U	U		5	--
tert-Butylbenzene	U	U	U	U	U	U		5	--
1,2,4-Trimethylbenzene	U	U	U	U	U	U		5	--
sec-Butylbenzene	U	U	U	U	U	U		5	--
4-Isopropyltoluene	U	U	U	U	U	U		5	--
1,3-Dichlorobenzene	U	U	U	U	U	U		5	1600
1,4-Dichlorobenzene	U	U	U	U	U	U		5	8500
n-Butylbenzene	U	U	U	U	U	U		5	--
1,2-Dichlorobenzene	U	U	U	U	U	U		5	7900
1,2-Dibromo-3-chloropropane	U	4 J	U	U	U	U		5	--
1,2,4-Trichlorobenzene	U	U	U	U	U	U		5	3400
Hexachlorobutadiene	U	U	U	U	U	U		5	--
Naphthalene	3 J	15 J	U	U	U	U		5	13000
1,2,3-Trichlorobenzene	U	8 J	U	U	U	U		5	--
Totals VOCs	35	271	410	446	44	128		--	--

QUALIFIERS:

U: Compound analyzed for but not detected.

J: Compound found at a concentration below the detection limit.

B: Compound was also detected in the associated Method Blank.

D: Compound concentration was obtained from a diluted analysis.

NOTES:

--: Not applicable.

: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 41

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
UNDERGROUND INJECTION CONTROL INVESTIGATION

SURFACE AND SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

	SURFACE SOIL				*SUBSURFACE SOIL*				
UIC STRUCTURE	**Tile Field**								
SAMPLE ID	**IPSB-22**	**IPSB-23**	**IPSB-24**	**IPSB-25**	**IPSB-22**	**IPSB-23**	**IPSB-24**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH	(0-2 IN)	(0-2 IN)	(0-2 IN)	(0-2 IN)	(2-4 FT)	(2-4 FT)	(2-4 FT)		
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003		
DILUTION FACTOR	1	1	1	1	1	1	10		
PERCENT SOLIDS	87.0	90.0	89.0	85.0	89.0	73.0	83.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/Kg)	(ug/Kg)
Phenol	U	U	U	U	U	U	U	330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U	330	--
2-Chlorophenol	U	U	U	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U	330	--
1,4-Dichlorobenzene	U	U	U	U	U	U	U	330	--
1,2-Dichlorobenzene	U	U	U	U	U	U	U	330	--
2-Methylphenol	U	U	U	U	U	U	U	330	100
2,2'-oxybis (1-chloropropane)	U	U	U	U	U	U	U	330	--
4-Methylphenol	U	U	U	U	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	330	--
Hexachloroethane	U	U	U	U	U	U	U	330	--
Nitrobenzene	U	U	U	U	U	U	U	330	200
Isophorone	U	U	U	U	U	U	U	330	4,400
2-Nitrophenol	U	U	U	U	U	U	U	330	330
2,4-Dimethylphenol	U	U	U	U	U	U	U	330	--
2,4-Dichlorophenol	U	U	U	U	U	U	U	330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	330	--
Naphthalene	U	60 J	U	U	790	72 J	2300 J	330	13,000
4-Chloroaniline	U	U	U	U	U	U	U	330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U	330	--
Hexachlorobutadiene	U	U	U	U	U	U	U	330	--
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	330	240
2-Methylnaphthalene	U	48 J	U	U	350 J	74 J	840 J	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	330	--
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	330	--
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	660	100
2-Chloronaphthalene	U	U	U	U	U	U	U	330	--
2-Nitroaniline	U	U	U	U	U	U	U	660	430
Dimethylphthalate	U	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	U	330	1,000
3-Nitroaniline	U	U	U	U	U	U	U	660	500
Acenaphthene	U	100 J	U	U	720	190 J	5700	330	50,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 41 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
UNDERGROUND INJECTION CONTROL INVESTIGATION

SURFACE AND SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

	SURFACE SOIL				*SUBSURFACE SOIL*				
UIC STRUCTURE	**Tile Field**								
SAMPLE ID	**IPSB-22**	**IPSB-23**	**IPSB-24**	**IPSB-25**	**IPSB-22**	**IPSB-23**	**IPSB-24**		
SAMPLE DEPTH	(0-2 IN)	(0-2 IN)	(0-2 IN)	(0-2 IN)	(2-4 FT)	(2-4 FT)	(2-4 FT)	**LABORATORY**	**NYSDEC TAGM**
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	**QUANTITATION**	**4046 Recommended**
DILUTION FACTOR	1	1	1	1	1	1	10	**LIMITS**	**Soil Cleanup**
PERCENT SOLIDS	87.0	90.0	89.0	85.0	89.0	73.0	83.0		**Objective**
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/Kg)	(ug/Kg)
2,4-Dinitrophenol	U	U	U	U	U	U	U	660	200
4-Nitrophenol	U	U	U	U	U	U	U	660	100
Dibenzofuran	U	57 J	U	U	550	110 J	4000	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	U	330	--
Diethylphthalate	U	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	330	--
Fluorene	U	150 J	U	U	840	190 J	6900	330	50,000
4-Nitroaniline	U	U	U	U	U	U	U	330	--
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	330	--
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	330	--
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	330	--
Hexachlorobenzene	U	U	U	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	U	U	U	660	1,000
Phenanthrene	79 J	1400	160 J	160 J	4600	2600	48000	330	50,000
Anthracene	U	490	U	50 J	1200	680	15000	330	50,000
Carbazole	U	53 J	U	U	420	210 J	4500	330	--
Di-n-butylphthalate	U	U	U	U	U	U	U	330	8,100
Fluoranthene	140 J	1800	230 J	210 J	3500	3800	49000	330	50,000
Pyrene	170 J	1700	280 J	230 J	3800	3200	53000	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	U	330	50,000
3,3'-Dichlorobenzidine	U	U	U	U	U	U	U	330	--
Benzo(a)anthracene	69 J	880	130 J	120 J	1400	1700	23000	330	224
Chrysene	76 J	800	130 J	140 J	1400	1900	21000	330	400
bis(2-Ethylhexyl)phthalate	38 J	U	U	47 J	59 J	47 J	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	100 J	1100	180 J	180 J	1700	2400	27000	330	1,100
Benzo(k)fluoranthene	40 J	450	75 J	89 J	780	950	14000	330	1,100
Benzo(a)pyrene	63 J	720	120 J	110 J	1200	1600	20000	330	61
Indeno(1,2,3-cd)pyrene	U	250 J	48 J	48 J	450	580	7600	330	3,200
Dibenz(a,h)anthracene	U	69 J	U	U	130 J	170 J	2100 J	330	14
Benzo(g,h,i)perylene	U	210 J	55 J	55 J	390	500	6600	330	50,000
Total PAHs	737	10,284	1,408	1,392	21,940	20,380	297200	--	100,000
Total CaPAHs	348	4,269	683	687	7,060	9,300	114700	--	10,000
Total SVOCs	775	10,337	1,408	1,439	24,279	20,973	310,540	--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 41 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
UNDERGROUND INJECTION CONTROL INVESTIGATION

SURFACE AND SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

	SUBSURFACE SOIL								
UIC STRUCTURE	**Tile Field**	**Rectifier Dry well**							
SAMPLE ID	**IPSB-25**	**IPSB-21**	**IPSB-21**	**IPSB-21**	**IPSB-21**	**IPSB-21**			
SAMPLE DEPTH	(2-4 FT)	(10-12 FT)	(12-14 FT)	(14-16 FT)	(16-18 FT)	(18-20 FT)		**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003			
DILUTION FACTOR	1	2	1	1	1	1			
PERCENT SOLIDS	77.0	32.0	33.0	48.0	89.0	85.0			
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		(ug/Kg)	(ug/Kg)
Phenol	U	U	U	U	350 J	U		330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U		330	--
2-Chlorophenol	U	U	U	U	U	U		330	800
1,3-Dichlorobenzene	U	U	U	U	U	U		330	--
1,4-Dichlorobenzene	U	U	U	U	U	U		330	--
1,2-Dichlorobenzene	U	U	U	U	U	U		330	--
2-Methylphenol	U	U	U	U	U	U		330	100
2,2-oxybis (1-chloropropane)	U	U	U	U	U	U		330	--
4-Methylphenol	U	U	U	U	48 J	U		330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U		330	--
Hexachloroethane	U	U	U	U	U	U		330	--
Nitrobenzene	U	U	U	U	U	U		330	200
Isophorone	U	U	U	U	U	U		330	4,400
2-Nitrophenol	U	U	U	U	U	U		330	330
2,4-Dimethylphenol	U	U	U	U	U	U		330	--
2,4-Dichlorophenol	U	U	U	U	U	U		330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U		330	--
Naphthalene	U	U	U	U	U	U		330	13,000
4-Chloroaniline	U	U	U	U	U	U		330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U		330	--
Hexachlorobutadiene	U	U	U	U	U	U		330	--
4-Chloro-3-methylphenol	U	U	U	U	U	U		330	240
2-Methylnaphthalene	U	U	U	U	U	U		330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U		330	--
2,4,6-Trichlorophenol	U	U	U	U	U	U		330	--
2,4,5-Trichlorophenol	U	U	U	U	U	U		660	100
2-Chloronaphthalene	U	U	U	U	U	U		330	--
2-Nitroaniline	U	U	U	U	U	U		660	430
Dimethylphthalate	U	U	U	U	U	U		330	2,000
Acenaphthylene	U	U	U	U	U	U		330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U		330	1,000
3-Nitroaniline	U	U	U	U	U	U		660	500
Acenaphthene	83 J	2300	420 J	U	U	U		330	50,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

NOTES:
-- : Not applicable.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 41 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
UNDERGROUND INJECTION CONTROL INVESTIGATION

SURFACE AND SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

	SUBSURFACE SOIL								
UIC STRUCTURE	**Tile Field**	**Rectifier Dry well**							
SAMPLE ID	**IPSB-25**	**IPSB-21**	**IPSB-21**	**IPSB-21**	**IPSB-21**	**IPSB-21**			
SAMPLE DEPTH	(2-4 FT)	(10-12 FT)	(12-14 FT)	(14-16 FT)	(16-18 FT)	(18-20 FT)		**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003			
DILUTION FACTOR	1	2	1	1	1	1			
PERCENT SOLIDS	77.0	32.0	33.0	48.0	89.0	85.0			
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		(ug/Kg)	(ug/Kg)
2,4-Dinitrophenol	U	U	U	U	U	U		660	200
4-Nitrophenol	U	U	U	U	U	U		660	100
Dibenzofuran	47 J	550 J	100 J	U	U	U		330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U		330	--
Diethylphthalate	U	U	U	U	U	U		330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U		330	--
Fluorene	87 J	1400 J	270 J	U	U	U		330	50,000
4-Nitroaniline	U	U	U	U	U	U		330	--
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U		330	--
N-Nitrosodiphenylamine	U	U	U	U	U	U		330	--
4-Bromophenyl-phenylether	U	U	U	U	U	U		330	--
Hexachlorobenzene	U	U	U	U	U	U		330	410
Pentachlorophenol	U	U	U	U	U	U		660	1,000
Phenanthrene	870	12000	2400	U	37 J	U		330	50,000
Anthracene	170 J	3700	750 J	U	U	U		330	50,000
Carbazole	84 J	1200 J	260 J	U	U	U		330	--
Di-n-butylphthalate	U	U	U	U	U	U		330	8,100
Fluoranthene	870	18000	3900	U	49 J	U		330	50,000
Pyrene	780	19000	3800	U	40 J	U		330	50,000
Butylbenzylphthalate	U	U	U	U	U	U		330	50,000
3,3-Dichlorobenzidine	U	U	U	U	U	U		330	--
Benzo(a)anthracene	420 J	8700	1800	U	U	U		330	224
Chrysene	440	8700	1900	U	U	U		330	400
bis(2-Ethylhexyl)phthalate	190 J	U	U	U	U	U		330	50,000
Di-n-octylphthalate	U	U	U	U	U	U		330	50,000
Benzo(b)fluoranthene	520	10000	2400	U	U	U		330	1,100
Benzo(k)fluoranthene	210 J	5200	1200	U	U	U		330	1,100
Benzo(a)pyrene	300 J	7900	1800	U	U	U		330	61
Indeno(1,2,3-cd)pyrene	100 J	2900	610 J	U	U	U		330	3,200
Dibenz(a,h)anthracene	U	800 J	170 J	U	U	U		330	14
Benzo(g,h,i)perylene	89 J	2600	550 J	U	U	U		330	50,000
Total PAHs	4,986	103,750	22,070	0	126	0		--	100,000
Total CaPAHs	1,990	44,200	9,880	0	0	0		--	10,000
Total SVOCs	5,260	104,950	22,330	0	174	0		--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.

NOTES:
-- : Not applicable.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 42

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
UNDERGROUND INJECTION CONTROL INVESTIGATION

SURFACE AND SUBSURFACE SOIL - TOTAL PETROLEUM HYDROCARBONS (TPH)

	SURFACE SOIL				*SUBSURFACE SOIL*			
UIC STRUCTURE	**Tile Field**							
SAMPLE ID	**IPSB-22**	**IPSB-23**	**IPSB-24**	**IPSB-25**	**IPSB-22**	**IPSB-23**	**IPSB-24**	**INSTRUMENT**
SAMPLE DEPTH	(0-2 IN)	(0-2 IN)	(0-2 IN)	(0-2 IN)	(2-4 FT)	(2-4 FT)	(2-4 FT)	**DETECTION**
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	**LIMITS**
PERCENT SOLID	87.0	90.0	89.0	85.0	89.0	73.0	83.0	
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Total Petroleum Hydrocarbons	260	150	810	69	40	49	1600	12.0

	SUBSURFACE SOIL							
UIC STRUCTURE	**Tile Field**	**Rectifier Dry well**						
SAMPLE ID	**IPSB-25**	**IPSB-21**	**IPSB-21**	**IPSB-21**	**IPSB-21**	**IPSB-21**		**INSTRUMENT**
SAMPLE DEPTH	(2-4 FT)	(10-12 FT)	(12-14 FT)	(14-16 FT)	(16-18 FT)	(18-20 FT)		**DETECTION**
DATE OF COLLECTION	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003		**LIMITS**
PERCENT SOLID	77.0	32.0	33.0	48.0	89.0	85.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)		(mg/kg)
Total Petroleum Hydrocarbons	140	330	250	ND	23	ND		

Notes:
ND: Not Detected

TABLE 43

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
GROUNDWATER ASSESSMENT

GROUNDWATER - TARGET ANALYTE LIST METALS (TAL Metals)

SAMPLE ID	**IPGP-01**	**IPGP-01**	**IPGP-02**	**IPGP-02**	**IPGP-03**	**IPGP-03**	**IPTP-03**	**IPTP-03**	**INSTRUMENT DETECTION LIMIT (IDL)**	**NY STATE CLASS GA GROUNDWATER STANDARDS/ GUIDELINES**
	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered		
DATE OF COLLECTION	1/30/2003	1/30/2003	1/30/2003	1/30/2003	1/30/2003	1/30/2003	1/22/2003	1/22/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Aluminum	8950	U	3310	U	64600	35.8 B	NA	NA	12	--
Antimony	4.6 B	3.3 B	4.4 B	U	3.2 B	4.1 B	NA	NA	3	3 ST
Arsenic	11.8 B	U	4.7 B	U	66.8	3.2 B	60.4	20.1	3	25 ST
Barium	78.1 B	34.3 B	90.7 B	60.8 B	273	50.1 B	179 B	67.9 B	3	1,000 ST
Beryllium	0.53 B	U	U	U	4 B	U	NA	NA	2	3 GV
Cadmium	0.71 B	U	U	U	7.3	U	U	U	2	5 ST
Calcium	110000	109000	67800	66200	66300	61500	NA	NA	76	--
Chromium	74.8	2.5 B	34.1 B	U	130	U	28.8	U	3	50 ST
Cobalt	5.5 B	U	1.8 B	U	43.6 B	1.9 B	NA	NA	3	--
Copper	96.7 B	U	27.6 B	U	242	U	NA	NA	2	200 GA
Iron	34000	1370	5480	39.6 B	118000	757	NA	NA	35	300 ST*
Lead	96.1	U	59.7	U	181	U	74.2	U	1	25 ST
Magnesium	26300	24100	10500 B	10200 B	23100	14000 B	NA	NA	23	35,000 GV
Manganese	508	339	136	82.5	1010	275	NA	NA	2	300 ST*
Mercury	0.17 B	U	0.16 B	U	0.64 B	U	0.19 B	U	0.1	0.7 ST
Nickel	37.8 B	1.7 B	18 B	1.6 B	117 B	6.5 B	NA	NA	1	100 ST
Potassium	23800	22100	32700	34300	45200	40000	NA	NA	89	--
Selenium	U	U	U	U	U	U	U	U	8	10 ST
Silver	4.1 B	U	11.2 B	U	U	U	U	U	2	50 ST
Sodium	82800	81600	35700	36600	37100	32400	NA	NA	118	20,000 ST
Thallium	6.3 B	5.2 B	U	5.3 B	U	4.2 B	NA	NA	4	0.5 GV
Vanadium	39.2 B	5.6 B	10 B	3.1 B	154 B	3 B	NA	NA	3	--
Zinc	235 B	9 B	57.2 B	9.2 B	4050	50.7 B	NA	NA	8	2,000 GV

QUALIFIERS:

U: Compound analyzed for but not detected.
B: Constituent concentration is less than the CRDL, but greater than the IDL.
NA: Not Analyzed for

NOTES:

-- : Not applicable.
ST : New York State Ambient Water Quality Standards
GV : New York State Ambient Water Quality Guidance Values
ST* : Standard for the sum of iron and manganese is 500 ug/l
: Value exceeds Standard/Guideline.

TABLE 44

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
GROUNDWATER ASSESSMENT

GROUNDWATER - VOLATILE ORGANIC COMPOUNDS (VOCs)

SAMPLE ID	**IPGP-01**	**IPGP-02**	**IPGP-03**	**IPTP-03**	**LABORATORY QUANTITATION LIMITS**	**NY STATE CLASS GA GROUNDWATER STANDARDS/ GUIDELINES**
DATE OF COLLECTION	1/30/2003	1/30/2003	1/30/2003	1/22/2003		
DILUTION FACTOR	1	1	1	1		
UNITS	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/L)	(ug/L)
Dichlorodifluoromethane	U	U	U	U	5	5 ST
Chloromethane	U	U	U	U	5	--
Vinyl Chloride	U	U	U	U	5	2 ST
Bromomethane	U	U	U	U	5	5 ST
Chloroethane	U	U	U	U	5	5 ST
Trichlorofluoromethane	U	U	U	U	5	5 ST
1,1-Dichloroethene	U	U	U	U	5	5 ST
Acetone	U	U	U	U	5	50 GV
Idomethane	U	U	U	U	5	--
Carbone Disulfide	1 J	U	U	U	5	--
Methylene Chloride	U	U	U	U	5	5 ST
trans-1,2-Dichloroethene	U	U	U	U	5	5 ST
Methyl tert-butyl ether	5	2 J	6	U	5	10 GV*
1,1-Dichloroethane	U*	U	U	U	5	5 ST
Vinyl acetate	U	U	U	U	5	--
2-Butanone	U	U	U	U	5	--
cis-1,2-Dichloroethene	U	U	U	U	5	5 ST
2,2-Dichloropropane	U	U	U	U	5	5 ST
Bromochloromethane	U	U	U	U	5	5 ST
Chloroform	U	U	U	U	5	7 ST
1,1,1-Trichloroethane	U	U	U	U	5	5 ST
1,1-Dichloropropene	U	U	U	U	5	5 ST
Carbon Tetrachloride	U	U	U	U	5	5 ST
1,2-Dichloroethane	U	U	U	U	5	0.6 ST
Benzene	U	U	U	U	5	1 ST
Trichloroethene	U	U	U	U	5	5 ST
1,2-Dichloropropane	U	U	U	U	5	1 ST
Dibromomethane	U	U	U	U	5	5 ST
Bromodichloromethane	U	U	U	U	5	50 GV
cis-1,3-Dichloropropane	U	U	U	U	5	--
4-Methyl-2-pentanone	U	U	U	U	5	--
Toluene	U	U	U	U	5	5 ST
trans-1,3-Dichloropropene	U	U	U	U	5	0.4 ST
1,1,2-Trichloroethane	U	U	U	U	5	1 ST

QUALIFIERS:

U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
U*: Compound qualified as non-detect due to validation criteria.

NOTES:

-- : Not applicable.
* : Draft Guidance Value
ST : New York State Ambient Water Quality Standards
GV : New York State Ambient Water Quality Guidance Values
: Value exceeds the referenced criteria.

TABLE 44 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
GROUNDWATER ASSESSMENT

GROUNDWATER - VOLATILE ORGANIC COMPOUNDS (VOCs)

SAMPLE ID	**IPGP-01**	**IPGP-02**	**IPGP-03**	**IPTP-03**	**LABORATORY QUANTITATION LIMITS**	**NY STATE CLASS GA GROUNDWATER STANDARDS/ GUIDELINES**
DATE OF COLLECTION	1/30/2003	1/30/2003	1/30/2003	1/22/2003		
DILUTION FACTOR	1	1	1	1		
UNITS	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/L)	(ug/L)
1,3-Dichloropropane	U	U	U	U	5	5 ST
Tetrachloroethene	U	U	U	U	5	5 ST
2-Hexanone	U	U	U	U	5	50 GV
Dibromochloromethane	U	U	U	U	5	50 GV
1,2-Dibromoethane	U	U	U	U	5	--
Chlorobenzene	U	U	U	U	5	5 ST
1,1,1,2-Tetrachloroethane	U	U	U	U	5	5 ST
Ethylbenzene	U	U	U	U	5	5 ST
m,p-Xylene	U	U	U	U	5	--
o-Xylene	U	U	U	U	5	--
Xylene (total)	U	U	U	U	5	5 ST
Styrene	U	U	U	U	5	5 ST
Bromoform	U	U	U	U	5	50 GV
Isopropylbenzene	U	U	U	U	5	5 ST
1,1,2,2-Tetrachloroethane	U	U	U	U	5	5 ST
Bromobenzene	U	U	U	U	5	5 ST
1,2,3-Trichloropropane	U	U	U	U	5	0.04 ST
n-Propylbenzene	U	U	U	U	5	5 ST
2-Chlorotoluene	U	U	U	U	5	5 ST
1,3,5-Trimethylbenzene	U	U	U	U	5	5 ST
4-Chlorotoluene	U	U	U	U	5	5 ST
tert-Butylbenzene	U	U	U	U	5	5 ST
1,2,4-Trimethylbenzene	U	U	U	U	5	5 ST
sec-Butylbenzene	U	U	U	U	5	5 ST
4-Isopropyltoluene	U	U	1 J	U	5	5 ST
1,3-Dichlorobenzene	U	U	U	U	5	3 ST
1,4-Dichlorobenzene	U	U	U	U	5	3 ST
n-Butylbenzene	U	U	U	U	5	5 ST
1,2-Dichlorobenzene	U	U	U	U	5	3 ST
1,2-Dibromo-3-chloropropane	U	U	U	U	5	0.04 ST
1,2,4-Trichlorobenzene	U	U	U	U	5	5 ST
Hexachlorobutadiene	U	U	U	U	5	0.5 ST
Naphthalene	U	18	U	U	5	10 GV
1,2,3-Trichlorobenzene	U	U	U	U	5	5 ST

QUALIFIERS:

U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
U*: Compound qualified as non-detect due to validation criteria.

NOTES:

-- : Not applicable.
* : Draft Guidance Value
ST : New York State Ambient Water Quality Standards
GV : New York State Ambient Water Quality Guidance Values
: Value exceeds the referenced criteria.

TABLE 45

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
GROUNDWATER ASSESSMENT

GROUNDWATER - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	**IPGP-01**	**IPGP-02**	**IPGP-03**	**IPTP-03**	**LABORATORY QUANTITATION LIMITS**	**NY STATE CLASS GA GROUNDWATER STANDARDS/ GUIDELINES**
DATE OF COLLECTION	1/30/2003	1/30/2003	1/30/2003	1/22/2003		
DILUTION FACTOR	1	1	1	1		
UNITS	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/L)	(ug/L)
Phenol	U	U	U	U	10	1 ST*
bis(2-Chloroethyl)ether	U	U	U	U	10	--
2-Chlorophenol	U	U	U	U	10	--
1,3-Dichlorobenzene	U	U	U	U	10	3 ST
1,4-Dichlorobenzene	U	U	U	U	10	3 ST
1,2-Dichlorobenzene	U	U	U	U	10	3 ST
2-Methylphenol	U	U	U	U	10	--
2,2'-oxybis (1-chloropropane)	U	U	U	U	10	--
4-Methylphenol	U	U	U	U	10	--
N-Nitroso-di-n-propylamine	U	U	U	U	10	--
Hexachloroethane	U	U	U	U	10	5 ST
Nitrobenzene	U	U	U	U	10	0.4 ST
Isophorone	U	U	U	U	10	50 GV
2-Nitrophenol	U	U	U	U	10	--
2,4-Dimethylphenol	U	U	U	U	10	50 GV
2,4-Dichlorophenol	U	U	U	U	10	5 ST
1,2,4-Trichlorobenzene	U	U	U	U	10	5 ST
Naphthalene	U	52	6 J	U	10	10 GV
4-Chloroaniline	U	U	U	U	10	5 ST
bis(2-Chloroethoxy)methane	U	U	U	U	10	--
Hexachlorobutadiene	U	U	U	U	10	0.5 ST
4-Chloro-3-methylphenol	U	U	U	U	10	--
2-Methylnaphthalene	U	8 J	U	U	10	--
Hexachlorocyclopentadiene	U	U	U	U	10	5 ST
2,4,6-Trichlorophenol	U	U	U	U	10	--
2,4,5-Trichlorophenol	U	U	U	U	20	--
2-Chloronaphthalene	U	U	U	U	10	10 GV
2-Nitroaniline	U	U	U	U	20	5 ST
Dimethylphthalate	U	U	U	U	10	50 GV
Acenaphthylene	U	U	U	U	10	--
2,6-Dinitrotoluene	U	U	U	U	10	5 ST
3-Nitroaniline	U	U	U	U	20	5 ST
Acenaphthene	U	28	9 J	U	10	20 GV

QUALIFIERS:

U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit

NOTES:

--	: Not applicable.
*	: Applies to the sum of all Phenols
ST	: New York State Ambient Water Quality Standards
GV	: New York State Ambient Water Quality Guidance Values
	: Result exceeds NYS Class GA Standard/Guideline

TABLE 45(continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
GROUNDWATER ASSESSMENT

GROUNDWATER - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	**IPGP-01**	**IPGP-02**	**IPGP-03**	**IPTP-03**	**LABORATORY QUANTITATION LIMITS**	**NY STATE CLASS GA GROUNDWATER STANDARDS/ GUIDELINES**
DATE OF COLLECTION	1/30/2003	1/30/2003	1/30/2003	1/22/2003		
DILUTION FACTOR	1	1	1	1		
UNITS	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/L)	(ug/L)
2,4-Dinitrophenol	U	U	U	U	20	10 GV
4-Nitrophenol	U	U	U	U	20	--
Dibenzofuran	U	10	4 J	U	10	--
2,4-Dinitrotoluene	U	U	U	U	10	5 ST
Diethylphthalate	U	U	U	U	10	50 GV
4-Chlorophenyl-phenylether	U	U	4 J	U	10	--
Fluorene	U	12	U	U	10	50
4-Nitroaniline	U	U	U	U	20	5 ST
4,6-Dinitro-2-methylphenol	U	U	U	U	20	--
N-Nitrosodiphenylamine	U	U	U	U	10	50 GV
4-Bromophenyl-phenylether	U	U	U	U	10	--
Hexachlorobenzene	U	U	U	U	10	0.04 ST
Pentachlorophenol	U	U	U	U	20	1 ST
Phenanthrene	U	31	5 J	U	10	50 GV
Anthracene	U	6 J	1 J	U	10	50 GV
Carbazole	U	16	U	U	10	--
Di-n-butylphthalate	U	U	U	U	10	--
Fluoranthene	U	20	2 J	U	10	50 GV
Pyrene	U	14	U	U	10	50 GV
Butylbenzylphthalate	U	U	U	U	10	50 GV
3,3'-Dichlorobenzidine	U	U	U	U	10	5 ST
Benzo(a)anthracene	U	7 J	U	U	10	--
Chrysene	U	7 J	U	U	10	0.002 GV
bis(2-Ethylhexyl)phthalate	U	U	U	U	10	--
Di-n-octylphthalate	U	U	U	U	10	50 GV
Benzo(b)fluoranthene	U	8 J	U	U	10	0.002 GV
Benzo(k)fluoranthene	U	4 J	U	U	10	0.002 GV
Benzo(a)pyrene	U	5 J	U	U	10	ND ST
Indeno(1,2,3-cd)pyrene	U	3 J	U	U	10	0.002 GV
Dibenzo(a,h)anthracene	U	U	U	U	10	--
Benzo(g,h,i)perylene	U	3 J	U	U	10	--

QUALIFIERS:

U: Compound analyzed for but not detected.

J: Compound found at a concentration below the detection limit

NOTES:

-- : Not applicable.

ST : New York State Ambient Water Quality Standards

GV : New York State Ambient Water Quality Guidance Values

: Result exceeds NYS Class GA Standard/Guideline

TABLE 46

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
GROUNDWATER ASSESSMENT

GROUNDWATER - POLYCHLORINATED BIPHENYLS (PCBs)

SAMPLE ID	**IPGP-01**	**IPGP-02**	**IPGP-03**	**IPTP-03**	**LABORATORY QUANTITATION LIMITS**	**NY STATE CLASS GA GROUNDWATER STANDARDS/**
DATE OF COLLECTION	1/30/2003	1/30/2003	1/30/2003	1/22/2003		
DILUTION FACTOR	1	1	1	1		
UNITS	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/L)	(ug/L)
Aroclor- 1016	U	U	U	U	1	--
Aroclor- 1221	U	U	U	U	1	--
Aroclor- 1232	U	U	U	U	1	--
Aroclor- 1242	U	U	U	U	1	--
Aroclor- 1248	U	U	U	U	1	--
Aroclor- 1254	U	U	U	U	1	--
Aroclor- 1260	U	U	U	U	1	--
TOTAL PCBs	0	0	0	0	--	0.09 ST

QUALIFIERS:
U: Compound analyzed for but not detected.

NOTES:
-- : Not applicable.
ST : New York State Ambient Water Quality Standards

TABLE 47

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - RCRA METALS

SAMPLE ID	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003		
PERCENT SOLIDS	73.0	24.0	31.0	27.0	25.0	44.0	60.0	92.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(mg/kg)
Arsenic	2.6	5.8	5.6	7.6	5.5	13.7	5.2	2.6	3.0	7.5 or SB
Barium	19.9	29.6 B	29.2	30.3 B	24.9 B	26.3	8.3 B	1.3 B	3.0	300 or SB
Cadmium	0.21 B	0.55 B	0.43 B	0.68 B	0.6 B	0.69	0.27 B	U	2.0	10*
Chromium	6.4	29.8	35.5	40.3	34	25.3	9.5	3.2	3.0	50*
Lead	14.1	6 B	9.8	9.1	7	15.5	6.5	1.3 B	1.0	SB**
Mercury	0.036 B	U	U	U	U	0.044 B	U	U	0.1	0.1
Selenium	U	U	U	U	U	U	U	U	8.0	2 or SB
Silver	U	0.93 B	0.9 B	1.3 B	0.99 B	1.1 B	0.6 B	0.2 B	2.0	SB

SAMPLE ID	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-03	INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(6-8)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003		
PERCENT SOLIDS	68.0	39.0	81.0	47.0	42.0	83.0	58.0	81.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(mg/kg)
Arsenic	8.2	11.7	1.4	6.6	8.7	2.5	3.3	1.6	3.0	7.5 or SB
Barium	33.9	23.7	4.1 B	15.3 B	25.9	5.6 B	13.1 B	5.2 B	3.0	300 or SB
Cadmium	0.86	0.64	U	0.41 B	0.76	U	0.25 B	U	2.0	10*
Chromium	20.4	28.8	3.8	16.8	33.9	4	12.8	4.1	3.0	50*
Lead	15.3	14.8	1.6 B	6.5	7.4	2 B	4.2	3	1.0	SB**
Mercury	0.043 B	0.12 B	U	U	U	U	U	U	0.1	0.1
Selenium	U	U	U	U	U	U	U	U	8.0	2 or SB
Silver	U	1 B	0.25 B	0.83 B	1.4 B	0.31 B	0.58 B	0.35 B	2.0	SB

QUALIFIERS:
U: Constituent analyzed for but not detected.
B: Constituent concentration is less than the CRDL, but greater than the IDL.

Notes:
SB: Site Background
*: As per proposed 4/95 NSDEC TAGM
**: Average background levels in metropolitan or surburban areas or near highways range from 200-500 ppm.
[ ] : Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 47(continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - RCRA METALS

SAMPLE ID	IPSBX-03	IPSBX-03	IPSBX-03	IPSBX-03	IPSBX-03	IPSBX-03	IPSBX-04	IPSBX-04	INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(4-6)	(6-8)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003		
PERCENT SOLIDS	85.0	81.0	44.0	81.0	53.0	76.0	56.0	61.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(mg/kg)
Arsenic	1.2	1.4	5.9	1.7	5.9	2.5	16.2	9.2	3.0	7.5 or SB
Barium	6.2 B	6 B	24.7	5 B	19.7	6 B	29.7	18.4	3.0	300 or SB
Cadmium	U	U	0.8	U	0.52	0.14 B	1.1	0.74	2.0	10*
Chromium	4.5	4.4	27.3	4.9	18.6	8.4	31.5	21.5	3.0	50*
Lead	1.7 B	2 B	8	5.7	36	2.7	15.4	8	1.0	SB**
Mercury	U	U	U	U	0.25	U	U	U	0.1	0.1
Selenium	U	U	U	U	U	U	U	U	8.0	2 or SB
Silver	0.3 B	0.3 B	1.4 B	0.31 B	0.93 B	0.38 B	1.3 B	1.2 B	2.0	SB

SAMPLE ID	IPSBX-04	IPSBX-04	IPSBX-04	IPSBX-04	IPSBX-04	IPSBX-04	IPSBX-05	IPSBX-05	INSTRUMENT DETECTION LIMITS	NYSDEC TAGM 4046 Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(10-12)	(12-14)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/23/2003	1/23/2003		
PERCENT SOLIDS	40.0	75.0	65.0	78.0	80.0	52.0	52.0	78.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(mg/kg)
Arsenic	6.2	1.4	5.6	3	1.8	3.5	4	2.6	3.0	7.5 or SB
Barium	27.3	5.9 B	15.4	4.6 B	5.9 B	12.4 B	24.9	4.5 B	3.0	300 or SB
Cadmium	1	U	0.42	0.16 B	U	0.25 B	0.48	U	2.0	10*
Chromium	33.6	4.7	15.5	5.9	7.2	12.4	33.2	6.8	3.0	50*
Lead	9.5	8.5	5.6	2.4 B	2.3 B	5	7.7	2.7	1.0	SB**
Mercury	U	U	U	U	U	U	U	U	0.1	0.1
Selenium	U	U	U	U	U	U	U	U	8.0	2 or SB
Silver	1.6 B	0.28 B	1.1 B	0.37 B	0.34 B	0.61 B	0.33 B	0.12 B	2.0	SB

QUALIFIERS:
U: Constituent analyzed for but not detected.
B: Constituent concentration is less than the CRDL, but greater than the IDL.

Notes:
SB: Site Background
*: As per proposed 4/95 NSDEC TAGM
**: Average background levels in metropolitan or surburban areas or near highways range from 200-500 ppm.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 47(continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - RCRA METALS

SAMPLE ID	**IPSBX-05**	**IPSBX-05**	**IPSBX-05**	**IPSBX-06**	**IPSBX-06**	**IPSBX-06**	**IPSBX-06**	**IPSBX-06**	**INSTRUMENT DETECTION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(14-16)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(12-14)	(14-16)		
DATE OF COLLECTION	1/23/2003	1/23/2003	1/23/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003		
PERCENT SOLIDS	86.0	86.0	88.0	88.0	68.0	53.0	66.0	89.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(mg/kg)
Arsenic	3.1	3.1	2.5	3.2	6.3	12.5	1.7	2.4	3.0	7.5 or SB
Barium	2.5 B	1.8 B	2 B	12.8	29.6	30.7	7.8 B	2.2 B	3.0	300 or SB
Cadmium	U	U	U	0.27 B	0.54	1.2	0.14 B	U	2.0	10*
Chromium	5.2	3.1	2.8	13.7	16.9	35.6	7.6	3.2	3.0	50*
Lead	2.4	1.2	1.1	18	12.3	12.3	1.9 B	1 B	1.0	SB**
Mercury	U	U	U	0.019 B	0.037 B	0.041 B	U	U	0.1	0.1
Selenium	U	U	U	U	1 B	U	U	U	8.0	2 or SB
Silver	0.13 B	0.11 B	U	U	U	1.7 B	0.45 B	0.25 B	2.0	SB

SAMPLE ID	**IPSBX-06**	**IPSBX-06**	**IPSBX-07**	**IPSBX-07**	**IPSBX-07**	**IPSBX-07**	**IPSBX-07**	**IPSBX-07**	**INSTRUMENT DETECTION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003		
PERCENT SOLIDS	69.0	53.0	87.0	69.0	54.0	83.0	54.0	47.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(mg/kg)
Arsenic	4.7	4.3	2	10.2	17.2	1.4	6.1	5.9	3.0	7.5 or SB
Barium	10.3 B	13.1 B	28.6	18.4	30.4	5.5 B	18.3	24.5	3.0	300 or SB
Cadmium	0.26 B	0.38 B	0.46	0.68	1.5	0.12 B	0.48	0.47 B	2.0	10*
Chromium	13.2	14.2	12	19.5	38.2	5.5	19.3	29.3	3.0	50*
Lead	3.5	4	7.3	6.2	13.3	3.7	6.1	8.7	1.0	SB**
Mercury	U	U	U	U	0.038 B	U	U	U	0.1	0.1
Selenium	U	U	U	U	U	U	U	U	8.0	2 or SB
Silver	0.55 B	0.88 B	U	1 B	1.6 B	0.27 B	0.95 B	0.83 B	2.0	SB

QUALIFIERS:
U: Constituent analyzed for but not detected.
B: Constituent concentration is less than the CRDL, but greater than the IDL.

Notes:
SB: Site Background
*: As per proposed 4/95 NSDEC TAGM
**: Average background levels in metropolitan or surburban areas or near highways range from 200-500 ppm.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 47(continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - RCRA METALS

SAMPLE ID	**IPSBX-07**	**IPSBX-07**	**IPSBX-08**	**IPSBX-08**	**IPSBX-08**	**IPSBX-08**	**IPSBX-08**	**IPSBX-08**	**INSTRUMENT DETECTION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003		
PERCENT SOLIDS	64.0	41.0	77.0	72.0	66.0	80.0	78.0	76.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(mg/kg)
Arsenic	5.2	8.6	5.9	9.2	13.8	2.3	2.2	2.1	3.0	7.5 or SB
Barium	14.5 B	25.6	6.9 B	16.4	31.1	17.4	11.1 B	9.2 B	3.0	300 or SB
Cadmium	0.4	0.81	0.26 B	0.63	1.1	0.2 B	0.17 B	0.16 B	2.0	10*
Chromium	14.6	32.5	7.1	18.5	30.7	7.2	7.9	7.3	3.0	50*
Lead	5.6	10.3	2.6	6.9	10.8	3.3	2 B	2.4 B	1.0	SB**
Mercury	U	U	U	U	0.025 B	U	U	U	0.1	0.1
Selenium	U	U	U	U	U	U	U	U	8.0	2 or SB
Silver	0.75 B	1.3 B	0.48 B	0.99 B	1.4 B	0.5 B	0.48 B	0.4 B	2.0	SB

SAMPLE ID	**IPSBX-08**	**IPSBX-08**	**IPSBX-09**	**IPSBX-09**	**IPSBX-09**	**IPSBX-09**	**IPSBX-09**	**IPSBX-09**	**INSTRUMENT DETECTION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003		
PERCENT SOLIDS	48.0	90.0	84.0	65.0	52.0	69.0	46.0	89.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(mg/kg)
Arsenic	2.6	1.6	4.3	11.7	23.1	2	5.2	2.3	3.0	7.5 or SB
Barium	15 B	2.7 B	19.4	23.1	29.9	7 B	18.7	1.6 B	3.0	300 or SB
Cadmium	0.25 B	U	U	0.2 B	0.38 B	U	U	U	2.0	10*
Chromium	9.5	3.2	9.8	27	38.9	6.3	24	3.4	3.0	50*
Lead	2.9 B	1.3 B	14.9	11.2	17.7	2.2 B	7.5	1.4 B	1.0	SB**
Mercury	U	U	U	U	U	U	U	U	0.1	0.1
Selenium	U	U	U	U	U	U	U	U	8.0	2 or SB
Silver	0.65 B	0.21 B	U	U	U	U	U	U	2.0	SB

QUALIFIERS:
U: Constituent analyzed for but not detected.
B: Constituent concentration is less than the CRDL, but greater than the IDL.

Notes:
SB: Site Background
*: As per proposed 4/95 NSDEC TAGM
**: Average background levels in metropolitan or surburban areas or near highways range from 200-500 ppm.
: Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 47(continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - RCRA METALS

SAMPLE ID	**IPSBX-09**	**IPSBX-09**	**IPSBX-10**	**IPSBX-10**	**IPSBX-10**	**IPSBX-10**	**IPSBX-10**	**IPSBX-11**	**INSTRUMENT DETECTION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(4-6)		
DATE OF COLLECTION	1/29/2003	1/29/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/27/2003		
PERCENT SOLIDS	43.0	77.0	50.0	72.0	86.0	80.0	82.0	76.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(mg/kg)
Arsenic	7.6	2	4.2	5.6	1.9	2.6	3	8.5	3.0	7.5 or SB
Barium	21.2 B	5.5 B	21.2	9.6 B	2.4 B	4.2 B	1.5 B	26.5	3.0	300 or SB
Cadmium	0.14 B	U	0.29 B	0.21 B	U	U	U	0.44	2.0	10*
Chromium	27.9	5.8	25.8	11.7	3	6.4	3.2	4.7	3.0	50*
Lead	9.6	2.5	7.3	3.8	1.5	2.9	1.3	23.2	1.0	SB**
Mercury	U	U	U	U	U	U	U	U	0.1	0.1
Selenium	U	U	U	U	U	U	U	U	8.0	2 or SB
Silver	U	U	0.27 B	0.22 B	U	0.16 B	U	0.73 B	2.0	SB

SAMPLE ID	**IPSBX-11**	**IPSBX-11**	**IPSBX-11**	**IPSBX-11**	**IPSBX-11**	**IPSBX-11**	**IPSBX-11**	**IPSBX-12**	**INSTRUMENT DETECTION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(4-6)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/23/2003		
PERCENT SOLIDS	83.0	43.0	82.0	92.0	87.0	82.0	83.0	65.0		
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(mg/kg)
Arsenic	0.49 B	3.8	2.9	1.6	1.5	3	2.9	25.7	3.0	7.5 or SB
Barium	3.4 B	27.7	2.4 B	1.2 B	1.2 B	1.9 B	1.6 B	125	3.0	300 or SB
Cadmium	U	0.65	0.12 B	U	U	U	U	0.7	2.0	10*
Chromium	1.6 B	31.5	3.7	2.5	2.4	3.5	3.1	9.1	3.0	50*
Lead	0.81 B	10	1.9 B	0.96 B	0.91 B	1.4 B	1.1 B	13.7	1.0	SB**
Mercury	U	0.06 B	U	U	U	U	U	0.14	0.1	0.1
Selenium	U	U	U	U	U	U	U	U	8.0	2 or SB
Silver	0.13 B	0.85 B	0.3 B	0.19 B	0.13 B	0.25 B	0.24 B	0.32 B	2.0	SB

QUALIFIERS:
U: Constituent analyzed for but not detected.
B: Constituent concentration is less than the CRDL, but greater than the IDL.

Notes:
SB: Site Background
*: As per proposed 4/95 NSDEC TAGM
**: Average background levels in metropolitan or surburban areas or near highways range from 200-500 ppm.
[ ] : Result exceeds NYSDEC TAGM Recommended Soil Cleanup Objective

TABLE 47(continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - RCRA METALS

SAMPLE ID	**IPSBX-12**	**IPSBX-12**	**IPSBX-12**	**IPSBX-12**	**IPSBX-12**	**IPSBX-12**	**IPSBX-12**		**INSTRUMENT DETECTION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)			
DATE OF COLLECTION	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003			
PERCENT SOLIDS	82.0	87.0	87.0	90.0	89.0	80.0	86.0			
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)		(ug/l)	(mg/kg)
Arsenic	0.93 B	0.85 B	4	1.6	1.8	2.3	2.1		3.0	7.5 or SB
Barium	5.8 B	5.9 B	1.1 B	0.9 B	1.5 B	3.2 B	0.86 B		3.0	300 or SB
Cadmium	U	U	0.13 B	U	U	U	U		2.0	10*
Chromium	2.8	2.8	2.5	1.7	3.4	4.7	3.2		3.0	50*
Lead	2.1	1.6	1.8	0.8	1.1	1.6	0.62		1.0	SB**
Mercury	U	U	U	U	U	U	U		0.1	0.1
Selenium	U	U	U	U	U	U	U		8.0	2 or SB
Silver	U	U	0.14 B	U	U	U	U		2.0	SB

QUALIFIERS:
U: Constituent analyzed for but not detected.
B: Constituent concentration is less than the CRDL, but greater than the IDL.

Notes:
: Result exceeds Comparison Value.
-- : Not established.

TABLE 48

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003		
DILUTION FACTOR	1	1	3	2	2	2	1	1		
PERCENT SOLIDS	73.0	24.0	31.0	27.0	25.0	44.0	60.0	92.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	U	U	U	U	U	330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U	U	330	---
2-Chlorophenol	U	U	U	U	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
2-Methylphenol	U	U	U	U	3300	240 J	510 J	U	330	100
2,2-oxybis (1-chloropropane)	U	U	U	U	U	U	U	U	330	---
4-Methylphenol	U	U	U	U	U	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	U	330	---
Hexachloroethane	U	U	U	U	U	U	U	U	330	---
Nitrobenzene	U	U	U	U	U	U	U	U	330	200
Isophorone	U	U	U	U	U	U	U	U	330	4,400
2-Nitrophenol	U	U	U	U	U	U	U	U	330	330
2,4-Dimethylphenol	U	U	U	13000	29000	2700	4400	36 J	330	---
2,4-Dichlorophenol	U	U	U	U	U	U	U	U	330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	330	---
Naphthalene	3000	43000 D	42000	36000	24000	12000	8000	130 J	330	13,000
4-Chloroaniline	U	U	U	U	U	U	U	U	330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U	U	330	---
Hexachlorobutadiene	U	U	U	U	U	U	U	U	330	---
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	U	330	240
2-Methylnaphthalene	1000	1300 J	U	U	U	380 J	700	52 J	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	U	330	---
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	U	330	---
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	U	330	100
2-Chloronaphthalene	U	U	U	U	U	U	U	U	330	---
2-Nitroaniline	U	U	U	U	U	U	U	U	330	430
Dimethylphthalate	U	U	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	U	U	330	1,000
3-Nitroaniline	U	U	U	U	U	U	U	U	330	500
Acenaphthene	4100	2900	U	U	U	1200 J	280 J	50 J	330	50,000

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	IPSBX-01	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003		
DILUTION FACTOR	1	1	3	2	2	2	1	1		
PERCENT SOLIDS	73.0	24.0	31.0	27.0	25.0	44.0	60.0	92.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
2,4-Dinitrophenol	U	U	U	U	U	U	U	U	330	200
4-Nitrophenol	U	U	U	U	U	U	U	U	330	100
Dibenzofuran	2900	1100 J	U	U	U	820 J	200 J	67 J	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	U	U	330	---
Diethylphthalate	U	U	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Fluorene	3000	1000 J	U	U	U	860 J	140 J	52 J	330	50,000
4-Nitroaniline	U	U	U	U	U	U	U	U	330	---
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	U	330	---
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	U	330	---
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Hexachlorobenzene	U	U	U	U	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	U	U	U	U	330	1,000
Phenanthrene	6000	670 J	U	U	U	2700	230 J	110 J	330	50,000
Anthracene	1000	U	U	U	U	490 J	U	U	330	50,000
Carbazole	760	280 J	U	U	U	U	U	41 J	330	---
Di-n-butylphthalate	U	U	U	U	U	U	U	U	330	8,100
Fluoranthene	1700	U	U	U	U	1100 J	140 J	U	330	50,000
Pyrene	1400	U	U	U	U	790 J	110 J	U	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	U	U	330	50,000
3,3-Dichlorobenzidine	U	U	U	U	U	U	U	U	330	---
Benzo(a)anthracene	500	U	U	U	U	320 J	U	U	330	224
Chrysene	530	U	U	U	U	320 J	U	U	330	400
bis(2-Ethylhexyl)phthalate	50 J	170 J	U	U	U	U	U	64 J	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	610	U	U	U	U	U	U	U	330	1,100
Benzo(k)fluoranthene	300 J	U	U	U	U	U	U	U	330	1,100
Benzo(a)pyrene	400 J	U	U	U	U	U	U	U	330	61
Indeno(1,2,3-cd)pyrene	120 J	U	U	U	U	U	U	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	U	330	14
Benzo(g,h,i)perylene	110 J	U	U	U	U	U	U	U	330	50,000
Total PAHs	22,770	47,570	42,000	36,000	24,000	19,780	8,900	342	--	100,000
Total CaPAHs	2,460	0	0	0	0	640	0	0	--	10,000
Total SVOCs	27,480	50,420	42,000	49,000	56,300	23,920	14,710	602	--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
[ ] : Concentration exceeds NYSDEC TAGM 4046 Recommended Soil Cleanup Objective

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-03	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(6-8)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	68.0	39.0	81.0	47.0	42.0	83.0	58.0	81.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	U	650 J	U	U	U	330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U	U	330	---
2-Chlorophenol	U	U	U	U	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
2-Methylphenol	U	U	U	U	U	U	U	U	330	100
2,2-oxybis (1-chloropropane)	U	U	U	U	U	U	U	U	330	---
4-Methylphenol	U	U	U	U	220 J	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	U	330	---
Hexachloroethane	U	U	U	U	U	U	U	U	330	---
Nitrobenzene	U	U	U	U	U	U	U	U	330	200
Isophorone	U	U	U	U	U	U	U	U	330	4,400
2-Nitrophenol	U	U	U	U	U	U	U	U	330	330
2,4-Dimethylphenol	U	U	U	U	U	U	U	U	330	---
2,4-Dichlorophenol	U	U	U	U	U	U	U	U	330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	330	---
Naphthalene	130 J	U	U	U	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	U	U	330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U	U	330	---
Hexachlorobutadiene	U	U	U	U	U	U	U	U	330	---
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	U	330	240
2-Methylnaphthalene	170 J	U	U	U	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	U	330	---
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	U	330	---
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	U	330	100
2-Chloronaphthalene	U	U	U	U	U	U	U	U	330	---
2-Nitroaniline	U	U	U	U	U	U	U	U	330	430
Dimethylphthalate	U	U	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	U	U	330	1,000
3-Nitroaniline	U	U	U	U	U	U	U	U	330	500
Acenaphthene	U	U	U	U	U	U	U	U	330	50,000

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-02	IPSBX-03	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(6-8)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	68.0	39.0	81.0	47.0	42.0	83.0	58.0	81.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
2,4-Dinitrophenol	U	U	U	U	U	U	U	U	330	200
4-Nitrophenol	U	U	U	U	U	U	U	U	330	100
Dibenzofuran	56 J	U	U	U	U	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	U	U	330	---
Diethylphthalate	U	U	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Fluorene	U	U	U	U	U	U	U	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	U	U	330	---
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	U	330	---
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	U	330	---
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Hexachlorobenzene	U	U	U	U	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	U	U	U	U	330	1,000
Phenanthrene	300 J	U	U	U	U	U	U	U	330	50,000
Anthracene	68 J	U	U	U	U	U	U	U	330	50,000
Carbazole	U	U	U	U	U	U	U	U	330	---
Di-n-butylphthalate	U	U	U	U	U	U	U	U	330	8,100
Fluoranthene	270 J	U	U	U	U	U	U	52 J	330	50,000
Pyrene	250 J	U	U	U	U	U	U	47 J	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	U	U	330	50,000
3,3-Dichlorobenzidine	U	U	U	U	U	U	U	U	330	---
Benzo(a)anthracene	140 J	U	U	U	U	U	U	U	330	224
Chrysene	140 J	U	U	U	U	U	U	U	330	400
bis(2-Ethylhexyl)phthalate	140 J	U	U	U	U	68 J	500 J	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	200 J	U	U	U	U	U	U	U	330	1,100
Benzo(k)fluoranthene	81 J	U	U	U	U	U	U	U	330	1,100
Benzo(a)pyrene	130 J	U	U	U	U	U	U	U	330	61
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	U	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	U	330	14
Benzo(g,h,i)perylene	U	U	U	U	U	U	U	U	330	50,000
Total PAHs	1,709	0	0	0	0	0	0	99	--	100,000
Total CaPAHs	691	0	0	0	0	0	0	0	--	10,000
Total SVOCs	2,075	0	0	0	870	68	500	99	--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
[ ] : Concentration exceeds NYSDEC TAGM 4046 Recommended Soil Cleanup Objective

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-03	IPSBX-03	IPSBX-03	IPSBX-03	IPSBX-03	IPSBX-03	IPSBX-04	IPSBX-04	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(4-6)	(6-8)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	85.0	81.0	44.0	81.0	53.0	76.0	56.0	61.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	110 J	U	110 J	240 J	U	U	330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U	U	330	---
2-Chlorophenol	U	U	U	U	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
2-Methylphenol	U	U	U	U	U	U	U	U	330	100
2,2-oxybis (1-chloropropane)	U	U	U	U	U	U	U	U	330	---
4-Methylphenol	U	U	U	U	U	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	U	330	---
Hexachloroethane	U	U	U	U	U	U	U	U	330	---
Nitrobenzene	U	U	U	U	U	U	U	U	330	200
Isophorone	U	U	U	U	U	U	U	U	330	4,400
2-Nitrophenol	U	U	U	U	U	U	U	U	330	330
2,4-Dimethylphenol	U	U	U	U	U	U	U	U	330	---
2,4-Dichlorophenol	U	U	U	U	U	U	U	U	330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	330	---
Naphthalene	U	U	U	U	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	U	U	330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U	U	330	---
Hexachlorobutadiene	U	U	U	U	U	U	U	U	330	---
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	U	330	240
2-Methylnaphthalene	U	U	U	U	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	U	330	---
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	U	330	---
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	U	330	100
2-Chloronaphthalene	U	U	U	U	U	U	U	U	330	---
2-Nitroaniline	U	U	U	U	U	U	U	U	330	430
Dimethylphthalate	U	U	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	U	U	330	1,000
3-Nitroaniline	U	U	U	U	U	U	U	U	330	500
Acenaphthene	U	U	U	U	U	U	U	U	330	50,000

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-03	IPSBX-03	IPSBX-03	IPSBX-03	IPSBX-03	IPSBX-03	IPSBX-04	IPSBX-04	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(4-6)	(6-8)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	85.0	81.0	44.0	81.0	53.0	76.0	56.0	61.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
2,4-Dinitrophenol	U	U	U	U	U	U	U	U	330	200
4-Nitrophenol	U	U	U	U	U	U	U	U	330	100
Dibenzofuran	U	U	U	U	U	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	U	U	330	---
Diethylphthalate	U	U	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Fluorene	U	U	U	U	U	U	U	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	U	U	330	---
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	U	330	---
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	U	330	---
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Hexachlorobenzene	U	U	U	U	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	U	U	U	U	330	1,000
Phenanthrene	U	U	U	U	73 J	U	U	U	330	50,000
Anthracene	U	U	U	U	U	U	U	U	330	50,000
Carbazole	U	U	U	U	U	U	U	U	330	---
Di-n-butylphthalate	U	U	U	U	U	U	U	U	330	8,100
Fluoranthene	U	U	U	U	190 J	U	U	U	330	50,000
Pyrene	U	U	U	U	160 J	U	U	U	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	U	U	330	50,000
3,3-Dichlorobenzidine	U	U	U	U	U	U	U	U	330	---
Benzo(a)anthracene	U	U	U	U	63 J	U	U	U	330	224
Chrysene	U	U	U	U	81 J	U	U	U	330	400
bis(2-Ethylhexyl)phthalate	U	U	U	U	U	U	120 J	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	U	U	U	U	87 J	U	U	U	330	1,100
Benzo(k)fluoranthene	U	U	U	U	U	U	U	U	330	1,100
Benzo(a)pyrene	U	U	U	U	U	U	U	U	330	61
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	U	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	U	330	14
Benzo(g,h,i)perylene	U	U	U	U	U	U	U	U	330	50,000
Total PAHs	0	0	0	0	654	0	0	0	--	100,000
Total CaPAHs	0	0	0	0	231	0	0	0	--	10,000
Total SVOCs	0	0	110	0	764	240	120	0	--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
: Concentration exceeds NYSDEC TAGM 4046 Recommended Soil Cleanup Objective

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-04	IPSBX-04	IPSBX-04	IPSBX-04	IPSBX-04	IPSBX-04	IPSBX-05	IPSBX-05	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(10-12)	(12-14)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/23/2003	1/23/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	40.0	75.0	65.0	78.0	80.0	52.0	52.0	78.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	100 J	U	U	180 J	130 J	340 J	2600	U	330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U	U	330	---
2-Chlorophenol	U	U	U	U	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
2-Methylphenol	U	U	U	U	U	U	U	U	330	100
2,2-oxybis (1-chloropropane)	U	U	U	U	U	U	U	U	330	---
4-Methylphenol	U	U	U	U	U	U	420 J	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	U	330	---
Hexachloroethane	U	U	U	U	U	U	U	U	330	---
Nitrobenzene	U	U	U	U	U	U	U	U	330	200
Isophorone	U	U	U	U	U	U	U	U	330	4,400
2-Nitrophenol	U	U	U	U	U	U	U	U	330	330
2,4-Dimethylphenol	U	U	U	U	U	U	U	U	330	---
2,4-Dichlorophenol	U	U	U	U	U	U	U	U	330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	330	---
Naphthalene	U	U	U	U	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	U	U	330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U	U	330	---
Hexachlorobutadiene	U	U	U	U	U	U	U	U	330	---
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	U	330	240
2-Methylnaphthalene	U	U	U	U	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	U	330	---
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	U	330	---
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	U	330	100
2-Chloronaphthalene	U	U	U	U	U	U	U	U	330	---
2-Nitroaniline	U	U	U	U	U	U	U	U	330	430
Dimethylphthalate	U	U	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	U	U	330	1,000
3-Nitroaniline	U	U	U	U	U	U	U	U	330	500
Acenaphthene	U	U	U	U	U	U	U	U	330	50,000

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-04	IPSBX-04	IPSBX-04	IPSBX-04	IPSBX-04	IPSBX-04	IPSBX-05	IPSBX-05	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(10-12)	(12-14)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/23/2003	1/23/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	40.0	75.0	65.0	78.0	80.0	52.0	52.0	78.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
2,4-Dinitrophenol	U	U	U	U	U	U	U	U	330	200
4-Nitrophenol	U	U	U	U	U	U	U	U	330	100
Dibenzofuran	U	U	U	U	U	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	U	U	330	---
Diethylphthalate	U	U	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Fluorene	U	U	U	U	U	U	U	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	U	U	330	---
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	U	330	---
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	U	330	---
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Hexachlorobenzene	U	U	U	U	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	U	U	U	U	330	1,000
Phenanthrene	U	U	U	U	U	U	U	U	330	50,000
Anthracene	U	U	U	U	U	U	U	U	330	50,000
Carbazole	U	U	U	U	U	U	U	U	330	---
Di-n-butylphthalate	U	U	U	U	U	U	U	U	330	8,100
Fluoranthene	U	U	U	U	U	U	U	U	330	50,000
Pyrene	U	U	U	U	U	U	U	U	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	U	U	330	50,000
3,3-Dichlorobenzidine	U	U	U	U	U	U	U	U	330	---
Benzo(a)anthracene	U	U	U	U	U	U	U	U	330	224
Chrysene	U	U	U	U	U	U	U	U	330	400
bis(2-Ethylhexyl)phthalate	U	U	U	U	160 J	290 J	110 J	61 J	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	U	U	U	U	U	U	U	U	330	1,100
Benzo(k)fluoranthene	U	U	U	U	U	U	U	U	330	1,100
Benzo(a)pyrene	U	U	U	U	U	U	U	U	330	61
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	U	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	U	330	14
Benzo(g,h,i)perylene	U	U	U	U	U	U	U	U	330	50,000
Total PAHs	0	0	0	0	0	0	0	0	--	100,000
Total CaPAHs	0	0	0	0	0	0	0	0	--	10,000
Total SVOCs	100	0	0	180	290	630	3,130	61	--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
: Concentration exceeds NYSDEC TAGM 4046 Recommended Soil Cleanup Objective

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-05	IPSBX-05	IPSBX-05	IPSBX-06	IPSBX-06	IPSBX-06	IPSBX-06	IPSBX-06	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(14-16)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(12-14)	(14-16)		
DATE OF COLLECTION	1/23/2003	1/23/2003	1/23/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	86.0	86.0	88.0	88.0	68.0	53.0	66.0	89.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	U	U	U	U	U	330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U	U	330	---
2-Chlorophenol	U	U	U	U	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
2-Methylphenol	U	U	U	U	U	U	U	U	330	100
2,2-oxybis (1-chloropropane)	U	U	U	U	U	U	U	U	330	---
4-Methylphenol	U	U	U	U	U	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	U	330	---
Hexachloroethane	U	U	U	U	U	U	U	U	330	---
Nitrobenzene	U	U	U	U	U	U	U	U	330	200
Isophorone	U	U	U	U	U	U	U	U	330	4,400
2-Nitrophenol	U	U	U	U	U	U	U	U	330	330
2,4-Dimethylphenol	U	U	U	U	U	U	U	U	330	---
2,4-Dichlorophenol	U	U	U	U	U	U	U	U	330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	330	---
Naphthalene	U	U	U	110 J	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	U	U	330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U	U	330	---
Hexachlorobutadiene	U	U	U	U	U	U	U	U	330	---
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	U	330	240
2-Methylnaphthalene	U	U	U	120 J	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	U	330	---
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	U	330	---
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	U	330	100
2-Chloronaphthalene	U	U	U	U	U	U	U	U	330	---
2-Nitroaniline	U	U	U	U	U	U	U	U	330	430
Dimethylphthalate	U	U	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	140 J	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	U	U	330	1,000
3-Nitroaniline	U	U	U	U	U	U	U	U	330	500
Acenaphthene	U	U	U	450	U	U	U	U	330	50,000

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-05	IPSBX-05	IPSBX-05	IPSBX-06	IPSBX-06	IPSBX-06	IPSBX-06	IPSBX-06	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(14-16)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(12-14)	(14-16)		
DATE OF COLLECTION	1/23/2003	1/23/2003	1/23/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	86.0	86.0	88.0	88.0	68.0	53.0	66.0	89.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
2,4-Dinitrophenol	U	U	U	U	U	U	U	U	330	200
4-Nitrophenol	U	U	U	U	U	U	U	U	330	100
Dibenzofuran	U	U	U	280 J	U	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	U	U	330	---
Diethylphthalate	U	U	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Fluorene	U	U	U	540	U	U	U	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	U	U	330	---
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	U	330	---
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	U	330	---
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Hexachlorobenzene	U	U	U	U	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	U	U	U	U	330	1,000
Phenanthrene	U	U	U	1400	U	U	U	U	330	50,000
Anthracene	U	U	U	230 J	U	U	U	U	330	50,000
Carbazole	U	U	U	U	U	U	U	U	330	---
Di-n-butylphthalate	U	U	U	U	U	U	U	U	330	8,100
Fluoranthene	U	U	U	110 J	U	U	U	U	330	50,000
Pyrene	U	U	U	280 J	U	U	U	U	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	U	U	330	50,000
3,3-Dichlorobenzidine	U	U	U	U	U	U	U	U	330	---
Benzo(a)anthracene	U	U	U	52 J	U	U	U	U	330	224
Chrysene	U	U	U	81 J	U	U	U	U	330	400
bis(2-Ethylhexyl)phthalate	61 J	56 J	56 J	99 J	89 J	76 J	53 J	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	U	U	U	85 J	U	U	U	U	330	1,100
Benzo(k)fluoranthene	U	U	U	U	U	U	U	U	330	1,100
Benzo(a)pyrene	U	U	U	43 J	86 J	U	U	U	330	61
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	U	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	U	330	14
Benzo(g,h,i)perylene	U	U	U	U	U	U	U	U	330	50,000
Total PAHs	0	0	0	3,521	86	0	0	0	--	100,000
Total CaPAHs	0	0	0	261	86	0	0	0	--	10,000
Total SVOCs	61	56	56	4,020	175	76	53	0	--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
[ ] : Concentration exceeds NYSDEC TAGM 4046 Recommended Soil Cleanup Objective

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-06	IPSBX-06	IPSBX-07	IPSBX-07	IPSBX-07	IPSBX-07	IPSBX-07	IPSBX-07	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003		
DILUTION FACTOR	1	1	10	1	1	1	1	1		
PERCENT SOLIDS	69.0	53.0	87.0	69.0	54.0	83.0	54.0	47.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	640	870	U	U	U	U	U	910	330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U	U	330	---
2-Chlorophenol	U	U	U	U	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
2-Methylphenol	U	U	U	U	U	U	U	U	330	100
2,2-oxybis (1-chloropropane)	U	U	U	U	U	U	U	U	330	---
4-Methylphenol	U	U	U	U	U	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	U	330	---
Hexachloroethane	U	U	U	U	U	U	U	U	330	---
Nitrobenzene	U	U	U	U	U	U	U	U	330	200
Isophorone	U	U	U	U	U	U	U	U	330	4,400
2-Nitrophenol	U	U	U	U	U	U	U	U	330	330
2,4-Dimethylphenol	U	U	U	U	U	U	U	U	330	---
2,4-Dichlorophenol	U	U	U	U	U	U	U	U	330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	330	---
Naphthalene	U	U	U	U	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	U	U	330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U	U	330	---
Hexachlorobutadiene	U	U	U	U	U	U	U	U	330	---
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	U	330	240
2-Methylnaphthalene	U	U	U	U	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	U	330	---
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	U	330	---
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	U	330	100
2-Chloronaphthalene	U	U	U	U	U	U	U	U	330	---
2-Nitroaniline	U	U	U	U	U	U	U	U	330	430
Dimethylphthalate	U	U	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	U	U	330	1,000
3-Nitroaniline	U	U	U	U	U	U	U	U	330	500
Acenaphthene	U	U	U	U	U	U	U	U	330	50,000

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-06	IPSBX-06	IPSBX-07	IPSBX-07	IPSBX-07	IPSBX-07	IPSBX-07	IPSBX-07	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003		
DILUTION FACTOR	1	1	10	1	1	1	1	1		
PERCENT SOLIDS	69.0	53.0	87.0	69.0	54.0	83.0	54.0	47.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
2,4-Dinitrophenol	U	U	U	U	U	U	U	U	330	200
4-Nitrophenol	U	U	U	U	U	U	U	U	330	100
Dibenzofuran	U	U	U	U	U	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	U	U	330	---
Diethylphthalate	U	U	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Fluorene	U	U	U	U	U	U	U	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	U	U	330	---
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	U	330	---
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	U	330	---
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Hexachlorobenzene	U	U	U	U	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	U	U	U	U	330	1,000
Phenanthrene	U	U	U	U	U	U	U	U	330	50,000
Anthracene	U	U	U	U	U	U	U	U	330	50,000
Carbazole	U	U	U	U	U	U	U	U	330	---
Di-n-butylphthalate	U	U	U	U	U	U	U	U	330	8,100
Fluoranthene	U	U	U	U	U	U	95 J	U	330	50,000
Pyrene	U	U	U	U	U	U	84 J	U	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	U	U	330	50,000
3,3-Dichlorobenzidine	U	U	U	U	U	U	U	U	330	---
Benzo(a)anthracene	U	U	U	U	U	U	U	U	330	224
Chrysene	U	U	U	U	U	U	U	U	330	400
bis(2-Ethylhexyl)phthalate	62 J	65 J	U	U	U	U	U	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	U	U	U	U	U	U	76 J	U	330	1,100
Benzo(k)fluoranthene	U	U	U	U	U	U	U	U	330	1,100
Benzo(a)pyrene	U	U	U	U	U	U	U	U	330	61
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	U	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	U	330	14
Benzo(g,h,i)perylene	U	U	U	U	U	U	U	U	330	50,000
Total PAHs	0	0	0	0	0	0	255	0	--	100,000
Total CaPAHs	0	0	0	0	0	0	76	0	--	10,000
Total SVOCs	702	935	0	0	0	0	255	910	--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
: Concentration exceeds NYSDEC TAGM 4046 Recommended Soil Cleanup Objective

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	**IPSBX-07**	**IPSBX-07**	**IPSBX-08**	**IPSBX-08**	**IPSBX-08**	**IPSBX-08**	**IPSBX-08**	**IPSBX-08**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	64.0	41.0	77.0	72.0	66.0	80.0	78.0	76.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	2500	U	U	U	U	U	U	330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U	U	330	---
2-Chlorophenol	U	U	U	U	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
2-Methylphenol	U	U	U	U	U	U	U	U	330	100
2,2-oxybis (1-chloropropane)	U	U	U	U	U	U	U	U	330	---
4-Methylphenol	U	110 J	U	U	U	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	U	330	---
Hexachloroethane	U	U	U	U	U	U	U	U	330	---
Nitrobenzene	U	U	U	U	U	U	U	U	330	200
Isophorone	U	U	U	U	U	U	U	U	330	4,400
2-Nitrophenol	U	U	U	U	U	U	U	U	330	330
2,4-Dimethylphenol	U	U	U	U	U	U	U	U	330	---
2,4-Dichlorophenol	U	U	U	U	U	U	U	U	330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	330	---
Naphthalene	U	U	U	U	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	U	U	330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U	U	330	---
Hexachlorobutadiene	U	U	U	U	U	U	U	U	330	---
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	U	330	240
2-Methylnaphthalene	U	U	U	U	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	U	330	---
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	U	330	---
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	U	330	100
2-Chloronaphthalene	U	U	U	U	U	U	U	U	330	---
2-Nitroaniline	U	U	U	U	U	U	U	U	330	430
Dimethylphthalate	U	U	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	U	U	330	1,000
3-Nitroaniline	U	U	U	U	U	U	U	U	330	500
Acenaphthene	U	U	U	U	260 J	U	130 J	U	330	50,000

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-07	IPSBX-07	IPSBX-08	IPSBX-08	IPSBX-08	IPSBX-08	IPSBX-08	IPSBX-08	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	64.0	41.0	77.0	72.0	66.0	80.0	78.0	76.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
2,4-Dinitrophenol	U	U	U	U	U	U	U	U	330	200
4-Nitrophenol	U	U	U	U	U	U	U	U	330	100
Dibenzofuran	U	U	U	U	U	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	U	U	330	---
Diethylphthalate	U	U	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Fluorene	U	U	U	U	88 J	U	100 J	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	U	U	330	---
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	U	330	---
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	U	330	---
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Hexachlorobenzene	U	U	U	U	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	U	U	U	U	330	1,000
Phenanthrene	U	U	U	U	U	U	U	U	330	50,000
Anthracene	U	U	U	U	U	U	U	U	330	50,000
Carbazole	U	U	U	U	U	U	U	U	330	---
Di-n-butylphthalate	U	U	U	U	U	U	U	U	330	8,100
Fluoranthene	74 J	U	U	U	U	U	U	U	330	50,000
Pyrene	66 J	U	U	U	U	U	U	U	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	U	U	330	50,000
3,3-Dichlorobenzidine	U	U	U	U	U	U	U	U	330	---
Benzo(a)anthracene	U	U	U	U	U	U	U	U	330	224
Chrysene	U	U	U	U	U	U	U	U	330	400
bis(2-Ethylhexyl)phthalate	320 J	1300	U	U	U	U	U	270 J	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	60 J	U	U	U	U	U	U	U	330	1,100
Benzo(k)fluoranthene	U	U	U	U	U	U	U	U	330	1,100
Benzo(a)pyrene	U	U	U	U	U	U	U	U	330	61
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	U	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	U	330	14
Benzo(g,h,i)perylene	U	U	U	U	U	U	U	U	330	50,000
Total PAHs	200	0	0	0	348	0	230	0	--	100,000
Total CaPAHs	60	0	0	0	0	0	0	0	--	10,000
Total SVOCs	520	3,910	0	0	348	0	230	270	--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
[ ] : Concentration exceeds NYSDEC TAGM 4046 Recommended Soil Cleanup Objective

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-08	IPSBX-08	IPSBX-09	IPSBX-09	IPSBX-09	IPSBX-09	IPSBX-09	IPSBX-09	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	48.0	90.0	84.0	65.0	52.0	69.0	46.0	89.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	U	U	U	78 J	U	330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U	U	330	---
2-Chlorophenol	U	U	U	U	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
2-Methylphenol	U	U	U	U	U	U	U	U	330	100
2,2-oxybis (1-chloropropane)	U	U	U	U	U	U	U	U	330	---
4-Methylphenol	U	U	U	U	U	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	U	330	---
Hexachloroethane	U	U	U	U	U	U	U	U	330	---
Nitrobenzene	U	U	U	U	U	U	U	U	330	200
Isophorone	U	U	U	U	U	U	U	U	330	4,400
2-Nitrophenol	U	U	U	U	U	U	U	U	330	330
2,4-Dimethylphenol	U	U	U	U	U	U	U	U	330	---
2,4-Dichlorophenol	U	U	U	U	U	U	U	U	330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	330	---
Naphthalene	U	U	U	U	U	U	U	U	330	13,000
4-Chloroaniline	U	U	U	U	U	U	U	U	330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U	U	330	---
Hexachlorobutadiene	U	U	U	U	U	U	U	U	330	---
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	U	330	240
2-Methylnaphthalene	U	U	U	U	U	U	U	U	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	U	330	---
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	U	330	---
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	U	330	100
2-Chloronaphthalene	U	U	U	U	U	U	U	U	330	---
2-Nitroaniline	U	U	U	U	U	U	U	U	330	430
Dimethylphthalate	U	U	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	U	U	330	1,000
3-Nitroaniline	U	U	U	U	U	U	U	U	330	500
Acenaphthene	U	U	U	U	U	U	U	U	330	50,000

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-08	IPSBX-08	IPSBX-09	IPSBX-09	IPSBX-09	IPSBX-09	IPSBX-09	IPSBX-09	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	48.0	90.0	84.0	65.0	52.0	69.0	46.0	89.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
2,4-Dinitrophenol	U	U	U	U	U	U	U	U	330	200
4-Nitrophenol	U	U	U	U	U	U	U	U	330	100
Dibenzofuran	U	U	U	U	U	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	U	U	330	---
Diethylphthalate	U	U	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Fluorene	U	U	U	U	U	U	U	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	U	U	330	---
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	U	330	---
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	U	330	---
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Hexachlorobenzene	U	U	U	U	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	U	U	U	U	330	1,000
Phenanthrene	U	U	U	U	U	U	U	U	330	50,000
Anthracene	U	U	U	U	U	U	U	U	330	50,000
Carbazole	U	U	U	U	U	U	U	U	330	---
Di-n-butylphthalate	U	U	U	U	U	U	U	U	330	8,100
Fluoranthene	73 J	U	U	U	U	U	U	U	330	50,000
Pyrene	U	U	U	U	U	U	U	U	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	U	U	330	50,000
3,3-Dichlorobenzidine	U	U	U	U	U	U	U	U	330	---
Benzo(a)anthracene	U	U	U	U	U	U	U	U	330	224
Chrysene	U	U	U	U	U	U	U	U	330	400
bis(2-Ethylhexyl)phthalate	120 J	60 J	82 J	50 J	U	U	U	U	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	U	U	U	U	U	U	U	U	330	1,100
Benzo(k)fluoranthene	U	U	U	U	U	U	U	U	330	1,100
Benzo(a)pyrene	U	U	U	U	U	U	U	U	330	61
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	U	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	U	330	14
Benzo(g,h,i)perylene	U	U	U	U	U	U	U	U	330	50,000
Total PAHs	73	0	0	0	0	0	0	0	--	100,000
Total CaPAHs	0	0	0	0	0	0	0	0	--	10,000
Total SVOCs	193	60	82	50	0	0	78	0	--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
: Concentration exceeds NYSDEC TAGM 4046 Recommended Soil Cleanup Objective

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	**IPSBX-09**	**IPSBX-09**	**IPSBX-10**	**IPSBX-10**	**IPSBX-10**	**IPSBX-10**	**IPSBX-10**	**IPSBX-11**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(4-6)		
DATE OF COLLECTION	1/29/2003	1/29/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/27/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	43.0	77.0	50.0	72.0	86.0	80.0	82.0	76.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	190 J	U	U	U	U	U	U	U	330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U	U	330	---
2-Chlorophenol	U	U	U	U	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
2-Methylphenol	U	U	U	U	U	U	U	U	330	100
2,2-oxybis (1-chloropropane)	U	U	U	U	U	U	U	U	330	---
4-Methylphenol	U	U	U	U	U	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	U	330	---
Hexachloroethane	U	U	U	U	U	U	U	U	330	---
Nitrobenzene	U	U	U	U	U	U	U	U	330	200
Isophorone	U	U	U	U	U	U	U	U	330	4,400
2-Nitrophenol	U	U	U	U	U	U	U	U	330	330
2,4-Dimethylphenol	U	U	U	U	U	U	U	U	330	---
2,4-Dichlorophenol	U	U	U	U	U	U	U	U	330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	330	---
Naphthalene	U	U	U	U	U	U	U	73 J	330	13,000
4-Chloroaniline	U	U	U	U	U	U	U	U	330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U	U	330	---
Hexachlorobutadiene	U	U	U	U	U	U	U	U	330	---
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	U	330	240
2-Methylnaphthalene	U	U	U	U	U	U	U	140 J	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	U	330	---
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	U	330	---
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	U	330	100
2-Chloronaphthalene	U	U	U	U	U	U	U	U	330	---
2-Nitroaniline	U	U	U	U	U	U	U	U	330	430
Dimethylphthalate	U	U	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	U	U	330	1,000
3-Nitroaniline	U	U	U	U	U	U	U	U	330	500
Acenaphthene	U	U	U	U	U	U	U	U	330	50,000

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-09	IPSBX-09	IPSBX-10	IPSBX-10	IPSBX-10	IPSBX-10	IPSBX-10	IPSBX-11	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(4-6)		
DATE OF COLLECTION	1/29/2003	1/29/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/27/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	43.0	77.0	50.0	72.0	86.0	80.0	82.0	76.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
2,4-Dinitrophenol	U	U	U	U	U	U	U	U	330	200
4-Nitrophenol	U	U	U	U	U	U	U	U	330	100
Dibenzofuran	U	U	U	U	U	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	U	U	330	---
Diethylphthalate	U	U	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Fluorene	U	U	U	U	U	U	U	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	U	U	330	---
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	U	330	---
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	U	330	---
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Hexachlorobenzene	U	U	U	U	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	U	U	U	U	330	1,000
Phenanthrene	U	U	U	U	U	U	U	130 J	330	50,000
Anthracene	U	U	U	U	U	U	U	U	330	50,000
Carbazole	U	U	U	U	U	U	U	U	330	---
Di-n-butylphthalate	U	U	U	U	U	U	U	U	330	8,100
Fluoranthene	U	U	U	U	U	U	U	120 J	330	50,000
Pyrene	U	U	U	U	U	U	U	130 J	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	U	U	330	50,000
3,3-Dichlorobenzidine	U	U	U	U	U	U	U	U	330	---
Benzo(a)anthracene	U	U	U	U	U	U	U	69 J	330	224
Chrysene	U	U	U	U	U	U	U	92 J	330	400
bis(2-Ethylhexyl)phthalate	U	U	96 J	69 J	U	54 J	46 J	100 J	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	U	U	U	U	U	U	U	100 J	330	1,100
Benzo(k)fluoranthene	U	U	U	U	U	U	U	U	330	1,100
Benzo(a)pyrene	U	U	U	U	U	U	U	56 J	330	61
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	U	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	U	330	14
Benzo(g,h,i)perylene	U	U	U	U	U	U	U	U	330	50,000
Total PAHs	0	0	0	0	0	0	0	770	--	100,000
Total CaPAHs	0	0	0	0	0	0	0	317	--	10,000
Total SVOCs	190	0	96	69	0	54	46	1,010	--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
: Concentration exceeds NYSDEC TAGM 4046 Recommended Soil Cleanup Objective

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-11	IPSBX-11	IPSBX-11	IPSBX-11	IPSBX-11	IPSBX-11	IPSBX-11	IPSBX-12	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(4-6)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/23/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	83.0	43.0	82.0	92.0	87.0	82.0	83.0	65.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	U	U	U	U	U	330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U	U	330	---
2-Chlorophenol	U	U	U	U	U	U	U	U	330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	330	---
2-Methylphenol	U	U	U	U	U	U	U	U	330	100
2,2-oxybis (1-chloropropane)	U	U	U	U	U	U	U	U	330	---
4-Methylphenol	U	U	U	U	U	U	U	U	330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	U	330	---
Hexachloroethane	U	U	U	U	U	U	U	U	330	---
Nitrobenzene	U	U	U	U	U	U	U	U	330	200
Isophorone	U	U	U	U	U	U	U	U	330	4,400
2-Nitrophenol	U	U	U	U	U	U	U	U	330	330
2,4-Dimethylphenol	U	U	U	U	U	U	U	U	330	---
2,4-Dichlorophenol	U	U	U	U	U	U	U	U	330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	330	---
Naphthalene	U	U	U	U	U	U	U	140 J	330	13,000
4-Chloroaniline	U	U	U	U	U	U	U	U	330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U	U	330	---
Hexachlorobutadiene	U	U	U	U	U	U	U	U	330	---
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	U	330	240
2-Methylnaphthalene	U	U	U	U	U	U	U	150 J	330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	U	330	---
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	U	330	---
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	U	330	100
2-Chloronaphthalene	U	U	U	U	U	U	U	U	330	---
2-Nitroaniline	U	U	U	U	U	U	U	U	330	430
Dimethylphthalate	U	U	U	U	U	U	U	U	330	2,000
Acenaphthylene	U	U	U	U	U	U	U	U	330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	U	U	330	1,000
3-Nitroaniline	U	U	U	U	U	U	U	U	330	500
Acenaphthene	U	U	U	U	U	U	U	U	330	50,000

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-11	IPSBX-11	IPSBX-11	IPSBX-11	IPSBX-11	IPSBX-11	IPSBX-11	IPSBX-12	LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(4-6)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/23/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	83.0	43.0	82.0	92.0	87.0	82.0	83.0	65.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
2,4-Dinitrophenol	U	U	U	U	U	U	U	U	330	200
4-Nitrophenol	U	U	U	U	U	U	U	U	330	100
Dibenzofuran	U	U	U	U	U	U	U	U	330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	U	U	330	---
Diethylphthalate	U	U	U	U	U	U	U	U	330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Fluorene	U	U	U	U	U	U	U	U	330	50,000
4-Nitroaniline	U	U	U	U	U	U	U	U	330	---
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	U	330	---
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	U	330	---
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	U	330	---
Hexachlorobenzene	U	U	U	U	U	U	U	U	330	410
Pentachlorophenol	U	U	U	U	U	U	U	U	330	1,000
Phenanthrene	U	U	U	U	U	U	U	180 J	330	50,000
Anthracene	U	U	U	U	U	U	U	U	330	50,000
Carbazole	U	U	U	U	U	U	U	U	330	---
Di-n-butylphthalate	U	U	U	U	U	U	U	U	330	8,100
Fluoranthene	U	U	U	U	U	U	U	76 J	330	50,000
Pyrene	U	U	U	U	U	U	U	66 J	330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	U	U	330	50,000
3,3-Dichlorobenzidine	U	U	U	U	U	U	U	U	330	---
Benzo(a)anthracene	U	U	U	U	U	U	U	56 J	330	224
Chrysene	U	U	U	U	U	U	U	220 J	330	400
bis(2-Ethylhexyl)phthalate	U	U	U	U	U	44 J	48 J	91 J	330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	U	U	330	50,000
Benzo(b)fluoranthene	U	U	U	U	U	U	U	100 J	330	1,100
Benzo(k)fluoranthene	U	U	U	U	U	U	U	U	330	1,100
Benzo(a)pyrene	U	U	U	U	U	U	U	83 J	330	61
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	U	U	U	330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	U	330	14
Benzo(g,h,i)perylene	U	U	U	U	U	U	U	U	330	50,000
Total PAHs	0	0	0	0	0	0	0	921	--	100,000
Total CaPAHs	0	0	0	0	0	0	0	459	--	10,000
Total SVOCs	0	0	0	0	0	44	48	1,162	--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
[ ] : Concentration exceeds NYSDEC TAGM 4046 Recommended Soil Cleanup Objective

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-12	IPSBX-12	IPSBX-12	IPSBX-12	IPSBX-12	IPSBX-12	IPSBX-12		LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)			
DATE OF COLLECTION	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003			
DILUTION FACTOR	1	1	1	1	1	1	1			
PERCENT SOLIDS	83.0	87.0	87.0	90.0	89.0	80.0	86.0			
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		(ug/kg)	(ug/kg)
Phenol	U	U	U	U	U	U	U		330	30
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U		330	---
2-Chlorophenol	U	U	U	U	U	U	U		330	800
1,3-Dichlorobenzene	U	U	U	U	U	U	U		330	---
1,4-Dichlorobenzene	U	U	U	U	U	U	U		330	---
1,2-Dichlorobenzene	U	U	U	U	U	U	U		330	---
2-Methylphenol	U	U	U	U	U	U	U		330	100
2,2-oxybis (1-chloropropane)	U	U	U	U	U	U	U		330	---
4-Methylphenol	U	U	U	U	U	U	U		330	900
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U		330	---
Hexachloroethane	U	U	U	U	U	U	U		330	---
Nitrobenzene	U	U	U	U	U	U	U		330	200
Isophorone	U	U	U	U	U	U	U		330	4,400
2-Nitrophenol	U	U	U	U	U	U	U		330	330
2,4-Dimethylphenol	U	U	U	U	U	U	U		330	---
2,4-Dichlorophenol	U	U	U	U	U	U	U		330	400
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U		330	---
Naphthalene	160 J	U	U	U	U	U	U		330	13,000
4-Chloroaniline	U	U	U	U	U	U	U		330	220
bis(2-Chloroethoxy)methane	U	U	U	U	U	U	U		330	---
Hexachlorobutadiene	U	U	U	U	U	U	U		330	---
4-Chloro-3-methylphenol	U	U	U	U	U	U	U		330	240
2-Methylnaphthalene	100 J	U	U	U	U	U	U		330	36,400
Hexachlorocyclopentadiene	U	U	U	U	U	U	U		330	---
2,4,6-Trichlorophenol	U	U	U	U	U	U	U		330	---
2,4,5-Trichlorophenol	U	U	U	U	U	U	U		330	100
2-Chloronaphthalene	U	U	U	U	U	U	U		330	---
2-Nitroaniline	U	U	U	U	U	U	U		330	430
Dimethylphthalate	U	U	U	U	U	U	U		330	2,000
Acenaphthylene	U	U	U	U	U	U	U		330	41,000
2,6-Dinitrotoluene	U	U	U	U	U	U	U		330	1,000
3-Nitroaniline	U	U	U	U	U	U	U		330	500
Acenaphthene	53 J	U	U	U	U	U	U		330	50,000

TABLE 48 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL - SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

SAMPLE ID	IPSBX-12	IPSBX-12	IPSBX-12	IPSBX-12	IPSBX-12	IPSBX-12	IPSBX-12		LABORATORY QUANTITATION LIMITS	NYSDEC TAGM Recommended Soil Cleanup Objective
SAMPLE DEPTH (FT)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)			
DATE OF COLLECTION	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003			
DILUTION FACTOR	1	1	1	1	1	1	1			
PERCENT SOLIDS	83.0	87.0	87.0	90.0	89.0	80.0	86.0			
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		(ug/kg)	(ug/kg)
2,4-Dinitrophenol	U	U	U	U	U	U	U		330	200
4-Nitrophenol	U	U	U	U	U	U	U		330	100
Dibenzofuran	78 J	U	U	U	U	U	U		330	6,200
2,4-Dinitrotoluene	U	U	U	U	U	U	U		330	---
Diethylphthalate	U	U	U	U	U	U	U		330	7,100
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U		330	---
Fluorene	120 J	95 J	U	U	U	U	U		330	50,000
4-Nitroaniline	U	U	U	U	U	U	U		330	---
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U		330	---
N-Nitrosodiphenylamine	U	U	U	U	U	U	U		330	---
4-Bromophenyl-phenylether	U	U	U	U	U	U	U		330	---
Hexachlorobenzene	U	U	U	U	U	U	U		330	410
Pentachlorophenol	U	U	U	U	U	U	U		330	1,000
Phenanthrene	180 J	150 J	U	U	U	U	U		330	50,000
Anthracene	58 J	54 J	U	U	U	U	U		330	50,000
Carbazole	110 J	120 J	U	U	U	U	U		330	---
Di-n-butylphthalate	U	U	U	U	U	U	U		330	8,100
Fluoranthene	380 J	110 J	U	U	U	U	U		330	50,000
Pyrene	370 J	85 J	U	U	U	U	U		330	50,000
Butylbenzylphthalate	U	U	U	U	U	U	U		330	50,000
3,3-Dichlorobenzidine	U	U	U	U	U	U	U		330	---
Benzo(a)anthracene	95 J	U	U	U	U	U	U		330	224
Chrysene	170 J	U	U	U	U	U	U		330	400
bis(2-Ethylhexyl)phthalate	71 J	49 J	58 J	60 J	54 J	270 J	470		330	50,000
Di-n-octylphthalate	U	U	U	U	U	U	U		330	50,000
Benzo(b)fluoranthene	130 J	U	U	U	U	U	U		330	1,100
Benzo(k)fluoranthene	57 J	U	U	U	U	U	U		330	1,100
Benzo(a)pyrene	82 J	U	U	U	U	U	U		330	61
Indeno(1,2,3-cd)pyrene	42 J	U	U	U	U	U	U		330	3,200
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U		330	14
Benzo(g,h,i)perylene	46 J	U	U	U	U	U	U		330	50,000
Total PAHs	1,943	494	0	0	0	0	0		--	100,000
Total CaPAHs	576	0	0	0	0	0	0		--	10,000
Total SVOCs	2,302	663	58	60	54	270	470		--	500,000

QUALIFIERS:
U: Compound analyzed for but not detected.
J: Compound found at a concentration below the detection limit.
D: Compound concentration was obtained from a diluted analysis.

NOTES:
-- : Not applicable.
[ ] : Concentration exceeds NYSDEC TAGM 4046 Recommended Soil Cleanup Objective

TABLE 49

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL POLYCHLORINATED BIPHENYLS (PCBs)

SAMPLE ID	**IPSBX-01**	**IPSBX-01**	**IPSBX-01**	**IPSBX-01**	**IPSBX-01**	**IPSBX-01**	**IPSBX-01**	**IPSBX-01**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	73.0	24.0	31.0	27.0	25.0	44.0	60.0	92.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor- 1016	U	U	U	U	U	U	U	U	34	----
Aroclor- 1221	U	U	U	U	U	U	U	U	34	----
Aroclor- 1232	U	U	U	U	U	U	U	U	34	----
Aroclor- 1242	U	U	U	U	U	U	U	U	34	----
Aroclor- 1248	U	U	U	U	U	U	U	U	34	----
Aroclor- 1254	U	U	U	U	U	U	U	U	34	----
Aroclor- 1260	U	U	U	U	U	U	U	U	34	----
TOTAL PCBs	0	0	0	0	0	0	0	0	--	1,000/10,000*

SAMPLE ID	**IPSBX-02**	**IPSBX-02**	**IPSBX-02**	**IPSBX-02**	**IPSBX-02**	**IPSBX-02**	**IPSBX-02**	**IPSBX-03**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(6-8)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	68.0	39.0	81.0	47.0	42.0	83.0	58.0	81.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor- 1016	U	U	U	U	U	U	U	U	34	----
Aroclor- 1221	U	U	U	U	U	U	U	U	34	----
Aroclor- 1232	U	U	U	U	U	U	U	U	34	----
Aroclor- 1242	U	U	U	U	U	U	U	U	34	----
Aroclor- 1248	U	U	U	U	U	U	U	U	34	----
Aroclor- 1254	U	U	U	U	U	U	U	U	34	----
Aroclor- 1260	U	U	U	U	U	U	U	U	34	----
TOTAL PCBs	0	0	0	0	0	0	0	0	--	1,000/10,000*

QUALIFIERS:
U: Compound analyzed for but not detected.

NOTES:
-- : Not applicable.
* : According to NYSDEC TAGM 4046 Recommended Soil Cleanup Objective, 1,000 ug/kg is utilized for surface soil [0'-2' below ground surface (bgs)] and 10,000 ug/kg is utilized for subsurface soil (soil deeper than 2' bgs).

TABLE 49 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL POLYCHLORINATED BIPHENYLS (PCBs)

SAMPLE ID	**IPSBX-03**	**IPSBX-03**	**IPSBX-03**	**IPSBX-03**	**IPSBX-03**	**IPSBX-03**	**IPSBX-04**	**IPSBX-04**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(4-6)	(6-8)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	85.0	81.0	44.0	81.0	53.0	76.0	56.0	61.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor- 1016	U	U	U	U	U	U	U	U	34	----
Aroclor- 1221	U	U	U	U	U	U	U	U	34	----
Aroclor- 1232	U	U	U	U	U	U	U	U	34	----
Aroclor- 1242	U	U	U	U	U	U	U	U	34	----
Aroclor- 1248	U	U	U	U	U	U	U	U	34	----
Aroclor- 1254	U	U	U	U	U	U	U	U	34	----
Aroclor- 1260	U	U	U	U	U	U	U	U	34	----
TOTAL PCBs	0	0	0	0	0	0	0	0	--	1,000/10,000*

SAMPLE ID	**IPSBX-04**	**IPSBX-04**	**IPSBX-04**	**IPSBX-04**	**IPSBX-04**	**IPSBX-04**	**IPSBX-05**	**IPSBX-05**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(10-12)	(12-14)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/23/2003	1/23/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	40.0	75.0	65.0	78.0	80.0	52.0	52.0	78.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor- 1016	U	U	U	U	U	U	U	U	34	----
Aroclor- 1221	U	U	U	U	U	U	U	U	34	----
Aroclor- 1232	U	U	U	U	U	U	U	U	34	----
Aroclor- 1242	U	U	U	U	U	U	U	U	34	----
Aroclor- 1248	U	U	U	U	U	U	U	U	34	----
Aroclor- 1254	U	U	U	U	U	U	U	U	34	----
Aroclor- 1260	U	U	U	U	U	U	U	U	34	----
TOTAL PCBs	0	0	0	0	0	0	0	0	--	1,000/10,000*

QUALIFIERS:
U: Compound analyzed for but not detected.

NOTES:
-- : Not applicable.
* : According to NYSDEC TAGM 4046 Recommended Soil Cleanup Objective, 1,000 ug/kg is utilized for surface soil [0'-2' below ground surface (bgs)] and 10,000 ug/kg is utilized for subsurface soil (soil deeper than 2' bgs).

TABLE 49 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL POLYCHLORINATED BIPHENYLS (PCBs)

SAMPLE ID	**IPSBX-05**	**IPSBX-05**	**IPSBX-05**	**IPSBX-06**	**IPSBX-06**	**IPSBX-06**	**IPSBX-06**	**IPSBX-06**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(14-16)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(12-14)	(14-16)		
DATE OF COLLECTION	1/23/2003	1/23/2003	1/23/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	86.0	86.0	88.0	88.0	68.0	53.0	66.0	89.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor- 1016	U	U	U	U	U	U	U	U	34	----
Aroclor- 1221	U	U	U	U	U	U	U	U	34	----
Aroclor- 1232	U	U	U	U	U	U	U	U	34	----
Aroclor- 1242	U	U	U	U	U	U	U	U	34	----
Aroclor- 1248	U	U	U	U	U	U	U	U	34	----
Aroclor- 1254	U	U	U	U	U	U	U	U	34	----
Aroclor- 1260	U	U	U	U	U	U	U	U	34	----
TOTAL PCBs	0	0	0	0	0	0	0	0	--	1,000/10,000*

SAMPLE ID	**IPSBX-06**	**IPSBX-06**	**IPSBX-07**	**IPSBX-07**	**IPSBX-07**	**IPSBX-07**	**IPSBX-07**	**IPSBX-07**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	69.0	53.0	87.0	69.0	54.0	83.0	54.0	47.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor- 1016	U	U	U	U	U	U	U	U	34	----
Aroclor- 1221	U	U	U	U	U	U	U	U	34	----
Aroclor- 1232	U	U	U	U	U	U	U	U	34	----
Aroclor- 1242	U	U	U	U	U	U	U	U	34	----
Aroclor- 1248	U	U	U	U	U	U	U	U	34	----
Aroclor- 1254	U	U	U	U	U	U	U	U	34	----
Aroclor- 1260	U	U	U	U	U	U	U	U	34	----
TOTAL PCBs	0	0	0	0	0	0	0	0	--	1,000/10,000*

QUALIFIERS:
U: Compound analyzed for but not detected.

NOTES:
-- : Not applicable.
* : According to NYSDEC TAGM 4046 Recommended Soil Cleanup Objective, 1,000 ug/kg is utilized for surface soil [0'-2' below ground surface (bgs)] and 10,000 ug/kg is utilized for subsurface soil (soil deeper than 2' bgs).

TABLE 49 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL POLYCHLORINATED BIPHENYLS (PCBs)

SAMPLE ID	**IPSBX-07**	**IPSBX-07**	**IPSBX-08**	**IPSBX-08**	**IPSBX-08**	**IPSBX-08**	**IPSBX-08**	**IPSBX-08**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003	1/28/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	64.0	41.0	77.0	72.0	66.0	80.0	78.0	76.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor- 1016	U	U	U	U	U	U	U	U	34	----
Aroclor- 1221	U	U	U	U	U	U	U	U	34	----
Aroclor- 1232	U	U	U	U	U	U	U	U	34	----
Aroclor- 1242	U	U	U	U	U	U	U	U	34	----
Aroclor- 1248	U	U	U	U	U	U	U	U	34	----
Aroclor- 1254	U	U	U	U	U	U	U	U	34	----
Aroclor- 1260	U	U	U	U	U	U	U	U	34	----
TOTAL PCBs	0	0	0	0	0	0	0	0	--	1,000/10,000*

SAMPLE ID	**IPSBX-08**	**IPSBX-08**	**IPSBX-09**	**IPSBX-09**	**IPSBX-09**	**IPSBX-09**	**IPSBX-09**	**IPSBX-09**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(4-6)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)		
DATE OF COLLECTION	1/28/2003	1/28/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003	1/29/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	48.0	90.0	84.0	65.0	52.0	69.0	46.0	89.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor- 1016	U	U	U	U	U	U	U	U	34	----
Aroclor- 1221	U	U	U	U	U	U	U	U	34	----
Aroclor- 1232	U	U	U	U	U	U	U	U	34	----
Aroclor- 1242	U	U	U	U	U	U	U	U	34	----
Aroclor- 1248	U	U	U	U	U	U	U	U	34	----
Aroclor- 1254	U	U	U	U	U	U	U	U	34	----
Aroclor- 1260	U	U	U	U	U	U	U	U	34	----
TOTAL PCBs	0	0	0	0	0	0	0	0	--	1,000/10,000*

QUALIFIERS:
U: Compound analyzed for but not detected.

NOTES:
-- : Not applicable.
* : According to NYSDEC TAGM 4046 Recommended Soil Cleanup Objective, 1,000 ug/kg is utilized for surface soil [0'-2' below ground surface (bgs)] and 10,000 ug/kg is utilized for subsurface soil (soil deeper than 2' bgs).

TABLE 49 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL POLYCHLORINATED BIPHENYLS (PCBs)

SAMPLE ID	**IPSBX-09**	**IPSBX-09**	**IPSBX-10**	**IPSBX-10**	**IPSBX-10**	**IPSBX-10**	**IPSBX-10**	**IPSBX-11**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(16-18)	(18-20)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(4-6)		
DATE OF COLLECTION	1/29/2003	1/29/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/27/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	43.0	77.0	50.0	72.0	86.0	80.0	82.0	76.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor- 1016	U	U	U	U	U	U	U	U	34	----
Aroclor- 1221	U	U	U	U	U	U	U	U	34	----
Aroclor- 1232	U	U	U	U	U	U	U	U	34	----
Aroclor- 1242	U	U	U	U	U	U	U	U	34	----
Aroclor- 1248	U	U	U	U	U	U	U	U	34	----
Aroclor- 1254	U	U	U	U	U	U	U	U	34	----
Aroclor- 1260	U	U	U	U	U	U	U	U	34	----
TOTAL PCBs	0	0	0	0	0	0	0	0	--	1,000/10,000*

SAMPLE ID	**IPSBX-11**	**IPSBX-11**	**IPSBX-11**	**IPSBX-11**	**IPSBX-11**	**IPSBX-11**	**IPSBX-11**	**IPSBX-12**	**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)	(4-6)		
DATE OF COLLECTION	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/27/2003	1/23/2003		
DILUTION FACTOR	1	1	1	1	1	1	1	1		
PERCENT SOLIDS	83.0	43.0	82.0	92.0	87.0	82.0	83.0	65.0		
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Aroclor- 1016	U	U	U	U	U	U	U	U	34	----
Aroclor- 1221	U	U	U	U	U	U	U	U	34	----
Aroclor- 1232	U	U	U	U	U	U	U	U	34	----
Aroclor- 1242	U	U	U	U	U	U	U	U	34	----
Aroclor- 1248	U	U	U	U	U	U	U	U	34	----
Aroclor- 1254	U	U	U	U	U	U	U	U	34	----
Aroclor- 1260	U	U	U	U	U	U	U	U	34	----
TOTAL PCBs	0	0	0	0	0	0	0	0	--	1,000/10,000*

QUALIFIERS:
U: Compound analyzed for but not detected.

NOTES:
-- : Not applicable.
* : According to NYSDEC TAGM 4046 Recommended Soil Cleanup Objective, 1,000 ug/kg is utilized for surface soil [0'-2' below ground surface (bgs)] and 10,000 ug/kg is utilized for subsurface soil (soil deeper than 2' bgs).

TABLE 49 (continued)

ISLAND PARK SUBSTATION
LONG ISLAND RAIL ROAD
CONSTRUCTION EXCAVATION INVESTIGATION

SUBSURFACE SOIL POLYCHLORINATED BIPHENYLS (PCBs)

SAMPLE ID	**IPSBX-12**	**IPSBX-12**	**IPSBX-12**	**IPSBX-12**	**IPSBX-12**	**IPSBX-12**	**IPSBX-12**		**LABORATORY QUANTITATION LIMITS**	**NYSDEC TAGM 4046 Recommended Soil Cleanup Objective**
SAMPLE DEPTH (FT)	(6-8)	(8-10)	(10-12)	(12-14)	(14-16)	(16-18)	(18-20)			
DATE OF COLLECTION	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003	1/23/2003			
DILUTION FACTOR	1	1	1	1	1	1	1			
PERCENT SOLIDS	82.0	87.0	87.0	90.0	89.0	80.0	86.0			
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)		(ug/kg)	(ug/kg)
Aroclor- 1016	U	U	U	U	U	U	U		34	----
Aroclor- 1221	U	U	U	U	U	U	U		34	----
Aroclor- 1232	U	U	U	U	U	U	U		34	----
Aroclor- 1242	U	U	U	U	U	U	U		34	----
Aroclor- 1248	U	U	U	U	U	U	U		34	----
Aroclor- 1254	U	U	U	U	U	U	U		34	----
Aroclor- 1260	U	U	U	U	U	U	U		34	----
TOTAL PCBs	0	0	0	0	0	0	0		--	1,000/10,000*

QUALIFIERS:
U: Compound analyzed for but not detected.

NOTES:
-- : Not applicable.
* : According to NYSDEC TAGM 4046 Recommended Soil Cleanup Objective, 1,000 ug/kg is utilized for surface soil [0'-2' below ground surface (bgs)] and 10,000 ug/kg is utilized for subsurface soil (soil deeper than 2' bgs).

TABLE 50

LONG ISLAND RAIL ROAD
SUBSTATION DELINEATION PHASE II SITE ASSESSMENT
ISLAND PARK DELINEATION INVESTIGATION

GROUNDWATER SAMPLING RESULTS
RCRA METALS

SAMPLE ID	**IPTP-03**	**IPTP-03**	**INSTRUMENT DETECTION LIMITS**	**NY STATE CLASS GA GROUNDWATER STANDARDS/ GUIDELINES**
	Unfiltered	Filtered		
DATE OF COLLECTION	1/22/2003	1/22/2003		
DILUTION FACTOR	1	1		
UNITS	(ug/l)	(ug/l)	(ug/l)	(ug/L)
Arsenic	60.4	20.1	3.0	25 ST
Barium	179 B	67.9 B	3.0	1000 ST
Cadmium	U	U	2.0	5 ST
Chromium	28.8	U	3.0	50 ST
Lead	74.2	U	1.0	25 ST
Mercury	0.19 B	U	0.1	0.7 ST
Selenium	U	U	8.0	10 ST
Silver	U	U	2.0	50 ST

QUALIFIERS:
U: Constituent analyzed for but not detected.
B: Constituent concentration is less than the CRDL, but greater than the IDL.

NOTES:
-- : Not applicable.
ST : New York State Ambient Water Quality Standards
GV : New York State Ambient Water Quality Guidance Values
: Value exceeds Standard/Guideline.

TABLE 51

LONG ISLAND RAIL ROAD
SUBSTATION DELINEATION PHASE II SITE ASSESSMENT
ISLAND PARK DELINEATION INVESTIGATION

GROUNDWATER SAMPLING RESULTS
TARGET ANALYTE LIST METALS (TAL Metals)

SAMPLE ID	**IPGP-01**	**IPGP-01**	**IPGP-02**	**IPGP-02**	**IPGP-03**	**IPGP-03**	**INSTRUMENT DETECTION LIMIT (IDL)**	**NY STATE CLASS GA GROUNDWATER STANDARDS/ GUIDELINES**
	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered		
DATE OF COLLECTION	1/30/2003	1/30/2003	1/30/2003	1/30/2003	1/30/2003	1/30/2003		
DILUTION FACTOR	1	1	1	1	1	1		
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Aluminum	8950	U	3310	U	64600	35.8 B	12	--
Antimony	4.6 B	3.3 B	4.4 B	U	3.2 B	4.1 B	3	3 ST
Arsenic	11.8 B	U	4.7 B	U	66.8	3.2 B	3	25 ST
Barium	78.1 B	34.3 B	90.7 B	60.8 B	273	50.1 B	3	1,000 ST
Beryllium	0.53 B	U	U	U	4 B	U	2	3 GV
Cadmium	0.71 B	U	U	U	7.3	U	2	5 ST
Calcium	110000	109000	67800	66200	66300	61500	76	--
Chromium	74.8	2.5 B	34.1 B	U	130	U	3	50 ST
Cobalt	5.5 B	U	1.8 B	U	43.6 B	1.9 B	3	--
Copper	96.7 B	U	27.6 B	U	242	U	2	200 GA
Iron	34000	1370	5480	39.6 B	118000	757	35	300 ST*
Lead	96.1	U	59.7	U	181	U	1	25 ST
Magnesium	26300	24100	10500 B	10200 B	23100	14000 B	23	35,000 GV
Manganese	508	339	136	82.5	1010	275	2	300 ST*
Mercury	0.17 B	U	0.16 B	U	0.64 B	U	0.1	0.7 ST
Nickel	37.8 B	1.7 B	18 B	1.6 B	117 B	6.5 B	1	100 ST
Potassium	23800	22100	32700	34300	45200	40000	89	--
Selenium	U	U	U	U	U	U	8	10 ST
Silver	4.1 B	U	11.2 B	U	U	U	2	50 ST
Sodium	82800	81600	35700	36600	37100	32400	118	20,000 ST
Thallium	6.3 B	5.2 B	U	5.3 B	U	4.2 B	4	0.5 GV
Vanadium	39.2 B	5.6 B	10 B	3.1 B	154 B	3 B	3	--
Zinc	235 B	9 B	57.2 B	9.2 B	4050	50.7 B	8	2,000 GV

QUALIFIERS:

U: Compound analyzed for but not detected.
B: Constituent concentration is less than the CRDL, but greater than the IDL.

NOTES:

-- : Not applicable.
ST : New York State Ambient Water Quality Standards
GV : New York State Ambient Water Quality Guidance Values
ST* : Standard for the sum of iron and manganese is 500 ug/l
: Value exceeds Standard/Guideline.

TABLE 52

LONG ISLAND RAIL ROAD
SUBSTATION DELINEATION PHASE II SITE ASSESSMENT
ISLAND PARK DELINEATION INVESTIGATION

GROUNDWATER SAMPLING RESULTS
POLYCHLORINATED BIPHENLYS (PCBs)

SAMPLE ID	**IPGP-01**	**IPGP-02**	**IPGP-03**	**IPTP-03**	**LABORATORY QUANTITATION LIMITS**	**NY STATE CLASS GA GROUNDWATER STANDARDS/**
DATE OF COLLECTION	1/30/2003	1/30/2003	1/30/2003	1/22/2003		
DILUTION FACTOR	1	1	1	1		
UNITS	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/L)	(ug/L)
Aroclor- 1016	U	U	U	U	1	--
Aroclor- 1221	U	U	U	U	1	--
Aroclor- 1232	U	U	U	U	1	--
Aroclor- 1242	U	U	U	U	1	--
Aroclor- 1248	U	U	U	U	1	--
Aroclor- 1254	U	U	U	U	1	--
Aroclor- 1260	U	U	U	U	1	--
TOTAL PCBs	0	0	0	0	--	0.09 ST

QUALIFIERS:
U: Compound analyzed for but not detected.

NOTES:
-- : Not applicable.
ST : New York State Ambient Water Quality Standards