SUPPLEMENTAL SITE INVESTIGATION REPORT

YAPHANK SITE
TOWN OF BROOKHAVEN
SUFFOLK COUNTY, NEW YORK
SITE INDEX NO. W1-0907-02-02
SITE I.D. V00384-1

Prepared for:

METROPOLITAN TRANSPORTATION AUTHORITY
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JUNE 2008

SUPPLEMENTAL SITE INVESTIGATION REPORT
LONG ISLAND RAIL ROAD
YAPHANK SITE

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1.0 INTRODUCTION

The Long Island Rail Road (LIRR) has entered into a Voluntary Cleanup Agreement (Index Number W1-0907-02-02) with the New York State Department of Environmental Conservation (NYSDEC) to investigate the LIRR Yaphank Site (Site Number V-00384-1). This Report presents the findings of a supplemental investigation conducted from April 23, 2007 through May 31, 2007 at the LIRR Yaphank Site. The supplemental investigation was designed to address a number of data gaps associated with the investigation conducted in 2004 at the Yaphank Site as outlined in the Site Investigation Report, dated January 2005. The Supplemental Investigation scope of work is detailed in the NYSDEC-approved work plan, dated November 2006. Note that this report is intended only to present the supplemental data collected in the Spring of 2007; and to support and supplement the overall findings and conclusions presented in the Site Investigation Report, dated January 2005. Therefore, this report is not considered a stand-alone document and needs to be reviewed in light of the findings presented in the January 2005 Site Investigation Report.

1.1 Project Objectives

The objectives of this supplemental investigation included the following:

- Define the southern and eastern extent of the waste/fill material;
- Evaluate the bearing capacity of the material at the Yaphank Site in support of future site use development;
- Assess the quality of sediment and soil within and below the on-site dry well;
- Determine the impacts to groundwater quality associated with the on-site dry well and the elevated volatile organic compounds (VOC) detected in the vicinity of completed soil boring SB-73; and
- Determine whether asbestos-containing material (ACM) has migrated onto the property from the adjacent site.

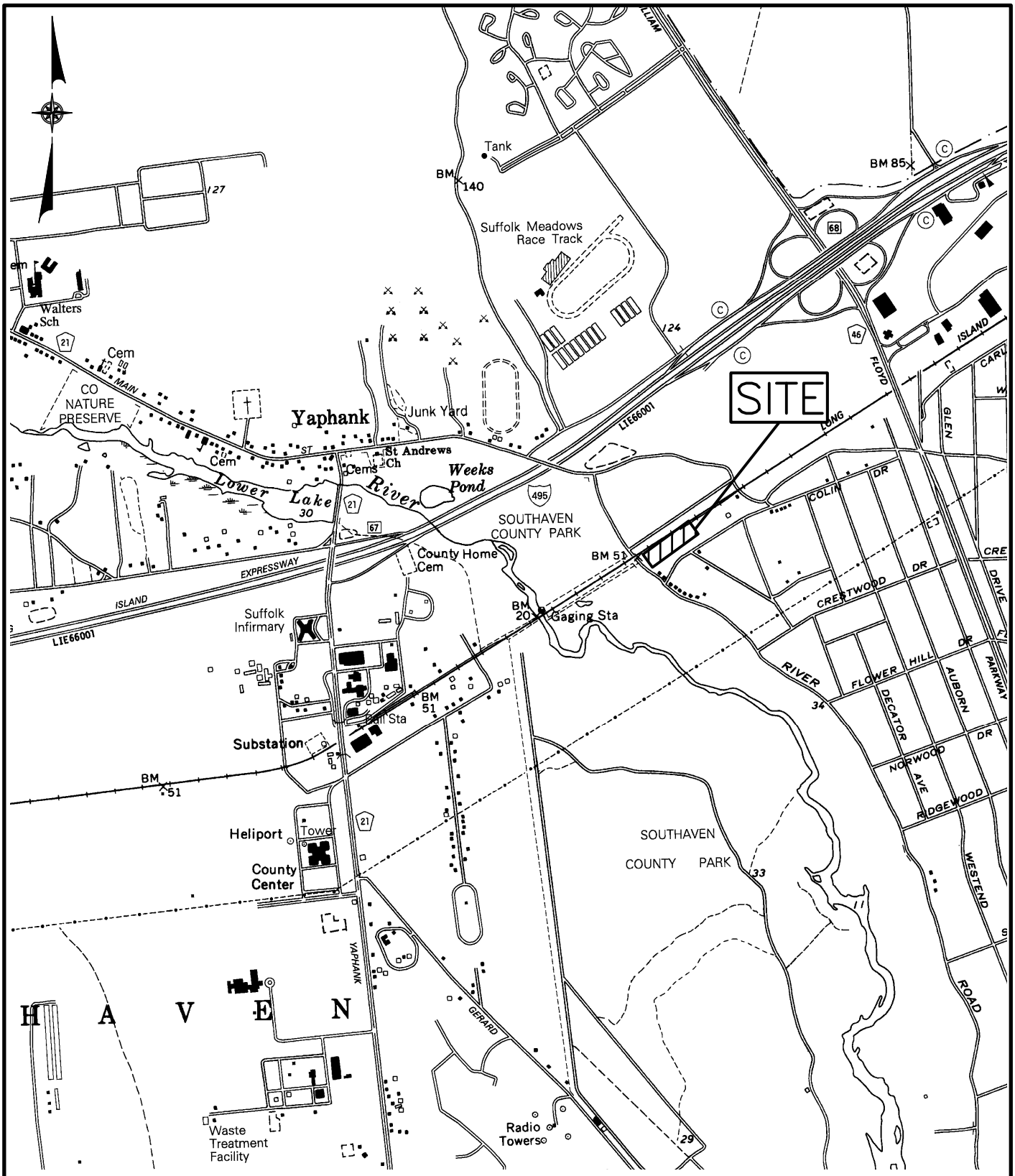
1.2 Site Location, Ownership and Access

The Site is located in Yaphank, Town of Brookhaven, Suffolk County, New York (see Figure 1-1). The parcel of property under evaluation is approximately 4 acres in size and is located immediately east of River Road and south of the LIRR Main Line track. The Site (Suffolk County tax identification number: Section 640, Block 1, portion of Lot 2) is owned by the LIRR. A Site Plan is provided as Figure 1-2. The Site is fenced and the primary access route is via River Road (see Figure 1-2). The Site may also be accessed from Colin Drive via the entrance to the adjacent concrete plant.

1.3 Site Description

The Yaphank Site is bounded to the north by the LIRR Main Line track. An 8-foot high chain link fence is located along the southern, eastern and western boundaries. As detailed in Section 1.4, the Site was used by the LIRR for fill operations and contains fill material up to 20 feet in thickness. The Yaphank Site is currently undeveloped and is primarily open space with sparse vegetation. A small segment of the Site is utilized by the neighboring concrete plant (Nicolia Ready-Mix, Inc.). Nicolia receives loads of stone via train along a rail siding, which runs along the northern boundary of the Yaphank Site. Upon inspection, a dry well, assumed to have been installed by Asbestos Transfer Company, Inc. (ATC), was identified on a newly reclaimed 1/2-acre parcel of land located on the eastern side of the LIRR property, as described in the January 2005 Site Investigation Report. The dry well is approximately 8 feet wide and 7 feet deep, and has an earthen-bottom. Portions of this parcel are also covered with degraded asphalt.

There is little topographic relief across the site, with the exception of a steep embankment on the southwestern portion of the property, and a sloped area adjacent to an unloading platform along the rail siding. The Nicolia concrete plant utilizes the platform to unload rail cars containing stone from a rail siding that extends off the Main Line track.



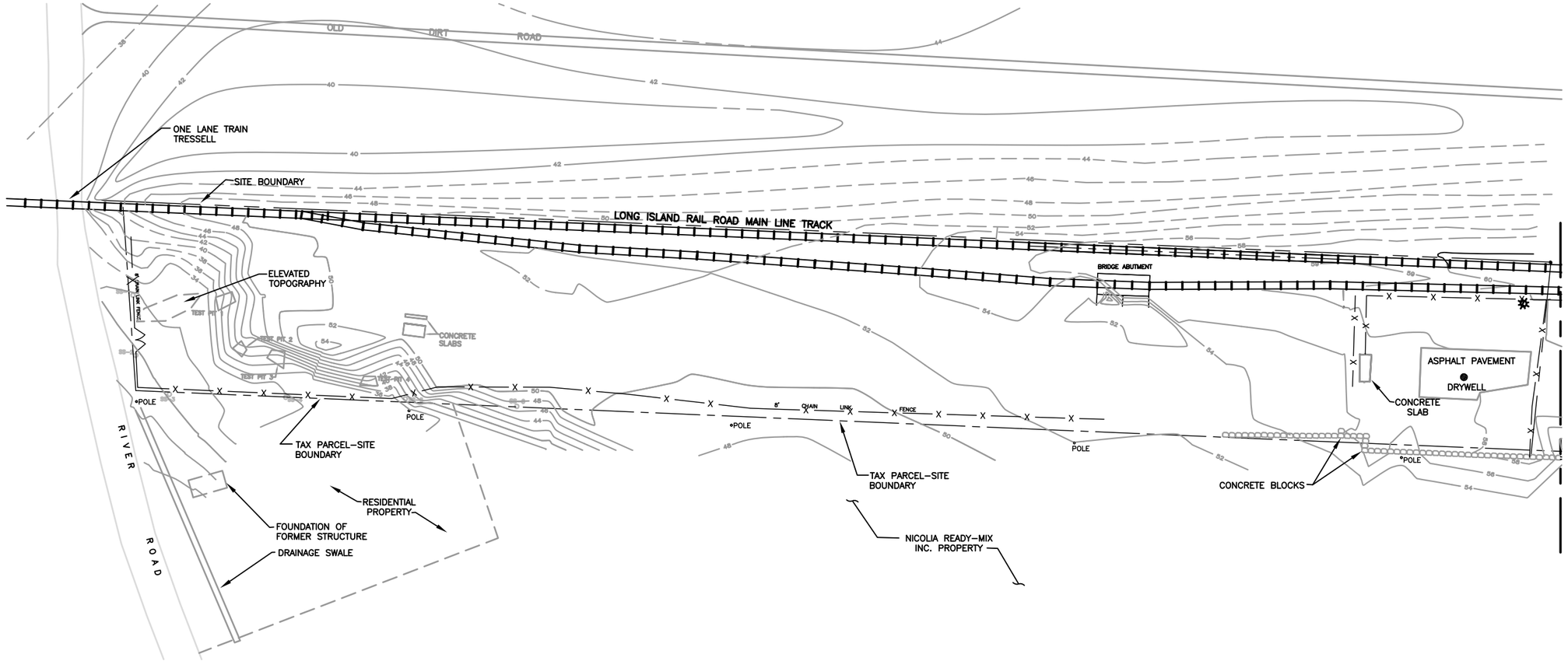
USGS NEW YORK - BELLPORT QUADRANGLE MAP

LONG ISLAND RAIL ROAD - YAPHANK SITE
SUPPLEMENTAL SITE INVESTIGATION

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

SITE LOCATION MAP

FIGURE 1-1



NOTES:

1. DATUMS:
VERTICAL – 1988 NAVD
HORIZONTAL – 1983 NAD

2. PROPERTY LINES SHOWN ARE TAKEN FROM A PLAN PROVIDED BY THE LONG ISLAND RAILROAD, DATED JUNE 30, 1916, LAST REVISED DECEMBER 31, 1958, TITLED RIGHT OF WAY AND TRACK MAP, STATION 3121+00 TO 3175+00.

3. BASE MAP PREPARED BY COTILLA ASSOCIATES, NORTHPORT, NEW YORK SURVEY DATA OBTAINED IN THE FIELD NOVEMBER 1997.

4. THE BASE MAP WAS UPDATED IN AUGUST 1999 BY YEC, INC. BASED ON 1999 SURVEYED LOCATIONS OF MW–9 AND MW–10. THE BASE MAP WAS REDUCED BY A FACTOR 0.7467 FROM THE BASE MAP 0,0 LOCATION.

LEGEND

SITE BOUNDARY

FENCE

ELEVATED TOPOGRAPHY

0 100'
SCALE IN FEET

SOURCE: 1997 SURVEY, COTILLA ASSOCIATES; 1999 SURVEY, YEC INC.; 2004 SURVEY, NELSON AND POPE; TAX MAPS; 1969 AERIAL PHOTOGRAPH, LKB

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

LONG ISLAND RAIL ROAD-YAPHANK SITE
SUPPLEMENTAL SITE INVESTIGATION

SITE PLAN

FIGURE 1-2

To the north of the Yaphank Site, north of the Main Line track, exists undeveloped woodland, which is also owned by the LIRR. Further to the north is additional woodland that is privately owned. To the west, across River Road, is Southaven County Park, which is operated by the Suffolk County Department of Parks. The Carmans River is approximately 1,000 feet southwest of the site. Immediately to the south of the property is an active concrete plant (occupied by Nicolia Ready-Mix, Inc.). Residential properties also are located immediately south of the site. An asbestos transfer facility (occupied by Asbestos Transfer Company, Inc.) occupies the property immediately to the east of the site. Brookhaven National Laboratory, a National Priority List (NPL) site, is located approximately one mile to the north of the Yaphank Site.

1.4 Summary of Site Investigation Findings

Several investigations have been conducted at the Yaphank Site dating back to the early 1990s, including:

- A preliminary soil and groundwater sampling program;
- A ground penetrating radar (GPR) Investigation;
- A Preliminary Site Assessment (PSA); and
- A Supplemental PSA.

The findings of the above investigations, including the 2004 Site Investigation, have been incorporated into the comprehensive Site Investigation Report finalized and approved by the NYSDEC in January 2005. The following is an overall summary of the findings presented in the NYSDEC-approved report.

Consistent with the January 2005 Site Investigation Report, the summary presented below has been organized into specific on-site and off-site areas. These areas include:

- Fill Area

- Western Lowland Area
- Off-site Drainage Swale
- On-site Dry Well
- Groundwater

1.4.1 Fill Area

The Fill Area includes that portion of the Yaphank Site and adjacent properties to the east and south where filling has occurred based on a review of the completed soil boring program and historical aerial photographs. This includes the majority of the LIRR property, the majority of the ATC property and a portion of the Nicolia property along the LIRR southern property boundary. The fill material encountered throughout the Site and adjoining properties consists of a brown to black poorly sorted sand and gravel with varying amounts of anthropogenic materials such as glass, brick, concrete, coal, ash, clinker and wood. The fill material also contains a "slag-like" material that is most prevalent within the western portion of the LIRR property. In general, the fill thickness ranges from 15 to 25 feet throughout the majority of the Fill Area. Immediately beneath this fill material exists glacial outwash sand.

Surface Soil

Surface soil samples were collected within the Fill Area on-site, as well as the Nicolia property and the ATC property. The metals which most frequently exceeded the NYSDEC soil cleanup objectives include arsenic, copper, lead and zinc, while to a lesser extent, mercury and nickel were also found to exceed the soil cleanup objectives at a number of locations. In addition, iron exceeded the soil cleanup objectives; however, iron is not considered a contaminant of concern. The highest concentrations of the above-listed metals were detected within surface soil within the western half of the LIRR property due to the fact that the fill material is present at ground surface (including the slag-like material) with little to no soil cover. Surface soil samples collected from the eastern half of the LIRR property are generally found to exhibit lower concentrations of TAL metals within the Fill Area due to the fact that this portion of the site is

covered with 6 to 12 inches of sand and gravel with little evidence of the fill material being exposed at the ground surface.

The metal concentrations detected in the surface soil samples collected from the Nicolia property were found to be relatively low. However, arsenic and copper were detected at concentrations that exceed the NYSDEC soil cleanup objectives in several samples collected in the westernmost portion of the Nicolia property.

Surface soil samples collected from unpaved areas of the ATC property exhibited several metals above the NYSDEC soil cleanup objectives. Surficial soil within these areas also appeared to contain a small portion of the site-related fill material.

Surface soil samples collected from the easternmost portion of the LIRR property exhibited detectable levels of chrysotile, an asbestos mineral. This portion of the LIRR property was formerly used by ATC, an asbestos abatement/management company without consent from the LIRR.

Subsurface Soil

The TAL-listed metals found to most frequently exceed the respective NYSDEC cleanup objectives in subsurface soil within the Fill Area include arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc. In addition, iron was detected in concentrations in excess of the cleanup objectives; however, iron is not considered a contaminant of concern. The extensive body of subsurface soil chemical data collected throughout the Yaphank Site clearly demonstrates that the highest concentrations of metals are present in the fill material. In contrast, analysis of the glacial outwash sand collected immediately below the fill material exhibited relatively low metal concentrations that, in most cases, were found to be consistent with the background subsurface soil data.

Based on the samples collected from the fill material, total polycyclic aromatic hydrocarbon (PAH) concentrations range from 0.17 mg/kg to a maximum of 152.2 mg/kg detected in SB-67 (13 to 15 feet). The most prevalent PAHs detected in subsurface soil included benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene and dibenzo(a,h)anthracene. All PAHs, as well as phenol and pentachlorophenol, were found to be nondetectable within the underlying glacial sand. Therefore, similar to the distribution of metals, PAHs, phenol and pentachlorophenol are restricted to the fill material and are not impacting the underlying glacial outwash sand.

Soil probe SB-73 was advanced in the Fill Area within the Nicolia property, approximately 40 feet south of the Yaphank Site's southern boundary. Soil encountered between 8 to 10 feet and 14 to 15 feet below grade at this location was noted as having a gasoline-like odor. Several VOCs which are commonly associated with gasoline were detected in soil samples collected from SB-73, including ethylbenzene, xylene, trimethylbenzene and naphthalene.

1.4.2 Western Lowland Area

The Western Lowland Area is the westernmost portion of the Yaphank Site. Due to the fact that this area is approximately 15 feet lower in elevation from the remainder of the site, it is believed that historic filling activities have not been conducted in this area. Soil borings in this area have confirmed that filling has not taken place in this portion of the Yaphank Site. However, there exists a thin "veneer" of surficial soil that does contain a portion of the site-related fill material, including the slag-like material. It is believed that the presence of the fill material in this area is associated with the erosion and transportation of material from the steep slope located directly to the east of the Western Lowland Area.

Surface Soil

As a result of the presence of the site-related fill material, elevated concentrations of metals, including arsenic, copper and lead, have been identified in surface soil throughout this portion of the Yaphank Site. In general, the highest concentrations of the above-listed metals

were observed in samples collected at the foot of the slope adjacent to the Fill Area. Concentrations of these metals tend to decrease significantly toward River Road and toward the wooded north end of this area.

Subsurface Soil

The metals that were most frequently detected at elevated concentrations in subsurface soil within the Western Lowland Area included arsenic, copper, lead, selenium and zinc. The highest concentrations of the above-listed metals were observed in soil samples located along the foot of the slope adjacent to the Western Lowland Area. PAHs, phenol and pentachlorophenol were not detected in any of the three samples analyzed for these compounds with the exception of fluoranthene.

1.4.3 Off-site Drainage Swale

The Off-site Drainage Swale encompasses the wooded area to the south of the Western Lowland Area, along the east side of River Road. It is believed that years of surface water run-off from the Western Lowland Area and Fill Area has resulted in the erosion and deposition of fill material within this off-site area. Note that the LIRR has completed an Interim Remedial Measure (IRM) of this area in the spring of 2007 in order to remove all significantly impacted soil.

Surface Soil

Elevated metals in surface soil within the Off-site Drainage Swale included arsenic, copper, mercury and zinc. To a lesser extent, cadmium and lead were also found to exceed the soil cleanup objectives at a number of locations. The highest concentrations of the above-listed metals were generally found within and in the vicinity of the Drainage Swale. Again, all impacted soil was successfully remediated in this area by the LIRR in the spring of 2007.

Subsurface Soil

Elevated metals in subsurface soil within the Off-site Drainage Swale included copper, mercury, selenium and zinc. To a lesser extent, beryllium was also found to exceed its soil cleanup objective at a number of locations. In general, the highest concentrations of these metals were observed in shallow subsurface soil samples collected within and in the vicinity of the Drainage Swale. Again, all impacted soil was successfully remediated in this area by the LIRR in the spring of 2007.

1.4.4 On-site Dry Well

A dry well is located in the eastern portion of the Yaphank Site that was formerly occupied by ATC. It is apparent that ATC installed the dry well when the business was using the site. Though ATC no longer occupies the LIRR property, ATC has been observed actively pumping water from its on-site loading dock pit into this dry well as recently as the Fall of 2003.

The sediment sample collected from the dry well exhibited a number of metals including lead, nickel, copper and mercury as well as several PAHs. In addition, TPHs were detected at a concentration of 3,800 mg/kg within this sample. The water sample collected from the dry well exhibited lead and antimony as well as several PAHs above NYSDEC groundwater standards.

1.4.5 Groundwater

Groundwater at the site is approximately 30 feet below grade throughout the Fill Area, including the ATC property, and the northernmost portion of the Nicolia property located to the south of the LIRR property. Based on the depth of groundwater and the thickness of the site-related fill material, the fill is not in contact with groundwater and, in most locations, there exists between 10 and 15 feet of glacial outwash sand separating the fill and the water table. Within the western lowland portion of the site, depth to groundwater ranges from 7 to 15 feet below grade. Groundwater flows in a southerly direction throughout the LIRR and adjacent properties, consistent with the documented regional flow patterns.

In general, the majority of metals detected in on-site and downgradient groundwater were at concentrations comparable to upgradient groundwater quality. In addition, the metals detected most frequently in the site-related fill material, including arsenic, cadmium, chromium, copper, lead and zinc were generally found below NYSDEC Class GA groundwater standards in on-site groundwater. One exception was the presence of lead that was detected marginally above the NYSDEC Class GA groundwater standard of 25 ug/l at monitoring wells MW-07, MW-09 and MW-10.

Off-site groundwater samples downgradient of the site show concentrations of metals above NYSDEC Class GA groundwater standards. However, these exceedances are less extensive than impacts to on-site groundwater. This is likely due to the relatively insoluble nature of these metals and the fact that there exists a 10 to 15-foot buffer of unimpacted sand separating the fill material from the local water table. In addition, the Public and Private Water Supply Survey completed in 1999 did not identify any public or private supply wells within a 1/2-mile radius downgradient of the LIRR site. Based on these findings, groundwater is not considered a potential exposure pathway for site-related contaminants.

2.0 INVESTIGATION METHODS

This section provides an overview of the field activities associated with the Supplemental Investigation of the Yaphank Site. The field investigation program was completed by Dvirka and Bartilucci Consulting Engineers (D&B) in accordance with the NYSDEC-approved work plan, dated November 2006.

This section provides information regarding data management and chemical data validation and usability. The field activities included the following:

- Collection of Surface Soil Samples;
- Drilling of Soil Borings;
- Collection of Subsurface Soil Samples;
- Installation of Groundwater Monitoring Wells;
- Development of Groundwater Monitoring Wells;
- Sampling of Groundwater Monitoring Wells;
- Sampling of Dry Well Soil;
- Test Pit Excavation and Sampling; and
- Surveying of Sampling Locations.

All surveyed sample locations from the supplemental investigation, as well as previous investigations, are shown on Drawing 1, which is provided in a map pocket at the end of this section. Test pit and soil boring logs are provided in Appendix A.

2.1 Surface Soil Sampling

Nine surface soil samples were collected as part of the supplemental investigation. As per the approved work plan, five surface soil samples were collected from the easternmost section of the LIRR property, abutting the ATC property boundary. At the request of the New York State Department of Health (NYSDOH), one additional surface soil sample was collected in association with each of the following test pits: TP-5, TP-6, TP-10 and TP-11. Each surface soil sample was collected from a depth of 0 to 2 inches below ground surface utilizing a dedicated, sterile,

disposable polyethylene scoop. Samples collected in association with the LIRR/ATC property boundary (SS-117 through SS-121) were analyzed for asbestos, and samples collected in association with the above referenced test pits (SS-122 through SS-125) were analyzed for Target Analyte List (TAL) metals. Analytical results associated with the surface soil samples are provided in Appendix C.

2.2 Test Pits and Test Pit Soil Sampling

A total of twelve test pit locations were excavated utilizing a backhoe to define the southern and eastern extent of the waste/fill material. The test pit locations are identified as TP-5 through TP-16. Note that due to thick concrete covering the proposed test pit location, originally proposed test pit TP-14 was replaced with two soil borings (SB-93 and SB-94). Furthermore, due to overhead electrical lines in close proximity to this location, the drill rig was unable to raise its mast. Therefore, split spoons were unable to be collected and observations regarding the presence/absence of waste/fill material were logged from the drill cuttings at these two soil boring locations. Boring logs for soil borings SB-93 and SB-94 are included in Appendix A. In addition, and as detailed on Drawing 1, originally proposed test pit locations TP-7, TP-8, TP-9, TP-10, TP-11 have been divided into test pit groups, with 2 to 4 separate test pits comprising a group, in order to fully define the limits of the waste/fill material in these areas. A letter following the test pit identification, such as TP-7, TP-7A, etc., is used to differentiate individual test pit locations.

The material excavated from each test pit was geologically logged by the D&B field geologist in accordance with the Unified Soil Classification System and was inspected for evidence of contamination such as discoloration, staining, or odors. Emphasis was placed on determining where the waste/fill material terminated. The characteristics of the fill were photo documented, and the fill termination point was staked at each test pit location, where appropriate.

In addition to the activities specified in the approved work plan, the LIRR elected to collect five subsurface soil samples from 3 of the 12 test pit locations/groups (TP-8, TP-8A, TP-8B, TP-10 and TP-12) utilizing a dedicated, sterile, disposable polyethylene scoop. These samples were

analyzed for polycyclic aromatic hydrocarbons (PAHs), phenol and pentachlorphenol, and TAL metals. Analytical results associated with the subsurface soil samples collected from the test pits are provided in Appendix C.

2.3 Groundwater Monitoring Well Installation and Development

Four groundwater monitoring wells (MW-17 through MW-20) were installed between May 1 and May 3, 2007, by Delta Well and Pump, Inc., in order to investigate possible impacts to groundwater quality due to the presence of the dry well located in the eastern portion of the Yaphank Site, and to further investigate elevated VOCs associated with previously completed soil boring SB-73. Monitoring wells MW-17 and MW-18 were installed upgradient and downgradient, respectively, of the on-site dry well. Monitoring wells MW-19 and MW-20 were installed downgradient of SB-73. Total depths of the monitoring wells ranged from 35 feet to 42 feet below ground surface. The monitoring wells were installed using 4.25–inch inner diameter hollow stem augers and a drill rig. All wells were constructed using a 2-inch diameter Schedule 40 PVC slotted well screen with a 0.01-inch slot size. Monitoring well construction logs are included in Appendix B.

During installation of each well boring, the drill cuttings were characterized by a D&B field geologist in accordance with the Unified Soil Classification System. In addition, samples were screened for VOCs using a PID and inspected for evidence of contamination such as discoloration, staining or odors. Drill cuttings were containerized for proper off-site disposal.

The well screens were generally set to bisect the water table. Filpro No.2 silica sand was placed in the annulus of the soil boring from the bottom of the well screen to approximately 2-feet above the top of the well screen. An approximately 12-inch layer of granular bentonite was placed on top of the sand pack and hydrated to create a seal that will prevent the migration of surface water to the groundwater table along the outside of the well casing. The remainder of the annular space was then filled with a cement/bentonite grout to grade and finished with a lockable well cover or stand up well casing where appropriate.

Development of the four newly installed groundwater monitoring wells was conducted one week subsequent to the installation of the wells. Each monitoring well was developed by the pump and surge method using a 1.5-inch diameter submersible pump and dedicated polyethylene discharge tubing. During the surging process, the submersible pump was raised and lowered throughout the water column in order to draw water from all portions of the screen. All monitoring wells were pumped at a rate of approximately 1 liter per minute for up to 2 hours or until the well yielded water exhibiting a turbidity of 50 Nephelometric Units (NTUs) or less. In accordance with the approved work plan, well development water was containerized for proper off-site disposal.

2.4 Groundwater Level Measurements

Groundwater level measurements were obtained from each of the four newly installed groundwater monitoring wells, along with 12 existing monitoring wells located throughout the site, on May 15, 2007. An electronic water level indicator was used to measure the depth to water from the top of the PVC riser in each well. The measuring points were located on the north side of the PVC riser pipe. Groundwater elevations were calculated after the measuring points were surveyed with respect to the 1988 NAVD - North American Vertical Datum of 1988.

2.5 Groundwater Sampling

Two rounds of groundwater sampling were conducted in order to assess the groundwater quality in the four newly installed wells. Prior to sampling, the static water level was measured in each well in order to determine the volume of standing water. Purging was then conducted using a 1.5-inch diameter submersible pump using the low-flow sampling protocol, in order to reduce the turbidity of the purge water and to ensure a high quality, representative groundwater sample. All wells were purged at a flow rate of no more than 1 liter per minute, and the purge water was monitored for the following field parameters: conductivity, dissolved oxygen, pH, oxidation-reduction potential (ORP), temperature and turbidity. Purging was continued until all field parameters had stabilized to within 10 % for three consecutive field readings and the turbidity stabilized to below 50 NTUs. Measurements of all field parameters were performed using a

Horiba™ model U-10. Prior to well purging, the Horiba was calibrated following the manufacturers instructions. All purge water was containerized in 55-gallon drums for proper off-site disposal.

Once purging was considered complete, the pump and discharge tubing was removed from each well and samples were collected using dedicated Teflon bailers and polypropylene rope. The groundwater samples were poured directly into laboratory-supplied sample bottles and immediately placed into an ice-cooled cooler.

In order to assess the overall quality and usability of the analytical data, matrix spike (MS) and matrix spike duplicate (MSD) samples were collected and included with the samples submitted to the laboratory.

All groundwater samples were analyzed for Target Compound List (TCL) VOCs, TCL SVOCs and Target Analyte List (TAL) metals (total and dissolved). Analytical results associated with the groundwater sampling events are presented in Appendix C.

2.6 Dry Well Investigation and Sampling

A dry well, located in the eastern portion of the Yaphank Site, was sampled as part of the Supplemental Investigation. The dry well is approximately 8 feet in diameter and 7 feet deep and has an earthen bottom. During previously completed investigations, the dry well was typically found to contain several feet of water and would occasionally overflow. In addition, ATC was observed discharging water from their loading dock pit onto the LIRR site and into the dry well. In order to investigate potential impacts from past and present discharges to this dry well, one soil boring (SB-92) was advanced through the bottom of the dry well using the HSA method. Split spoon samples were collected continuously from the bottom of the dry well to the groundwater interface estimated to be between 30 to 32 feet below grade.

A total of three subsurface soil samples were selected for analysis, including the sample collected from the bottom of the dry well (8 to 10 feet below grade), the sample exhibiting the most visual contamination (10 to 12 feet) and the sample from immediately above the

groundwater interface (28 to 30 feet). Sample analysis included TAL metals, PAHs, phenol and pentachlorophenol. The boring log for the dry well investigation is included in Appendix A. Analytical results are provided in Appendix C.

2.7 Geotechnical Investigation

In order to evaluate the bearing capacity of the material at the Yaphank Site in support of future site use scenario development, a geotechnical investigation was conducted consisting of 10 soil borings drilled at locations throughout the site. The soil borings are identified as SB-82 through SB-91. The soil borings were placed approximately 160 feet apart.

The soil borings were drilled using the HSA method. At each location, soil samples were collected continuously to a depth ranging from 19 to 23 feet below grade. The split spoon soil samples were collected in accordance with ASTM Standard Method D1586, Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils. The soil samples were geologically logged by the D&B field geologist in accordance with the Unified Soil Classification System. In addition, samples were screened for VOCs using a PID and inspected for evidence of contamination such as discoloration, staining or odors. Boring logs are included in Appendix A.

2.8 Surveying and Mapping

Sample locations were surveyed to support the preparation of the sample location map (Drawing 1) for use in this report. Northing and easting coordinates and elevations were obtained for each sample location, and tied to an existing coordinate system and datum on the site.

2.9 Data Usability Summary Report

Surface soil, subsurface soil, groundwater and waste characterization samples were collected as part of the Supplemental Investigation at the Yaphank Site, completed in April and May 2007. The surface soil samples were analyzed for target analyte list (TAL) metals and

asbestos. The subsurface soil samples were analyzed for polycyclic aromatic hydrocarbons (PAHs), phenol, pentachlorophenol and TAL metals. The groundwater samples were analyzed for target compound list (TCL) volatile organic compounds (VOCs), TCL semivolatile organic compounds (SVOCs) and TAL metals (total and dissolved). The soil waste characterization samples was analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals, VOCs, SVOCs and RCRA characteristics. The water waste characterization sample was analyzed for PCBs and RCRA characteristics.

Sample analysis was performed by Mitkem Corporation Inc., a subcontractor to D&B, in accordance with USEPA SW-846 methods as stipulated in the work plan. Mitkem subcontracted the asbestos analysis to Rhode Island Analytical Laboratories. The data packages submitted by Mitkem have been reviewed by Ms. Robbin Petrella, D&B's Quality Assurance/Quality Control (QA/QC) Officer. Ms. Petrella meets the NYSDEC requirements of a data validator as listed in the Draft DER-10 Technical Guidance for Site Investigation and Remediation.

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

- Was a NYSDEC Category B deliverable package submitted?
- Have all holding times been met?
- Does all QA/QC data fall within QA/QC limits and specifications?
- Were appropriate methods followed?
- Does the raw data conform to that reported on the data summary sheets?
- Have the correct data qualifiers been utilized?

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

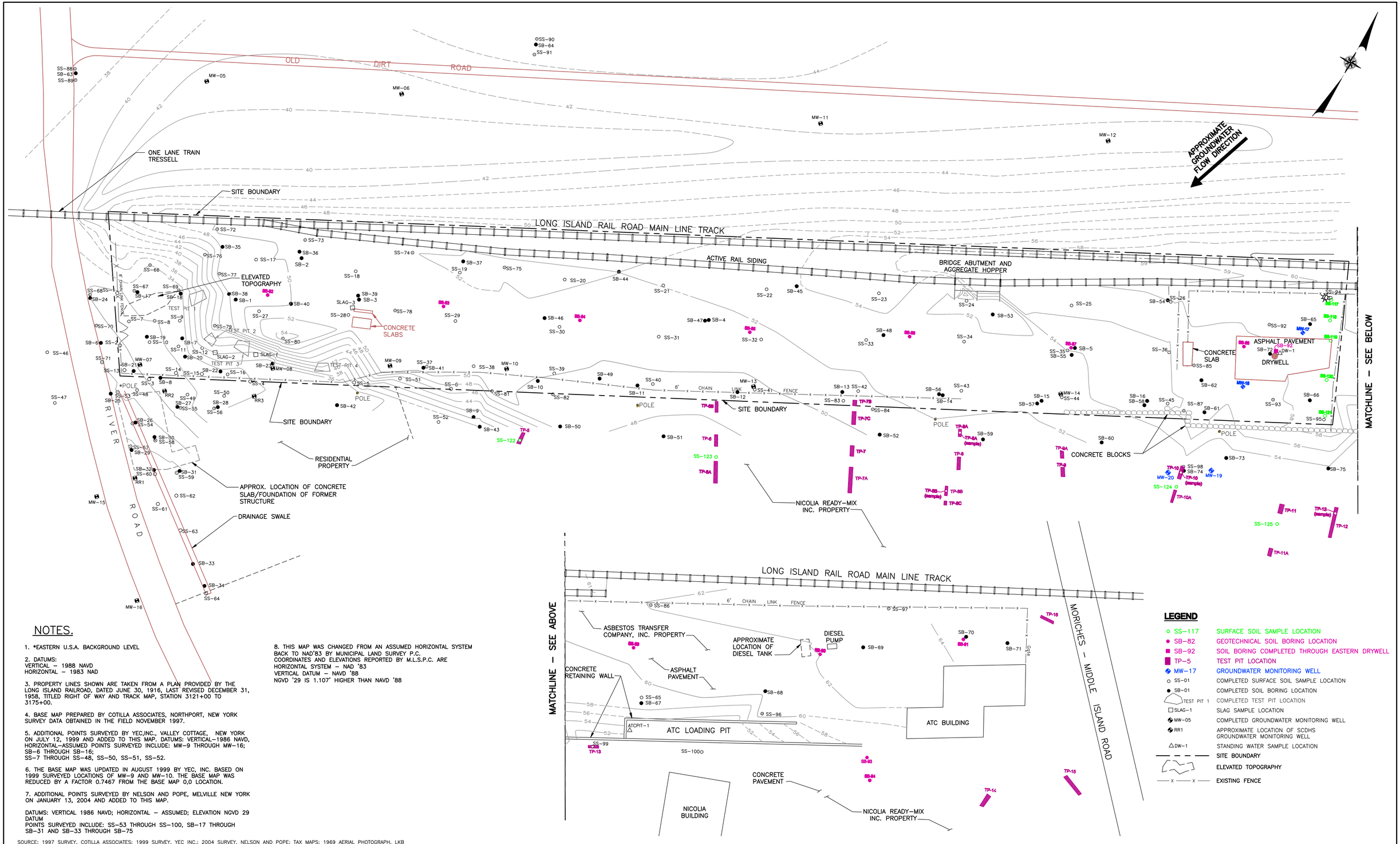
All samples were analyzed within the method specified holding times. The semivolatile fraction of sample SB-92 (28 to 30 feet), as well as the MS and MSD, was re-extracted outside of holding time due to the poor spike recovery of the MSD.

All surrogate recoveries, internal standard area counts and spike recoveries were within QC limits except for the recoveries of SB-92 (28 to 30 feet) MSD in the initial extract. The sample, as well as the MS and MSD, were re-extracted and all recoveries were within QC limits. Based on the more compliant results for the re-extracted samples, the data for SB-92 (28 to 30 feet) was taken from the re-extracted sample.

Initial and continuing calibrations were analyzed at the method specified frequency.

Bis-(2-ethylhexyl)phthalate was qualified as non-detect in sample MW-19 collected on May 31, 2007 due to laboratory contamination. That is, the method blank associated with the sample contained bis-(2-ethylhexyl)phthalate at a concentration greater than that of the sample.

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



NOTES.

1. *EASTERN U.S.A. BACKGROUND LEVEL

2. DATUMS:
VERTICAL – 1988 NAVD
HORIZONTAL – 1983 NAD

3. PROPERTY LINES SHOWN ARE TAKEN FROM A PLAN PROVIDED BY THE LONG ISLAND RAILROAD, DATED JUNE 30, 1916, LAST REVISED DECEMBER 31, 1958, TITLED RIGHT OF WAY AND TRACK MAP, STATION 3121+00 TO 3175+00.

4. BASE MAP PREPARED BY COTILLA ASSOCIATES, NORTHPORT, NEW YORK SURVEY DATA OBTAINED IN THE FIELD NOVEMBER 1997.

5. ADDITIONAL POINTS SURVEYED BY YEC,INC., VALLEY COTTAGE, NEW YORK ON JULY 12, 1999 AND ADDED TO THIS MAP. DATUMS: VERTICAL–1986 NAVD, HORIZONTAL–ASSUMED POINTS SURVEYED INCLUDE: MW–9 THROUGH MW–16; SB–6 THROUGH SB–16; SS–7 THROUGH SS–48, SS–50, SS–51, SS–52.

6. THE BASE MAP WAS UPDATED IN AUGUST 1999 BY YEC, INC. BASED ON 1999 SURVEYED LOCATIONS OF MW–9 AND MW–10. THE BASE MAP WAS REDUCED BY A FACTOR 0.7467 FROM THE BASE MAP 0,0 LOCATION.

7. ADDITIONAL POINTS SURVEYED BY NELSON AND POPE, MELVILLE NEW YORK ON JANUARY 13, 2004 AND ADDED TO THIS MAP.

DATUMS: VERTICAL 1986 NAVD; HORIZONTAL – ASSUMED; ELEVATION NGVD 29 DATUM
POINTS SURVEYED INCLUDE: SS–53 THROUGH SS–100, SB–17 THROUGH SB–31 AND SB–33 THROUGH SB–75

8. THIS MAP WAS CHANGED FROM AN ASSUMED HORIZONTAL SYSTEM BACK TO NAD'83 BY MUNICIPAL LAND SURVEY P.C. COORDINATES AND ELEVATIONS REPORTED BY M.L.S.P.C. ARE HORIZONTAL SYSTEM – NAD '83
VERTICAL DATUM – NAVD '88
NGVD '29 IS 1.107' HIGHER THAN NAVD '88

SOURCE: 1997 SURVEY, COTILLA ASSOCIATES; 1999 SURVEY, YEC INC.; 2004 SURVEY, NELSON AND POPE; TAX MAPS; 1969 AERIAL PHOTOGRAPH, LKB

LEGEND

SS–117	SURFACE SOIL SAMPLE LOCATION
SB–82	GEOTECHNICAL SOIL BORING LOCATION
SB–92	SOIL BORING COMPLETED THROUGH EASTERN DRYWELL
TP–5	TEST PIT LOCATION
MW–17	GROUNDWATER MONITORING WELL
SS–01	COMPLETED SURFACE SOIL SAMPLE LOCATION
SB–01	COMPLETED SOIL BORING LOCATION
TEST PIT 1	COMPLETED TEST PIT LOCATION
SLAG–1	SLAG SAMPLE LOCATION
MW–05	COMPLETED GROUNDWATER MONITORING WELL
RR1	APPROXIMATE LOCATION OF SCDHS GROUNDWATER MONITORING WELL
DW–1	STANDING WATER SAMPLE LOCATION
	SITE BOUNDARY
	ELEVATED TOPOGRAPHY
x x	EXISTING FENCE

LONG ISLAND RAILROAD - YAPHANK SITE
SUPPLEMENTAL INVESTIGATION REPORT

SAMPLE AND MONITORING WELL LOCATION MAP

SCALE: 1"=40'

DRAWING 1

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

3.0 FINDINGS

This section presents the results of the supplemental investigation at the Yaphank Site. Drawing 1 provides the surveyed locations of all samples collected as part of this investigation, along with all previous investigations. All boring logs and test pit logs are provided as Appendix A. Well construction logs are provided as Appendix B. All chemical data are provided as Appendix C.

To assist in the evaluation of the chemical data associated with the soil samples, the data was compared to the NYSDEC Soil Cleanup Objectives as specified under 6NYCRR Subpart 375-6. Given all samples were collected from the LIRR Yaphank Site or on adjacent industrial properties such as Nicolia and ATC, D&B has for comparison purposes, utilized the cleanup objectives intended for industrial properties, herein referred to as the NYSDEC Remedial Soil Cleanup Objectives (RSCO). In addition, all groundwater data has been compared to the Class GA groundwater standards and guidance values provided in the NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 for groundwater (hereinafter referred to as NYSDEC groundwater standards). Concentrations of chemical constituents that exceed the above standards are in bold and bracketed on the data tables.

3.1 Extent of Fill Material

As detailed in the January 2005 Investigation Report, the fill material can be observed on-site as an outcrop exhibiting sharp, almost vertical, relief in the southwestern portion of the site. This outcrop is defined on Drawing 1 by the tightly spaced surface contours within this portion of the site. The fill material generally consists of brown to black, poorly sorted sand and gravel with varying amounts of anthropogenic materials such as glass, brick, concrete, coal ash, clinker and wood. Due to the variability of grain size, the fill unit likely exhibits highly variable permeability.

The fill material also contains a hard, dense slag-like material which is most prevalent in the westernmost portion of the site and is observed within the outcrop described above. The

physical characteristics of this slag-like material vary but can be described as two basic types. The first type of slag-like material is generally black, hard, dense and slightly vesicular. When found at grade and exposed to the atmosphere, this slag-like material exhibits a white and/or red precipitate or oxidation on its surface. The second type of slag-like material has more of a brown and tan color, is less dense, not vesicular and can be easily broken by hand. This second type has the characteristics of hardened wood pulp.

The fill material ranges in thickness from 2.5 to 25 feet across the Yaphank Site; however, the fill is typically between 15 and 25 feet thick throughout the majority of the site. Drawing 2, provided in the map pocket at the end of this section, presents a fill thickness contour map. As shown on Drawing 2, the fill unit extends to the east throughout the site and continues off-site, underlying a portion of the ATC property adjacent to the eastern site boundary.

Based on the 12 test pits and borings SB-93 and SB-94 completed as part of the supplemental investigation, the fill material extends into the Nicolia property up to 90 feet south of the Yaphank Site property line. In general, the thickness of the fill is less than 16 feet throughout the Nicolia property and in most areas is less than five feet in thickness. In addition, the fill material appears to contain little to no slag-like material within the Nicolia property and in some cases it was unclear if all the fill material encountered in the Nicolia property is, in fact, the same fill material encountered at the Yaphank Site.

While not part of the original scope of work, the LIRR elected to collect several subsurface soil samples for chemical analysis from several test pits in an effort to determine if the fill material observed within the Nicolia property was chemically similar to the fill material present within the Yaphank Site. As shown on Table 3 provided in Appendix C, the subsurface soil samples do contain concentrations of several key metals including arsenic, copper, iron and lead but at concentrations below their respective RSCOs. Additionally, as shown on Table 4, the subsurface soil samples also contain PAHs but at relatively low concentrations and well below their respective RSCOs. This data would indicate that the fill material within the Nicolia property is likely of the same origin as the fill material in the Yaphank Site but appears to be

mixed with a greater percentage of native glacial outwash sand and concrete from current operations.

Note that both TP-5 and TP-14 contained a thin layer of poorly cemented concrete. However, based on the nature of the concrete, it is apparent that this concrete is likely from the washing out of concrete and transit trucks as part of Nicolia's operations and not indicative of fill material.

Test pits TP-14, 15 and 16 completed within the ATC property did not contain evidence of fill material, an indication that the fill material terminates within the ATC property to the west of Moriches Middle Island Road.

At the request of the NYSDOH, the LIRR collected four surface soil samples (SS-122 through SS-125) prior to the undertaking of the test pits. Each sample was analyzed for TAL metals with SS-122 collected from TP-5, SS-123 collected from TP-6, SS-124 collected from TP-10 and SS-125 collected from TP-11. Again, the surface soil samples were collected before the start of the test pitting activities and were collected from undisturbed surficial soil. As shown on Table 1 provided in Appendix C, all metals were detected at concentrations below their respective Part 375, Industrial Soil Cleanup Objectives (SCDS), in all four surface soil samples.

3.2 Geotechnical Borings

Completion of the 10 geotechnical borings within the site encountered the same fill material encountered during previous investigations. All boring logs are provided in Appendix A. As discussed previously, the fill consists of a brown to black, poorly sorted sand and gravel with varying amounts of anthropogenic materials such as glass, brick, concrete, coal ash, clinker and wood. The fill material also contains a "slag-like" material that is most prevalent within the western portion of the LIRR property. In general, the fill thickness ranges from 15 to 25 feet throughout the majority of the Fill Area. Immediately beneath this fill material exists a yellow to tan colored glacial outwash sand. The boundary between the fill material and the native glacial outwash sand is clearly defined by the distinct color difference between the two materials.

Blow counts during the advancement of split spoon samples through the fill material generally ranged from 5 to 30 blows per 6 inches of advancement, with the majority being over 10 blows per 6 inches of advancement. The underlying glacial outwash sand exhibited similar blow counts indicating the fill and underlying glacial outwash sand to be competent material and suitable for development. While competent fill and sand appears to be present on-site, the allowable bearing pressures for any proposed construction should be determined by the foundation designer based upon the final foundation depth once the structural requirements are known.

3.3 Groundwater Flow

Based on depth to water measurements collected on May 15, 2007 (see Table 3-1), groundwater at the site is approximately 30 feet below grade where the fill material is thickest and between 10 and 15 feet below grade within the southwestern "low-lying" portion of the site. Off-site, to the south of the Yaphank Site along River Road, depth to groundwater generally decreases with the water table being between 2 and 3 feet below grade at wells MW-15 and MW-16. Groundwater ranges in elevation from 20.85 feet above mean sea level (msl) at MW-16 to 24.14 feet above msl at MW-12.

A groundwater contour map provided as Figure 3-1 was developed based on the measurements presented in Table 3-1. As shown on Figure 3-1, groundwater flows in a southern direction throughout the Yaphank Site and adjoining properties. This flow direction is consistent with previously developed groundwater contour maps for the Yaphank Site and surrounding areas.

3.4 Dry Well Investigation

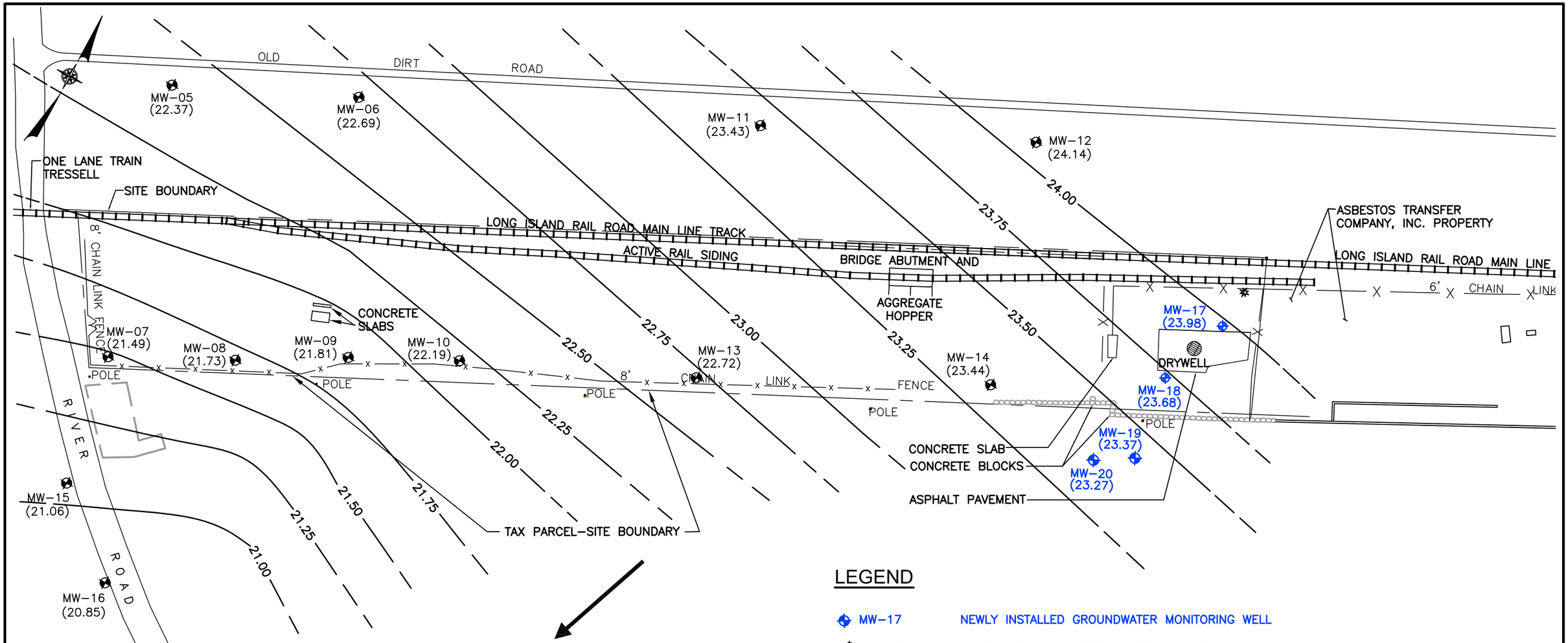
The dry well is located in the eastern portion of the Yaphank Site that was formerly occupied by ATC. ATC reportedly installed the dry well when the business was using the

Table 3-1

LONG ISLAND RAILROAD
YAPHANK SITE
WATER LEVEL MEASUREMENTS AND
SURVEYED WELL ELEVATIONS

Monitoring Well Source	Monitoring Well ID	Ground Elevation (feet msl)	Top of PVC Elevation (feet msl)	Depth to Water (feet)[1]	Groundwater Elevation (feet msl)
2003 Site Investigation Wells	MW-5	40.14	42.45	20.08	22.37
	MW-6	41.21	43.40	20.71	22.69
	MW-7	29.35	31.44	9.95	21.49
	MW-8	33.97	36.68	14.95	21.73
	MW-9	50.04	52.68	30.87	21.81
	MW-10	49.10	51.86	29.67	22.19
	MW-11	43.63	46.21	22.78	23.43
	MW-12	42.01	44.46	20.32	24.14
	MW-13	48.72	51.48	28.76	22.72
	MW-14	52.53	55.09	31.65	23.44
	MW-15	23.54	23.14	2.08	21.06
	MW-16	22.90	22.45	1.60	20.85
2007 Supplemental Site Investigation Wells	MW-17	57.69	60.07	36.09	23.98
	MW-18	56.32	58.16	34.48	23.68
	MW-19	50.24	50.06	26.69	23.37
	MW-20	49.97	49.84	26.57	23.27

Notes:
[1]Depth to water from top of PVC casing as measured on May 15, 2007
msl: mean sea level



LEGEND

MW-17	NEWLY INSTALLED GROUNDWATER MONITORING WELL
MW-05	EXISTING GROUNDWATER MONITORING WELL
(23.56)	GROUNDWATER ELEVATION MEASUREMENTS COLLECTED ON MAY 15, 2007
	GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
— x — x — x — x —	EXISTING FENCE
——— – ——— – ———	SITE BOUNDARY
	APPROXIMATE GROUNDWATER FLOW DIRECTION

0 100 200

SCALE IN FEET

SOURCE: 1997 SURVEY, COTILLA ASSOCIATES; 1999 SURVEY, YEC INC.; 2004 SURVEY, NELSON AND POPE; TAX MAPS; 1969 AERIAL PHOTOGRAPH, LKB

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

LONG ISLAND RAIL ROAD - YAPHANK SITE
SUPPLEMENTAL SITE INVESTIGATION

GROUNDWATER CONTOUR MAP (MAY 15, 2007)

FIGURE 3-1

eastern portion of the Yaphank Site. Though ATC no longer occupies the LIRR property, ATC has been observed actively pumping water from its on-site loading dock pit into this dry well as recently as the Fall of 2003. As part of the site investigation conducted in 2004, a sediment sample was collected from the dry well which exhibited a number of metals including lead, nickel, copper and mercury as well as several PAHs.

As part of this supplemental investigation, boring SB-92 was advanced through the dry well to a total depth of 32 feet below grade in order to define the vertical extent of the above chemical constituents. A total of three subsurface soil samples were collected for chemical analysis, including from 8 to 10 feet, 10 to 12 feet and 28 to 30 feet.

As shown on Table 5, all three soil samples exhibited TAL metals below the RSCOs. In addition, the soil sample collected from 28 to 30 feet exhibited metal concentrations typical of uncontaminated glacial outwash sand. As shown on Table 6, all SVOCs were detected below the RSCOs with the exception of benzo(a) pyrene which was detected at concentrations of 2.4 mg/kg and 1.4 mg/kg in the 8 to 10 and 10 to 12 foot samples, respectively, above the RSCO of 1.1 mg/kg. All SVOCs were below detection limits in the 28 to 30 foot sample with the exception of flouranthene at 0.076 mg/kg and pyrene at 0.062 mg/kg.

In order to determine if groundwater impacts have occurred as the result of discharges to the dry well, two monitoring wells were installed as shown on Drawing 1, with MW-17 installed immediately upgradient of the dry well and MW-18 installed immediately downgradient of the dry well. As shown on Table 7, all TAL metals are below the Class GA standards for the upgradient and downgradient well samples, with the exception of antimony, iron and selenium. In addition, as shown on Table 8 (SVOCs) and Table 9 (VOCs), all SVOCs and VOCs are below detection limits in both the upgradient and downgradient samples.

3.5 Extent of VOCs in the Vicinity of SB-73

As part of the site investigation conducted in 2004, soil boring SB-73 was advanced within the Nicolia property, approximately 40 feet south of the Yaphank Site's southern

boundary. Soil encountered between 8 to 10 feet and 14 to 15 feet below grade at this location was noted as having a gasoline-like odor. Several VOCs which are commonly associated with gasoline were detected in soil samples collected from SB-73, including ethylbenzene, xylene, trimethylbenzene and naphthalene. However, VOCs were not detected at concentrations exceeding their respective NYSDEC soil cleanup objectives in any of the soil samples. Therefore, in order to determine if this identified low-level VOC source has impacted groundwater, monitoring wells MW-19 and MW-20 were installed downgradient of this location as shown on Drawing 1. As shown on Table 9, all VOCs were found to be nondetectable in both monitoring wells based on the two rounds of groundwater samples collected from the wells on May 15 and May 31, 2007.

3.6 Asbestos Investigation

As part of the site investigation conducted in 2004, one surface soil sample collected from the easternmost portion of the LIRR property (SS-95) exhibited detectable levels of chrysotile, an asbestos mineral. This portion of the LIRR property was formerly used by ATC, an asbestos abatement/management company without the consent from the LIRR. Therefore, as part of the supplemental investigation, five surface soil samples were collected along the eastern property boundary adjoining the ATC property and analyzed for asbestos. The locations of the surface soil samples SS-117 through SS-121 are shown on Drawing 1. As shown on Table 2 in Appendix C, asbestos was not identified in the five surface soil samples.

4.0 CONCLUSIONS AND RECOMMENDATIONS

This section presents a discussion of the conclusions and recommendations associated with the nature and extent of the chemical constituents of concern present at the Yaphank Site and surrounding off-site properties based on the findings of the Supplemental Investigation. As discussed in Section 1.0, this report is intended only to present the supplemental data collected in the Spring of 2007 and to support and supplement the overall findings and conclusions presented in the Site Investigation Report dated January 2005. Therefore, this report is not considered a stand-alone document and needs to be reviewed in light of the findings presented in the January 2005 Site Investigation report.

Based on review of the Supplemental Investigation data, the findings of the Qualitative Exposure Assessment presented in the January 2005 Site Investigation Report do not require modification.

Based on the findings of the completed investigations and the associated Qualitative Exposure Assessment, the LIRR recommends that, in accordance with the NYSDEC-approved work plan, we move forward onto preparing a Remedial Action Selection Report designed to identify, develop and select remedial alternatives that can be implemented at the Yaphank Site to eliminate or mitigate any identified potential exposure pathways.

4.1 Fill Material

The fill material is present throughout the Yaphank Site, as well as the majority of the ATC property and portions of the Nicolia property. The fill material is typically between 15 and 25 feet thick on the Yaphank Site, between 5 and 20 feet thick on the ATC property and between 5 and 16 feet thick on the Nicolia property.

The twelve test pits and two soil borings completed as part of the supplemental investigation defined the eastern and southern limits of the fill material as illustrated by Drawing 2. The total area containing the fill material is approximately 7.5 acres.

The data obtained from the ten geotechnical borings completed as part of the supplemental investigation indicates the fill material and underlying glacial outwash sand to be competent material suitable for development.

4.2 Dry Well

Analysis of the three soil samples collected from the dry well indicates all TAL metals to be below their respective RSCOs. All SVOCs, with the exception of benzo(a)pyrene, were found below their respective RSCOs. In addition, groundwater samples collected downgradient of the dry well did not indicate that the dry well is a source of groundwater contamination. Based on these findings, it is recommended that the dry well be abandoned by backfilling the structure with clean soil as part of the overall remediation of the Yaphank Site.

4.3 Extent of VOCs in Vicinity of SB-73

In order to determine if the VOCs previously detected at SB-73 at relatively low concentrations in shallow soil have impacted groundwater quality, two groundwater monitoring wells were installed immediately downgradient of this area. VOCs were not detected in two rounds of groundwater samples collected from these wells; therefore, it can be concluded that the low level VOCs previously detected at SB-73 are not a source of groundwater contamination downgradient of this area.

4.4 Extent of Asbestos

A total of five surface soil samples were collected along the eastern property boundary of the Yaphank Site in order to determine if asbestos-containing materials were present in this area as the result of past activities performed by ATC within this portion of the site. Asbestos was not detected in any of the five samples and, therefore, it can be concluded that asbestos in surface soil is not an environmental or health concern in the eastern portion of the Yaphank Site.

APPENDIX A

TEST PIT AND BORING LOGS

Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-5 **Sheet** 1 of 1 **By:** C. Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/23/07 **Date Completed:** 4/23/07	**Test Pit Completion Depth:** 9.5' **Ground Surface Elevation:** 53' **Test Pit Dimension(s):** 12X3X9.5'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-1"	0.0	Dark brown FINE TO MEDIUM SILTY SAND, some fine to medium gravel, loose, dry, no odors or staining.	
1"-2.5'	0.0	Grey/white SILTY SAND and COARSE GRAVEL and concrete dust and concrete fragments, loose, dry, no odor, no staining. Concrete dust 2.5' thick at the north end of test pit and pinching out to the south.	
2.5'-7'	0.0	Brown/tan FINE TO MEDIUM SAND, some fine gravel, loose, dry, no odor, no staining.	
7'-9.5'	0.0	Light gray/tan FINE TO MEDIUM SAND, little fine gravel, loose, dry, no odor, no staining.	

NOTES:
Concrete dust material does not appear to be related to the LIRR Fill material.

Surface soil sample SS-122 collected from center of the proposed test pit location, prior to excavation, for TAL metals.

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

Date: September 2007

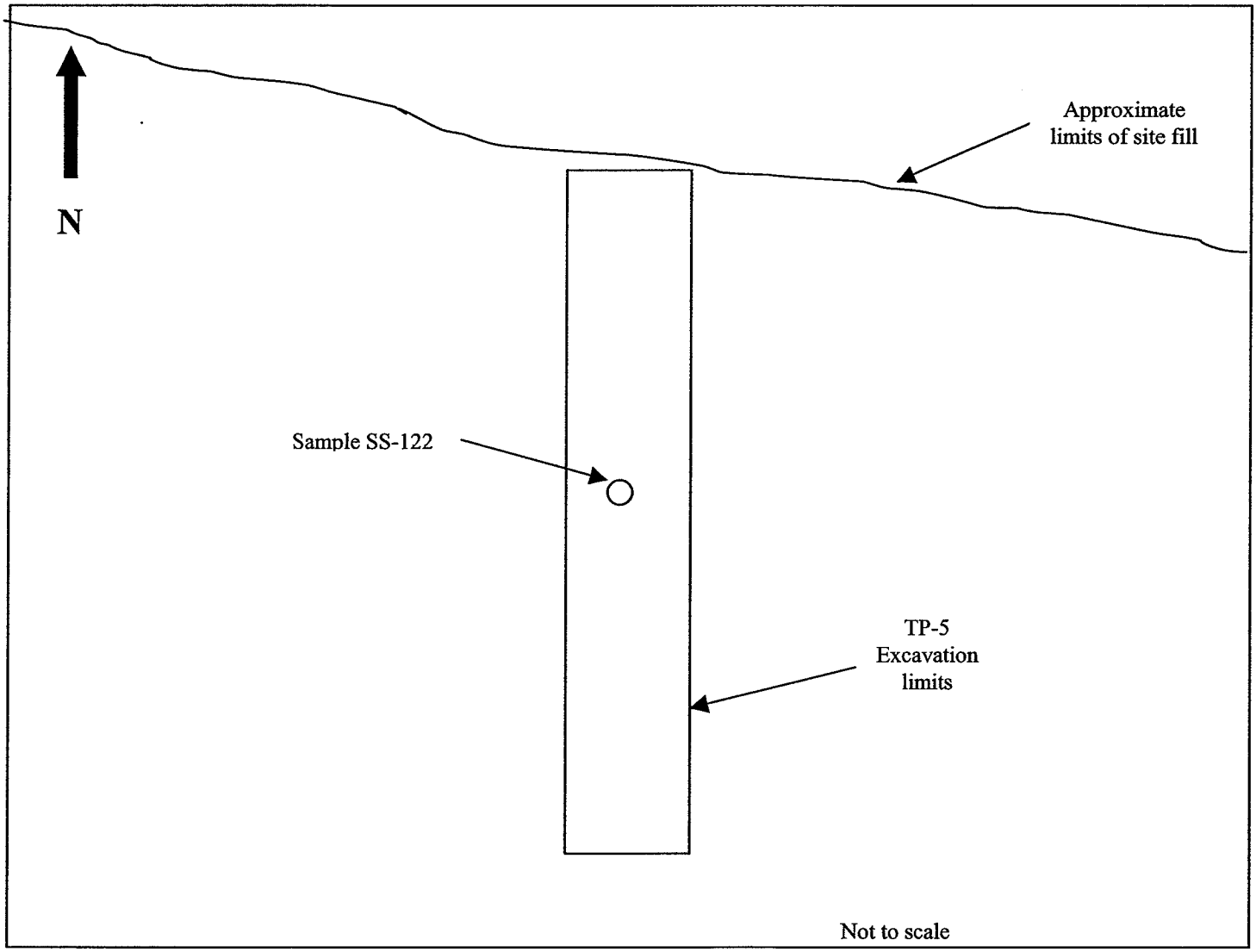
TEST PIT LOCATION MAP

Project:	LIRR – Yaphank Landfill	Test Pit:	TP-5
Oversight:	C. Morris	Test Pit Dimensions	12X3X9.5'

Notes: Test pit located to southwest of LIRR property, on Delinski property.

Surface soil sample SS-122 collected from center of proposed test pit area, prior to excavation.

Grey/white silty sand and concrete dust material ranged in thickness from approximately 32" at the northern end of the test pit to pinch out at the southern end of the test pit.



Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-6 **Sheet** 1 of 1 **By**: C. Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/23/07 **Date Completed:** 4/23/07	**Test Pit Completion Depth:** 7' **Ground Surface Elevation:** 47' **Test Pit Dimension(s):** 10X3X7'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-4"	0.0	Crushed stone.	
4"-1.5'	0.0	Tan/light brown FINE TO COARSE SAND and FINE TO COARSE GRAVEL and SMALL COBBLES, loose, dry, no odor, no staining.	
1.5-5.5'	0.0	Brown FINE TO MEDIUM SAND, some fine to coarse gravel, and brick, concrete, glass, wood and metal fragments, trace slag, loose, dry, no odor, no staining.	
5.5-7'	0.0	Brown FINE TO MEDIUM SAND, some fine gravel, loose, dry, no odor, no staining.	

NOTES:
Surface soil sample SS-123 collected from center of proposed test pit area, prior to excavation, for TAL metal analysis.

Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-6A **Sheet** 1 of 1 **By:** C. Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/23/07 **Date Completed:** 4/23/07	**Test Pit Completion Depth:** 7' **Ground Surface Elevation:** 47' **Test Pit Dimension(s):** 25x3x4'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-3"	0.0	Crushed stone.	
3"-1'	0.0	Brown FINE TO COARSE SAND and FINE TO COARSE GRAVEL, some small cobbles, loose, dry, no odor, no staining.	
1'-4'	0.0	Brown FINE TO MEDIUM SAND, some fine to coarse gravel, and brick, concrete, glass, wood and metal fragments, car tire, trace slag, loose, dry, no odor, no staining. Anthropogenic material ranges in thickness from approximately 3' at the northern end of the test pit to its termination at the southern end of the test pit.	
4-7'	0.0	Brown FINE TO MEDIUM SAND, some fine gravel, loose, dry, no odor, no staining.	

NOTES:
Anthropogenic material ranges in thickness from approximately 3' at the northern end of the test pit to its termination at the southern end of the test pit.

Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-6B **Sheet** 1 of 1 **By:** C. Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/23/07 **Date Completed:** 4/23/07	**Test Pit Completion Depth:** 5' **Ground Surface Elevation:** 47' **Test Pit Dimension(s):** 10x3x5'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-3"	0.0	Crushed stone.	
3"-1'	0.0	Brown FINE TO COARSE SAND and FINE TO COARSE GRAVEL, some small cobbles, loose, dry, no odor, no staining.	
1'-1'5'	0.0	Concrete fragments.	
1.5-2.5'		Brown FINE TO MEDIUM SAND, some fine to coarse gravel, wood and shredded metal fragments, asphalt, loose, dry, no odor, no staining.	
2.5-3.5'	0.0	Asphalt.	
3.5-5'		Brown FINE TO MEDIUM SAND, some fine gravel, loose, dry, no odor, no staining.	

NOTES:

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

Date: September 2007

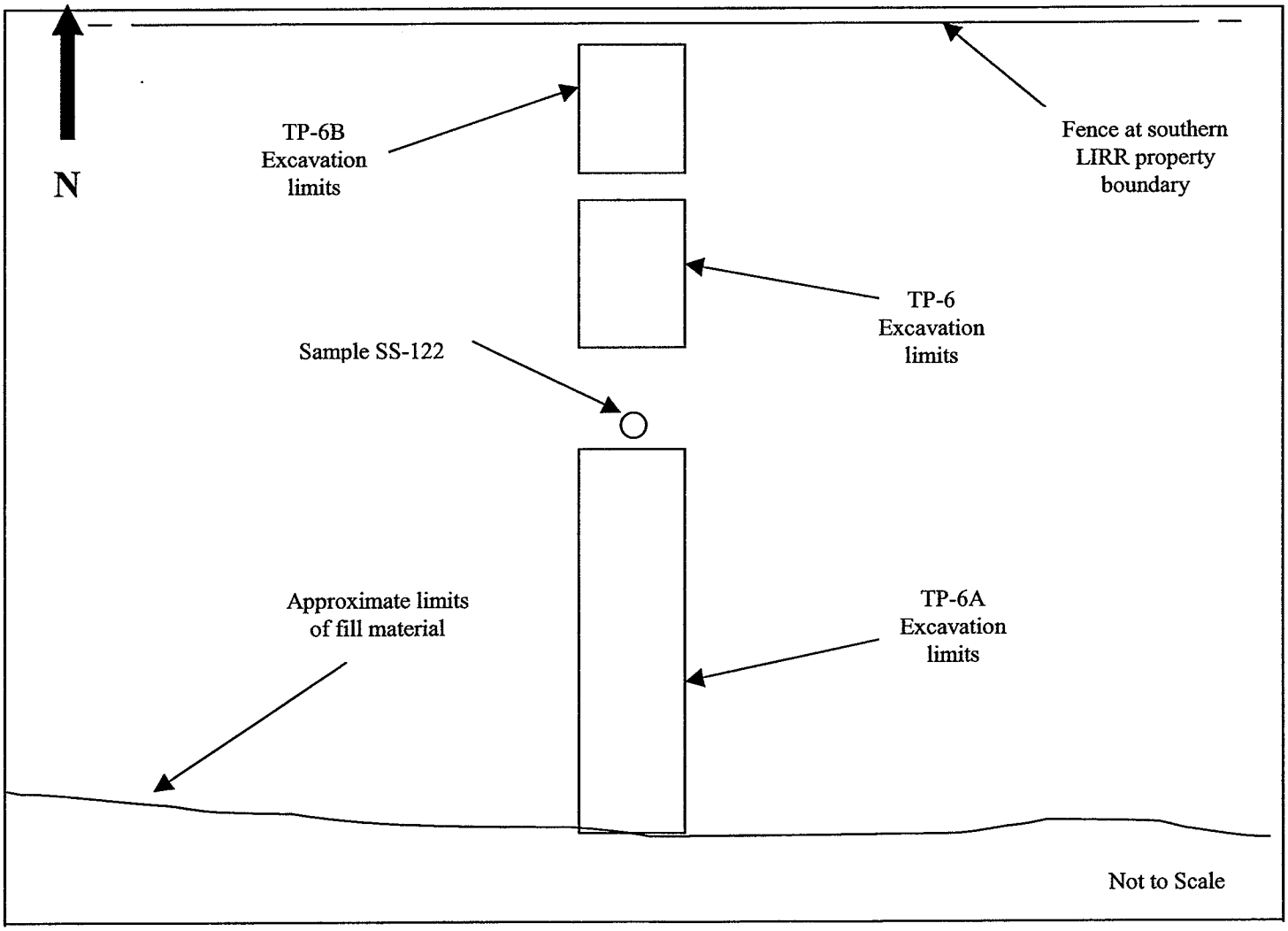
TEST PIT LOCATION MAP

Project:	LIRR – Yaphank Landfill	Test Pit:	TP-6, TP-6A, TP-6B
Oversight:	C. Morris	Test Pit Dimensions	10X3X7' TP-6 25X3X4' TP-6A 10X3X5' TP-6B

Notes: Test pits located to south of LIRR property, on Nicolia property.

Surface soil sample SS-123 collected from center of proposed test pit area, prior to excavation.

Layer of soil containing brick, concrete, glass, wood and metal fragments with trace amounts of slag ranged in thickness from approximately 4' at the northern end of the TP-6B to pinch out at the southern end of the TP-6A.



Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-7A **Sheet** 1 of 1 **By:** C. Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/23/07 **Date Completed:** 4/23/07	**Test Pit Completion Depth:** 5' **Ground Surface Elevation:** 46' **Test Pit Dimension(s):** 30x4x5'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-3"	0.0	Crushed stone.	
3"-1'2"	0.0	Tan FINE TO MEDIUM SAND, little fine gravel, loose, dry, no odor, no staining.	
1'2"-3'	0.0	Dark brown/black FINE TO MEDIUM SAND and GRAVEL, some small cobbles and brick, wood, asphalt, glass, trace slag, loose, dry, no odor, no staining.	
3-5'	0.0	Lt brown/orange FINE TO MEDIUM SAND, some fine gravel, loose, dry, no odor, no staining.	

NOTES:
TP-7A exhibited a layer of soil containing brick, concrete, glass, wood and metal fragments with trace amounts of slag with a maximum thickness of approximately 2' at the northern end of the test pit to its termination point at the southern end of the test pit.

Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-7B **Sheet** 1 of 1 **By:** C. Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/23/07 **Date Completed:** 4/23/07	**Test Pit Completion Depth:** 5' **Ground Surface Elevation:** 46' **Test Pit Dimension(s):** 7x4x5'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-3"	0.0	Crushed stone.	
3"-1.5'	0.0	Tan FINE TO MEDIUM SAND and concrete fragments, loose, dry, no odor, no staining.	
1.5'-3'	0.0	Brown FINE TO MEDIUM SAND and FINE TO COARSE GRAVEL, loose, dry, no odor, no staining.	
3-4'	0.0	BROWN/BLACK FINE TO MEDIUM SAND and GRAVEL and metal, wood timbers, loose, dry, creosote odor, no staining.	
4-5'	0.0	Tan/lt brown FINE TO MEDIUM SAND, little fine gravel, loose, dry, no odor, no staining.	

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-7C **Sheet** 1 of 1 **By:** C. Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/23/07 **Date Completed:** 4/23/07	**Test Pit Completion Depth:** 5' **Ground Surface Elevation:** 46' **Test Pit Dimension(s):** 10x4x5'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-1'	0.0	Crushed stone.	
1-3-10"	0.0	Tan FINE TO MEDIUM SAND, little fine gravel, loose, dry, no odor, no staining.	
3'10"-4'-4"	0.0	Concrete, some coal clinker.	
4'4"-5'	0.0	Tan FINE TO MEDIUM SAND, little fine gravel, loose, dry, no odor, no staining.	

NOTES:
A layer containing varying amounts of coal clinker and concrete observed in the test pit from 3'10" to 4'4" below grade appeared to have pinched out approximately 23' from the fenceline.

Surface soil sample SS-123 collected from center of proposed test pit area, prior to excavation.

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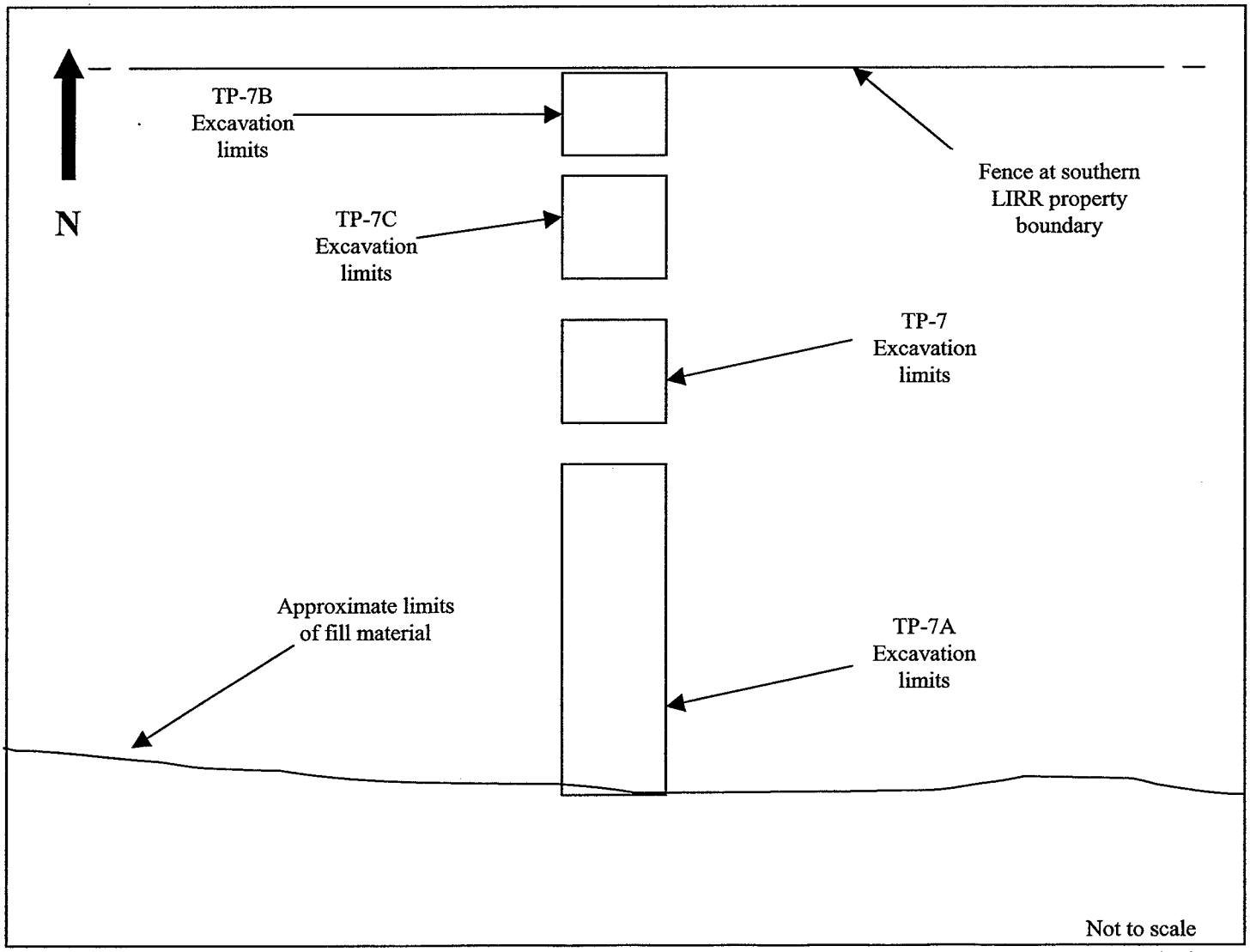
Date: September 2007

TEST PIT LOCATION MAP

Project:	LIRR – Yaphank Landfill	Test Pit:	TP-7, TP-7A, TP-7B, TP-7C
Oversight:	C. Morris	Test Pit Dimensions	10X4X5' TP-7 30X4X5' TP-7A 7X4X5' TP-7B 10X4X5' TP-7C

Notes: Test pits located to south of LIRR property, on Nicolia property.

Layer of soil containing brick, concrete, glass, wood and metal fragments with trace amounts of slag ranged in thickness from approximately 2.5' at the northern end of the TP-7B to pinch out at the southern end of the TP-7A.



Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-8 **Sheet** 1 of 1 **By:** Chris Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/24/07 **Date Completed:** 4/24/07	**Test Pit Completion Depth:** 6' **Ground Surface Elevation:** 47' **Test Pit Dimension(s):** 12X4X6'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-1'3"	0.0	Crushed stone and tan FINE TO MEDIUM SAND, little fine gravel, loose, dry, no odor, no staining.	
1'3"-5'	0.0	Dark brown FINE TO MEDIUM SAND AND FINE GRAVEL and wood, brick, metal, and concrete fragments, loose dry, slight creosote odor in northern half of test pit. A slight petroleum odor in southern half of test pit.	
5-6'	0.0	Tan FINE TO MEDIUM SAND, little fine gravel, loose dry, no odor, no staining.	

NOTES:
Sample for PAH and TAL metal analysis collected from 3-5'

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Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/24/07 **Date Completed:** 4/24/07	**Test Pit Completion Depth:** 8' **Ground Surface Elevation:** 47' **Test Pit Dimension(s):** 10X4X5'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-1'	0.0	Crushed stone.	
1'3"-5'	0.0	Dark brown FINE TO MEDIUM SAND AND FINE GRAVEL and wood, brick, metal, and concrete fragments, loose dry, slight creosote odor.	

NOTES:
Sample for PAH and TAL metal analysis collected from 2-4'.

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Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/24/07 **Date Completed:** 4/24/07	**Test Pit Completion Depth:** 3 **Ground Surface Elevation:** 47' **Test Pit Dimension(s):** 10X4X3'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-1'	0.0	Crushed stone.	
1'-1'9"	0.0	Tan FINE TO MEDIUM SAND and COARSE GRAVEL, loose, dry, no odor.	
1'9"-2'1"	0.0	Dark brown FINE TO MEDIUM SAND AND FINE GRAVEL and wood, brick, metal, and concrete fragments, loose dry, slight petroleum odor.	
2'1"-3'	0.0	Tan FINE TO MEDIUM SAND and COARSE GRAVEL, loose, dry, no odor.	

NOTES:
Sample for PAH and TAL metal analysis collected at 2'

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Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/24/07 **Date Completed:** 4/24/07	**Test Pit Completion Depth:** 3' **Ground Surface Elevation:** 47' **Test Pit Dimension(s):** 5X4X3'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-2"	0.0	Crushed stone.	
2"-3'	0.0	Tan FINE TO MEDIUM SAND and FINE TO COARSE GRAVEL, loose, dry, no odor.	

NOTES:

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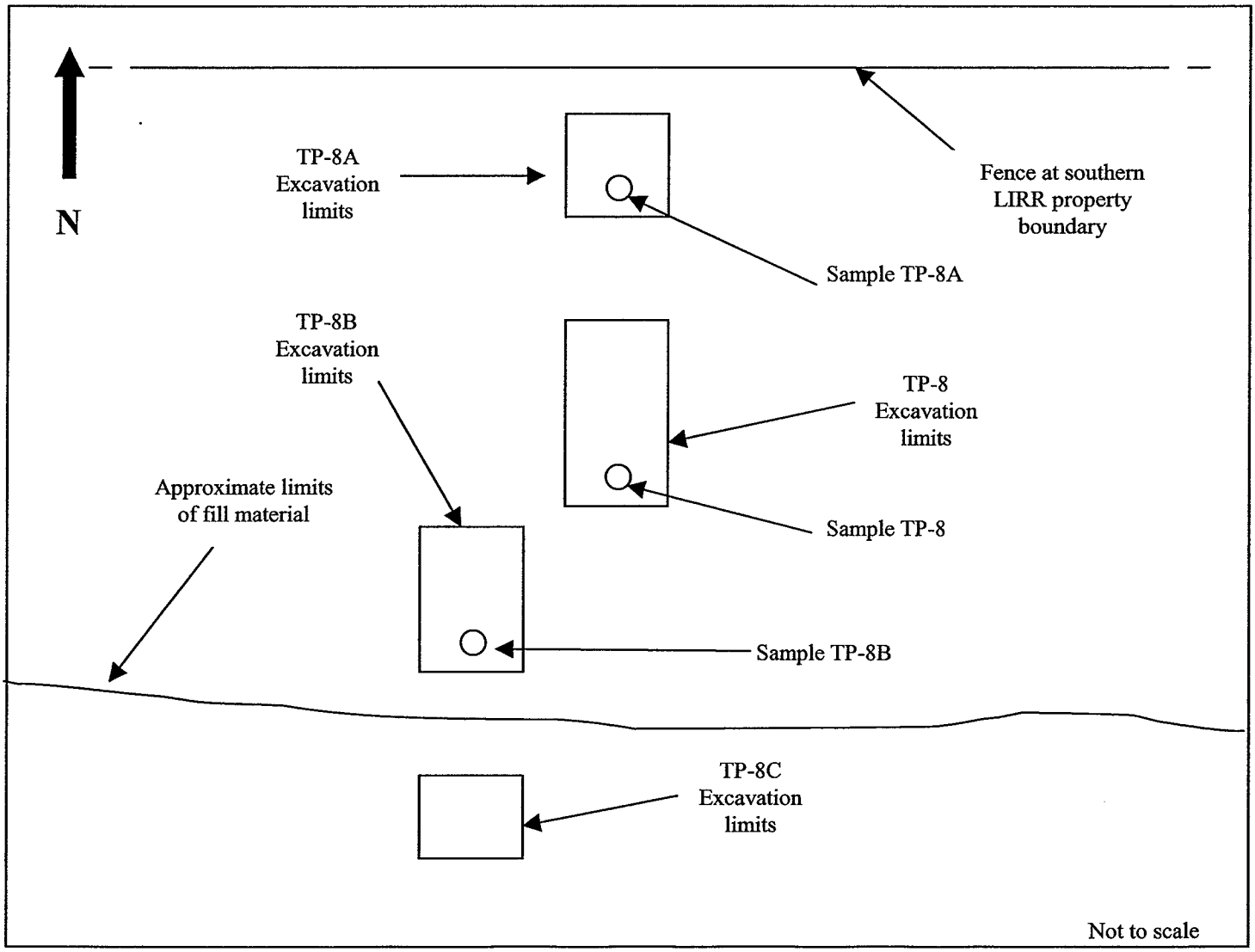
Date: September 2007

TEST PIT LOCATION MAP

Project:	LIRR – Yaphank Landfill	Test Pit:	TP-8, TP-8A, TP-8B, TP-8C
Oversight:	C. Morris	Test Pit Dimensions	12X4X6' TP-8 10X4X5' TP-8A 10X4X3' TP-8B 5X4X3' TP-8C

Notes: Test pit located to south of LIRR property, on Nicolia property.

Layer of soil containing brick, concrete, glass, wood and metal fragments with trace amounts of slag ranged in thickness from approximately 4' at the northern end of TP-8A to approximately 4" thick at the southern end of TP-8. TP-8C contained only native soil.



Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-9 **Sheet** 1 of 1 **By:** Chris Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/24/07 **Date Completed:** 4/24/07	**Test Pit Completion Depth:** 4.5' **Ground Surface Elevation:** 49' **Test Pit Dimension(s):** 9x4x4.5'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-8"	0.0	CRUSHED STONE and GRAVEL, loose, dry, no odor, no staining.	
8"-4.5'	0.0	Fragmented concrete foundation. Foundation is located in the southern 2/3 of the test pit.	

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-9A **Sheet** 1 of 1 **By:** Chris Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/24/07 **Date Completed:** 4/24/07	**Test Pit Completion Depth:** 6' **Ground Surface Elevation:** 49' **Test Pit Dimension(s):** 8X4X6'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-1'	0.0	Brown SAND and CRUSHED STONE, some brick, loose, dry, no odor, no staining.	
1'-1'4"	0.0	Fragmented concrete foundation.	
1'4"-2'	0.0	Tan/light brown FINE TO COARSE SAND, some fine gravel, loose, dry, no odor, no staining.	
2'-2'4"	0.0	Dark brown FINE TO MEDIUM SAND, some metal and concrete fragments, loose, dry, no odor, no staining. Layer of metal and concrete fragment material terminates near the southern edge of the test pit.	
2-4"-4'	0.0	Tan/light brown FINE TO COARSE SAND, some fine gravel, loose, dry, no odor, no staining.	
4-6'	0.0	Light brown FINE TO MEDIUM SAND and fine to coarse gravel, some small to medium cobbles, loose, dry, no odor, no staining.	

NOTES:
The 4" layer of metal and concrete fragment material terminates near the southern edge of the test pit.

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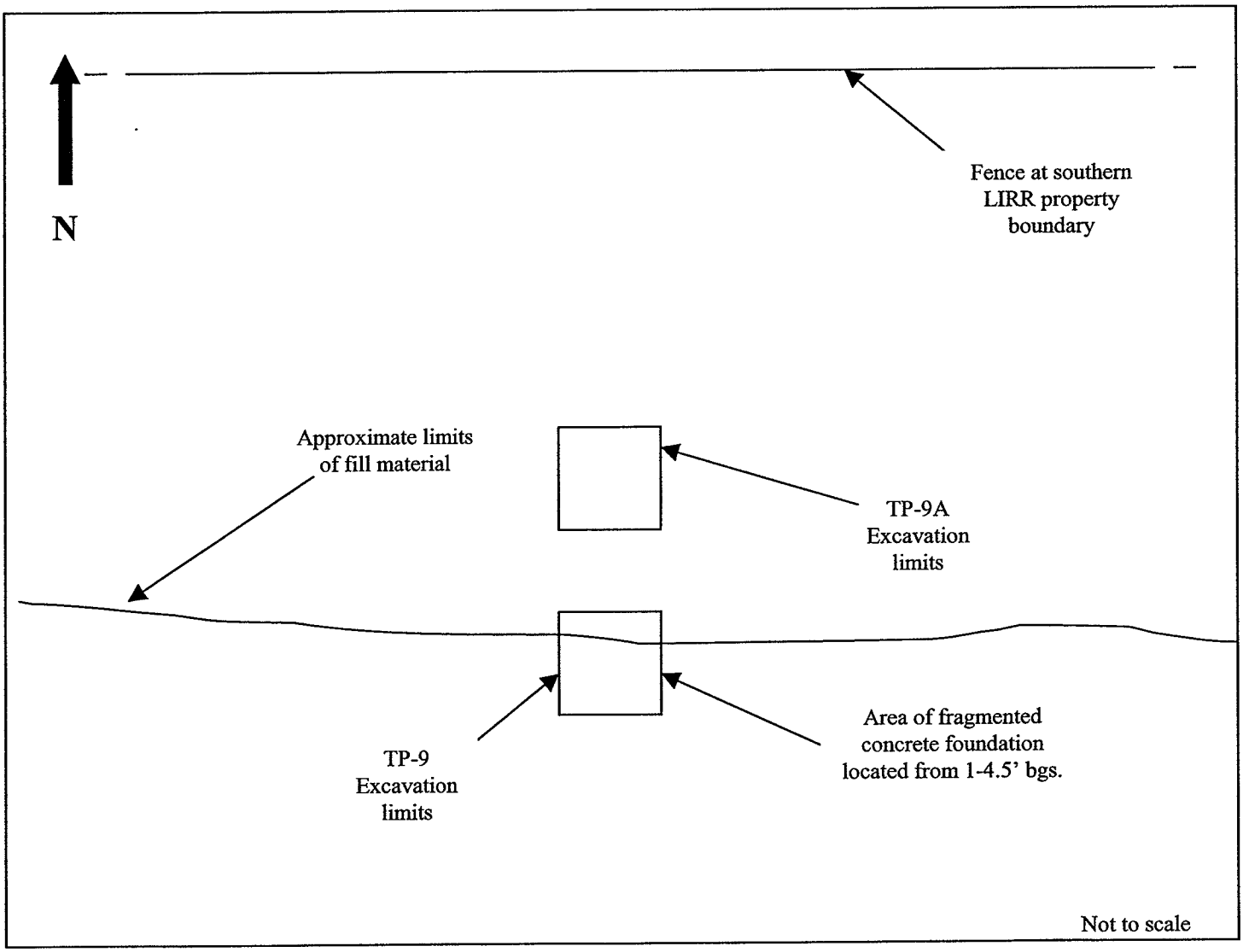
Date: September 2007

TEST PIT LOCATION MAP

Project:	LIRR – Yaphank Landfill	Test Pit:	TP-9, TP-9A
Oversight:	C. Morris	Test Pit Dimensions	6X4X4.5' TP-9 8X4X6' TP-9A

Notes: Test pit located to south of LIRR property, on Nicolia property.

Layer 4" of soil contains metal and concrete fragments terminates at approximately the southern edge of TP-9. A thick layer of fragmented concrete was encountered in the throughout most of TP-9A. The depth of the concrete could not be determined.



Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-10 **Sheet** 1 of 1 **By:** Chris Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/24/07 **Date Completed:** 4/24/07	**Test Pit Completion Depth:** 8' **Ground Surface Elevation:** 50' **Test Pit Dimension(s):** 10X4X8'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-4"	0.0	Crushed stone.	
4"-3'	0.0	Brown FINE TO MEDIUM SAND and FINE TO COARSE GRAVEL and SMALL COBBLES, little metal, concrete, loose, dry, no odor, no staining.	
3'-3'8"	0.0	Light brown FINE TO MEDIUM SAND and FINE TO COARSE GRAVEL and SMALL COBBLES, little metal and concrete fragments, loose, dry, no odor, no staining.	
3'8"-6'	0.0	Brown FINE TO MEDIUM SAND and FINE TO COARSE GRAVEL and SMALL COBBLES, little metal and concrete fragments, loose, dry, no odor, no staining.	
6-8'	0.0	Light brown FINE TO MEDIUM SAND and FINE TO COARSE GRAVEL and SMALL COBBLES, loose, dry, no odor, no staining.	

NOTES:
Surface soil sample (SS-124) for TAL metals analysis collected from in center of the proposed test pit location.

Subsurface soil sample for PAH and TAL metals analysis collected from 4-6'

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Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/24/07 **Date Completed:** 4/24/07	**Test Pit Completion Depth:** 5' **Ground Surface Elevation:** 50' **Test Pit Dimension(s):** 15X4X5'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-4"	0.0	Crushed stone.	
4"-3'	0.0	Brown FINE TO MEDIUM SAND and FINE TO COARSE GRAVEL and SMALL COBBLES, little metal, concrete, wood, loose, dry, slight creosote odor, no staining.	
3'-3'8"	0.0	Light brown FINE TO MEDIUM SAND and FINE TO COARSE GRAVEL and SMALL COBBLES, little metal and concrete fragments, loose, dry, slight creosote odor, no staining.	
3'8"-6'	0.0	Brown FINE TO MEDIUM SAND and FINE TO COARSE GRAVEL and SMALL COBBLES, little metal, wood and concrete fragments, loose, dry, slight creosote odor, no staining.	
6-8'	0.0	Light brown FINE TO MEDIUM SAND and FINE TO COARSE GRAVEL and SMALL COBBLES, loose, dry, no odor, no staining.	

NOTES:

Anthropogenic material (metal and concrete fragments with intermittent fragments of wood exhibiting a slight creosote odor) was observed from approximately 4" to 6' below ground surface in the test pit which became thinner as the test pit was advanced to the south, appearing to pinch out at the southern edge. The test pit was unable to be advanced further to the south due to a large pile of gravel located approximately 60 feet south of the mound of the LIRR property.

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Date: September 2007

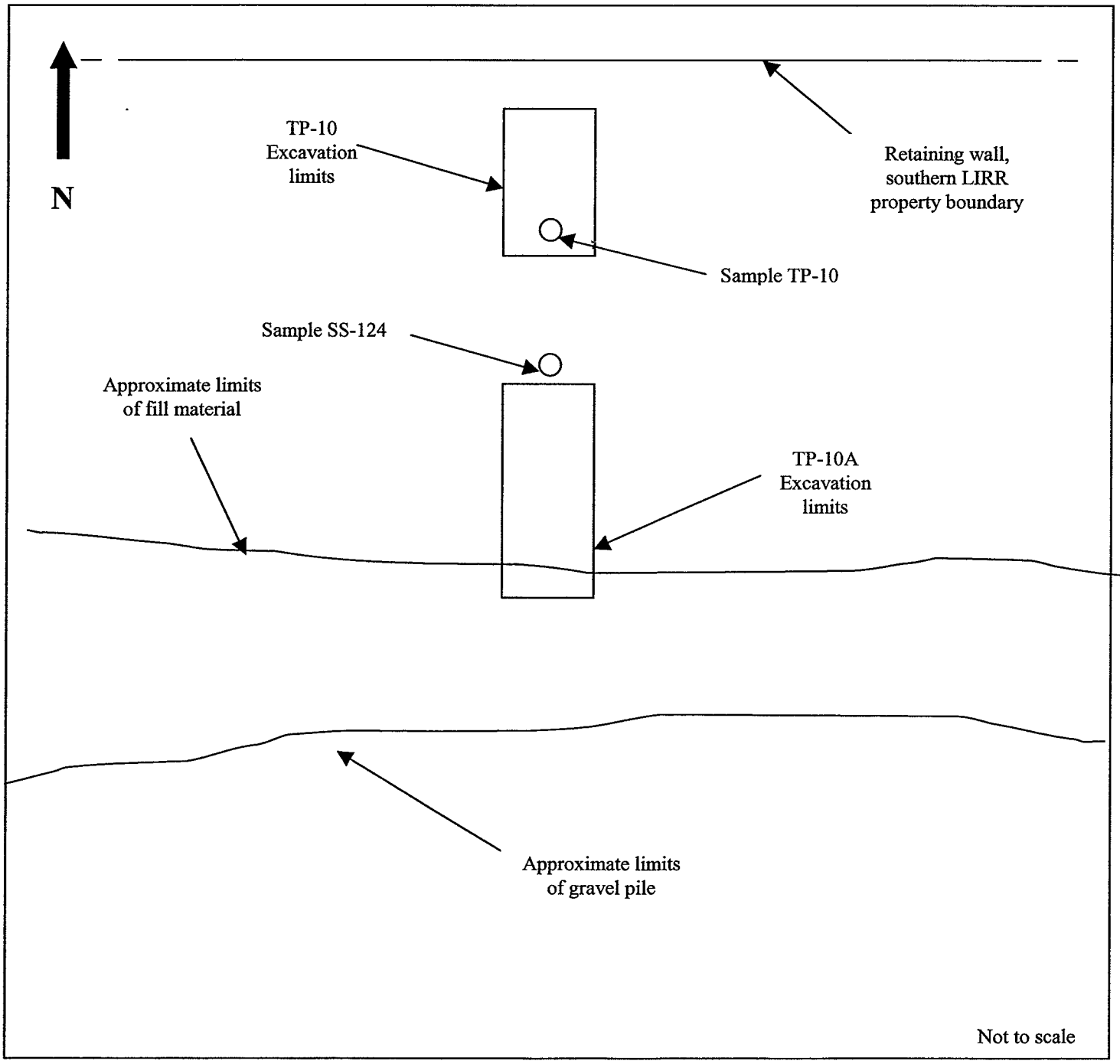
TEST PIT LOCATION MAP

Project: LIRR – Yaphank Landfill

Test Pit: TP-10, TP-10A

Oversight: C. Morris

Test Pit Dimensions 10X4X8' TP-10
15X4X5' TP-10A



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Date: September 2007

TEST PIT LOCATION MAP

Notes: Test pit located to south of LIRR property, on Nicolia property.

Surface soil sample SS-124 collected from center of proposed test pit area, prior to excavation.

Subsurface soil sample TP-10 collected from center of test pit.

Layer of soil containing metal and concrete fragments with intermittent fragments of wood exhibiting a slight creosote odor was observed in TP-10A approximately 4" to 6" thick in the northern section of the test pit which became thinner as the test pit was advanced to the south, appearing to pinch out at the southern edge. The test pit was unable to be advanced further to the south due to a large pile of gravel located approximately 60 feet south of the mound of LIRR property.

Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-11 **Sheet** 1 of 1 **By:** Chris Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/24/07 **Date Completed:** 4/24/07	**Test Pit Completion Depth:** 4' **Ground Surface Elevation:** 45' **Test Pit Dimension(s):** 12X3X4'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-14"	0.0	Crushed stone.	
1'2"-2'	0.0	Light brown/orange FINE TO COARSE SAND and FINE TO COARSE GRAVEL and SMALL COBBLES, loose, dry, no odor, no staining.	
2-4'	0.0	Fractured concrete foundation.	

NOTES:
Surface soil sample (SS-125) collected for TAL metals analysis.

Fill material not observed in test pit.

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Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Steve Tauss **Test Pit Method:** Backhoe **Date Started:** 4/25/07 **Date Completed:** 4/25/07	**Test Pit Completion Depth:** 8' **Ground Surface Elevation:** 45' **Test Pit Dimension(s):** 12X3X8'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-3'	0.0	Brown FINE SAND, little medium sand and fine gravel, loose, dry, no odor, no staining.	
3-5'	0.0	Concrete fragments.	
5-8'	0.0	Brown/tan FINE SAND, little medium sand, trace fine gravel, loose, dry, no odor, no staining.	

NOTES:

Fill material not observed in test pit.

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Date: September 2007

TEST PIT LOCATION MAP

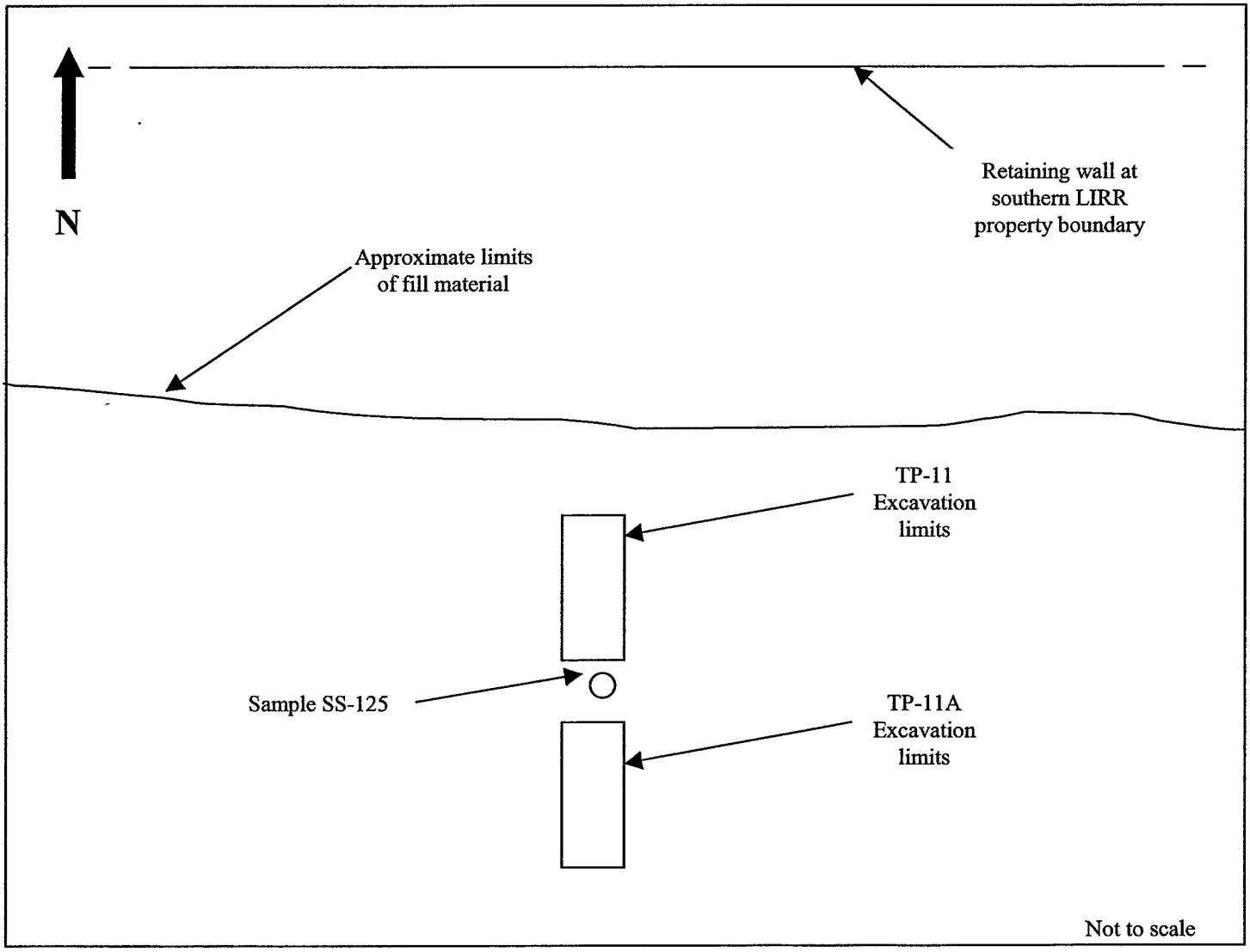
Project:	LIRR – Yaphank Landfill	Test Pit:	TP-11, TP-11A
Oversight:	C. Morris	Test Pit Dimensions	12X3X4' TP-11 12X3X8' TP-11A

Notes: Test pit located to south of Fill Area, on Nicolia property.

Fragmented concrete foundation observed in the northern half of the test pit.

Surface soil sample (SS-125) collected for TAL metals analysis.

Fill not observed in test pit.



Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-12 **Sheet** 1 of 1 **By:** Chris Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/24/07 **Date Completed:** 4/24/07	**Test Pit Completion Depth:** 8' **Ground Surface Elevation:** 45' **Test Pit Dimension(s):** 12X3X8'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-4"	0.0	Crushed stone.	
4-8"	0.0	Light brown/orange FINE TO COARSE SAND, some coarse gravel, loose, dry, no odor, no staining.	
8"-4'	0.0	Brown FINE TO COARSE SAND, some fine to coarse gravel, little concrete and wood fragments, loose, dry, no odor, no staining. Anthropogenic material appeared to pinch out as the test pit was advanced to the south.	
4'-4'2"	0.0	Black PEAT.	
4'2"-4'8"	0.0	Brown/green FINE TO MEDIUM SILTY SAND, loose, dry, no odor, no staining.	
4'8"-8'	0.0	Brown/orange FINE TO MEDIUM SILTY SAND, loose, dry, no odor, no staining.	

NOTES:
Subsurface soil sample [TP-12 (1-4 feet)] collected for PAH and TAL metals analysis.

Anthropogenic material (concrete and wood fragments) was observed from approximately 8" to 4' below ground surface in the northern section of the test pit, which became thinner as the test pit was advanced to the south, appearing to pinch out at the southern edge.

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Date: September 2007

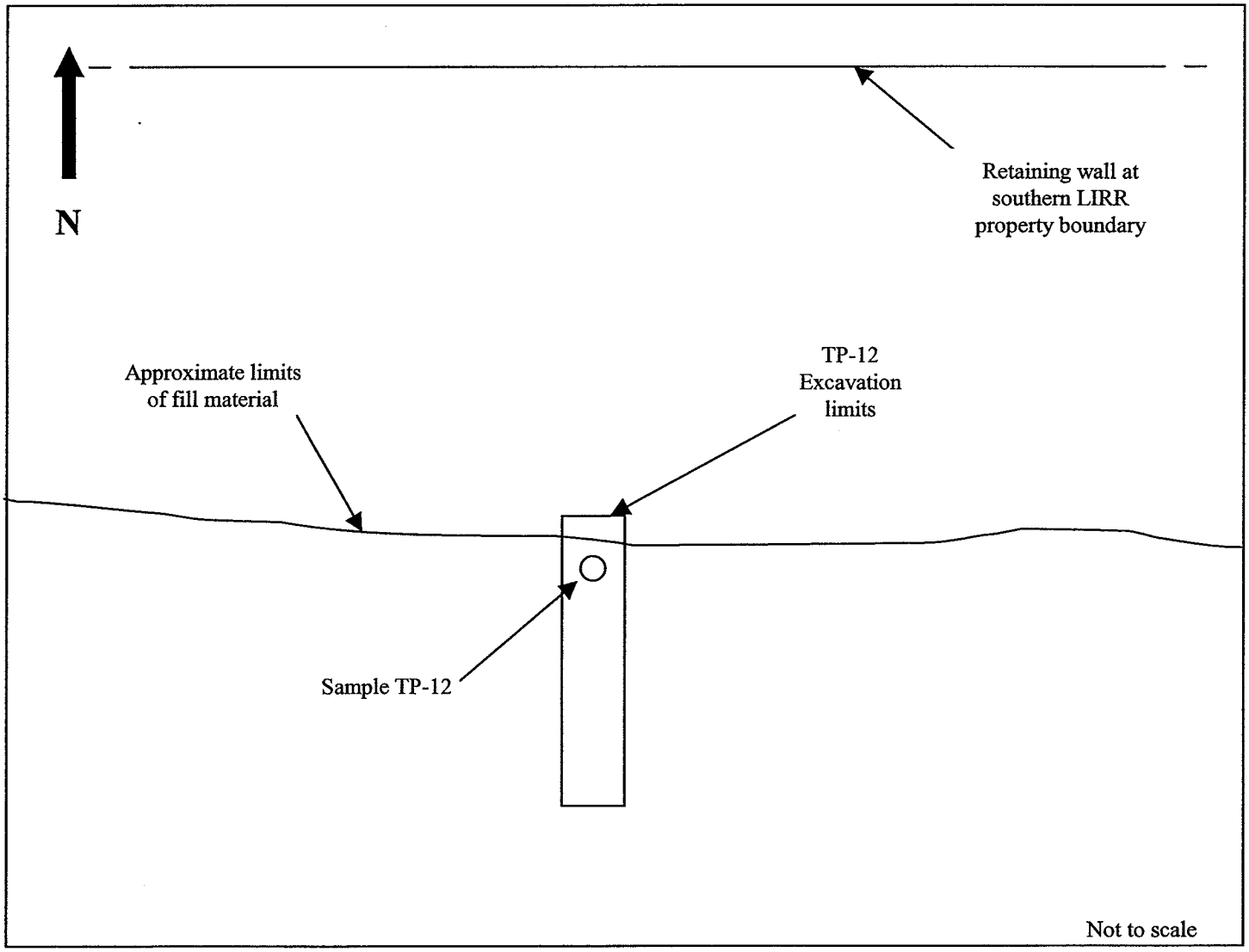
TEST PIT LOCATION MAP

Project:	LIRR – Yaphank Landfill	Test Pit:	TP-12
Oversight:	C. Morris	Test Pit Dimensions	12X3X8'

Notes: Test pit located to south of Fill Area, on Nicolia property.

Subsurface soil sample [TP-12 (1-4 feet)] collected for PAH and TAL metals analysis.

Anthropogenic material (concrete and wood fragments) was observed from approximately 8" to 4' below ground surface in the northern section of the test pit, which became thinner as the test pit was advanced to the south, appearing to pinch out at the southern edge.



Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-13 **Sheet** 1 of 1 **By:** Chris Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/24/07 **Date Completed:** 4/24/07	**Test Pit Completion Depth:** 4' **Ground Surface Elevation:** 47' **Test Pit Dimension(s):** 3X10X4'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-2"	0.0	Dark brown, SILTY FINE TO MEDIUM SAND, some fine to medium gravel, loose, dry, no odor, no staining.	
2-6"	0.0	Light brown/tan FINE TO MEDIUM SAND, some fine to coarse gravel, loose, dry, no odor, no staining.	
6"-2'3"	0.0	Brown FINE TO COARSE SAND and FINE TO COARSE GRAVEL, little metal fragments, loose, dry, no odor, no staining.	
2'3"-4'	0.0	Fragmented concrete foundation.	

NOTES:
Due to Nicolia structures blocking the majority of this test pit location, a small amount of fill material (metal fragments) was observed from 6" to 2'3"; the test pit could not be advanced further south.

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Date: September 2007

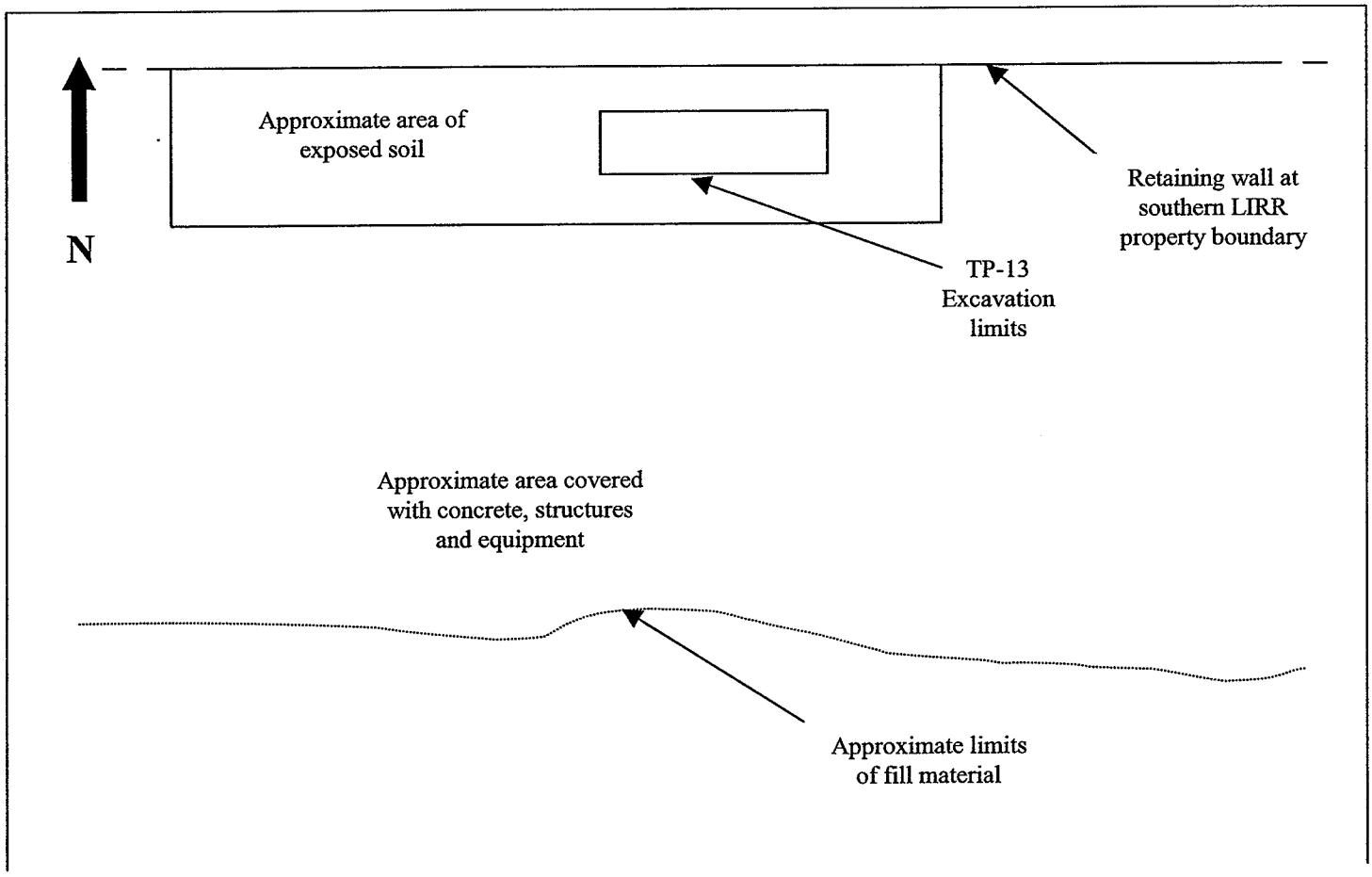
TEST PIT LOCATION MAP

Project:	LIRR – Yaphank Landfill	Test Pit:	TP-13
Oversight:	C. Morris	Test Pit Dimensions	3X10X4'

Notes: Test pit located to south of LIRR property, on Nicolia property.

A small amount of anthropogenic material (metal fragments) was observed from 6" to 2'3", however, due to Nicolia structures blocking the majority of this test pit location, the test pit could not be advanced further south.

Only a small region of soil was available in this area to advance the test pit. The area surrounding this test pit location was paved with approximately 1 to 1.5 feet of concrete and included many structures and equipment.



Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-14 **Sheet** 1 of 1 **By:** Chris Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Chris Morris **Test Pit Method:** Backhoe **Date Started:** 4/24/07 **Date Completed:** 4/24/07	**Test Pit Completion Depth:** 9.5' **Ground Surface Elevation:** 49' **Test Pit Dimension(s):** 14X3X9.5'

Weather Conditions: Sunny, clear, mid 50s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-6"	0.0	Crushed stone, and small to medium cobbles.	
1'6"-2'2"	0.0	Asphalt fragments.	
2'2"-2'8"	0.0	Brick fragments.	
2'8"-6'6"	0.0	Cement dust, loose, moist.	
6'6"-8'	0.0	Light brown/gray FINE TO COARSE SAND, some fine gravel, loose, dry, no odor, no staining.	
8-9'6"	0.0	Tan FINE TO COARSE SAND and FINE TO COARSE GRAVEL, loose, dry, no odor.	

NOTES:
Concrete, asphalt and brick material does not appear to be related to the LIRR fill material.

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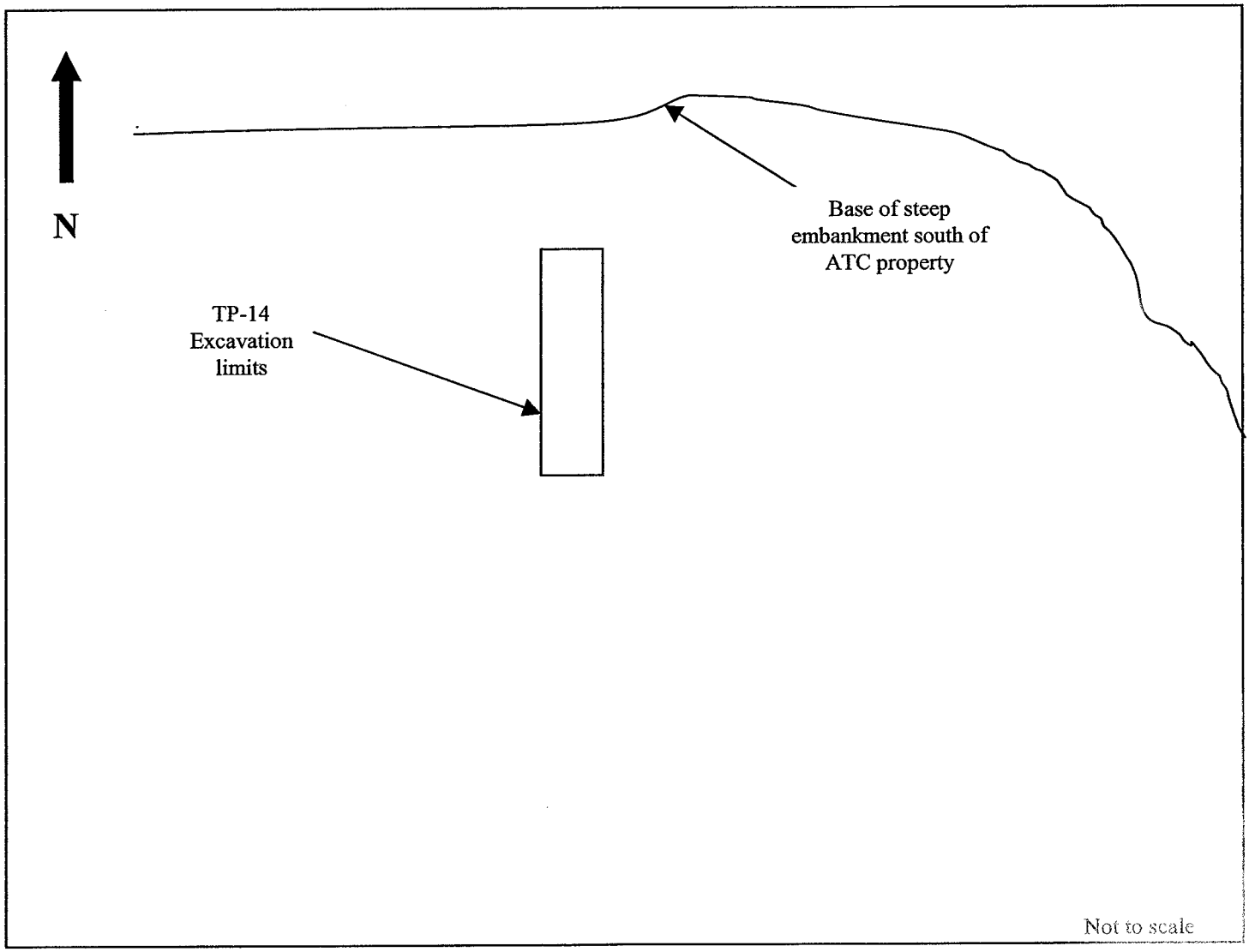
Date: September 2007

TEST PIT LOCATION MAP

Project:	LIRR – Yaphank Landfill	Test Pit:	TP-14
Oversight:	C. Morris	Test Pit Dimensions	14X3X9.5'
Notes:	Test pit located on Nicolia property, south of ATC properety.		
	Concrete, asphalt and brick material does not appear to be related to the LIRR fill material.		



Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-15 **Sheet** 1 of 1 **By:** Chris Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Steve Tauss **Test Pit Method:** Backhoe **Date Started:** 4/25/07 **Date Completed:** 4/25/07	**Test Pit Completion Depth:** 8' **Ground Surface Elevation:** 66' **Test Pit Dimension(s):** 15X3X8'

Weather Conditions: Sunny, clear, mid 60s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-8'	0.0	Brown FINE TO MEDIUM SAND, some fine to coarse gravel, loose, moist, no odors, no staining.	

NOTES:
LIRR fill material not encountered.

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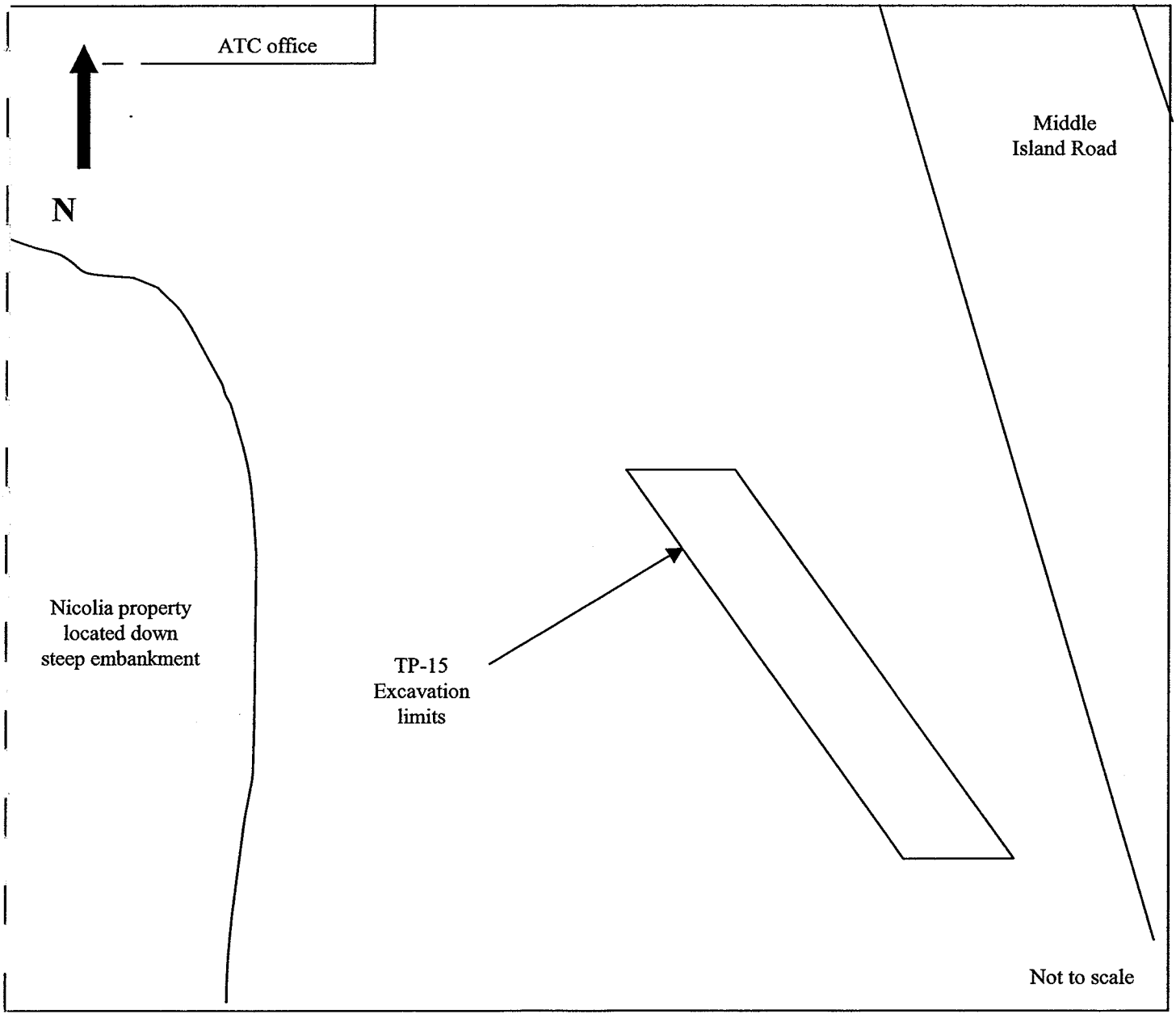
Date: September 2007

TEST PIT LOCATION MAP

Project:	LIRR – Yaphank Landfill	Test Pit:	TP-15
Oversight:	C. Morris	Test Pit Dimensions	15X3X8'
Notes:	Test pit located on the south of ATC property, to the east of Nicolia property.		
	LIRR fill material not encountered.		



Dvirka and Bartilucci CONSULTING ENGINEERS A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Test Pit No.:** TP-16 **Sheet** 1 of 1 **By:** Chris Morris
Contractor: Delta **Operator:** Bob Devine **Equipment:** Backhoe	**Geologist:** Steve Tauss **Test Pit Method:** Backhoe **Date Started:** 4/25/07 **Date Completed:** 4/25/07	**Test Pit Completion Depth:** 6' **Ground Surface Elevation:** 65' **Test Pit Dimension(s):** 20X3X6'

Weather Conditions: Sunny, clear, mid 60s, no wind

Depth *(ft.)*	PID *(ppm)*	Description of Materials	Remarks
0-6'	0.0	Brown/tan FINE SAND, little medium sand and fine to medium gravel, loose, dry, no odor or staining.	

NOTES:
LIRR fill material not encountered.

Dvirka and Bartilucci
CONSULTING ENGINEERS
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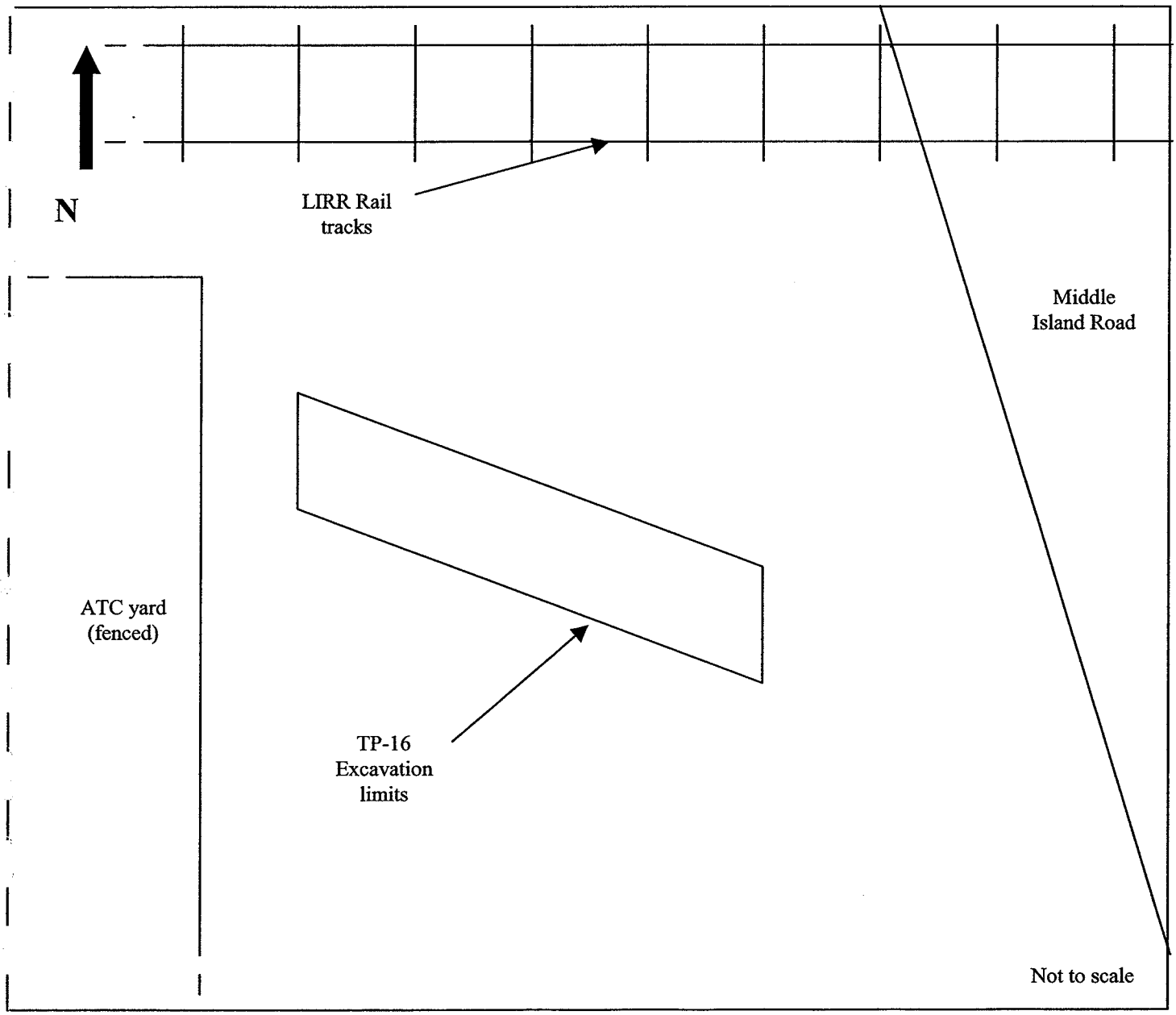
Date: September 2007

TEST PIT LOCATION MAP

Project:	LIRR – Yaphank Landfill	Test Pit:	TP-16
Oversight:	C. Morris	Test Pit Dimensions	20X3X6'
Notes:	Test pit located on the east of ATC property, just south of the LIRR tracks.		
	LIRR fill material not encountered.		



Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Boring No.:** SB-82 **Sheet** 1 **of** 2 . **By:** Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/7/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/7/07	**Boring Completion Depth:** 21' **Ground Surface Elevation:** 48.25 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-0-		HA	NA		0.0	0-3" Coal/slag 3"-1' Brown f-m SAND, with some f.gravel and slag	
-1-	1	SS	9	8"	0.0	0-3" Brown f-m SAND, with some f-m gravel, no odor 3"-5" Dark brown f-m SAND, with little f. gravel and coal slag, no odor	
			8			5-7" Same as 0-3"	
-2-			13		0.0	7-8" wood, no odor	
			9				
-3-	2	SS	11	8"	1.6	0-3" Brown/red f-m SAND; with some f. gravel and wood, slight odor	
			11		0.3	5-8" Dark brown/red f-c SAND; with some f. gravel and pieces of wood/metal/slag. Slight odor and staining	
-4-			27				
			23				
-5-	3	SS	12	10"	0.2	0-2" Brown f-m SAND; with some f. gravel, no odor 2-4" WOOD, no odor	
			14				
			20		0.4	4-10" Black f. SAND; with silt and broken c. gravel and glass, creosote odor	
-6-			10				
	4	SS	6	3"	0.2	0-3" Brown/ Dk. brown f-m SAND and SILT; with some f. gravel and fill (wood/glass); slight odor	
-7-			4				
-8-			15				
			8				
-9-	5	SS	6	3"	0.2	0-1.5" Same as above	
			8		0.1	1.5-3" WOOD fragments	
-10-			7				
			5				

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

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-82 Sheet 2 of 2 . By: Chris Morris
Drilling Contractor: Delta Driller: Jayson Finger Drill Rig: F-7 Date Started: 5/7/07	Geologist: Chris Morris Drilling Method: HSA Drive Hammer Weight: 140 lb. Date Completed: 5/7/07	Boring Completion Depth: 21' Ground Surface Elevation: 48.25 Boring Diameter:

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-11-	6	SS	9	8"	0.3	0-6" Brown SILTY SAND and WOOD fragments	
			6		0.0	6-8" Brown/black SILTY SAND and broken GRAVEL, slight odor	
-12-			10			Piece of treated wood in tip of sampler	
			9				
-13-	7	SS	12	7"	0.2	0-7" Pieces of degraded WOOD and brown SILTY SAND; moist; slight odor	
			12				
-14-			6				
			5				
-15-	8	SS	7	6"	0.3	0-4" Same as above 4-6" WOOD black possibly burnt, no odor	
			7				
-16-			17				
			30				
-17-	9	SS	6	5"	0.3	0-5" Brown SILTY SAND; with degraded wood, pieces of charred wood; little f. gravel, slight odor	
			14				
-18-			12				
			19				
-19-	10	SS	9	2"	0.0	0-2" Dark brown/black f-c SAND; with some silt; little wood fragments, no odor	
			18				
-20-			15				
			16				

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

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-83 Sheet 1 of 2 . By: Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/7/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/7/07	**Boring Completion Depth:** 19' **Ground Surface Elevation:** 50.27 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-0-		HA	NA		0.0	0-1' Brown FINE TO MEDIUM SAND; with some fine gravel, no odor	
-1-	1	SS	12	16"	0.0	0-3" Same as above	
					0.0	3-6" Same as above dark brown/black	
			13		0.0	6-14" Tan MEDIUM TO COARSE SAND; with fine gravel; no odor	
-2-			10		0.0	14-16" Dark brown/red SILTY SAND; with some fine gravel and wood; no odor	
			10				
-3-	2	SS	20	21"	0.0	0-4" Tan MEDIUM TO COARSE SAND; with fine gravel; no odor	
			38		0.9	4-21" Black SILTY SAND AND FINE GRAVEL; with coarse	
					1.8	gravel; some wood, coal fragments, slight odor	
-4-			31		0.2		
			25				
-5-	3	SS	18	4"	0.0	0-2" Tan MEDIUM TO COARSE SAND AND FINE GRAVEL; no odor	
			17		0.0	2-4" Black SILTY SAND AND FINE GRAVEL; with some fill (brick,coal); no odor	
-6-			25				
			22				
-7-	4	SS	7	12"	0.0	0-4" Brown/tan MEDIUM TO COARSE SAND AND FINE GRAVEL; with some wood, no odor	
			5		0.0	4-9" Bown/red SILTY SAND; with some clay and fine gravel; moist; no odor	
-8-			5		0.0	9-12" Red/brown SILTY SAND; with fine gravel; some inclusions of red/purple silty sand; moist; no odor	
			5				
-9-	5	SS	3	11"	0.0	0-3" Lt. brown FINE TO MEDIUM SAND; with some silt and fine gravel; little glass; no odor	
			9		0.1	3-6" Dk. brown/black SILTY SAND; with broken gravel; moist; no odor	
-10-			11		2.9	6-9" Brown/red Same as above; slight odor	
					0.2	9-11" Black same as above; with trace coal slag; no odor	
			17				

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

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-83 Sheet 2 of 2 . By: Chris Morris
Drilling Contractor: Delta Driller: Jayson Finger Drill Rig: F-7 Date Started: 5/7/07	Geologist: Chris Morris Drilling Method: HSA Drive Hammer Weight: 140 lb. Date Completed: 5/7/07	Boring Completion Depth: 19' Ground Surface Elevation: 50.27 Boring Diameter:

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-11-	6	SS	11	10"	0.0	0-9" Brown SILTY SAND AND WOOD(degraded); with some brick, broken gravel, and coal slag; slight odor	
			10		0.0	9-10" Lt. Brown FINE TO MEDIUM SAND; with silt; trace coarse sand; no odor	
-12-			7				
			5				
-13-	7	SS	9	5"	0.9	0-3" Degraded WOOD; with dark brown silty sand; little fine gravel; slight odor	
			8		0.0	3-5" Lt. brown/tan FINE TO COARSE SAND; with some fine gravel; no odor	
-14-			10				
			11				
-15-	8	SS	9	12"	0.0	0-2" Degraded WOOD; with dk. brown/black silty sand; little fine gravel; slight odor	
			6		0.0	2-12" Tan/lt. brown MEDIUM TO COARSE SAND; with fine gravel; no odor	
-16-			6				
			10				
-17-	9	SS	6	10"	0.0	0-10" Same as above; soil becoming lighter near bottom	
			11		0.0		
-18-			13				
			17				
-19-							
-20-							

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

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-84 Sheet 1 of 2 . By: Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/7/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/7/07	**Boring Completion Depth:** 19' **Ground Surface Elevation:** 49.59 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-0-		HA	NA		0.0	0-6" Tan FINE TO MEDIUM SAND; with fine to coarse gravel 6"-1' Brown same as above	
-1-	1	SS	9	11"	0.0	0-2" Lt. Brown FINE TO COARSE SAND; with fine gravel; no odor	
			13		0.0	2-4" Black COAL SLAG; with fine to medium sand; no odor	
-2-			23		0.0	4-11" Brown SILTY SAND; with broken gravel and fill (brick,slag); no odor	
			24				
-3-	2	SS	14	17"	0.0	0-5" Same as above	
			10		0.0	5-7" TREATED WOOD; odor	
-4-			23		0.4	7-17" Black SILTY SAND; with fine gravel; some wood and coal slag; no odor	
			17				
-5-	3	SS	13	11"	0.4	0-4" Brown SILTY SAND; with broken gravel and fill (brick,slag); no odor	
			9		3.2	4-9" TREATED WOOD; with black silty sand and fine gravel; moist; creosote odor	
-6-			11		1.2	9-11" Black SILTY SAND AND FINE GRAVEL; with wood and coal slag; moist; slight odor. Piece of wood in tip of sampler	
			33				
-7-	4	SS	8	10"	0.4	0-8" Black SILTY SAND AND BROKEN GRAVEL; with wood fragments; slight odor	
			16				
					0.8	8-10" TREATED WOOD; odor	
-8-			7				
			38				
-9-	5	SS	2	4"	0.1	0-4" Black SILTY SAND AND BROKEN GRAVEL; with wood fragments; slight odor	
			10				
-10-			9				
			6				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Boring No.:** SB-84 **Sheet** 2 **of** 2 . **By:** Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/7/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/7/07	**Boring Completion Depth:** 19' **Ground Surface Elevation:** 49.59 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-11-	6	SS	18	5"	0.2	0-3" Black SILTY SAND; with broken gravel and degraded wood; slight odor	
			29				
					0.2	3-5" Black FINE TO MEDIUM SAND; with some silt; trace fill (glass, coal slag); moist; slight odor	
-12-			39				
			14				
-13-	7	SS	7	15"	0.0	0-3" Brown/red SILTY SAND; with some broken gravel and fill (wood, coal); wet; slight odor	
			5				
					0.0	3-15" Tan/ Lt. brown FINE TO MEDIUM SAND; with some fine gravel; moist; no odor	
-14-			7				
			8				
-15-	8	SS	8	15"	0.0	0-5" Lt. brown FINE TO MEDIUM SAND; woth some silt and fine gravel; moist; no odor	
			10				
						5-15" Tan MEDIUM TO COARSE SAND; with some fine gravel; no odor	
-16-			12				
			18				
-17-	9	SS	12	15"	0.0	0-15" Same as above	
			14				
-18-			14				
			14				
-19-							
-20-							

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Boring No.:** SB-85 **Sheet** 1 **of** 2 . **By:** Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/8/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/8/07	**Boring Completion Depth:** 21' **Ground Surface Elevation:** 49.37 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-0-		HA	NA		0.0 0.0 0.0	0-3" RCA/gravel 3-8"' Tan FINE TO COARSE SAND; with gravel 8"-1' Tan FINE TO MEDIUM SAND; with fine gravel	
-1-	1	SS	12	14"	0.0	0-2" Same as above 2-5" Brick/wood	
			17		0.0	5-12" Brown FINE TO MEDIUM SAND; with some silt and coal; no odor	
-2-			29		0.0	12-14" Brick and broken gravel	
			21				
-3-	2	SS	13	7"	0.0	0-5" Brown FINE TO MEDIUM SAND; with broken gravel; no odor	
			23			5-7" Large broken cobble	
-4-			106				
			25 (0")				
-5-	3	SS	26	5"	0.3	0-5" Brown FINE TO MEDIUM SAND; with broken gravel; no odor	
			21				
-6-			19				
			14				
-7-	4	SS	8	4"	0.0	0-2" Same as above	
			15			2-4" Black SILTY SAND; with little fine gravel and glass; no odor	
					0.0		
-8-			22				
			13				
-9-	5	SS	11	12"	0.0	0-4" Same as above	
			5		0.0	4-9" Brown/red SILTY SAND; with fill (glass, coal slag); little fine gravel; moist; no odor	
-10-			4		0.0	9-12" Brown SILTY SAND; no odor	
			6				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-85 Sheet 2 of 2 . By: Chris Morris
Drilling Contractor: Delta Driller: Jayson Finger Drill Rig: F-7 Date Started: 5/8/07	Geologist: Chris Morris Drilling Method: HSA Drive Hammer Weight: 140 lb. Date Completed: 5/8/07	Boring Completion Depth: 21' Ground Surface Elevation: 49.37 Boring Diameter:

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-11-	6	SS	5	9"	0.0	0-2" Same as above	
			6				
					0.0	2-9" Tan MEDIUM TO COARSE SAND; with some fine gravel; no odor	
-12-			9				
			13				
-13-	7	SS	7	11"	0.0	0-11" Tan MEDIUM TO COARSE SAND; with fine to coarse gravel; moist; no odor	
			12				
-14-			14				
			19				
-15-	8	SS	20	10"	0.0	0-10" Tan MEDIUM TO COARSE SAND; with some fine gravel; moist; no odor	
			13				
-16-			16				
			16				
-17-	9	SS	21	15"	0.0	0-7" Same as above	
			10		0.0	7-15" Tan FINE TO MEDIUM SAND; trace fine gravel; moist; no odor	
-18-			12				
			17				
-19-	10	SS	10	15"	0.0	0-12" Same as above	
			6		0.0	12-15" Tan MEDIUM TO COARSE SAND; with some fine gravel; moist; no odor	
-20-			15				
			21				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Boring No.:** SB-86 **Sheet** 1 **of** 2 . **By:** Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/8/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/8/07	**Boring Completion Depth:** 21' **Ground Surface Elevation:** 52.04 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-0-		HA	NA		0.0	0-1" RCA/gravel	
-1-	1	SS	36	4"	0.0	0-4" Brown FINE TO MEDIUM SAND; with some broken gravel; no odor	
			116				
-2-			40			12-14" Brick and broken gravel	
			53				
-3-	2	SS	55	17"	0.0	0-3" Brown FINE TO MEDIUM SAND; with some broken gravel; no odor	
			28		0.0	3-8" Dark brown SILTY SAND; with broken gravel; no odor	
-4-			24		0.0	8-10" WOOD	
			10		0.0	10-17" Black SILTY SAND; with some fill (brick, coal); little broken gravel; slight odor	
-5-	3	SS	44	11"	0.3	0-4" Brown FINE TO MEDIUM SAND; with some broken gravel; no odor	
			14		0.2	3-7" Dk. brown SILTY SAND; with wood, glass; some odor	
-6-			9		2.8	7-11" Black SILTY SAND; with some wood; some staining; strong creosote odor	
			11				
-7-	4	SS	19	12"	0.0	0-4" Same as above	
					0.3	4-6" WOOD, treated; creosote odor	
			12		0.1	6-7" Black and green SILTY SAND; with broken gravel; no odor	
-8-			15			7-8" Concrete	
					0.0	8-11" Black FINE TO MEDIUM SAND; with some silt and broken gravel; wet; no odor	
			14			11-12" Concrete	
-9-	5	SS	11	6"	0.4	0-3" black SILTY SAND; with wood fragments; slight odor	
			11		0.0	3-6" Dk. brown/red SILTY SAND; with some fine gravel and glass; moist; no odor	
-10-			14				
			9				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-86 Sheet 2 of 2 . By: Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/8/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/8/07	**Boring Completion Depth:** 21' **Ground Surface Elevation:** 52.04 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-11-	6	SS	42	6"	0.3	0-4" Black SILTY SAND; with some fine gravel; trace wood; slight odor	
			23				
						4-6" Crushed concrete/ broken gravel	
-12-			17				
			26				
-13-	7	SS	47	13"	0.0	0-2" Brown SILTY SAND; with some fine gravel; no odor	
			32			2-3" Degraded WOOD	
					0.0	3-13" Black SILTY SAND AND FINE GRAVEL; wet; no odor	
-14-			15				
			16				
-15-	8	SS	17	11"	0.0	0-4" Black SILTY SAND AND BROKEN GRAVEL; with some degraded wood; no odor	
			10			4-6" Crumbled BRICK	
					0.0	6-8" Black SILTY SAND AND BROKEN GRAVEL; with some degraded wood; minor staining; no odor	
-16-			16				
			20		0.0	8-11" Brown/lt. brown SILTY SAND; with little fine gravel; moist; no odor	
-17-	9	SS	4	11"	0.0	0-3" Same as above	
			11		0.0	3-11" Tan MEDIUM TO COARSE SAND; with some fine gravel; moist; no odor	
-18-			20				
			22				
-19-	10	SS	6	11"	0.0	0-11" Same as above	
			12		0.0		
-20-			14				
			13				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Boring No.:** SB-87 **Sheet** 1 **of** 2 . **By:** Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/8/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/9/07	**Boring Completion Depth:** 21' **Ground Surface Elevation:** 51.92 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-0-		HA	NA		0.0	0-1" Lt. brown FINE TO COARSE SAND; with f-c gravel; no odor	
-1-	1	SS	26	14"	0.0	0-2" Black SILTY SAND AND FINE GRAVEL; moist; no odor	
			56		0.0	2-4" Brown FINE TO MEDIUM SAND; with some fine to coarse gravel; no odor	
-2-			132		0.0	4-14" Degraded concrete	
			--				
-3-	2	SS	33	15"	0.0	0-8" Gray/brown SITLY SAND; with fine to coarse gravel; no odor	
			14		0.0	8-11" Degraded concrete	
-4-			11		0.0	11-13" WOOD; slight odor	
			13				
-5-	3	SS	14	9"	0.0	0-5" Black SILTY SAND; with some fine gravel and wood fragments; no odor	
			7		0.0	5-9" Bown SILTY SAND; some fill (brick, wood); little fine gravel; no odor	
-6-			7				
			12				
-7-	4	SS	6	11"	0.0	0-6" Black SILTY SAND; with some fine gravel and wood fragments; slight odor	
			18		0.0	6-11" Reddish crushed ceramic	
-8-			26				
			20				
-9-	5	SS	18	11"	0.0	0-5" Brown/gray FINE TO MEDIUM SAND; some fine gravel; moist; no odor	
			11		0.0	5-7" Black SILTY SAND AND WOOD fragments; moist; no odor	
-10-			8		0.0	7-11" Brown/red crumbled BRICK AND MEDIUM TO COARSE SAND; no odor	
			11				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-87 Sheet 2 of 2 . By: Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/8/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/9/07	**Boring Completion Depth:** 21' **Ground Surface Elevation:** 51.92 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-11-	6	SS	17	7"	0.0	0-2" Gray/green FINE TO MEDIUM SAND; wth broken gravel	
			41				
					0.0	2-7" Red/tan crushed ceramic/sandstone insulator?	
-12-			50				
			18				
-13-	7	SS	20	2"	0.0	0-2" Same as above	
			12				
-14-			12				
			8				
-15-	8	SS	3	7"	0.0	0-7" Dk. brown/red SILTY SAND AND FILL (crushed ceramic, ash, brick); loose; wet; no odor	
			4				
-16-			8				
			6				
-17-	9	SS	7	0"		Piece of ceramic lodged in tip of sampler	
			10				
-18-			14				
			17				
-19-	10	SS	6	17"	0.0	0-5" Dk. brown SILTY SAND AND FINE GRAVEL; with some fill (glass, wood); moist; no odor	
			10				
					0.0	5-17" Tan/lt. brown FINE TO COARSE SAND; little fine gravel; moist; no odor	
-20-			14				
			17				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-88 Sheet 1 of 2 . By: Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/9/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/9/07	**Boring Completion Depth:** 23' **Ground Surface Elevation:** 56.19 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-0-		HA	NA		0.0	0-4" Asphalt/gravel 4-12" Brown FINE TO MEDIUM SAND; some coarse gravel; no odor	
-1-	1	SS	22	7"	0.0	0-3" Same as above	
			31		0.0	3-7" Black/dk. brown SILTY SAND; some fine gravel and fill (asphalt, glass); no odor	
-2-			18				
			19				
-3-	2	SS	15	2"	0.0	0-8" Brown SILTY SAND; with fine to coarse gravel; some fill (glass asphalt); no odor	
			18				
-4-			26			Large coble lodged in tip of sampler	
			21				
-5-	3	SS	11	10"	0.0	0-3" Same as above	
			9		0.0	3-10" Black SILTY SAND; some fill (glass, brick, asphalt) and fine gravel; no odor	
-6-			8				
			5				
-7-	4	SS	4	9"	0.0	0-1" Gray FINE TO MEDIUM SAND AND SILT; with coarse gravel; wet; no odor	
			7		0.0	1-6" Black SILTY SAND; some fill (glass, brick, asphalt) and fine gravel; wet; no odor	
-8-			4		0.0	6-9" Reddish crushed ceramic insulator	
			6				
-9-	5	SS	3	0"	NA	No Recovery	
			6				
-10-			8		NA		
			11				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Boring No.:** SB-88 **Sheet** 2 **of** 2 . **By:** Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/9/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/9/07	**Boring Completion Depth:** 23' **Ground Surface Elevation:** 56.19 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-11-	6	SS	12	8"	0.0	0-2" Treated WOOD; creosote odor	
			8		0.0	2-8" Black SILTY SAND; with fine gravel and fill (asphgalt, glass, wood); some odor	
-12-			12				
			13				
-13-	7	SS	6	10"	0.0	0-10" Black SILTY SAND; with fine gravel; little fill (wood, possible coal clinker fragments); moist; creosote odor	
			6				
-14-			6				
			6				
-15-	8	SS	9	6"	0.0	0-2" Degraded WOOD (some charred) AND COAL; some black silty sand; wet; no odor	
			12		0.0	2-3" Red crushed insulator	
-16-			31		0.0	3-6" Tan crushed insulator	
			7				
-17-	9	SS	7	9"	0.0	0-9" Black SILTY SAND AND FINE GRAVEL; with fill (wood- some charred); some broken gravel; creosote odor	
			8				
-18-			10				
			7				
-19-	10	SS	6	8"	0.0	0-7" Dk. brown SILTY SAND AND FINE TO COARSE GRAVEL; moist; no odor	
			10				
					0.0	7-8" brown FINE TO MEDIUM SAND; with fine to coarse gravel; moist; no odor	
-20-			7				
			8				
-21-	11	SS	40	11"	0.0	0-11" Tan lt. brown MEDIUM TO COARSE SAND; some fine to coarse gravel; moist; no odor	
			39				
			24				
-23-			17				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-89 Sheet 1 of 2 . By: Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/9/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/9/07	**Boring Completion Depth:** 21' **Ground Surface Elevation:** 58.62 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-0-	1	HA	NA		0.0	0-3" RCA	
					0.0	3"-1'3" Dk. brown FINE TO MEDIUM SAND; some silt and fill (glass, wood, asphalt) and coarse gravel; no odor	
-1-					0.0	1'3"-2'6" Brown FINE TO MEDIUM SAND AND GRAVEL; some silt; moist; no odor	
-2-					0.0		
					0.0	2'6"-5' Brown/ dk. brown FINE TO COARSE SAND; with fine to medium gravel; no odor	
-3-							
-4-							
-5-	2	SS	8	12"	0.0	0-4" Same as above	
			23		0.0	4-7" Black SILTY SAND; some fill (coal fragments) and fine gravel; no odor	
-6-			26			7-8" Concrete	
			17		0.0	8-12" Dk. brown/red SILT; some clay and wood fragments; no odor	
-7-	3	SS	31	3"	0.0	0-3" Dk. brown FINE TO MEDIUM SAND; some silt, fine gravel and fill (glass, coal fragments); no odor	
			17			Large cobble in tip of sampler	
-8-			17				
			15				
-9-	4	SS	25	17"	0.0	0-3" Brown FINE TO MEDIUM SAND; some coarse gravel; little fill (glass, concrete); no odor	
			11		0.0	3-7" Black/dk. brown SILTY SAND; some fine gravel ; little fill (wood, coal fragments); no odor	
-10-			8		0.0	7-17" Lt. brown FINE TO MEDIUM SAND; some fine gravel; moist; no odor	
			9				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-89 Sheet 2 of 2 . By: Chris Morris
Drilling Contractor: Delta Driller: Jayson Finger Drill Rig: F-7 Date Started: 5/9/07	Geologist: Chris Morris Drilling Method: HSA Drive Hammer Weight: 140 lb. Date Completed: 5/9/07	Boring Completion Depth: 21' Ground Surface Elevation: 58.62 Boring Diameter:

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-11-	5	SS	10	17"	0.0	0-13" Lt. brown FINE SAND; little silt; trace fine gravel; no odor	
			9		0.0	13-17" Brown to tan lenses of FINE TO MEDIUM SAND; little fine gravel; no odor	
-12-			6				
			8				
-13-	6	SS	13	14"	0.0	0-6" Brown FINE TO MEDIUM SAND; little fine gravel; no odor	
			8				
					0.0	6-10" Dk brown/ black FINE SAND; some silt and wood; no odor	
-14-			8				
			9		0.0	10-14" Brown FINE TO MEDIUM SAND; little fine gravel; no odor	
-15-	7	SS	12	22"	0.0	0-2" Same as above	
			6		0.0	2-6" Dk brown FINE SAND; some silt; trace wood; no odor	
-16-			6		0.0	6-22" Lt. brown FINE TO MEDIUM SAND; some fine gravel; moist; no odor	
			9				
-17-	8	SS	16	16"	0.0	0-5" Same as above	
			10		0.0	5-16" Lt brown/orange FINE TO COARSE SAND; with fine gravel; moist; no odor	
-18-			12				
			17				
-19-	9	SS	7	16"	0.0	0-13" Same as above	
			10				
					0.0	13-16" Tan/ lt. brown MEDIUM TO COARSE SAND; with fine to coarse gravel; moist; no odor	
-20-			15				
			16				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-90 Sheet 1 of 2 . By: Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/10/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/10/07	**Boring Completion Depth:** 21' **Ground Surface Elevation:** 60.15 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-0-	1	HA	NA		0.0 0.0	0-8" Asphalt 8-10" Wood	
-1-					0.0	10"-3'2" Dk brown FINE TO MEDIUM SAND; some silt and coarse gravel and cobbles; no odor	
-2-					0.0		
-3-					0.0	3'2"-4'6" Lt. Brown MEDIUM TO COARSE SAND; with coarse gravel; no odor	
-4-							
-5-	2	SS	43	10"	0.0	0-9" Dk. brown SILTY SAND AND FINE TO COARSE GRAVEL; some fill (asphalt, glass, brick); no odor	
			9		0.0		
-6-			3			9-10" Pieces of sandstone/concrete	
			5				
-7-	3	SS	3	12"	0.0	0-6" Dk. brown SILTY SAND AND FINE TO COARSE GRAVEL; little fill (asphalt, glass, brick); no odor	
			5			6-9" Lt. brown FINE TO MEDIUM SAND; little fine gravel;	
					0.0	no odor	
-8-			4				
			5				
-9-	4	SS	2	3"	0.0	0-3" Same as above	
			1				
-10-			2				
			2				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-90 Sheet 2 of 2 . By: Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/10/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/10/07	**Boring Completion Depth:** 21' **Ground Surface Elevation:** 60.15 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-11- -12-	5	SS	10 6 9 8	12"	0.0	0-12" Tan FINE TO MEDIUM SAND; trace fine gravel; no odor	
-13- -14-	6	SS	4 6 5 6	12"	0.0 0.0	0-7" Same as above 7-12" Tan/lt. brown FINE TO COARSE SAND; some fine gravel; no odor	
-15- -16-	7	SS	9 12 17 18	13"	0.0	0-13" Tan/white MEDIUM TO COARSE SAND; some fine to coarse gravel; no odor	
-17- -18-	8	SS	13 14 16 14	15"	0.0 0.0	0-13" Same as above 13-15" Tan/white MEDIUM TO COARSE SAND; trace fine gravel; no odor	
-19- -20-	9	SS	6 11 11 12	14"	0.0 0.0	0-2" Same as above 2-14" Tan/white MEDIUM TO COARSE SAND; some fine to coarse gravel; no odor	

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Boring No.: SB-91** **Sheet** 1 **of** 2 . **By:** Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/11/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/11/07	**Boring Completion Depth:** 21' **Ground Surface Elevation:** 63.43 **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-0-	1	HA	NA		0.0 0.0	0-3" Asphalt 3-5" Gravel	
-1-					0.0	5"-1'2" Brown FINE TO COARSE SAND AND FINE TO COARSE GRAVEL; no odor	
-2-					0.0	1'2"-3'3" Dk brown FINE TO MEDIUM SAND; some silt and fine gravel; little fill (coal, asphalt); no odor 3'3"-3'5" Broken porcelain pieces	
-3-					0.0	3'5"-4' Lt. Brown FINE TO COARSE SAND; with fine gravel; no odor	
-4-	2	SS	19 12	4"	0.0	0-4" FILL (coal, concrete glass, brick); some dk. brown fine to medium sand; no odor	
-5-			10 10				
-6-	3	SS	33 9	14"	0.0	0-3" Brown FINE TO MEDIUM SAND AND SILT; with coal fragments; no odor	
-7-			6 5		0.0	3-14" Tan FINE TO MEDIUM SAND; little fine gravel; no odor	
-8-	4	SS	9 7	15"	0.0	0-15" Tan FINE TO MEDIUM SAND; no odor	
-9-			10 13				
-10-	5	SS	19 9	15"	0.0	0-15" Tan FINE TO MEDIUM SAND; no odor	

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-91 Sheet 2 of 2 . By: Chris Morris
Drilling Contractor: Delta Driller: Jayson Finger Drill Rig: F-7 Date Started: 5/11/07	Geologist: Chris Morris Drilling Method: HSA Drive Hammer Weight: 140 lb. Date Completed: 5/11/07	Boring Completion Depth: 21' Ground Surface Elevation: 63.43 Boring Diameter:

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-11-		SS	13 17				
-12-	6	SS	34 14	12"	0.0	0-12" Same as above	
-13-			21 20		0.0		
-14-	7	SS	40 13	16"	0.0	0-16" Same as above	
-15-			16 21				
-16-	8	SS	21 13	15"	0.0 0.0	0-4" Same as above 4-13" Tan FINE TO COARSE SAND; some fine gravel; no odor	
-17-			15 18		0.0	13-15" Brown SILT; some fine gravel; no odor	
-18-	9	SS	26 17	14"	0.0 0.0	0-8" Lt. brown FINE TO MEDIUM SAND; no odor 8-14" Tan FINE TO COARSE SAND; some fine gravel; no odor	
-19-			17 23				
-20-							

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Boring No.:** SB-92 **Sheet** 1 **of** 3 . **By:** Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/10/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/10/07	**Boring Completion Depth:** 32 **Ground Surface Elevation:** --- **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-0- -1- -2- -3- -4- -5- -6- -7-						0-5' Void space of dry well 5-8' Standing water inside dry well	
-8- -9-	1	SS	5 2 10 16	14"	0.0 0.3	0-4" Brown SILTY SAND; with some fine gravel; wet 4-10" Black FINE TO COARSE SAND AND FINE GRAVEL; some minor staining; wet; petroleum odor	
-10-	2	SS	45 36	8"	0.0	0-8" Black SILTY SAND AND FINE TO COARSE GRAVEL; little wood; wet; slight odor Piece of wood in tip of sampler	

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES: Boring completed through bottom of dry well.

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-92 Sheet 2 of 3 . By: Chris Morris
Drilling Contractor: Delta Driller: Jayson Finger Drill Rig: F-7 Date Started: 5/10/	Geologist: Chris Morris Drilling Method: HSA Drive Hammer Weight: 140 lb. Date Completed: 5/107	Boring Completion Depth: 32' Ground Surface Elevation: --- Boring Diameter:

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-11-			15				
			12				
		SS					
-12-	3	SS	13	2"	0.0	0-2" Black SILTY SAND; some fine gravel; wet; no odor	
			5				
-13-			5				
			4				
-14-	4	SS	12	5"	0.0	0-5" Tan FINE TO COARSE SAND; with fine gravel; wet; no odor	
			9				
-15-			7				
			9				
-16-	5	SS	15	11"	0.0	0-11" Brown FINE TO COARSE SAND; with fine gravel; trace wood; wet; slight creosote odor	
			16				
-17-			10				
			11				
-18-	6	SS	14	14"	0.0	0-10" Same as above	
			9		0.0	10-14" Brown FINE TO MEDIUM SAND; some silt ; little fine gravel and treated wood; wet; slight creosote odor	
-19-			5				
			13				
-20-	7	SS	16	8"	0.0	0-6" Brown FINE TO MEDIUM SAND; some silt and fine gravel; wet; slight odor	
			18				
					1.2	6-8" Piece of treated wood; strong odor	
-21-			18				
			25				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES:

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR - Yaphank	Boring No.: SB-92 Sheet 3 of 3. By: Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/10/7	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/10/07	**Boring Completion Depth:** 32' **Ground Surface Elevation:** --- **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Reading (ppm)	Sample Description	USCS
-22-	8	SS	13 20	10"	0.0	0-5" Brown MEDIUM TO COARSE GRAVEL AND FINE TO COARSE SAND; wet; slight odor	
-23-			30		0.0	5-7" Brown FINE TO MEDIUM SAND; some fine gravel; wer; slight odor	
			32		0.0	7-10" Tan FINE TO MEDIUM SAND; some fine gravel; wet; no odor	
-24-	9	SS	9 18	10"	0.0	0-10" Tan/lt. brown FINE TO COARSE SAND; some fine gravel; wet; no odor	
-25-			36 35				
-26-	10	SS	17 21	10"	0.0	0-10" Tan/lt. brown FINE TO COARSE SAND; with fine gravel; wet; no odor	
-27-			18 21				
-28-	11	SS	15 15	10"	0.0	0-8" Tan COARSE SAND AND FINE TO COARSE GRAVEL; wet; no odor	
-29-			21 29		0.0	8-10" Tan FINE TO MEDIUM SAND; trace fine gravel; wet; no odor	
-30-	12	SS	12 21	0"			
-31-			22 35				

Sample Types:
SS = Split Spoon
HA = Hand Auger

NOTES: Samples collected from 8-10', 10-12', and 28-30'

Dvirka and Bartilucci CONSULTING ENGINEERS	Project No.: 2523 Project Name: LIRR Yaphank	Boring No.: SB-93 Sheet 1 of 1 . By: Chris Morris
Drilling Contractor: Delta Driller: Jason Finger Drill Rig: F-7 Date Started: 5/4/07	Geologist: Chris Morris Drilling Method: HSA Drive Hammer Weight: NA Date Completed: 5/4/07	Boring Completion Depth: 19' Ground Surface Elevation: 48.01 Boring Diameter: 3.25"

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec. (feet)	PID Reading (ppm)	Sample Description	USCS
-0-	NA	NA	NA	NA	0.0	0-5" Brown FINE TO MEDIUM SAND; with fine to coarse gravel	
					0.0	5"-1'6" Brown FINE TO MEDIUM SAND AND COBBLES	
-2-					0.0	1'6"-3'2" Tan FINE TO COARSE SAND; some fine gravel	
					0.0	3'2"-5' Tan FINE TO COARSE SAND; little fine gravel	
-4-					0.0	5-19' Tan FINE TO COARSE SAND; some fine gravel	
-6-							
-8-							
-10-							
-12-							
-14-							
-16-							
-18-							
-20-							

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

NOTES: Soil logged from cuttings.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 2523 **Project Name:** LIRR - Yaphank	**Boring No.:** SB-94 **Sheet** 1 **of** 1 . **By:** Chris Morris
Drilling Contractor: Delta **Driller:** Jayson Finger **Drill Rig:** F-7 **Date Started:** 5/4/07	**Geologist:** Chris Morris **Drilling Method:** HSA **Drive Hammer Weight:** 140 lb. **Date Completed:** 5/4/07	**Boring Completion Depth:** 15' **Ground Surface Elevation:** 48.34' **Boring Diameter:**

Depth (ft.)	Soil Sample No.	Type	Blows Per 6"	Rec.	PID Per 6" (ppm)	Sample Description	USCS
-0- -2-	1	HA	NA	NA	0.0	0-5" Brown FINE TO MEDIUM SAND; with fine gravel 5"-1.5' Brown FINE TO MEDIUM SAND AND COBBLES 1.5'-3' Tan FINE TO COARSE SAND; some fine gravel	
-4-	2	SS	NA	1'	0.0	Tan MEDIUM TO COARSE SAND; some fine to coarse gravel	
-6-	3	SS	NA	13"	0.0	Same as above	
-8-	4	SS	NA	14"	0.0	Same as above	
-10-	5	SS	NA	10"	0.0	Same as above	
12-	6	SS	NA	1'	0.0	Same as above	
-14-	7	SS	NA	15"	0.0	Same as above	
-16- -18-							

Sample Types:
SS = Split Spoon **HA** = Hand Auger

NOTES:

APPENDIX B

WELL CONSTRUCTION LOGS

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

Well Construction Log

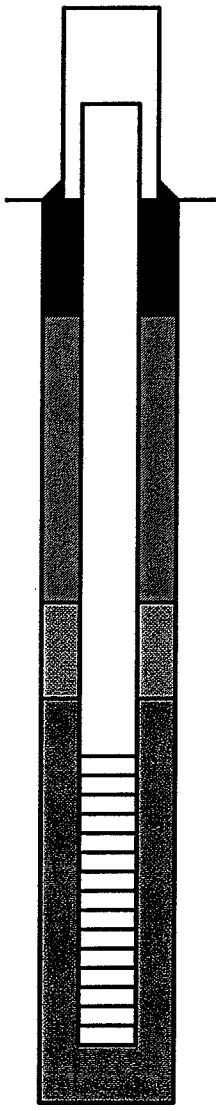
Site LIRR - Yaphank Job No. 2523 Well No. MW-17

Total Depth 39' Surface Elevation 57.69 Top Riser Elevation 60.07

Water Levels (Depth, Date, Time) 33.7, 5/4/07, 0730 Date Installed 5/1/07

Riser	Dia.	2	Material	PVC	Length	29'	
Screen	Dia.	2	Material	PVC	Length	10'	Slot Size .010
Protective Casing	Dia.	3	Material	Steel	Length	2.5'	

SCHEMATIC



2.5' Protective Casing Stickup

2' Riser Stickup

Ground Surface

Surface Seal Type Cement

Bentonite Bottom Surface Seal

Grout Type Cement/bentonite

23' Top Seal

Seal Type Bentonite

25' Top Sand Pack

29' Top Screen

Sand Pack Type Sand
Size #1

39' Bottom Screen

39.5' Total Depth of Boring

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

Well Construction Log

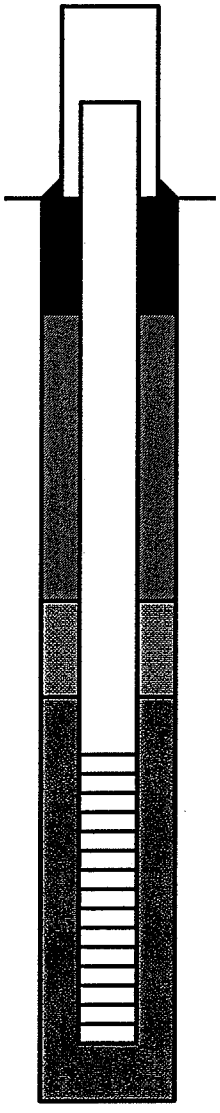
Site LIRR - Yaphank Job No. 2523 Well No. MW-18

Total Depth 41' Surface Elevation 56.32 Top Riser Elevation 58.16

Water Levels (Depth, Date, Time) 32.6, 5/4/07, 0830 Date Installed 5/2/07

Riser	Dia.	2	Material	PVC	Length	31'	
Screen	Dia.	2	Material	PVC	Length	10'	Slot Size .010
Protective Casing	Dia.	3	Material	Steel	Length	2.5'	

SCHEMATIC



2.5' Protective Casing Stickup

2' Riser Stickup

Ground Surface

Surface Seal Type Cement

Bentonite Bottom Surface Seal

Grout Type Cement/bentonite

23' Top Seal

Seal Type Bentonite

28' Top Sand Pack

31' Top Screen

Sand Pack Type Sand
Size #1

41' Bottom Screen

41.5' Total Depth of Boring

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

Well Construction Log

Site LIRR - Yaphank Job No. 2523 Well No. MW-19

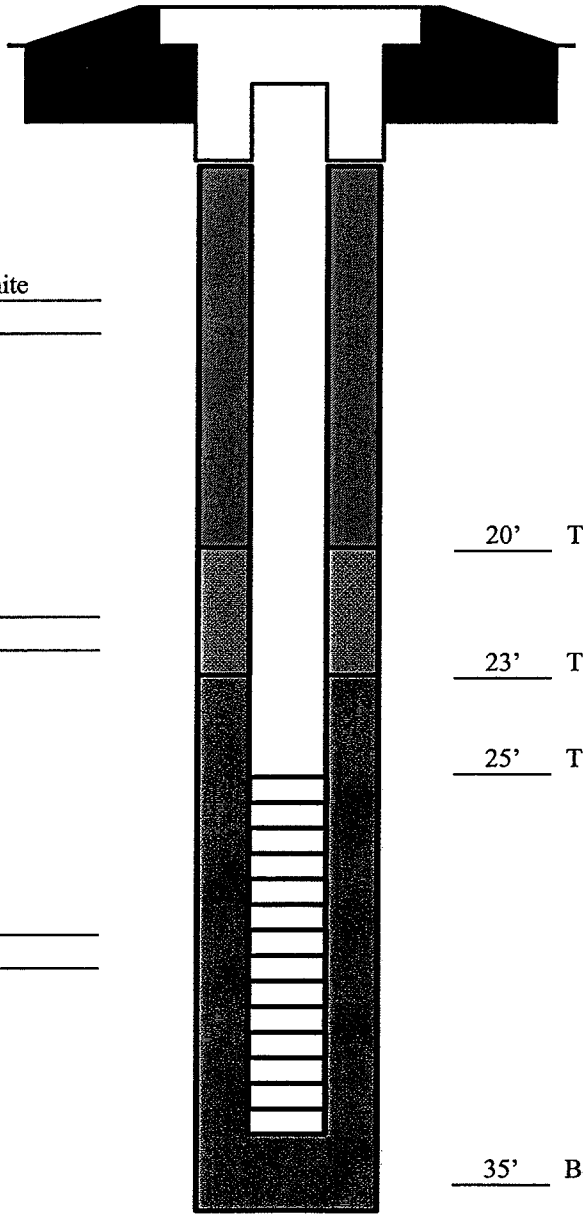
Total Depth 35' Surface Elevation 50.24 Top Riser Elevation 50.06

Water Levels (Depth, Date, Time) 27.7, 5/4/07, 1000 Date Installed 5/3/07

Riser Dia. 2 Material PVC Length 25'
Screen Dia. 2 Material PVC Length 10' Slot Size .010"

SCHEMATIC

Surface Seal Type
Cement



Ground Surface
Riser Elevation
Bottom Surface Seal

Grout Type Cement/bentonite

20' Top Seal

Seal Type Bentonite

23' Top Sand Pack

25' Top Screen

Sand Pack Type Sand
Size #1

35' Bottom Screen

35.5 Total Depth of Boring

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

Well Construction Log

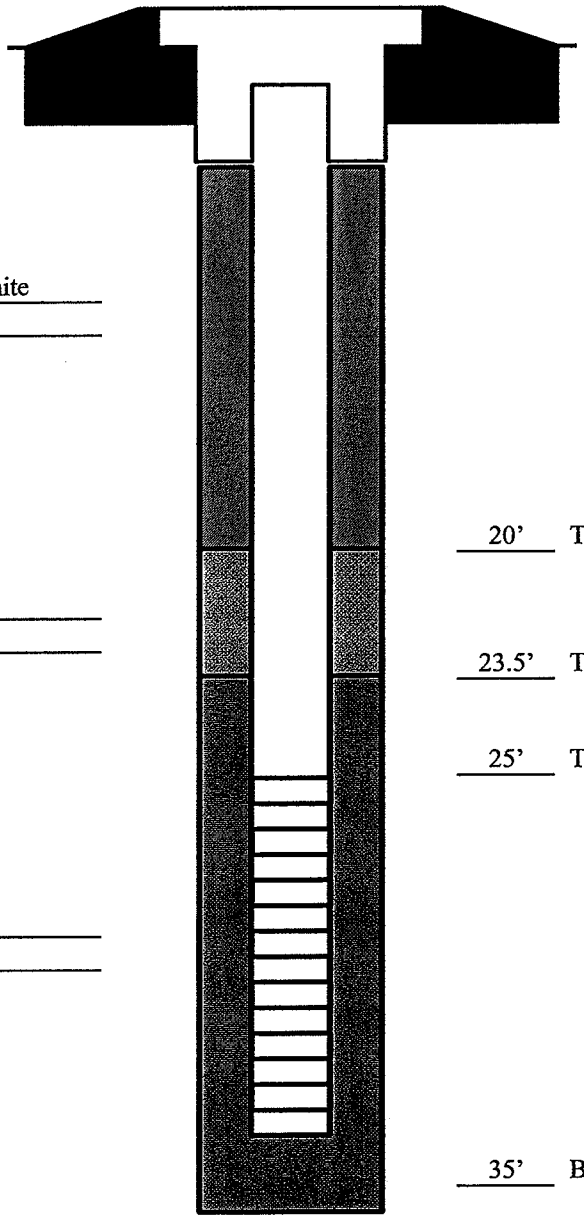
Site LIRR - Yaphank Job No. 2523 Well No. MW-20

Total Depth 35' Surface Elevation 49.97 Top Riser Elevation 49.84

Water Levels (Depth, Date, Time) 26.5, 5/4/07, 1100 Date Installed 5/3/07

Riser Dia. 2 Material PVC Length 25'
Screen Dia. 2 Material PVC Length 10' Slot Size .010"

SCHEMATIC



Surface Seal Type
Cement

Ground Surface
Riser Elevation
Bottom Surface Seal

Grout Type Cement/bentonite

20' Top Seal

Seal Type Bentonite

23.5' Top Sand Pack

25' Top Screen

Sand Pack Type Sand
Size #1

35' Bottom Screen

35.5 Total Depth of Boring

APPENDIX C

SUPPLEMENTAL SITE INVESTIGATION LABORATORY DATA

TABLE 1

LONG ISLAND RAILROAD YAPHANK SITE
SUPPLEMENTAL INVESTIGATION
SURFACE SOIL SAMPLING RESULTS
TAL METALS

SAMPLE ID	SS-122	SS-123	SS-124	SS-125	Part 375 Remedial Program Soil Cleanup Objectives for Restricted Industrial Use
SAMPLE DEPTH (IN)	0-2	0-2	0-2	0-2	
SAMPLE TYPE	Soil	Soil	Soil	Soil	
PERCENT SOLIDS	49	98	97	98	
DILUTION FACTOR	1.0	1.0	1.0	1.0	
DATE OF COLLECTION	4/24/2007	4/24/2007	4/24/2007	4/24/2007	
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	12,300	1,600	2,610	1,260	—
Antimony	U	0.13 B	0.17 B	0.11 B	—
Arsenic	14.6	U	1.5	U	16
Barium	54.5	7.3 B	24.3	8.2	10,000
Beryllium	0.84	0.018 B	U	0.024 B	2,700
Cadmium	0.23 B	0.0074 B	0.073 B	0.051 B	60
Calcium	112,000	2,560	13,400	1,500	—
Chromium	10.8	2.9	7.2	2.5	6,800
Cobalt	6.5	0.93 B	1.8 B	1.1 B	—
Copper	19.8	5.5	11.4	9.2	10,000
Iron	10,200	2,920	4,800	2,640	—
Lead	10.2	8.4	20.7	9.1	3,900
Magnesium	4,570	968	2,030	530	—
Manganese	200	47.5	93.1	73.8	10,000
Mercury	0.024 B	0.035	0.056	0.017 B	5.7
Nickel	15.2	2.2	4.8	2.6	10,000
Potassium	647	181	368	144	—
Selenium	U	1.2 B	1.0 B	1.0	6,800
Silver	U	0.69 B	U	0.95	6,800
Sodium	68.9	47.0	81.8	13.8 B	—
Thallium	3.0	U	0.24 B	0.051 B	—
Vanadium	38.3	4.6	8.7	3.1	—
Zinc	35.9	9.8	21.6	20.6	10,000

NOTES:
U: Compound analyzed for but not detected.
B: Concentration is between instrument detection limit and contract required detection limit.

TABLE 2

LONG ISLAND RAILROAD YAPHANK SITE
SUPPLEMENTAL INVESTIGATION
SURFACE SOIL SAMPLING RESULTS
ASBESTOS

SAMPLE ID	**SS-117**	**SS-118**	**SS-119**	**SS-120**	**SS-121**
SAMPLE DEPTH (IN)	**0-2**	**0-2**	**0-2**	**0-2**	**0-2**
SAMPLE TYPE	Soil	Soil	Soil	Soil	Soil
DATE OF COLLECTION	5/10/2007	5/10/2007	5/10/2007	5/10/2007	5/10/2007
Asbestos Non-fibrous %	Negative 100	Negative 100	Negative 100	Negative 100	Negative 100

TABLE 3

LONG ISLAND RAILROAD YAPHANK SITE
SUPPLEMENTAL INVESTIGATION
TEST PIT SUBSURFACE SOIL SAMPLING RESULTS
TAL METALS

SAMPLE ID	TP-8	TP-8A	TP-8B	TP-10	TP-12	Part 375 Remedial Program Soil Cleanup Objectives for Restricted Industrial Use
SAMPLE DEPTH (FT)	3-5	2-4	2	4-6	1-4	
SAMPLE TYPE	Soil	Soil	Soil	Soil	Soil	
PERCENT SOLIDS	94	84	89	95	93	
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	
DATE OF COLLECTION	4/24/2007	4/24/2007	4/24/2007	4/24/2007	4/24/2007	
UNITS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	3,670	5,720	3,470	2,910	2,020	---
Antimony	1.8	7.7	4.8	3.5	1.3	---
Arsenic	1.5	6.4	6.7	3.8	0.89	16
Barium	98.2	280	51.6	37.4	15.0	10,000
Beryllium	0.058 B	0.21 B	0.027 B	0.024 B	0.030 B	2,700
Cadmium	0.72	4.2	0.49	0.24	0.091 B	60
Calcium	4,740	7,440	16,900	15,000	4,440	---
Chromium	19.1	45.4	11.4	7.8	4.5	6,800
Cobalt	4.6	6.9	3.6	1.9	1.1 B	---
Copper	134	452	84.8	60.4	24.8	10,000
Iron	12,300	29,700	7,410	5,860	3,830	---
Lead	224	1,580	164	91.6	41.9	3,900
Magnesium	1,310	2,300	1,850	1,510	1,000	---
Manganese	163	946	107	158	55.6	10,000
Mercury	0.19	0.67	0.11	0.083	0.014 B	5.7
Nickel	26.6	32.9	16.9	7.2	3.6	10,000
Potassium	290	527	414	361	172	---
Selenium	5.0	8.7	1.7	1.3	1.4	6,800
Silver	4.8	9.6	U	U	0.35 B	6,800
Sodium	77.0	75.9	108	42.0	16.6 B	---
Thallium	U	U	U	U	U	---
Vanadium	12.7	24.2	10.2	7.4	5.9	---
Zinc	205	728	103	63.2	25.7	10,000

NOTES:
U: Compound analyzed for but not detected.
B: Concentration is between instrument detection limit and contract required detection limit.

TABLE 4

LONG ISLAND RAILROAD YAPHANK SITE
SUPPLEMENTAL INVESTIGATION
TEST PIT SUBSURFACE SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

SAMPLE ID	TP-8	TP-8A	TP-8B	TP-10	TP-12	Part 375 Remedial Program Soil Cleanup Objectives for Restricted Industrial Use
SAMPLE DEPTH (FT)	3-5	2-4	2	4-6	1-4	
SAMPLE TYPE	Soil	Soil	Soil	Soil	Soil	
PERCENT SOLIDS	94	84	89	95	93	
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	
DATE OF COLLECTION	4/24/2007	4/24/2007	4/24/2007	4/24/2007	4/24/2007	
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	U	U	1,000,000
Pentachlorophenol	U	U	U	U	U	55,000
Naphthalene	48 J	130 J	U	U	U	1,000,000
2-Methylnaphthalene	58 J	160 J	46 J	39 J	U	---
Acenaphthylene	U	62 J	U	U	U	1,000,000
Acenaphthene	U	45 J	42 J	U	U	1,000,000
Dibenzofuran	U	61 J	U	U	U	---
Fluorene	U	U	U	U	U	1,000,000
Phenanthrene	210 J	390 J	110 J	96 J	U	1,000,000
Anthracene	52 J	110 J	40 J	39 J	U	1,000,000
Fluoranthene	430	650	220 J	200 J	64 J	1,000,000
Pyrene	400	510	220 J	220 J	54 J	1,000,000
Benzo(a)anthracene	250 J	370 J	150 J	150 J	44 J	11,000
Chrysene	300 J	460	180 J	190 J	U	110,000
Benzo(b)fluoranthene	300 J	420	190 J	160 J	36 J	11,000
Benzo(k)fluoranthene	96 J	160 J	92 J	80 J	U	110,000
Benzo(a)pyrene	170 J	300 J	120 J	130 J	U	1,100
Indeno (1,2,3-cd)pyrene	140 J	240 J	100 J	94 J	U	11,000
Dibenzo(a,h)anthracene	36 J	95 J	U	U	U	1,100
Benzo (g,h,i)perylene	180 J	320 J	140 J	130 J	U	1,000,000
Total SVOCs	2,670	4,483	1,650	1,528	198	---

NOTES:
U: Compound analyzed for but not detected.
J: Estimated concentration.

TABLE 5

LONG ISLAND RAILROAD YAPHANK SITE
SUPPLEMENTAL INVESTIGATION
DRY WELL SUBSURFACE SOIL SAMPLING RESULTS
TAL METALS

SAMPLE ID	SB-92		SB-92		SB-92		Part 375 Remedial Program Soil Cleanup Objectives for Restricted Industrial Use
SAMPLE DEPTH (FT)	8-10		10-12		28-30		
SAMPLE TYPE	Soil		Soil		Soil		
PERCENT SOLIDS	88		86		88		
DILUTION FACTOR	1.0		1.0		1.0		
DATE OF COLLECTION	5/10/2007		5/10/2007		5/10/2007		
UNITS	(mg/kg)		(mg/kg)		(mg/kg)		(mg/kg)
Aluminum	4,430		3,410		772		---
Antimony	4.5		21.7		0.16	B	---
Arsenic	6.0		4.6		0.38	B	16
Barium	78.5		50.5		3.1	B	10,000
Beryllium		U		U		U	2,700
Cadmium	0.59		0.92		0.017	B	60
Calcium	16,900		23,900		170		---
Chromium	10.5		9.0		3.8		6,800
Cobalt	3.4		2.8		0.59	B	---
Copper	43.9		55.8		3.7		10,000
Iron	10,900		9,870		1,660		---
Lead	92.1		221		3.2		3,900
Magnesium	3,950		5,330		223		---
Manganese	111		126		19.6		10,000
Mercury	0.024	B	0.12			U	5.7
Nickel	9.1		9.5		1.5	B	10,000
Potassium	665		498		92.2		---
Selenium		U	1.1	B		U	6,800
Silver	0.35	B	0.21	B	0.070	B	6,800
Sodium	160		118		8.9	B	---
Thallium		U		U		U	---
Vanadium	16.6		12.2		1.8	B	---
Zinc	75.1		86.9		4.4		10,000

NOTES:
U: Compound analyzed for but not detected.
B: Concentration is between instrument detection limit and contract required detection limit.

TABLE 6

LONG ISLAND RAILROAD YAPHANK SITE
SUPPLEMENTAL INVESTIGATION
DRY WELL SUBSURFACE SOIL SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

SAMPLE ID	SB-92	SB-92	SB-92	Part 375 Remedial Program Soil Cleanup Objectives for Restricted Industrial Use
SAMPLE DEPTH (FT)	8-10	10-12	28-30	
SAMPLE TYPE	Soil	Soil	Soil	
PERCENT SOLIDS	88	86	88	
DILUTION FACTOR	1.0	1.0	1.0	
DATE OF COLLECTION	5/10/2007	5/10/2007	5/10/2007	
UNITS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	1,000,000
Pentachlorophenol	U	U	U	55,000
Naphthalene	200 J	610	U	1,000,000
2-Methylnaphthalene	180 J	410	U	—
Acenaphthylene	92 J	150 J	U	1,000,000
Acenaphthene	440	480	U	1,000,000
Dibenzofuran	300 J	380 J	U	—
Fluorene	560	430	U	1,000,000
Phenanthrene	4,000	1,800	U	1,000,000
Anthracene	1,100	520	U	1,000,000
Fluoranthene	5,200	4,100	76 J	1,000,000
Pyrene	4,900	3,200	62 J	1,000,000
Benzo(a)anthracene	2,800	1,700	U	11,000
Chrysene	3,200	1,900	U	110,000
Benzo(b)fluoranthene	3,600	2,500	U	11,000
Benzo(k)fluoranthene	950	780	U	110,000
Benzo(a)pyrene	**2,400**	**1,400**	U	1,100
Indeno (1,2,3-cd)pyrene	1,400	810	U	11,000
Dibenzo(a,h)anthracene	430	250 J	U	1,100
Benzo (g,h,i)perylene	1,500	850	U	1,000,000
Total SVOCs	33,252	22,270	138	—

NOTES:

U: Compound analyzed for but not detected.

J: Estimated concentration.

Concentration exceeds restricted industrial use soil cleanup objective.

TABLE 7

LONG ISLAND RAILROAD YAPHANK SITE
SUPPLEMENTAL INVESTIGATION
GROUNDWATER SAMPLING RESULTS
TAL METALS

SAMPLE ID	MW-17 (T)	MW-17 (F)	MW-18 (T)	MW-18 (F)	MW-19 (T)	MW-19 (F)	MW-20 (T)	MW-20 (F)	Class GA Standards and Guidance Values (ug/L)
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
DATE OF COLLECTION	5/15/2007	5/15/2007	5/15/2007	5/15/2007	5/15/2007	5/15/2007	5/15/2007	5/15/2007	
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	
Aluminum	848	30.3 B	247	28.0 B	367	U	260	21.2 B	--
Antimony	**7.0 B**	**10.4 B**	2.5 B	**4.0 B**	**5.6 B**	**5.4 B**	**5.8 B**	**7.6 B**	3
Arsenic	U	U	U	U	U	U	U	U	25
Barium	50.7 B	43.4 B	35.0 B	30.7 B	126 B	113 B	48.1 B	46.6 B	1,000
Beryllium	U	U	U	U	U	U	U	U	3 GV
Cadmium	0.18 B	0.13 B	0.21 B	U	0.39 B	0.25 B	U	0.13 B	5
Calcium	95,900	90,400	22,600	20,300	170,000	159,000	154,000	152,000	--
Chromium	1.3 B	U	0.76 B	U	0.85 B	U	U	U	50
Cobalt	1.2 B	0.56 B	0.52 B	0.26 B	5.3 B	4.7 B	0.38 B	0.53 B	--
Copper	11.9 B	U	U	U	U	U	U	U	200
Iron	**1,440**	22.3 B	**301**	U	**2,770**	**841**	229	63.7 B	300
Lead	8.7 B	U	0.51 B	U	U	U	U	U	25
Magnesium	12,300	11,800	3,740	3,390	26,100	24,700	13,300	13,500	35,000 GV
Manganese	69.5	18.4 B	63.1	46.6 B	**3,710**	**3,390**	91.1	82.7	300
Mercury	U	U	U	U	U	U	U	U	0.7
Nickel	1.8 B	1.2 B	0.78 B	U	2.3 B	2.1 B	U	U	100
Potassium	4,890	4,610	1,640	1,500	11,600	10,800	8,960	8,770	--
Selenium	**43.5**	**39.5**	**20.4 B**	**16.9 B**	**53.7**	**44.6**	**50.5**	**47.8**	10
Silver	U	U	1.3 B	U	U	U	U	U	50
Sodium	6,770	6,420	10,100	9,730	15,900	15,100	13,600	13,300	20,000
Thallium	U	U	U	U	U	U	U	U	0.5 GV
Vanadium	1.6 B	U	U	U	0.61 B	U	0.69 B	U	--
Zinc	32.0 B	21.1 B	24.8 B	17.4 B	13.3 B	11.8 B	17.2 B	11.0 B	2,000 GV

NOTES:

U: Compound analyzed for but not detected.

B: Concentration is between instrument detection limit and contract required detection limit.

GV: Guidance value

T: Indicates the unfiltered sample with total metal concentrations.

F: Indicates the filtered sample with dissolved metal concentrations.

Concentration exceeds groundwater standard or guidance value.

TABLE 7

LONG ISLAND RAILROAD YAPHANK SITE
SUPPLEMENTAL INVESTIGATION
GROUNDWATER SAMPLING RESULTS
TAL METALS

SAMPLE ID	MW-17 (T)	MW-17 (F)	MW-18 (T)	MW-18 (F)	MW-19 (T)	MW-19 (F)	MW-20 (T)	MW-20 (F)	Class GA Standards and Guidance Values
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
DATE OF COLLECTION	5/31/2007	5/31/2007	5/31/2007	5/31/2007	5/31/2007	5/31/2007	5/31/2007	5/31/2007	
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Aluminum	235	16.3 B	473	32.1 B	145 B	U	147 B	U	--
Antimony	**4.6 B**	1.5 B	1.8 B	U	**3.6 B**	U	**6.8 B**	U	3
Arsenic	U	U	2.2 B	U	U	U	U	U	25
Barium	34.9 B	31.6 B	39.9 B	34.7 B	107 B	107 B	38.3 B	37.2 B	1,000
Beryllium	U	U	U	U	U	U	U	U	3 GV
Cadmium	0.12 B	U	U	U	0.18 B	0.14 B	U	U	5
Calcium	88,800	86,600	28,600	26,900	174,000	178,000	104,000	102,000	--
Chromium	U	U	U	U	1.8 B	1.9 B	U	U	50
Cobalt	0.36 B	U	0.33 B	0.19 B	3.6 B	3.8 B	U	U	--
Copper	U	U	U	U	U	U	U	U	200
Iron	277	23.4 B	**619**	38.2 B	**1,580**	296	129 B	U	300
Lead	0.77 B	U	3.2 B	0.89 B	U	U	U	U	25
Magnesium	9,780	9,860	4,940	4,450	16,900	17,300	13,800	13,700	35,000 GV
Manganese	24.2 B	10.1 B	88.1	49.7 B	**3,040**	**3,180**	76.1	67.8	300
Mercury	U	U	U	U	U	U	U	U	0.7
Nickel	1.2 B	1.0 B	0.89 B	2.0 B	2.0 B	1.8 B	0.72 B	U	100
Potassium	3,430	3,450	2,110	2,090	13,200	13,500	7,530	7,500	--
Selenium	**39.1**	**42.5**	**20.2 B**	**14.6 B**	**54.8**	**47.3**	**39.2**	**36.8**	10
Silver	U	U	U	U	U	U	U	U	50
Sodium	6,310	6,190	10,900	10,300	15,600	16,000	11,900	11,800	20,000
Thallium	U	U	U	U	U	U	U	U	0.5 GV
Vanadium	0.74 B	U	0.80 B	U	0.54 B	U	0.68 B	U	--
Zinc	15.9 B	13.3 B	10.1 B	19.4 B	5.7 B	5.8 B	11.1 B	3.4 B	2,000 GV

NOTES:

U: Compound analyzed for but not detected.

B: Concentration is between instrument detection limit and contract required detection limit.

GV: Guidance value

T: Indicates the unfiltered sample with total metal concentrations.

F: Indicates the filtered sample with dissolved metal concentrations.

Concentration exceeds groundwater standard or guidance value.

TABLE 8

LONG ISLAND RAILROAD YAPHANK SITE
SUPPLEMENTAL INVESTIGATION
GROUNDWATER SAMPLING RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

SAMPLE ID	MW-17	MW-17	MW-18	MW-18	MW-19	MW-19	MW-20	MW-20	Class GA
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	Standards and
DATE OF COLLECTION	5/15/2007	5/31/2007	5/15/2007	5/31/2007	5/15/2007	5/31/2007	5/15/2007	5/31/2007	Guidance Values
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Phenol	U	U	U	U	U	U	U	U	1
bis (2-Chloroethyl) ether	U	U	U	U	U	U	U	U	1
2-Chlorophenol	U	U	U	U	U	U	U	U	--
2-Methylphenol	U	U	U	U	U	U	U	U	1
2,2'-oxybis (1-Chloropropane)	U	U	U	U	U	U	U	U	--
4-Methylphenol	U	U	U	U	U	U	U	U	1
N-Nitroso-di-n-propylamine	U	U	U	U	U	U	U	U	--
Hexachloroethane	U	U	U	U	U	U	U	U	5
Nitrobenzene	U	U	U	U	U	U	U	U	0.4
Isophorone	U	U	U	U	U	U	U	U	50 GV
2-Nitrophenol	U	U	U	U	U	U	U	U	--
2,4-Dimethylphenol	U	U	U	U	U	U	U	U	1
2,4-Dichlorophenol	U	U	U	U	U	U	U	U	1
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	5
Naphthalene	U	U	U	U	U	U	U	U	10 GV
4-Chloroaniline	U	U	U	U	U	U	U	U	5
Hexachlorobutadiene	U	U	U	U	U	U	U	U	0.5
bis (2-Chloroethoxy)methane	U	U	U	U	U	U	U	U	5
4-Chloro-3-methylphenol	U	U	U	U	U	U	U	U	--
2-Methylnaphthalene	U	U	U	U	U	U	U	U	--
Hexachlorocyclopentadiene	U	U	U	U	U	U	U	U	5
2,4,6-Trichlorophenol	U	U	U	U	U	U	U	U	--
2,4,5-Trichlorophenol	U	U	U	U	U	U	U	U	--
2-Chloronaphthalene	U	U	U	U	U	U	U	U	5
2-Nitroaniline	U	U	U	U	U	U	U	U	5
Dimethylphthalate	U	U	U	U	U	U	U	U	50 GV
Acenaphthylene	U	U	U	U	U	U	U	U	--
2,6-Dinitrotoluene	U	U	U	U	U	U	U	U	5
3-Nitroaniline	U	U	U	U	U	U	U	U	5
Acenaphthene	U	U	U	U	U	U	U	U	20 GV
2,4-Dinitrophenol	U	U	U	U	U	U	U	U	1
4-Nitrophenol	U	U	U	U	U	U	U	U	--
Dibenzofuran	U	U	U	U	U	U	U	U	--
2,4-Dinitrotoluene	U	U	U	U	U	U	U	U	5
Diethylphthalate	U	U	U	U	U	U	U	U	50 GV
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U	U	--
Fluorene	U	U	U	U	U	U	U	U	50 GV
4-Nitroaniline	U	U	U	U	U	U	U	U	5
4,6-Dinitro-2-methylphenol	U	U	U	U	U	U	U	U	--
N-Nitrosodiphenylamine	U	U	U	U	U	U	U	U	50 GV
4-Bromophenyl-phenylether	U	U	U	U	U	U	U	U	--
Hexachlorobenzene	U	U	U	U	U	U	U	U	0.04
Pentachlorophenol	U	U	U	U	U	U	U	U	1
Phenanthrene	U	U	U	U	U	U	U	U	50 GV
Anthracene	U	U	U	U	U	U	U	U	50 GV
Carbazole	U	U	U	U	U	U	U	U	--
Di-n-butylphthalate	U	U	U	U	U	U	U	U	50
Fluoranthene	U	U	U	U	U	U	U	U	50 GV
Pyrene	U	U	U	U	U	U	U	U	50 GV
Butylbenzylphthalate	U	U	U	U	U	U	U	U	50 GV
3,3'-Dichlorobenzidine	U	U	U	U	U	U	U	U	5
Benzo(a)anthracene	U	U	U	U	U	U	U	U	0.002 GV
Chrysene	U	U	U	U	U	U	U	U	0.002 GV
bis (2-Ethylhexyl) phthalate	U	U	U	U	U	U*	U	U	5
Di-n-octylphthalate	U	U	U	U	U	U	U	U	50 GV
Benzo(b)fluoranthene	U	U	U	U	U	U	U	U	0.002 GV
Benzo(k)fluoranthene	U	U	U	U	U	U	U	U	0.002 GV
Benzo(a)pyrene	U	U	U	U	U	U	U	U	ND
Indeno (1,2,3-cd)pyrene	U	U	U	U	U	U	U	U	0.002 GV
Dibenzo(a,h)anthracene	U	U	U	U	U	U	U	U	--
Benzo (g,h,i)perylene	U	U	U	U	U	U	U	U	--
1,1-Biphenyl	U	U	U	U	U	U	U	U	--
Acetophenone	U	U	U	U	U	U	U	U	--
Atrazine	U	U	U	U	U	U	U	U	7.5
Benzaldehyde	U	U	U	U	U	U	U	U	--
Caprolactum	U	U	U	U	U	U	U	U	--
Total SVOCs	0	0	0	0	0	0	0		--

NOTES:
U: Compound analyzed for but not detected.
J: Estimated concentration.
GV: Guidance value.
U*: Result qualified as non-detect based on data validation criteria

TABLE 9

LONG ISLAND RAILROAD YAPHANK SITE
SUPPLEMENTAL INVESTIGATION
GROUNDWATER SAMPLING RESULTS
VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	MW-17	MW-17	MW-18	MW-18	MW-19	MW-19	MW-20	MW-20	Class GA
DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	Standards and
DATE OF COLLECTION	5/15/2007	5/31/2007	5/15/2007	5/31/2007	5/15/2007	5/31/2007	5/15/2007	5/31/2007	Guidance Values
UNITS	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Dichlorodifluoromethane	U	U	U	U	U	U	U	U	5 GV
Chloromethane	U	U	U	U	U	U	U	U	5
Vinyl chloride	U	U	U	U	U	U	U	U	2
Bromomethane	U	U	U	U	U	U	U	U	5
Chloroethane	U	U	U	U	U	U	U	U	5
Trichlorofluoromethane	U	U	U	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	U	U	U	U	5
Acetone	U	U	U	U	U	U	U	U	50
Carbon disulfide	U	U	U	U	U	U	U	U	60 GV
Methylene chloride	U	U	U	U	U	U	U	U	5
trans-1,2-Dichloroethene	U	U	U	U	U	U	U	U	5
Methyl tert-Butyl Ether	U	U	U	U	U	U	U	U	10 GV
1,1-Dichloroethane	U	U	U	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	U	U	U	50 GV
cis-1,2-Dichloroethene	U	U	U	U	U	U	U	U	5
Chloroform	U	U	U	U	U	U	U	U	7
1,1,1-Trichloroethane	U	U	U	U	U	U	U	U	5
Carbon tetrachloride	U	U	U	U	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	U	U	U	0.6
Benzene	U	U	U	U	U	U	U	U	1
Trichloroethene	U	U	U	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	U	U	U	1
Bromodichloromethane	U	U	U	U	U	U	U	U	50 GV
cis-1,3-Dichloropropene	U	U	U	U	U	U	U	U	0.4
4-Methyl-2-pentanone	U	U	U	U	U	U	U	U	---
Toluene	U	U	U	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	U	U	U	0.4
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U	1
Tetrachloroethene	U	U	U	U	U	U	U	U	5
2-Hexanone	U	U	U	U	U	U	U	U	50 GV
Dibromochloromethane	U	U	U	U	U	U	U	U	50 GV
1,2-Dibromoethane	U	U	U	U	U	U	U	U	---
Chlorobenzene	U	U	U	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	U	U	5
Xylene (total)	U	U	U	U	U	U	U	U	5
Styrene	U	U	U	U	U	U	U	U	5
Bromoform	U	U	U	U	U	U	U	U	50 GV
Isopropylbenzene	U	U	U	U	U	U	U	U	5 GV
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	U	5
1,3-Dichlorobenzene	U	U	U	U	U	U	U	U	3
1,4-Dichlorobenzene	U	U	U	U	U	U	U	U	3
1,2-Dichlorobenzene	U	U	U	U	U	U	U	U	3
1,2-Dibromo-3-chloropropane	U	U	U	U	U	U	U	U	0.04
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U	U	5
1,1,2-Trichloro-1,2,2-trifluoroethane	U	U	U	U	U	U	U	U	1
Methyl Acetate	U	U	U	U	U	U	U	U	---
Cyclohexane	U	U	U	U	U	U	U	U	---
Methylcyclohexane	U	U	U	U	U	U	U	U	---
Total VOCs	0	0	0	0	0	0	0	0	---

NOTES:
U: Compound analyzed for but not detected.
GV: Guidance value.